

5 Port Air Operated Valve

VFA1000/3000/5000 Series

Single Unit

Body Ported

RoHS

How to Order Valve

Body ported VFA 3 1 3 0 - 01 - - -

Series

1	VFA1000
3	VFA3000
5	VFA5000

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

* Only 1 and 2 are available with the VFA1000.

Body model

Symbol	VFA1000	VFA3000	VFA5000
2	○	—	○
3	—	○	—

A, B port size

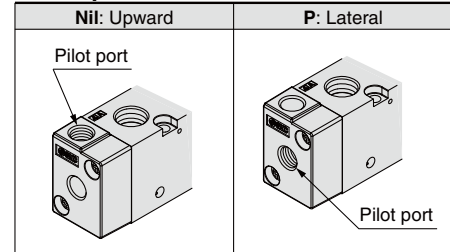
Symbol	Port size	VFA1000	VFA3000	VFA5000
M5	M5 x 0.8	○	—	—
01	1/8	○	○	—
02	1/4	—	○	○
03	3/8	—	—	○

Thread type (Including pilot port)

Nil	Rc
F	G
N	NPT
T	NPTF

* M5 is available with Nil only.

Pilot port direction



Bracket

Nil	Without bracket
F	With bracket
VFA1000, 3000 Single type (The bracket cannot be connected after delivered.)	
VFA1000 Double type only	

* Not available with the VFA5000.

5 Port Air Operated Valve Body Ported/Single Unit **VFA 1000/3000/5000 Series**

Specifications



VFA1000 series



VFA3000 series



VFA5000 series

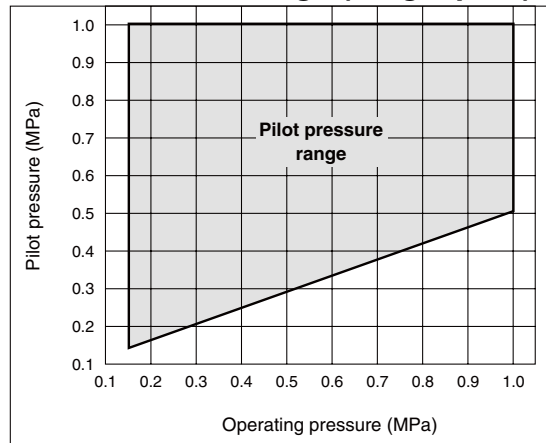
Model		VFA1000	VFA3000	VFA5000
Fluid		Air		
Operating pressure range (MPa)	2 position single	0.15 to 1.0		
	2 position double/3 position ^{Note 2)}	-101.2 kPa to 1.0		
Pilot pressure range (MPa)	2 position single	(0.4 x P + 0.1) to 1.0, P: Operating pressure		
	2 position double	0.1 to 1.0		
	3 position	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 ²) ^{Note 1)}		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)

Note 2) Except VFA1000

Pilot Pressure Range (Single pilot)



