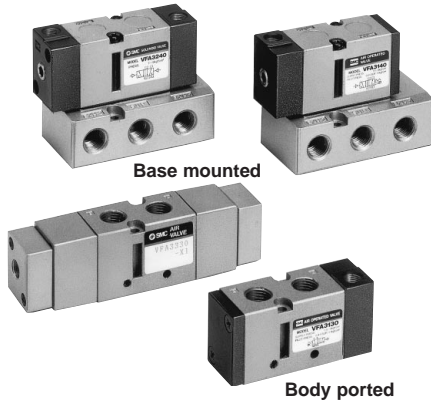


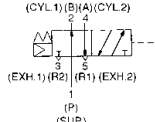
# 4/5 Port Air Operated Valve

# Series VFA3000

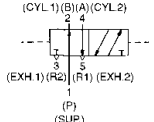


### JIS Symbol

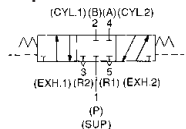
#### 2 position single



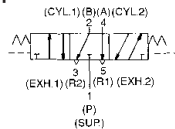
#### 2 position double



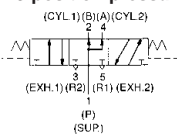
#### 3 position closed center



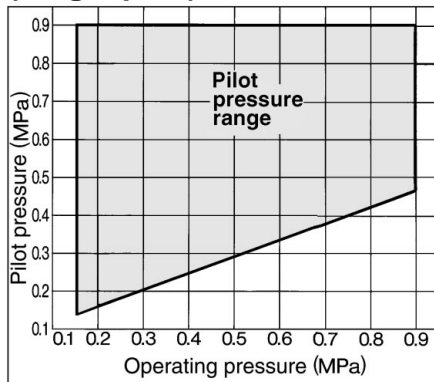
#### 3 position exhaust center



#### 3 position pressure center



## Pilot Pressure Range (Single pilot)



### Caution

Refer to p.0-33 to 0-36 for Safety Instruction and common precautions.

## Model

| Valve model                   | Configuration     | Port size Rc(PT)                                    | Effective area (mm <sup>2</sup> )(Cv) |                           |                           | Pilot port size Rc(PT) | Weight (kg) |
|-------------------------------|-------------------|---|---------------------------------------|---------------------------|---------------------------|------------------------|-------------|
|                               |                   |   | Rc(PT)1/8                             | Rc(PT)1/4                 | Rc(PT)3/8                 |                        |             |
| Body ported                   | VFA3122-01-02 -F  | 2 position single<br>1/8<br>1/4 ,EXH: 1/8           | 15.3 (0.85)                           | 18 (1)                    | —                         | 1/8                    | 0.18        |
|                               | VFA3130-01-02     | 2 position single<br>1/8<br>1/4 (EXH: 1/8)          | 14.4 (0.8)                            | 18 (1)                    | —                         | 1/8                    | 0.15        |
|                               | VFA3230-01-02     | 2 position double<br>1/8<br>1/4 (EXH: 1/8)          | 14.4 (0.8)                            | 18 (1)                    | —                         | 1/8                    | 0.17        |
|                               | VFA3330-01-02 -X1 | 3 position closed center<br>1/8<br>1/4 (EXH: 1/8)   | 11.7 (0.65)                           | 14.4 (0.8)                | —                         | 1/8                    | 0.32        |
|                               | VFA3430-01-02 -X1 | 3 position exhaust center<br>1/8<br>1/4 (EXH: 1/8)  | 14.4 (0.8)                            | 18 (1)                    | —                         | 1/8                    | 0.32        |
|                               | VFA3530-01-02 -X1 | 3 position pressure center<br>1/8<br>1/4 (EXH: 1/8) | 14.4 (0.8)<br>9.9 (0.55)*             | 16.2 (0.9)<br>10.8 (0.6)* | —                         | 1/8                    | 0.32        |
| Base mounted (With sub-plate) | VFA3140-02-03     | 2 position single<br>1/4<br>3/8                     | —                                     | 16 (0.9)                  | 18 (1)                    | 1/8                    | 0.31        |
|                               | VFA3240-02-03     | 2 position double<br>1/4<br>3/8                     | —                                     | 16 (0.9)                  | 18 (1)                    | 1/8                    | 0.33        |
|                               | VFA3340-02-03 -X1 | 3 position closed center<br>1/4<br>3/8              | —                                     | 12.5 (0.7)                | 14.5 (0.8)                | 1/8                    | 0.48        |
|                               | VFA3440-02-03 -X1 | 3 position exhaust center<br>1/4<br>3/8             | —                                     | 16 (0.9)                  | 18 (1)                    | 1/8                    | 0.48        |
|                               | VFA3540-02-03 -X1 | 3 position pressure center<br>1/4<br>3/8            | —                                     | 12.7 (0.7)<br>8.2 (0.45)* | 13.3 (0.75)<br>8.7 (0.5)* | 1/8                    | 0.48        |

\* ( ) for normal position. Exhaust center: A, B → R1, R2, Pressure center P → A, B

## Specifications

| Fluid  | Air               |  |
|--|-------------------|--|
| Operating pressure range (MPa)                                 | 2 position single | 0.15 to 0.9                                |
|  | 2 position double | 0.1 to 0.9                                 |
|  | 3 position        | 0.15 to 0.9                                |
| Pilot pressure range (MPa)                                     | 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                                |
| Ambient and fluid temperature (°C)                             | Max. 60           |  |
| Lubrication  | Not required      |  |
| Mounting   | Free              |  |
| Impact/Vibration resistance (m/s <sup>2</sup> ) <sup>(1)</sup> | 300/50            |  |

Note 1) 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. (Initial valve)  
Vibration resistance: No malfunction from test with 8.3 to 2000Hz 1 sweep, to axis and right angle directions of main valve, each one time when pilot signal is ON and OFF. (Initial valve)

## How to Order Manifold

Use the same manifold bases as the VF3000.

