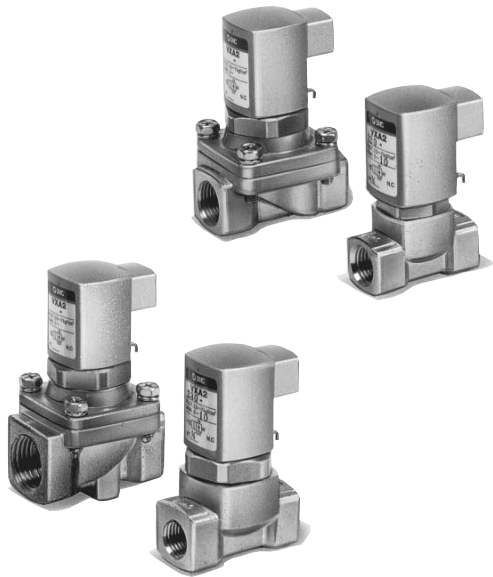




# Direct Air Operated 2 Port Valve For Air, Gas, Vacuum, Water and Oil Series **VXA21/22**



- **Wide variations of combination. Able to control a wide variety of fluids.**  
Application can be matched by simply choosing body material (Brass or Stainless steel) and seal material (NBR, FKM, EPDM).
- **Easy to disassemble and reassemble in a shorttime.**
- **High viscosity fluids (500 cSt).**

VC□

VDW

VQ

VX2

VX□

VX3

**VXA**

VN□

LVC

LVA

L VH

LVD

L VQ

LQ

L VN

TI/  
TIL

PA

PAX

PB

## Variations

**Valve**

Normally closed (N.C.)

Normally open (N.O.)

**Pilot port** (Free take off direction)

Port size ——— Rc 1/8  
Pilot pressure ——— 0.25 to 0.7 MPa

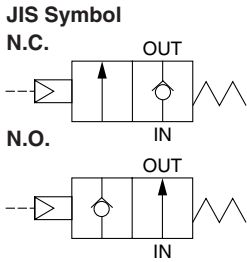
**Material**

Body ——— Brass, Stainless steel  
Seal ——— NBR, FKM, EPDM

**Model**

Model	Port size Rc	Orifice size (mmø)
VXA212 <sup>2</sup> / <sub>6</sub>	1/8, 1/4	3
VXA213 <sup>2</sup> / <sub>6</sub>	1/8, 1/4	4.5
VXA223 <sup>2</sup> / <sub>6</sub>	1/4, 3/8	4.5
VXA224 <sup>2</sup> / <sub>6</sub>	1/4, 3/8	6
VXA225 <sup>2</sup> / <sub>6</sub>	1/4, 3/8	8
VXA226 <sup>2</sup> / <sub>6</sub>	1/4, 3/8, 1/2	10

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



**Fluid**

Standard specification	Option <sup>Note)</sup>
Water (Standard, up to 40°C)	Vacuum (up to 1.3 x10 <sup>-1</sup> Pa) ..... (V, M)
Air (Standard, Dry)	Non-leak (10 <sup>-6</sup> Pa· m³/s or less) ..... (V, M)
Turbine oil	
Vacuum (up to 1.3 x10 <sup>2</sup> Pa)	
Carbon dioxide (CO <sub>2</sub> ), Nitrogen gas (N <sub>2</sub> )	



Note 1) Refer to page 17-3-13 "Applicable Fluids Check List" for details of special fluids outside of the standard options and specifications.

