

 **P.G.Information** (Specialized Product)

Residual pressure release valve for safety controller system

**3 port solenoid valve/ VP542-X536
VP742-X536**

SMC CORPORATION
4-14-1, SOTO-KANDA,
CHIYODA-KU,
TOKYO 101-0021, JAPAN
URL: <http://www.smcworld.com>

■ Features:

Safety standards ISO13849-1 for Category 1 and 2*

Detecting function of main valve position

- The detecting function of the main valve is available to detect error in the input signal and valve operation

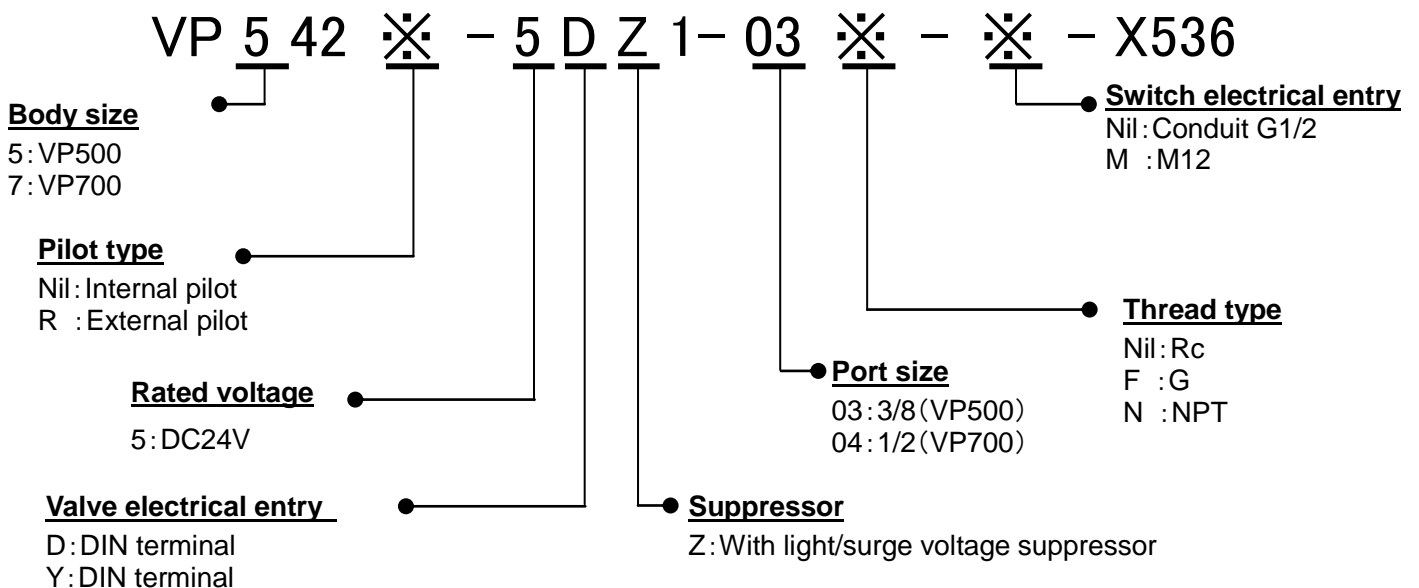


VP542-X536

Model	Application
VP542-X536 VP742-X536	Safety standards ISO13849-1 Category 1 and 2

* This product is component which is a part of a safety system and safety equipment is not guaranteed by this single unit alone.

■ How to Order :



■ Specifications:
<Valve Specifications>

	VP542-X536 ^{*1)} VP742-X536 ^{*1)}	VP542R-X536 VP742R-X536
Fluid	Air	
Type of actuation	NC(Return spring)	
Operating pressure range	0.25~0.7MPa	
Operation	Internal pilot type	External pilot type
External pilot pressure	-	0.25~0.7MPa (Same as operating pressure)
Max.operating frequency	30 times/min.	
Min. operating frequency	1time/ week	
Ambient and fluid temperature	-10 to 50°C (No freezing)	
Ambient	20~90%RH (No freezing)	
Lubrication	No required	
Shock/Vibration	150 / 30 m/s ²	
Enclosure	IP65	
Operating environment	Indoors	
Weight	350g (VP542-X536)/ 590g (VP742-X536)	
B10d(MTTFd Calculation)	10,000,000 times (VP542-X536)/ 10,000,000 times (VP742-X536)	

- * 1) If there is not enough air supply at the P port or the supply pressure for the valve decreases to 0.25MPa or less of the min. operating pressure, the valves may not switch correctly. Please utilize the external pilot type (VP542R-X536, VP742R-X536) and supply enough air pressure to the external port in such a case.

