Body Ported Valves
Series SY3/5/7/9000

Features

- *Wide range of sizes*
- *Choice of electrical entries*
- *Body ported valves can be manifold mounted*
- *One touch fittings for direct connection*
- *Very low power consumption*

How to Order

SY 5 1 20 — 5 LO — 01F — Q

Series

3	SY3000
5	SY5000
7	SY7000
9	SY9000

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

Rated voltage

DC

5	24 VDC
6	12 VDC
V	6 VDC
S	5 VDC
R	3 VDC

AC (50/60 Hz)

1	100 VAC
2	200 VAC
3	110 VAC [115 VAC]
4	220 VAC [230 VAC]

Electrical entry

24, 12, 6, 5, 3 VDC			24, 12 VDC/ 100, 110, 200, 220 VAC
Grommet	L plug connector	M plug connector	DIN terminal
G: Lead wire length 300 mm	LO: Without connector	MO: Without connector	Y: DIN plug * D: DIN plug *

24, 12, 6, 5, 3 VDC
M8 connector
WO: Without connector cable

Note: For connector cables see Cable appendix.

* "D" denotes a DIN plug DIN43650 class with industry standard pin spacing. The "Y" plug is externally identical but has DIN 43650C pin spacing of 8 mm.

A, B port size

Symbol	Description	SY3000	SY5000	SY7000	SY9000
M5	M5 thread	○			
01F	1/8 thread		○		
02F	1/4 thread			○	○
03F	3/8 thread				○
C4	4mm tube	○	○		
C6	6mm tube	○	○		
C8	8mm tube		○	○	○
C10	10mm tube			○	○
C12	12mm tube				○

Manual override

Nil: Non-locking push type	D: Push-turn locking slotted type	E: Push-turn locking lever type

Light/Surge voltage suppressor

Electrical entry for G, L, M, W

Nil	Without light/surge voltage suppressor
Z	With light/surge voltage suppressor
U	With light/surge voltage suppressor [Non-polar type]

Electrical entry for Y

Nil	Without light/surge voltage suppressor
Z	With light/surge voltage suppressor

Symbols

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

Note: AC voltages can only be specified in conjunction with a DIN plug (Y entry).

Valves

Valve Specifications

Series		SY3000	SY5000	SY7000	SY9000
Fluid		Air			
Internal pilot 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			
Ambient and fluid temperature (°C)		–10 to 50 (No freezing)			
Max. operating frequency (Hz)	2 position single, double	10	5	5	5
	3 position	3	3	3	3
Manual override (Manual operation)		Non-locking push type, Push-turn locking slotted type, Push-turn locking lever type			
Pilot exhaust method		Common exhaust type for main and pilot valve			
Lubrication		Not required			
Mounting orientation		Unrestricted			
Enclosure		Dustproof (DIN terminal, M8 connector comform to IP65)			

Solenoid Specifications

Electrical entry			Grommet (G) L plug connector (L) M plug connector (M) DIN terminal (Y) M8 connector (W)
Coil rated voltage (V)	DC		24, 12, 6, 5, 3
	AC 50/60 Hz		100, 110, 200, 220*
Allowable voltage fluctuation (%)			±10% of rated voltage
Power consumption (W)	DC	Standard	0.35 (With indicator light: 0.4 DIN terminal with indicator light: 0.45)
Apparent power (VA)	AC	100 V	1.4 (With indicator light: 1.5)
		110 V	1.6 (With indicator light: 1.7)
		200 V	2.3 (With indicator light: 2.4)
		220 V [230 V]	2.5 (With indicator light: 2.6) [2.7 (With indicator light: 2.8)]
Surge voltage suppressor			Diode (DIN terminal is ZNR. G, L or M (Non-polar) is zener diode.)
Indicator light			LED

* DIN plug only.

Response Time

SY3000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)		
	Without light/surge voltage suppressor	With light/surge voltage suppressor	
		Type Z	Type U
2 position single	12 or less	15 or less	12 or less
2 position double	10 or less	13 or less	10 or less
3 position	15 or less	20 or less	16 or less

SY7000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)		
	Without light/surge voltage suppressor	With light/surge voltage suppressor	
		Type Z	Type U
2 position single	31 or less	38 or less	33 or less
2 position double	27 or less	30 or less	28 or less
3 position	50 or less	56 or less	50 or less

SY5000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)		
	Without light/surge voltage suppressor	With light/surge voltage suppressor	
		Type Z	Type U
2 position single	19 or less	26 or less	19 or less
2 position double	18 or less	22 or less	18 or less
3 position	32 or less	38 or less	32 or less

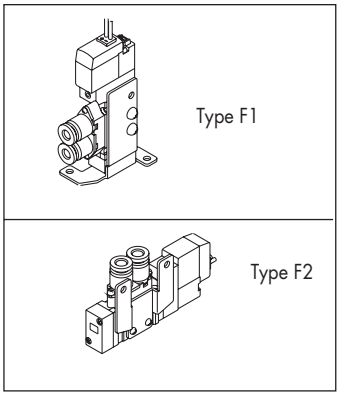
SY9000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)		
	Without light/surge voltage suppressor	With light/surge voltage suppressor	
		Type Z	Type U
2 position single	35 or less	41 or less	35 or less
2 position double	35 or less	41 or less	35 or less
3 position	62 or less	64 or less	62 or less

SY Valve Accessories

Mounting Bracket Assemblies for Body Ported Valve

Description	part no.
Bracket (Type F1)	SX3000-16-2A (with mounting screw) for single solenoid valves only
Bracket (Type F2)	SX3000-16-1A (with mounting screw)



Flow Characteristics/Weight

Series SY3000

Type of actuation			Port size 1, 5, 3 (P, EA, EB)	Port size 4, 2 (A, B)	Flow characteristics 1→4/2 (P→A/B) C [dm³/(s·bar)]	b	Cv	Flow characteristics 4/2→5/3 (A/B→EA/EB) C [dm³/(s·bar)]	b	Cv	Weight (g) Grommet	Response times (m/s)	W M8 connector
2 position	Single		M5	M5	0.61	0.44	0.16	0.64	0.45	0.18	51	15	57
	Double										68	13	82
3 position	Closed centre				0.48	0.46	0.13	0.47	0.43	0.13	71	20	84
	Exhaust centre				0.47	0.42	0.13	0.47	0.41	0.13			
	Pressure centre				0.50	0.48	0.15	0.47	0.43	0.13			
2 position	Single			C4 (One-touch fitting for ø4)	0.72	0.29	0.18	0.64	0.34	0.17	60	15	67
	Double										78	13	101
3 position	Closed centre				0.59	0.28	0.15	0.59	0.30	0.15	81	20	94
	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			
2 position	Single			C6 (One-touch fitting for ø6)	0.76	0.30	0.19	0.65	0.39	0.17	56	15	63
	Double										74	13	87
3 position	Closed centre				0.76	0.55	0.24	0.60	0.33	0.16	77	20	90
	Exhaust centre				0.65	0.32	0.16	0.64	0.31	0.17			
	Pressure centre				0.77	0.34	0.21	0.61	0.34	0.16			

Series SY7000

Type of actuation			Port size 1, 5, 3 (P, EA, EB)	Port size 4, 2 (A, B)	Flow characteristics 1→4/2 (P→A/B) C [dm³/(s·bar)]	b	Cv	Flow characteristics 4/2→5/3 (A/B→EA/EB) C [dm³/(s·bar)]	b	Cv	Weight (g) Grommet	Response times (m/s)	DIN terminal	W M8 connector
2 position	Single		1 (P) Port 1/4, 5, 3 (EA, EB) port 1/8	1/4	4.1	0.23	0.93	3.3	0.33	0.81	101	38	125	129
	Double										120	30	167	175
3 position	Closed centre				2.9	0.31	0.70	2.4	0.38	0.63	128	56	175	183
	Exhaust centre				2.5	0.39	0.65	3.4	0.35	0.82				
	Pressure centre				4.3	0.23	0.97	2.2	0.39	0.58				
2 position	Single			C8 (One-touch fitting for ø8)	3.2	0.26	0.77	3.2	0.37	0.82	107	38	131	135
	Double										126	30	174	182
3 position	Closed centre				2.6	0.24	0.63	2.4	0.31	0.62	134	56	182	190
	Exhaust centre				2.4	0.25	0.57	2.6	0.42	0.70				
	Pressure centre				3.3	0.28	0.78	2.2	0.34	0.60				
2 position	Single			C10 (One-touch fitting for ø10)	3.8	0.26	0.86	3.2	0.34	0.82	103	38	126	130
	Double										122	30	169	177
3 position	Closed centre				2.8	0.27	0.67	2.4	0.21	0.59	130	56	177	185
	Exhaust centre				2.5	0.25	0.59	2.7	0.38	0.70				
	Pressure centre				3.8	0.25	0.89	2.3	0.38	0.61				

