3 Port Poppet Rubber Seal
Series VT325

Compact yet provides a large valve capacity
Dimensions (W X H X D) ···55 X 118 X 53
VT325: N*l*/min 1472.25···3/8

A single valve with 6 valve functions
(Universal porting style)
Six valve functions can be attained by selecting the piping ports. (Enabling the NC valve, NO valve, divider valve, selector valve, etc. to be used as desired.)

Can be used for vacuum applications
–101.2kPa
(Vacuum style: VT/VO325V)

VT325-□□D

Specifications

Actuation	Direct operated 2 position single solenoid
Fluid	Air
Operating pressure range	0 to 1.0MPa
Ambient and fluid temperature	5 to 50˚C
Max. operating frequency	5Hz
Response time (1)	30ms or less (at 0.5MPa)
Effective area (N*l*/min) (2)	27mm² (1472.25: 3/8), 25mm² (1374.1: 1/4)
Lubrication	Not required (Use turbine oil class 1 ISO VG32 for lubrication)
Manual override	Non-locking push
Impact/Vibration resistance (3)	150/50 m/s²
Enclosure	Dust proof

Note 1) As per JIS B8374-1981 (Coil temperature 20ºC, at rated voltage, without surge suppressor)
Note 2) Value for valve unit. It varies in case of manifold. Refer to p.2.5-18 for manifold specifications.
Note 3) Impact resistance: No malfunction from test using drop impact tester, to axis and right angle directions of main valve and armature, each one time when energized and de-energized. (Initial value)
Vibration resistance: No malfunction from test with 45 to 1000Hz 1 sweep, to axis and right angle directions of main valve and armature, each one time when energized and de-energized. (Initial value)

Solenoid Specifications

Electrical entry			DIN connector	
Coil rated voltage			100 and 200 VAC, (50/60Hz), 24VDC	
Allowable voltage			–15% to +10% of rated voltage	
Apparent power (3)	AC	Inrush	50Hz	75VA
			60Hz	60VA
		Holding	50Hz	27VA
			60Hz	17VA
Power consumption (3)	DC		12W	

Note 3) At rated voltage

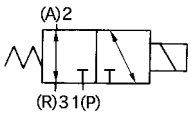
Model

Model	Port size	Piping	Weight
VT325-02□D	1/4	Body ported	0.55kg
VT325-03□D	3/8		

Manifold

Model	Applicable manifold	Accessories
VO325-00□□	B mount common exhaust style	Seal (DXT083-13-1), Bolt (DXT083-19-1, 2 pcs.)

Symbol



How to Order

E VT325 □ – 02 □ 1 G □ □ -Q

Ordering source area code

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

For manifold: VO

Valve specifications

Nil	Standard
V *	Vacuum

*Option

Port size

02	1/4
03	3/8
00	Without connection port (for manifold)

Thread

–	Rc (PT)
F	G (PF)
N	NPT
T	NPTF

Coil 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)

Surge voltage suppressor

–	None
S	With surge suppressor (AC: Can be attachedto Gromme, Conduit, Conduit terminal styles DC: Can be attached to Grommet type, Conduit styles)

Electrical entry

D	DIN terminal (with connector)
DO	DIN terminal (without connector)
DLO	DIN terminal with light (with connector)
DL**	DIN terminal without light (without connector)

**Contact SMC for coil rated voltage (*option).

Manual override

–	Non-locking style
M	Locking (Slotted style)

Protective class
class I (Mark:⏚)

Option Specifications

1.For vacuum

Pressure range	–101.2kPa to 0.1MPa

In contrast to the standard product, this vacuum specification valve has less air leakage at low pressures, a feature that should be taken into consideration when using this valve for vacuum applications.

⚠ Caution

1)Because this valve leaks air, it cannot be used for maintaining a vacuum (or pressure) in a pressure vessel.

2.Manual override with lock

1) Using a screwdriver, push the manual override button that is located in the head portion of the solenoid valve in order to directry push the spool valve downward, thus causing the valve to switch.