<Fluid>

◇ VP542(R)-X536

Operating pressure	1→2(P→A)	2→3(A→R)
C [dm ³ /(s·bar)]	8.9	8.9
b	0.16	0.20
Cv	2.2	2.1

◇ VP742(R)-X536

Operating pressure	1→2 (P→A)	2→3 (A→R)
C [dm ³ /(s · bar)]	15.1	15.3
b	0.21	0.22
Cv	3.6	3.7

<Solenoid Specifications>

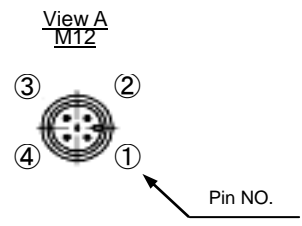
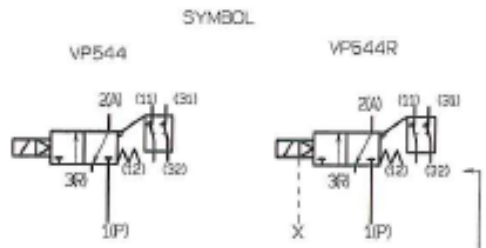
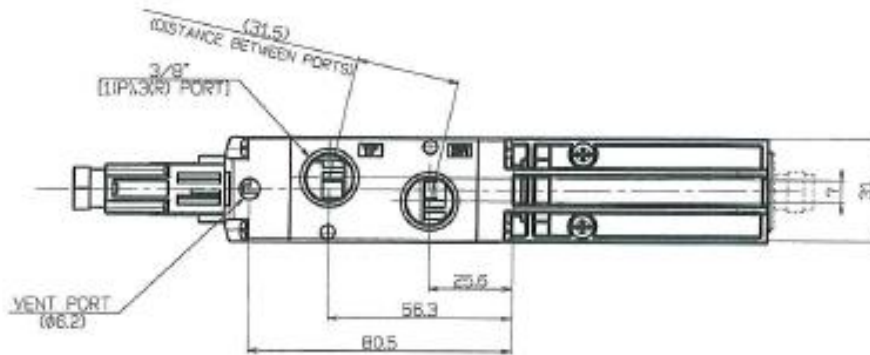
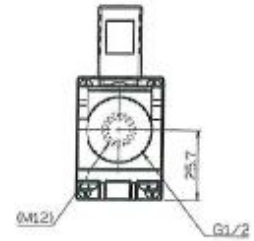
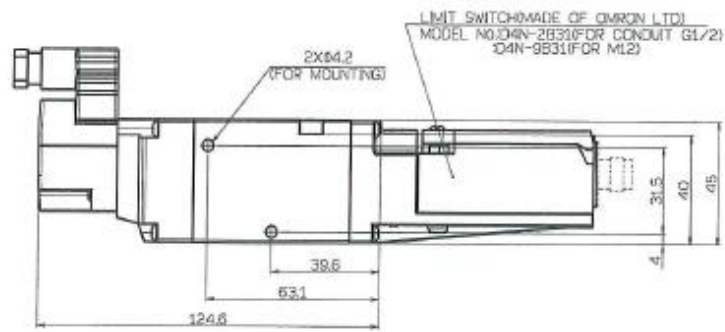
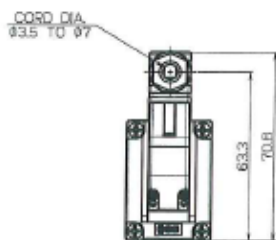
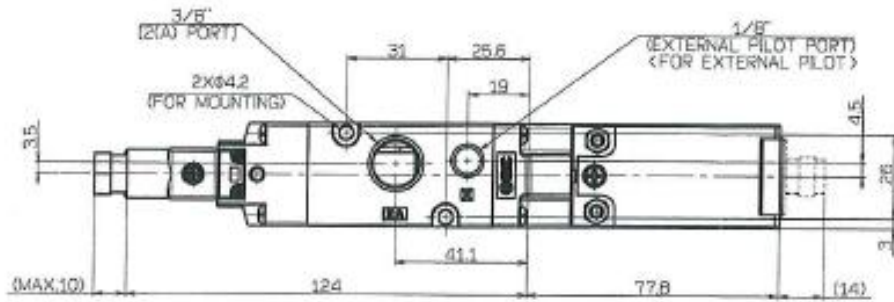
Electrical entry	DIN terminal
Rated voltage	DC24V
Allowable voltage Fluctuation	-7% to 10%
Power Consumption	0.45W
surge voltage suppressor	Varistor
Indicator	LED

<Limit switch Specifications>

Electrical wiring	Conduit G1/2, M12 Connector
Contact resistance	25mΩor less
Min. applicable load	DC5V 1mA (Load resistance)
Max. voltage	DC24V
Max. load current	50mA
Max. load inductance	0.5H
Insulation voltage	300V
Protection against electric shock	Class II (EN60947-5-1:2004)

