

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.



Body ported

Base mounted

How to Order

Series	
3	SYA3000
5	SYA5000
7	SYA7000

A, B port size Thread piping		
Symbol	Port size	Applicable series
M5	M5	SYA3000
01	1/8	SYA5000
02	1/4	SYA7000

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

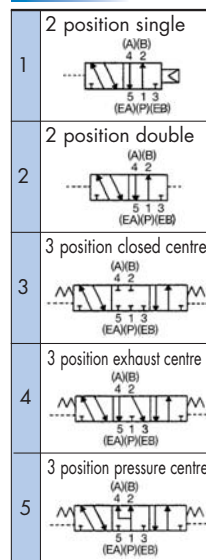
Base mounted	
SYA	5 1 40—

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

P, R port thread type	
F	G
Not SY300.	

Port size		
Symbol	Port size	Applicable series
Nil	Without sub-plate	
01F	1/8 With sub-plate	SYA3000
02F	1/4 With sub-plate	SYA5000 SYA7000
03F	3/8 With sub-plate	SYA7000
00F	Without sub-plate G Thread pilot	SYA7000

Symbols



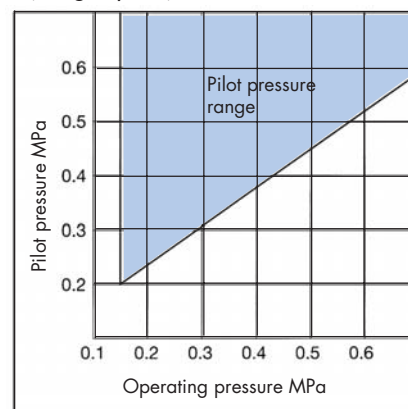
Accessories

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 (dm³/(s·bar))	b	Cv	C (dm³/(s·bar))	
SYA3□20-C4 (Body Ported)	2 position	Single	M5	M5	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	Closed centre				0.63	0.35	0.16	0.42	0.34	0.11	48
		Exhaust centre				0.76	0.42	0.21	0.59	0.29	0.15	
		Pressure centre										

Valve model	Type of actuation		Pilot port size (Nominal size)	Port size	Flow characteristics ^{Note 1)}						Weight (g)
					1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)			
					C (dm³/ (s·bar))	b	Cv	C (dm³/ (s·bar))	b	Cv	
SYA3□40-01 ◀ (Base mounted)	2 position	Single	M5	1/8	1.0	0.30	0.24	1.1	0.30	0.26	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 ^{Note)}						Weight (g)
						1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)			
						C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv	
SYA5□20-C6 (Body Ported)	2 position	Single	M5	1/8	C6 (One-touch fitting for ø6)	1.5	0.33	0.33	2.0	0.37	0.52	76
		Double				1.3	0.31	0.33	1.6	0.32	0.39	82
	3 position	Closed centre				1.3	0.33	0.33	1.8 [1.4]	0.35 [0.37]	0.44 [0.35]	87
		Exhaust centre				1.7 [0.80]	0.31 [0.47]	0.42 [0.23]	1.7	0.33	0.44	
		Pressure centre										

Valve model	Type of actuation		Pilot port size (Nominal size)	Port size	Flow characteristics ^{Note 1)}						Weight (g)
					1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)			
					C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv	
SYA5□40-02◀ (Base mounted)	2 position	Single	M5	1/4	2.4	0.41	0.64	2.8	0.29	0.66	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 P, EA, EB A, B		Flow characteristics						Weight (g)
						1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)			
						C [dm³/[s·bar]]	b	Cv	C [dm³/[s·bar]]	b	Cv	
SYA7□20-C8	2 position	Single	1/8	P port: 1/4 EA, EB port: 1/8	C8 (fitting for ø8)	3.2	0.26	0.77	3.2	0.37	0.82	138
		Double									183	
	3 position	Closed center				2.6	0.24	0.63	2.4	0.31	0.62	192
		Exhaust center				2.4	0.25	0.57	2.6	0.42	0.70	
		Pressure 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 ^{Note 1)}						Weight ^{Note 2)} (g)
					1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)			
					C [dm³/[s·bar]]	b	Cv	C [dm³/[s·bar]]	b	Cv	
SYA7□40-02◀	2 position	Single	1/8	1/4	4.1	0.41	1.1	4.1	0.29	1.0	240
		Double								286	
	3 position	Closed center			3.0	0.43	0.80	2.6	0.41	0.72	294
		Exhaust center			2.6	0.42	0.71	4.7	0.35	1.1	
		Pressure 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:

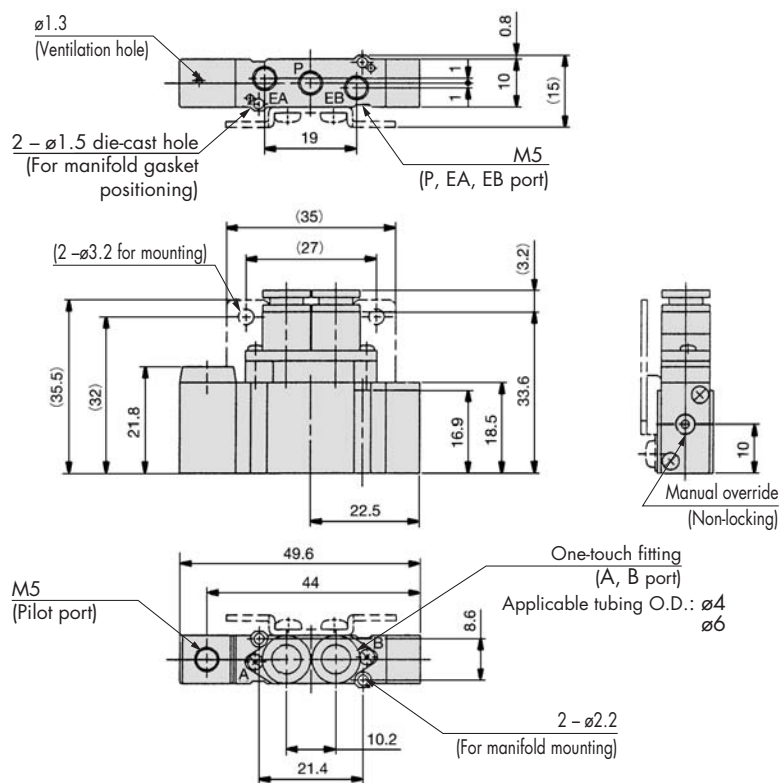
The SYA valves are the same manifolds and sub-bases as the solenoid operated SY series. See that series for information and ordering information.

