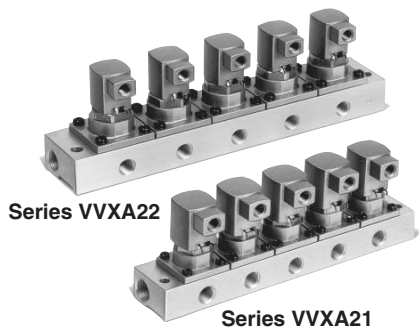


Direct Air Operated 2 Port Valve/Manifold For Air, Gas, Vacuum and Oil

Series VVXA21/22



- **Common SUP type and individual SUP type (for vacuum use) standard models**
Compatible with a wide variety of fluids.
- **A wide variety of applicable fluids.**
Combination of seal materials (NBR, FKM or EPDM) can be selected freely, depending on the purpose.
- **Able to replace valves with the piping remained unchanged.**
- **Weight-saving aluminum base and body.**
- **Brass base and stainless steel base are available.**
Please contact SMC for details.

- VC□
- VDW
- VQ
- VX2
- VX□
- VX3
- VXA
- VN□
- LVC
- LVA
- LVH
- LVD
- LVQ
- LQ
- LVN
- TI/
TIL
- PA
- PAX
- PB

Variations

Valve

Normally closed (N. C.)	Common SUP	
	Individual SUP	
Normally open (N. O.)	Common SUP	
	Individual SUP	

Manifold

Manifold	B mount
Stations	2 to 10 stations

Material

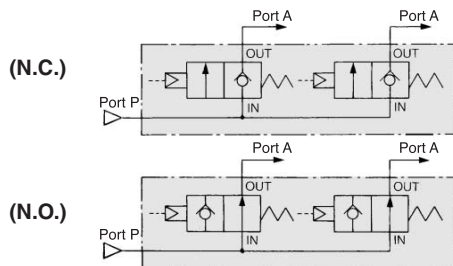
Base, Body	Aluminum
Seal	NBR, FKM, EPDM

Model

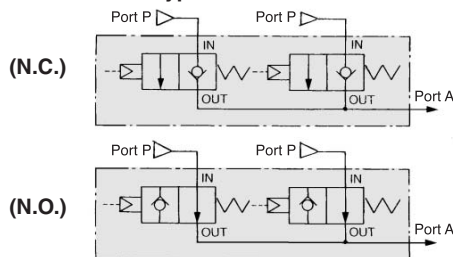
Manifold base model	Individual port Rc	Common port Rc
VVXA211-stations	1/8	3/8
VVXA212-stations	1/4	
VVXA221-stations	1/8	
VVXA222-stations	1/4	

Normally Closed (N.C.), Normally Open (N.O.)

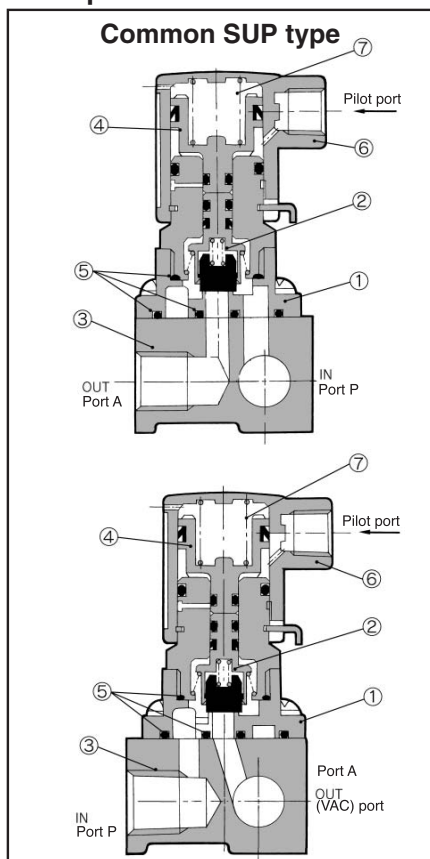
JIS Symbol Common SUP type



Individual SUP type



Construction/ Principal Parts Material



No.	Description	Material	
		Standard	Option
①	Body	Aluminum	—
②	Valve assembly	NBR, Stainless steel Brass, Polyacetal	FKM/EPDM
③	Base	Aluminum	—
④	Piston assembly	Polyacetal, NBR	—
⑤	O-ring	NBR	FKM/EPDM
⑥	Pilot cover	Aluminum	—
⑦	Piston spring	Stainless steel	—

