

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 (Metric size)

Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	SYA3000
C6	One-touch fitting for ø6	SYA5000
C8	One-touch fitting for ø8	SYA7000
C10	One-touch fitting for ø10	

One-touch fitting (Inch size)

Symbol	Port size	Applicable series
N3	One-touch fitting for ø3/32"	SYA3000
N7	One-touch fitting for ø1/4"	SYA5000
N9	One-touch fitting for ø5/16"	SYA7000
N11	One-touch fitting for ø3/8"	

Thread type

	Rc
Nil	
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

Series

3	SYA3000
5	SYA5000
7	SYA7000

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

	Rc
Nil	
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.

Specifications

Fluid		Air
Operating pressure range MPa	2 position single 2 position double 3 position	0.15 to 0.7 -100 kPa to 0.7 -100 kPa to 0.7
Pilot pressure range ^{Note 1)} MPa	2 position single 2 position double 3 position	(0.7 × P + 0.1) to 0.7 P: Operating pressure range 0.1 to 0.7 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 ²) ^{Note 2)}		150/30

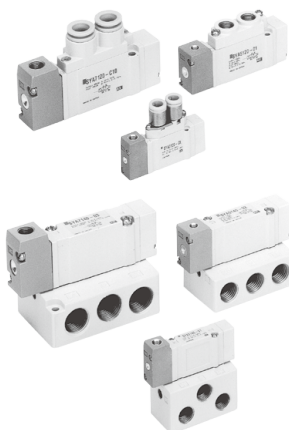
Note 1) In case of single type, be certain that pressure within operating pressure range be supplied to supply port, because return pressure is introduced from supply port {1(P)} for activation.

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)

SS5YA³₅₋₇ — Fill the same as **SS5Y³₅₋₇**.

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.)

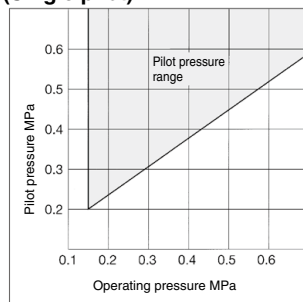
* SY5000-26-20A 1 set (Blanking plate assembly part no.)

— The asterisk denotes the symbol for assembly.

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

Note) Manifold mounting screws and gaskets are included with the manifold (type 20), but they are not included when ordering a body ported air operated valve as a single unit. 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 [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	
SYA3□20-M5	2 position	Single	M5 x 0.8	M5 x 0.8	M5 x 0.8	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	Closed center				0.47	0.42	0.13	0.47 [0.44]	0.41 [0.37]	0.13 [0.12]	39
		Exhaust center				0.50 [0.41]	0.48 [0.35]	0.15 [0.11]	0.47	0.43	0.13	
		Pressure center										
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	Closed center				0.63	0.35	0.16	0.42 [0.41]	0.34 [0.37]	0.11 [0.11]	48
		Exhaust center				0.76 [0.46]	0.42 [0.34]	0.21 [0.12]	0.59	0.29	0.15	
		Pressure center										
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	Closed center				0.65	0.32	0.16	0.64 [0.42]	0.31 [0.36]	0.17 [0.11]	44
		Exhaust center				0.77 [0.49]	0.34 [0.43]	0.21 [0.15]	0.61	0.34	0.16	
		Pressure center										

Note) [] : denotes normal position.

Model/SYA3□40 Series (Base mounted)

Valve model	Type of actuation		Pilot port size	Port size	Flow rate 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	
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	Closed center			0.73	0.31	0.18	1.1 [0.55]	0.26 [0.52]	0.24 [0.16]	73 (38)
		Exhaust center			1.2 [0.51]	0.24 [0.45]	0.29 [0.14]	0.89	0.47	0.24	
		Pressure center									

Note 1) [] : denotes normal position.

Note 2) () : Without sub-plate.

Flow Rate Characteristics/Weight

Model/SYA5□20 Series (Body ported)