Series SY5000

Type of actuation			Port size 1, 5, 3 (P, EA, EB)	Port size 4, 2 (A, B)	Flow characteristics 1→4/2 (P→A/B) C [dm³/(s·bar)]	b	Cv	Flow characteristics 4/2→5/3 (A/B→EA/EB) C [dm³/(s·bar)]	b	Cv	Weight (g) Grommet	Response times (m/s)	DIN terminal	W M8 connector
2 position	Single		1/8	1/8	1.9	0.35	0.49	2.4	0.39	0.61	70	26	93	97
	Double										88	22	135	143
3 position	Closed centre				1.7	0.43	0.45	1.8	0.35	0.46	93	38	140	148
	Exhaust centre				1.5	0.44	0.41	2.5 (1.5)	0.32 (0.43)	0.59 (0.40)				
	Pressure centre				2.2 (0.91)	0.46 (0.58)	0.61 (0.28)	1.8	0.38	0.46				
2 position	Single			C4 (One-touch fitting for ø4)	0.75	0.43	0.20	0.85	0.64	0.30	94	26	117	121
	Double										111	22	159	167
3 position	Closed centre				0.74	0.40	0.19	0.84	0.57	0.28	117	38	164	172
	Exhaust centre				0.75	0.36	0.19	0.84 (0.84)	0.64 (0.53)	0.30 (0.27)				
	Pressure centre				0.78 (0.71)	0.44 (0.37)	0.21 (0.18)	0.84	0.57	0.27				
2 position	Single			C6 (One-touch fitting for ø6)	1.5	0.33	0.33	2.0	0.37	0.52	88	26	112	116
	Double										106	22	153	161
3 position	Closed centre				1.3	0.31	0.33	1.6	0.32	0.39	111	38	158	166
	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				
2 position	Single			C8 (One-touch fitting for ø8)	1.9	0.21	0.45	2.3	0.29	0.57	80	26	103	107
	Double										98	22	145	153
3 position	Closed centre				1.6	0.29	0.39	1.7	0.38	0.46	103	38	150	158
	Exhaust centre				1.4	0.38	0.39	2.0 (1.5)	0.37 (0.41)	0.52 (0.43)				
	Pressure centre				2.2 (1.6)	0.32 (0.44)	0.56 (0.44)	1.8	0.41	0.50				

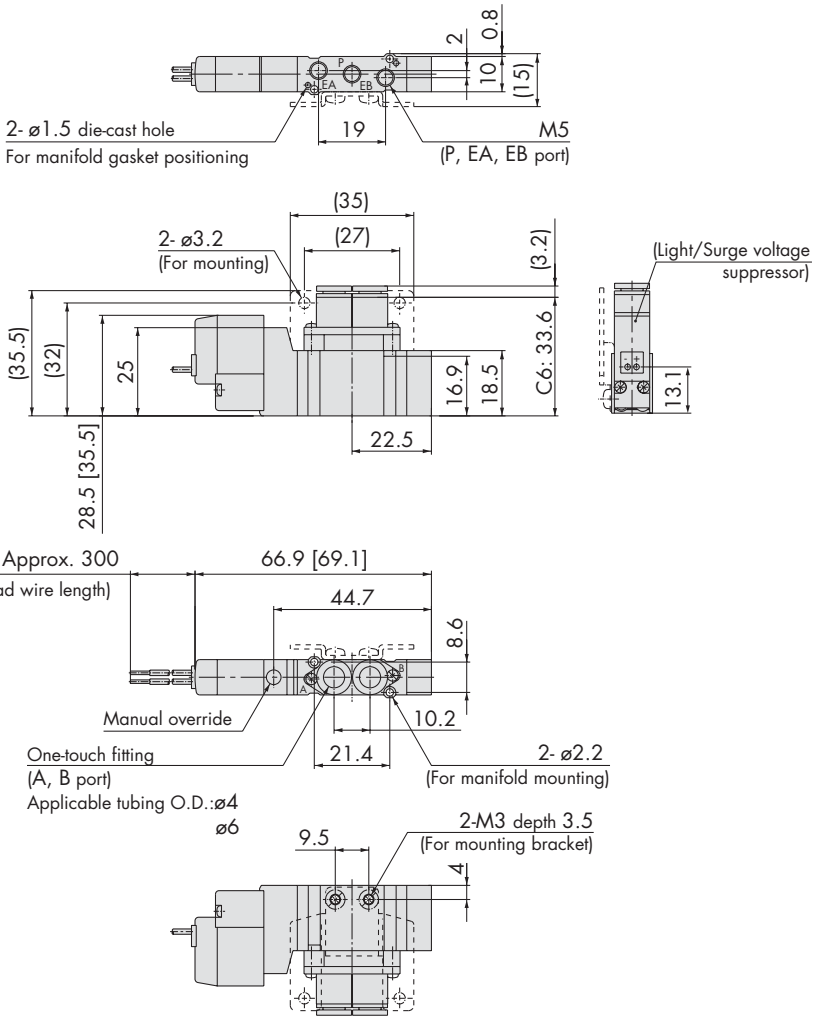
Series SY9000

Type of actuation			Port size 1, 5, 3 (P, EA, EB)	Port size 4, 2 (A, B)	Flow characteristics 1→4/2 (P→A/B) C [dm³/(s·bar)]	b	Cv	Flow characteristics 4/2→5/3 (A/B→EA/EB) C [dm³/(s·bar)]	b	Cv	Weight (g) Grommet	Response times (m/s)	DIN terminal	W M8 connector
2 position	Single		1/4	1/4	7.0	0.33	1.7	7.6	0.35	2.0	241	41	265	269
	Double										260	41	308	316
3 position	Closed centre				6.7	0.37	1.7	6.4	0.34	1.6	284	64	332	340
	Exhaust centre				6.4	0.36	1.6	8.3 (4.1)	0.41 (0.27)	2.2 (0.91)				
	Pressure centre				8.0 (3.2)	0.27 (0.34)	1.8 (0.76)	6.5	0.22	1.4				
2 position	Single			3/8	8.0	0.29	1.9	8.0	0.33	2.0	236	41	260	264
	Double										255	41	303	311
3 position	Closed centre				7.9	0.33	1.9	6.6	0.27	1.6	279	64	327	335
	Exhaust centre				8.0	0.33	1.9	8.7 (8.3)	0.34 (0.40)	2.2 (2.3)				
	Pressure centre				8.9 (3.3)	0.34 (0.40)	2.2 (0.82)	6.5	0.25	1.5				
2 position	Single			C8 (One-touch fitting for ø8)	4.3	0.28	0.96	7.1	0.32	1.7	293	41	317	321
	Double										312	41	360	368
3 position	Closed centre				4.3	0.31	0.99	6.1	0.28	1.4	336	64	384	392
	Exhaust centre				4.3	0.3	0.99	7.4 (3.8)	0.36 (0.29)	1.9 (0.86)				
	Pressure centre				4.4 (3.2)	0.35 (0.26)	1.0 (0.71)	2.1	0.41	0.53				
2 position	Single			C10 (One-touch fitting for ø10)	6.1	0.28	1.4	7.9	0.33	1.9	279	41	303	307
	Double										298	41	346	354
3 position	Closed centre				5.9	0.30	1.4	6.5	0.26	1.5	322	64	370	378
	Exhaust centre				5.8	0.25	1.3	8.4 (4.1)	0.33 (0.27)	2.0 (0.93)				
	Pressure centre				6.3 (3.2)	0.29 (0.29)	1.5 (0.72)	6.4	0.25	1.5				
2 position	Single			C12 (One-touch fitting for ø12)	7.0	0.25	1.6	8.6	0.41	2.2	265	41	289	293
	Double										284	41	332	340
3 position	Closed centre				6.9	0.24	1.6	7.0	0.33	1.7	308	64	356	364
	Exhaust centre				6.6	0.23	1.4	9.4 (4.5)	0.48 (0.32)	2.6 (1.0)				
	Pressure centre				7.4 (3.2)	0.25 (0.34)	1.7 (0.74)	6.6	0.23	1.5				