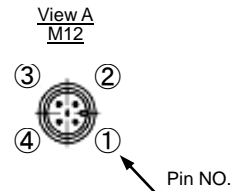
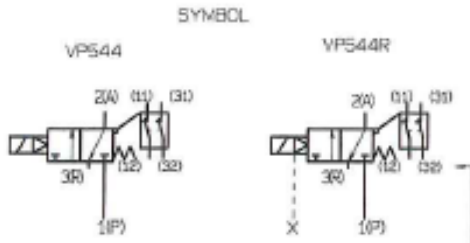
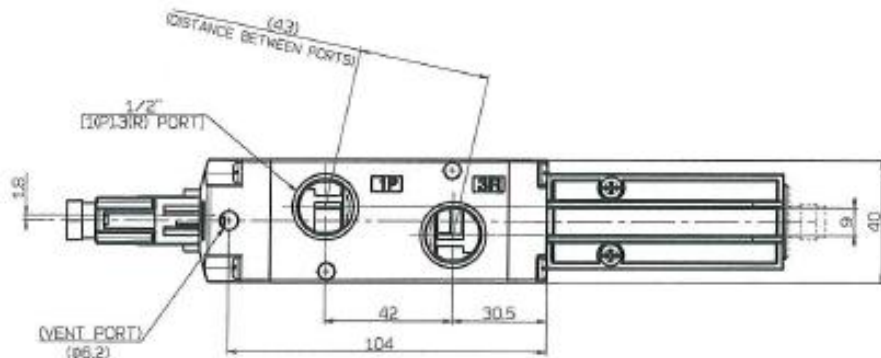
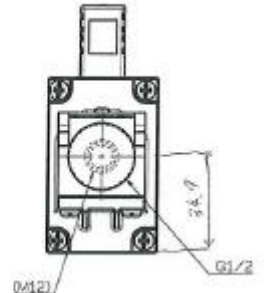
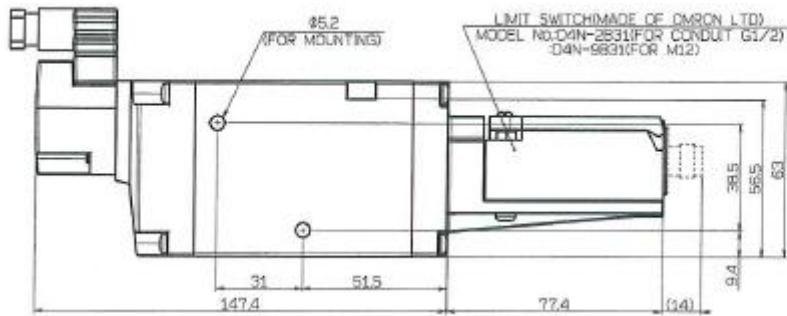
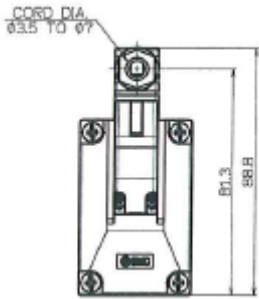
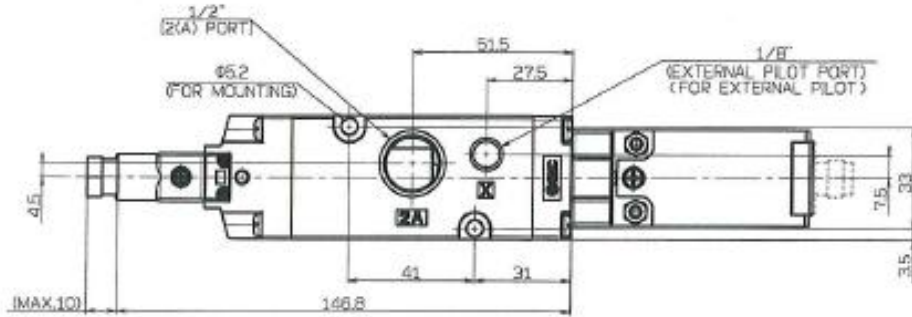
■ Dimensions: mm

◇ VP542(R)-X536



TERMINAL No. LIMIT SWITCH(N.C.)
FOR CONDUIT G1/2

◇ VP742(R)-X536



TERMINAL No. LIMIT SWITCH(N.C.)
FOR CONDUIT G1/2

Caution To ensure the safest possible operation of this product, please be sure to read thoroughly the "Safety Instructions" in our "Best Pneumatics" catalog before use.

 Contact our sales office regarding a delivery date or a price since this is a special model.

SP111X-007E
P: PX

 **P.G.Information** (Specialized Product)

Safety controller system

Dual residual pressure release valve

3 port solenoid valve / VP544-X538

SMC CORPORATION
4-14-1, SOTO-KANDA,
CHIYODA-KU,
TOKYO 101-0021, JAPAN
URL: <http://www.smcworld.com>

■ Features:

Safety standard ISO13849-1 for category 3 and 4*

Dual residual pressure release valve with detection of main valve position.

- It is possible to detect the on/off positions of the main valves.