Fluid

Standard specifications	Option
Air (Standard, Dry)	Vacuum (up to 1.3×10^2 Pa) (V)
Vacuum (up to 1.3×10^2 Pa)	Non-leak (10^{-6} Pa·m ³ /s or less) (V)
Turbine oil	
Carbon dioxide (CO ₂), Nitrogen gas (N ₂)	



Note) Refer to page 17-3-13 "Applicable Fluids Check List" for details of special fluids outside of the standard options and specifications.

Manifold Specifications

Manifold	B Mount	
Manifold type	Common pressure supply, individual pressure supply (For vacuum)	
Number of valves	2 to 10 stations	
Blanking plate (With O-rings, screws)	VVXA21	VX011-001
	VVXA22	VX011-006



Note) Common port is placed on vacuum side.

Manifold Base and Applicable Valve Part No.

Manifold base	Individual port Rc	Applicable valve	Weight per one station (g)
VVXA211-stations	1/8	VXA21□□ ₁ -00	n x 70 + 50
VVXA212-stations	1/4	VXA21□□ ₁ -00	n x 70 + 50
VVXA221-stations	1/8	VXA22□□ ₃ -00	n x 130 + 110
VVXA222-stations	1/4	VXA22□□ ₃ -00	n x 130 + 110

Solenoid Valve for Manifold

Orifice size (mm)	Model	Max. operating pressure differential (MPa)	Flow characteristics					Max. system pressure (MPa)	Proof pressure (MPa)	Weight (g)
			Oil		Air					
			Av x 10 ⁻⁶ m ²	Cv converted	C [dm ³ /(s·bar)]	b	Cv			
3	VXA212-00	1.0	7.9	0.33	1.3	0.50	0.38	1.0	1.5	120
4.5	VXA213-00	0.5	15	0.61	2.3	0.45	0.70			
	VXA223-00	1.0								
6	VXA224-00	0.6	26	1.1	3.3	0.50	1.1			160



Note) Refer to "Glossary" on page 17-3-15 for details of max. operating pressure differential

Operating Fluid and Ambient Temperature

Temperature conditions	Operating fluid temperature (°C)			Ambient temperature (°C)
	Air (Standard)	Oil (Standard)	Vacuum ⁽³⁾ (V)	
Maximum	60	40	40	40
Minimum	-5 ⁽¹⁾	-5 ⁽²⁾	-5	-5



Note 1) Dew point: -5°C or less Note 2) 500 cSt or less
Note 3) "V" in parentheses is option symbol.

Tightness of Valve (Leak rate)

Seal material	Fluid		
	Air	Liquid	Non-leak, Vacuum ⁽²⁾
NBR, FKM, EPDM	1 cm ³ /min or less	0.1 cm ³ /min or less ⁽¹⁾	10 ⁻⁶ Pa·m ³ /s or less



Note 1) Differs depending on the operating conditions such as pressure, etc.
Note 2) Value on option "V" (Non-leak, Vacuum).

Pilot Pressure

Model	Pressure (MPa)
VXA21□□	0.25 to 0.7
VXA22□□	

The VX* series will be revised shortly.