SYA

SYJA

VZA

VFA

VFRA

VPA4

SYJA

VZA

VTA

VGA

VPA

VPA3

VFA1000/3000/5000 Series

Flow Rate Characteristics/Weights

Valve model	Type of actuation		Port size		Flow rate characteristics ^{Note 1)}						Weight (g) ^{Note 2)}
			1, 4, 2 (P, A, B)	5, 3 (EA, EB)	1→4/2 (P→A/B)			4/2→5/3 (A/B→EA/EB)			
					C[dm ³ / (s/bar)]	b	Cv	C[dm ³ / (s/bar)]	b	Cv	
VFA1□20-M5	2 position	Single	M5 x 0.8		0.49	0.40	0.13	0.52	0.35	0.13	97
		Double			0.49	0.40	0.13	0.52	0.35	0.13	120
VFA1□20-01	2 position	Single	1/8	M5 x 0.8	0.76	0.22	0.17	0.53	0.28	0.13	93
		Double			0.76	0.22	0.17	0.53	0.28	0.13	116
VFA3□30-01	2 position	Single	1/8		3.0	0.38	0.78	2.8	0.30	0.67	135
		Double			3.0	0.38	0.78	2.8	0.30	0.67	158
	3 position	Closed center			2.4	0.31	0.64	1.8	0.37	0.46	175
		Exhaust center			2.6	0.37	0.70	3.0 [2.5]	0.32 [0.28]	0.76 [0.62]	
		Pressure center			3.0 [1.4]	0.42 [0.44]	0.83 [0.39]	2.4	0.27	0.59	
VFA3□30-02	2 position	Single	1/4	1/8	4.0	0.36	1.0	3.1	0.32	0.75	131
		Double			4.0	0.36	1.0	3.1	0.32	0.75	154
	3 position	Closed center			2.4	0.45	0.68	1.9	0.37	0.47	171
		Exhaust center			3.0	0.42	0.82	3.1 [2.7]	0.36 [0.29]	0.79 [0.66]	
		Pressure center			5.5 [1.4]	0.37 [0.50]	1.4 [0.40]	2.6	0.32	0.64	
VFA5□20-02	2 position	Single	1/4		7.1	0.46	1.9	7.7	0.51	2.2	294
		Double			7.1	0.46	1.9	7.7	0.51	2.2	329
	3 position	Closed center			6.7	0.46	1.8	6.6	0.41	1.8	368
		Exhaust center			7.1	0.42	1.9	8.0 [7.4]	0.45 [0.47]	2.2 [2.1]	
		Pressure center			6.8 [2.7]	0.51 [0.50]	2.0 [0.78]	5.7	0.37	1.4	
VFA5□20-03	2 position	Single	3/8		8.8	0.44	2.4	10.0	0.49	2.9	280
		Double			8.8	0.44	2.4	10.0	0.49	2.9	315
	3 position	Closed center			7.5	0.43	2.0	7.5	0.38	1.9	354
		Exhaust center			8.3	0.40	2.2	10.0 [8.7]	0.48 [0.46]	3.0 [2.4]	
		Pressure center			9.2 [3.0]	0.50 [0.49]	2.6 [0.85]	6.1	0.35	1.6	

Note 1) []: Normal position

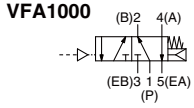
Note 2) Values without bracket

Construction: Body Ported

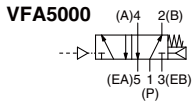
2 position single

Symbol

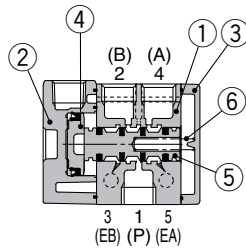
2 position single



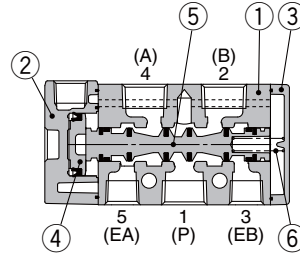
VFA3000



VFA1000



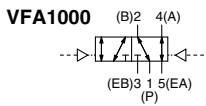
VFA3000, 5000



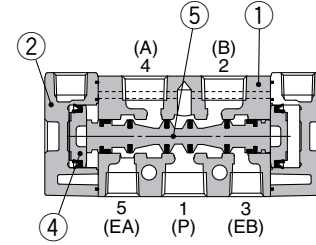
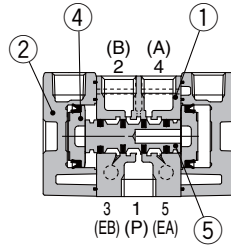
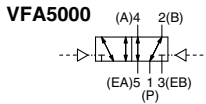
2 position double

Symbol

2 position double



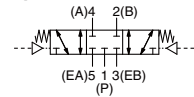
VFA3000



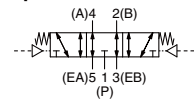
3 position closed center/exhaust center/pressure center

Symbol

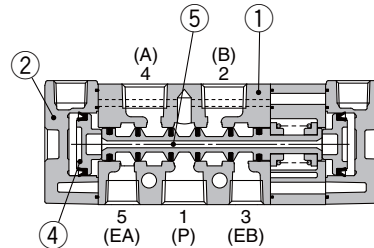
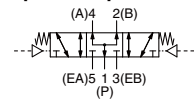
3 position closed center



3 position exhaust center



3 position pressure center



(Drawing shows a closed center type.)

