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Rubber Seal
3 Port Pilot Poppet Solenoid Valve
Series VG342

Light Weight: 1.1kg
Large Flow Capacity: 1/Nℓ/min 12857.65

Low Power Consumption
4.8WDC (Standard)
2WDC (Energy saver)

No lubrication required

Possible to use in vacuum or under low pressures
External pilot vacuum: Up to 101.2kPa
Low pressure: 0 to 0.2MPa

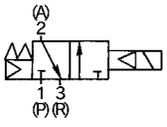
Changeable actuation: N.C., N.O. or External pilot

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

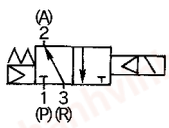


JIS Symbol

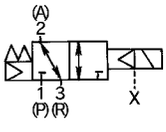
N.C.



N.O.



External pilot



Specifications

Actuation	Common to NC, NO	
Operation	Internal pilot type	External pilot type
Operating pressure range	0.2 to 0.9MPa	–101.2kPa to 0.9MPa
External pilot pressure	—	Equivalent operating pressure Min.0.2MPa
Responce time (1)	30ms or less (at 0.5MPa)	
Max. operating frequency	5c/s (Min. operating frequency: 1c/30days as per JIS B8374-1981)	
Ambient and fluid temperature	Max.50°C	
Lubrication	Not requiret (Use turbine oil class 1 ISO VG32 if lubrication is required)	
Manual override	Non-locking push style	
Mounting position	Free	
Impact/Vibration resistance (2)	150/50	
Weight	1.1kg	

Note 1) Based on dynamic performance test JIS B8374-1981.(Coil temperature 20°C,at rated voltage,without surge voltage suppressor)

Note 2) Impact resistance: No malfunction resulted from the impact test using a drop impact tester.The test was performed on the axis and right angle directions of the main valve and armature,for both energized and de-energized states.

Vibration resistance: No malfunction resulted from occurred in a one-sweep test between 45 and 1000 Hz. Test was performed at both energized and de-energized states to the axis and right angle directions of the main valve and armature. (Value in the initial stage)

Effective Area/Nℓ/min

Port size		1/2	3/4	1
Effective area (mm²)	P→A	140	185	210
	A→R	145	195	235
Nℓ/min	P→A	7655.7	10109.45	11483.55
	A→R	7950.15	10600.2	12857.65

Pilot Valve Assembly

Electrical entry			DIN connecter (D)
Lead wire color			100V AC: Blue, 200V AC: Red, 24V DC: Red/Black
Enclosure			Dust proof
Coil rated voltage (V)	AC (50/60 Hz)		100, 200, 24*, 48*, 110*, 220*, 240*
	DC		24, 6*, 12*, 48*, 100*
Allowable voltage			–15% to +10% of rated voltage
Apparent power VA (Hz)**	AC	Inrush	12.7 (50), 10.7 (60)
		Holding	7.6 (50), 5.4 (60)
Power consumption**	DC		4.8W, 5W (with light)

*Option
**At rated voltage

Option Specifications

Energy Saver Style: VO307Y

Use “VO307Y” (2W DC) when an electronic control requires low power consumption.

The following specification is different from standard.

Power consumption	2WDC*, 2.2W (with light)

*100V DC: 2.4W, 2.6W (with light)

Continuous Duty Style: VG342□-□□□-□□□-E-Q

Use “Continuous duty style” if energizing the valve for a long time.

The following specification is different from standard.

Apparent power VA (Hz)(1)	AC	Inrush	7.9 (50), 6.2 (60)
		Holding	5.8 (50), 3.5 (60)
Power cosumption(1)	DC		2W, 2.2W (with light)

Note 1) At rated voltage

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How to Order

E VG342 [ ] [1] [G] [ ] [04] [ ] [A] [ ] -Q

Valve specification

—	Internal pilot
R	External pilot

Rated voltage

1	100V AC 50/60Hz
2	200V AC 50/60Hz
3*	110V AC 50/60Hz
4*	220V AC 50/60Hz
5	24V DC
6*	12V DC
7*	240V AC 50/60Hz
9*	Others

*Option Order Made Contact SMC for other voltages (9)

Electrical entry

D	DIN connector (with connector)
DO	DIN connector (without connector)

Ordering source area code

Code	areas
-	Japan, Asia Australia
E	Europe
N	North America

Protective class class I (Mark: ⏚)

Indicator light and surge voltage suppressor

—	None
Z	With indicator light and surge voltage suppressor(Except for Grommet)

Port size

04	1/2
06	3/4
10	1

Thread

—	Rc (PT)
F*	G (PF)
N*	NPT
T*	NPTF

*Option

Flow path

—	External pilot (N.O./N.L.)
A	N.C. (Normally closed)
B	N.O. (Normally open)

Pilot valve option

—	Standard
Y*	Energy saver
E*	Continuous duty

*Option

How to Order Pilot Valve Assembly

VO307 [ ] [1] [G] [ ] X84 -Q

Valve option

—	Standard
Y*	Energy saver
E*	Continuous duty

*Option

Rated Voltage (Standerd)

1	100V AC 50/60Hz
2	200V AC 50/60Hz
3*	110V AC 50/60Hz
4*	220V AC 50/60Hz
5	24V DC
6*	12V DC
7*	240V AC 50/60Hz

*Option

Electrical entry

D	DIN connector (with connector)
DO	DIN connector (without connector)

