

# 5 Port Air Operated Valve SYA3000/5000/7000 Series

## How to Order

**A, B port size**

**Thread piping**

Symbol	Port size	Applicable series
M5	M5 x 0.8	SYA3000
O1	1/8	SYA5000
O2	1/4	SYA7000

**One-touch fitting (Inch size)**

Symbol	Port size	Applicable series
N3	One-touch fitting for $\phi 3/32$ "	SYA3000
N7	One-touch fitting for $\phi 1/4$ "	SYA3000
N3	One-touch fitting for $\phi 3/32$ "	SYA5000
N7	One-touch fitting for $\phi 1/4$ "	SYA5000
N9	One-touch fitting for $\phi 9/16$ "	SYA5000
N9	One-touch fitting for $\phi 9/16$ "	SYA7000
N11	One-touch fitting for $\phi 9/8$ "	SYA7000

**One-touch fitting (Metric size)**

Symbol	Port size	Applicable series
C4	One-touch fitting for $\phi 4$	SYA3000
C6	One-touch fitting for $\phi 6$	SYA3000
C4	One-touch fitting for $\phi 4$	SYA5000
C6	One-touch fitting for $\phi 6$	SYA5000
C8	One-touch fitting for $\phi 8$	SYA5000
C8	One-touch fitting for $\phi 8$	SYA7000
C10	One-touch fitting for $\phi 10$	SYA7000

**Series**

3	SYA3000
5	SYA5000
7	SYA7000

**Thread type**

Nil	Rc
F	G
N	NPT
T	NPTF

\* Except for M5

**Bracket**

Nil	Without bracket
F1	With foot bracket (2 position single only)
F2	With side bracket

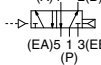
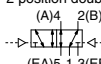
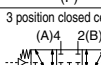
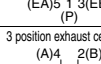
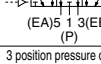
**Body ported** SYA 5 1 20 - C6 [ ] - [ ]

**Base mounted** SYA 5 1 40 - [ ] [ ]

**Series**

3	SYA3000
5	SYA5000
7	SYA7000

**Type of actuation**

1	2 position single (A)4 2(B)  (EA)5 1 3(EB) (P)
2	2 position double (A)4 2(B)  (EA)5 1 3(EB) (P)
3	3 position closed center (A)4 2(B)  (EA)5 1 3(EB) (P)
4	3 position exhaust center (A)4 2(B)  (EA)5 1 3(EB) (P)
5	3 position pressure center (A)4 2(B)  (EA)5 1 3(EB) (P)

**P, R port thread type**

Nil	Rc
F	G
N	NPT
T	NPTF

**Port size**

Symbol	Port size	Applicable series
Nil	Without sub-plate	
O1	1/8 With sub-plate	SYA3000
O2	1/4 With sub-plate	SYA5000
O2	1/4 With sub-plate	SYA7000
O3	3/8 With sub-plate	

\* Refer to the SY series [operation manual](#) for the sub-plate part number when only the sub-plate is required.

# 5 Port Air Operated Valve **SYA3000/5000/7000 Series**

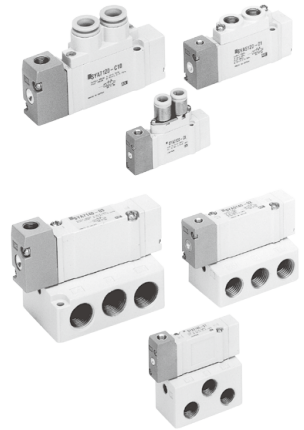
## Specifications

Fluid		Air
Operating pressure range MPa	2 position single	0.15 to 0.7
	2 position double	-100 kPa to 0.7
	3 position	-100 kPa to 0.7
Pilot pressure range MPa <small>Note 1)</small>	2 position single	$(0.7 \times P + 0.1)$ to 0.7 P: Operating pressure range
	2 position double	0.1 to 0.7
	3 position	0.2 to 0.7
Ambient and fluid temperature (°C)		-10 to 60 (No freezing.)
Manual override (Manual operation)		Non-locking push type
Lubrication		Not required
Mounting orientation		Unrestricted
Impact/Vibration resistance (m/s <sup>2</sup> ) <small>Note 2)</small>		150/30

Note 1) In case of single type, be certain that pressure within operating pressure range be supplied to supply port, because return pressure is introduced from supply port {1(P)} for activation.

Note 2) Impact resistance: No malfunction resulted from the impact test using a drop impact tester. The test was performed on the axis and right angle directions of the main valve and armature, when pilot signal is ON and OFF. (Value in the initial state)

Vibration resistance: No malfunction occurred in one sweep test between 45 and 2000 Hz. Test was performed to axis and right angle directions of the main valve and armature when pilot signal is ON and OFF. (Value in the initial state)



## ⚠ Caution

**Be sure to read this before handling the products.  
Refer to page 8 for safety instructions and pages 9  
to 15 for 3/4/5 port solenoid valve precautions.**

## How to Order Manifold Base

Same manifolds as SY series (Non plug-in type) are prepared.  
(For 20, 41, 42 and 45 Types)

**SS5YA<sup>3</sup><sub>5</sub><sup>7</sup>** — Fill the same as SS5Y<sup>3</sup><sub>5</sub><sup>7</sup>.

For details, refer to the SY series  
([Web Catalog](#)).

\* Specify the part numbers for valves and options together  
beneath the manifold base part number.

<Example>

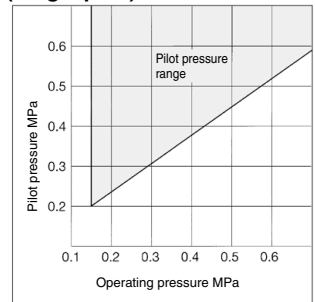
- SS5YA5-42-03-02** 1 set (Type 42, 3 station manifold base part no.)
- \* SYA5140 1 set (Single air operated valve part no.)
- \* SYA5240 1 set (Double air operated valve part no.)
- \* SY5000-26-20A 1 set (Blanking plate assembly part no.)

