

# 3 Port Solenoid Valve Pilot Operated Poppet Type Series VG342 Rubber Seal



[Option]  
Note) CE-compliant. For DIN terminal only

## Low power consumption

4 W DC (Standard type)  
1.8 W DC (Energy-saving type)

## No lubrication required

## Possible to use in vacuum or under low pressures

External pilot  
Vacuum: Up to -101.2 kPa  
Low pressure: 0 to 0.2 MPa

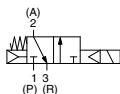
## Changeable actuation: N.C., N.O., or external pilot

## Can be used as a selector or divider valve (External pilot)

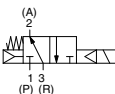


### Symbol

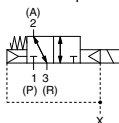
N.C.



N.O.



External pilot



## How to Order

VG342  - 1 G  - 04  A -  -

### Valve type

|     |                |
|-----|----------------|
| Nil | Internal pilot |
| R   | External pilot |

### Rated voltage

|   |                   |
|---|-------------------|
| 1 | 100 VAC, 50/60 Hz |
| 2 | 200 VAC, 50/60 Hz |
| 3 | 110 VAC, 50/60 Hz |
| 4 | 220 VAC, 50/60 Hz |
| 5 | 24 VDC            |
| 6 | 12 VDC            |
| 7 | 240 VAC, 50/60 Hz |

### Electrical entry

|   |              |
|---|--------------|
|   | CE-compliant |
| G | Grommet      |
| D | DIN terminal |

### Light/Surge voltage suppressor

|     |  |
|-----|--|
| Nil | None   |
| S   | With surge voltage suppressor (Only grommet type is only available.) |
| Z   | With light/surge voltage suppressor (Except grommet type)            |

### CE-compliant

|     |                     |
|-----|---------------------|
| Nil | —                   |
| Q   | CE-compliant (Note) |

Note) Applicable only for DIN terminal type

### Pilot valve option

|     |                              |
|-----|------------------------------|
| Nil | Standard type                |
| Y   | Energy-saving type (DC only) |
| E   | Continuous duty type         |

### Passage symbol

|     |                        |
|-----|------------------------|
| Nil | External pilot         |
| A   | N.C. (Normally closed) |
| B   | N.O. (Normally open)   |

### Thread type

|     |      |
|-----|------|
| Nil | Rc   |
| F   | G    |
| N   | NPT  |
| T   | NPTF |

### Port size

|    |     |
|----|-----|
| 04 | 1/2 |
| 06 | 3/4 |
| 10 | 1   |

## How to Order Pilot Valve Assembly

VO307  - 1 G  1 - X84 -

### Pilot valve option

|     |                              |
|-----|------------------------------|
| Nil | Standard type                |
| Y   | Energy-saving type (DC only) |
| E   | Continuous duty type         |

### Rated voltage

|   |                   |
|---|-------------------|
| 1 | 100 VAC, 50/60 Hz |
| 2 | 200 VAC, 50/60 Hz |
| 3 | 110 VAC, 50/60 Hz |
| 4 | 220 VAC, 50/60 Hz |
| 5 | 24 VDC            |
| 6 | 12 VDC            |
| 7 | 240 VAC, 50/60 Hz |

### CE-compliant

|     |                     |
|-----|---------------------|
| Nil | —                   |
| Q   | CE-compliant (Note) |

Note) Applicable only for DIN terminal type

### Pilot valve assembly for VG342

### Light/Surge voltage suppressor

|     |   |
|-----|---|
| Nil | None  |
| S   | With surge voltage suppressor (Only grommet type is available.) |
| Z   | With light/surge voltage suppressor (Except grommet type)       |

### Electrical entry

|   |              |
|---|--------------|
|   | CE-compliant |
| G | Grommet      |
| D | DIN terminal |

SYJ

VQZ

VP

VG

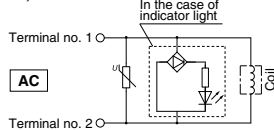
VP3

# Series VG342

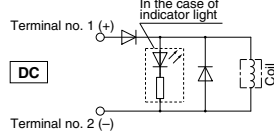
## ⚠ Caution

### Light/Surge Voltage Suppressor

#### AC, 100 V or more

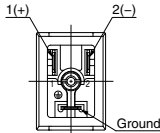


#### 48 VDC or less

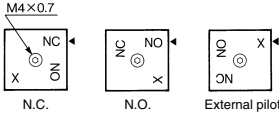


### Electrical Connection

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



### How to Change Passage State



When changing the passage state, confirm that pressure has been removed from the valve.