Indicator light and surge voltage suppressor

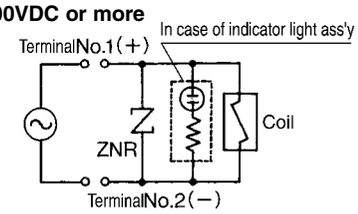
—	None
S	With surge voltage suppressor (Grommet only)
Z	With indicator light and surge voltage suppressor (Except for Grommet)

Pilot valve assembly for VG342

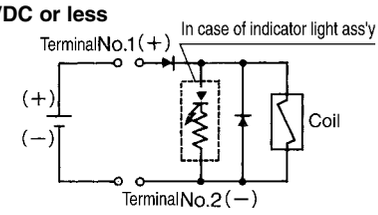
⚠ Caution

Indicator Light and Surge Voltage Suppressor

AC,100VDC or more

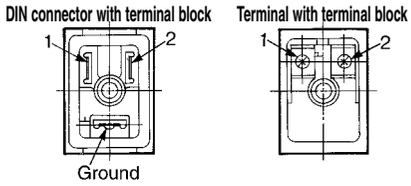


48VDC or less



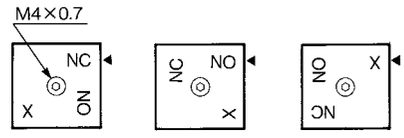
Electrical Connection

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



Terminal NO.	1	2
DIN connector	+	–
Terminal	+	–

How to Change the Passing 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.

Piping

Passage \ Port	P	A	R
NC	Primary pressure side	Secondary pressure side	Exhaust (Plug, in case of 2 port valve)
NO	Exhaust (Plug, in case of 2 port valve)	Secondary pressure side	Primary pressure side
External	Universal porting (Piping of primary pressure side is possible anywhere)		

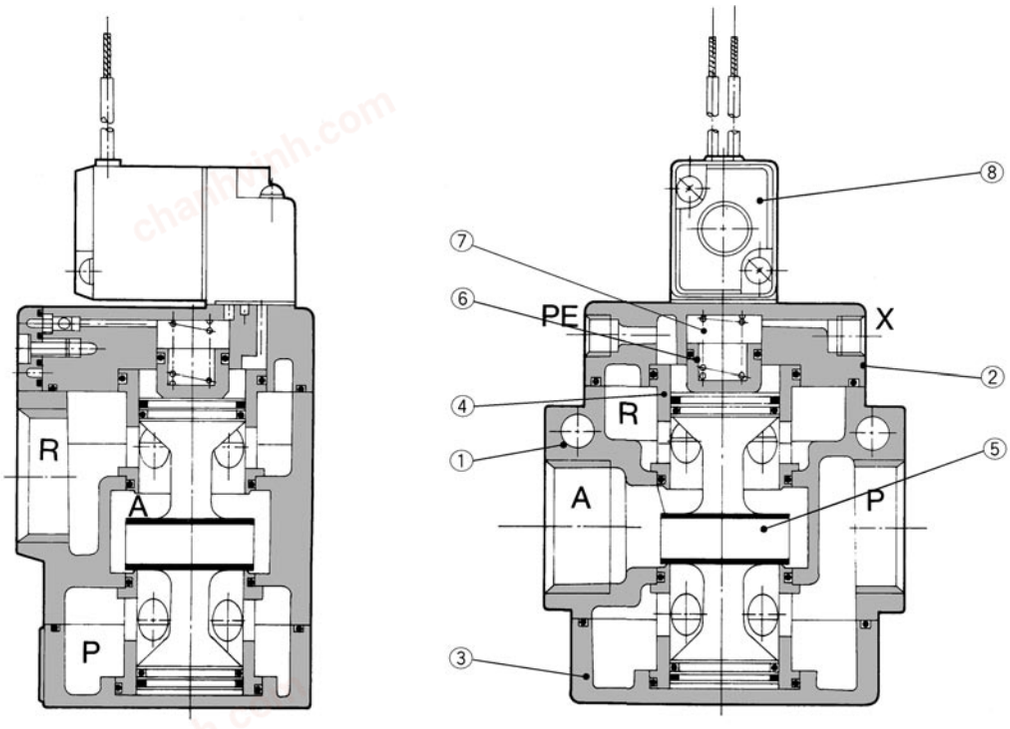
Note 1) In case of internal pilot, comfirm that a plug is inserted to X port. If not, insert a R(PT)1/8 plug.

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

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VG342

Construction



Component Parts

No.	Description	Material	Notes
①	Body	Aluminum alloy	Paint color: Platinum silver
②	Adapter plate		
③	End plate		
④	Retainer	Brass	
⑤	Spool valve	Aluminum alloy/NBR	
⑥	Piston	Resin	
⑦	Spring	Stainless steel	

Replacemet Parts

No.	Description	Material	Part No.
⑧	Pilot valve ass'y	—	VO307□-□□□*-Q

* Refer to p.2.7-2 for "How to Order Pilot Valve Assembly"

⚠ Precautions

Be sure to read before handling. Refer to p.0-33 to 0-36 for Safety Instruction and common precautions.

⚠ Caution

Operation

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 EP 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-Q"(Pilotvalveassembly: "VO307E□□□-Q").

1. This is for continuous duty, not for high cycle rates. If the cycle rate is more than once a day, consult SMC.
2. Make sure to cycle valve at least once every 30 days.

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Dimensions

DIN connector (D)