Valve model	Type of actuation	Pilot port size	Port size P, EA, EB, A, B	Flow rate 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								
SYA5□20-01□	2 position	Single Double	M5 x 0.8	1/6	1.9	0.35	0.49	2.4	0.39	0.61	58						
		Closed center			1.7	0.43	0.45	1.8	0.35	0.46	64						
	3 position	Exhaust center			1.5	0.44	0.41	2.5 [1.5]	0.32 [0.43]	0.59 [0.40]	69						
		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	1/6	0.75	0.43	0.20	0.85	0.64	0.30	82			
		Closed center			0.74			0.40	0.19	0.84	0.57	0.28	87				
3 position		Exhaust center			0.75			0.36	0.19	0.84 [0.84]	0.64 [0.53]	0.30 [0.27]	93				
		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	1/6	1.5	0.33	0.33	2.0	0.37	0.52	76	
		Closed center			1.3					0.31	0.33	1.6	0.32	0.39	82		
	3 position	Exhaust center			1.3					0.33	0.33	1.8 [1.4]	0.35 [0.37]	0.44 [0.35]	87		
		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	1/6	1.9	0.21	0.45	2.3	0.29	0.57
		Closed center			1.6							0.29	0.39	1.7	0.38	0.46	74
3 position		Exhaust center			1.4							0.38	0.39	2.0 [1.5]	0.37 [0.40]	0.52 [0.43]	79
		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 ^{Note 1)}						Weight ^{Note 2)} (g)	
				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		
SYA5□40-02□	2 position	Single	M5 x 0.8	¼	2.4	0.41	0.64	2.8	0.29	0.66	105 (42)
		Double								110 (47)	
	3 position	Closed center			1.8	0.47	0.50	1.8	0.40	0.47	115 (52)
		Exhaust center			1.4	0.55	0.44	3.0 [1.2]	0.33 [0.48]	0.72 [0.37]	
		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 P, EA, EB, A, B	Flow rate characteristics						Weight (g)			
				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				
SYA7□20-02□	2 position	Single	M5 x 0.8	1/4	4.1	0.23	0.93	3.3	0.33	0.81	94		
	Double				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				4.3 [2.4]	0.23 [0.32]	0.97 [0.61]	2.2	0.39	0.58			
	Pressure center												
SYA7□20-C8	2 position	Single		M5 x 0.8	C8 (One-touch fitting for ø8)	3.2	0.26	0.77	3.2	0.37	0.82	100	
	Double					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					3.3 [2.4]	0.28 [0.22]	0.78 [0.57]	2.2	0.34	0.60		
	Pressure center												
SYA7□20-C10	2 position	Single			M5 x 0.8	C10 (One-touch fitting for ø10)	3.8	0.26	0.86	3.2	0.34	0.82	97
	Double						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		3.8 [2.4]				0.25 [0.31]	0.89 [0.61]	2.3	0.38	0.61		
	Pressure center												

Note 1) []: denotes normal position.

Model/SYA7□40 Series (Base mounted)

Valve model	Type of actuation	Pilot port size	Port size	Flow rate characteristics ^{Note 1)}						Weight ^{Note 2)} (g)			
				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				
SYA7□40-02□	2 position	Single	M5 x 0.8	1/4	4.1	0.41	1.1	4.1	0.29	1.0	202 (73)		
	Double				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				5.3 [2.3]	0.39 [0.49]	1.3 [0.65]	2.2	0.49	0.63			
SYA7□40-03	2 position	Single			M5 x 0.8	3/8	4.9	0.29	1.2	4.5	0.27	1.1	202 (73)
	Double						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						5.3 [2.3]	0.31 [0.51]	1.3 [0.64]	2.3	0.45	0.66	

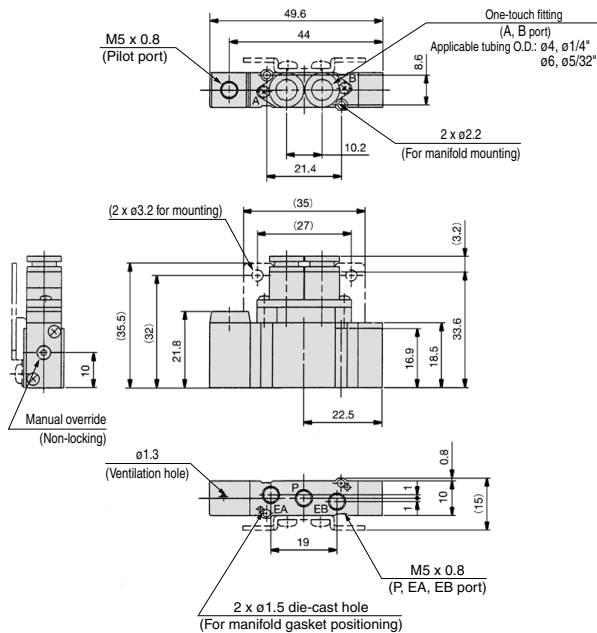
Note 1) []: denotes the normal position.

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

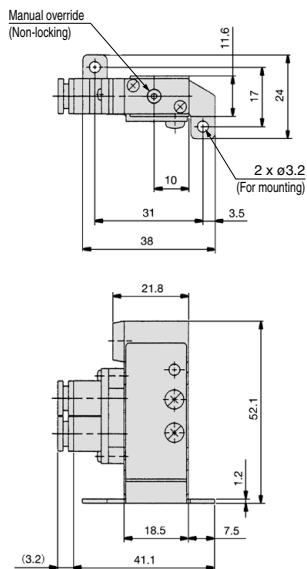
SYA3000/5000/7000 Series

Dimensions/SYA3000 Series: Body Ported

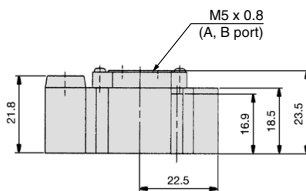
2 position single SYA3120-C4, N3 (-F2) C6, N7