└ The asterisk denotes the symbol for assembly.

Prefix it to the part nos. of the solenoid valve, etc.

Note) When single body ported air operated valves are ordered, manifold mounting screws and gaskets are not included. Order them separately if necessary.  
For details, refer to the SY series ([Web Catalog](#)).

## Pilot Pressure Range (Single pilot)



# SYA3000/5000/7000 Series

## Flow Rate Characteristics/Weight

### Model/SYA3□20 Series (Body ported)

Valve model	Type of actuation		Pilot port size	Port size		Flow rate characteristics						Weight (g)					
						1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)								
						P, EA, EB	A, B	C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]		b	Cv			
SYA3□20-M5	2 position	Single	M5 x 0.8	M5 x 0.8	M5 x 0.8	C4 (One-touch fitting for ø4)	0.61	0.44	0.16	0.64	0.45	0.18	35				
		Double					0.48	0.46	0.13	0.47	0.43	0.13	37				
	3 position	Exhaust center					0.47	0.42	0.13	0.47 [0.44]	0.41 [0.37]	0.13 [0.12]	39				
		Pressure center					0.50 [0.41]	0.48 [0.35]	0.15 [0.11]	0.47	0.43	0.13					
SYA3□20-C4	2 position	Single					M5 x 0.8	M5 x 0.8	C4 (One-touch fitting for ø4)	0.72	0.29	0.18		0.64	0.34	0.17	44
		Double								0.59	0.28	0.15		0.59	0.30	0.15	46
	3 position	Exhaust center								0.63	0.35	0.16	0.42 [0.41]	0.34 [0.37]	0.11 [0.11]	48	
		Pressure center								0.76 [0.46]	0.42 [0.34]	0.21 [0.12]	0.59	0.29	0.15		
SYA3□20-C6	2 position	Single	M5 x 0.8	M5 x 0.8	C6 (One-touch fitting for ø6)	0.76				0.30	0.19	0.65	0.39	0.17	40		
		Double				0.76				0.55	0.24	0.60	0.33	0.16	42		
	3 position	Exhaust center				0.65				0.32	0.16	0.64 [0.42]	0.31 [0.36]	0.17 [0.11]	44		
		Pressure center				0.77 [0.49]				0.34 [0.43]	0.21 [0.15]	0.61	0.34	0.16			

Note) [ ]: denotes normal position.

### Model/SYA3□40 Series (Base mounted)

Valve model	Type of actuation		Pilot port size	Port size	Flow rate characteristics <sup>Note 1)</sup>						Weight <sup>Note 2)</sup> (g)
					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	
SYA3□40-01□	2 position	Single	M5 x 0.8	1/8	1.0	0.30	0.24	1.1	0.30	0.26	69 (34)
		Double			0.77	0.28	0.18	0.85	0.30	0.19	71 (36)
	3 position	Exhaust center			0.73	0.31	0.18	1.1 [0.55]	0.26 [0.52]	0.24 [0.16]	73 (38)
		Pressure center			1.2 [0.51]	0.24 [0.45]	0.29 [0.14]	0.89	0.47	0.24	

Note 1) [ ]: denotes normal position.

Note 2) ( ): Without sub-plate.

# 5 Port Air Operated Valve **SYA3000/5000/7000 Series**

## Flow Rate Characteristics/Weight

### Model/SYA5□20 Series (Body ported)

Valve model	Type of actuation	Pilot port size	Port size		Flow rate characteristics						Weight (g)	
					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		
SYA5□20-01□	2 position	Single Double	M5 x 0.8	1/8	C4	1.9	0.35	0.49	2.4	0.39	0.61	58
						1.7	0.43	0.45	1.8	0.35	0.46	64
	3 position	Closed center				1.5	0.44	0.41	2.5 [1.5]	0.32 [0.43]	0.59 [0.40]	69
		Exhaust center Pressure center				2.2 [0.91]	0.46 [0.58]	0.61 [0.28]	1.8	0.38	0.46	
SYA5□20-C4	2 position	Single Double	M5 x 0.8	1/8	C4 (One-touch fitting for ø4)	0.75	0.43	0.20	0.85	0.64	0.30	82
						0.74	0.40	0.19	0.84	0.57	0.28	87
	3 position	Closed center				0.75	0.36	0.19	0.84 [0.84]	0.64 [0.53]	0.30 [0.27]	93
		Exhaust center Pressure center				0.78 [0.71]	0.44 [0.37]	0.21 [0.18]	0.84	0.57	0.27	
SYA5□20-C6	2 position	Single Double	M5 x 0.8	1/8	C6 (One-touch fitting for ø6)	1.5	0.33	0.33	2.0	0.37	0.52	76
						1.3	0.31	0.33	1.6	0.32	0.39	82
	3 position	Closed center				1.3	0.33	0.33	1.8 [1.4]	0.35 [0.37]	0.44 [0.35]	87
		Exhaust center Pressure center				1.7 [0.80]	0.31 [0.47]	0.42 [0.23]	1.7	0.33	0.44	
SYA5□20-C8	2 position	Single Double	M5 x 0.8	1/8	C8 (One-touch fitting for ø8)	1.9	0.21	0.45	2.3	0.29	0.57	68
						1.6	0.29	0.39	1.7	0.38	0.46	74
	3 position	Closed center				1.4	0.38	0.39	2.0 [1.5]	0.37 [0.40]	0.52 [0.43]	79
		Exhaust center Pressure center				2.2 [1.6]	0.32 [0.44]	0.56 [0.44]	1.8	0.41	0.50	

Note 1) [ ]: denotes normal position.

