

# 5 Port Air Operated Valve

# VFA3000/5000 Series Single Unit

Base Mounted

RoHS

## How to Order Valve

Base mounted  
(VFA1000: Not available)

VFA **3** **1** **4** **0** - **02** - -

### Series

3	VFA3000
5	VFA5000

\* Not available with the VFA1000.

### Type of actuation

1	2 position single
2	2 position double
3	3 position closed center
4	3 position exhaust center
5	3 position pressure center

### Body model

### Body option

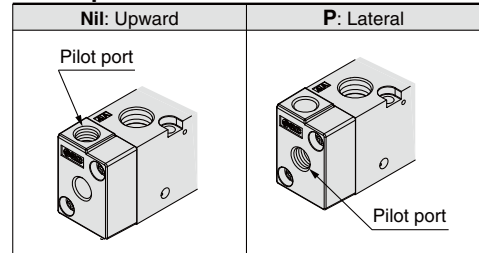
Symbol	VFA3000	VFA5000
0	○	—
4	—	○

### Port size (Sub-plate)

Symbol	Port size	VFA3000	VFA5000
Nil	Without sub-plate (Pilot port: Rc)		
00	Without sub-plate (Pilot port: Other than Rc)		
02	1/4	○	○
03	3/8	○	○
04	1/2	—	○

\* Without the sub-plate, two mounting screws and a gasket are included.

### Pilot port direction



### Thread type (Including pilot port)

Nil	Rc
F	G
N	NPT
T	NPTF

# 5 Port Air Operated Valve Base Mounted/Single Unit **VFA3000/5000 Series**

## Specifications



VFA3000 series



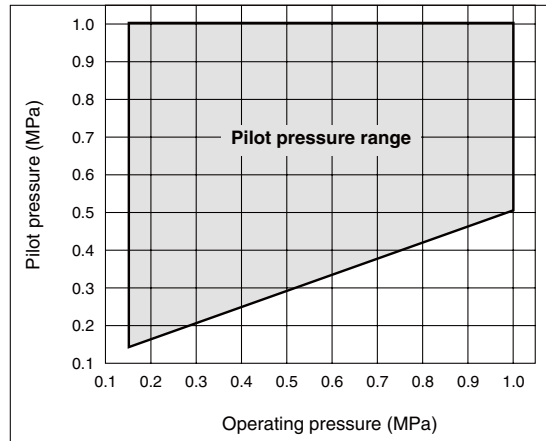
VFA5000 series

Model		VFA3000	VFA5000
Fluid		Air	
Operating pressure range (MPa)	2 position single	0.15 to 1.0	
	2 position double/3 position	-101.2 kPa to 1.0	
Pilot pressure range (MPa)	2 position single	(0.4 x P + 0.1) to 1.0, P: Operating pressure	
	2 position double	0.1 to 1.0	
	3 position	0.15 to 1.0	
Ambient and fluid temperature (°C)		-10 to 50 (No freezing)	
Lubrication		Not required	
Mounting orientation		Free	
Impact/Vibration resistance (m/s <sup>2</sup> ) <sup>Note 1)</sup>		300/50	

Note 1) Impact resistance: No malfunction to axis and right angle directions of main valve, each one time when pilot signal ON and OFF. (Values at the initial period)

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. (Values at the initial period)

