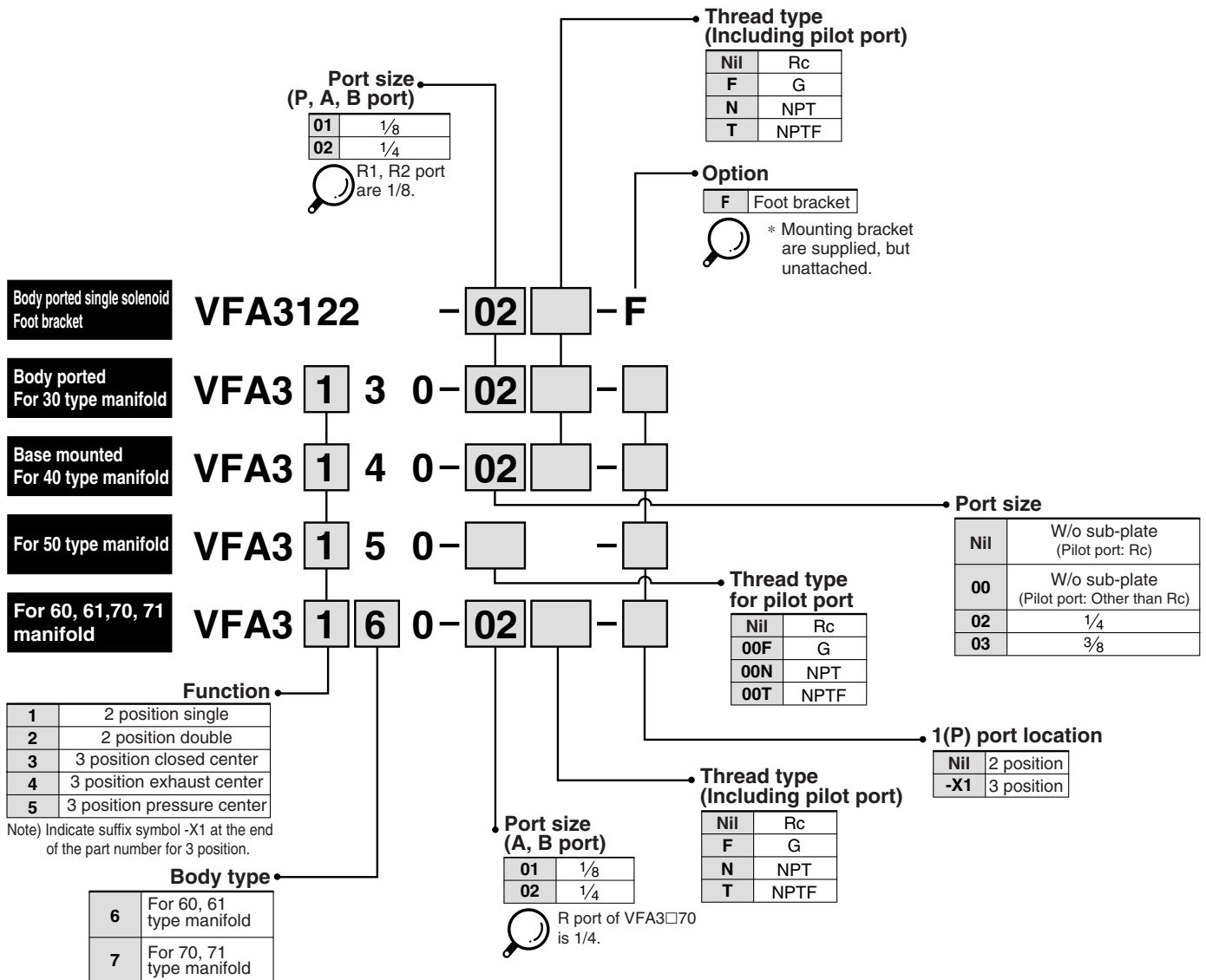


# 5 Port Air Operated Valve Series VFA3000

## How to Order



## How to Order Manifold Base

Use the same manifold bases as the VF3000.

**VV5FA3** - Specify the same manifold part number as VV5F3.

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

<Example> VV5FA3-40-052-02.....1 pc.

\*VFA3140.....2 pcs.

\*VFA3240.....2 pcs.

\*DXT031-38-1A.....1 pc.

↳ To order valves and options mounted onto the manifold at the factory, list the valve/option with an asterisk (\*) in front of each part number.

# 5 Port Air Operated Valve *Series VFA3000*

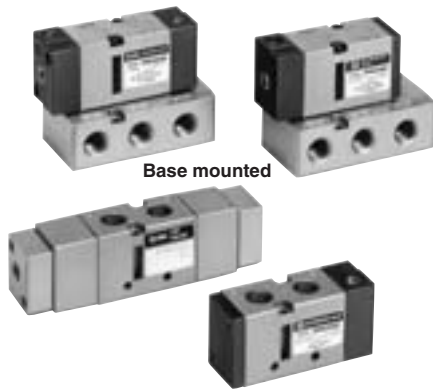
## Specifications

<b>Fluid</b>		Air
<b>Operating pressure range (MPa)</b>	2 position single	0.15 to 0.9
	2 position double	0.1 to 0.9
	3 position	0.15 to 0.9
<b>Pilot pressure range (MPa)</b>	2 position single	$(0.4 \times P + 0.1)$ to 0.9, P: Operating pressure
	2 position double	0.1 to 0.9
	3 position	0.15 to 0.9
<b>Ambient and fluid temperature (°C)</b>		-10 to 60 (No freezing. Refer to page 5.)
<b>Lubrication</b>		Not required
<b>Mounting orientation</b>		Free
<b>Impact/Vibration resistance (m/s<sup>2</sup>) <small>Note</small></b>		300/50



**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 is ON and OFF. (Valve 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)