### Model/SYA5□40 Series (Base mounted)

Valve model	Type of actuation	Pilot port size	Port size	Flow rate characteristics <sup>Note 1)</sup>						Weight <sup>Note 2)</sup> (g)	
				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		
SYA5□40-02□	2 position	Single Double	M5 x 0.8	1/4	2.4	0.41	0.64	2.8	0.29	0.66	105 (42)
					1.8	0.47	0.50	1.8	0.40	0.47	110 (47)
	3 position	Closed center			1.4	0.55	0.44	3.0 [1.2]	0.33 [0.48]	0.72 [0.37]	115 (52)
		Exhaust center Pressure center			3.3 [0.84]	0.36 [0.60]	0.85 [0.28]	1.8	0.40	0.48	

Note 1) [ ]: denotes the normal position.

Note 2) ( ): denotes without sub-plate.

### Model/SYA7□20 Series (Body ported)

Valve model	Type of actuation	Pilot port size	Port size		Flow rate characteristics						Weight (g)	
					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		
SYA7□20-02□	2 position	Single Double	M5 x 0.8	1/4	C8	4.1	0.23	0.93	3.3	0.33	0.81	94
						2.9	0.31	0.70	2.4	0.38	0.63	100
	3 position	Closed center				2.5	0.39	0.65	3.4 [2.1]	0.35 [0.38]	0.82 [0.54]	110
		Exhaust center Pressure center				4.3 [2.4]	0.23 [0.32]	0.97 [0.61]	2.2	0.39	0.58	
SYA7□20-C8	2 position	Single Double	M5 x 0.8	1/4	C8 (One-touch fitting for ø8)	3.2	0.26	0.77	3.2	0.37	0.82	100
						2.6	0.24	0.63	2.4	0.31	0.62	106
	3 position	Closed center				2.4	0.25	0.57	2.6 [1.9]	0.42 [0.46]	0.70 [0.56]	116
		Exhaust center Pressure center				3.3 [2.4]	0.28 [0.22]	0.78 [0.57]	2.2	0.34	0.60	
SYA7□20-C10	2 position	Single Double	M5 x 0.8	3/8	C10 (One-touch fitting for ø10)	3.8	0.26	0.86	3.2	0.34	0.82	97
						2.8	0.27	0.67	2.4	0.21	0.59	103
	3 position	Closed center				2.5	0.25	0.59	2.7 [2.0]	0.38 [0.38]	0.70 [0.56]	113
		Exhaust center Pressure center				3.8 [2.4]	0.25 [0.31]	0.89 [0.61]	2.3	0.38	0.61	

Note 1) [ ]: denotes normal position.

### Model/SYA7□40 Series (Base mounted)

Valve model	Type of actuation	Pilot port size	Port size	Flow rate characteristics <sup>Note 1)</sup>						Weight <sup>Note 2)</sup> (g)		
				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			
SYA7□40-02□	2 position	Single Double	M5 x 0.8	1/4	4.1	0.41	1.1	4.1	0.29	1.0	202 (73)	
					3.0	0.43	0.80	2.6	0.41	0.72	210 (81)	
	3 position	Closed center			2.6	0.42	0.71	4.7 [1.7]	0.35 [0.48]	1.1 [0.49]	218 (89)	
		Exhaust center Pressure center			5.3 [2.3]	0.39 [0.49]	1.3 [0.65]	2.2	0.49	0.63		
SYA7□40-03	2 position	Single Double	M5 x 0.8	3/8	C10	4.9	0.29	1.2	4.5	0.27	1.1	202 (73)
						3.0	0.40	0.80	2.6	0.45	0.73	210 (81)
	3 position	Closed center				2.6	0.42	0.71	4.8 [1.7]	0.35 [0.48]	1.1 [0.49]	218 (89)
		Exhaust center Pressure center				5.3 [2.3]	0.31 [0.51]	1.3 [0.64]	2.3	0.45	0.66	

Note 1) [ ]: denotes the normal position.

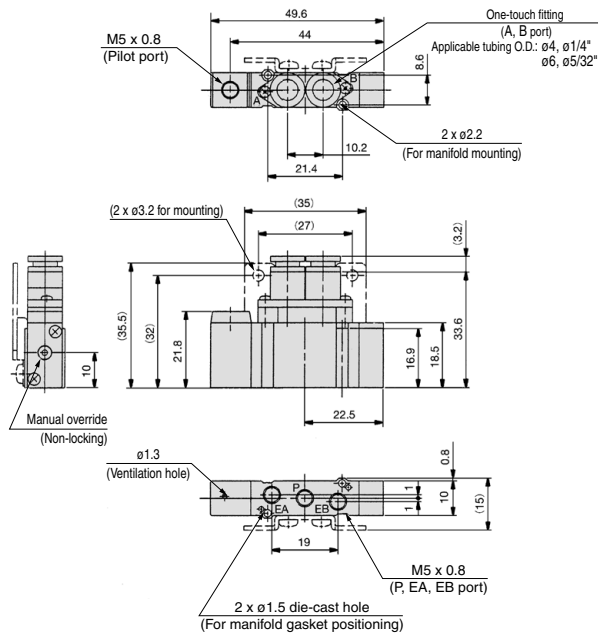
Note 2) ( ): denotes without sub-plate.