How to Order

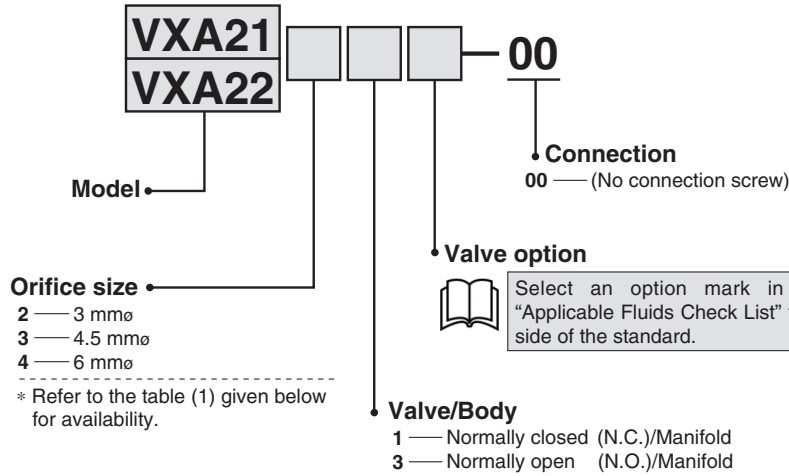
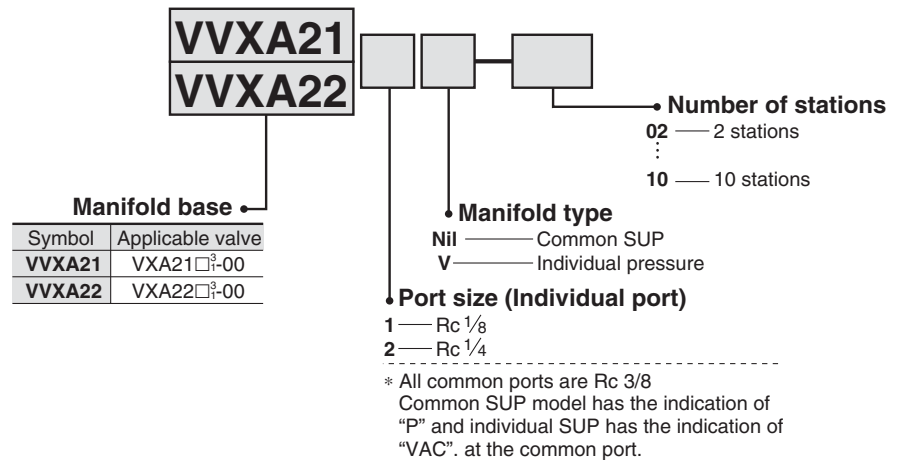


Table (1) Orifice Size

Model	Orifice size (No.)		
	2 (3 mm \varnothing)	3 (4.5 mm \varnothing)	4 (6 mm \varnothing)
VXA21	●	●	—
VXA22	—	●	●

How to Order Manifold Base



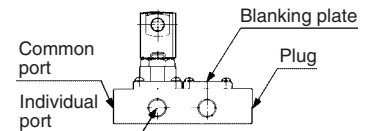
How to Order Manifold

Write both the base part number and the solenoid valve to be mounted or blanking plate part number.

(Example) 7 stations of VXA21 common pressure, individual port Rc 1/8.

(Base) VVXA211-07..... 1 pc.
(Valve) VXA2121-00..... 6 pcs.
(Blanking plate) VX011-001..... 1 pc.

Arrangement of solenoid valves



The standard arrangement of manifolds should be placed on an individual port on this side, each solenoid valve from the left side and a blank plate in the right side. The right side of the common port provides plug.