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



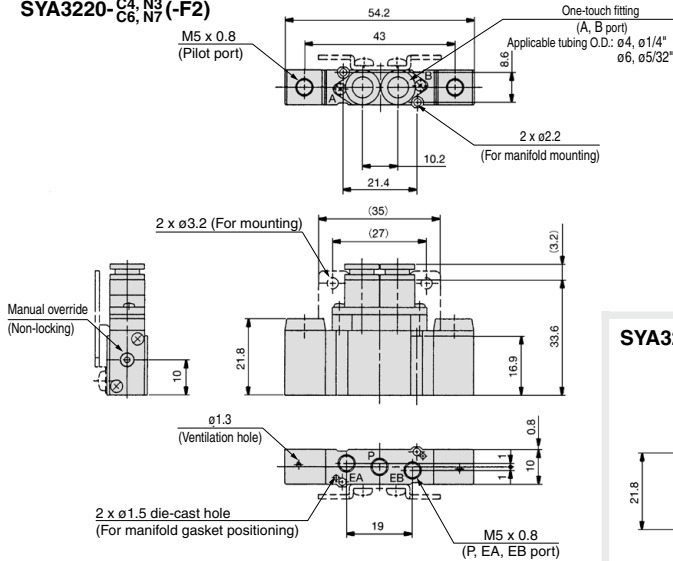
SYA3120-M5



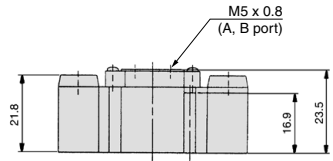
Dimensions/SYA3000 Series: Body Ported

2 position double

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

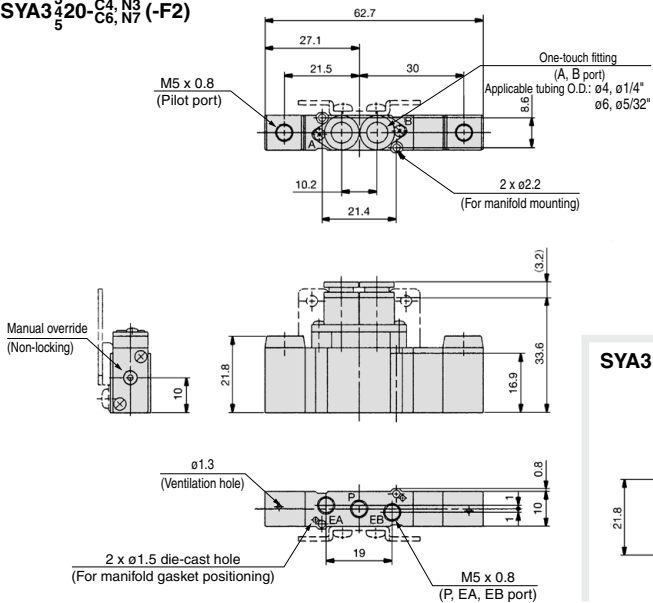


SYA3220-M5

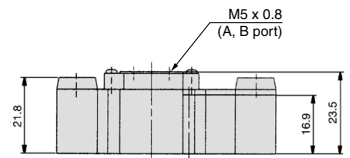


3 position closed center / exhaust center / pressure center

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



