

# 5 Port Operated Valve

## Series **SYA3000/5000/7000**

### Features

- ➔ Modular 5 port air pilot valves.
- ➔ Competitive flow figures.
- ➔ Choice of body ported or base mounted.
- ➔ Can be manifold mounted.
- ➔ May be mixed with solenoid operated versions.
- ➔ Threaded or one-touch fitting cylinder ports.



Valves

### How to Order

Series	
3	SYA3000
5	SYA5000
7	SYA7000

Body ported valve	A, B port size Thread piping		
	Symbol	Port size	Applicable series
	M5	M5	SYA3000
	O1	1/8	SYA5000
	O2	1/4	SYA7000

Body ported valve	One-touch fitting (Metric size)		
	Symbol	Port size	Applicable series
	C4	One-touch fitting for ø4	SYA3000
	C6	One-touch fitting for ø6	SYA3000
	C4	One-touch fitting for ø4	SYA5000
	C6	One-touch fitting for ø6	SYA5000
	C8	One-touch fitting for ø8	SYA5000
	C8	One-touch fitting for ø8	SYA7000
	C10	One-touch fitting for ø10	SYA7000

Body ported **SYA 5 1 20-C6 F**

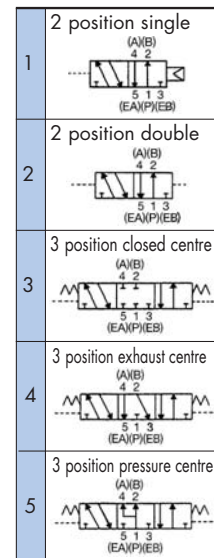
Base mounted **SYA 5 1 40-□**

Type of actuation	
1	2 position single
2	2 position double
3	3 position closed centre
4	3 position exhaust centre
5	3 position pressure centre

Port size		
Symbol	Port size	Applicable series
Nil	Without sub-plate	
O1F	1/8 With sub-plate	SYA3000
O2F	1/4 With sub-plate	SYA5000 SYA7000
O3F	3/8 With sub-plate	SYA7000
O0F	Without sub-plate G Thread pilot	SYA7000

P, R port thread type	
F	G
	Not SY300.

### Symbols



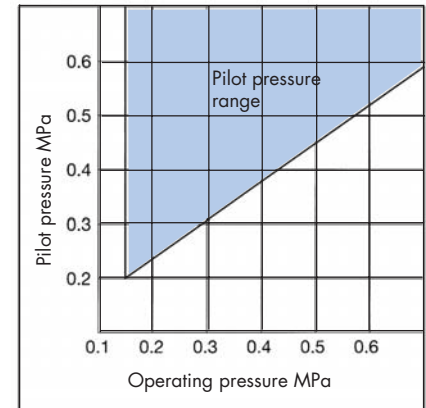
### Accessories

Side mounting bracket and foot mounting brackets for body ported types are common to solenoid operated SY valves. See that section for details and part numbers.

### Specifications

Fluid		Air	
Operating pressure range MPa	2 position single	0.15 to 0.7	
	2 position double	0.1 to 0.7	
	3 position	0.2 to 0.7	
Pilot pressure range MPa	2 position single	See the next chart	
	2 position double	0.1 to 0.7	
	3 position	0.2 to 0.7	
Ambient and fluid temperature (°C)		Max. 60	
Manual override (Manual operation)		Non-locking push type	
Lubrication		Not required	
Mounting orientation		Unrestricted	

### Pilot Pressure Range (Single pilot)



### Flow Characteristics/Weight

#### Model/Series SYA3000

Valve model	Type of actuation		Pilot port size (Nominal size)	Port size		Flow 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])	
SYA3□20-C4 (Body Ported)	2 position	Single	M5	M5	C4 (One-touch fitting for ø4)	C	b	Cv	C	b	Cv	44
		Double										46
	3 position	Closed centre				0.59	0.28	0.15	0.59	0.30	0.15	48
		Exhaust centre				0.63	0.35	0.16	0.42	0.34	0.11	
	Pressure centre	0.76	0.42	0.21	0.59	0.29	0.15					

Valve model	Type of actuation		Pilot port size (Nominal size)	Port size		Flow characteristics <sup>Note 1)</sup>						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])	
SYA3□40-01 (Base mounted)	2 position	Single	M5	1/8	C	b	Cv	C	b	Cv	69	
		Double									71	
	3 position	Closed centre				0.77	0.28	0.18	0.85	0.30	0.19	73
		Exhaust centre				0.73	0.31	0.18	1.1	0.26	0.24	
	Pressure centre	1.2	0.24	0.29	0.89	0.47	0.24					

Note) [ ]: Flow and mass differ slightly for M5 and C6 ported version.

#### Model/Series SYA5000

Valve model	Type of actuation		Pilot port size (Nominal size)	Port size		Flow characteristics <sup>Note)</sup>						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])	
SYA5□20-C6 (Body Ported)	2 position	Single	M5	1/8	C6 (One-touch fitting for ø6)	C	b	Cv	C	b	Cv	76
		Double										82
	3 position	Closed centre				1.3	0.31	0.33	1.6	0.32	0.39	87
		Exhaust centre				1.3	0.33	0.33	1.8 [1.4]	0.35 [0.37]	0.44 [0.35]	
	Pressure centre	1.7 [0.80]	0.31 [0.47]	0.42 [0.23]	1.7	0.33	0.44					

Valve model	Type of actuation		Pilot port size (Nominal size)	Port size		Flow characteristics <sup>Note 1)</sup>						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])	
SYA5□40-02 (Base mounted)	2 position	Single	M5	1/4	C	b	Cv	C	b	Cv	105	
		Double									110	
	3 position	Closed centre				1.8	0.47	0.50	1.8	0.40	0.47	115
		Exhaust centre				1.4	0.55	0.44	3.0 [1.2]	0.33 [0.48]	0.72 [0.37]	
	Pressure centre	3.3 [0.84]	0.36 [0.60]	0.85 [0.28]	1.8	0.40	0.48					

Note) [ ]: Flow and mass differ slightly for 01, C4 and C8 ported version.

## Flow Characteristics/Weight

### Model/Series SYA7000

Valve model	Type of actuation		Pilot port size (Nominal size)	Port size		Flow 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	C <sub>v</sub>	C [dm <sup>3</sup> /(s·bar)]	
SYA7□20-C8	2 position	Single	1/8	P port: 1/4	C8	3.2	0.26	0.77	3.2	0.37	0.82	138
		Double				2.6	0.24	0.63	2.4	0.31	0.62	183
	3 position	Closed center		EA, EB port: 1/8	(One-touch fitting for ø8)	2.4	0.25	0.57	2.6	0.42	0.70	192
		Exhaust center				3.3	0.28	0.78	2.2	0.34	0.60	

Valve model	Type of actuation		Pilot port size (Nominal size)	Port size	Flow 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	C <sub>v</sub>	C [dm <sup>3</sup> /(s·bar)]	b	C <sub>v</sub>		
SYA7□40-02	2 position	Single	1/8	1/4	4.1	0.41	1.1	4.1	0.29	1.0	240	
		Double			3.0	0.43	0.80	2.6	0.41	0.72	286	
	3 position	Closed center				2.6	0.42	0.71	4.7	0.35	1.1	294
		Exhaust center				5.3	0.39	1.3	2.2	0.49	0.63	

Note) [ ]: Flow and mass differ slightly for 02, C10 and 03 ported versions.