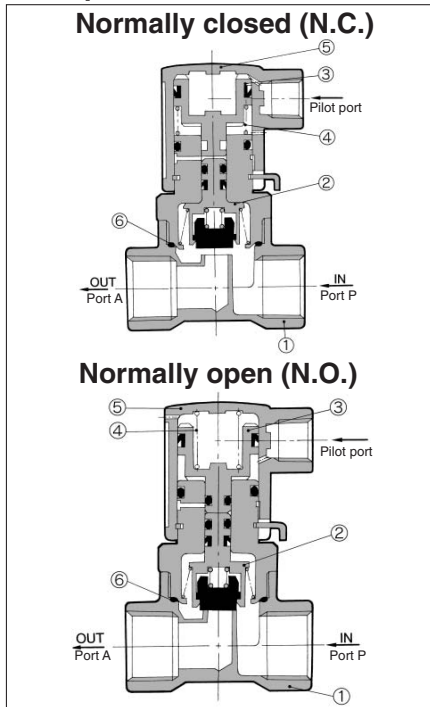
**Model/Valve Specifications**

Port size	Orifice size (mmø)	Model	Max. operating pressure differential (MPa)	Flow characteristics					Max. system pressure (MPa)	Proof pressure (MPa)	Weight (g)	
				Water, Oil		Air						
				Av x 10 <sup>-6</sup> m <sup>2</sup>	Cv converted	C [dm <sup>3</sup> / (s· bar)]	b	Cv				
1/8 (6A)	3	VXA212	1.0	7.9	0.33	1.3	0.50	0.38	1.0	170		
	4.5	VXA213	0.5	15	0.61	2.3	0.45	0.70				
1/4 (8A)	3	VXA212	1.0	7.9	0.33	1.3	0.50	0.38			0.4	250
	4.5	VXA213	0.5	15	0.61	2.5	10.45	0.75				
		VXA223	1.0									
	6	VXA224	0.6	26	1.1	3.3	0.50	1.1				
3/8 (10A)	4.5	VXA223	1.0	15	0.61	2.5	0.45	0.75	1.0	250		
	6	VXA224	0.6	26	1.1	3.3	0.50	1.1				
	8	VXA225	0.2	41	1.7	6.4	0.40	1.8				
1/2 (15A)	10	VXA226	0.1	58	2.4	11	0.38	2.8	0.4	340		



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

**Construction/ Principal Parts Material**



**Operating Fluid and Ambient Temperature**

Temperature conditions	Operating fluid temperature (°C)				Ambient temperature (°C)
	Water (Standard)	Air (Standard)	Oil (Standard)	Vacuum <sup>(3)</sup> (V, M)	
Maximum	40	60	40	40	40
Minimum	1	-5 <sup>(1)</sup>	-5 <sup>(2)</sup>	-5	-5



Note 1) Dew point: -5°C or less Note 2) 500 cSt or less  
Note 3) "V", "M" in parentheses are option symbols.