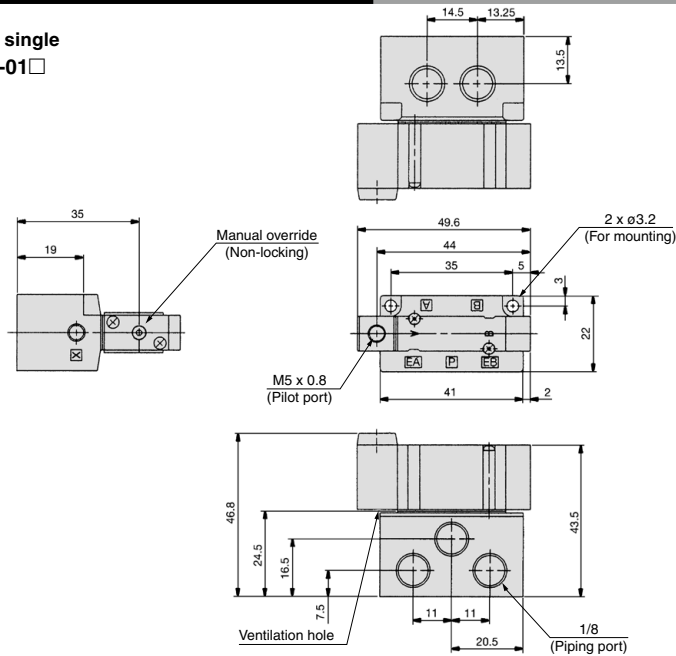
SYA3420-M5



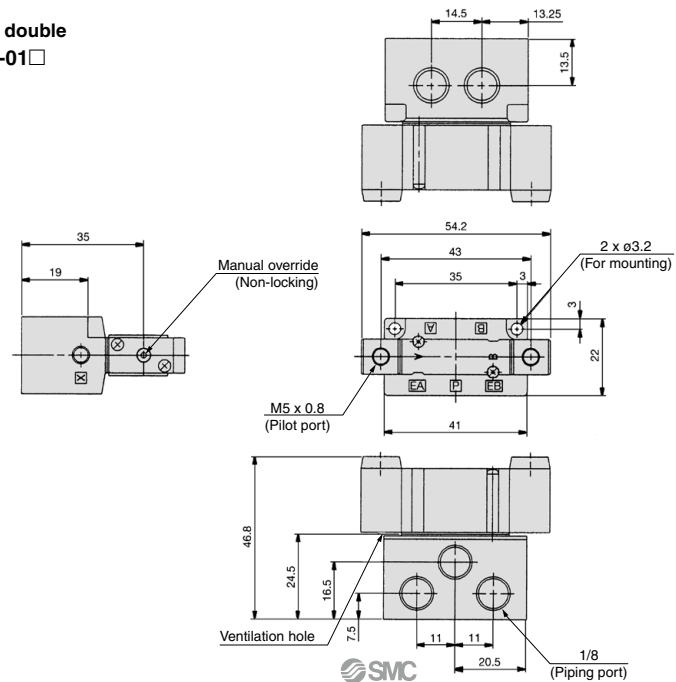
SYA3000/5000/7000 Series

Dimensions/SYA3000 Series: Base Mounted

2 position single
SYA3140-01□



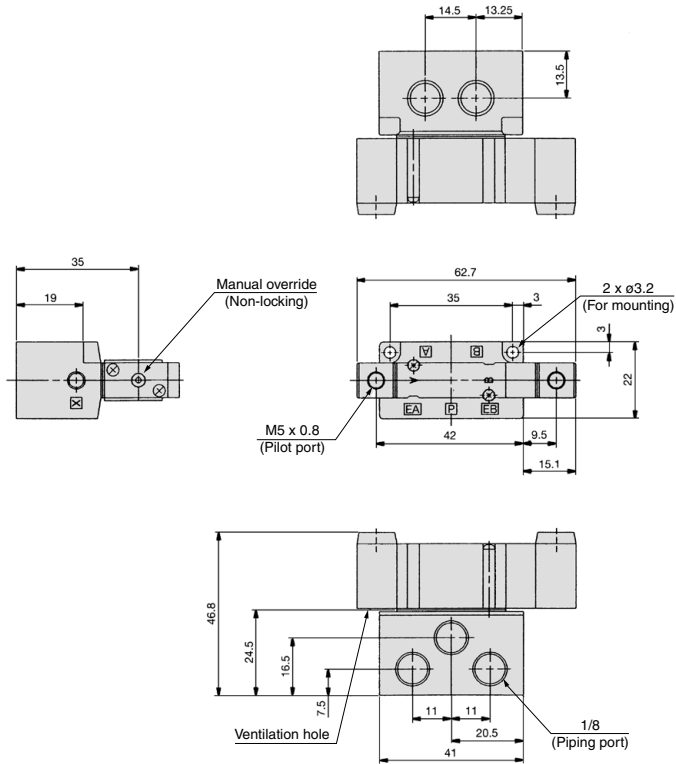
2 position double
SYA3240-01□



Dimensions/SYA3000 Series: Base Mounted

3 position closed center / exhaust center / pressure center

SYA³₄40-01□
5

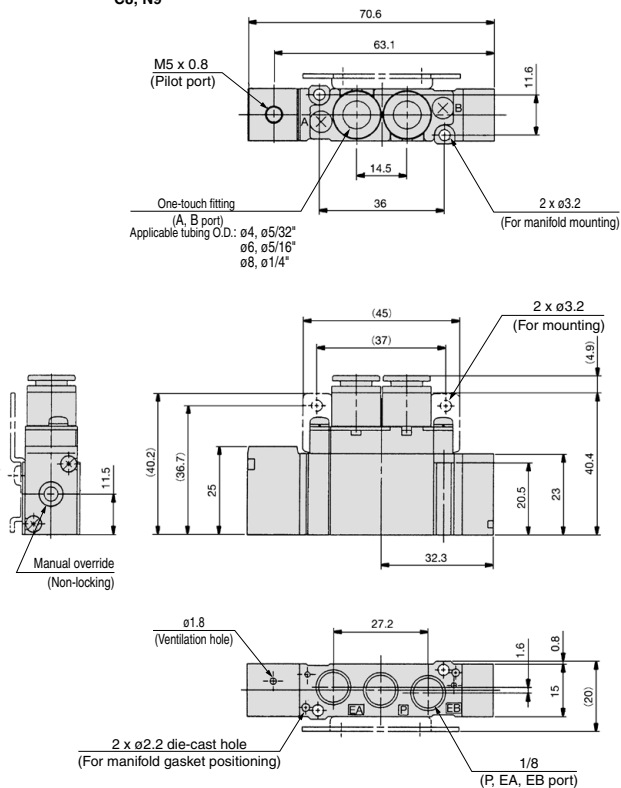


SYA3000/5000/7000 Series