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

| Passage  | Port | P  | A      | 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 (Piping 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 actuation                                   | 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 pressure  | 0.2 MPa                       |
| Operating pressure -101.2 kPa to 0.2 MPa            | —  | Equivalent operating pressure |
| Operating pressure 0.2 to 0.9 MPa                   | 30 ms or less (at the pressure of 0.5 MPa)                             |                               |
| Response time (1)                                   | 30 ms or less (at the pressure of 0.5 MPa)                             |                               |
| Max. operating frequency                            | 5 c/s (Min. operating frequency: 1 c/30 days based on JIS B 8374-1981) |                               |
| Ambient and fluid temperature                       | -10 to 50°C (No freezing)  |                               |
| Lubrication   | Not required (Use turbine oil Class 1 ISO VG32, if lubricated.)        |                               |
| Manual override                                     | Push type (Non-locking)  |                               |
| Mounting orientation                                | Unrestricted   |                               |
| Impact/Vibration resistance (m/s <sup>2</sup> ) (2) | 150/50   |                               |
| Weight  | 1.0 kg   |                               |

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

| Port size | Flow characteristics     |      |               |                          |               |     |                          |      |     |                          |      |     |
|-----------|--------------------------|------|---------------|--------------------------|---------------|-----|--------------------------|------|-----|--------------------------|------|-----|
|           | 1 → 2 (P → A)            |      | 2 → 3 (A → R) |                          | 2 → 1 (A → P) |     | 3 → 2 (R → A)            |      |     |                          |      |     |
|           | C (dm <sup>3</sup> /sec) | b    | Cv            | C (dm <sup>3</sup> /sec) | b             | Cv  | C (dm <sup>3</sup> /sec) | b    | Cv  | C (dm <sup>3</sup> /sec) | 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 (mm <sup>2</sup> ) |               |
|-----------|-----------------------------------|---------------|
|           | 1 → 2 (P → A)                     | 2 → 3 (A → R) |
| 1         | 210                               | 235           |

## Pilot Valve Assembly Specifications

|                               |  |   |
|-------------------------------|--|---|
| Electrical entry              | Grommet (G), 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                                     |
|                               | DC   | 24, 12  |
| Allowable voltage fluctuation | -15 to +10% of rated voltage                   |   |
| Apparent power VA (Hz)        | AC   | Inrush: 12.7 (50), 10.7 (60)<br>Holding: 7.6 (50), 5.4 (60) |
|                               | DC   | Without indicator light: 4 W<br>With indicator light: 4.2 W |

## Energy-saving type: VG342□-□□□-□□□-Y (-Q)

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

Specifications different from standard are as follows.

|                   |    |   |
|-------------------|----|---|
| Power consumption | DC | Without indicator light: 1.8 W<br>With indicator light: 2 W |
|-------------------|----|---|

## Continuous duty type: VG342□-□□□-□□□-E (-Q)

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

Specifications different from standard are as follows.

|                        |    |   |
|------------------------|----|---|
| Apparent power VA (Hz) | AC | Inrush: 7.9 (50), 6.2 (60)<br>Holding: 5.8 (50), 3.5 (60)   |
|                        | DC | Without indicator light: 1.8 W<br>With indicator light: 2 W |