**Tightness of Valve (Leak rate)**

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



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

**Pilot Pressure**

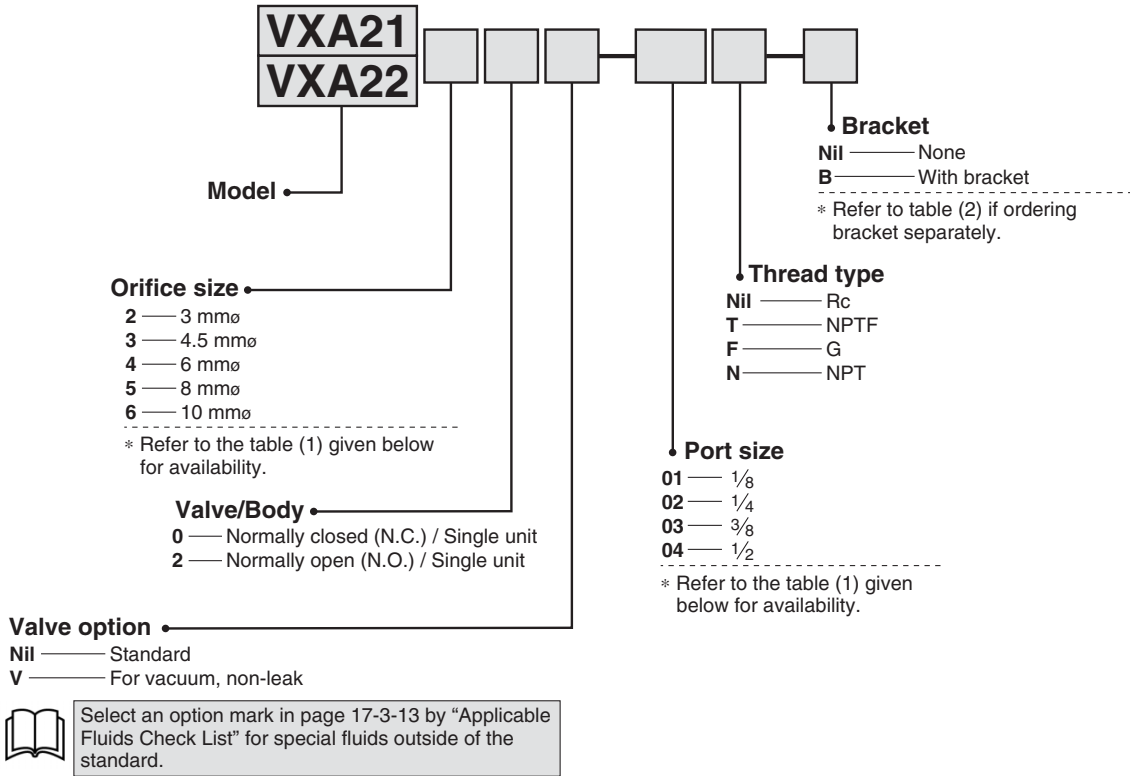
Model	Pressure (MPa)
VXA21□□	0.25 to 0.7
VXA22□□	

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

# Direct Air Operated 2 Port Valve For Air, Gas, Vacuum, Water and Oil **Series VXA21/22**

The VX\* series will be revised shortly.

## How to Order



**Table (1) Port/Orifice Size**

Model		Orifice size (No.)				
VXA21	VXA22	2 (3 mm $\varnothing$ )	3 (4.5 mm $\varnothing$ )	4 (6 mm $\varnothing$ )	5 (8 mm $\varnothing$ )	6 (10 mm $\varnothing$ )
01 (1/8)	—	●	●	—	—	—
02 (1/4)	—	●	●	—	—	—
—	02 (1/4)	—	●	●	●	●
—	03 (3/8)	—	●	●	●	●
—	04 (1/2)	—	—	—	—	●

**Table (2) Bracket Part No.**

Model	Part no.
VXA212□ VXA213□	VX070-020
VXA223□ VXA224□	VX070-022
VXA225□ VXA226□	VX070-029

**Ordering example**

(Example) Series VXA21, Orifice size 4.5 mm $\varnothing$ , Normally closed, Rc 1/4  
(Part no.) **VXA2130-02**