## Note

Manifold and single sub-bases:

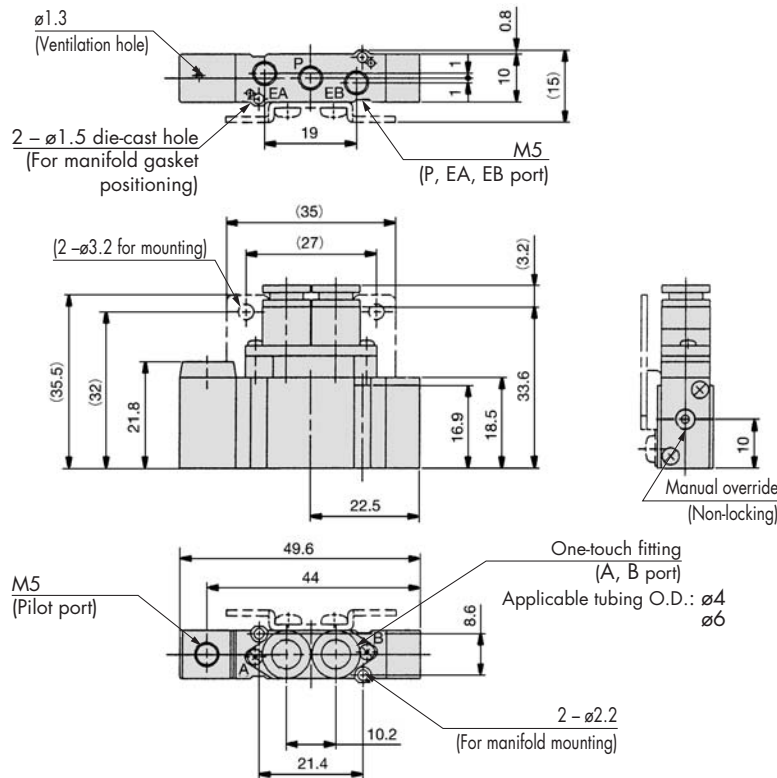
The SYA valves are the same manifolds and sub-bases as the solenoid operated SY series. See that series for information and ordering information.

## Dimensions

### Series SYA3000: Body Ported

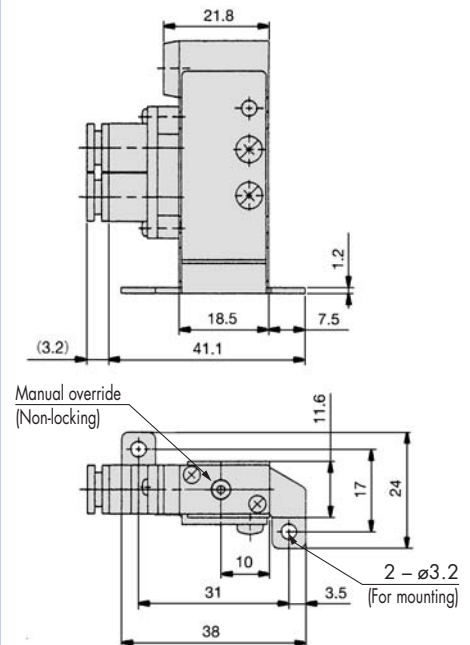
2 position single

SYA3120-C<sub>4</sub>  
C<sub>6</sub>

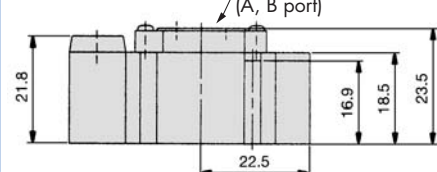


### Foot bracket

SYA3120-C<sub>4</sub>  
C<sub>6</sub>



SYA3120-M5



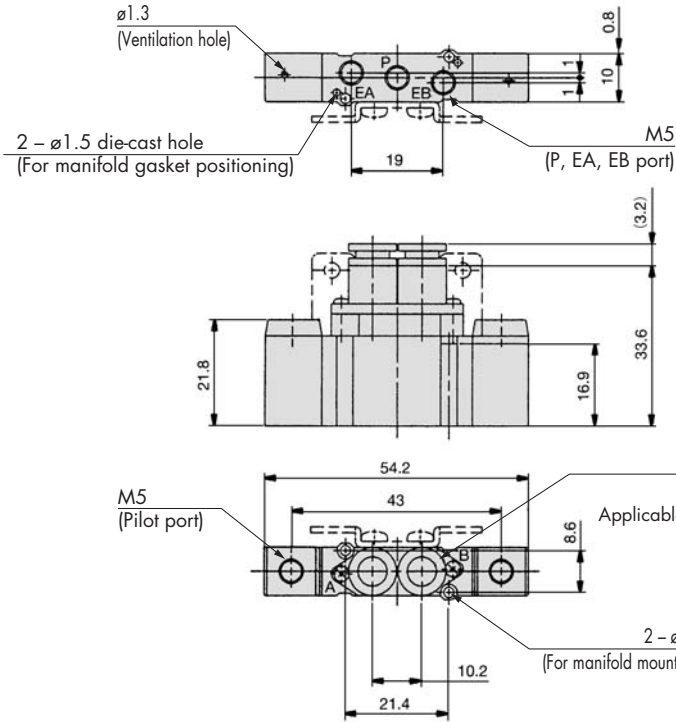
# Series SYA 5 Port Air Operated Valve

## Dimensions:

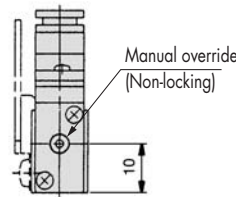
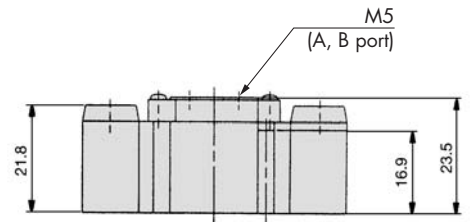
### Series SYA3000: Body Ported

2 position double

SYA3220-C<sub>4</sub>  
C<sub>6</sub>

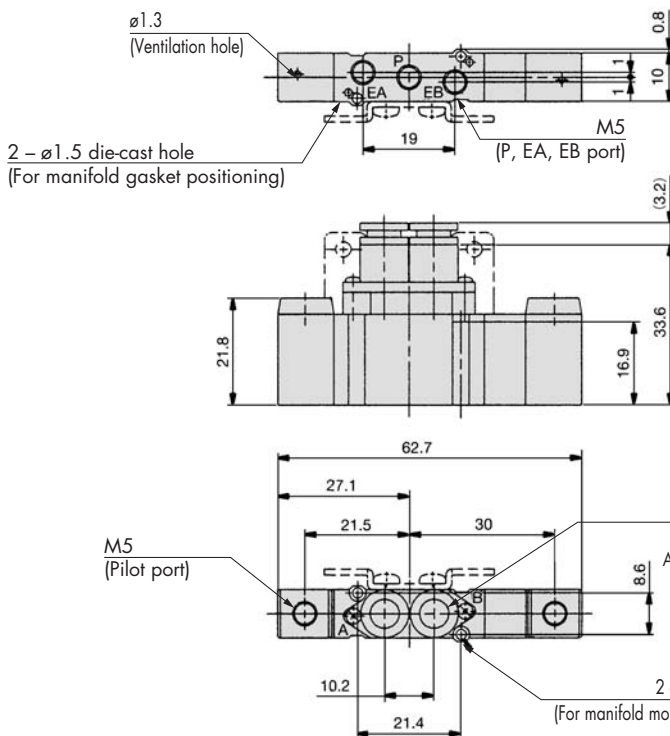


### SYA3220-M5

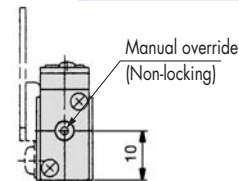
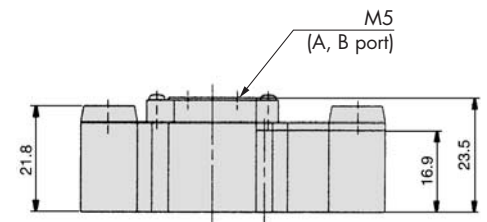