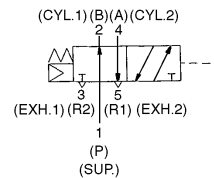


Base mounted

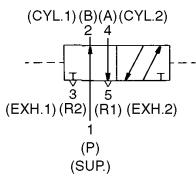
Body ported

### JIS symbol

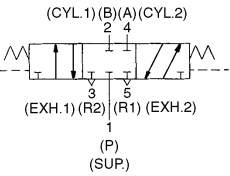
2 position single



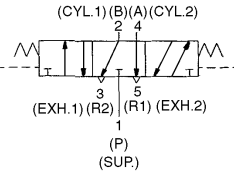
2 position double



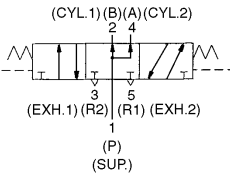
3 position closed center



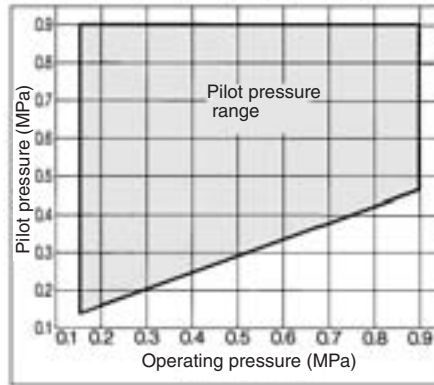
3 position exhaust center



3 position pressure center



## Pilot Pressure Range (Single pilot)



### ⚠ Cautions

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

## Flow Characteristics/Mass

Valve model	Function	Port size	Flow characteristics						Pilot port size	Mass (kg)
			1→4/2(P→A/B)			4/2→5/3(A/B→EA/EB)				
			C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv		
Body ported	VFA3122-01-F	2 position single	1/8	3.0	0.38	0.78	2.8	0.30	0.67	0.18
	VFA3 <sub>2</sub> 30-01	2 position single		3.0	0.38	0.78	2.8	0.30	0.67	0.15
		2 position double		3.0	0.38	0.78	2.8	0.30	0.67	0.17
	VFA34□30-01-X1	3 position closed center		2.4	0.31	0.64	1.8	0.37	0.46	0.32
		3 position exhaust center		2.6	0.37	0.70	3.0{2.5}	0.32{0.28}	0.76{0.62}	0.32
		3 position pressure center		3.0{1.4}	0.42{0.44}	0.83{0.39}	2.4	0.27	0.59	0.32
	VFA3122-02-F	2 position single	1/4	4.0	0.36	1.0	3.1	0.32	0.75	0.18
	VFA3 <sub>2</sub> 30-02	2 position single		4.0	0.36	1.0	3.1	0.32	0.75	0.15
		2 position double		4.0	0.36	1.0	3.1	0.32	0.75	0.17
	VFA3430-02-X1	3 position closed center		2.4	0.45	0.68	1.9	0.37	0.47	0.32
	3 position exhaust center	3.0		0.42	0.82	3.1{2.7}	0.36{0.29}	0.79{0.66}	0.32	
	3 position pressure center	5.5{1.4}		0.37{0.50}	1.4{0.40}	2.6	0.32	0.64	0.32	
Base mounted <sup>(2)</sup>	VFA3 <sub>2</sub> 40-02	2 position single	1/4	2.8	0.14	0.64	2.5	0.18	0.57	0.31
		2 position double		2.8	0.14	0.64	2.5	0.18	0.57	0.33
	VFA3440-02-X1	3 position closed center		2.1	0.22	0.49	1.6	0.26	0.41	0.48
		3 position exhaust center		2.3	0.21	0.53	2.8{2.1}	0.23{0.26}	0.66{0.50}	0.48
		3 position pressure center		2.9{1.1}	0.16{0.45}	0.67{0.32}	2.1	0.23	0.49	0.48
	VFA3 <sub>2</sub> 40-03	2 position single		3/8	3.1	0.24	0.76	2.6	0.23	0.62
		2 position double	3.1		0.24	0.76	2.6	0.23	0.62	0.33
	VFA3440-03-X1	3 position closed center	2.2		0.33	0.57	1.6	0.34	0.40	0.48
		3 position exhaust center	2.6		0.27	0.61	2.8{2.3}	0.30{0.28}	0.68{0.55}	0.48
		3 position pressure center	3.4{1.3}	0.29{0.48}	0.80{0.38}	2.2	0.31	0.52	0.48	



Note 1) Port size of the exhaust ports on body ported type are all 1/8.