# SYA3000/5000/7000 Series

## Dimensions/SYA3000 Series: Body Ported

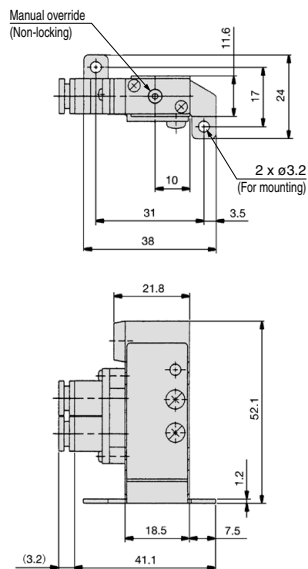
### 2 position single

SYA3120-C4, N3 (-F2)  
C6, N7

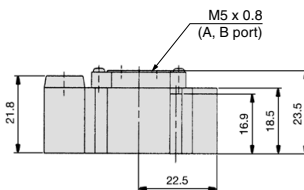


### Foot bracket

SYA3120-C4, N3 (-F1)  
C6, N7



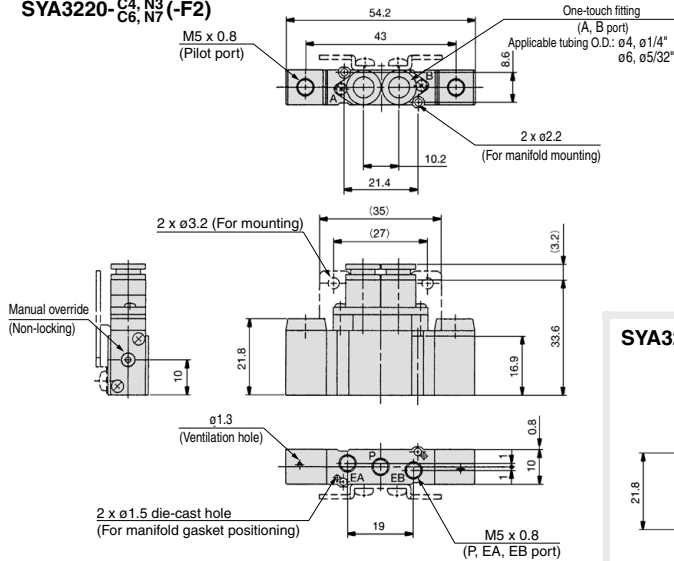
### SYA3120-M5



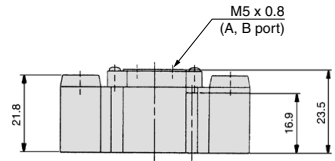
## Dimensions/SYA3000 Series: Body Ported