Dimensions/SYA5000 Series: Body Ported

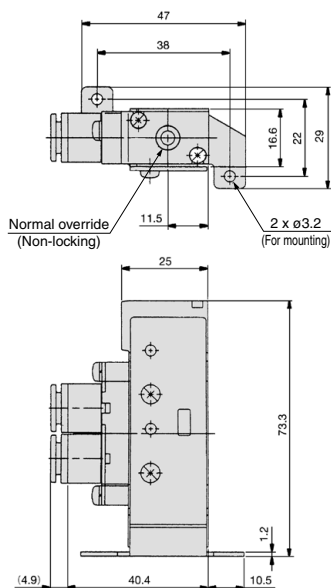
2 position single

SYA5120-C6, N7 □ (-F2)
C4, N3
C8, N9

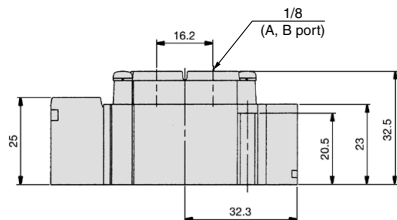


Foot bracket

SYA5120-C6, N7 □ (-F1)
C4, N3
C8, N9



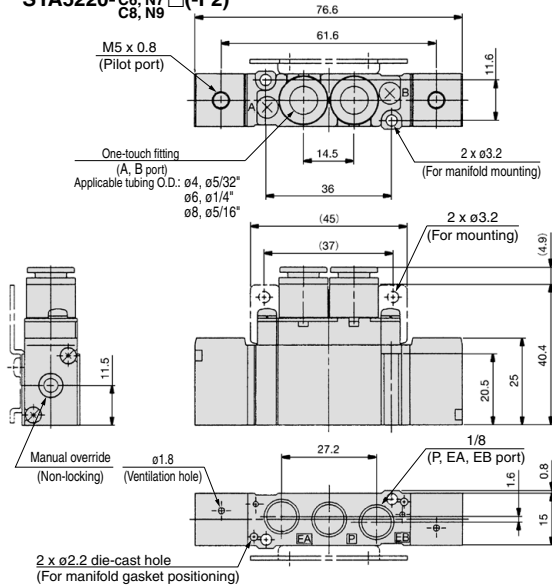
SYA5120-01 □



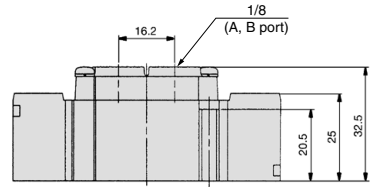
Dimensions/SYA5000 Series: Body Ported

2 position double

SYA5220-□
C4, N3
C6, N7 □ (-F2)
C8, N9

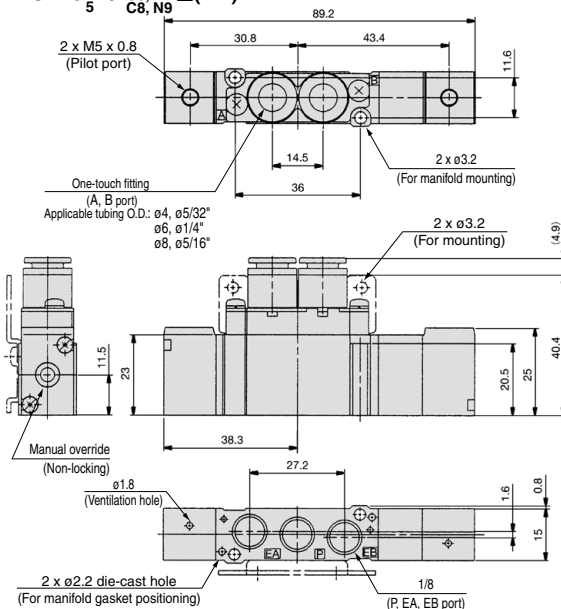