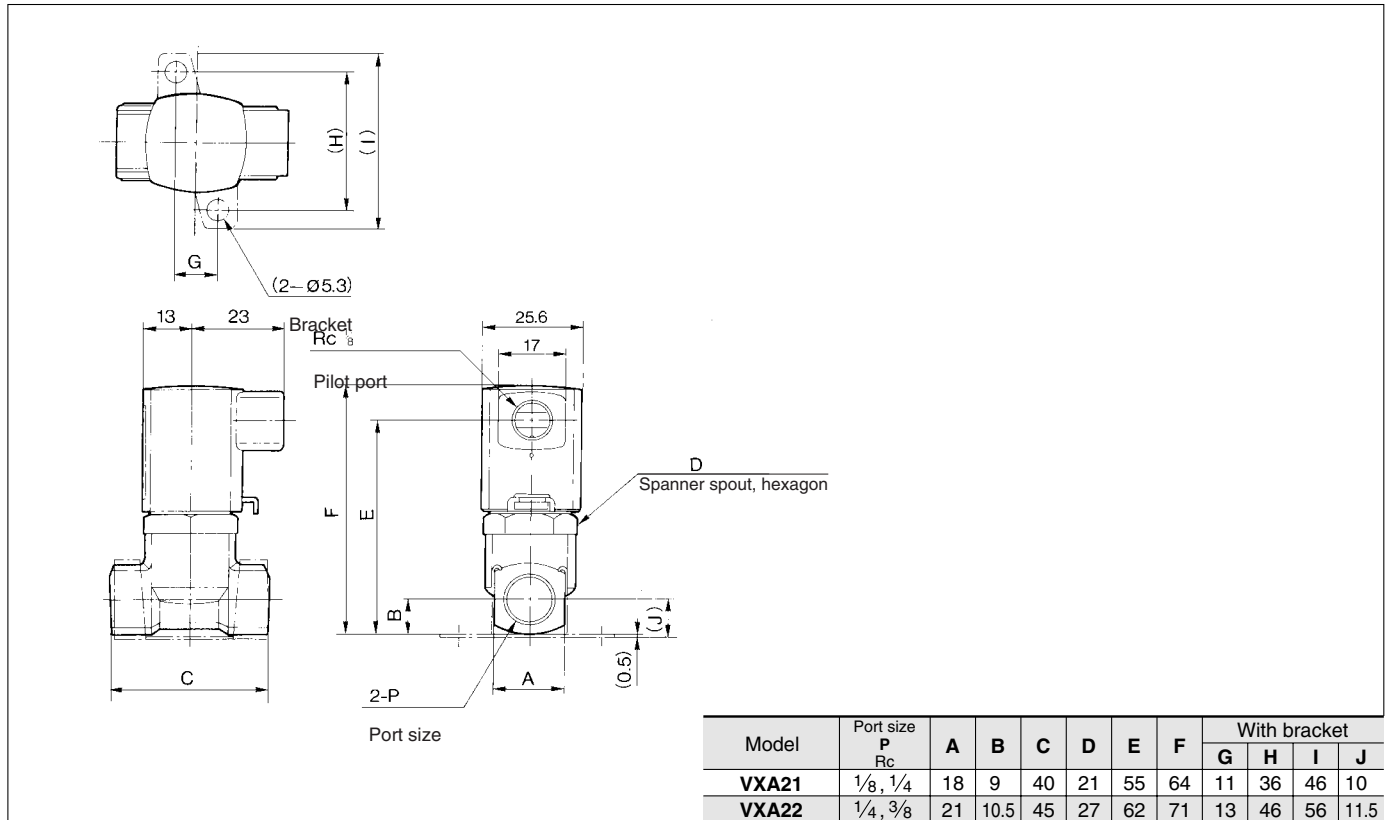
- VC□
- VDW
- VQ
- VX2
- VX□
- VX3
- VXA**
- VN□
- LVC
- LVA
- LVH
- LVD
- LVQ
- LQ
- LVN
- TI/  
TIL
- PA
- PAX
- PB

# Series VXA21/22

The VX\* series will be revised shortly.