### 2 position double

#### SYA3220-C4, N3 (-F2) C6, N7

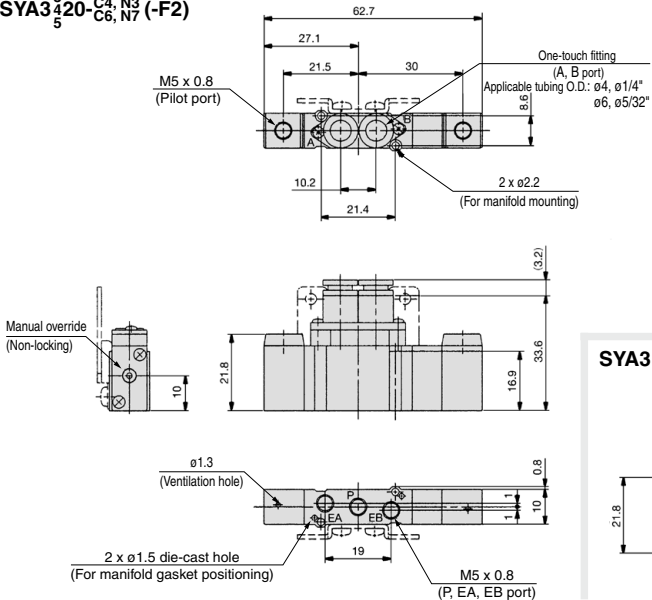


#### SYA3220-M5

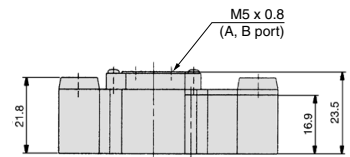


### 3 position closed center / exhaust center / pressure center

#### SYA3420-C4, N3 (-F2) C6, N7



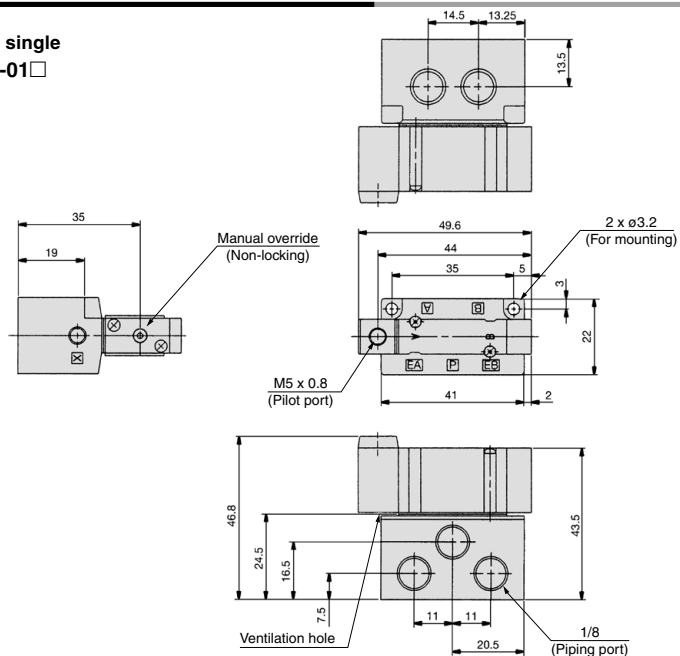
#### SYA3420-M5



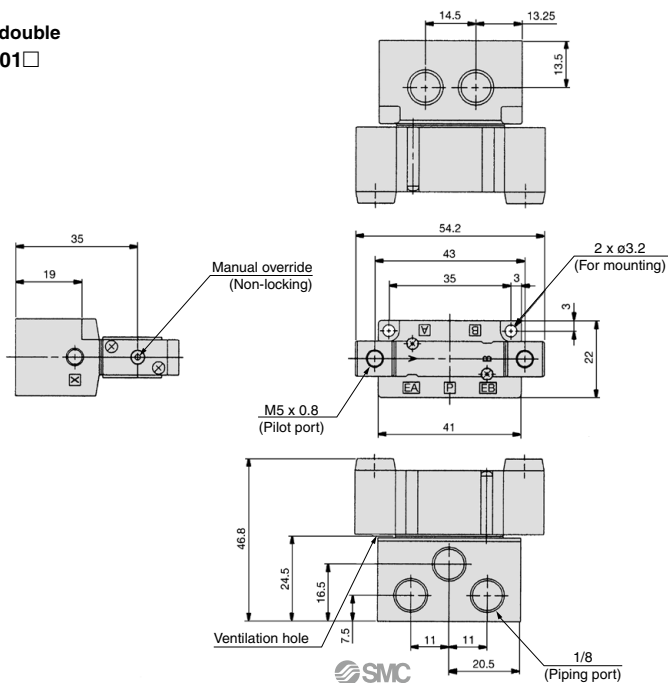
# SYA3000/5000/7000 Series

## Dimensions/SYA3000 Series: Base Mounted

2 position single  
SYA3140-01□



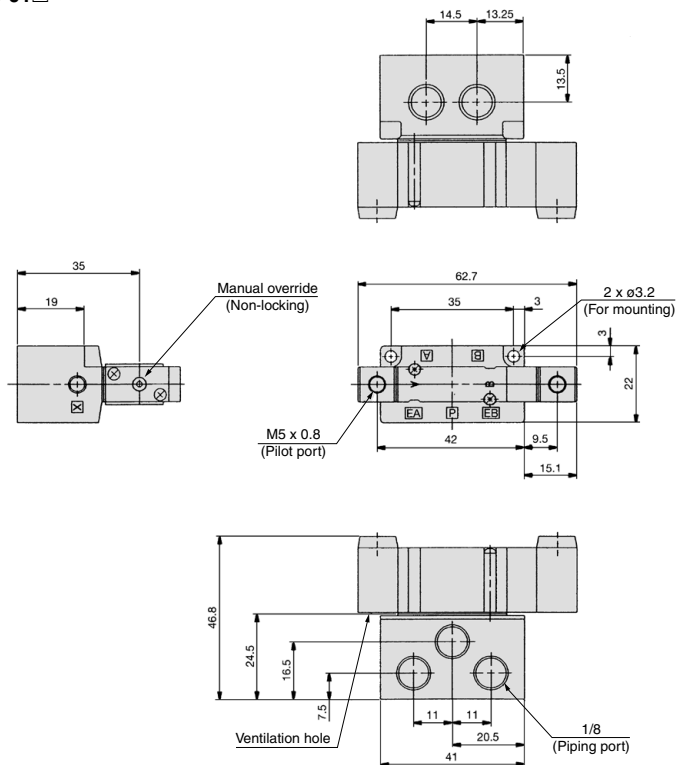
2 position double  
SYA3240-01□