Dimensions

Series SYA3000: Body Ported

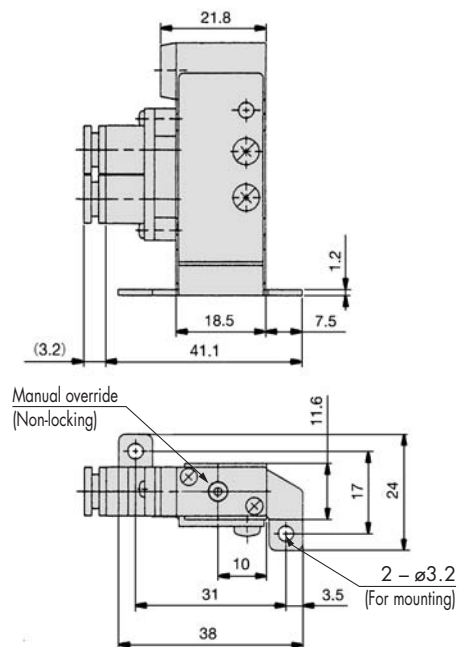
2 position single

SYA3120-C₄
C₆

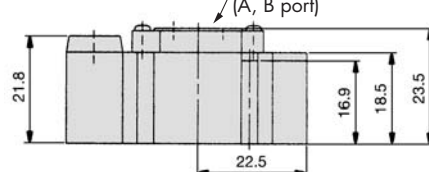


Foot bracket

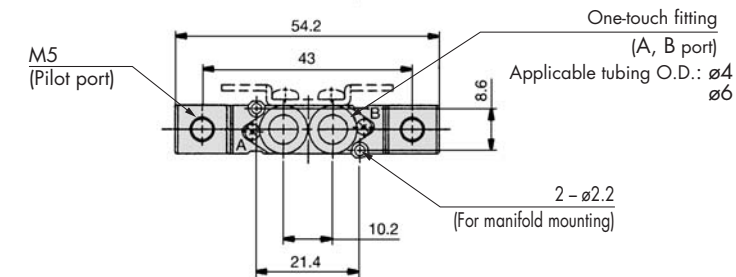
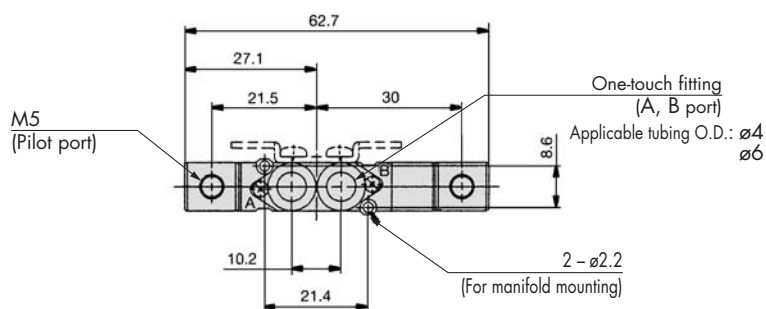
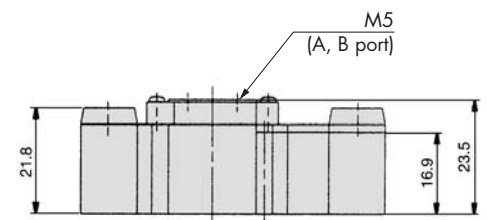
SYA3120-C₄
C₆



SYA3120-M5



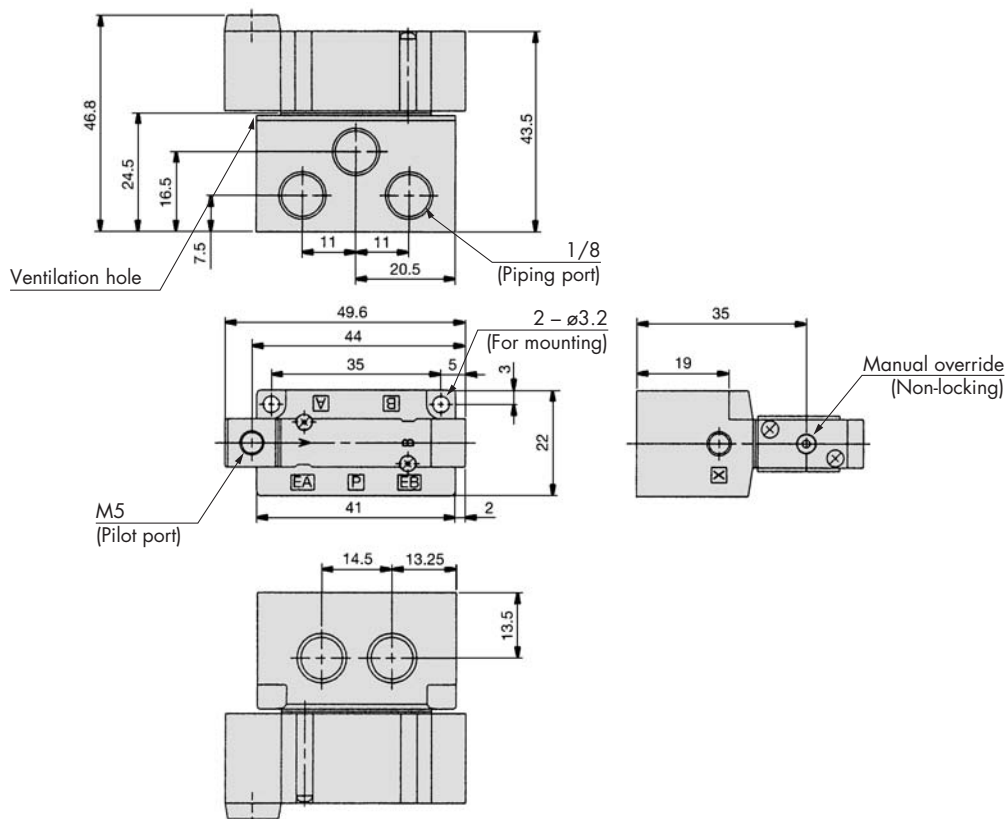
Series SYA3000: Body Ported
2 position double
SYA3220- $\frac{C4}{C6}$