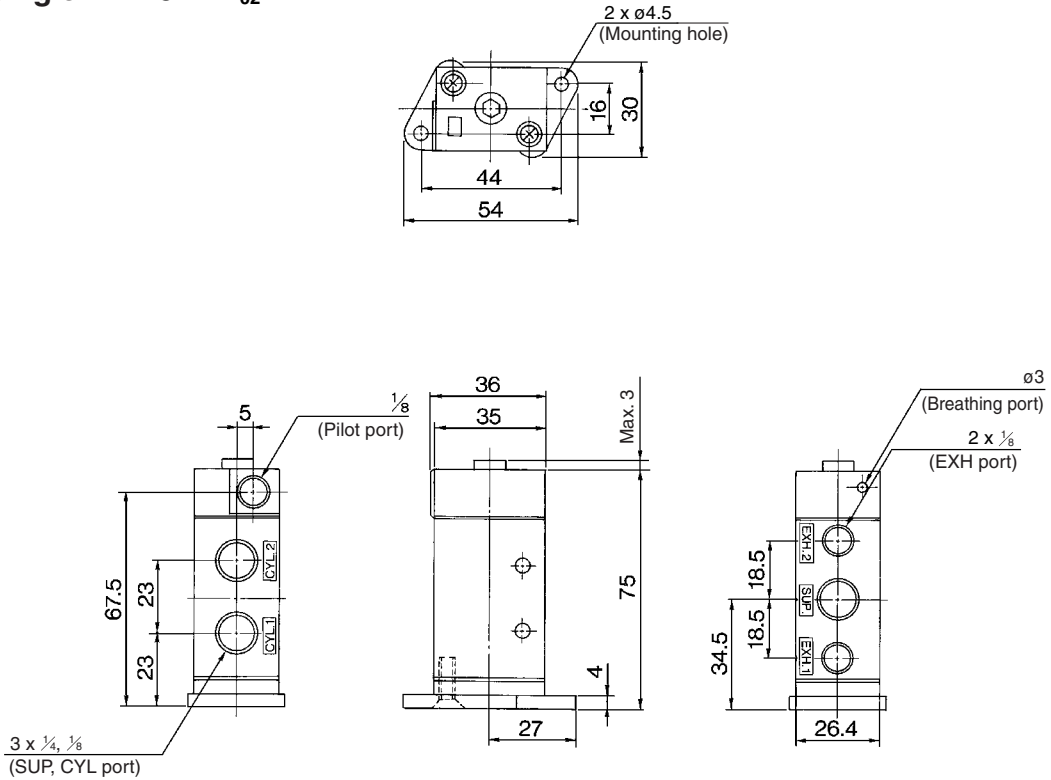
Note 2) With sub-plate

Note 3) { } : Normal position

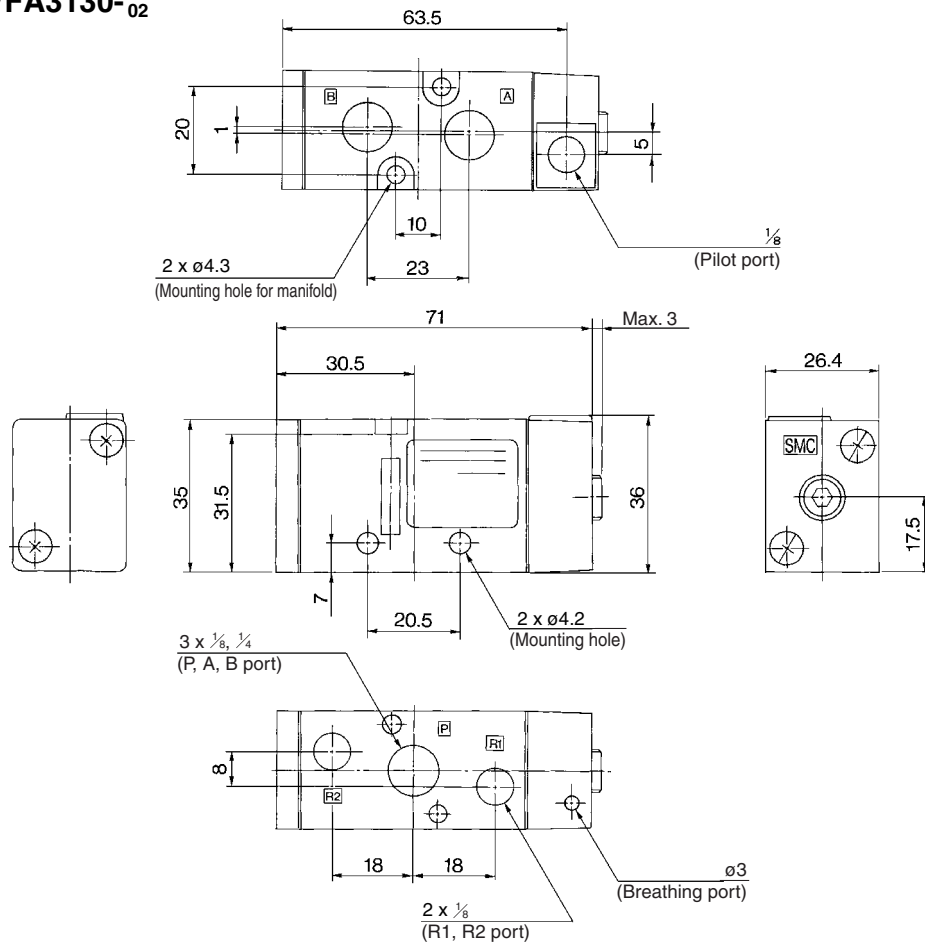
# Series VFA3000

## Dimensions: Body Ported

### 2 position single: VFA3122-<sup>01</sup>/<sub>02</sub>-F

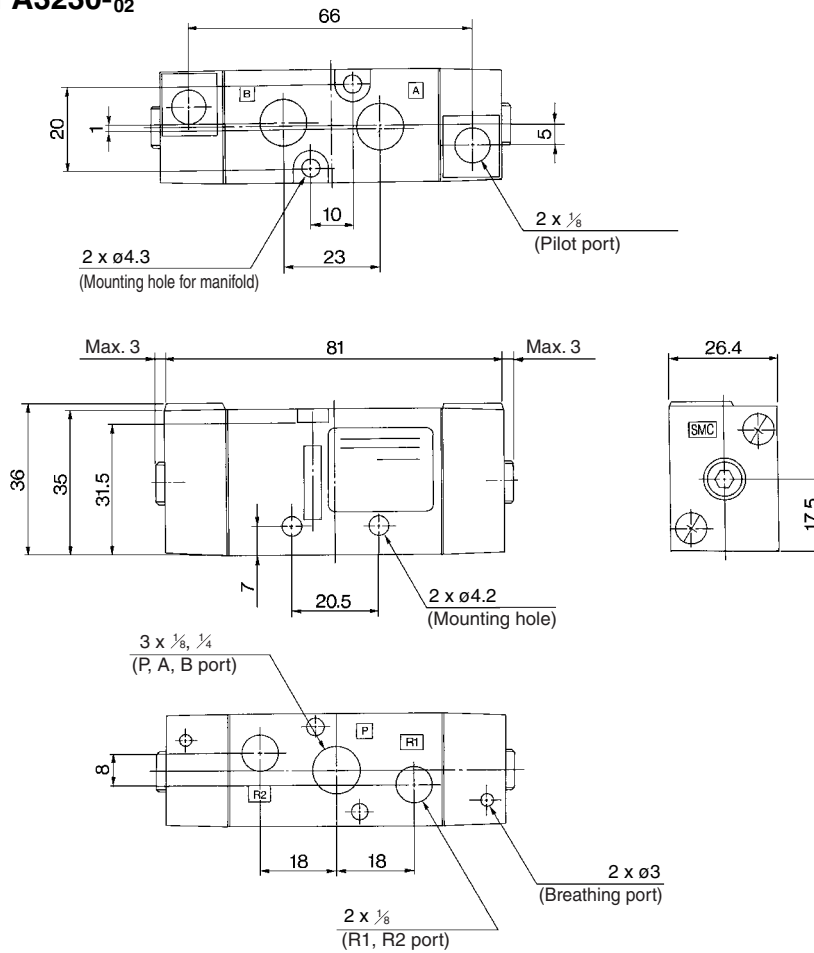


### 2 position single: VFA3130-<sup>01</sup>/<sub>02</sub>

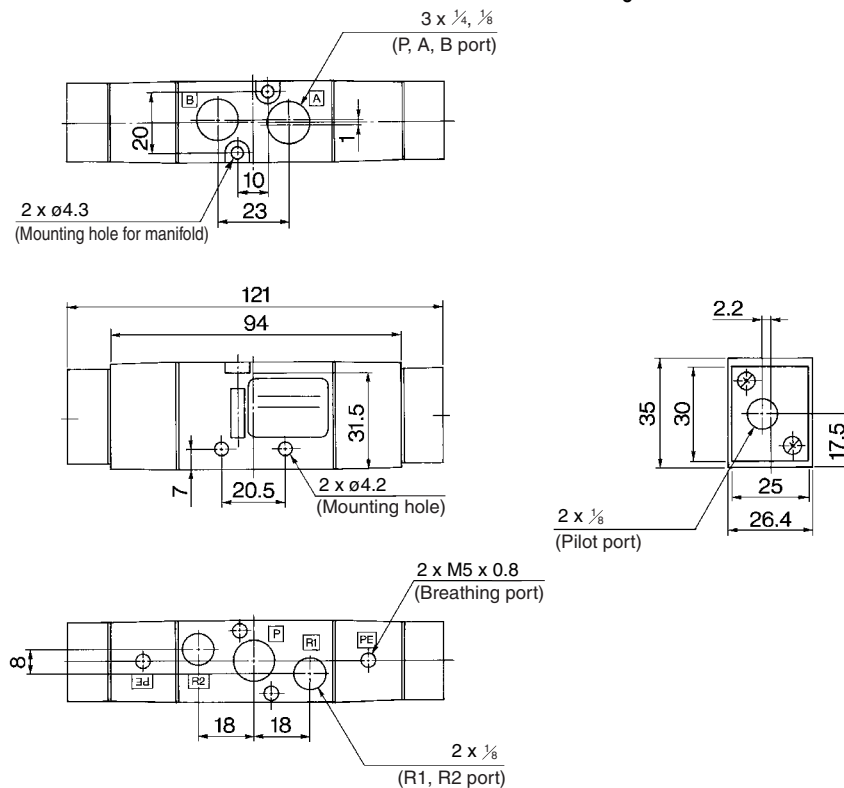