**Dimensions/SYA3000 Series: Base Mounted**

3 position closed center / exhaust center / pressure center

SYA3<sup>3</sup><sub>4</sub>40-01□  
5



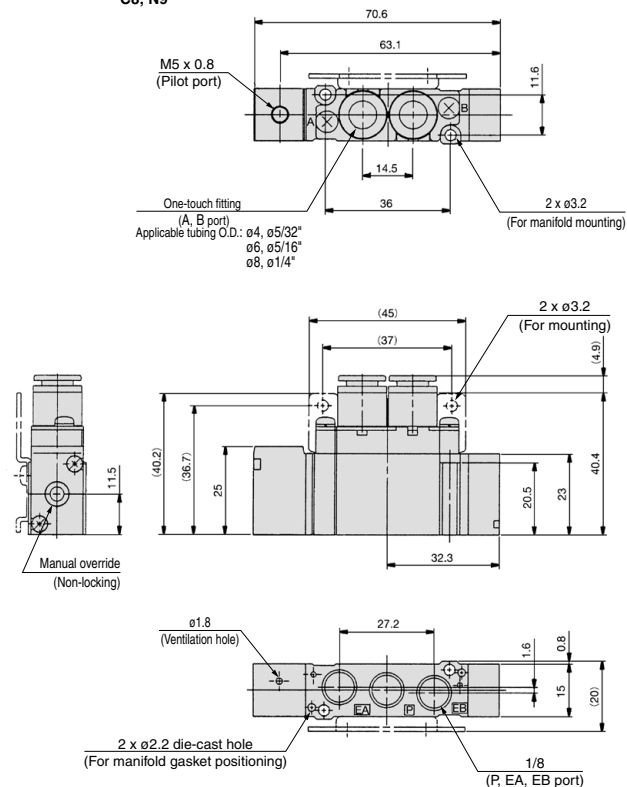


# SYA3000/5000/7000 Series

## Dimensions/SYA5000 Series: Body Ported

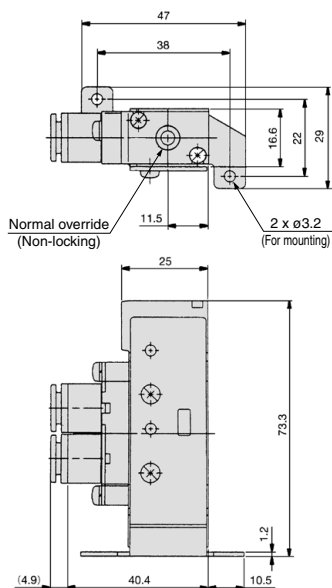
### 2 position single

SYA5120-C4, N3  
C6, N7 □ (-F2)  
C8, N9

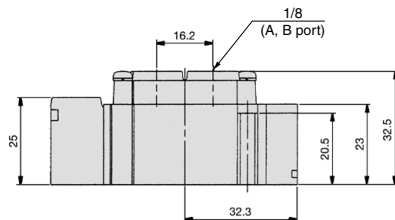


### Foot bracket

SYA5120-C4, N3  
C6, N7 □ (-F1)  
C8, N9



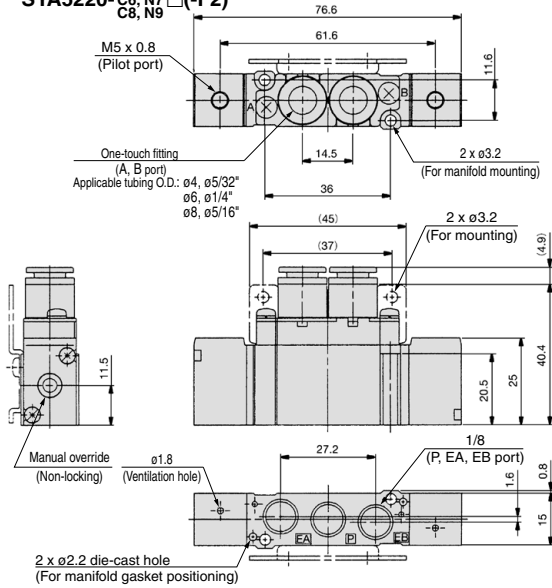
### SYA5120-01 □



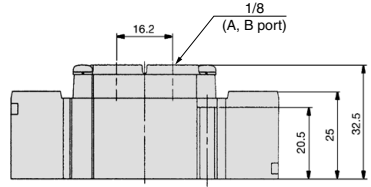
## Dimensions/SYA5000 Series: Body Ported