2) With the button remaining pushed down, turn it approximately 90° clockwise or counterclockwise to maintain the manual override locked state.

3) To revert to the original state, keep the button pushed down and turn it approximately 90° clockwise or counterclockwise.

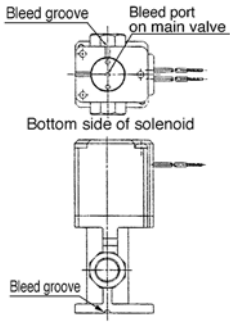
⚠ Precaution

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

⚠ Caution

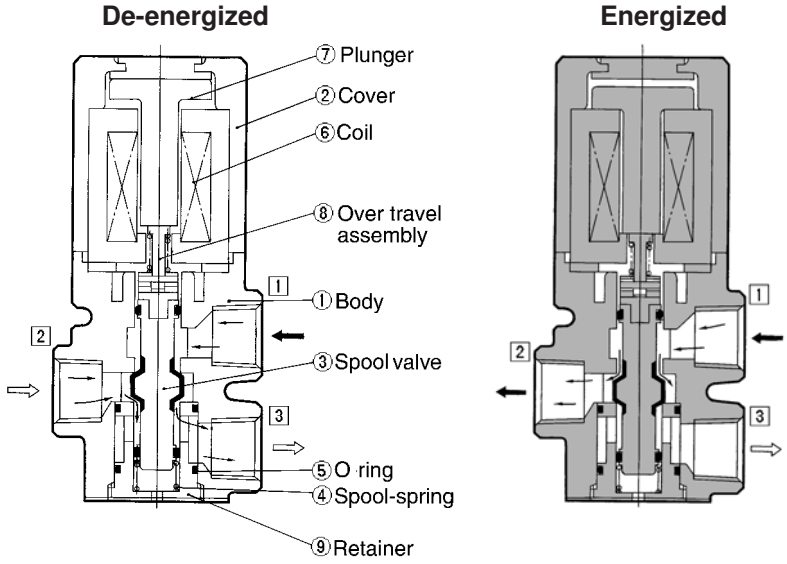
1.The bottom of the solenoid valve has a breather hole for the main valve. Take proper measures to prevent this hole from being blocked as this will lead to a malfunction.

∗ **Ordinarily, when the solenoid valve is mounted on a metal surface, it can breathe through the breather hole, via the breather groove, However, in particular, if the surface to be mounted is made of rubber, the rubber could deform and block the hole.**



2. Take proper measures to prevent dust or foreign matter from entering through unused ports.
The grommet portion contains a breather hole for the core. Take proper measures to prevent dust or foreign matter from accumulating in this area.

Construction



Operation principles

<De-energized>

The spool ③ is pushed upward by the force of the spring ④ and the air passage between port 2 and port 3 is opened and port 1 is blocked.

Air flow direction: 1 ⟷Block, 2 ⟷3

<Energized>

When the coil ⑥ is energized the plunger ⑦ is pulled down depressing the spool ③ via the overtravel assembly ⑧ and the air passage between port 1 and port 2 is opened and port 3 is blocked.

Air flow direction: 1 ⟷2, 3 ⟷Block

Parts list

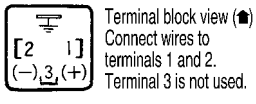
No.	Description	Material	Notes
①	Body	ADC	Platinum silver
②	Cover	ADC	Platinum silver
③	Spool valve	Aluminum, NBR	

How to Use DIN Connector

1. How to wire

1) Loosen the fix screw and pull off the connector from the pin plug.
2) Make sure to pull out the retaining screw before inserting a screwdriver into the groove at the lower portion of the terminal board. Then, push the screwdriver up to separate the terminal board and the terminal cover.
3) Following the wiring procedure, properly connect the wires to the specified terminals.
4) As a rule, wires are connected to the terminals using crimp-style terminals. Therefore, select crimp-style terminals that do not overstrain the terminal hardware.