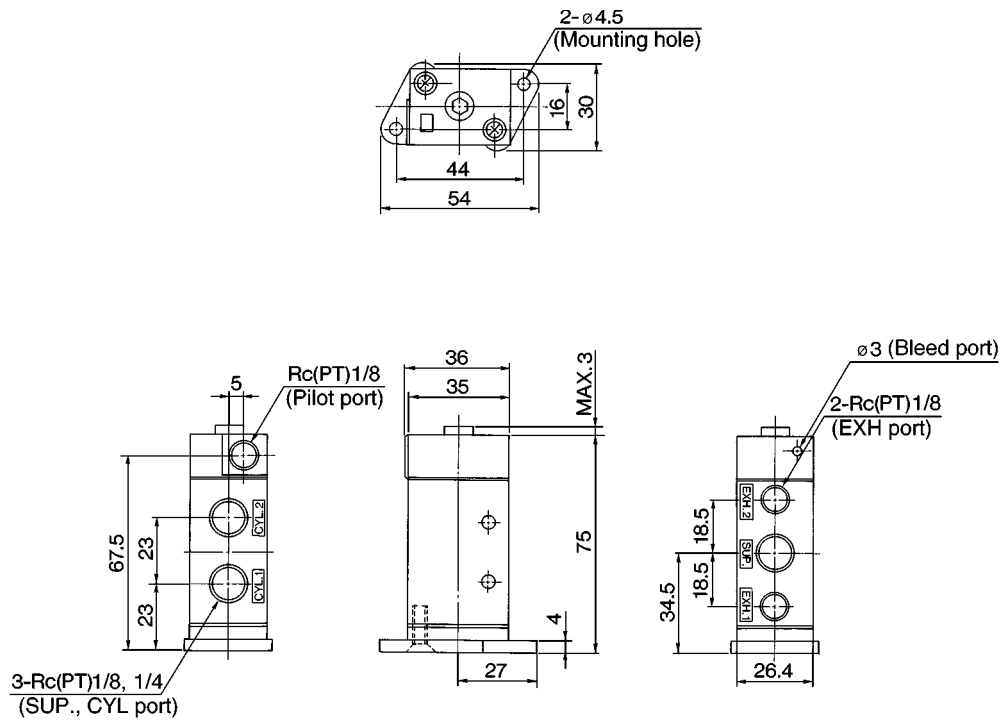
The remainder of the manifold part number is the same as an VV5Z3.

\*Specify the part number for the valve(s), blank plate assembly and manifold base.

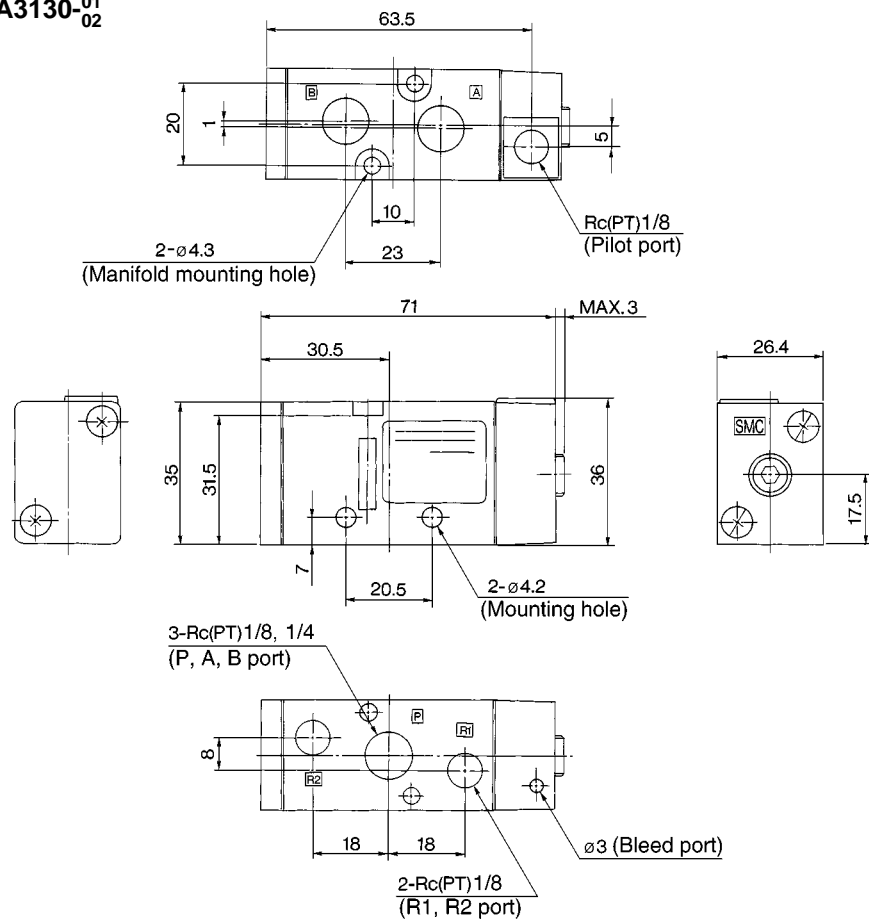
<Example> VV5FA3-40-052-02 .....1 pc.  
VFA3140 .....2 pcs.  
VFA3240 .....2 pcs.  
DXT031-38-1A .....1 pc.