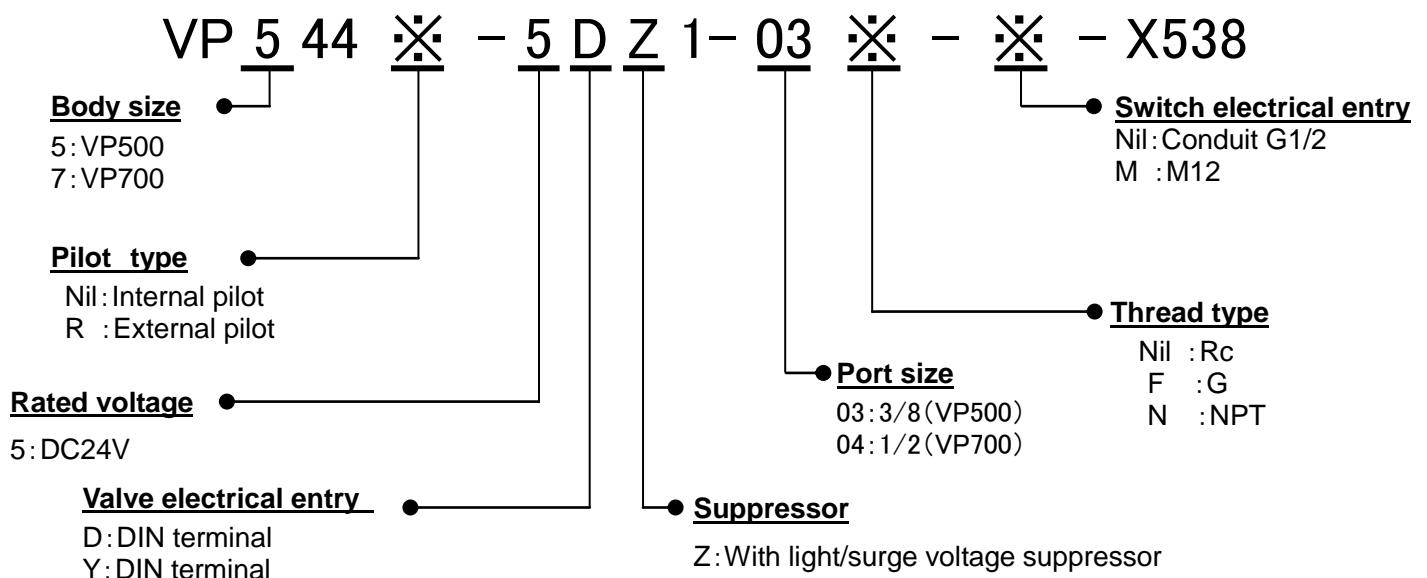
VP544-X538

Model	Application
VP544-X538 VP744-X538	Safety standards ISO13849-1 Category 3 and 4

* This product is component which is a part of a safety system and safety equipment is not guaranteed by this single unit alone.

■ How to Order :

◇ VP544-X538, VP744-X538



■ Specifications:
< Valve Specifications >

	VP544-X538* ¹⁾ VP744-X538* ¹⁾	VP544R-X538 VP744R-X538
Fluid	Air	
Type of actuation	NC(Return spring)	
Operating pressure range	0.25 to 0.7MPa	
Operation	Internal pilot type	External pilot type
External pilot pressure	-	0.25 to 0.7MPa (Same as operating pressure)
Max.operating frequency	30 times/min.	
Min. operating frequency	1time/ week	
Ambient and fluid temperature	-10 to 50°C (No freezing)	
Ambient	20 to 90%RH (No freezing)	
Lubrication	No required	
Shock/Vibration	150 / 30 m/s ²	
Enclosure	IP65	
Operating environment	Indoors	
Weight	930g (VP544-X538)/ 1510g (VP744-X538)	
B10d(MTTFd Calculation)	10,000,000 times (VP544-X538)/ 10,000,000 times (VP744-X538)	

- * 1) If there is not enough air supply at the P port or the supply pressure for the valve decreases to 0.25MPa or less of the min. operating pressure, the valves may not switch correctly. Please utilize the external pilot type (VP542R-X536, VP742-X536) and supply enough air pressure to the external port in such a case.

<Fluid>

◇ VP544(R)-X538

Operating pressure	1→2(P→A)	2→3(A→R)
C [dm ³ /(s·bar)]	6.5	6.7
b	0.08	0.10
Cv	1.3	1.3

◇ VP744(R)-X538

Operating pressure	1→2(P→A)	2→3(A→R)
C [dm ³ /(s·bar)]	10.3	9.7
b	0.08	0.08
Cv	2.3	2.1