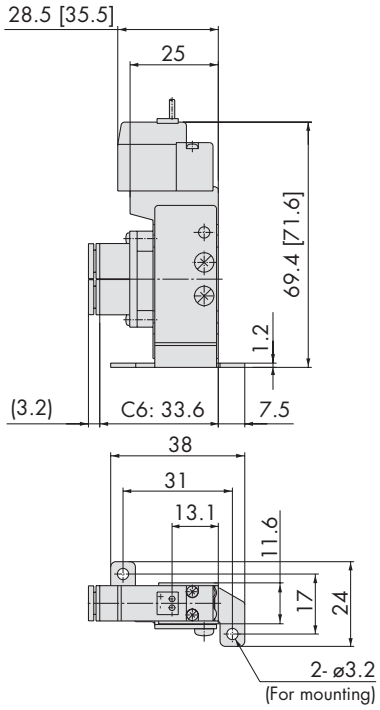
Note 1: The weights given are for grommet entry and M8 plug. L/M connector and DIN plug weights fall between these options.
Note 2: Response time is 0.5MPa with Z type surge suppression.

Dimensions: Series SY3000

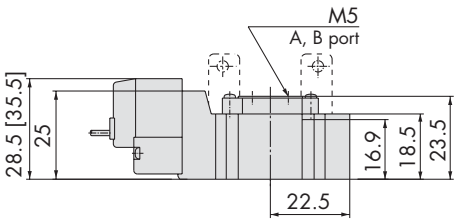
2 position single
Grommet (G): SY3120-□G□□-$^{C4}_{C6}$ - Q



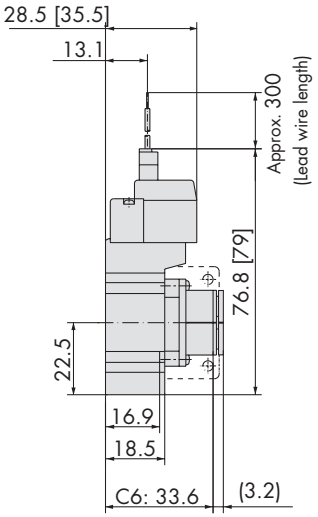
Foot bracket
SY3120-□G□□-$^{C4}_{C6}$ - Q



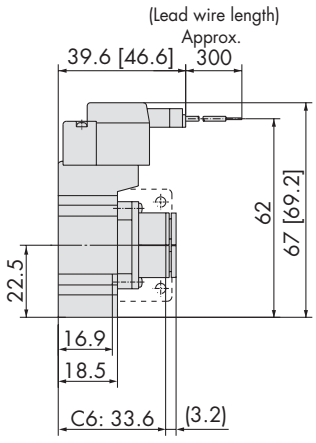
SY3120-□G□□-M5-Q



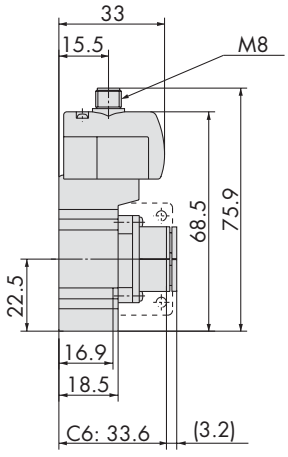
L plug connector (L):
SY3120-□L□□-$^{C4}_{C6}$ - Q



M plug connector (M):
SY3120-□M□□-$^{C4}_{C6}$-Q

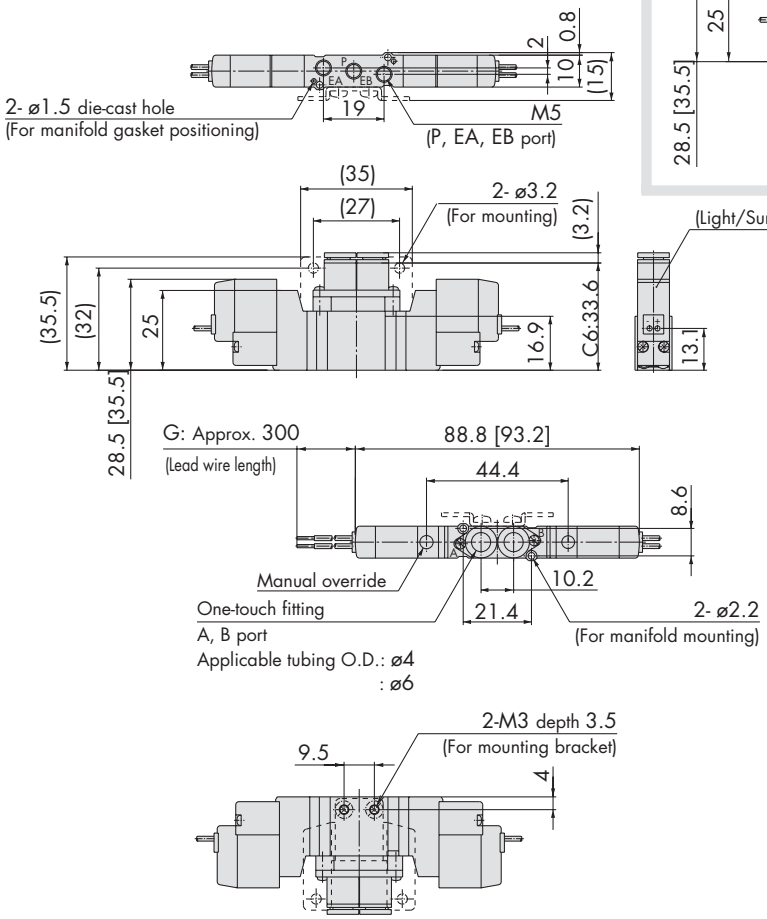


M8 connector (WO):
SY3120-□WO □□-$^{C4}_{C6}$-Q

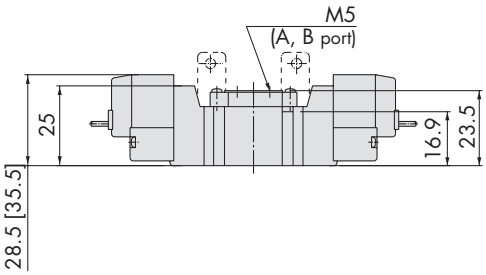


Dimensions: Series SY3000

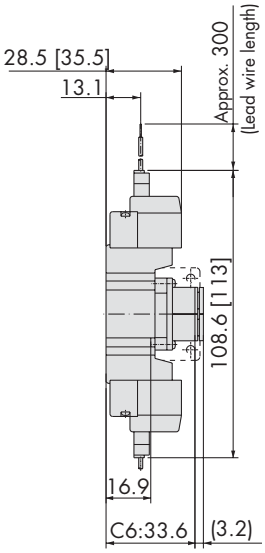
2 position double
Grommet (G): SY3220-□G□□-$^{C4}_{C6}$ - Q



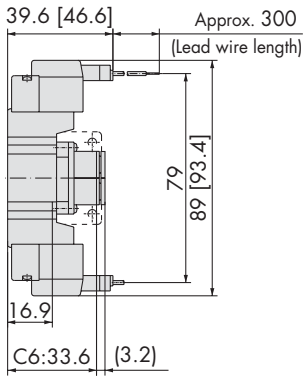
SY3220-□G□□-M5-Q



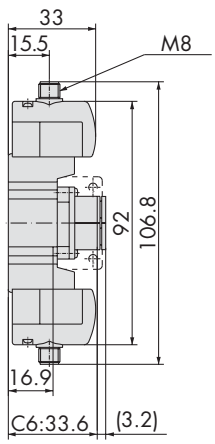
L plug connector (L):
SY3220-□L□□- $^{C4}_{C6}$-Q