Wiring figure
Single solenoid 1



Pin plug

2. Change of electrical entry

Once the terminal cover is separated from the terminal block, it can be rotated in any direction (4 directions, each 90°) to change the orientation of the electrical entry.

3. Caution

To insert the connector into the pin plug or to pull it out, do so as vertically as possible, without tilting.

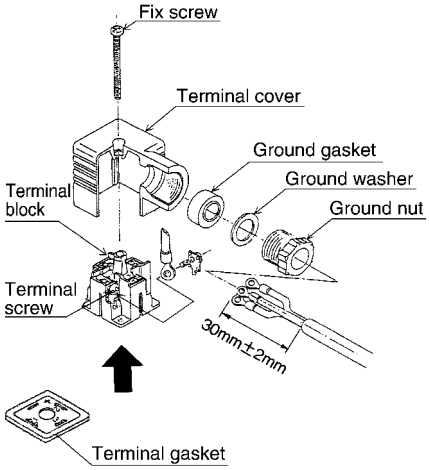
4. Applicable cable

Cord external: ø6 to ø12

Note: For those with external measure ments of ø9 to ø12, remove the inner portion of the ground gasket before use.

5. Applicable crimp-style terminals

The maximun size for the round terminal is 1.25mm^2-3.5 and for the Y terminal is 1.25mm^2-4.

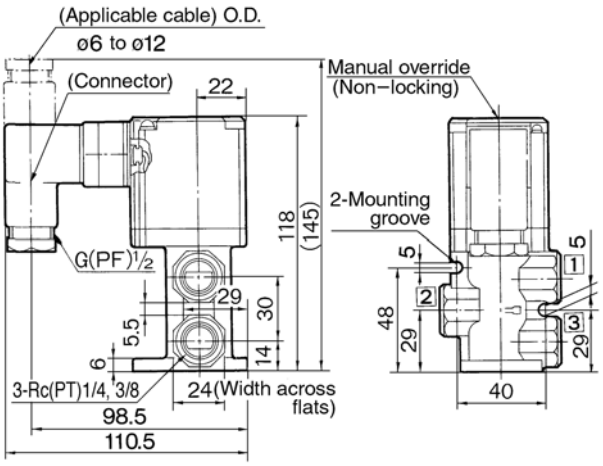


Flow rate

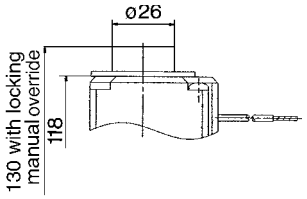
Refer to p.0-36 for flow rate calculation.

Dimensions (mm)

DIN terminal (D)

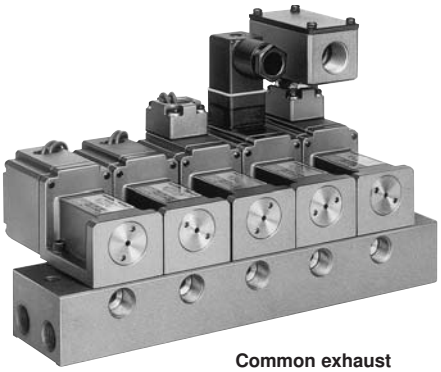


With locking manual override



Series VT325
Manifold

VT325 Series Manifold Model has a B-mount style with common exhaust.



Common exhaust

⚠ Caution

How to Change from NC to NO

The valves are asembled as NC valves at the time of shipment. By removing the two retaining screws from the desired valves, and rotating each valve body 180° and reassembling it on the manifold base, it is possible to reassemble an NC valve as an NO valve. (When doing so, make sure that a gasket is attached to the mounting surface of the valve.) Properly tighten the screws. The tightening torque of the retaining screws is 3Nm.

Manifold Specifications

Manifold	B-mount
Max. number of stations	17 (1)
Applicable solenoid valve	VO325-00□□-Q

Exhaust port style	Port location/Port size			Piping			Effective area (mm^2) (Nℓ/min)
	P	A	R	P	A	R	
Common	Base 1/4, 3/8	Base 1/4, 3/8	Base 1/4, 3/8	Side	Side/ Bottom	Side	19 (1030.58)

Option	Blank plate (packing w/screw)	DXT083-21A

Note 1) If there are more than 4 stations, supply air from both P ports and exhaust from both R ports.