<Solenoid Specifications>

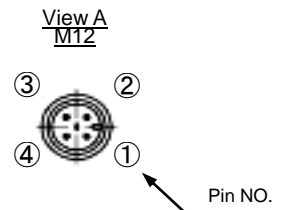
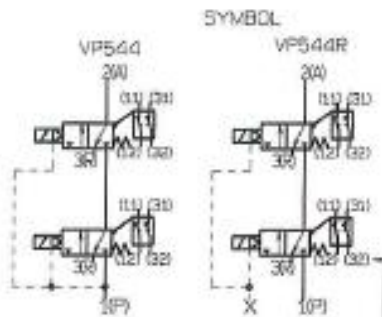
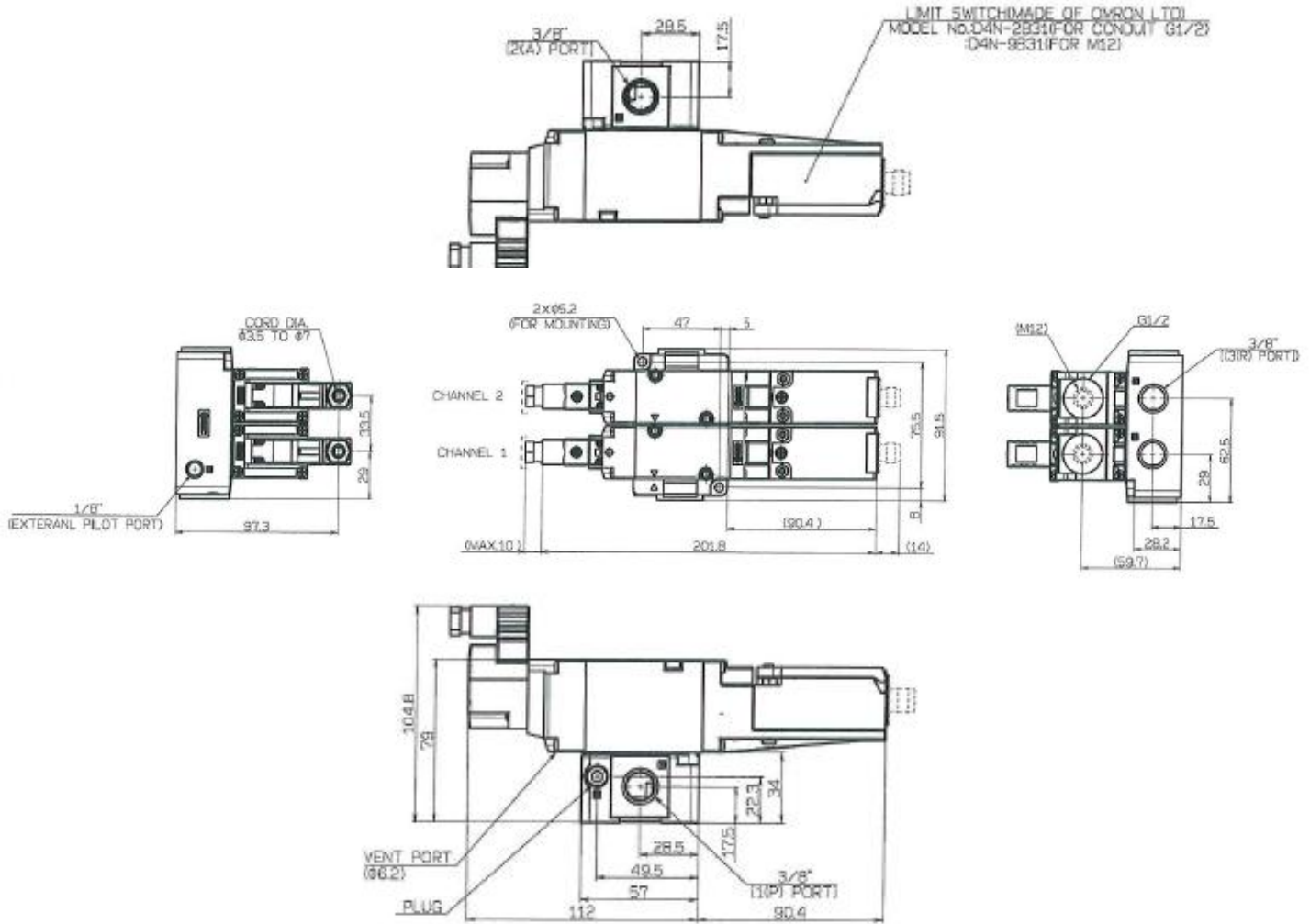
Electrical entry	DIN terminal
Rated voltage	DC24V
Allowable voltage Fluctuation	-7% to 10%
Power Consumption	0.45W
surge voltage suppressor	Varistor
Indicator	LED

<Limit switch Specifications>

Electrical wiring	Conduit G1/2, M12 Connector
Contact resistance	25mΩ 以下
Min. applicable load	DC5V 1mA (Load resistance)
Max. voltage	DC24V
Max. load current	50mA
Max. load inductance	0.5H
Insulation voltage	300V
Protection against electric shock	Class II (EN60947-5-1:2004)