### Pilot Pressure Range (Single pilot)



SYA

SYJA

VZA

VFA

VFRA

VPA4

SYJA

VZA

VTA

VGA

VPA

VPA3

# VFA3000/5000 Series

## Flow Rate Characteristics/Weights

Valve model	Type of actuation		Port size	Flow rate characteristics <sup>Note 1)</sup>						Weight (g) <sup>Note 2)</sup>
				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	
VFA3□40-02	2 position	Single	1/4	2.8	0.14	0.64	2.5	0.18	0.57	295 (143)
		Double		2.8	0.14	0.64	2.5	0.18	0.57	318 (166)
	3 position	Closed center		2.1	0.22	0.49	1.6	0.26	0.41	335 (183)
		Exhaust center		2.3	0.21	0.53	2.8 [2.1]	0.23 [0.26]	0.66 [0.50]	
		Pressure center		2.9 [1.1]	0.16 [0.45]	0.67 [0.32]	2.1	0.23	0.49	
VFA3□40-03	2 position	Single	3/8	3.1	0.24	0.76	2.6	0.23	0.62	278 (143)
		Double		3.1	0.24	0.76	2.6	0.23	0.62	301 (166)
	3 position	Closed center		2.2	0.33	0.57	1.6	0.34	0.40	318 (183)
		Exhaust center		2.6	0.27	0.61	2.8 [2.3]	0.30 [0.28]	0.68 [0.55]	
		Pressure center		3.4 [1.3]	0.29 [0.48]	0.80 [0.38]	2.2	0.31	0.52	
VFA5□44-02	2 position	Single	1/4	7.3	0.49	2.1	7.3	0.50	2.0	467 (278)
		Double		7.3	0.49	2.1	7.3	0.50	2.0	502 (313)
	3 position	Closed center		6.6	0.35	1.7	6.3	0.31	1.6	541 (352)
		Exhaust center		7.4	0.33	1.9	8.1 [7.4]	0.35 [0.34]	2.1 [1.9]	
		Pressure center		8.0 [2.9]	0.35 [0.48]	2.1 [0.85]	5.6	0.31	1.5	
VFA5□44-03	2 position	Single	3/8	8.4	0.34	2.2	8.9	0.29	2.3	454 (278)
		Double		8.4	0.34	2.2	8.9	0.29	2.3	489 (313)
	3 position	Closed center		7.3	0.34	2.0	7.1	0.28	1.8	528 (352)
		Exhaust center		8.1	0.27	2.0	14.0 [8.3]	0.26 [0.31]	3.4 [2.2]	
		Pressure center		8.1 [2.5]	0.33 [0.48]	2.0 [0.74]	5.7	0.31	1.4	
VFA5□44-04	2 position	Single	1/2	9.4	0.43	2.7	12.0	0.32	3.0	526 (278)
		Double		9.4	0.43	2.7	12.0	0.32	3.0	561 (313)
	3 position	Closed center		7.1	0.41	2.1	7.4	0.32	2.0	600 (352)
		Exhaust center		8.6	0.39	2.4	13.0 [8.9]	0.21 [0.40]	3.1 [2.5]	
		Pressure center		11.0 [2.6]	0.18 [0.47]	2.6 [0.78]	6.1	0.35	1.6	

Note 1) [ ]: Normal position

Note 2) ( ): Values without sub-plate

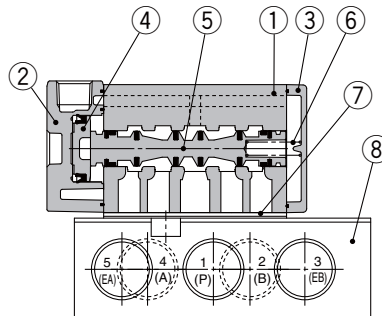
**Construction: Base Mounted**

**VFA3000, 5000**

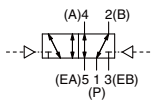
Symbol  
2 position single



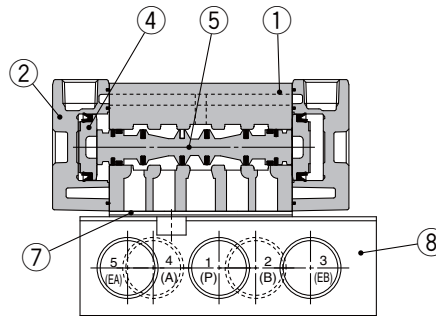
2 position single



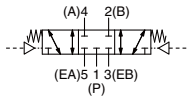
Symbol  
2 position double



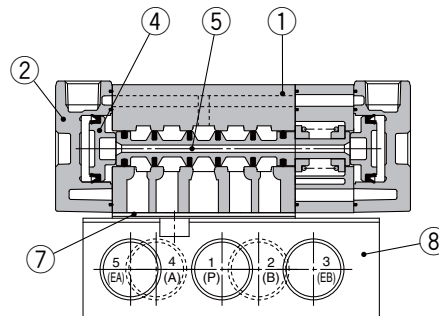
2 position double



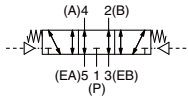
Symbol  
3 position closed center



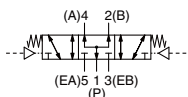
3 position closed center/exhaust center/pressure center



3 position exhaust center



3 position pressure center



(Drawing shows a closed center type.)

Sub-plate part no.

