3 Port Air Operated Valve

Series VTA301

How to Order

VTA 301 – □ – □ – □

Indicate VO for manifold.

Port size

Nil	Without connection port (For manifold)
01	1/8
02	1/4

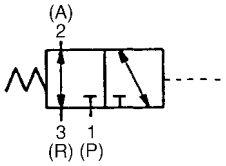
Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

Option

Nil	Without bracket
B	Foot bracket

JIS Symbol



Specifications

Fluid	Air
Operating pressure range (MPa)	0 to 1.0
Pilot pressure range (MPa)	0.2 to 1.0
Ambient and fluid temperature (°C)	–10 to 50 (No freezing. Refer to page 5.)
Lubrication	Not required (Use turbine oil Class 1 ISO VG32, if lubricated.)
Impact/Vibration resistance (m/s²) Note)	150/50
Enclosure	Dustproof

Note) Impact resistance: No malfunction from test using drop impact tester, to axis and right angle directions of main valve, each one time when pilot signal ON and OFF. (Value in the initial stage)
Vibration resistance: No malfunction from test with 45 to 2000 Hz one sweep, to axis and right angle direction of main valve, each one time when pilot signal ON and OFF. (Value in the initial stage)

Option

Description	Part no.
Bracket (With screw)	DXT060-27A

Flow Characteristics/Mass

Valve model	Port size	Flow characteristics												Mass (kg)
		1→2(P→A)			2→3(A→R)			3→2(R→A)			2→1(A→P)			
		C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv	Grommet
VTA301-01-□-□	1/8	0.63	0.30	0.16	0.59	0.30	0.15	0.59	0.32	0.15	0.65	0.30	0.16	0.11 (With bracket: 0.13)
VTA301-02-□-□	1/4	0.66	0.28	0.16	0.60	0.29	0.15	0.61	0.32	0.15	0.66	0.30	0.16	
VOA301	Without connection port	0.34	0.26	0.084	0.32	0.17	0.076	0.35	0.22	0.084	0.35	0.13	0.079	0.12

Note 1) The pilot port size is 1/8.
Note 2) Flow characteristics of VOA301 is the value when the valve is mounted on a manifold.

⚠ Precautions

Be sure to read before handling. Refer to front matters 58 and 59 for SafetyInstructions and pages 3 to 7 for 3/4/5 Port Solenoid Valve Precautions.

For manifold

⚠Caution

1. Each valve is fixed on the manifold with two M4 mounting screws. Please tighten the screws properly when valves are reassembled.
Screw tightening torque: 1.4 N·m

2. M4 or equivalent bolts should be tightened evenly to mount the valve onto the manifold base.

3. In the case of common exhaust type, pressurization or vacuum suction through R port is not possible.

4. In the case of 6 stations or more, supply pressure from both sides of P port.
In the case of common exhaust type, exhaust air from both sides of R port as well.

How to Order Manifold

VVTA300 – 05 1 – 01

Stations

02	2 stations
⋮	⋮
20	20 stations

Exhaust type

1	Individual exhaust
3	Common exhaust

Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

A port size

Symbol	Port size	Exhaust style
01	1/8	Individual exhaust Common exhaust
02	1/4	Individual exhaust

* To order valves and blanking plate assembly mounted onto the manifold, list valves and blanking plate assembly with manifold base part number.

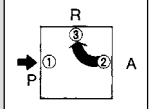
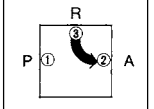
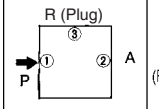
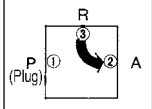
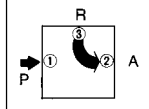
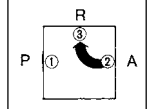
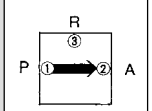
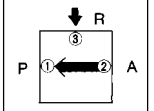
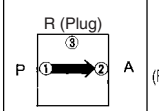
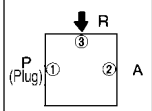
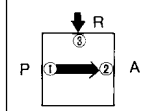
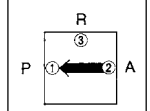
<Example>
VVTA300-051-01..... 1 pc.
VOA301..... 4 pcs.
DXT060-51-13A..... 1 pc.

• Manifold bases same as those for Series VVT300 manifold valves are available. Refer to the Catalog and Series VT301 on SMC website (http://www.smcworld.com) for the manifold specifications and precautions.