VC□

VDW

VQ

VX2

VX□

VX3

VXA

VN□

LVC

LVA

LVH

LVD

LVQ

LQ

LVN

TI/
TIL

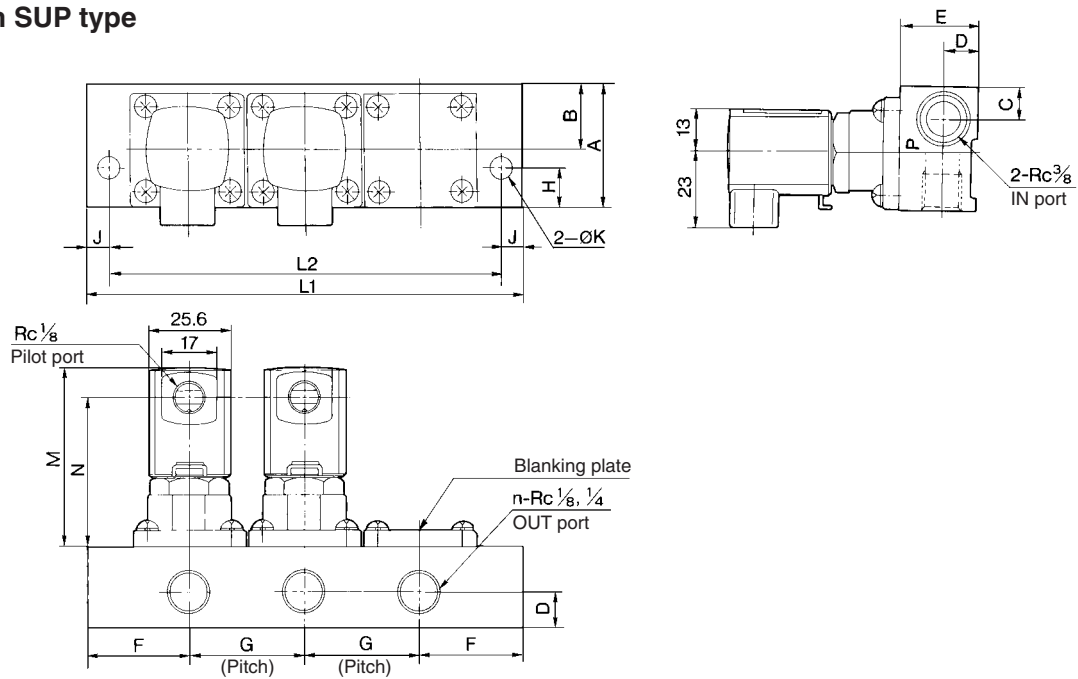
PA

PAX

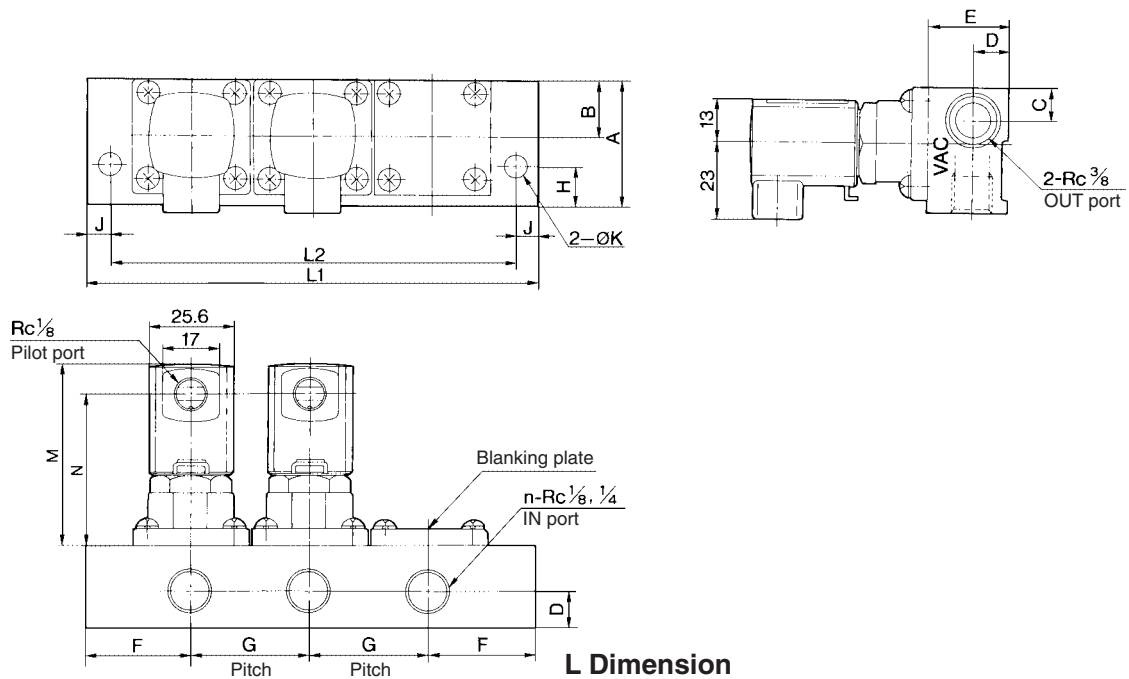
PB

Dimensions/Manifold

Common SUP type



Individual SUP type



L Dimension

Model	Stations Symbol	2	3	4	5	6	7	8	9	10
		VVXA21□	L ₁	100	136	172	208	244	280	316
L ₂	86		122	158	194	230	266	302	338	374
VVXA22□	L ₁	126	172	218	264	310	356	402	448	494
	L ₂	108	154	200	246	292	338	384	430	476

Model	A	B	C	D	E	F	G	H	J	K	M	N
VVXA21□	38	20.5 [17.5]	10.5	11	25	32	36	12	7	6.5	54	45
VVXA22□	49	26.5 [22.5]	13	13	30	40	46	15	9	8.5	58	49

[]: Individual pressure type