**VF 3 000-71-1**

Series

3	VFA3000
5	VFA5000

Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

Port size

Symbol	Port size	VFA3000	VFA5000
1	1/4	○	○
2	3/8	○	○
3	1/2	—	○

**Component Parts**

No.	Description	Material	Note
1	Body	Aluminum die-casted	White
2	Pilot plate	Aluminum die-casted	Gray
3	End plate	Resin	White
4	Piston	Resin	
5	Spool valve	Aluminum, HNBR	
6	Spring	Stainless steel	

**Replacement Parts**

No.	Description	Part no.		Note
		VFA3000	VFA5000	
7	Gasket	DXT031-30-11	DXT156-9-8	HNBR
8	Sub-plate	1/4: VF3000-71-1□ 3/8: VF3000-71-2□	1/4: VF5000-71-1□ 3/8: VF5000-71-2□ 1/2: VF5000-71-3□	Aluminum die-casted
—	Round head combination screw (1 pc.)	DXT031-44-1 (M4 x 39.5, With spring washer)	—	For mounting valve
—	Hexagon socket head cap screw (1 pc.)	—	AXT620-32-1 (M4 x 48, With spring washer)	For mounting valve

**Caution**

**Tightening Torque for Mounting Valve**

**M4: 1.4 N·m**

SYA

SYJA

VZA

VFA

VFRA

VPA4

SYJA

VZA

VTA

VGA

VPA

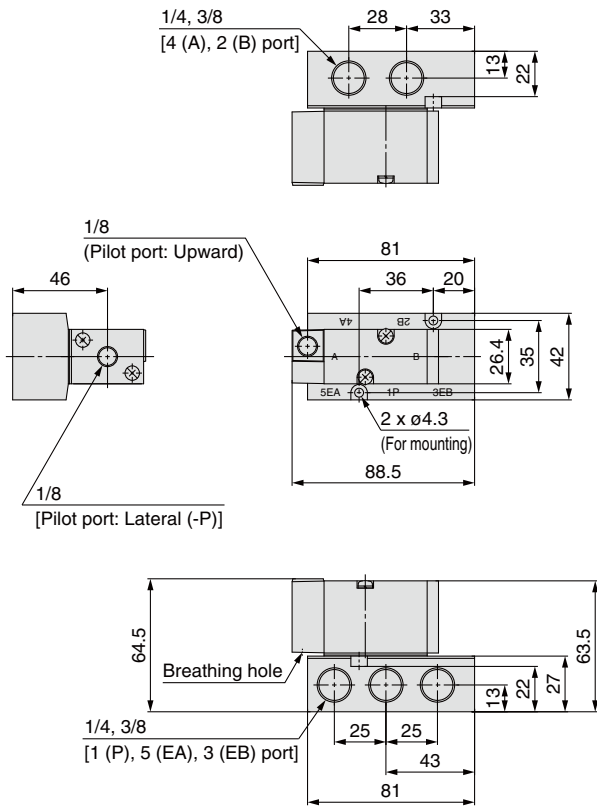
VPA3

# VFA3000/5000 Series

## Dimensions: VFA3000 Series/Base Mounted

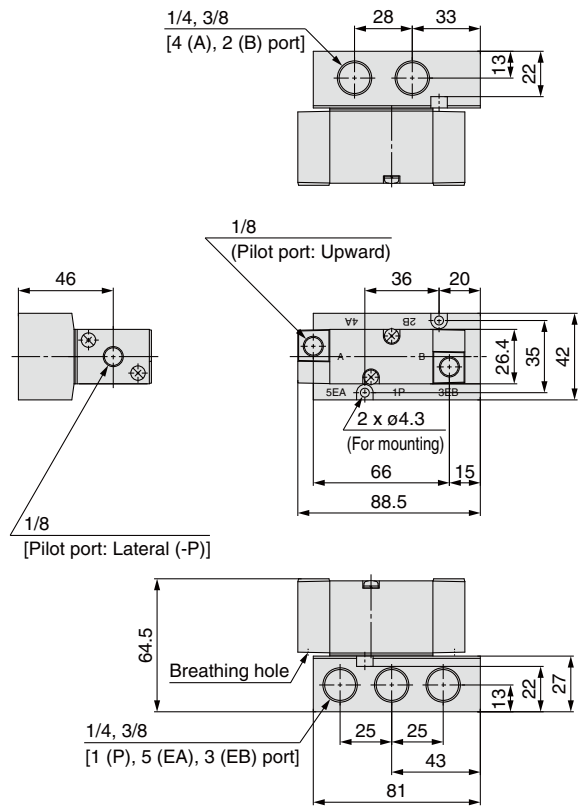
### 2 position single

VFA3140-<sup>02</sup>/<sub>03</sub>□(-P)