## DIN Connector part number

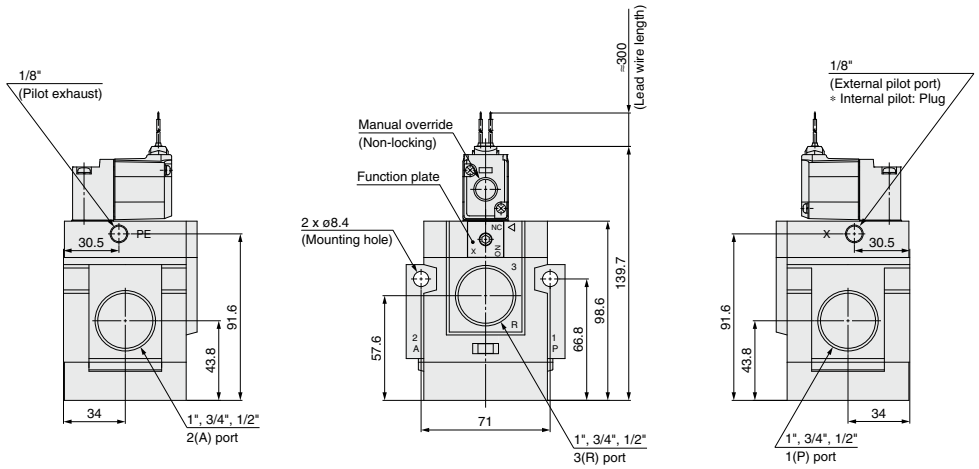
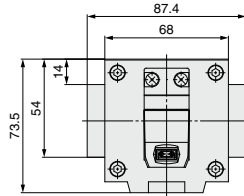
|              |             |
|--------------|-------------|
| Standard     | B1BO9-2A    |
| CE-compliant | GM209NJ-B17 |



# Series VG342

## Dimensions

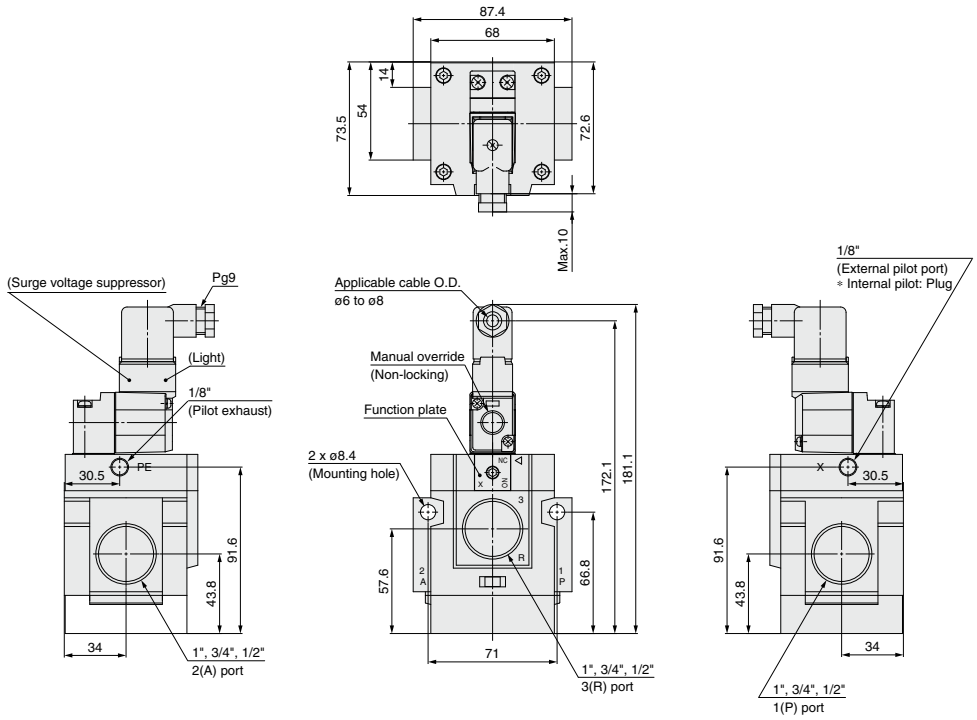
### Grommet (G)



# 3 Port Solenoid Valve Pilot Operated Poppet Type *Series VG342*

## Dimensions

### DIN terminal (D)



SYJ

VQZ

VP

**VG**

VP3