How to Order Manifold Base

E VVT34 0 – 05 1 – [ ] [ ]

Porting

Symbol	P	A	R
0	Side	Side	Side
1	Side	Bottom	Side

Ordering source area code

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

Stations

02	2 stations
⋮	⋮
17	17(Max.)

Exhaust

1	Common

Port size

Symbol	Port size
02	1/4
03	3/8

Thread

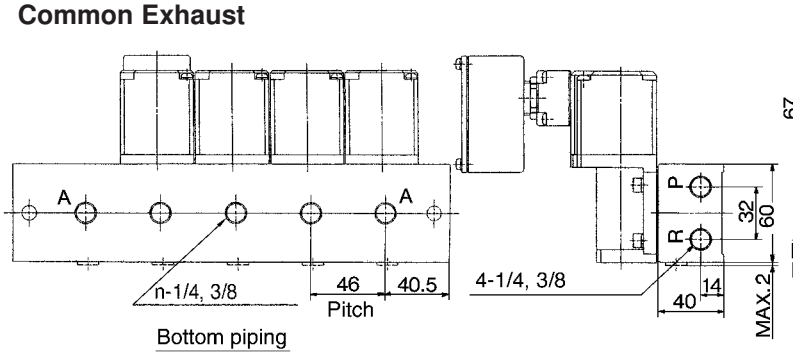
–	Rc (PT)
F	G (PF)
N	NPT
T	NPTF

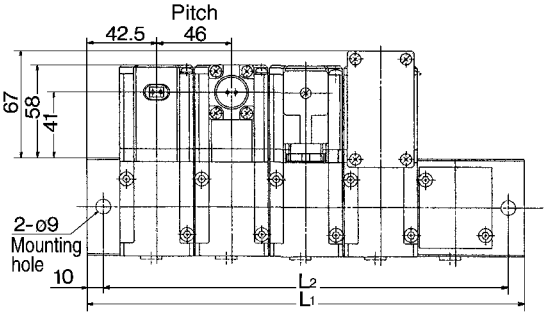
* Specify the part numbers for the valve(s), blank plate, and manifold base
<Example>
VVT340-051.....1 pc.
VO325-001D-Q...4 pcs.
DXT083-21-A.....1 pc.

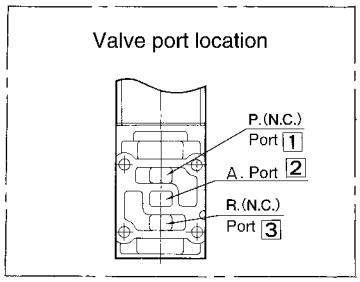
⚠ Protective class class I (Mark: ⏚)

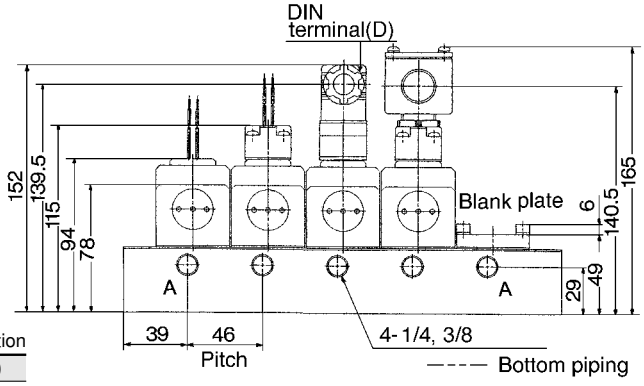
Dimensions

Common Exhaust









n: Station

Symbol \ n	2	3	4	5	6	7	8	9	10
L1	131	177	223	269	315	361	407	453	499
L2	111	157	203	249	295	341	387	433	479

Equation: L1=46n+39, L2=46n+19