## Dimensions: Body Ported

### 2 position double: VFA3230-01



### 3 position closed center/exhaust center/pressure center: VFA3<sup>3</sup><sub>4</sub>30-01-X1



SYA

SYJA

VZA

VFA

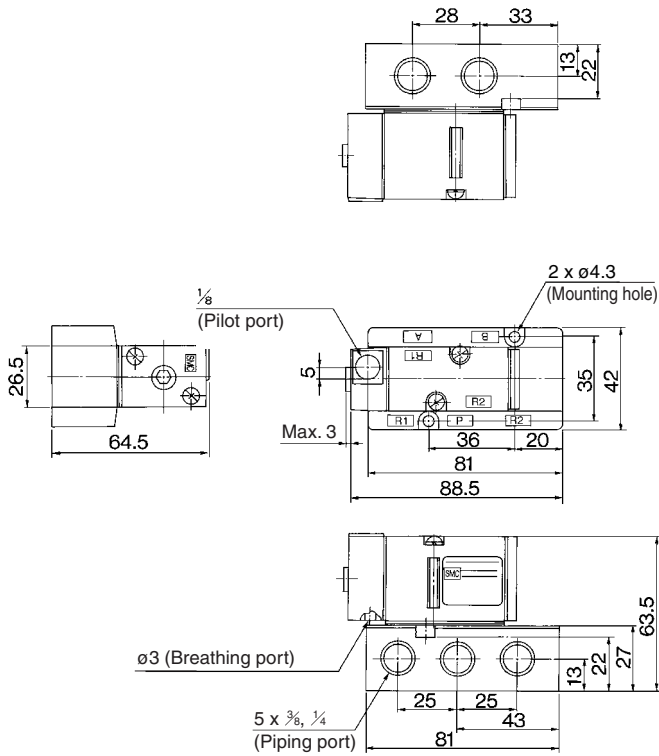
VFRA

V□A

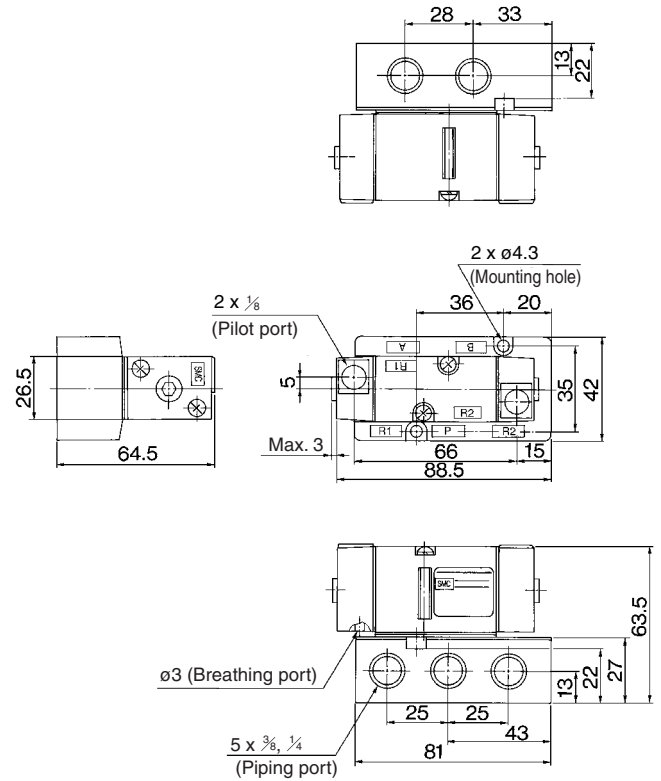
# Series VFA3000

## Dimensions: Base Mounted

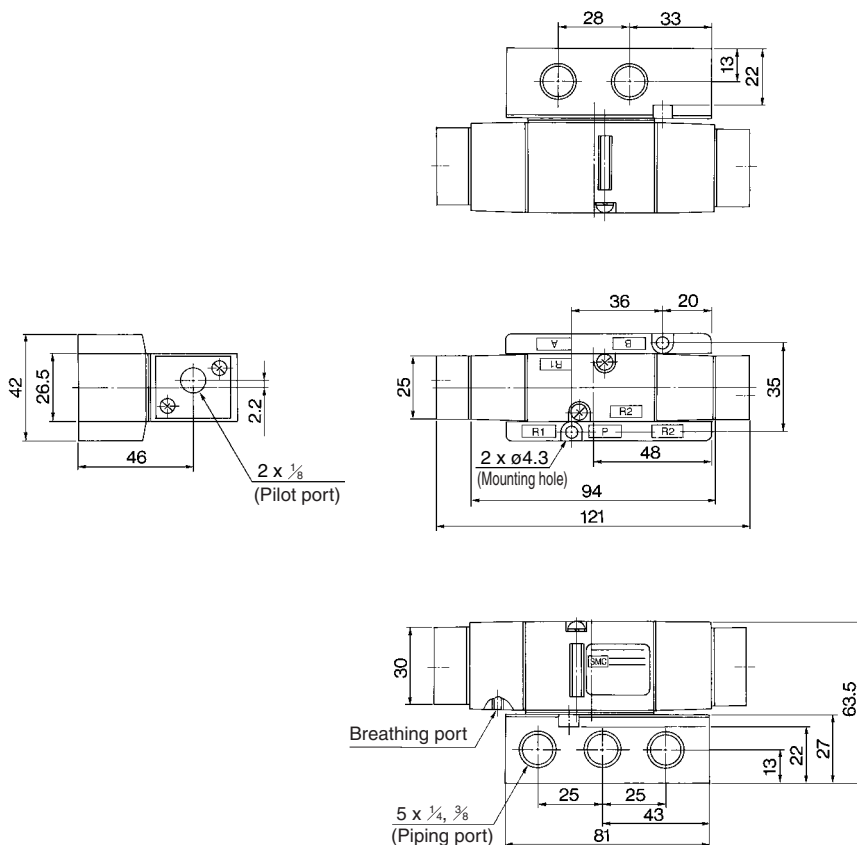
### 2 position single: VFA3140-02<sup>02</sup><sub>03</sub>