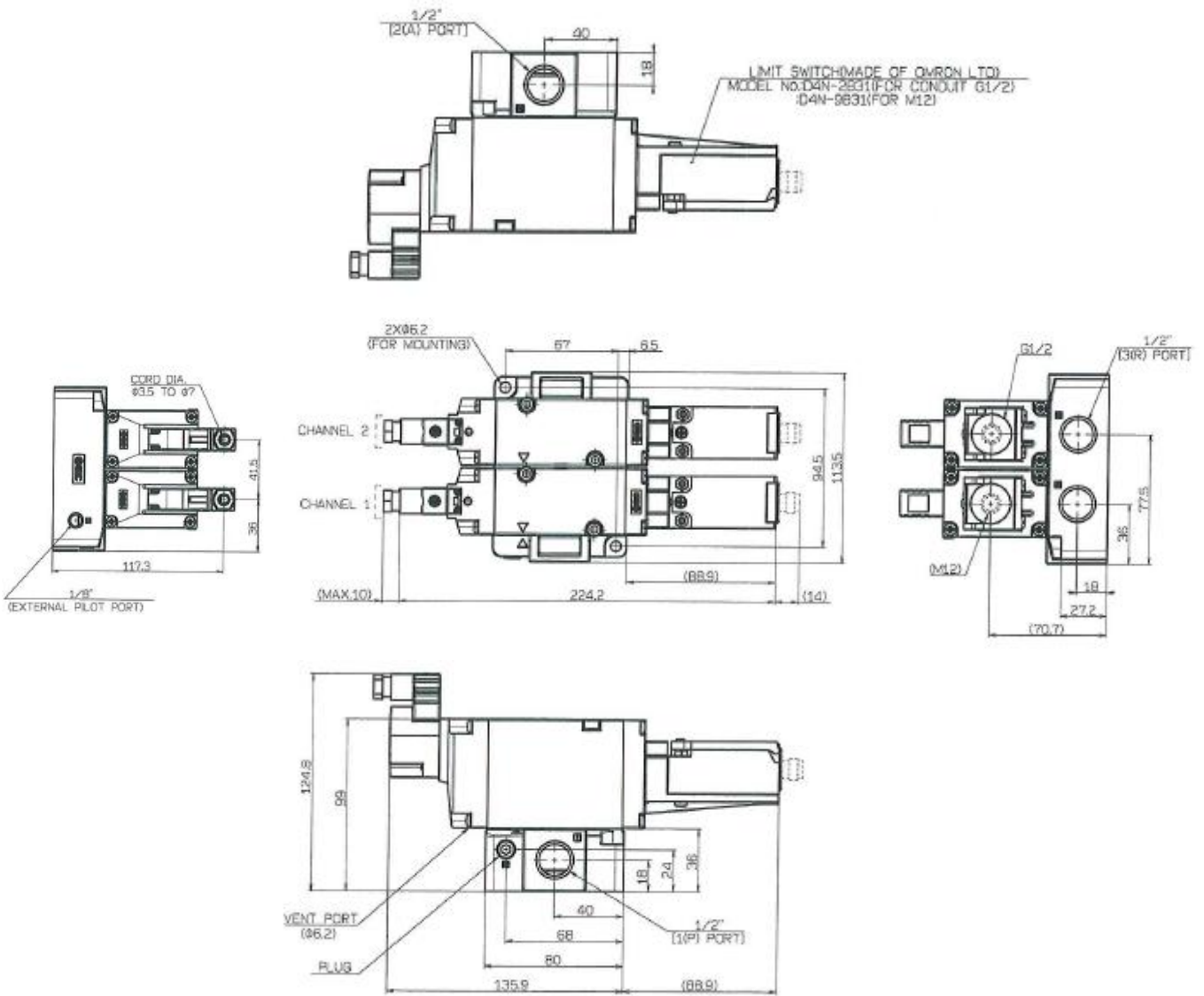
■ Dimensions: mm

◇ VP544(R)-X538

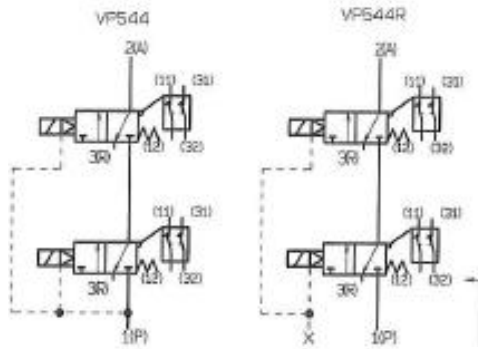


TERMINAL No. LIMIT SWITCH(N.C.)
FOR CONDUIT G1/2

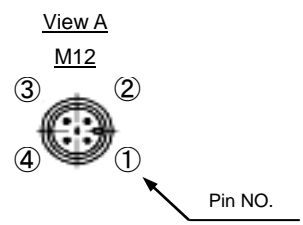
◇ VP744(R)-X538



SYMBOL



TERMINAL No. LIMIT SWITCH(N.C.)
FOR CONDUIT G1/2



⚠ Caution To ensure the safest possible operation of this product, please be sure to read thoroughly the "Safety Instructions" in our "Best Pneumatics" catalog before use.