SYA3₄³₅20-M5

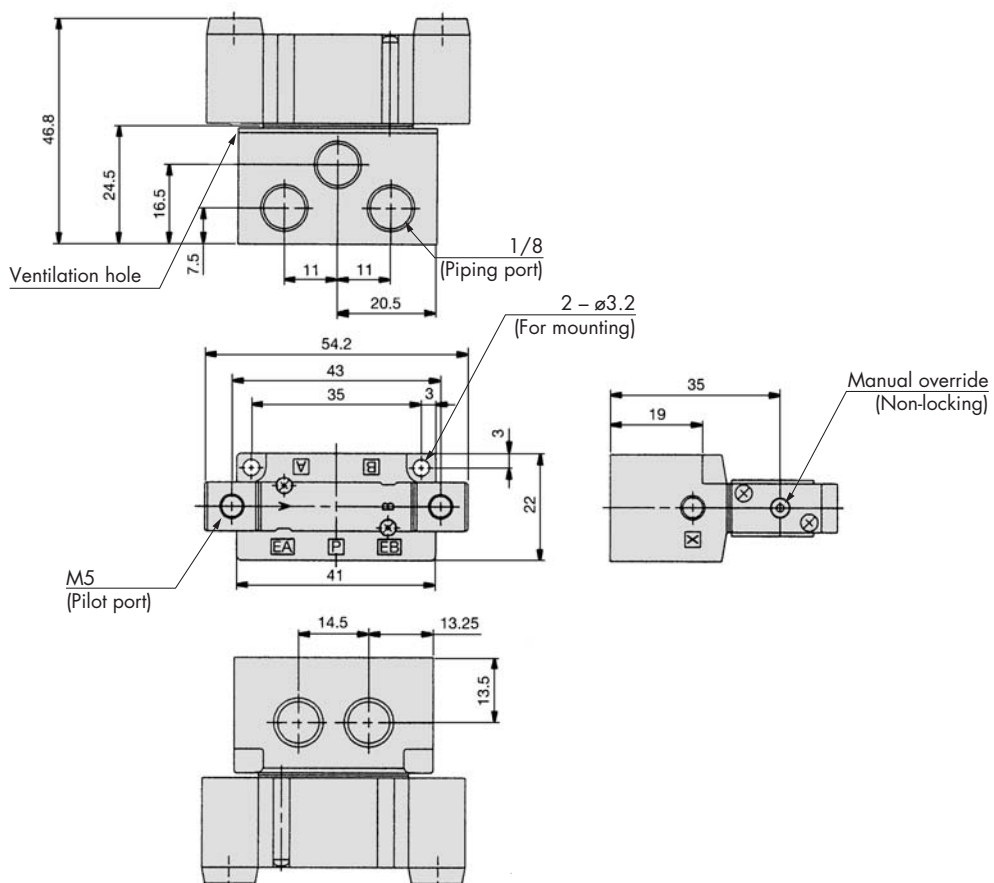
Dimensions:

Series SYA3000: Base Mounted

2 position single
SYA3140-01□



2 position double
SYA3240-01□

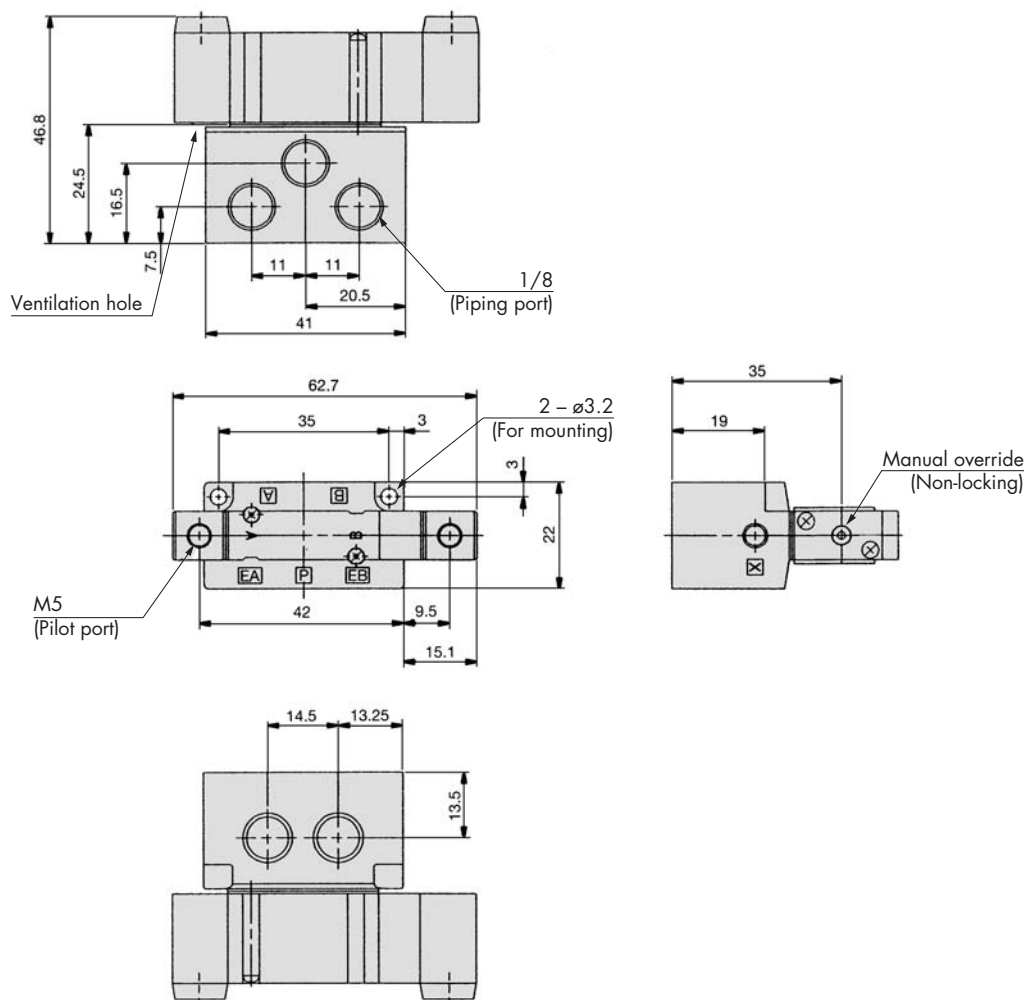


Dimensions:

Series SYA3000: Base Mounted

3 position closed centre/exhaust centre/pressure centre

SYA3 $\frac{3}{4}$ 40-01□

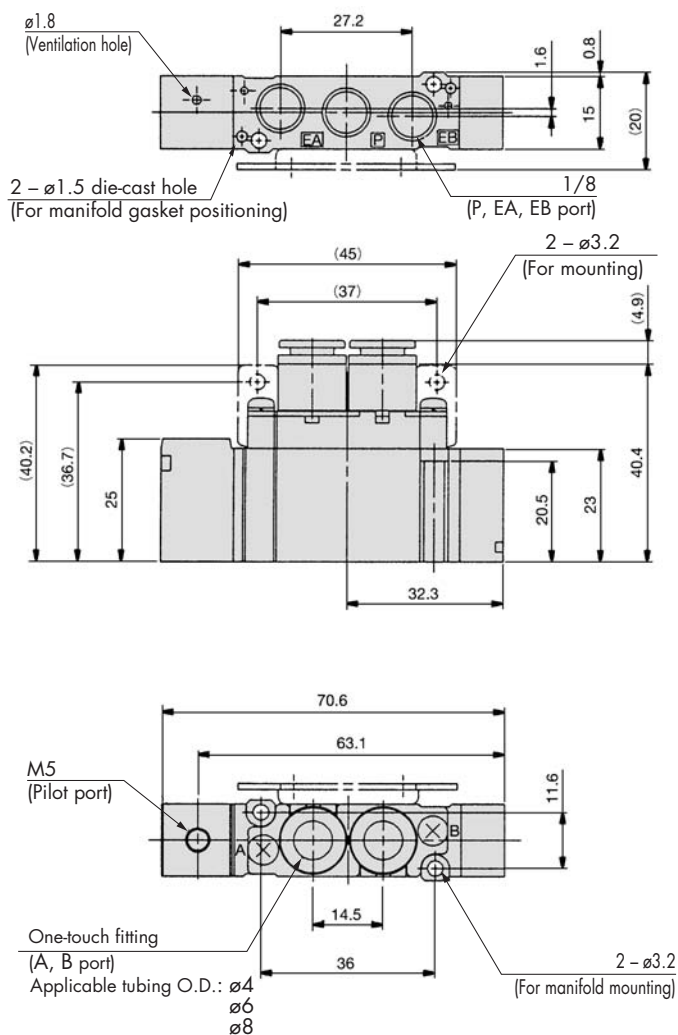


Dimensions:

Series SYA5000: Body Ported

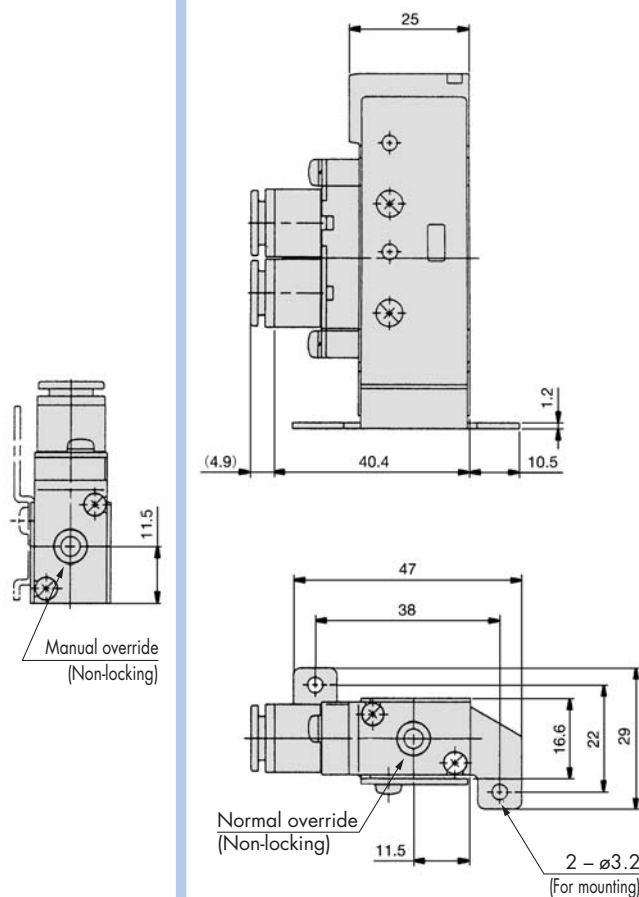
2 position single

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

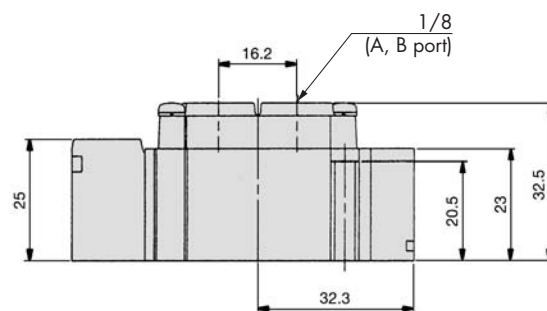


Foot bracket

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



SYA5120-01 □

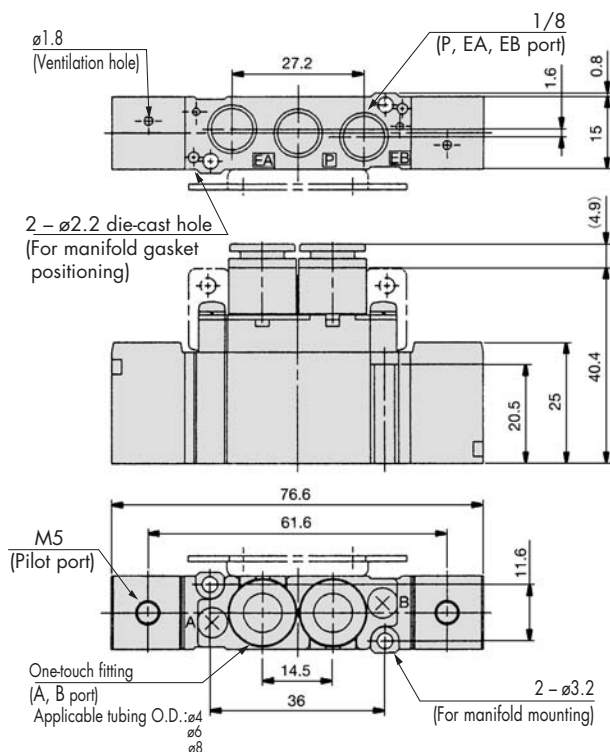


Dimensions:

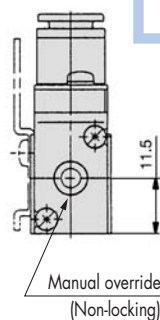
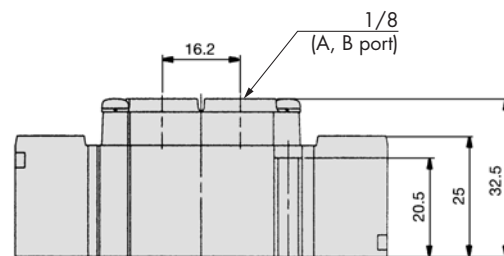
Series SYA5000: Body Ported

2 position double

SYA5220- $\frac{C4}{C6}$ $\frac{C8}{C8}$ □

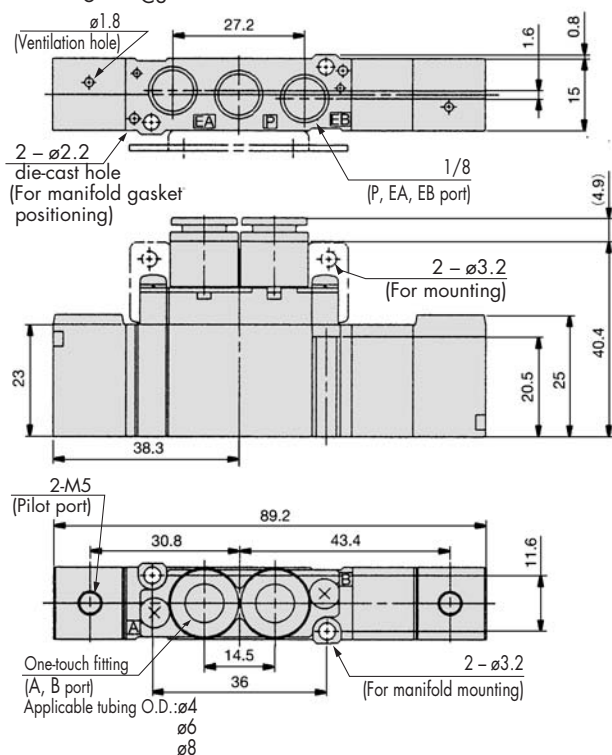


SYA5220-01□

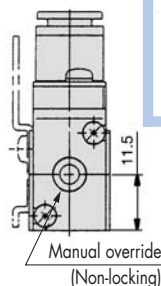
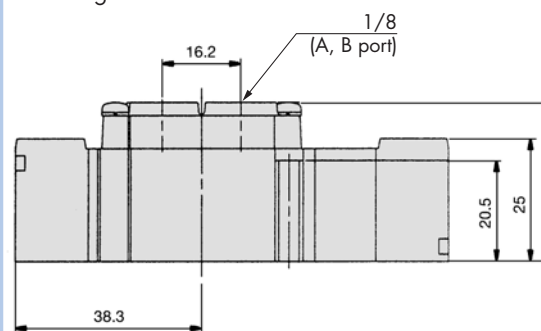