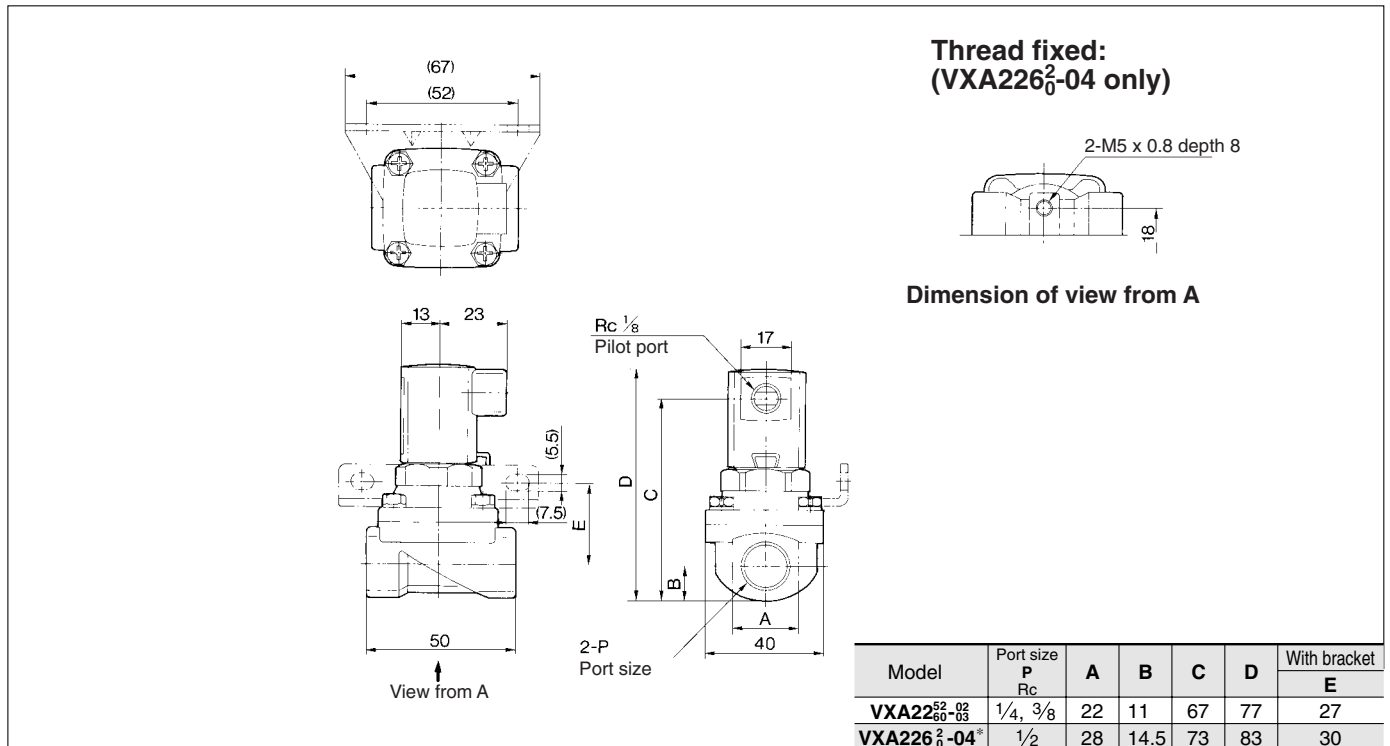
## Dimensions (Orifice Size: 3 mmø, 4.5 mmø, 6 mmø)

VXA212□/VXA213□/VXA223□/VXA224□



## Dimensions (Orifice Size: 8 mmø, 10 mmø)

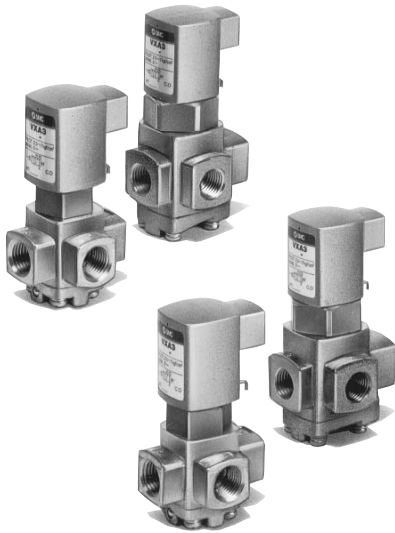
VXA225□/VXA226□



\* Fixing with thread is also possible.



# Direct Air Operated 3 Port Valve For Air, Gas, Vacuum, Water and Oil Series *VXA31/32*



- **Able to control a wide variety of fluids. Wide variations of combination.**  
Application can be matched by simply choosing body material (Brass or Stainless steel) and seal material (NBR, FKM or EPDM).
- **C.O. type easy to use; operatable as either N.C. or N.O.**
- **Easy to disassemble and reassemble in a short time.**
- **High viscosity fluids (500 cSt).**

VC□

VDW

VQ

VX2

VX□

VX3

**VXA**

VN□

LVC

LVA

LVH

LVD

LVQ

LQ

LVN

TI/  
TIL

PA

PAX

PB

## Variations

Common (C.O.)