SYA5220-01 □

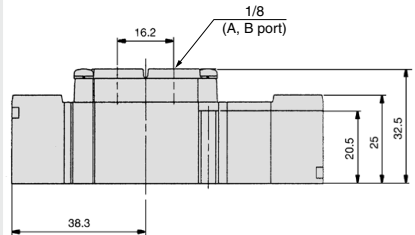


3 position closed center / exhaust center / pressure center

SYA5420-□
C4, N3
C6, N7 □ (-F2)
C8, N9



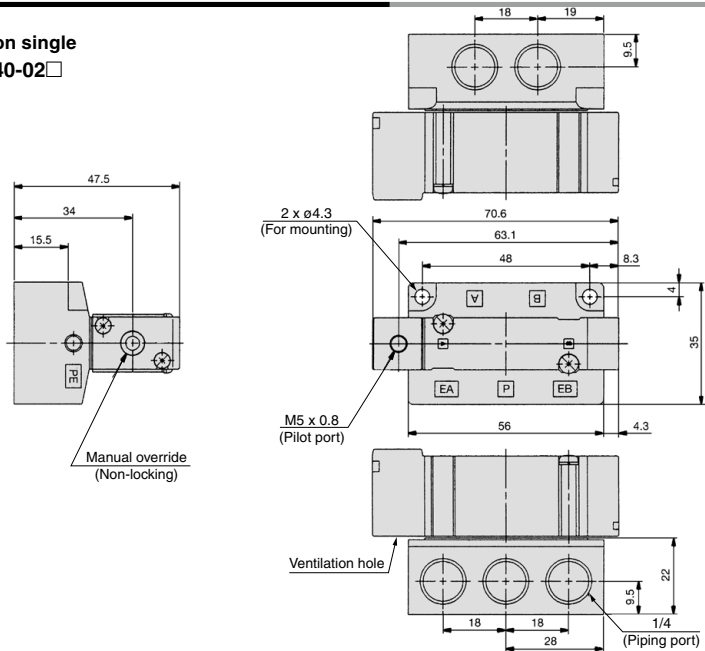
SYA5420-01 □



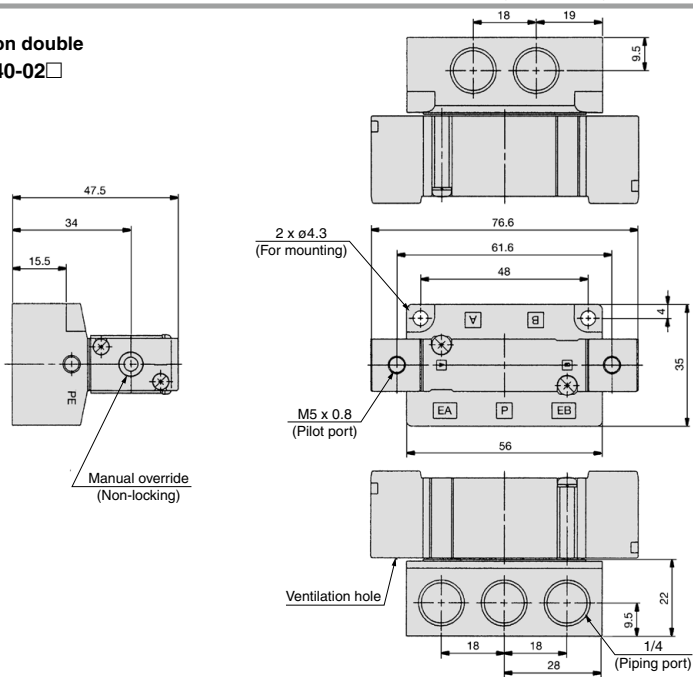
SYA3000/5000/7000 Series

Dimensions/SYA5000 Series: Base Mounted

2 position single
SYA5140-02□



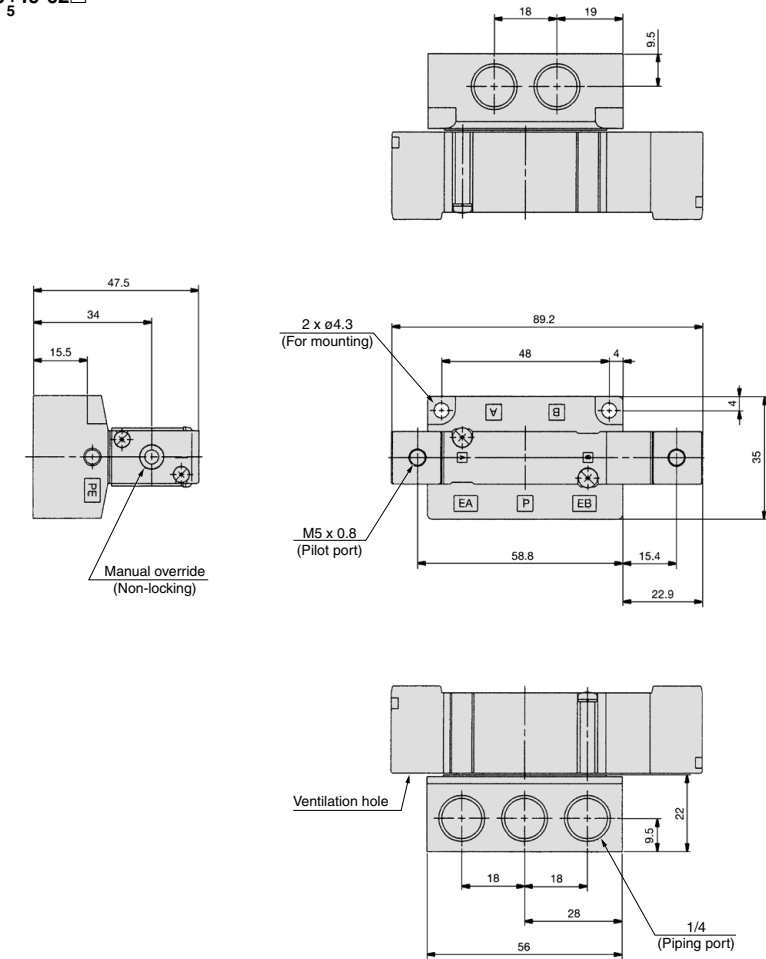
2 position double
SYA5240-02□