3 position closed centre/exhaust centre/pressure centre

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



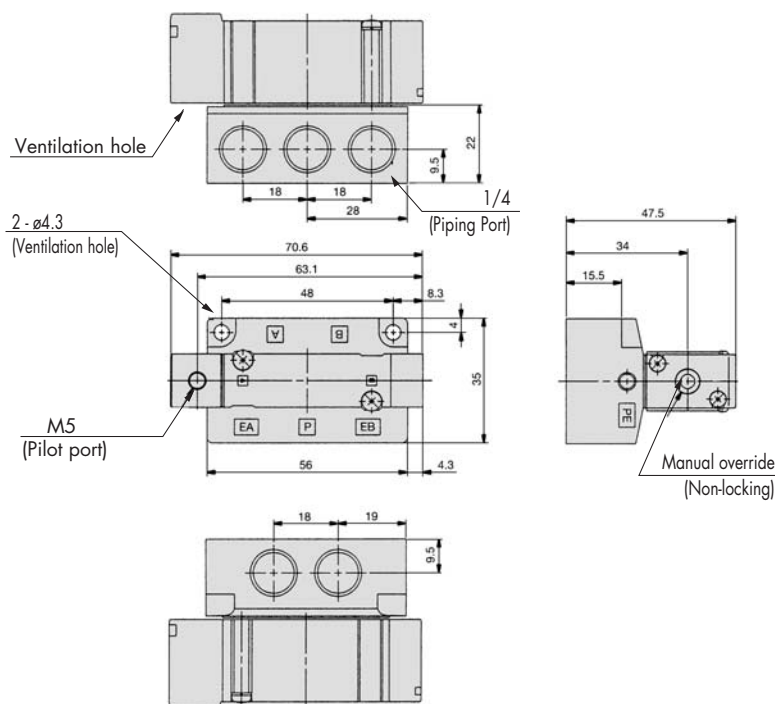
SYA5 $\frac{3}{4}$ 20-01□



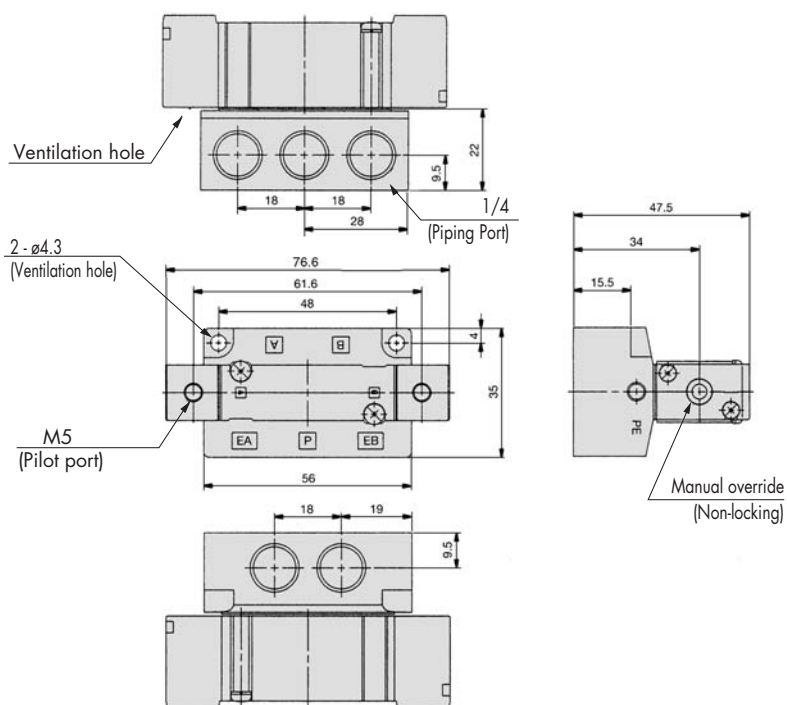
Dimensions:

Series SYA5000: Base Mounted

2 position single
SYA5140-02□



2 position double
SYA5240-02□

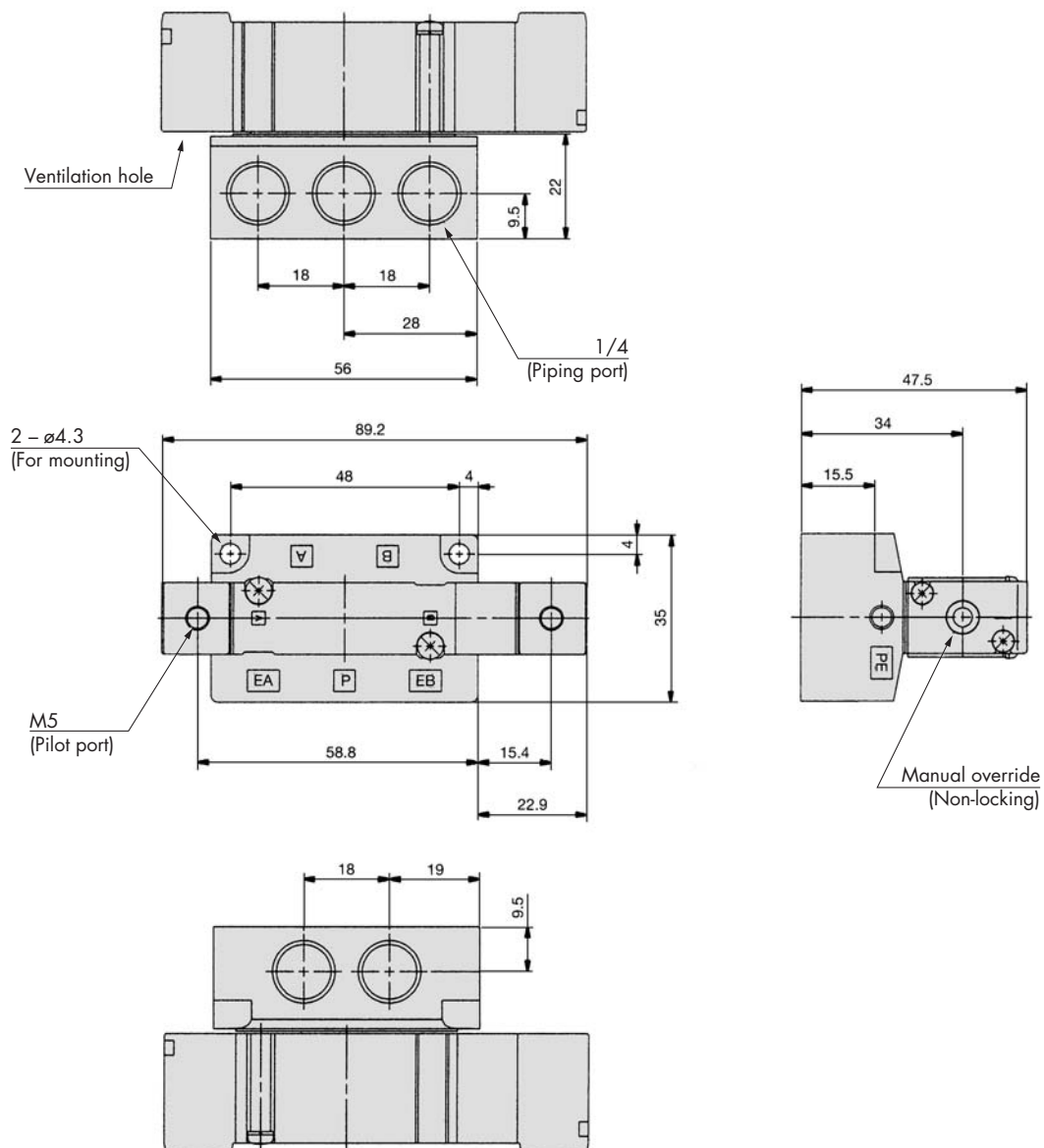


Dimensions:

Series SYA5000: Base Mounted

3 position closed centre/exhaust centre/pressure centre

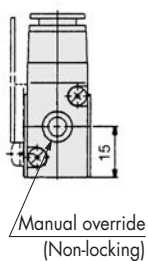
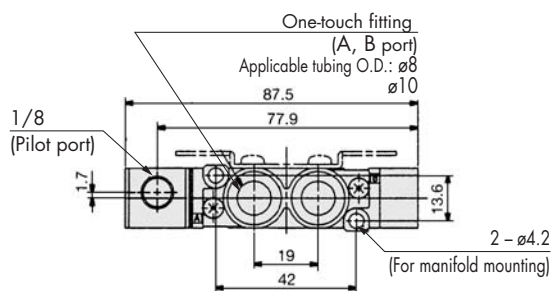
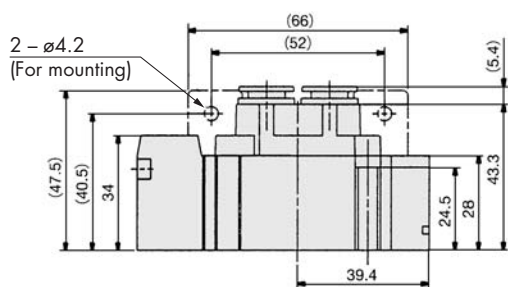
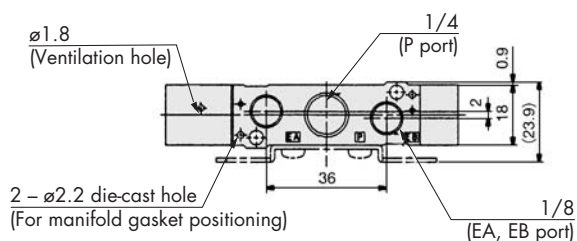
SYA5³/₄40-02□



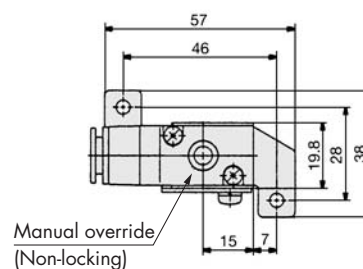
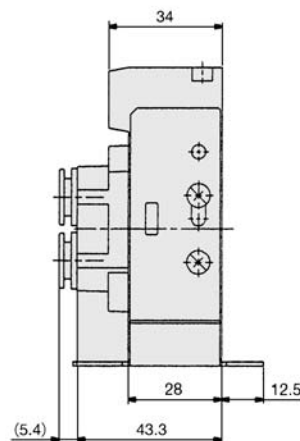
Dimensions:

Series SYA7000: Body Ported

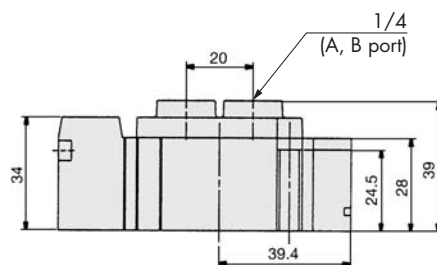
2 position single
SYA7120-C₈⁸₁₀□



Foot bracket
SYA7120-C₈⁸₁₀□



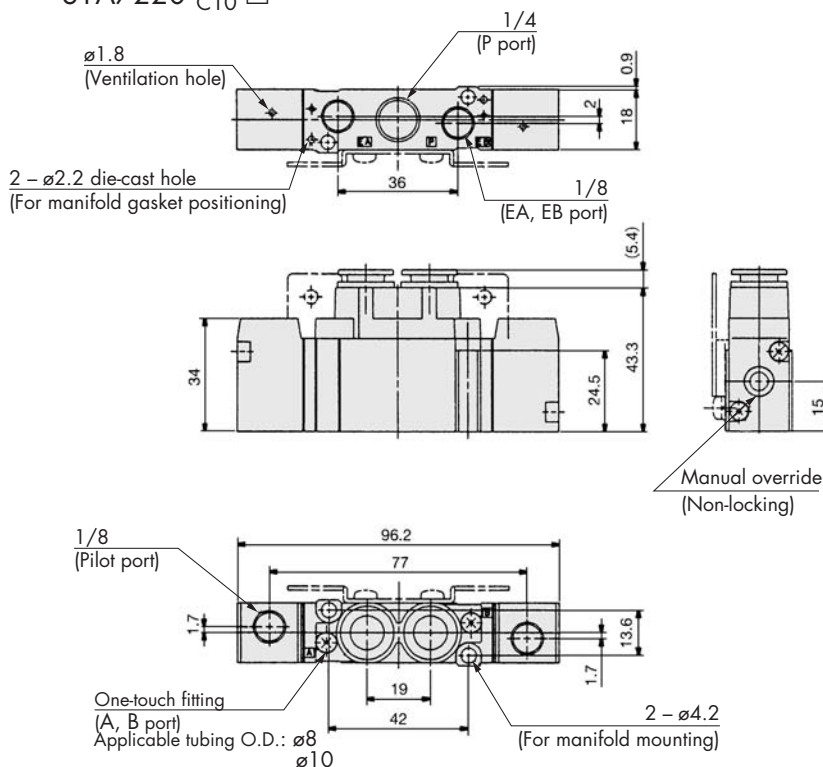
SYA7120-02□



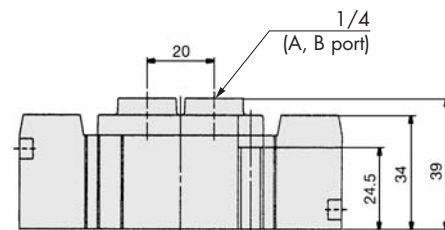
Dimensions:

Series SYA7000: Body Ported

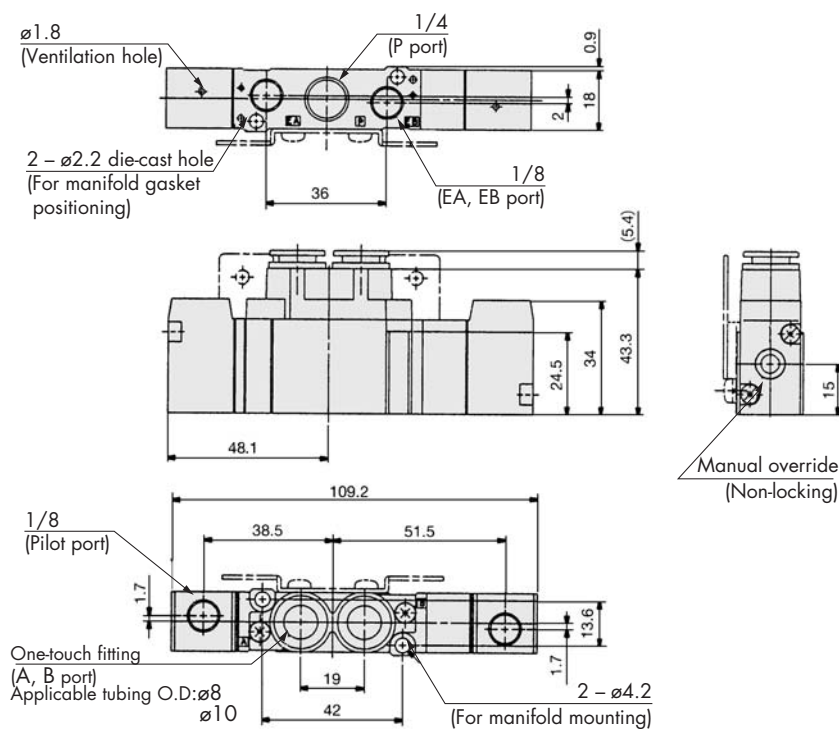
2 position double
SYA7220-^{C8}_{C10} □



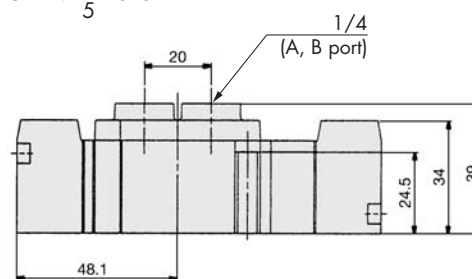
SYA7220-02



3 position closed centre/exhaust centre/pressure centre
SYA7³/₄20-^{C8}_{C10} □



SYA7³/₄20-02 □



Series SYA7000: Base Mounted

Technical drawings of the 300 Series 3-Port Solenoid Valve, showing dimensions and labels:

- Top View:**
 - Overall width: 61
 - Distance between centerlines of ports: 42
 - Distance from left edge to centerline of first port: 21
 - Port diameter: $2 - \varnothing 4.3$ (For mounting)
 - Label: Manual override (Non-locking)
- Front View:**
 - Overall width: 77.9
 - Distance between centerlines of ports: 61
 - Distance from left edge to centerline of first port: 10.4
 - Port diameter: $1/8$ (Pilot port)
 - Distance from bottom edge to centerline of ports: 38
 - Overall height: 46
 - Distance from bottom edge to centerline of first port: 6.4
 - Distance between centerlines of ports: 69
 - Overall width: 87.5
 - Labels: V, B, FA, P, EB
- Side View:**
 - Overall height: 26.5
 - Distance from bottom edge to centerline of ports: 13.5
 - Distance between centerlines of ports: 20.5
 - Overall width: 33
 - Port diameter: $3/8, 1/4$ (Piping port)
 - Label: Ventilation hole

Technical drawing of the 3/8" 1/4" Piping port valve, showing front, side, and top views with dimensions and labels.

Front View (Top): Shows the valve body with three circular ports. Dimensions include a total width of 33, individual port spacing of 20.5, and a total height of 26.5. A ventilation hole is indicated on the left side.

Side View (Middle): Shows the valve body with a total width of 96.2 and a height of 46. It includes a 1/8" Pilot port on the left and a 3/8" 1/4" Piping port on the right. The side view also shows a manual override (non-locking) mechanism on the right side.

Top View (Bottom): Shows the valve body with a total width of 71.5 and a height of 15.1. It includes a 1/8" Pilot port on the left and a 3/8" 1/4" Piping port on the right. The top view also shows a manual override (non-locking) mechanism on the right side.

Labels:

- Ventilation hole
- 1/8" (Pilot port)
- 3/8" 1/4" (Piping port)
- Manual override (Non-locking)
- 2 - $\varnothing 4.3$ (For mounting)

Dimensions:

Series SYA7000: Base Mounted

3 position closed centre/exhaust centre/pressure centre

SYA7³₄40-⁰²₀₃ □