M plug connector (M):
SY3220-□M□□- $^{C4}_{C6}$-Q

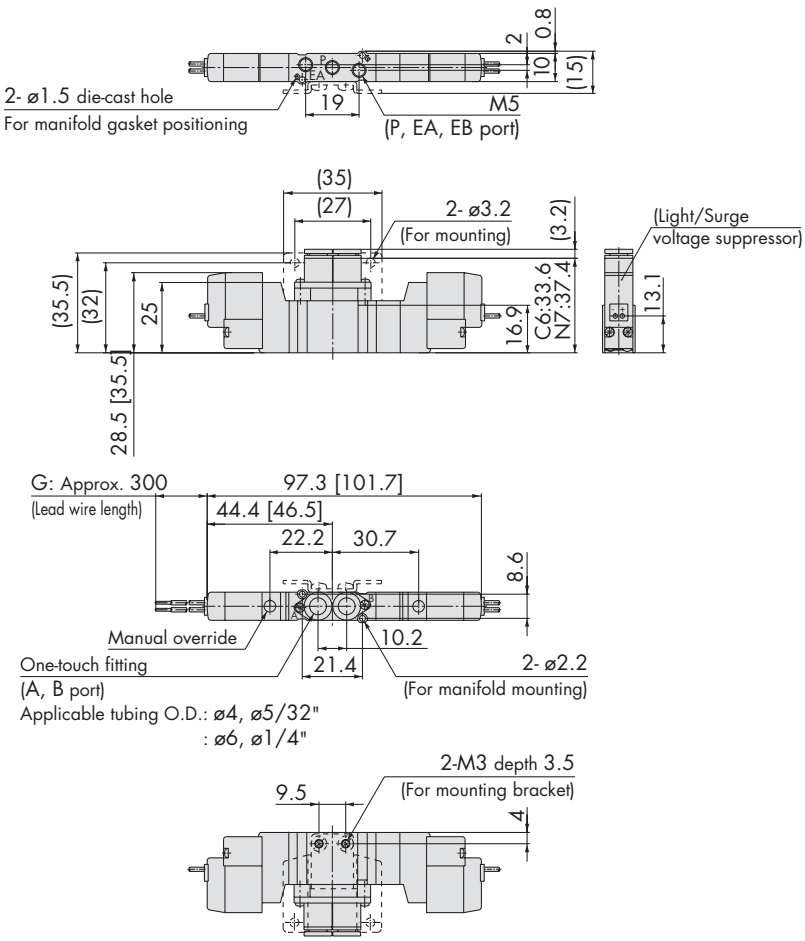


M8 connector (WO):
SY3220-WO□□- $^{C4}_{C6}$-Q

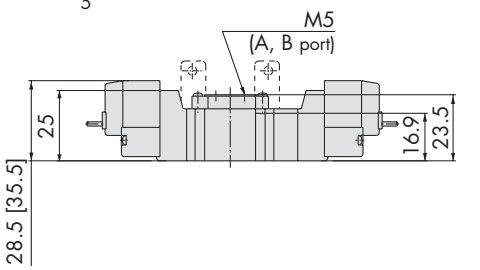


Dimensions: Series SY3000

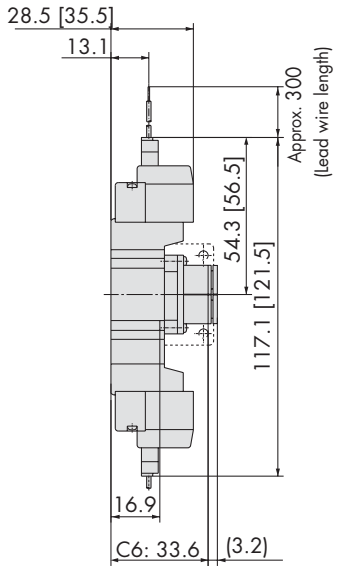
3 position closed centre/exhaust centre/pressure centre
Grommet (G): SY3$^{3}_{5}$20-□G□□-$^{C4}_{C6}$-Q



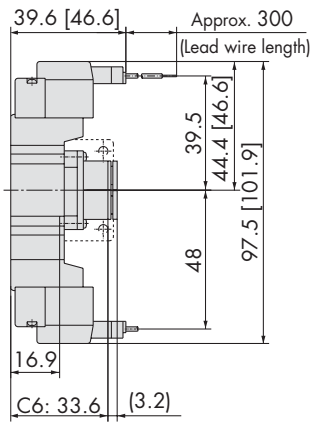
SY3$^{3}_{5}$20-□G□□-M5-Q



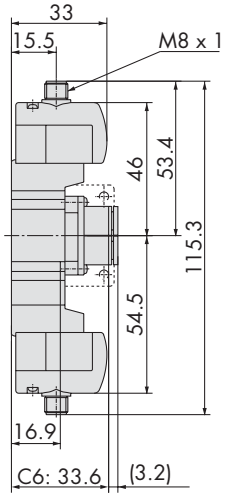
L plug connector (L):
SY3$^{3}_{5}$20-□L□□-$^{C4}_{C6}$-Q



M plug connector (M):
SY3$^{3}_{5}$20-□M□□-$^{C4}_{C6}$-Q



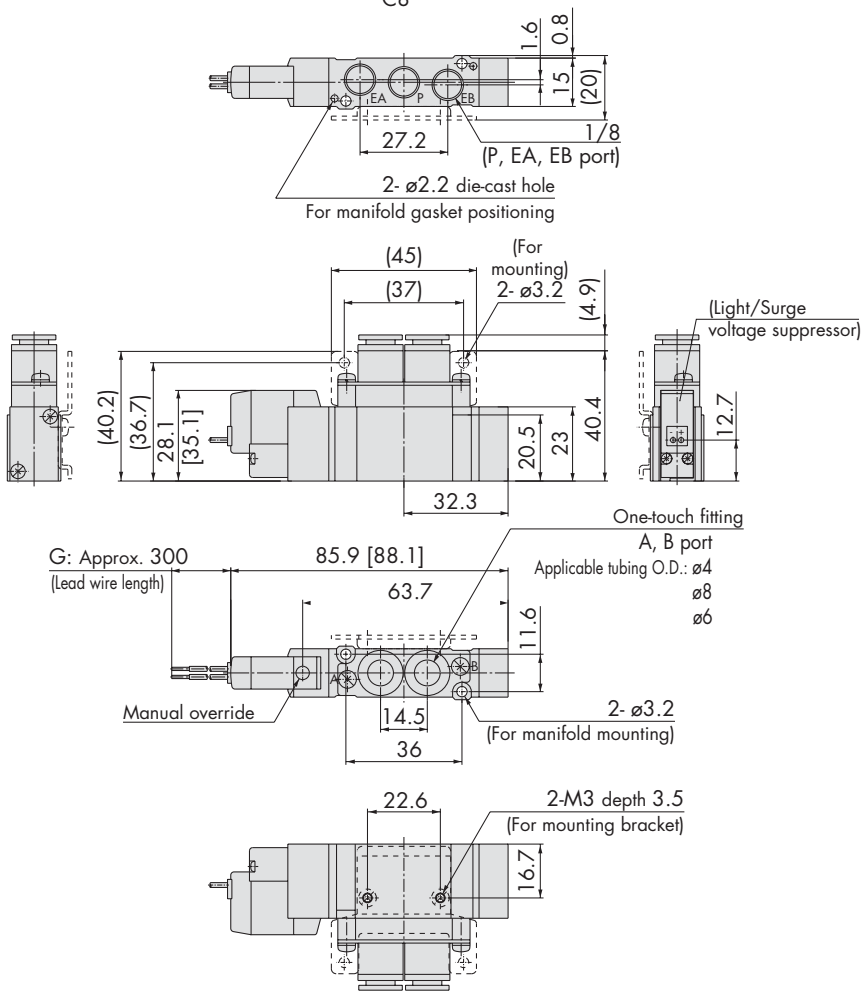
M8 connector (WO):
SY3$^{3}_{5}$20-□WO□□$^{C4}_{C6}$-Q