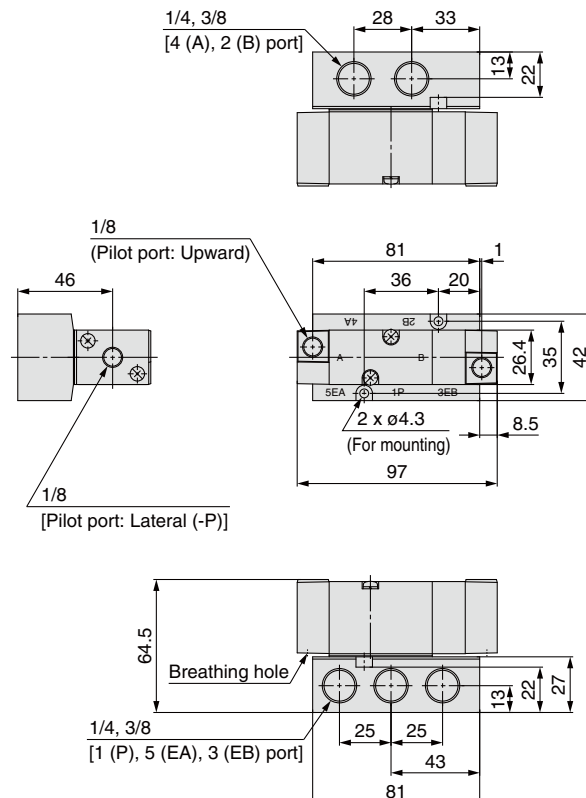
### 2 position double

VFA3240-<sup>02</sup>/<sub>03</sub>□(-P)



### 3 position closed center/exhaust center/pressure center

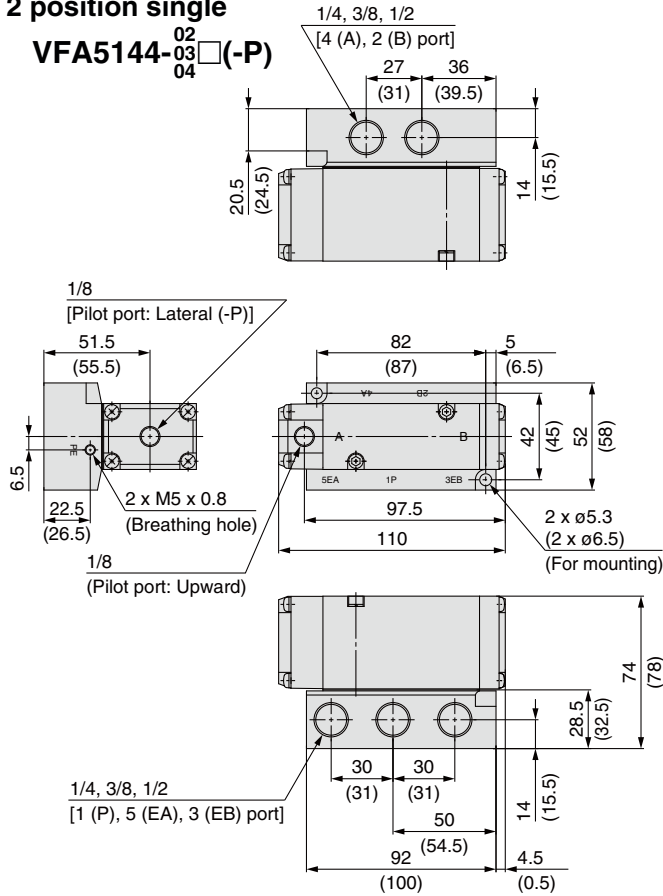
VFA3<sup>3</sup>/<sub>5</sub>440-<sup>02</sup>/<sub>03</sub>□(-P)