## Dimensions/Body Ported

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



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



S□A

V□A

S□A

V□A

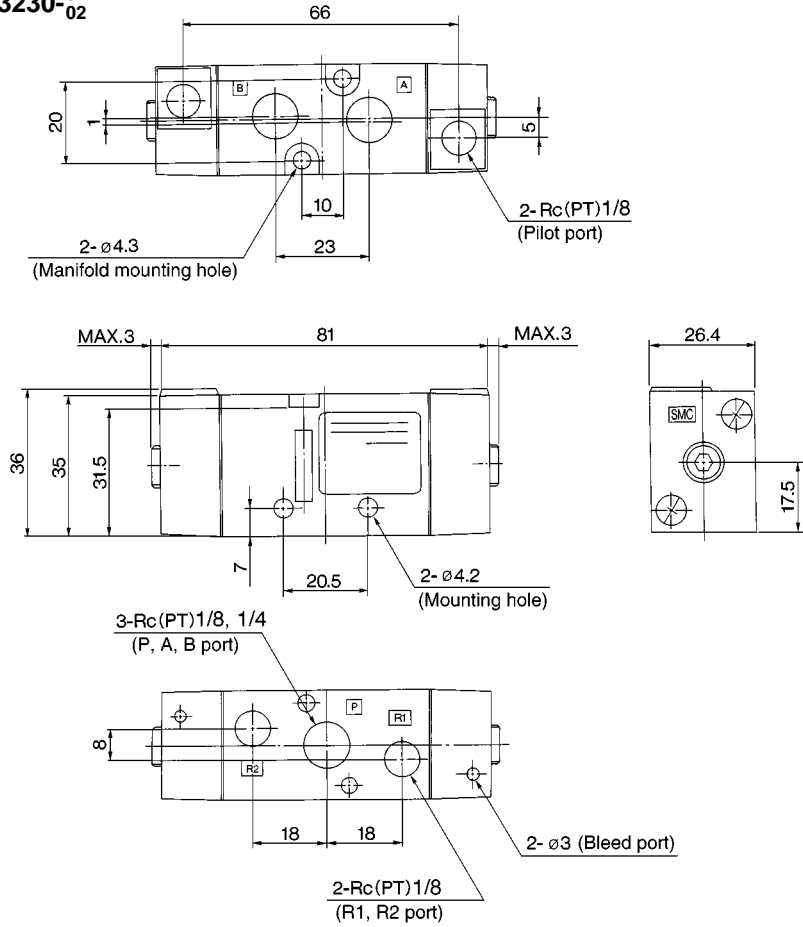
VM/VR

VH

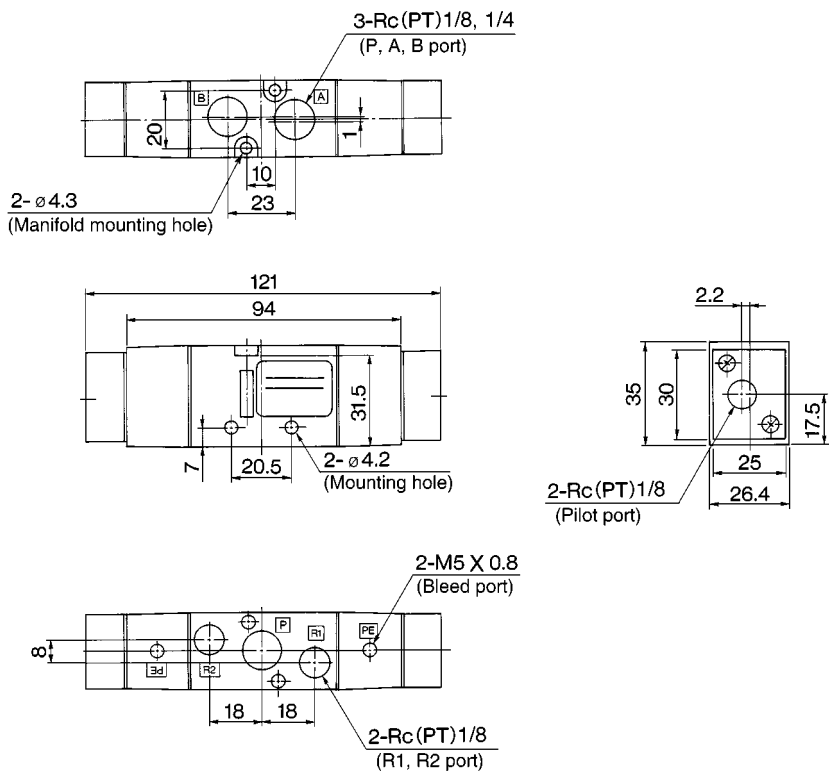
# VFA3000

## Dimensions/Body Ported

2 position double: VFA3230-<sup>01</sup>/<sub>02</sub>

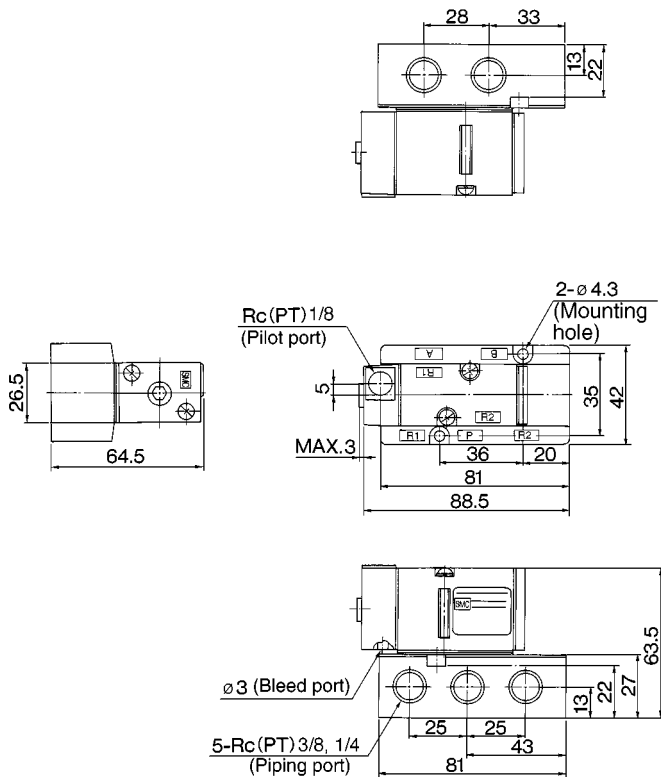


3 position closed center/exhaust center/pressure center: VFA3<sup>3</sup>/<sub>4</sub>30-<sup>01</sup>/<sub>02</sub>-X1