Dimensions/SYA5000 Series: Base Mounted

3 position closed center / exhaust center / pressure center

SYA5440-02

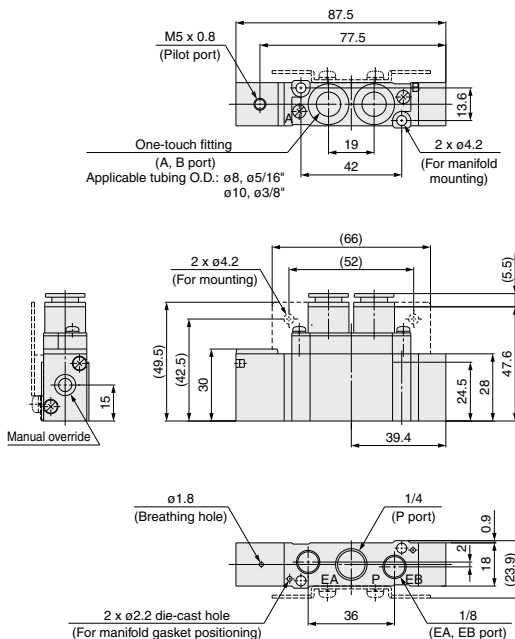


SYA3000/5000/7000 Series

Dimensions/SYA7000 Series: Body Ported

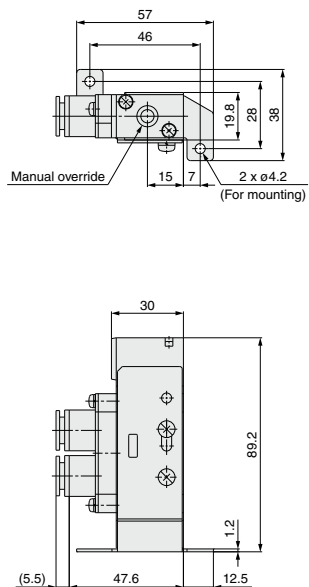
2 position single

SYA7120-^{C8, N9}
C10, N11 □ (-F2)

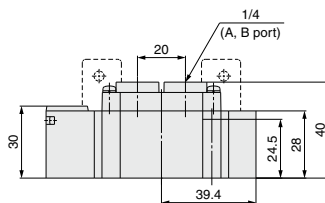


Foot bracket

SYA7120-^{C8, N9}
C10, N11 □ (-F1)



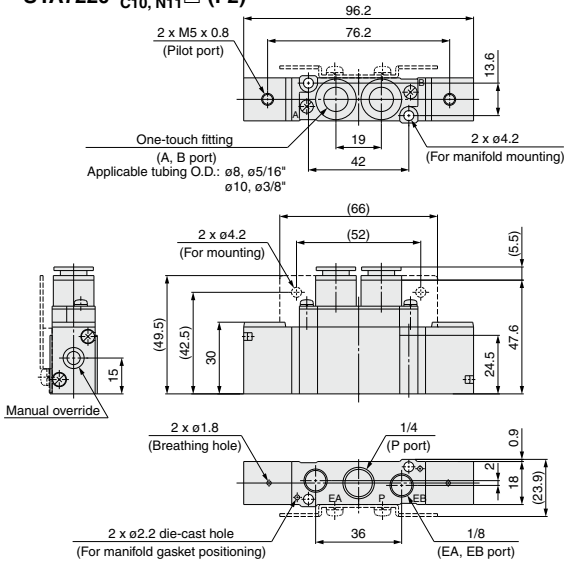
SYA7120-02 □ (-F2)