Manifold Model

Model	Applicable manifold model	Accessory (Part no.)
VOA301	Common/Individual exhaust	Function plate (DXT060-32-4A)

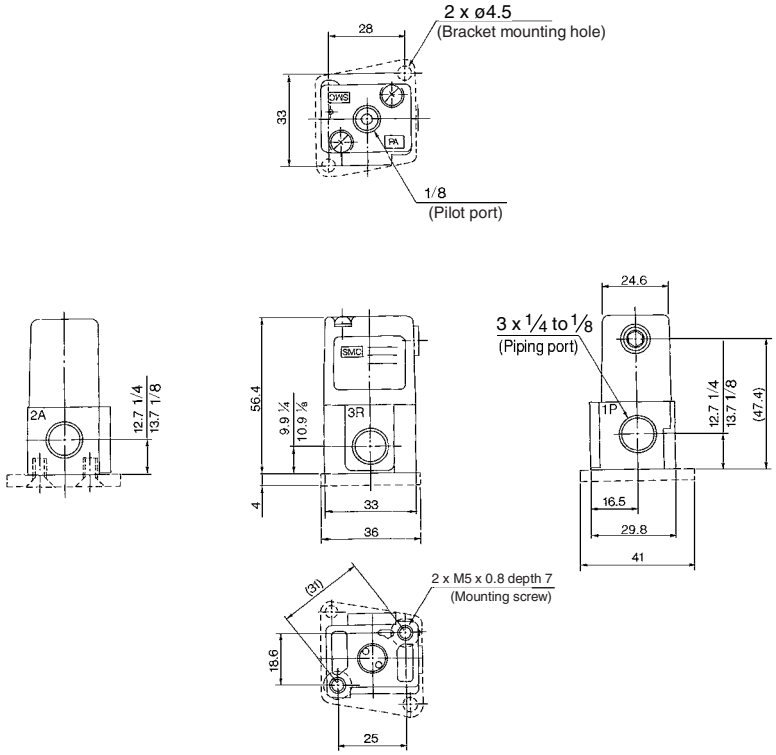
6 Valve Functions Available by Changing of Piping Port

	3 port N.C.	3 port N.O.	2 port N.C.	2 port N.O.	Selector	Divider
Pilot OFF						
Pilot ON						

Series VTA301

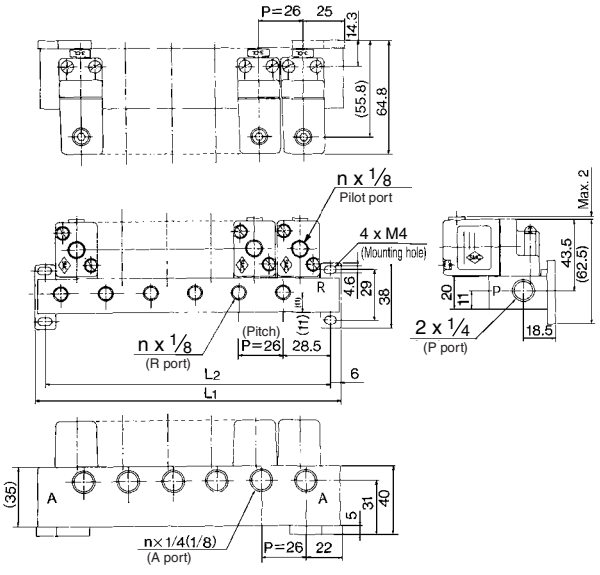
Dimensions/Base Mounted

VTA301-□□□

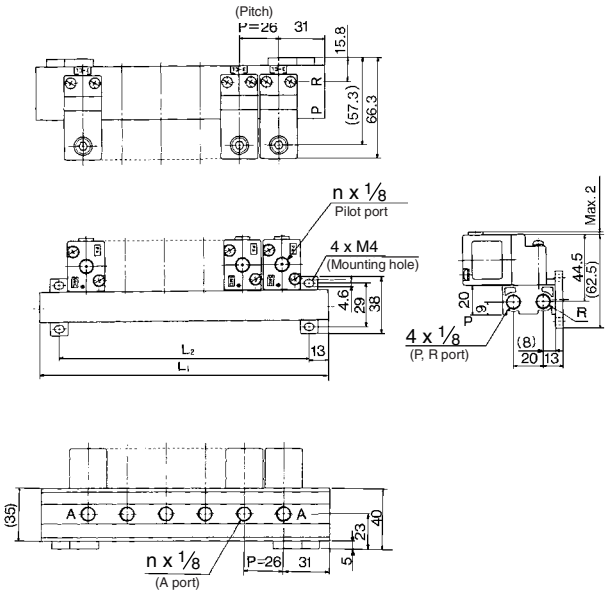


Dimensions/Manifold

VVTA300-□□1



VVTA300-□□3



Individual Exhaust

n: Station

Symbol \ n	2	3	4	5	6	7	8	9	10
L1	76	102	128	154	180	206	232	258	284
L2	64	90	116	142	168	194	220	246	272

Calculation formula: $L_1 = 26n + 24$, $L_2 = 26n + 12$

Common Exhaust

n: Station

Symbol \ n	2	3	4	5	6	7	8	9	10
L1	88	114	140	166	192	218	244	270	296
L2	62	88	114	140	166	192	218	244	270

Calculation formula: $L_1 = 26n + 36$, $L_2 = 26n + 10$