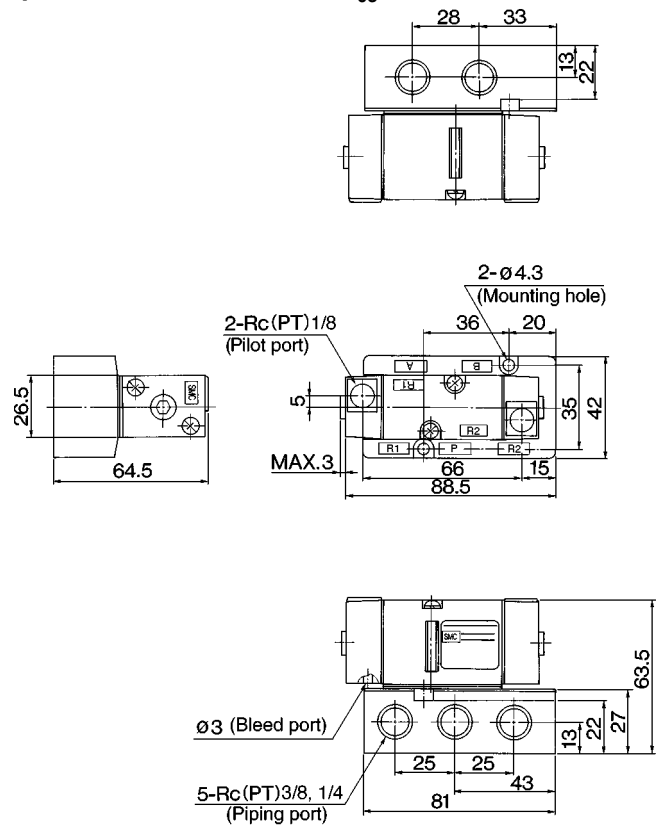


## Dimensions/Base Mounted

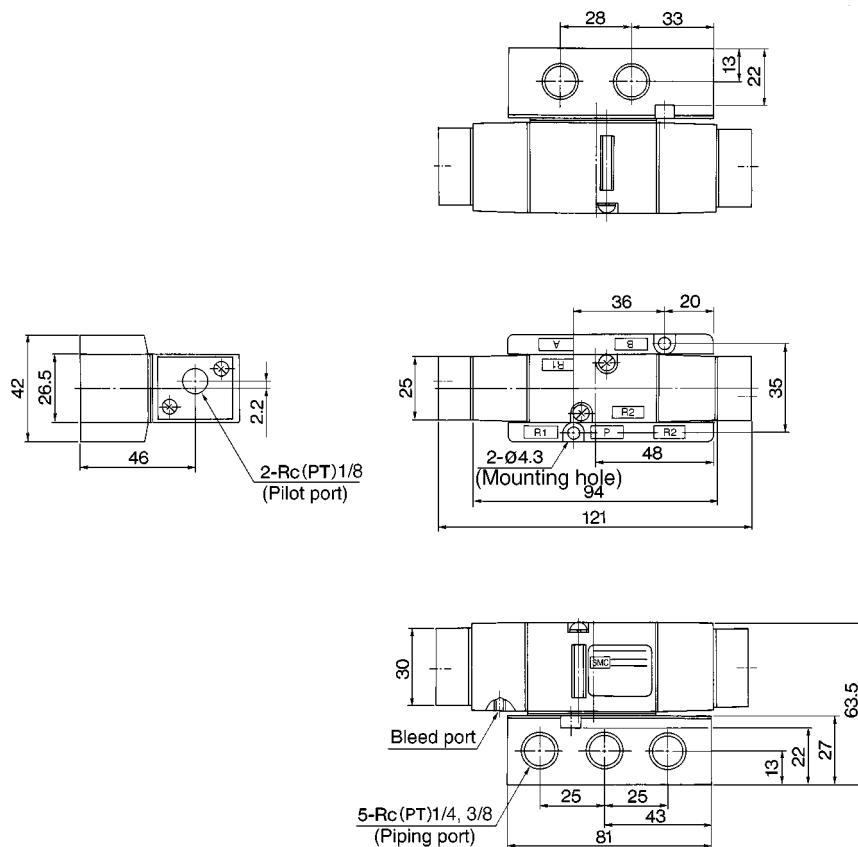
2 position single: VFA3140-<sup>02</sup>/<sub>03</sub>



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



3 position closed center/exhaust center/pressure center: VFA3<sup>3</sup>/<sub>4</sub>40-<sup>02</sup>/<sub>03</sub>-X1



S□A

V□A

S□A

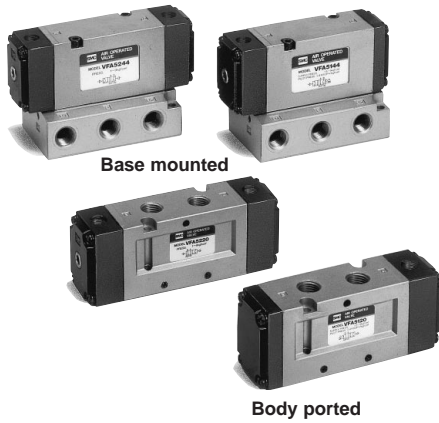
V□A

VM/VR

VH

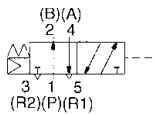
# 4/5 Port Air Operated Valve

# Series VFA5000

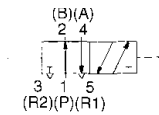


### JIS Symbol

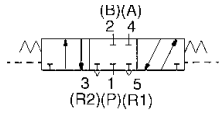
#### 2 position single



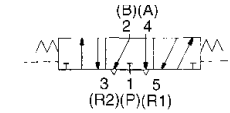
#### 2 position double



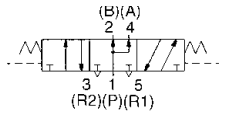
#### 3 position closed center



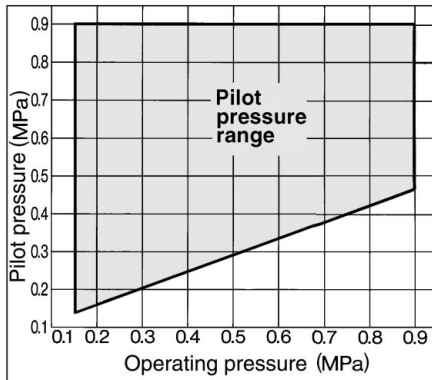
#### 3 position exhaust center



#### 3 position pressure center



## Pilot Pressure Range (Single pilot)



### Caution

Refer to p.0-33 to 0-36 for Safety Instruction and common precautions.