**2 position double**

**SYA5220-01** □ (-F2)

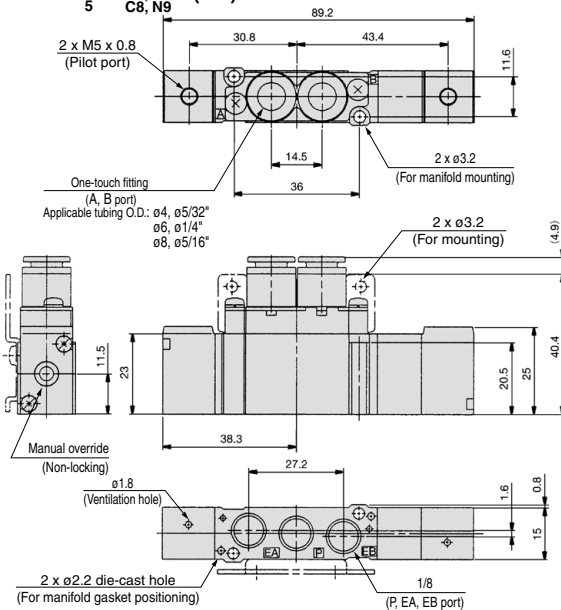


**SYA5220-01** □

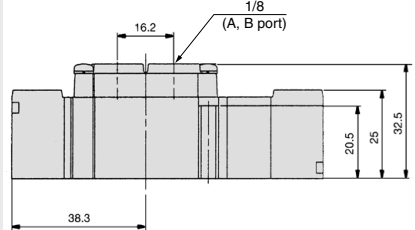


**3 position closed center / exhaust center / pressure center**

**SYA5420-01** □ (-F2)



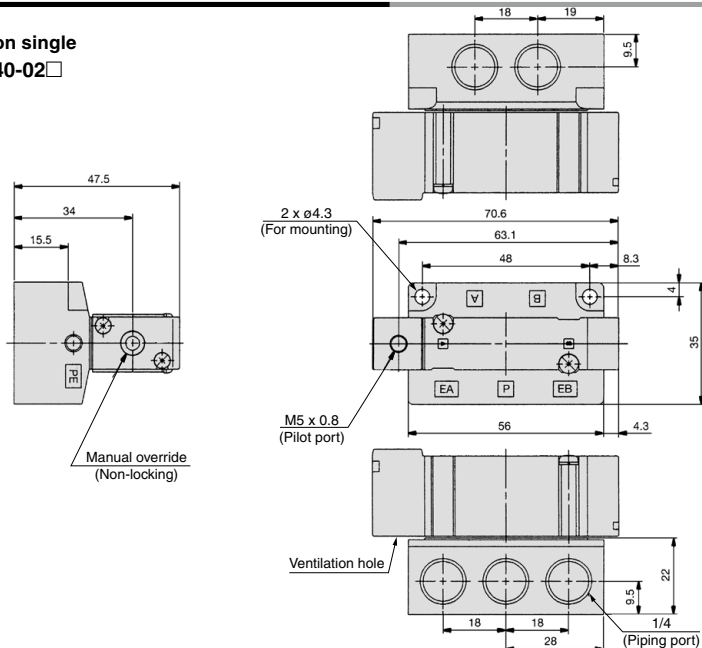
**SYA5420-01** □



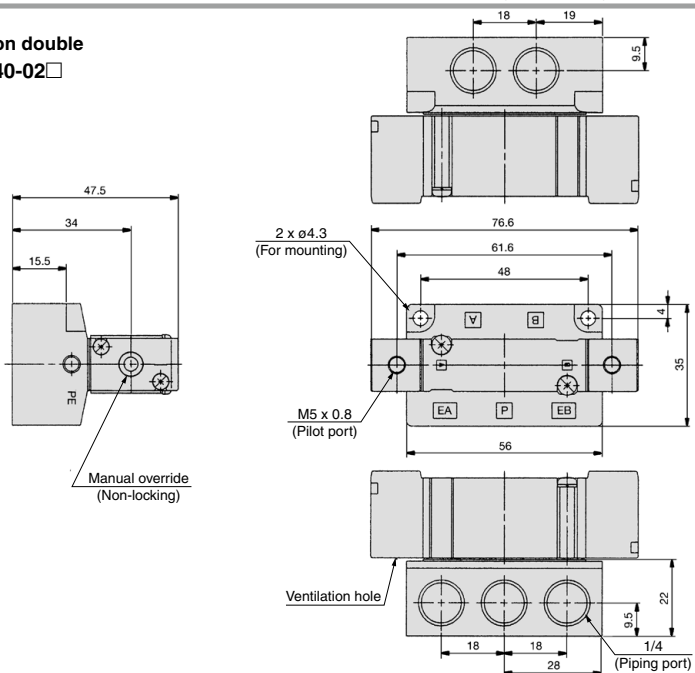
# SYA3000/5000/7000 Series

## Dimensions/SYA5000 Series: Base Mounted

### 2 position single SYA5140-02□



### 2 position double SYA5240-02□

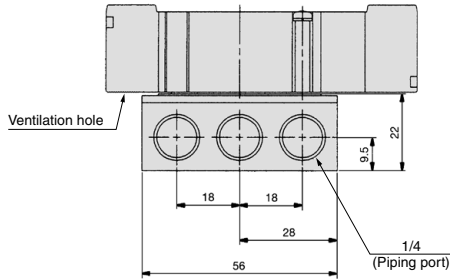
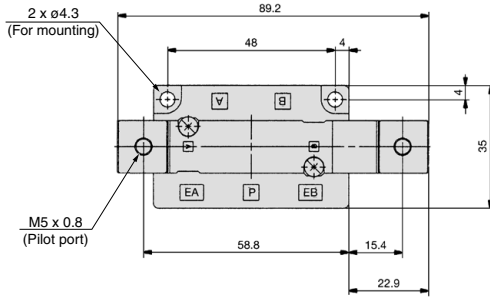
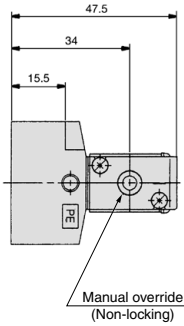
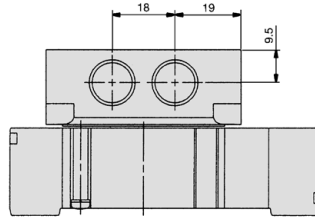


# 5 Port Air Operated Valve **SYA3000/5000/7000 Series**

## Dimensions/SYA5000 Series: Base Mounted

3 position closed center / exhaust center / pressure center

SYA<sup>3</sup><sub>5</sub>440-02□

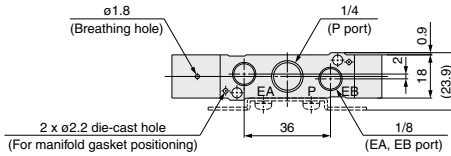
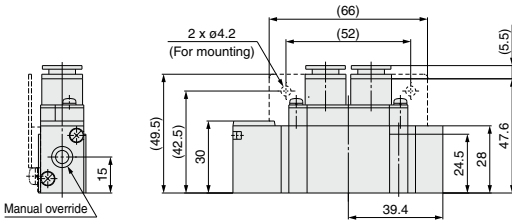
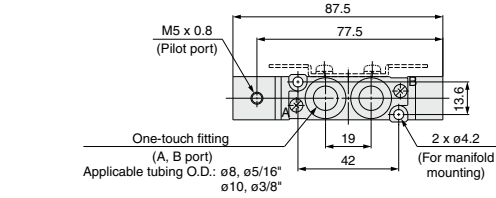


# SYA3000/5000/7000 Series

## Dimensions/SYA7000 Series: Body Ported

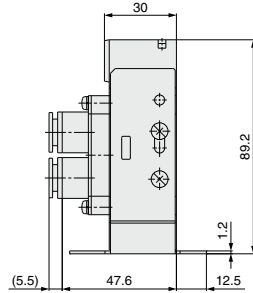
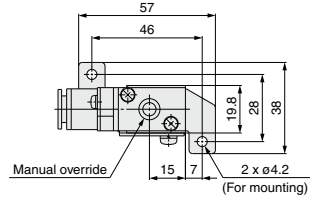
### 2 position single

SYA7120-C<sub>8</sub>, N<sub>9</sub>  
C<sub>10</sub>, N<sub>11</sub> □ (-F2)

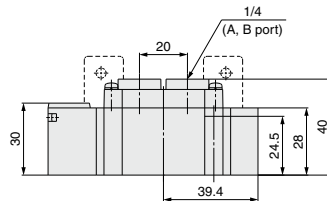


### Foot bracket

SYA7120-C<sub>8</sub>, N<sub>9</sub>  
C<sub>10</sub>, N<sub>11</sub> □ (-F1)



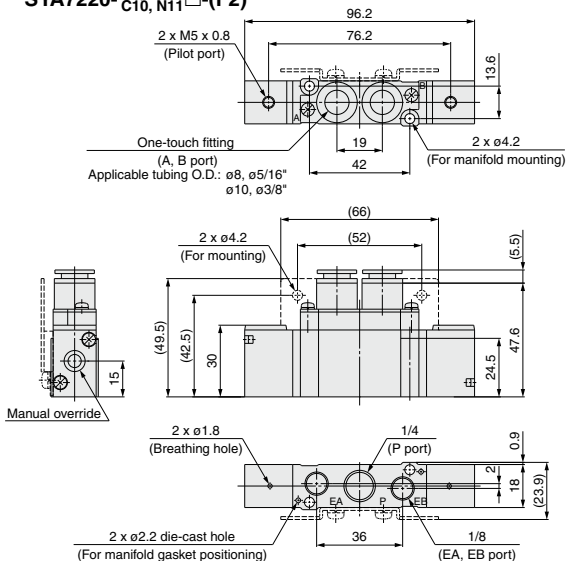
### SYA7120-02 □ (-F2)