### 2 position double: VFA3240-02<sup>02</sup><sub>03</sub>

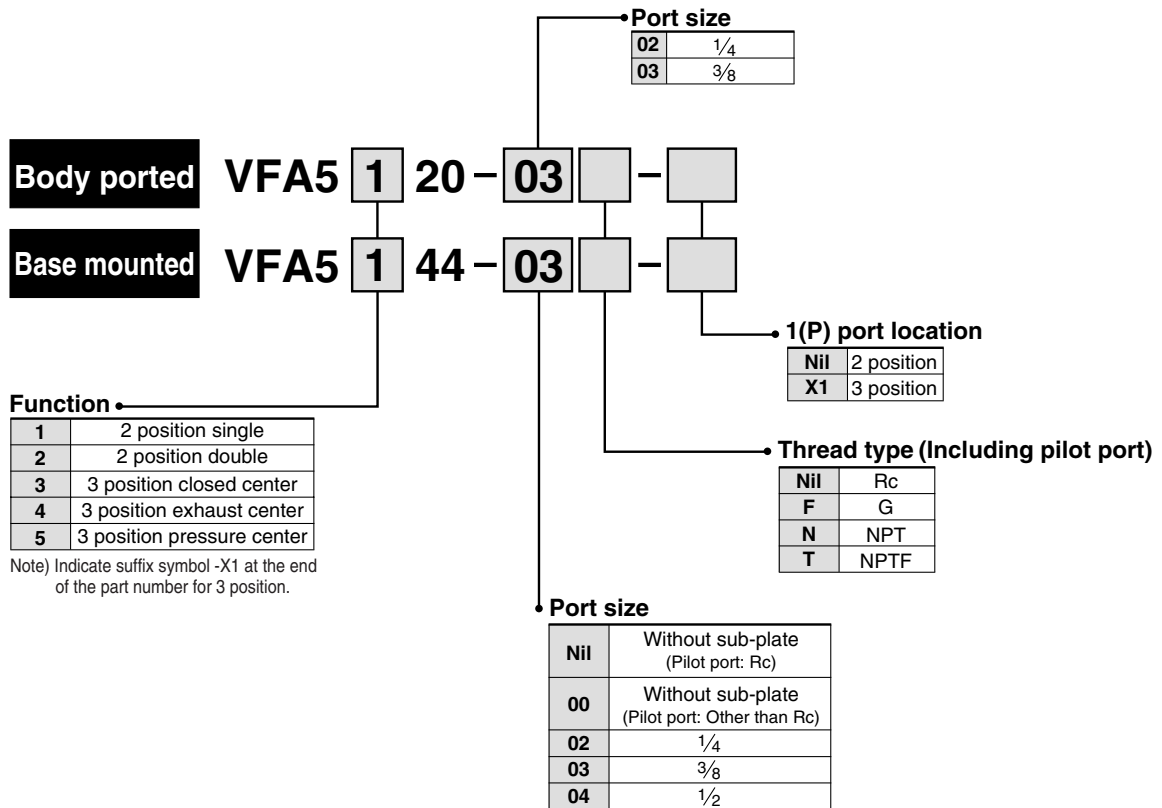


### 3 position closed center/exhaust center/pressure center: VFA3<sup>3</sup><sub>40-02</sub><sup>02</sup><sub>03</sub>-X1



# 5 Port Air Operated Valve Series *VFA5000*

## How to Order



SYA  
SYJA  
VZA  
VFA  
VFRA  
V□A

## How to Order Manifold Base

Use the same manifold bases as the VF5000.

**VV5FA5** – Specify the same manifold part number as **VV5F5**.

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

<Example> **VV5FA5-20-051**..... 1 pc.

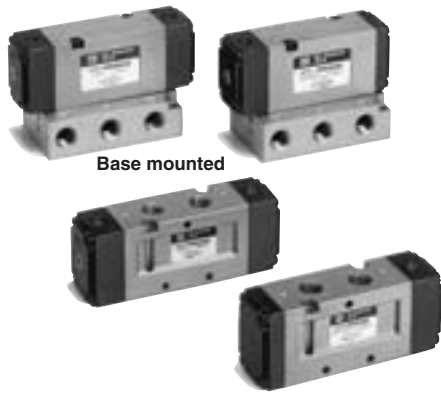
\*VFA5120-03..... 2 pcs.

\*VFA5220-03..... 2 pcs.

\*DXT156-19-1A..... 1 pc.

↳ To order valves and options mounted onto the manifold at the factory, list the valve/option with an asterisk (\*) in front of each part number.

# Series VFA5000

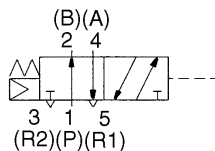


Base mounted

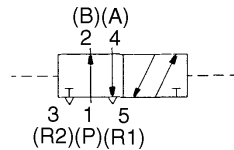
Body ported

## JIS symbol

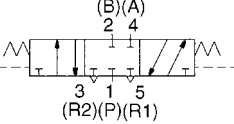
2 position single



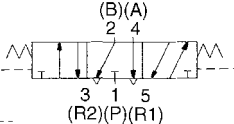
2 position double



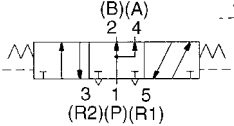
3 position closed center



3 position exhaust center



3 position pressure center



## Specifications

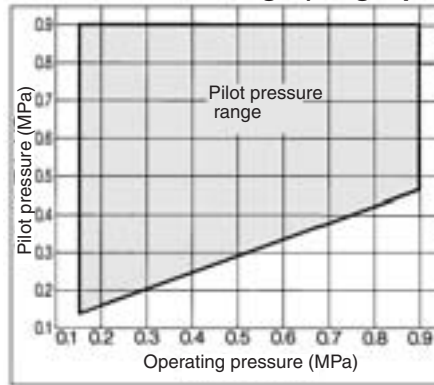
<b>Fluid</b>		Air
<b>Operating pressure range (MPa)</b>	2 position single	0.15 to 0.9
	2 position double	0.1 to 0.9
	3 position	0.15 to 0.9
<b>Pilot pressure range (MPa)</b>	2 position single	(0.4 x P + 0.1) to 0.9, P: Operating pressure
	2 position double	0.1 to 0.9
	3 position	0.15 to 0.9
<b>Ambient and fluid temperature (°C)</b>		-10 to 60 (No freezing. Refer to page 5.)
<b>Lubrication</b>		Not required
<b>Mounting orientation</b>		Free
<b>Impact/Vibration resistance (m/s<sup>2</sup>)<sup>Note</sup></b>		300/50