## Model

| Valve model                      | Configuration               | Port size<br>Rc(PT)          | Effective area (mm <sup>2</sup> ) (Cv) |                            |                        | Pilot port size<br>Rc(PT)  | Weight<br>(kg) |                             |
|----------------------------------|-----------------------------|------------------------------|--|----------------------------|------------------------|----------------------------|----------------|-----------------------------|
|                                  |                             |                              | Rc(PT) 1/4                             | Rc(PT) 3/8                 | Rc(PT) 1/2             |                            |                |                             |
| Body ported                      | VFA5120 -02<br>03           | 2 position<br>single         | 1/4<br>3/8                             | 34.2<br>(1.9)              | 45<br>(2.5)            | —                          | 1/8            | 0.33                        |
|                                  | VFA5220 -02<br>03           | 2 position<br>double         | 1/4<br>3/8                             | 34.2<br>(1.9)              | 45<br>(2.5)            | —                          | 1/8            | 0.34                        |
|                                  | VFA5320 -02<br>03 -X1       | 3 position<br>closed center  | 1/4<br>3/8                             | 30.6<br>(1.7)              | 36<br>(2)              | —                          | 1/8            | 0.43                        |
|                                  | VFA5420 -02<br>03 -X1       | 3 position<br>exhaustcenter  | 1/4<br>3/8                             | 32.4<br>(1.8)              | 41.4<br>(2.3)          | —                          | 1/8            | 0.43                        |
|                                  | VFA5520 -02<br>03 -X1       | 3 position<br>pressurecenter | 1/4<br>3/8                             | 32 (1.8)<br>14.8 (0.8)*    | 36 (2)<br>15.3 (0.85)* | —                          | 1/8            | 0.43                        |
| Base mounted<br>(With sub-plate) | VFA5144 -02<br>03<br>04     | 2 position<br>single         | 1/4, 3/8, 1/2                          | 34.2<br>(1.9)              | 45<br>(2.5)            | 52<br>(2.9)                | 1/8            | 02:<br>03: 0.51<br>04: 0.56 |
|                                  | VFA5244 -02<br>03<br>04     | 2 position<br>double         | 1/4, 3/8, 1/2                          | 34.2<br>(1.9)              | 45<br>(2.5)            | 52<br>(2.9)                | 1/8            | 02:<br>03: 0.52<br>04: 0.57 |
|                                  | VFA5344 -02<br>03<br>04 -X1 | 3 position<br>closed center  | 1/4, 3/8, 1/2                          | 33<br>(1.8)                | 34<br>(1.9)            | 38<br>(2.1)                | 1/8            | 02:<br>03: 0.66<br>04: 0.71 |
|                                  | VFA5444 -02<br>03<br>04 -X1 | 3 position<br>exhaustcenter  | 1/4, 3/8, 1/2                          | 36<br>(2)                  | 39<br>(2.2)            | 44<br>(2.4)                | 1/8            | 02:<br>03: 0.66<br>04: 0.71 |
|                                  | VFA5544 -02<br>03<br>04 -X1 | 3 position<br>pressurecenter | 1/4, 3/8, 1/2                          | 33.3 (1.85)<br>10.8 (0.6)* | 36 (2)<br>15.3 (0.85)* | 39.6 (2.2)<br>15.3 (0.85)* | 1/8            | 02:<br>03: 0.66<br>04: 0.71 |

\* ( ) for normal position. Exhaust center: A, B → R1, R2, pressure center P → A, B

## Specifications

| Fluid  | Air               |  |
|--|-------------------|--|
| Operating pressure range<br>(MPa)                              | 2 position single | 0.15 to 0.9                                |
|  | 2 position double | 0.1 to 0.9                                 |
|  | 3 position        | 0.15 to 0.9                                |
| Pilot pressure range<br>(MPa)                                  | 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                                |
| Ambient and fluid temperature (°C)                             |                   | Max. 60                                    |
| Lubrication  |                   | Not required                               |
| Mounting   |                   | Free                                       |
| Impact/Vibration resistance (m/s <sup>2</sup> ) <sup>(1)</sup> |                   | 300/50                                     |

Note 1) 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. (Initial valve)

Vibration resistance: No malfunction from test with 8.3 to 2000Hz 1 sweep, to axis and right angle directions of main valve, each one time when pilot signal is ON and OFF. (Initial valve)

## How to Order Manifold

Use the same manifold bases as the VF5000.

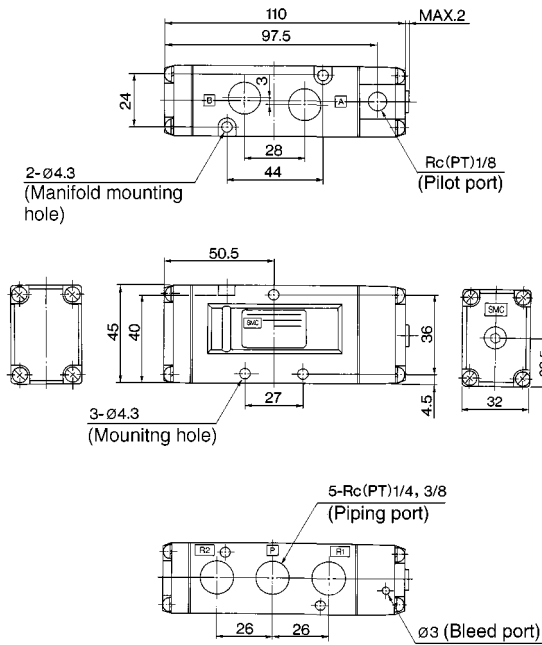
The remainder of the manifold part number is the same as an VV5F5.

\*Specify the part number for the valve(s), blank plate assembly and manifold base.

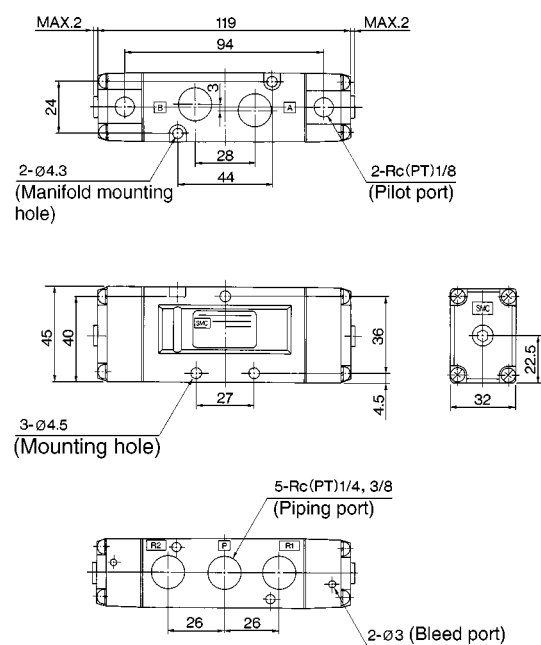
<Example> VV5FA5-20-051 .....1 pc.  
VFA5120-03 .....2 pcs.  
VFA5220-03 .....2 pcs.  
DXT156-19-1A .....1 pc.