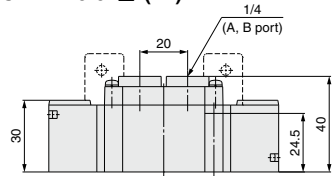
Dimensions/SYA7000 Series: Body Ported

2 position double

SYA7220-C₈, N₉ □-(F2)
C₁₀, N₁₁

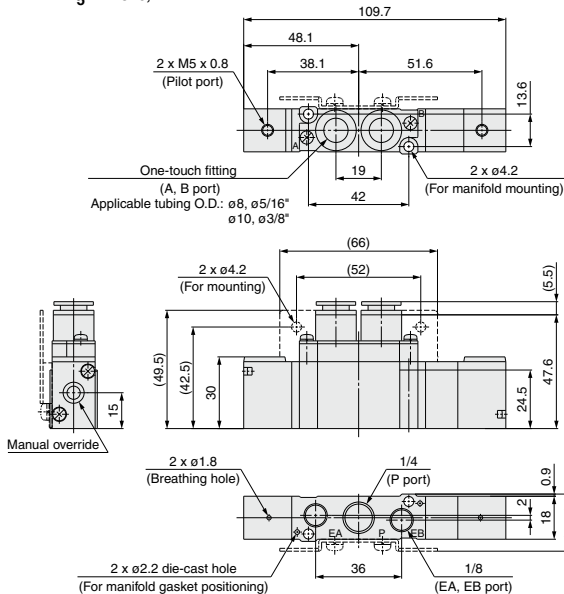


SYA7220-02 □-(F2)

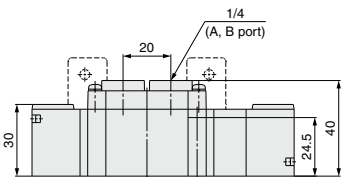


3 position closed center / exhaust center / pressure center

SYA7³/₅20-C₈, N₉ □-(F2)
C₁₀, N₁₁



SYA7³/₅20-02 □-(F2)

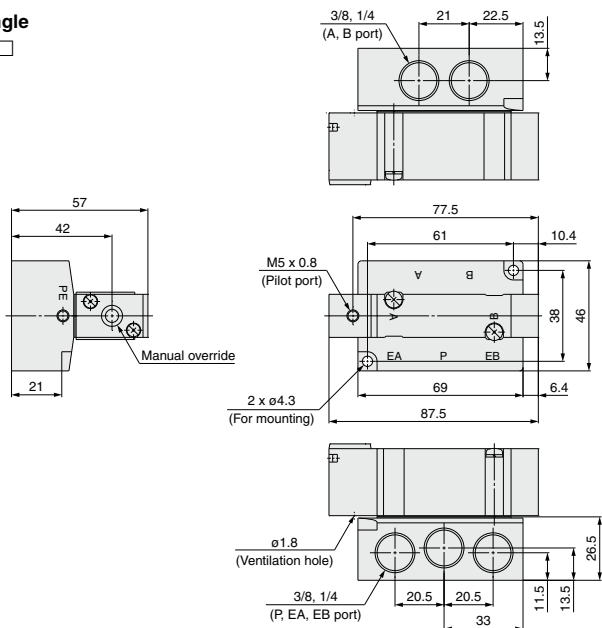


SYA3000/5000/7000 Series

Dimensions/SYA7000 Series: Base Mounted

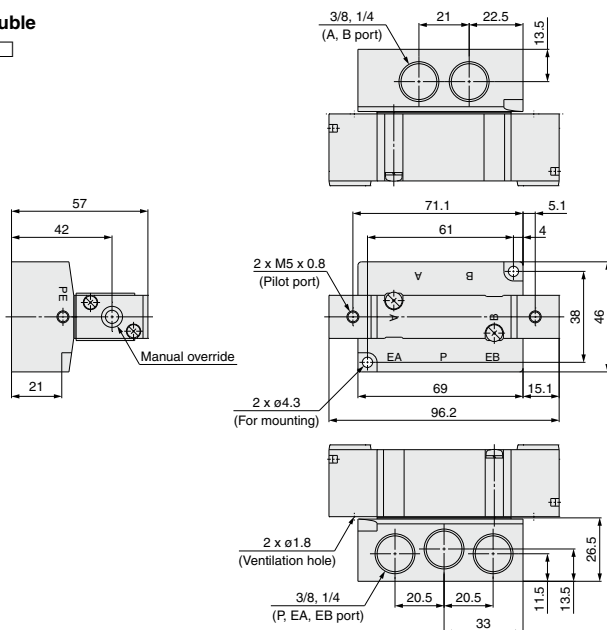
2 position single

SYA7140-⁰²₀₃ □



2 position double

SYA7240-⁰²₀₃ □



Dimensions/SYA7000 Series: Base Mounted

3 position closed center / exhaust center / pressure center

SYA740-02 □
5 03