Component Parts

No.	Description	Material	Note
1	Body	Aluminum die-casted	White
2	Pilot plate	Aluminum die-casted	Gray
3	End plate	Resin (VFA3130-F : Aluminum die-casted) VFA1120-F	White
4	Piston	Resin	
5	Spool valve	Aluminum, HNBR	
6	Spring	Stainless steel	

Bracket Assembly Part No.

Description	Part no.
Bracket (for VFA1000 double)	DXT144-8-1A (With 2 mounting screws)

SYA

SYJA

VZA

VFA

VFRA

VPA4

SYJA

VZA

VTA

VGA

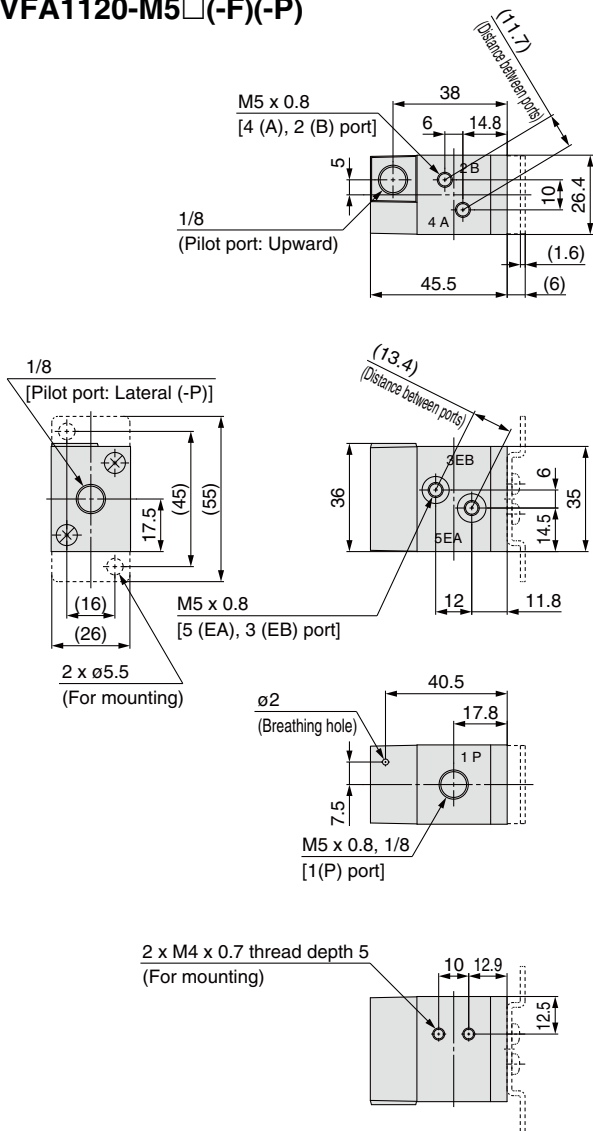
VPA

VPA3

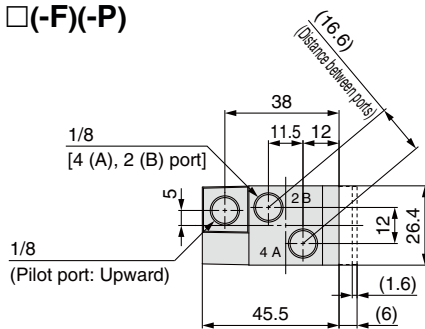
VFA 1000/3000/5000 Series

Dimensions: VFA1000 Series/Body Ported

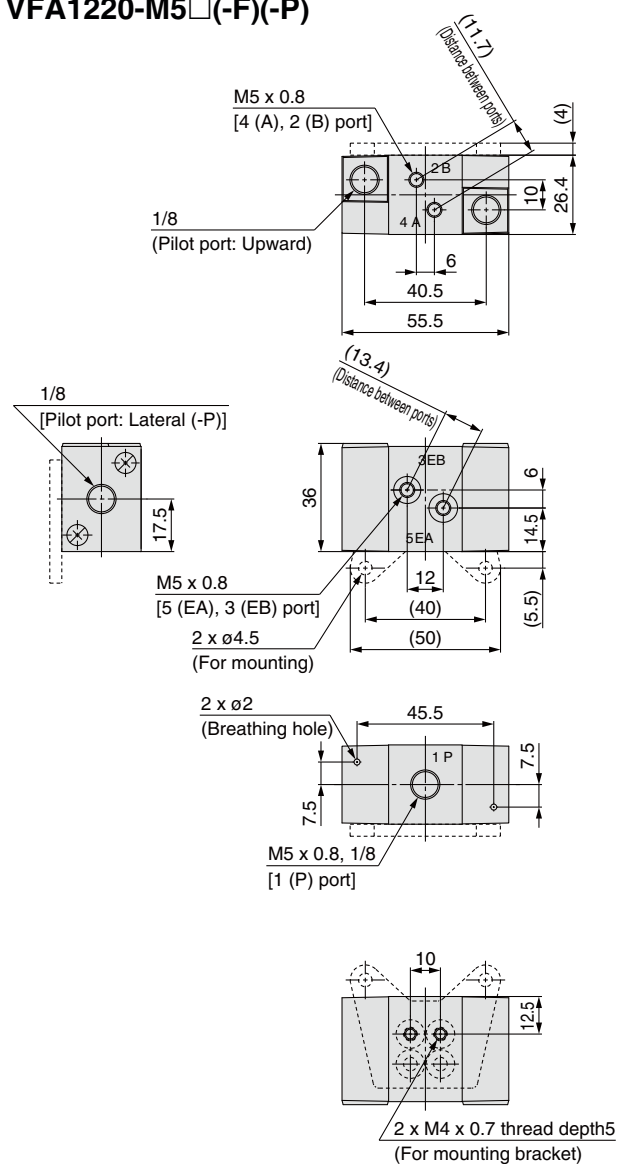
2 position single VFA1120-M5□(-F)(-P)



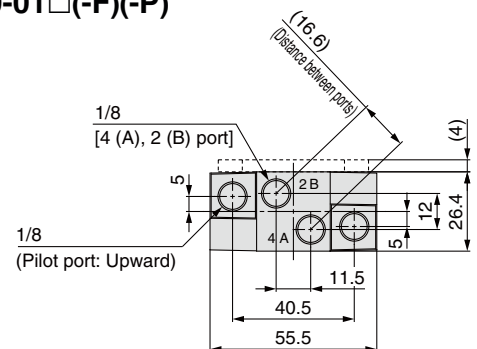
VFA1120-01□(-F)(-P)



2 position double VFA1220-M5□(-F)(-P)

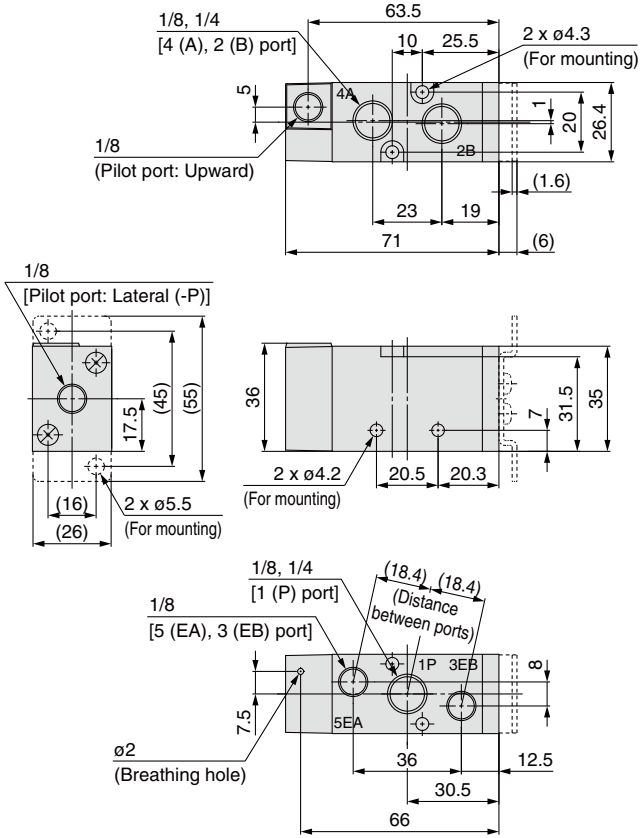


VFA1220-01□(-F)(-P)