## Dimensions/Body Ported

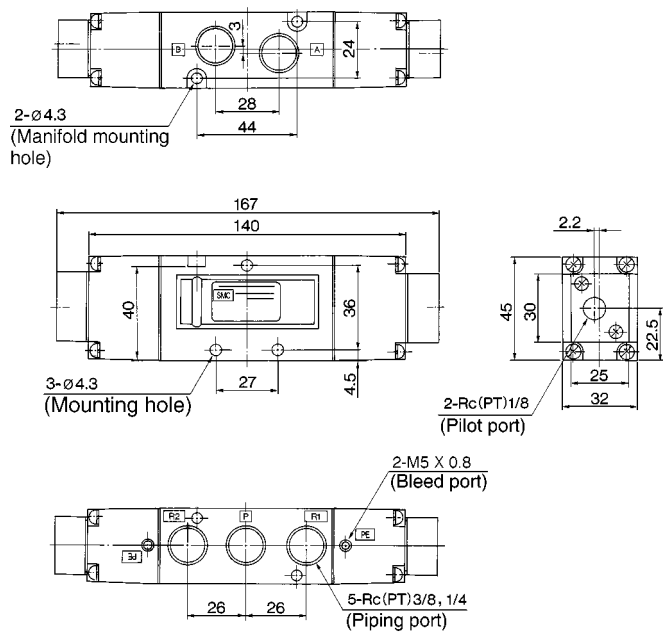
2 position single: VFA5120-<sup>02</sup>/<sub>03</sub>