Dimensions: Series SY5000

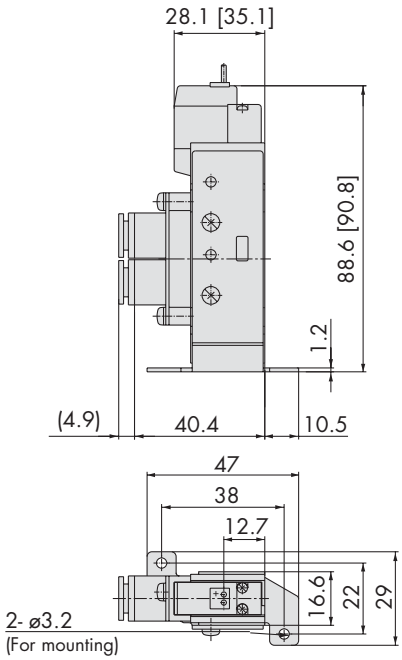
2 position single

Grommet (G): SY5120-□G□□-$^{C4}_{C6}$□ -Q
^{C8}

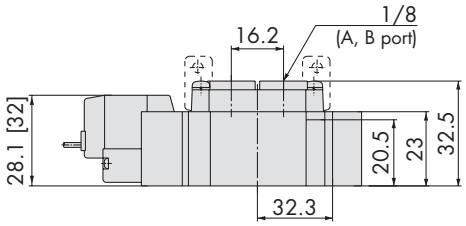


Foot bracket

SY5120-□G□□-$^{C4}_{C6}$ -Q
^{C8}

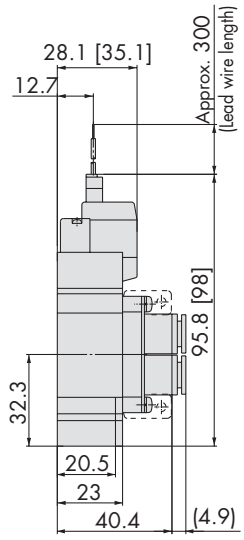


SY5120-□$^{G}_{H}$□□-01□ -Q



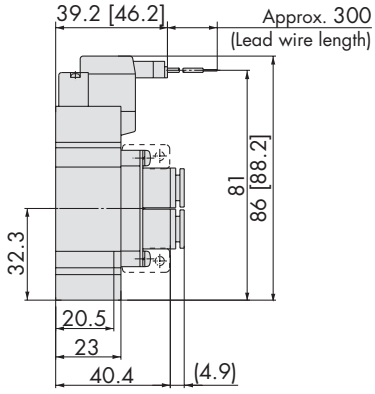
L plug connector: L

SY5120-□L□□-$^{C4}_{C6}$ -Q
^{C8}



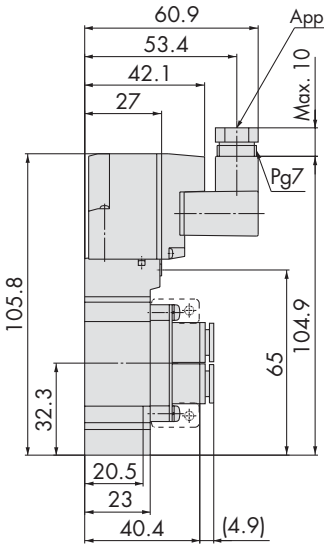
M plug connector: M

SY5120-□M□□-$^{C4}_{C6}$ -Q
^{C8}



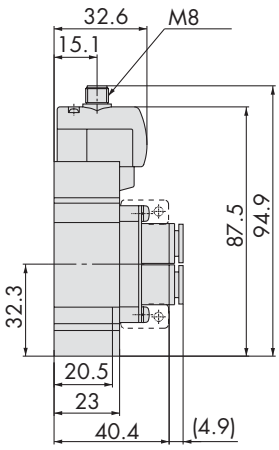
DIN terminal (D):

SY5120-□D□□-$^{C4}_{C6}$ -Q
^{C8}



M8 connector (WO):

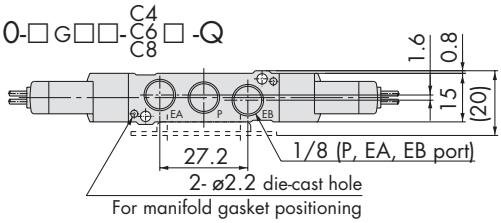
SY5120-□WO□□-$^{C4}_{C6}$ -Q
^{C8}



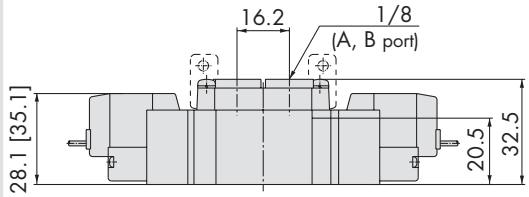
Dimensions: Series SY5000

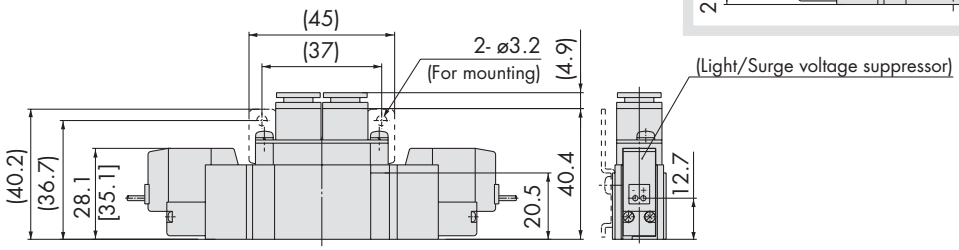
2 position double

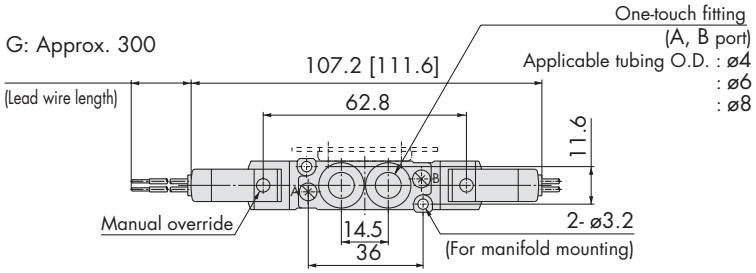
Grommet (G): SY5220-□G□□-C4/C6/C8□-Q

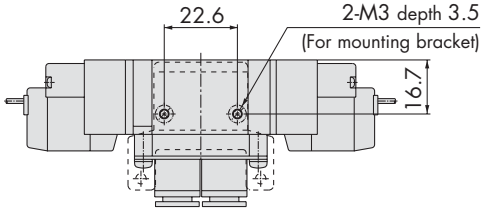


SY5220-□G□□-01□-Q







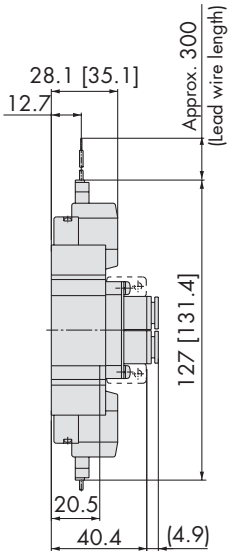


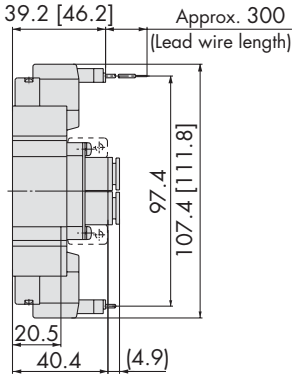
L plug connector: L
SY5220-□L□□-C4/C6/C8□-Q

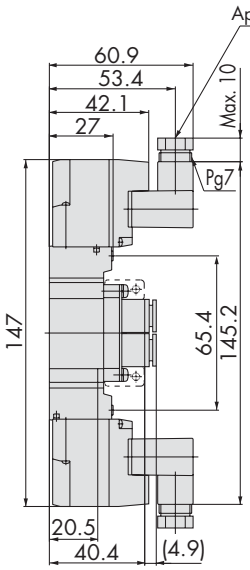
M plug connector: M
SY5220-□M□□-C4/C6/C8□-Q