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 is ON and OFF. (Valve 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)

## Pilot Pressure Range (Single pilot)



## ⚠ Cautions

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

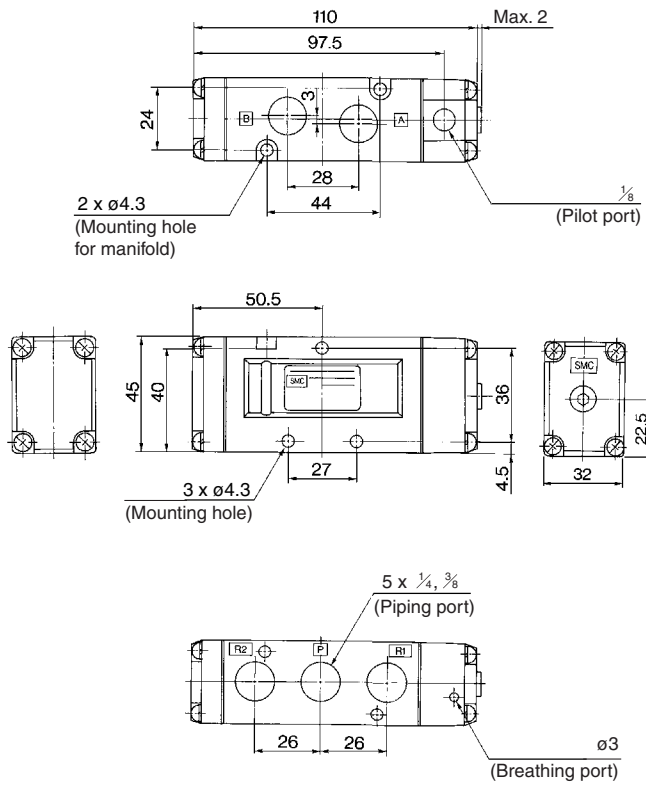
## Flow Characteristics/Mass

Valve model	Function	Port size	Flow characteristics						Pilot port size	Mass (kg)
			1→4/2(P→A/B)			4/2→5/3(A/B→EA/EB)				
			C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv		
Body ported	VFA5 <sub>2</sub> 120-02	2 position single	1/4	7.1	0.46	1.9	7.7	0.51	2.2	0.33
				7.1	0.46	1.9	7.7	0.51	2.2	0.34
	VFA5 <sub>4</sub> □20-02-X1	3 position closed center	1/4	6.7	0.46	1.8	6.6	0.41	1.8	0.43
		3 position exhaust center		7.1	0.42	1.9	8.0{7.4}	0.45{0.47}	2.2{2.1}	0.43
		3 position pressure center		6.8{2.7}	0.51{0.50}	2.0{0.78}	5.7	0.37	1.4	0.43
	VFA5 <sub>2</sub> 120-03	2 position single	3/8	8.8	0.44	2.4	10	0.49	2.9	0.33
		2 position double		8.8	0.44	2.4	10	0.49	2.9	0.34
		3 position closed center		7.5	0.43	2.0	7.5	0.38	1.9	0.43
	VFA5 <sub>4</sub> 20-03-X1	3 position exhaust center	3/8	8.3	0.40	2.2	10{8.7}	0.48{0.46}	3.0{2.4}	0.43
3 position pressure center		9.2{3.0}		0.50{0.49}	2.6{0.85}	6.1	0.35	1.6	0.43	
Base mounted <sup>(1)</sup>	VFA5 <sub>2</sub> 144-02	2 position single	1/4	7.3	0.49	2.1	7.3	0.50	2.0	0.51
				7.3	0.49	2.1	7.3	0.50	2.0	0.52
	VFA5 <sub>4</sub> 44-02-X1	3 position closed center	1/4	6.6	0.35	1.7	6.3	0.31	1.6	0.66
		3 position exhaust center		7.4	0.33	1.9	8.1{7.4}	0.35{0.34}	2.1{1.9}	0.66
		3 position pressure center		8.0{2.9}	0.35{0.48}	2.1{0.85}	5.6	0.31	1.5	0.66
	VFA5 <sub>2</sub> 144-03	2 position single	3/8	8.4	0.34	2.2	8.9	0.29	2.3	0.51
		2 position double		8.4	0.34	2.2	8.9	0.29	2.3	0.52
		3 position closed center		7.3	0.34	2.0	7.1	0.28	1.8	0.66
	VFA5 <sub>4</sub> 44-03-X1	3 position exhaust center	3/8	8.1	0.27	2.0	14{8.3}	0.26{0.31}	3.4{2.2}	0.66
		3 position pressure center		8.1{2.5}	0.33{0.48}	2.0{0.74}	5.7	0.31	1.4	0.66
	VFA5 <sub>2</sub> 144-04	2 position single	1/2	9.4	0.43	2.7	12	0.32	3.0	0.56
2 position double		9.4		0.43	2.7	12	0.32	3.0	0.57	
3 position closed center		7.1		0.41	2.1	7.4	0.32	2.0	0.71	
VFA5 <sub>4</sub> 44-04-X1	3 position exhaust center	1/2	8.6	0.39	2.4	13{8.9}	0.21{0.40}	3.1{2.5}	0.71	
	3 position pressure center		11{2.6}	0.18{0.47}	2.6{0.78}	6.1	0.35	1.6	0.71	