 Contact our sales office regarding a delivery date or a price since this is a special model.

SP111X-005E
P: PX

 **P.G.Information** (Specialized Product)

Safety controller system

3 port solenoid valve/VG342 (R)-X87

SMC CORPORATION
4-14-1, SOTO-KANDA,
CHIYODA-KU,
TOKYO 101-0021, JAPAN
URL: <http://www.smcworld.com>

■ Features:

Safety standard ISO13849-1 for category 3 and 4*

Dual residual pressure release valve with detection of main valve position.

- It is possible to detect the on/off positions of the main valves.

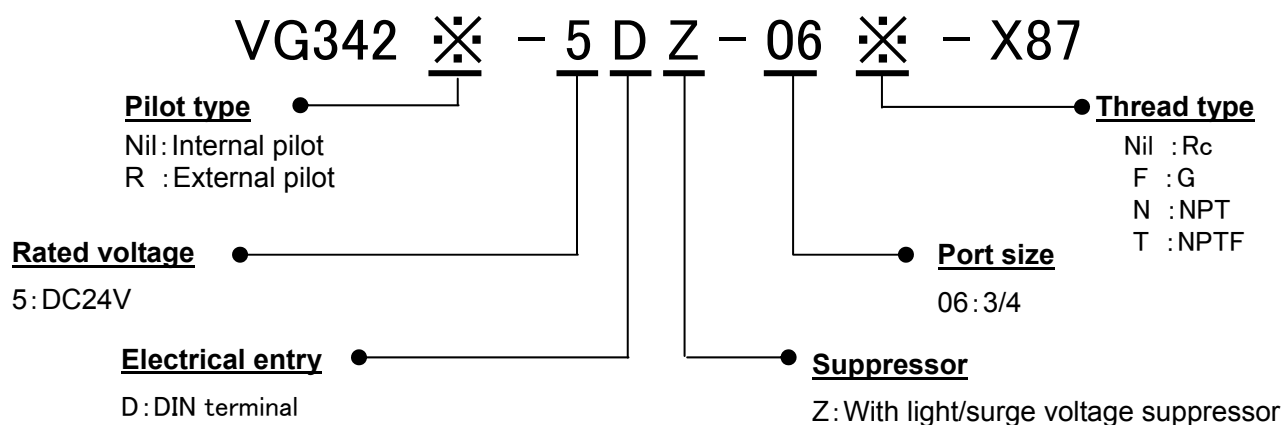


VG342-X87

Model	Application
VG342-X87	Safety standards ISO13849-1 Category 3 and 4 Compliant with performance level e

* This product is component which is a part of a safety system and safety equipment is not guaranteed by this single unit alone.

■ How to Order:



■Specifications:
< Valve Specifications >

	VG342-X87*	VG342R-X87
Fluid	Air	
Type of actuation	NC (Return spring)	
Operating pressure range	0.25 to 0.7MPa	
Operation	Internal pilot type	External pilot type
External pilot pressure	-	0.25~0.7MPa (Same as operating pressure)
Max.operating frequency	30 times/min.	
Min. operating frequency	1time/week	
Ambient and fluid temperature	-10 to 50°C (No freezing)	
Ambient	95%RH or less (No freezing)	
Lubrication	No required	
Shock/Vibration	150 / 50 m/s ²	
Enclosure	IP40	
Operating environment	Indoors	
Weight	2.8kg	2.9kg
B10 (MTTFd Calculation)	900,000 times	

* If there is not enough air supply at P port or the supply pressure for valves decreases to 0.25MPa or less of the min. operating pressure, the valves may not switch correctly. In this case, please utilize the external pilot type (VG342R-X87) and supply enough air pressure to the external port.

<Fluid> *

Operating pressure	1→2 (P→A) [L/min(ANR)]	2→3 (A→R) [L/min(ANR)]
0.25 MPa	3,800	5,200
0.5 MPa	7,400	9,400
0.7 MPa	10,000	13,000

* These values are just for reference. (Flow rate changes with piping conditions)

<Solenoid Specifications>

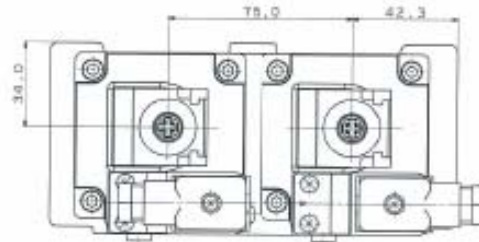
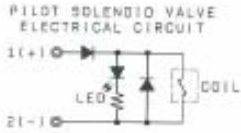
Electrical entry	DIN terminal
Rated voltage	DC24V
Allowable voltage Fluctuation	-15% to +10% of rated voltage
Power Consumption	2.2W
Suppressor	Light/surge voltage suppressor