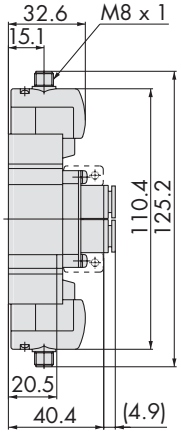
DIN terminal (D):
SY5220-□D□□-C4/C6/C8□-Q

M8 connector (WO):
SY5220-□WO□□-C4/C6/C8□-Q





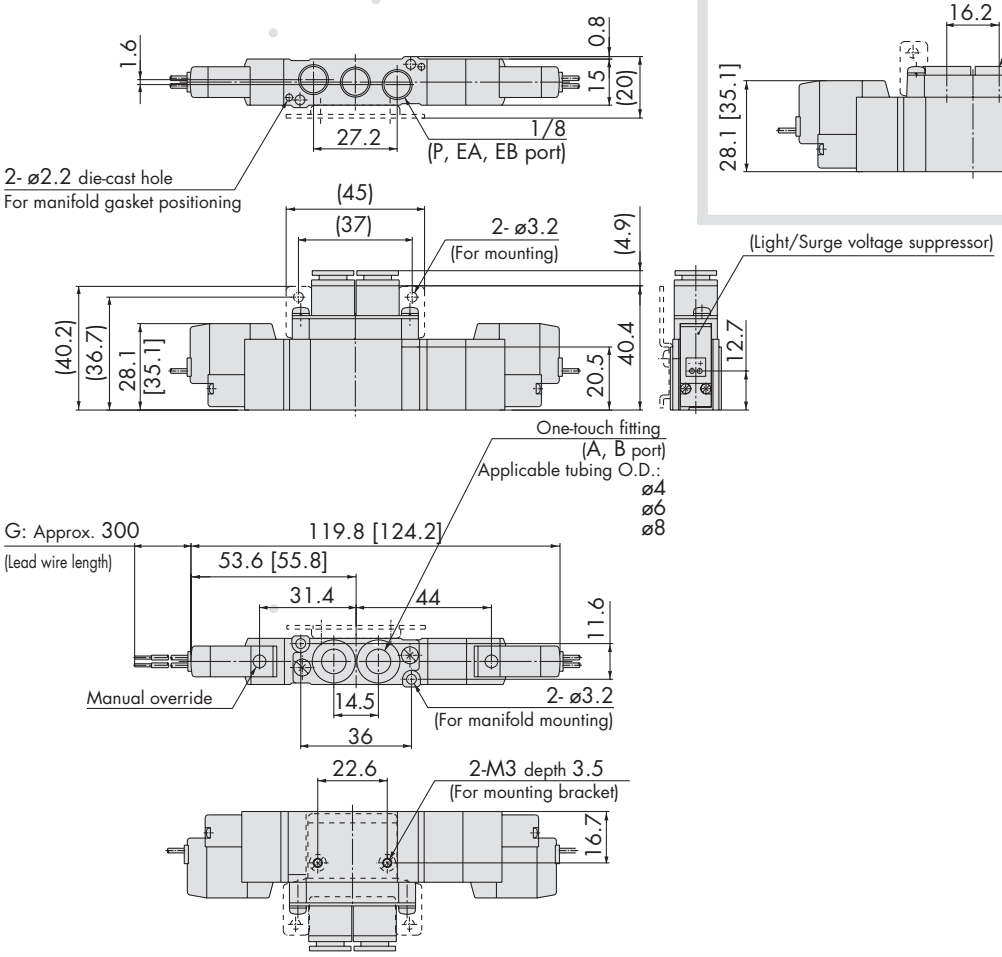




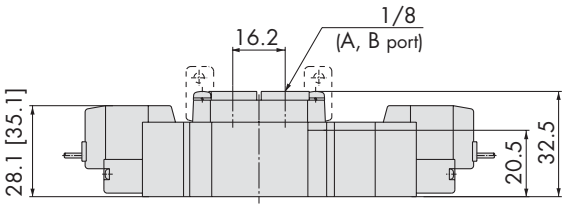
Dimensions: Series SY5000

3 position closed centre/exhaust centre/pressure centre

Grommet (G): SY5 3/4/5 20-□G□□-C4/C6/C8□-Q

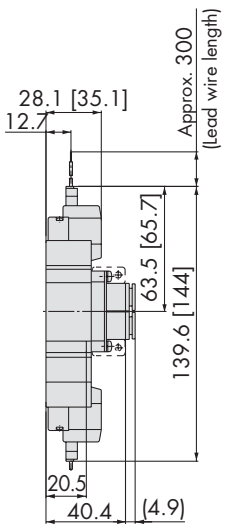


SY5 3/4/5 20-□ 3/4/5 □□-01□-Q



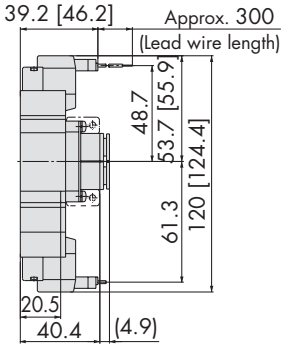
L plug connector: L

SY5 3/4/5 20-□L□□-C4/C6/C8□-Q



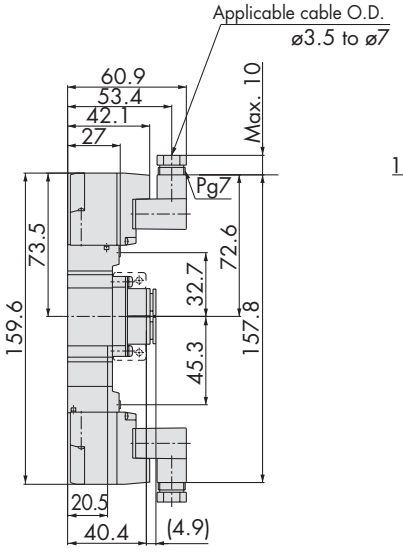
M plug connector: M

SY5 3/4/5 20-□M□□-C4/C6/C8□-Q



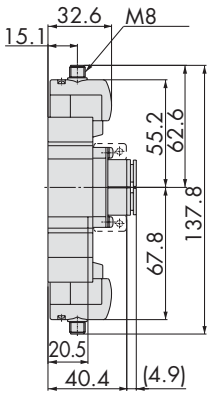
DIN terminal (D):

SY5 3/4/5 20-□D□□-C4, N3/C6, N7/C8, N9□(-F2)



M8 connector (WO):