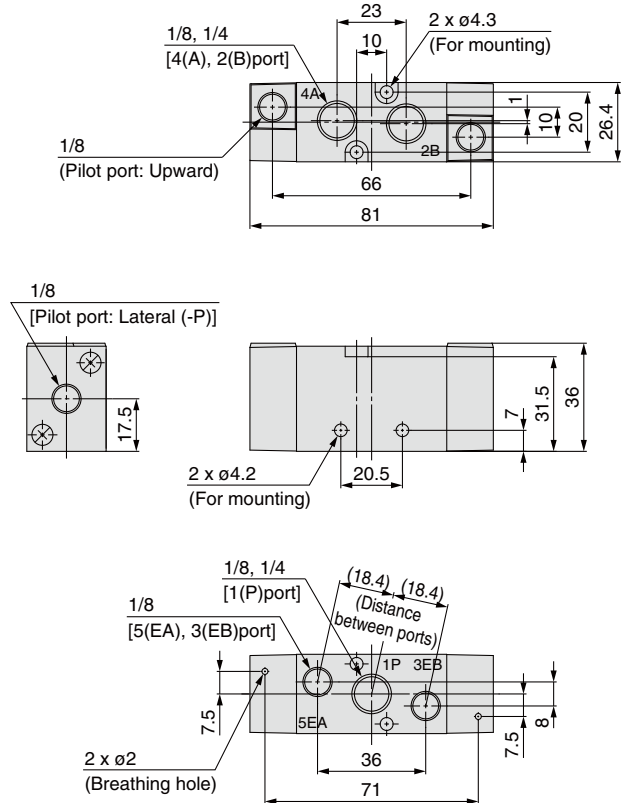


Dimensions: VFA3000 Series/Body Ported

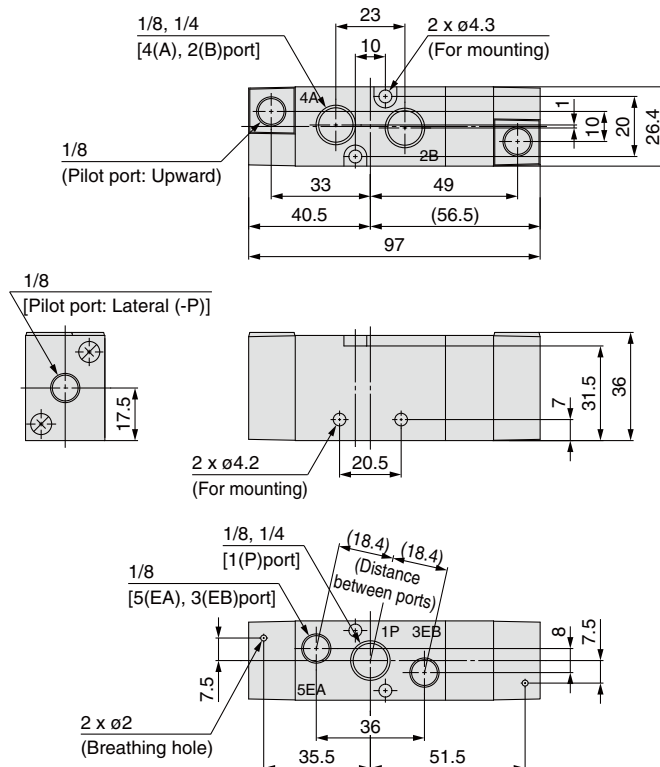
**2 position single
VFA3130-01□(-F)(-P)**