● **Pilot port** (Free take off direction)  
Port size ——— Rc 1/8  
Pilot pressure ——— 0.25 to 0.7 MPa

● **Material**

Body — Brass, Stainless steel  
Seal — NBR, FKM, EPDM

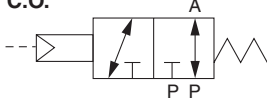
**Model**

Model	Port size Rc	Orifice size (mmø)
VXA3114	1/8, 1/4	1.5
VXA3124	1/8, 1/4	2.2
VXA3134	1/8, 1/4	3
VXA3224	1/4, 3/8	2.2
VXA3234	1/4, 3/8	3
VXA3244	1/4, 3/8	4

## Common (C.O.)

## JIS Symbol

C.O.



## Fluid

Standard specifications	Option <sup>Note)</sup>
Water (Standard, up to 40°C)	Vacuum (up to $1.3 \times 10^{-1}$ Pa) ..... (V, M)
Air (Standard, Dry)	Non-leak ( $10^{-6}$ Pa·m <sup>3</sup> /s or less) ..... (V, M)
Turbine oil	
Vacuum (up to $1.3 \times 10^2$ Pa)	
Carbon dioxide (CO <sub>2</sub> ), Nitrogen gas (N <sub>2</sub> )	



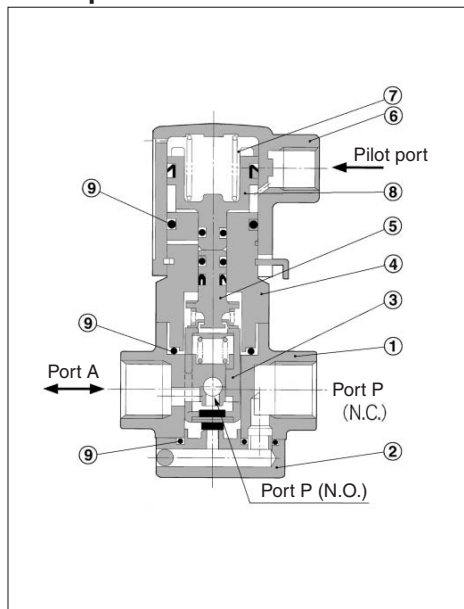
Note) Refer to page 17-3-14 "Applicable Fluids Check List" for details of special fluids outside of the standard options and specifications.

## Model/Valve Specifications

Port size	Orifice size (mm $\phi$ )	Model	Max. operating pressure differential (MPa)	Flow characteristics					Max. system pressure (MPa)	Proof pressure (MPa)	Weight (g)
				Water, Oil		Air					
				Av x 10 <sup>-6</sup> (m <sup>2</sup> )	Cv converted	C [dm <sup>3</sup> /(s·bar)]	b	Cv			
1/8 (6A)	1.5	VXA3114	1.0	1.9	0.08	0.29	0.32	0.08	1.0	1.5	280
	2.2	VXA3124	0.5	3.8	0.16	0.60	0.25	0.15			
	3	VXA3134	0.3	8.0	0.24	0.82	0.20	0.20			
1/4 (8A)	1.5	VXA3114	1.0	1.9	0.08	0.29	0.32	0.08			
	2.2	VXA3124	0.5	3.8	0.16	0.60	0.25	0.15			
		VXA3224	1.0	4.6	0.19	0.64	0.40	0.17			
3/8 (10A)	2.2	VXA3134	0.3	8.0	0.24	0.82	0.20	0.20			280
	3	VXA3234	0.6	9.0	0.33	1.1	0.25	0.27			
	4	VXA3244	0.3	12	0.50	1.6	0.20	0.38			
3/8 (10A)	2.2	VXA3224	1.0	4.6	0.19	0.64	0.40	0.17			410
	3	VXA3234	0.6	9.0	0.33	1.1	0.25	0.27			
	4	VXA3244	0.3	12	0.50	1.6	0.20	0.38			