SY5 3/4/5 20-□WO□□-C4/C6/C8□-Q

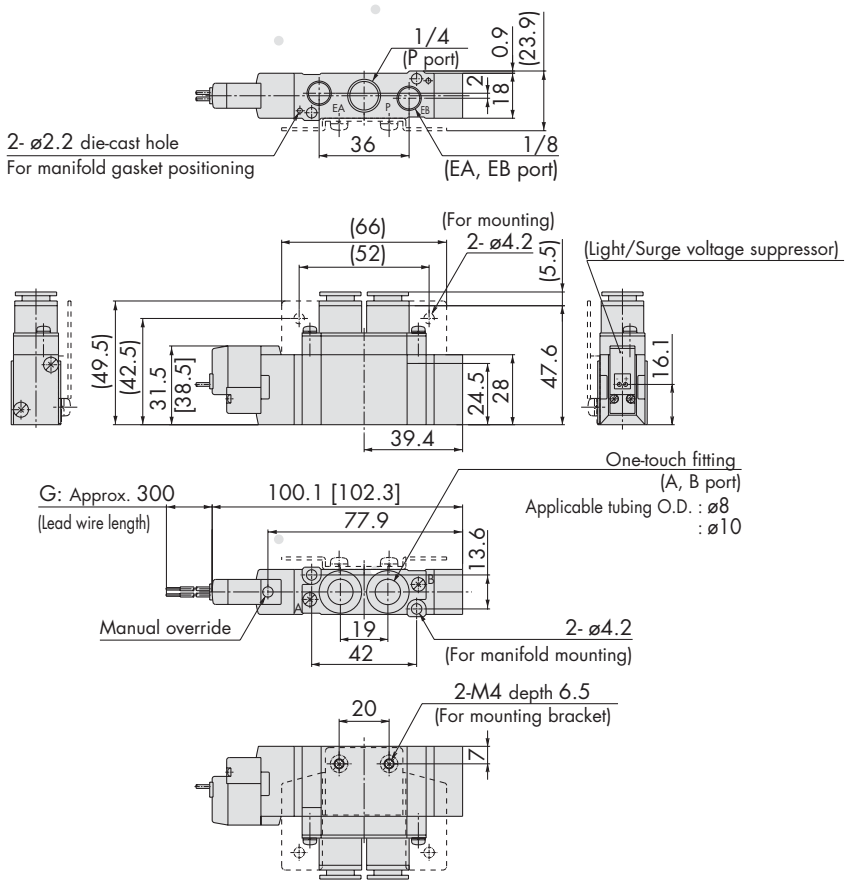


Valves

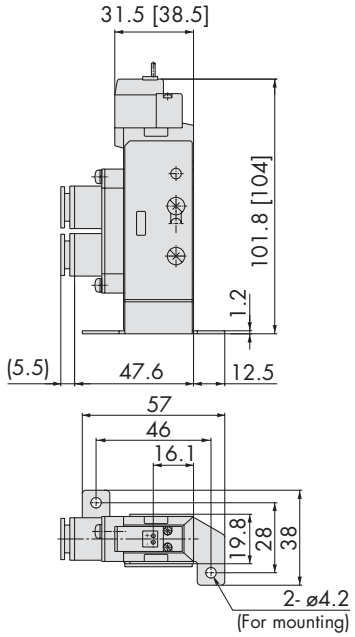
Dimensions: Series SY7000

2 position single

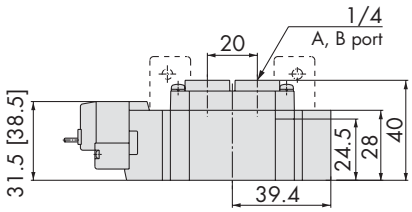
Grommet (G): SY7120-□G□□-$^{C8}_{C10}$-Q



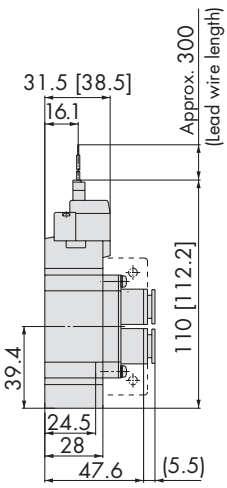
SY7120-□G□-$^{C8}_{C10}$-Q



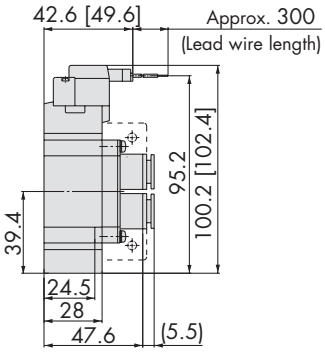
SY7120-□G□□-02□-Q



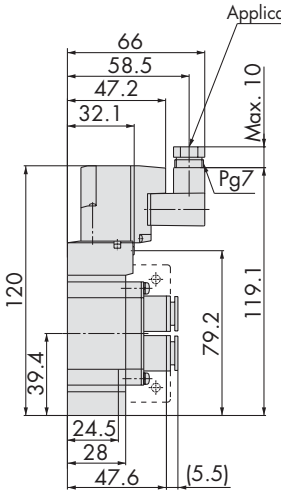
L plug connector (L) :
SY7120-□L□□-$^{C8}_{C10}$-Q



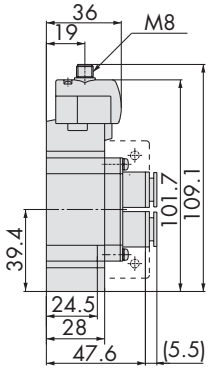
M plug connector (M):
SY7120-□M□□-$^{C8}_{C10}$-Q



DIN terminal (D):
SY7120-□D□□-$^{C8}_{C10}$-Q



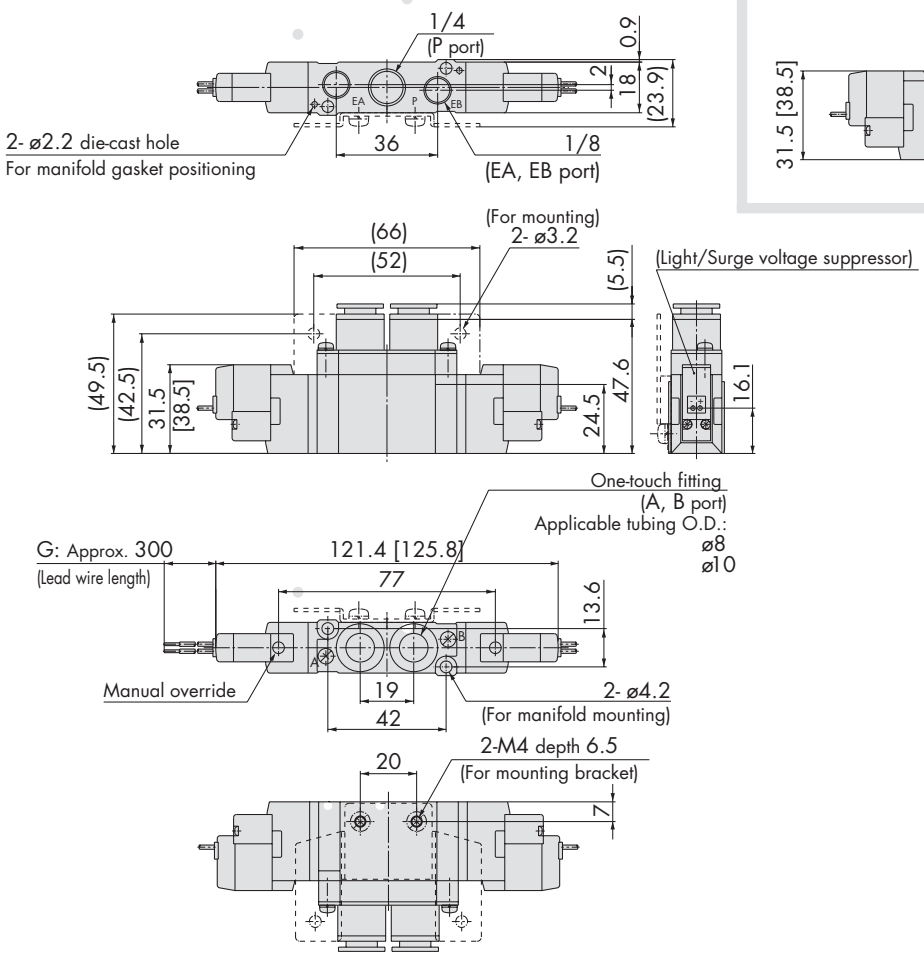
M8 connector (WO):
SY7120-□WO□□-$^{C8}_{C10}$-Q



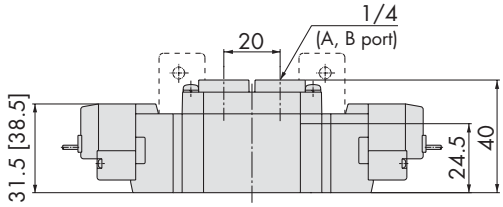
Dimensions: Series SY7000

2 position double

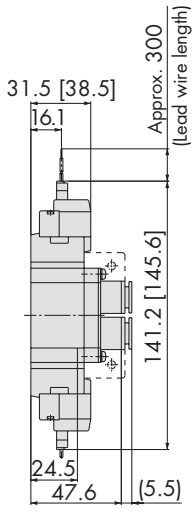
Grommet (G): SY7220-□G□□-$^{C8}_{C10}$-Q