**Dimensions: VFA5000 Series/Base Mounted**

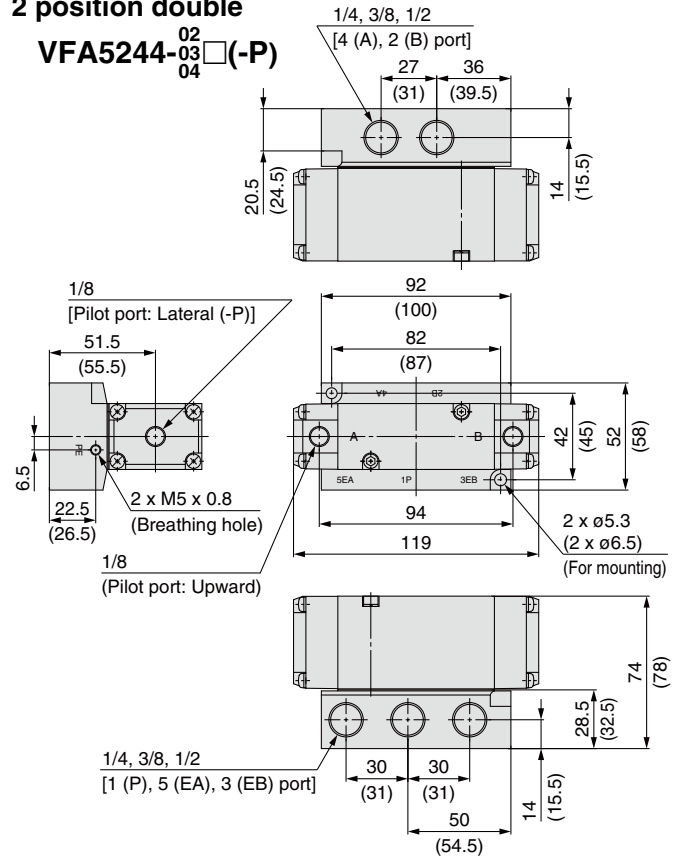
**2 position single**

VFA5144-<sup>02</sup><sub>03</sub>□(-P)  
<sub>04</sub>



**2 position double**

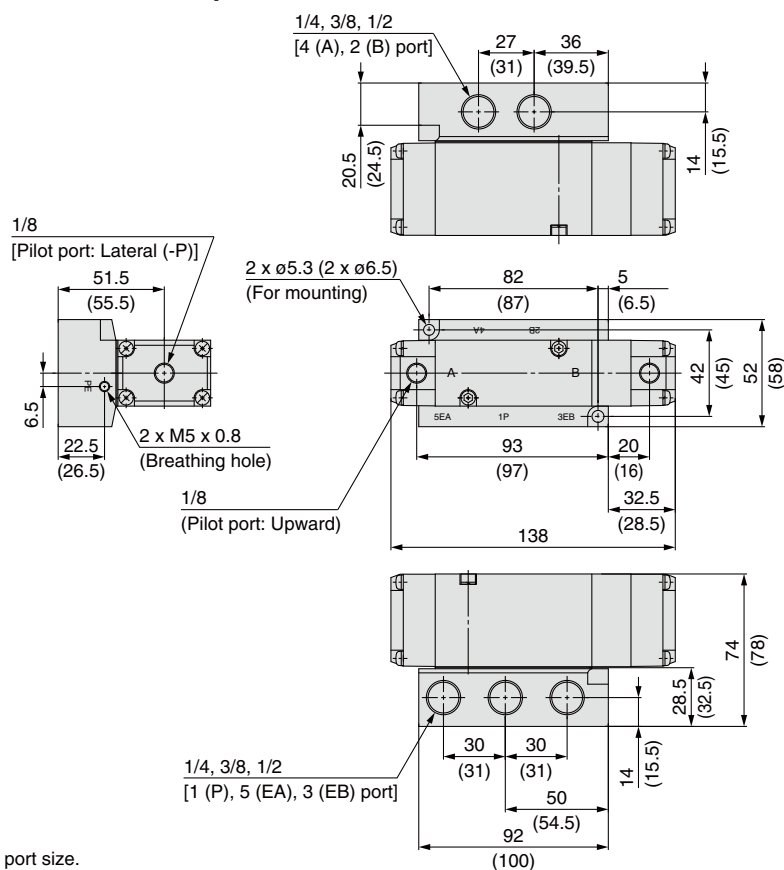
VFA5244-<sup>02</sup><sub>03</sub>□(-P)  
<sub>04</sub>



- SYA
- SYJA
- VZA
- VFA**
- VFRA
- VPA4
- SYJA
- VZA
- VTA
- VGA
- VPA
- VPA3

**3 position closed center/exhaust center/pressure center**

VFA5444-<sup>3</sup><sub>02</sub>□(-P)  
<sub>5</sub><sub>04</sub>



The dimensions in ( ) are for 1/2 piping port size.