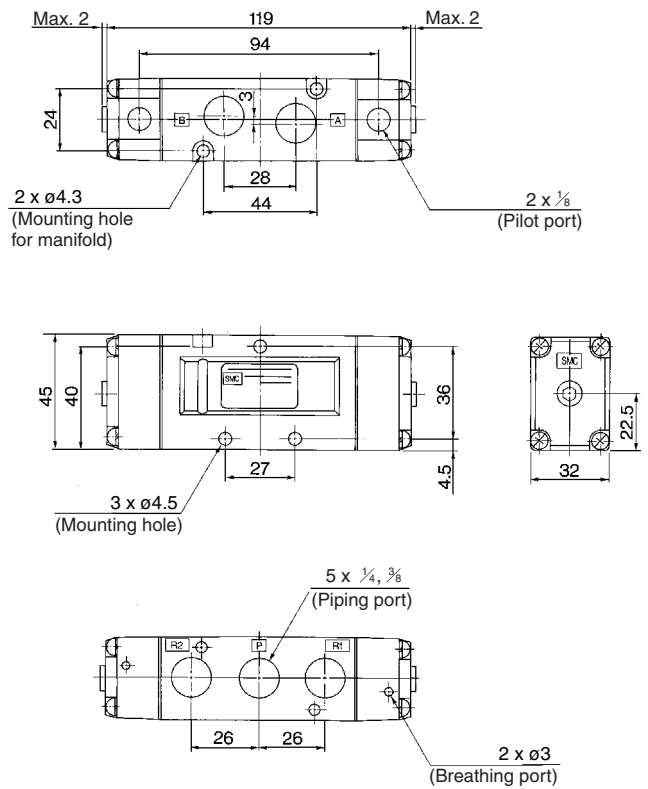
Note 1) With sub-plate  
Note 2) { } : Normal position

## Dimensions: Body Ported

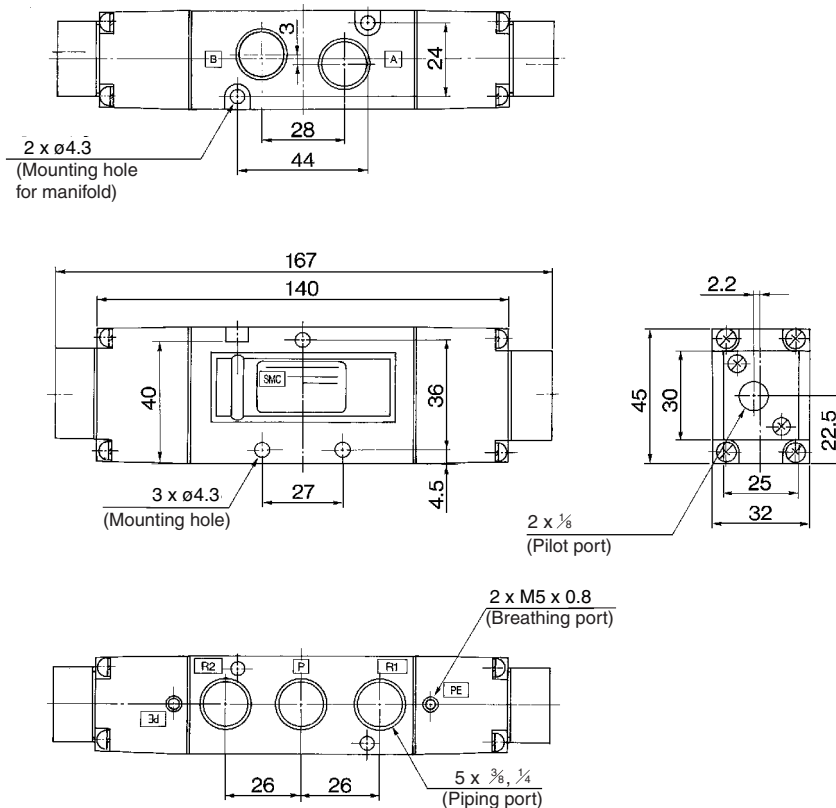
### 2 position single: VFA5120-02<sup>02</sup>/<sub>03</sub>



### 2 position double: VFA5220-02<sup>02</sup>/<sub>03</sub>



### 3 position closed center/exhaust center/pressure center: VFA5<sup>3</sup>/<sub>4</sub>20-02<sup>02</sup>/<sub>03</sub>-X1