**2 position double
VFA3230-01□(-P)**



**3 position closed center/exhaust center/pressure center
VFA3430-01□(-P)**

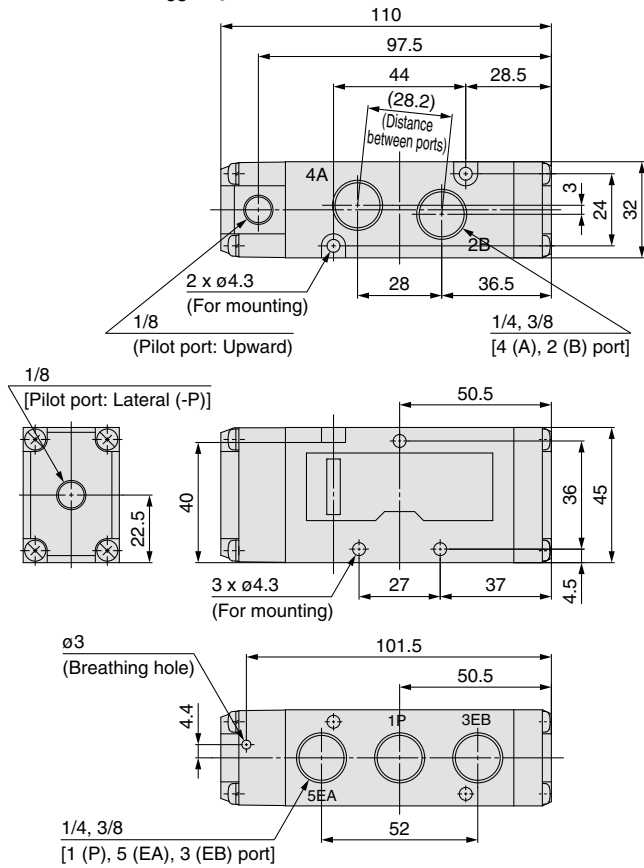


- SYA
- SYJA
- VZA
- VFA**
- VFRA
- VPA4
- SYJA
- VZA
- VTA
- VGA
- VPA
- VPA3

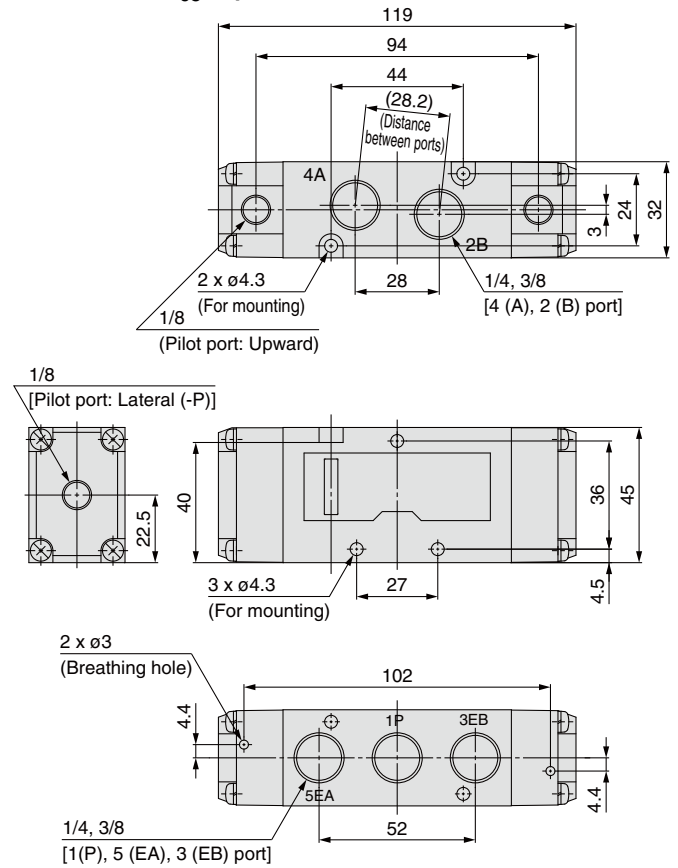
VFA 1000/3000/5000 Series

Dimensions: VFA5000 Series/Body Ported

2 position single VFA5120-02/03□(-P)



2 position double VFA5220-02/03□(-P)



3 position closed center/exhaust center/pressure center

VFA5420-02/03□(-P)