### 3 position closed centre/exhaust centre/pressure centre

SYA3<sup>3</sup>/<sub>4</sub>20-C<sub>4</sub>  
C<sub>6</sub>



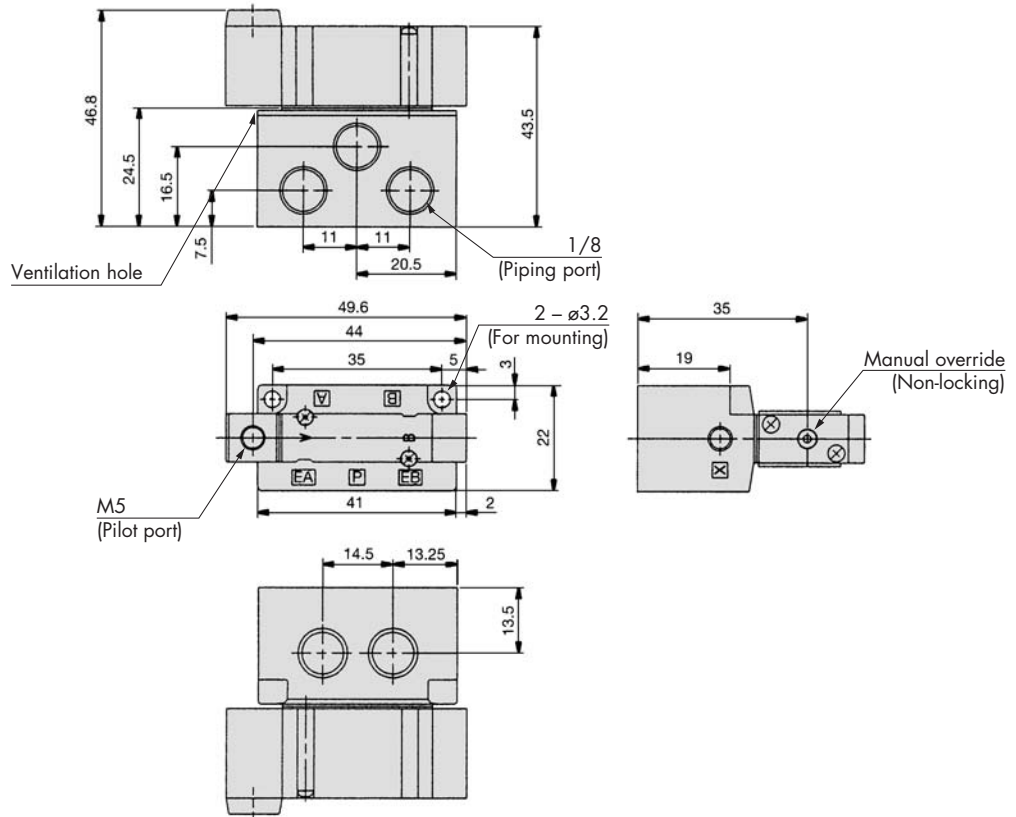
### SYA3<sup>3</sup>/<sub>4</sub>20-M5



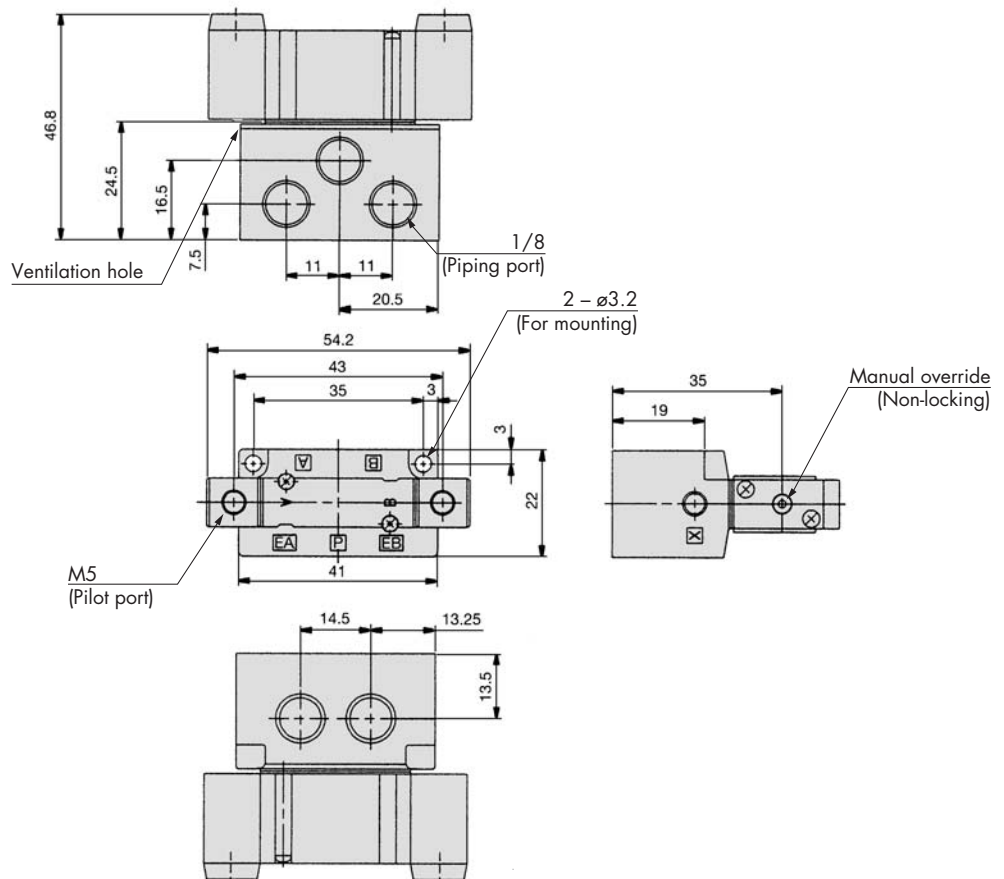
Dimensions:

Series SYA3000: Base Mounted

2 position single  
SYA3140-01□



2 position double  
SYA3240-01□

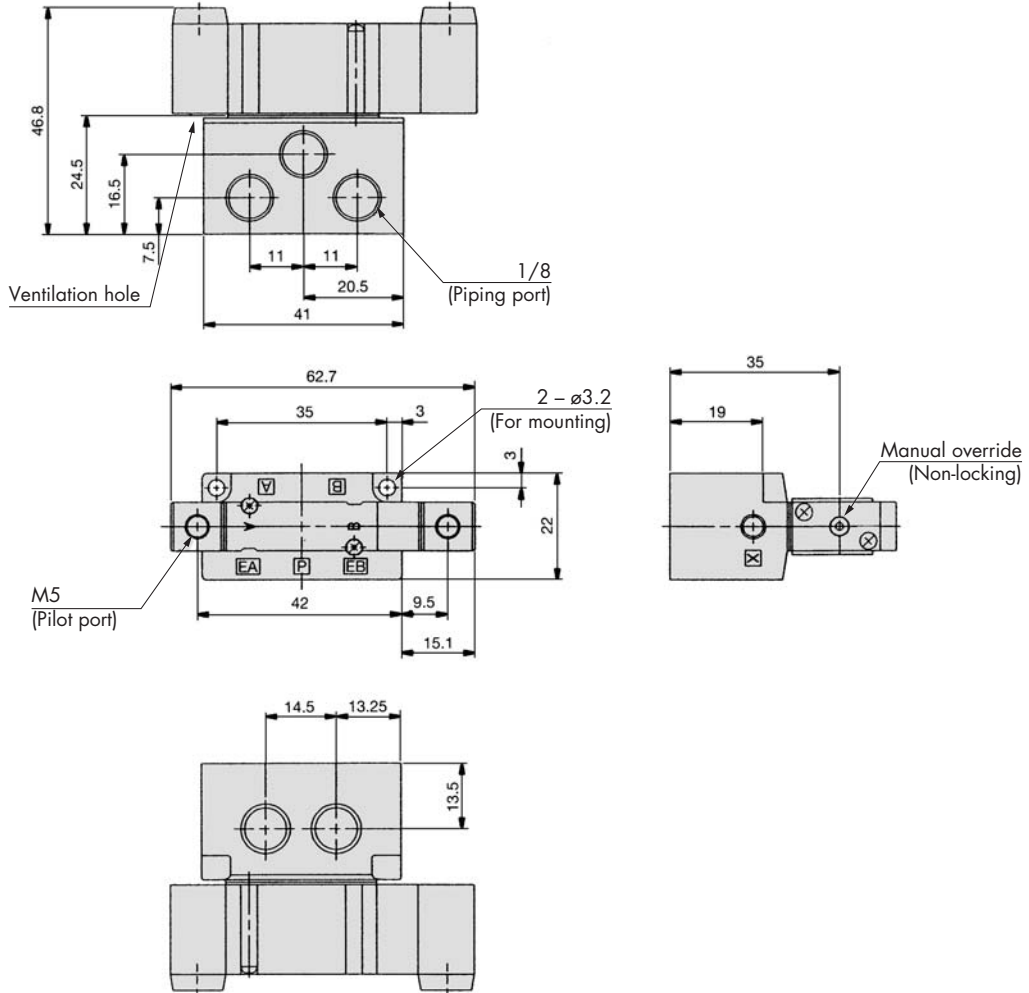


Dimensions:

Series SYA3000: Base Mounted

3 position closed centre/exhaust centre/pressure centre

SYA3  $\frac{3}{4}$  40-01□



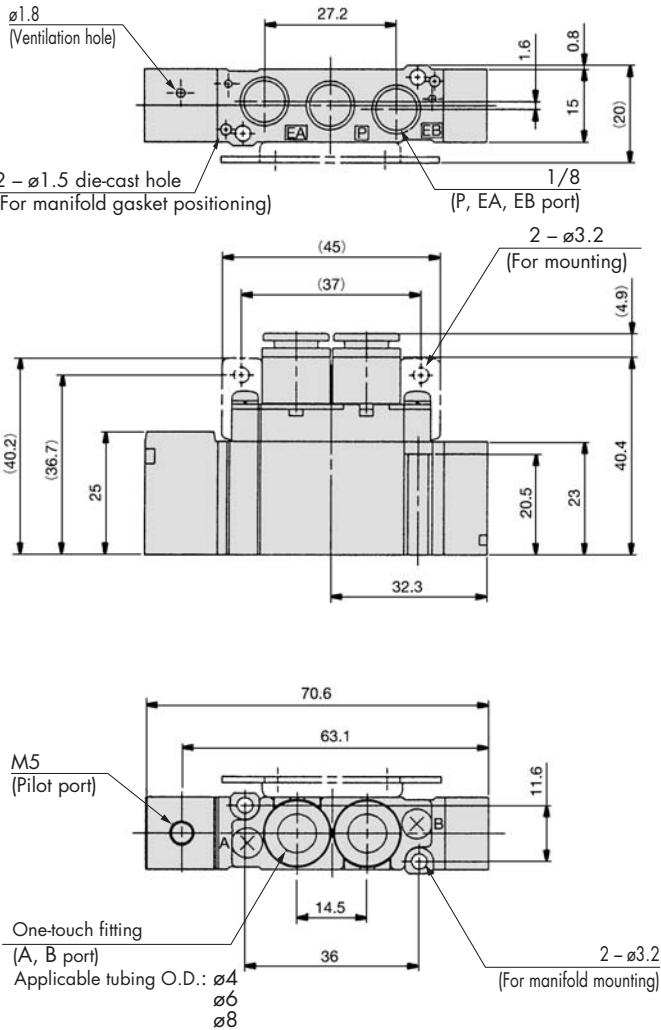
Valves

Dimensions:

Series SYA5000: Body Ported

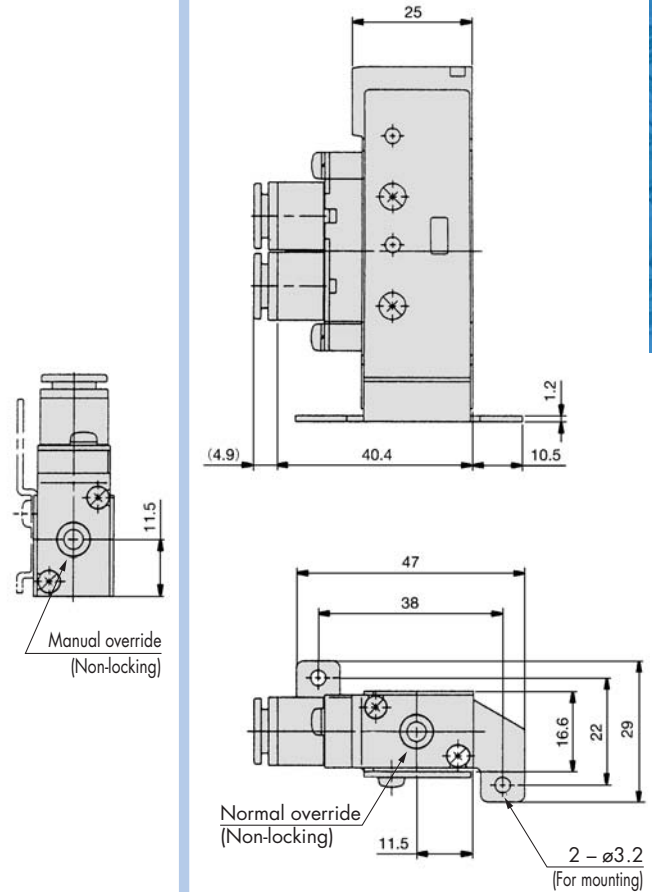
2 position single

SYA5120- $\frac{C4}{C6}$  $\frac{C8}{C8}$  □

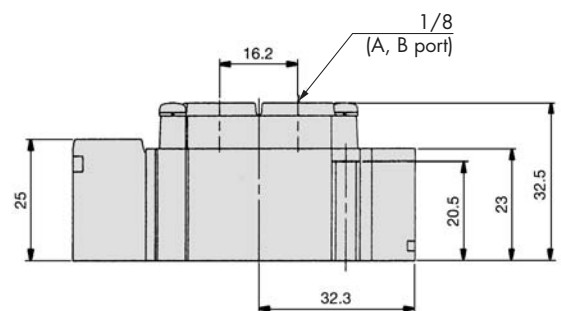


Foot bracket

SYA5120- $\frac{C4}{C6}$  $\frac{C8}{C8}$  □



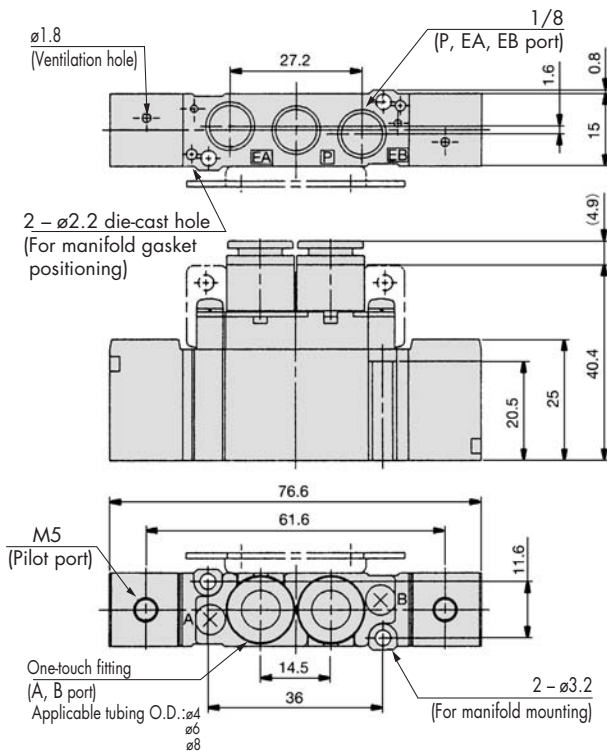
SYA5120-01 □



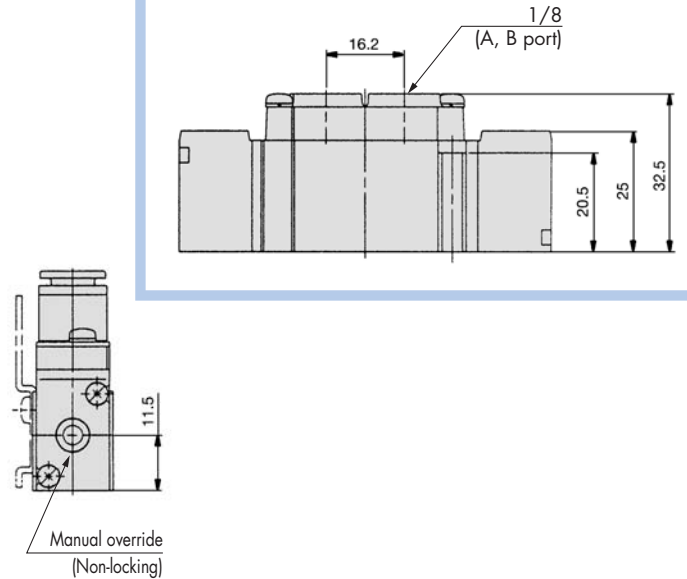
## Dimensions:

### Series SYA5000: Body Ported

2 position double  
 SYA5220- $\frac{C4}{C6}$ / $\frac{C8}{C8}$  □



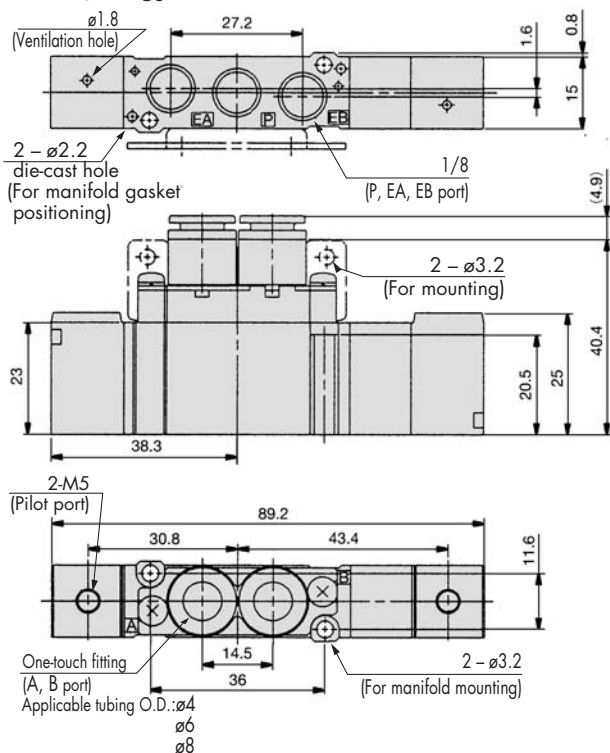
SYA5220-01□



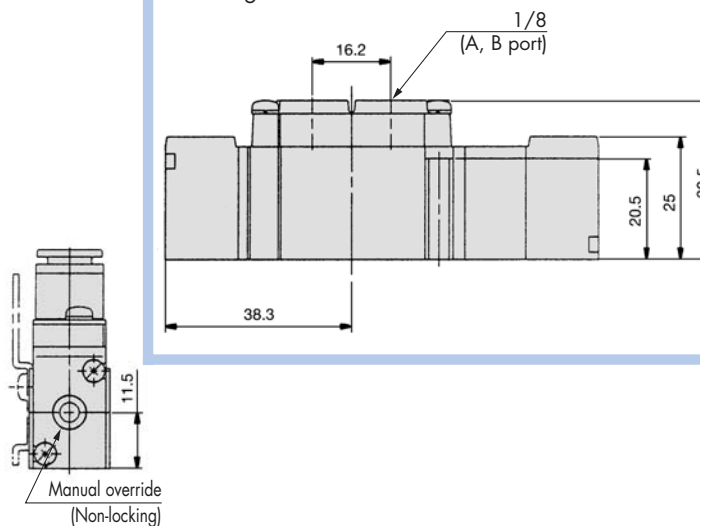
Valves

### 3 position closed centre/exhaust centre/pressure centre

SYA5 $\frac{3}{4}$ 20- $\frac{C4}{C6}$ / $\frac{C8}{C8}$  □



SYA5 $\frac{3}{4}$ 20-01□

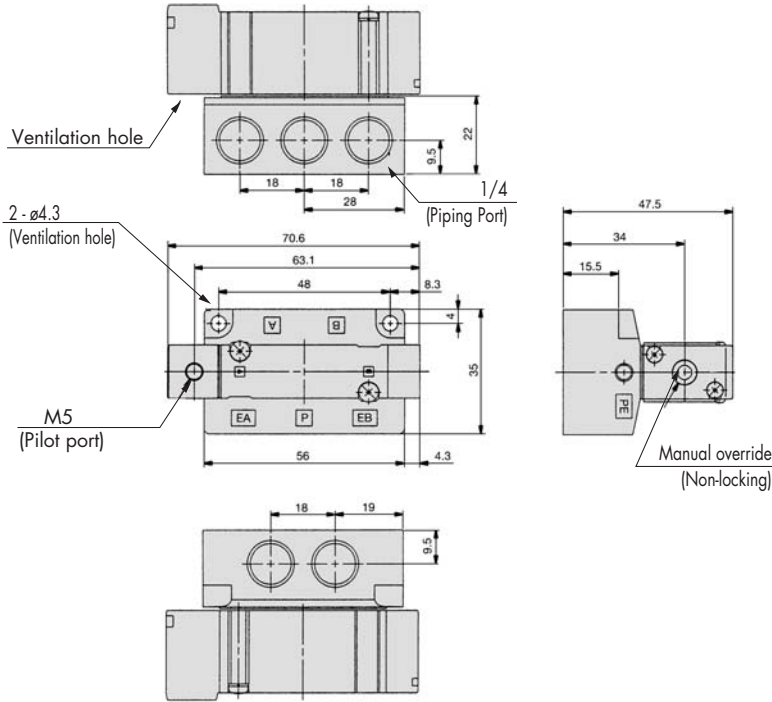




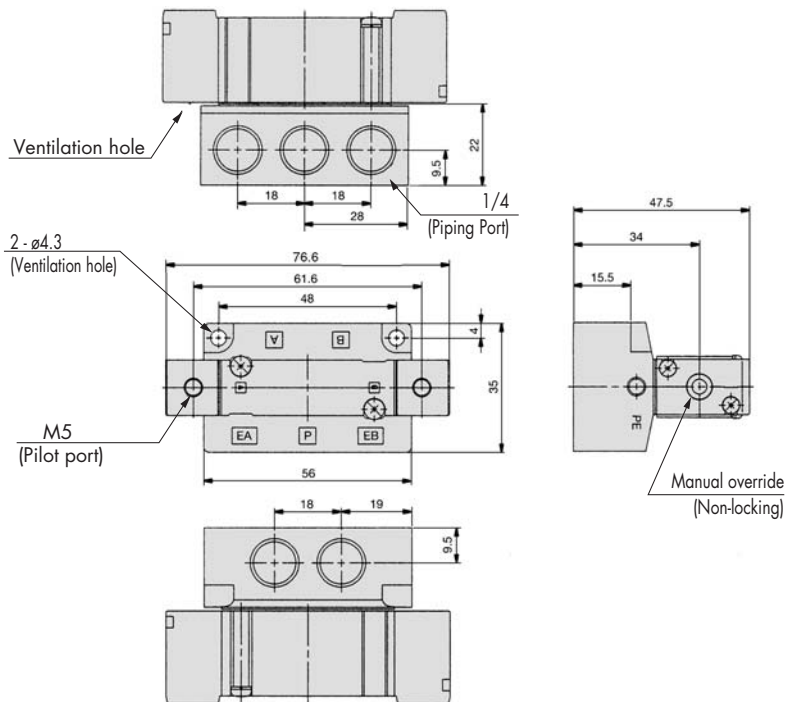
Dimensions:

Series SYA5000: Base Mounted

2 position single  
SYA5140-02□



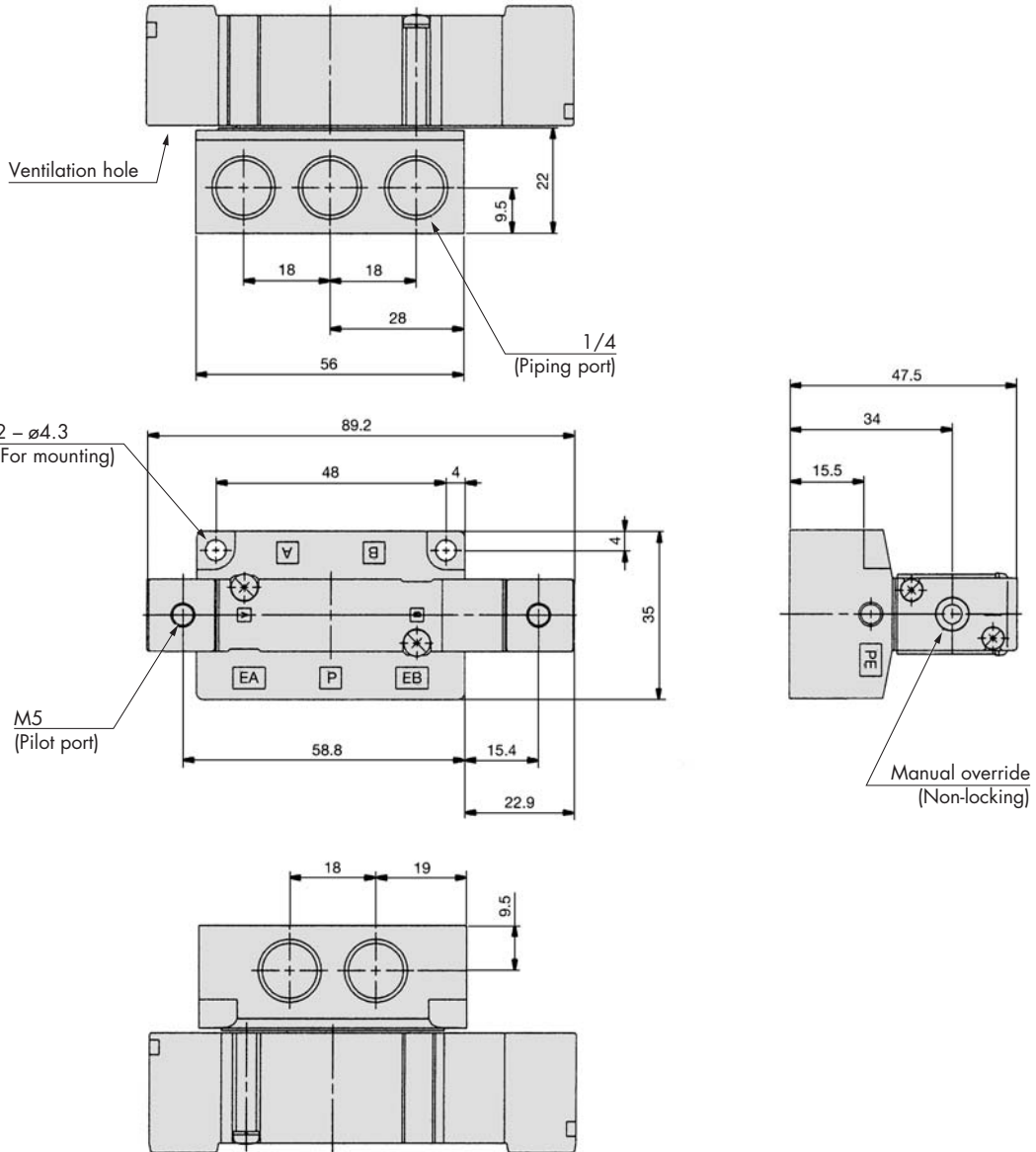
2 position double  
SYA5240-02□



Dimensions:

Series SYA5000: Base Mounted

3 position closed centre/exhaust centre/pressure centre  
 SYA5<sup>3</sup>/<sub>4</sub>40-02□

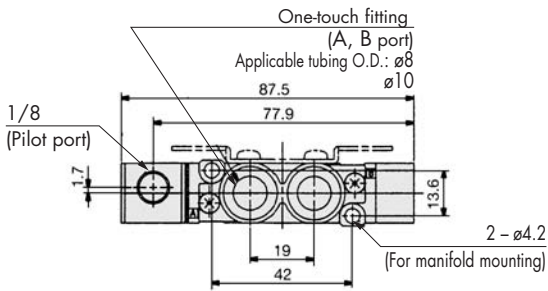
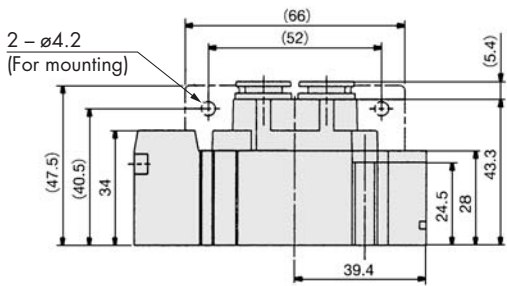
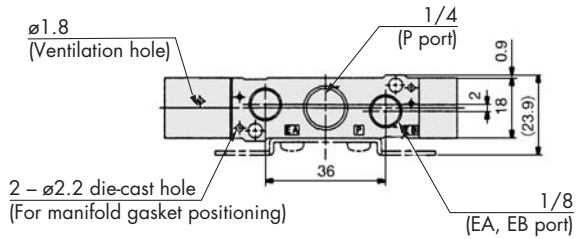


Valves

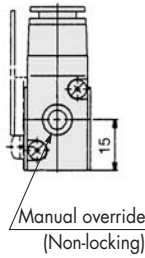
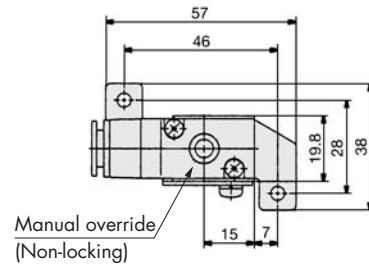
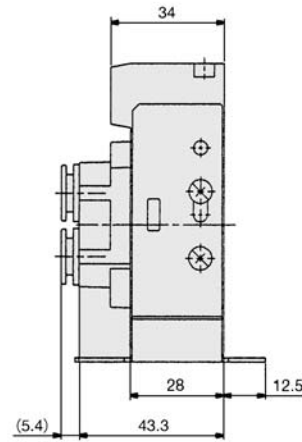
**Dimensions:**

**Series SYA7000: Body Ported**

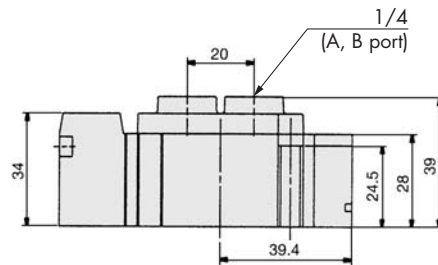
2 position single  
SYA7120-C<sup>8</sup><sub>C10</sub>□



Foot bracket  
SYA7120-C<sup>8</sup><sub>C10</sub>□



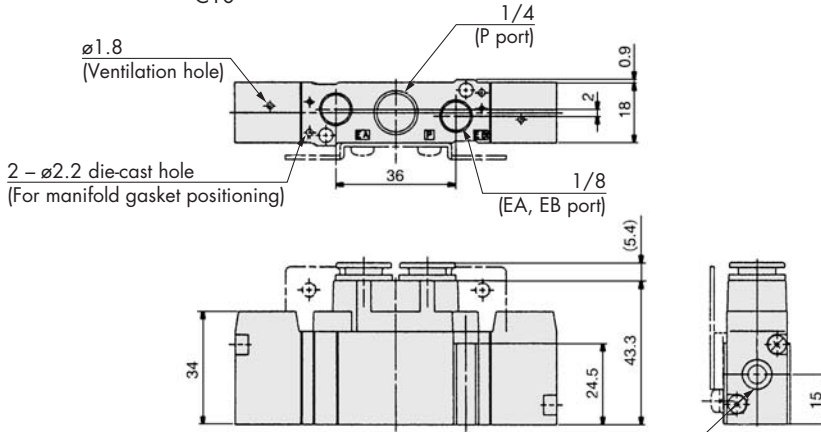
**SYA7120-02□**



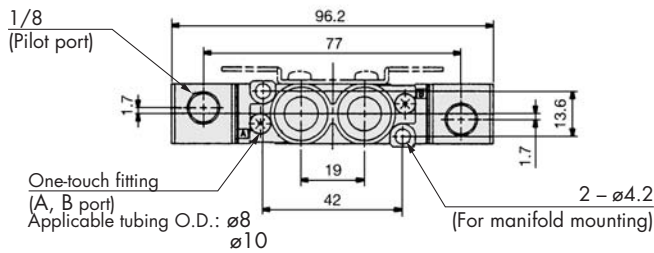
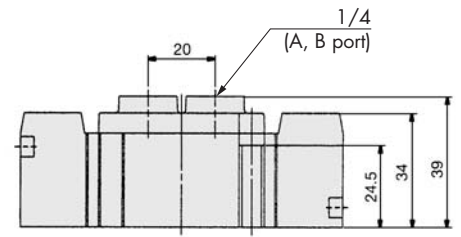
Dimensions:

Series SYA7000: Body Ported

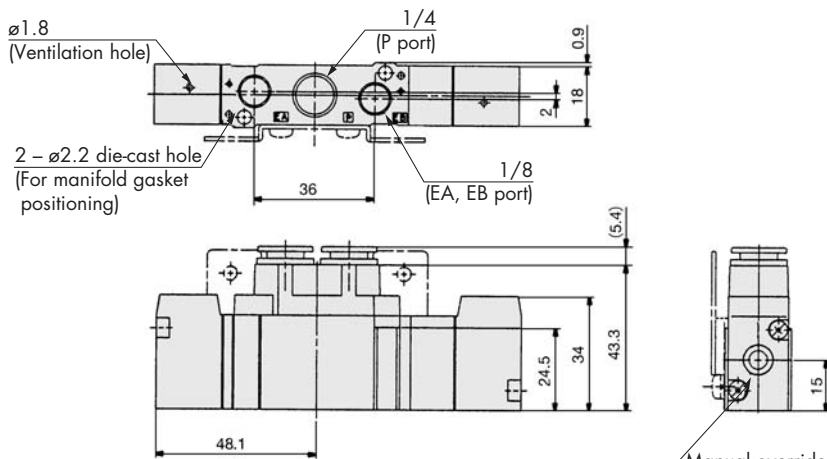
2 position double  
SYA7220-<sup>C8</sup><sub>C10</sub> □