SYA

SYJA

VZA

VFA

VFRA

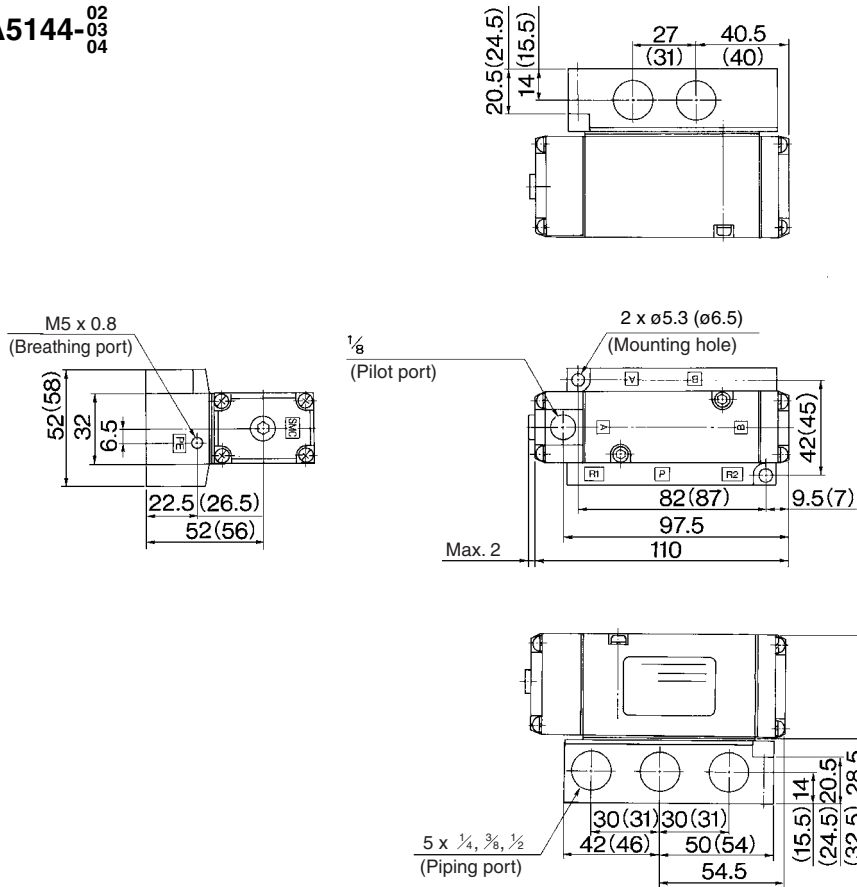
V□A



# Series VFA5000

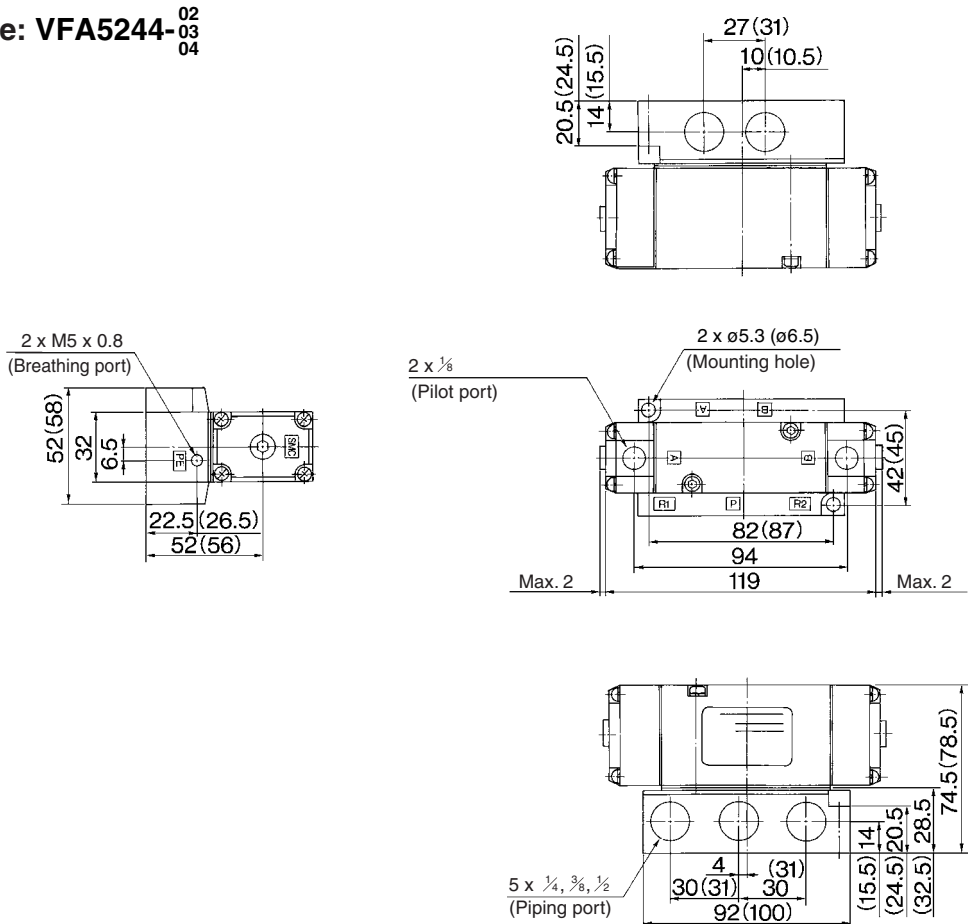
## Dimensions: Base Mounted

2 position single: VFA5144-<sup>02</sup><sub>03</sub><sup>04</sup>



( ): Value for Rc 1/2

2 position double: VFA5244-<sup>02</sup><sub>03</sub><sup>04</sup>

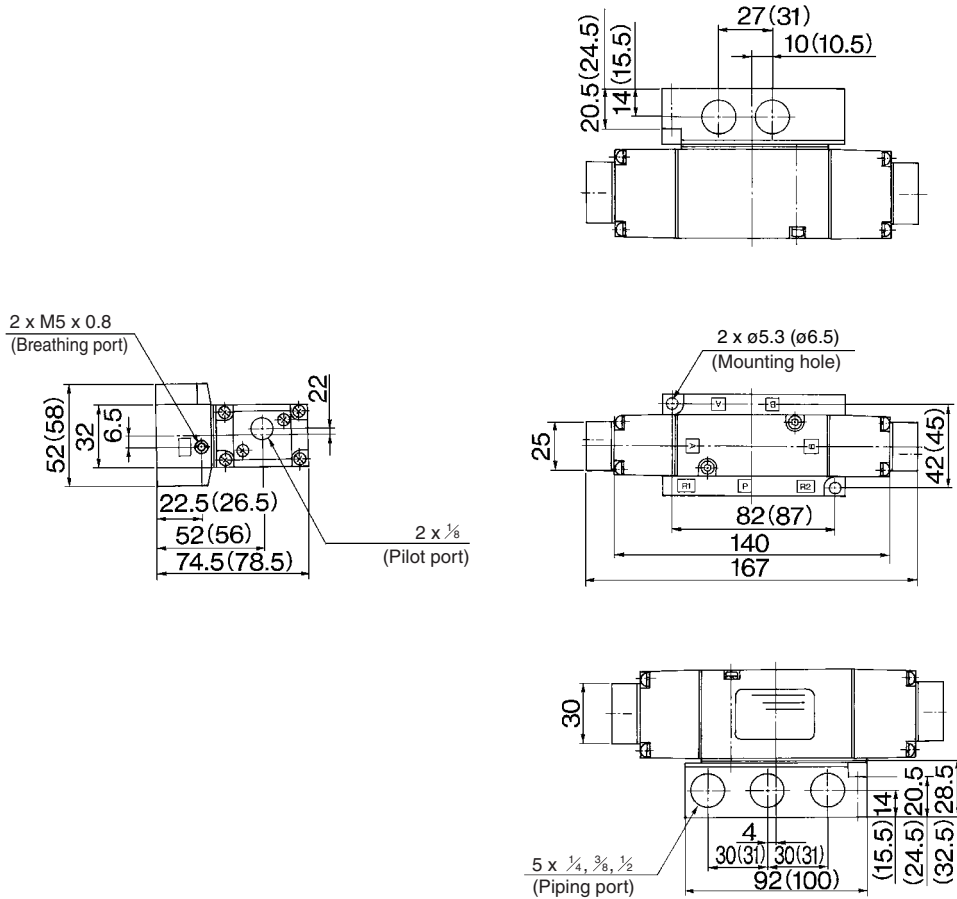



( ): Value for Rc 1/2

# 5 Port Air Operated Valve *Series VFA5000*

## Dimensions: Base Mounted

3 position closed center/exhaust center/pressure center: **VFA5<sup>3</sup><sub>4</sub>44-<sup>02</sup><sub>03-04</sub>-X1**



 ( ): Value for Rc 1/2

- SYA
- SYJA
- VZA
- VFA**
- VFRA
- V□A