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



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



S□A

V□A

S□A

V□A

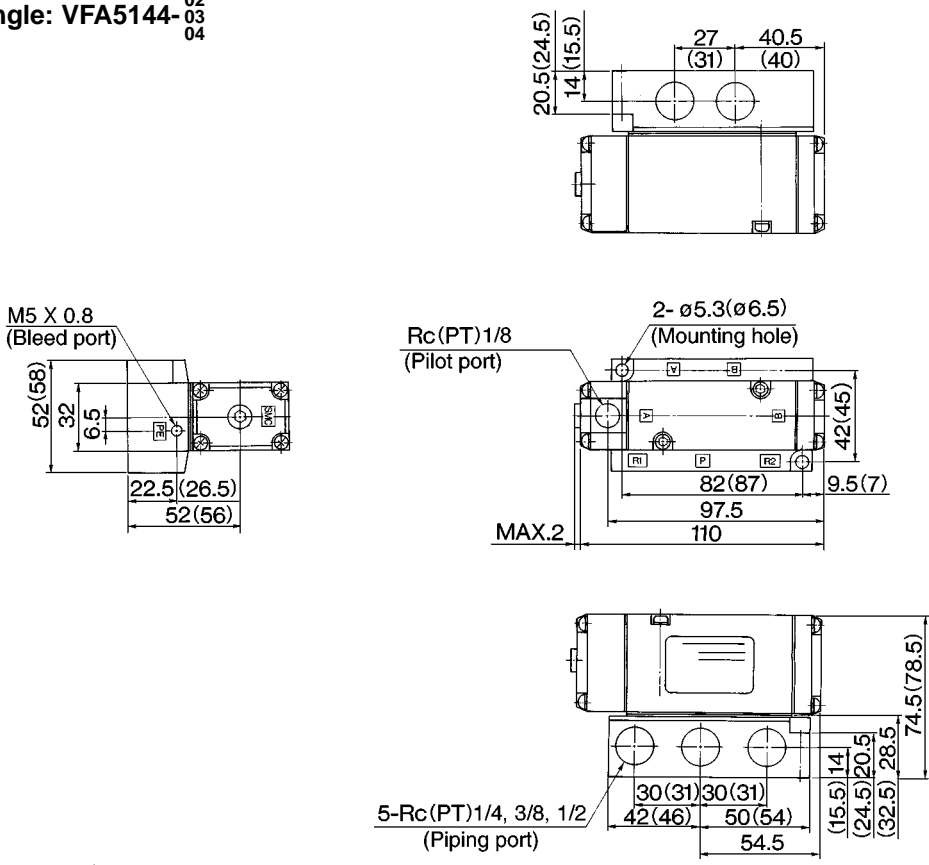
VM/VR

VH

# VFA5000

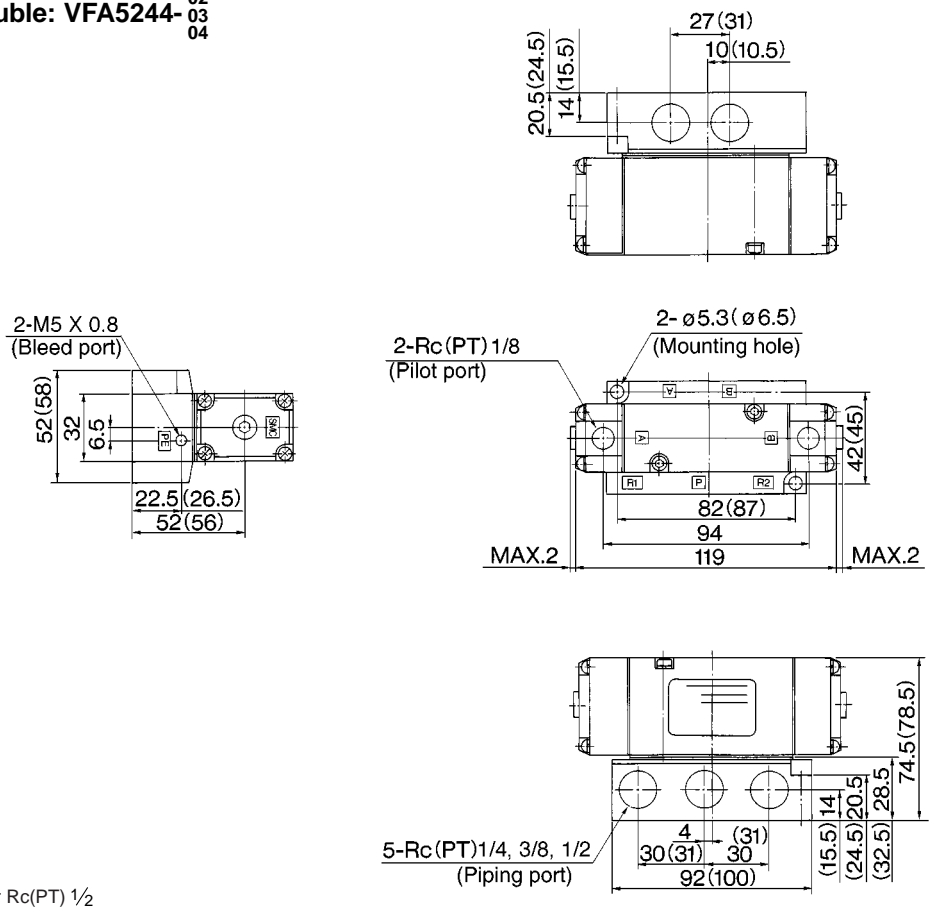
## Dimensions/Base Mounted

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



( ): Value for Rc(PT) 1/2