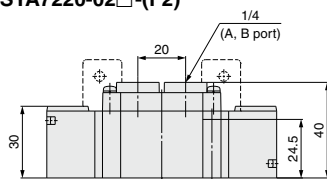
## Dimensions/SYA7000 Series: Body Ported

### 2 position double

#### SYA7220-C<sub>8, N<sub>9</sub></sub>-□-(F2) C<sub>10, N<sub>11</sub></sub>-□-(F2)

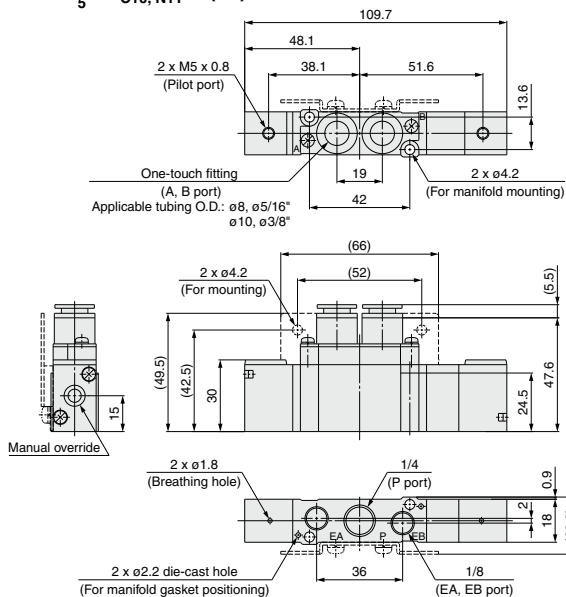


#### SYA7220-02□-(F2)

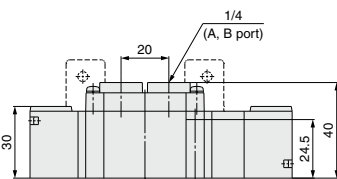


### 3 position closed center / exhaust center / pressure center

#### SYA7<sup>3</sup>/<sub>5</sub>20-C<sub>8, N<sub>9</sub></sub>-□-(F2) C<sub>10, N<sub>11</sub></sub>-□-(F2)



#### SYA7<sup>3</sup>/<sub>5</sub>20-02□-(F2)

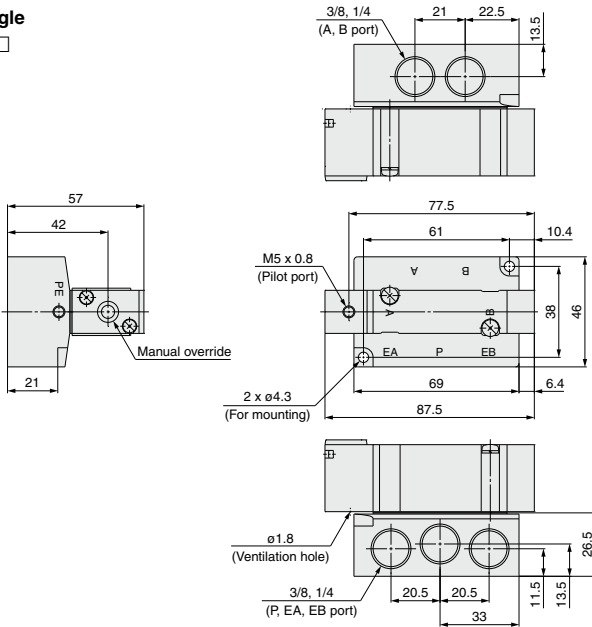


# SYA3000/5000/7000 Series

## Dimensions/SYA7000 Series: Base Mounted

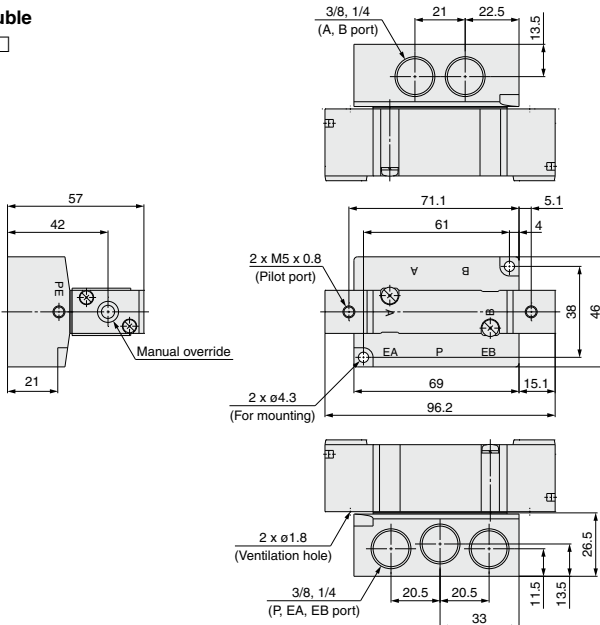
### 2 position single

SYA7140-<sup>02</sup>/<sub>03</sub> □



### 2 position double

SYA7240-<sup>02</sup>/<sub>03</sub> □



**Dimensions/SYA7000 Series: Base Mounted**

3 position closed center / exhaust center / pressure center

SYA7<sup>3</sup><sub>5</sub>40-<sup>02</sup><sub>03</sub> □