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

Construction/  
Principal Parts Material

No.	Description	Material	
		Standard	Option
①	Body assembly	Brass	Stainless steel
②	Retainer assembly	Brass	Stainless steel
③	Valve assembly	NBR, Polyacetal	FKM/EPDM, Stainless steel
④	Adapter	Brass	Stainless steel
⑤	Travel assembly	Stainless steel, NBR, Polyacetal	FKM/EPDM, Stainless steel
⑥	Pilot cover	Aluminum	—
⑦	Piston spring	Stainless steel	—
⑧	Piston assembly	Polyacetal, NBR	—
⑨	O-ring	NBR	FKM/EPDM

## Operating Fluid and Ambient Temperature

Temperature conditions	Operating fluid temperature (°C)				Ambient temperature (°C)
	Water (Standard)	Air (Standard)	Oil (Standard)	Vacuum <sup>(3)</sup> (V, M)	
Maximum	40	60	40	40	40
Minimum	1	-5 <sup>(1)</sup>	-5 <sup>(2)</sup>	-5	-5



Note 1) Dew point: -5°C or less    Note 2) 500 cSt or less  
Note 3) "V", "M" in parentheses are option symbols.

## Tightness of Valve (Leak rate)

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



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

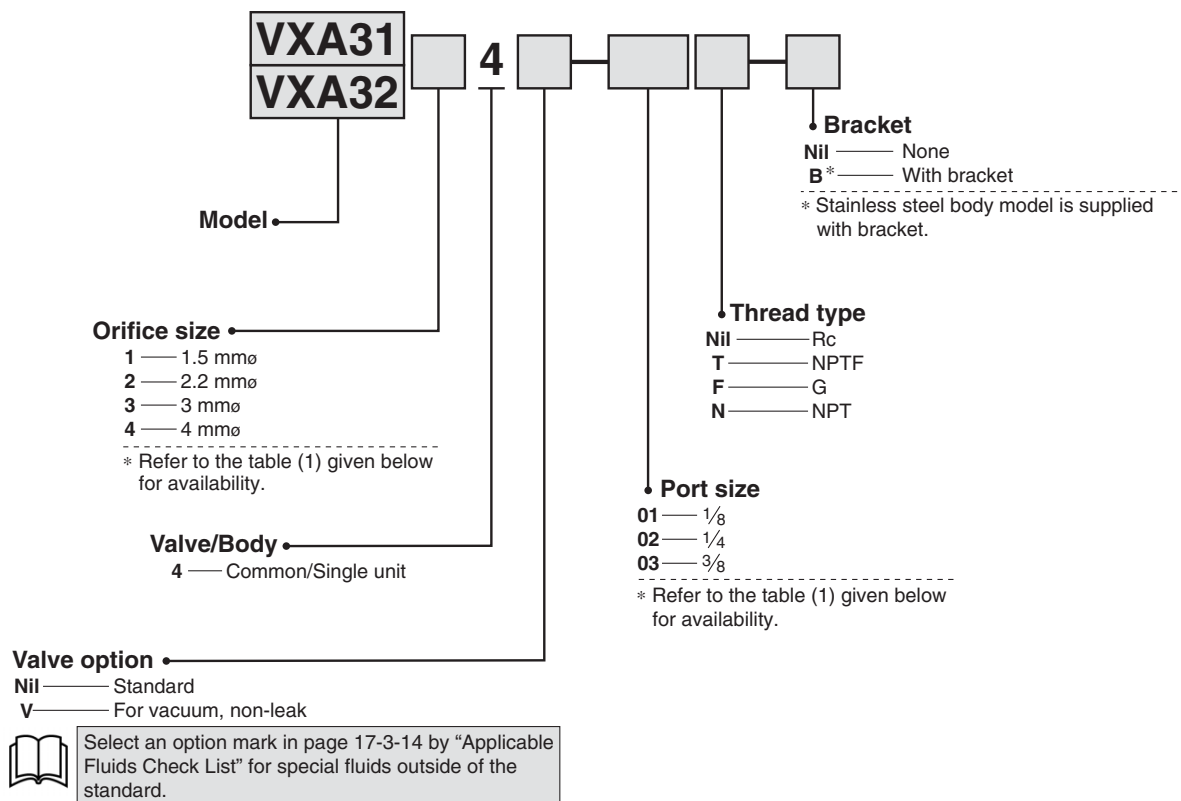
## Pilot Pressure

Model	Pressure (MPa)
VXA31□4	0.25 to 0.7
VXA32□4	

# Direct Air Operated 3 Port Valve For Air, Gas, Vacuum, Water and Oil Series VXA31/32

The VX\* series will be revised shortly.

## How to Order



**Table (1) Port/Orifice Size**

Valve (Port size)		Orifice size (No.)			
VXA31	VXA32	1 (1.5 mm $\varnothing$ )	2 (2.2 mm $\varnothing$ )	3 (3 mm $\varnothing$ )	4 (4 mm $\varnothing$ )
01 (1/8)	—	●	●	●	—
02 (1/4)	—	●	●	●	—
—	02 (1/4)	—	●	●	●
—	03 (3/8)	—	●	●	●

### Ordering example

(Example) Series VXA31, Orifice size 1.5 mm $\varnothing$ , Rc 1/8  
(Part no.) **VXA3114-01**

VC□

VDW

VQ

VX2

VX□

VX3

**VXA**

VN□

LVC

LVA

LVH

LVD

LVQ

LQ

LVN

TI/  
TIL

PA

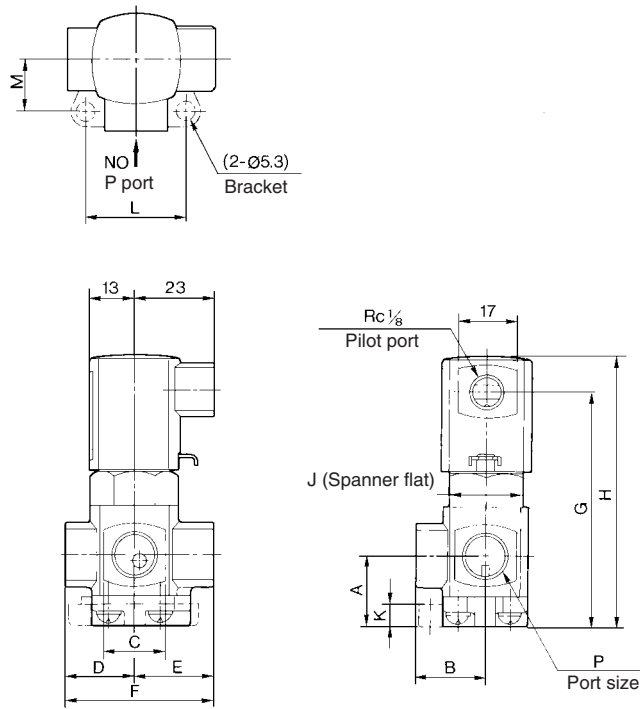
PAX

PB

# Series VXA31/32

The VX\* series will be revised shortly.

## Dimensions



Symbol Model	P Port size Rc	A	B	C	D	E	F	G	H	J	With bracket		
											K	L	M
VXA31	1/8, 1/4	19	20	18	20	22.5	42.5	71	81	21	6	29	14.5
VXA32	1/4, 3/8	25	20	21	20	27.5	47.5	80	90	27	7.5	32	17