<Limit switch Specifications>

Electrical wiring	M12 connector
Contact resistance	25mΩ or less
Min. applicable load	DC5V 1mA (Load resistance)
Max. Voltage	DC24V
Max. load current	50mA
Max. load inductance	0.5H
Insulation voltage	300V
Protection against electric shock	Class II (EN60947-5-1:2004)

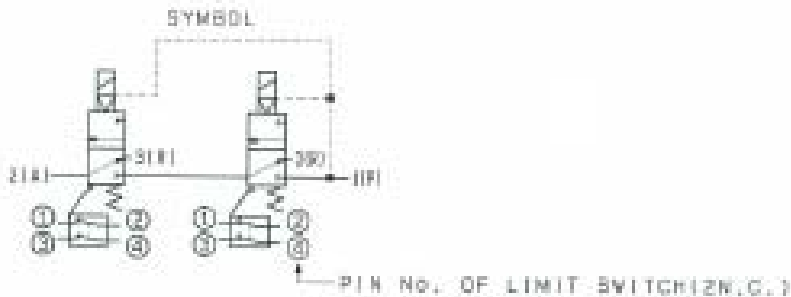
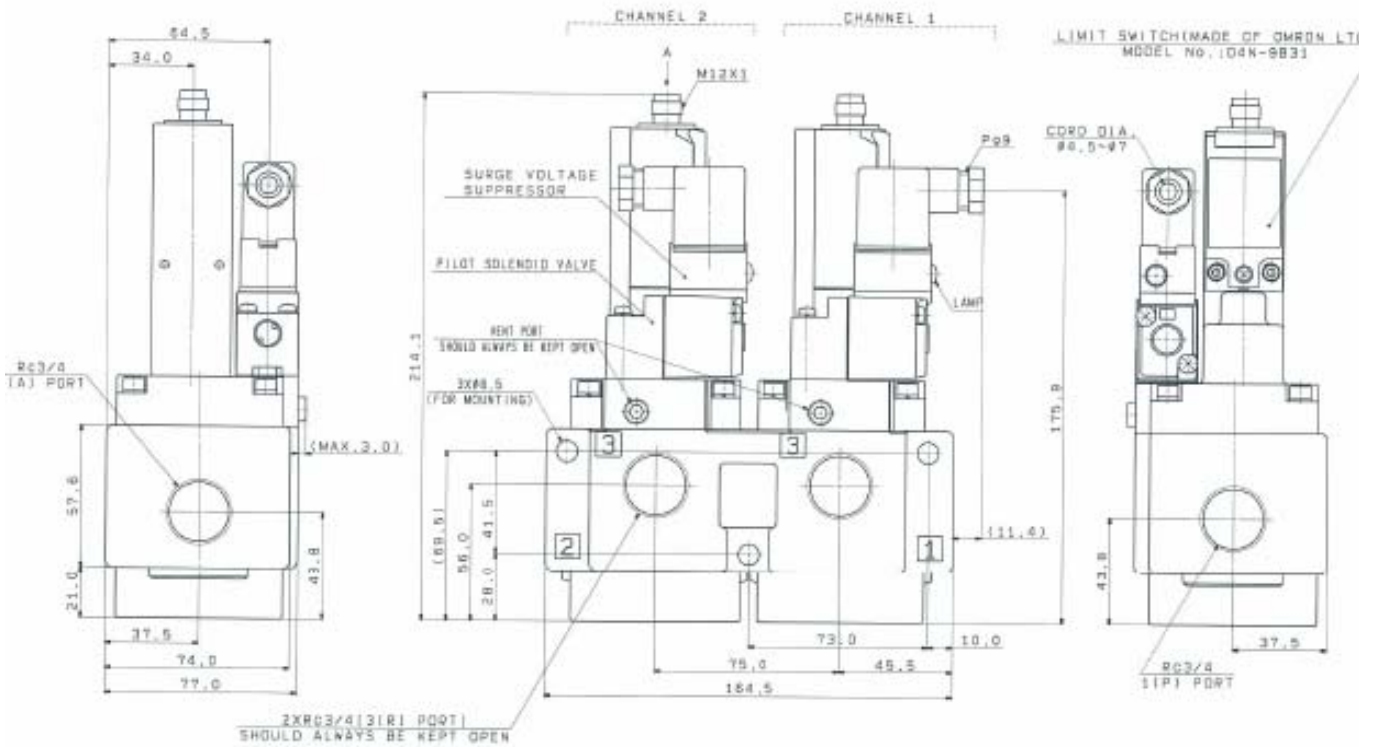
■ Dimensions: mm

◇ VG342-X87



MODEL No.
VG342-502-06a-X87

THREAD TYPE
NIL:RC
F :S
M :NPT
T :NPTF
RATED VOLTAGE



⚠ Caution To ensure the safest possible operation of this product, please be sure to read thoroughly the "Safety Instructions" in our "Best Pneumatics" catalog before use.