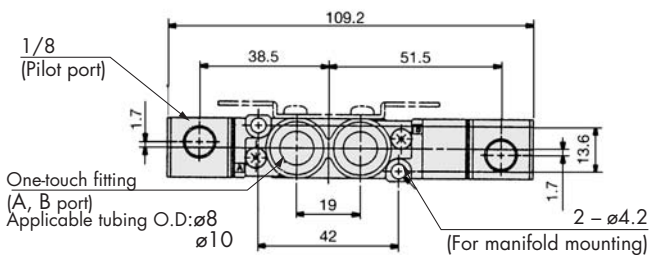
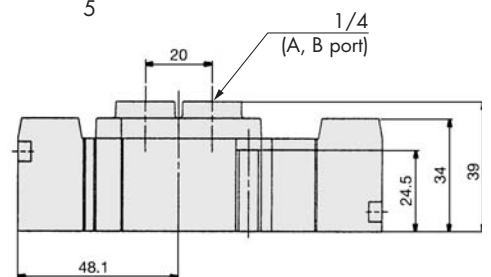
SYA7220-02



3 position closed centre/exhaust centre/pressure centre  
SYA7<sup>3</sup>/<sub>4</sub>20-<sup>C8</sup><sub>C10</sub> □

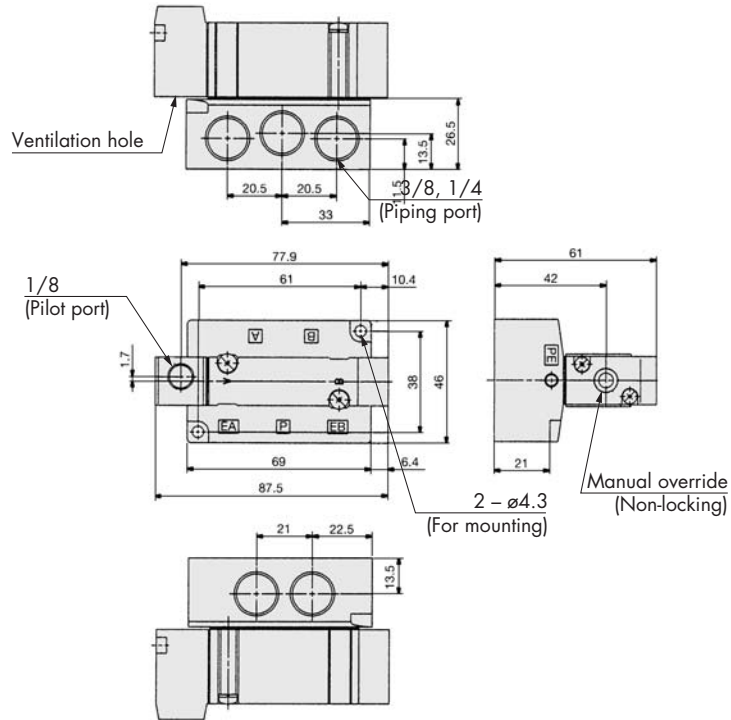
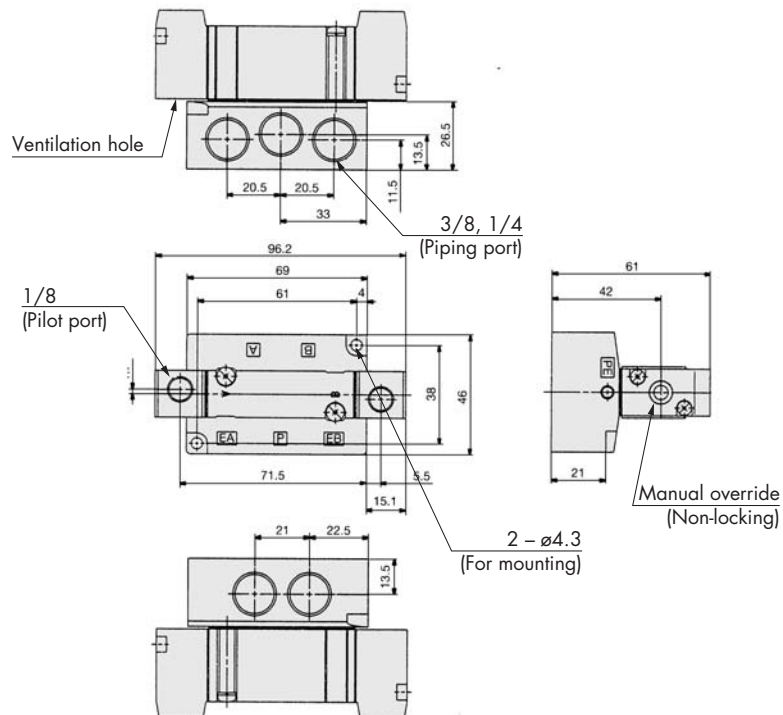


SYA7<sup>3</sup>/<sub>4</sub>20-02 □



Valves

**Dimensions:**
**Series SYA7000: Base Mounted**

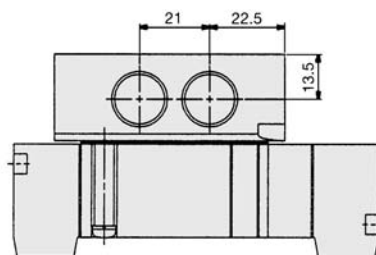
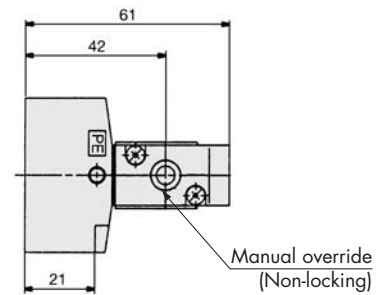
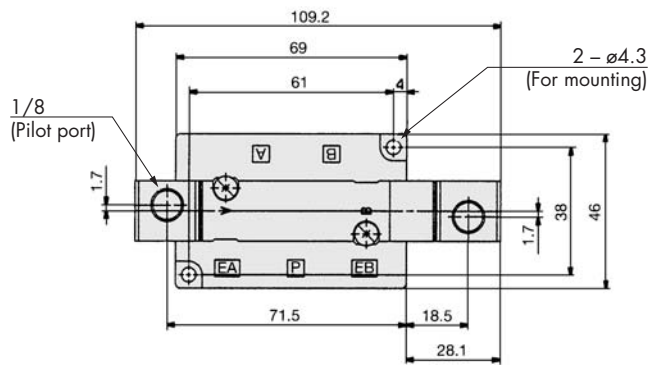
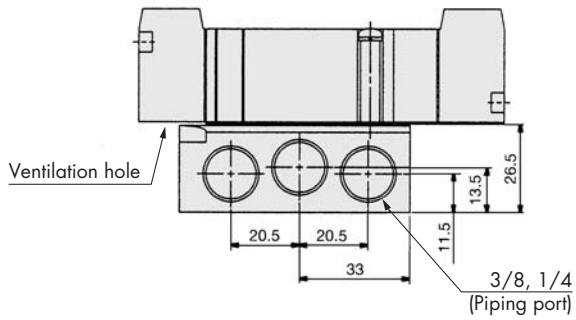
 2 position single  
 SYA7140- $\frac{02}{03}$  □

 2 position double  
 SYA7240- $\frac{02}{03}$  □


# Series SYA 5 Port Air Operated Valve

## Dimensions:

### Series SYA7000: Base Mounted

3 position closed centre/exhaust centre/pressure centre  
 SYA7<sup>3</sup><sub>440-02</sub><sup>02</sup><sub>03</sub> □



Valves