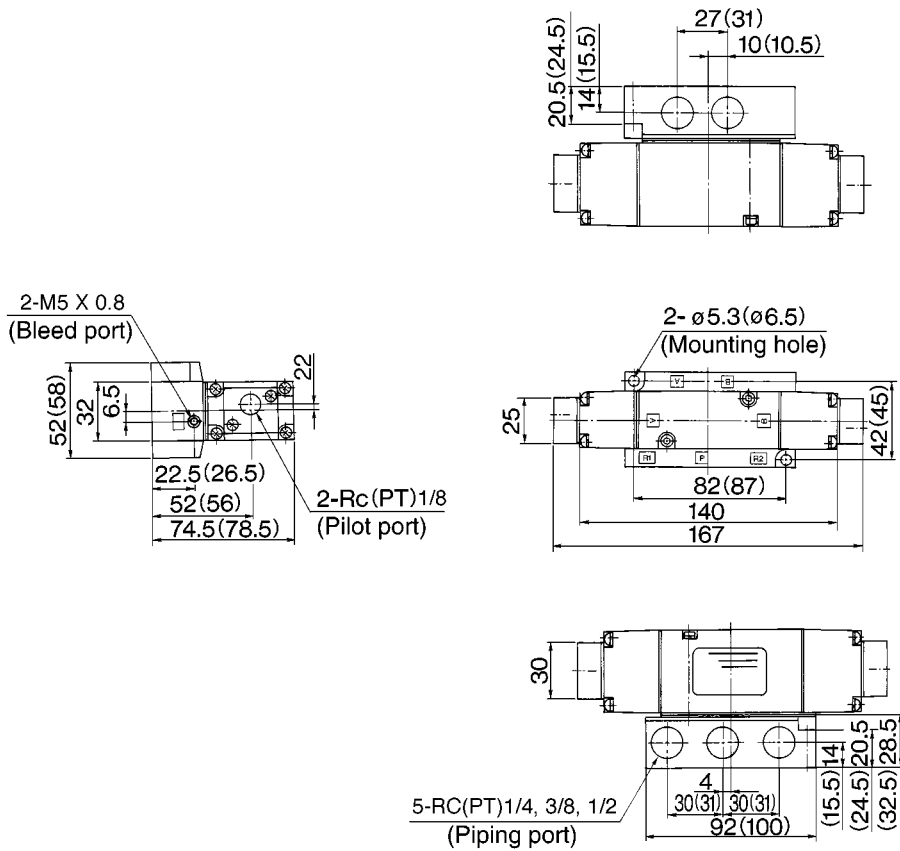
2 position double: VFA5244-<sup>02</sup><sub>03</sub><sup>04</sup>



( ): Value for Rc(PT) 1/2

## Dimensions/Base Mounted

3 position closed center/exhaust center/pressure center: VFA5  $\frac{3}{4}$  44-  $\frac{03}{04}$  -X1



( ): Value for Rc(PT) 1/2

S□A

V□A

S□A

V□A

VM/VR

VH