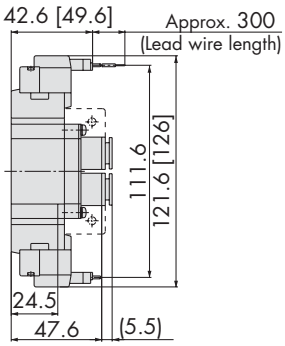
SY7220-□G□□-02□-Q



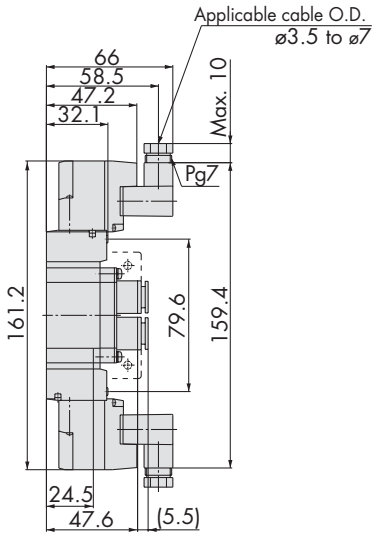
L plug connector (L):
SY7220-□L□□-$^{C8}_{C10}$-Q



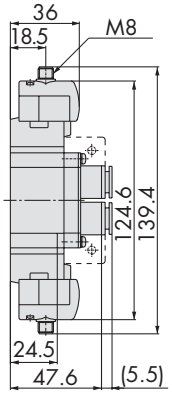
M plug connector (M):
SY7220-□M□□-$^{C8}_{C10}$-Q



DIN terminal (D):
SY7220-□D□□-$^{C8}_{C10}$-Q



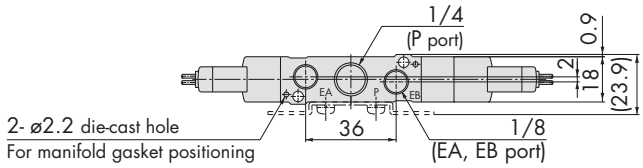
M8 connector (WO):
SY7220-□WO□□-$^{C8}_{C10}$-Q



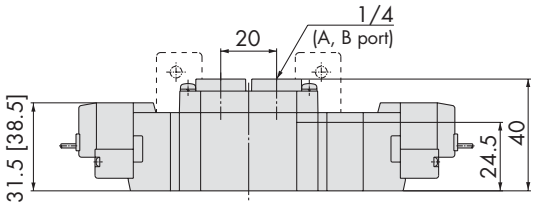
Valves

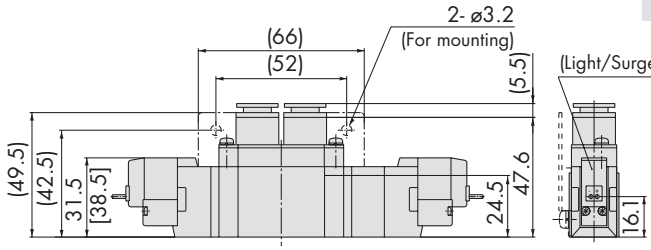
Dimensions: Series SY7000

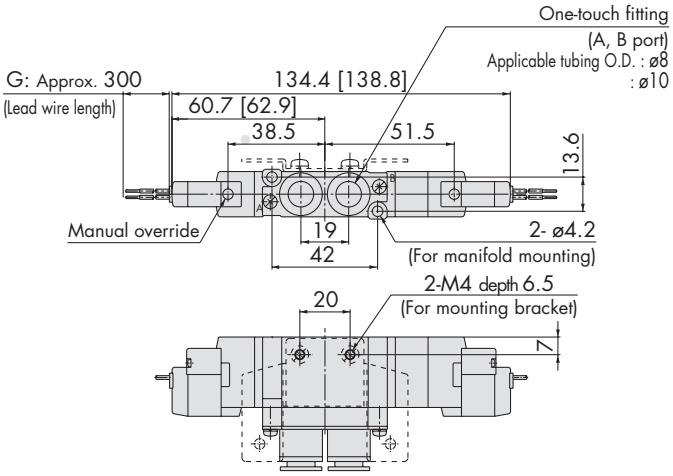
3 position closed centre/exhaust centre/pressure centre
Grommet (G): SY7$^{3}_{5}$20-□G□□-$^{C8}_{C10}$-Q



SY7$^{3}_{5}$20-□G□□-02□-Q





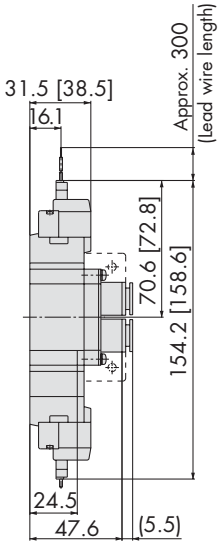


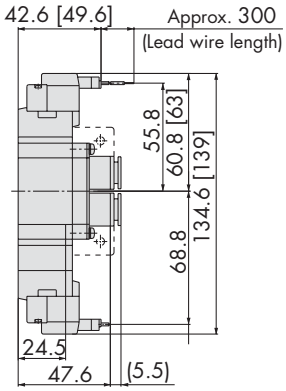
L plug connector (L):
SY7$^{3}_{5}$20-□L□□-$^{C8}_{C10}$-Q

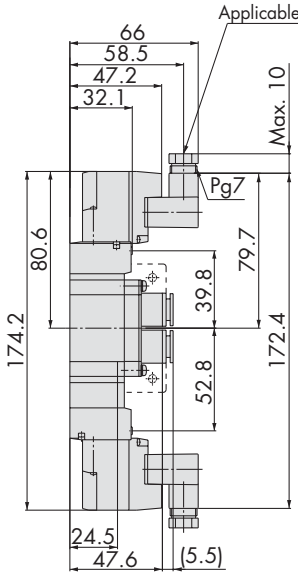
M plug connector (M):
SY7$^{3}_{5}$20-□M□□-$^{C8}_{C10}$-Q

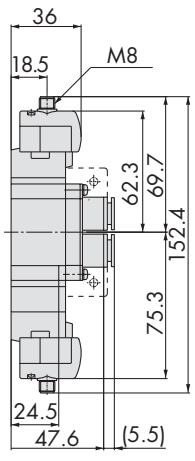
DIN terminal (D):
SY7$^{3}_{5}$20-□D□□-$^{C8}_{C10}$-Q

M8 connector (WO):
SY7$^{3}_{5}$20-□WO□□-$^{C8}_{C10}$-Q









Base Mounted Valve Single Unit
Series SY3/5/7/9000

NRTL /C

Features

- *Four available sizes*
- *Internal pilot designs*
- *Wide range of electrical connector options*
- *Locking manual overrides are possible*
- *Huge range of sub-bases and manifolds can be ordered*

How to Order

SY 5 2 40 — 5 L — Q

Series

3	SY3000
5	SY5000
7	SY7000
9	SY9000

Type of actuation

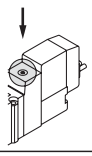
1	2 position single
2	2 position double
3	3 position closed centre
4	3 position exhaust centre
5	3 position pressure centre

Pilot type

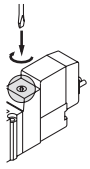
Nil	Internal pilot
R	External pilot

Manual override

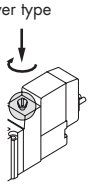
Nil: Non-locking push type



D: Push-turn locking slotted type



E: Push-turn locking lever type



Rated voltage

DC

5	24 VDC
6	12 VDC
V	6 VDC
S	5 VDC
R	3 VDC

AC (50/60 Hz)

1	100 VAC
2	200 VAC
3	110 VAC [115 VAC]
4	220 VAC [230 VAC]

Note: AC voltages can only be specified in conjunction with a DIN plug (Y) entry

(Light/Surge voltage suppressor)

Electrical entry for G, H, L, M, W

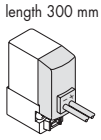
Nil	Without light/surge voltage suppressor
Z	With light/surge voltage suppressor
U	With light/surge voltage suppressor (Non-polar type)

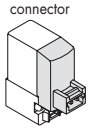
Electrical entry for D

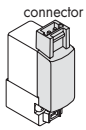
Nil	Without light/surge voltage suppressor
Z	With light/surge voltage suppressor (Non-polar type)

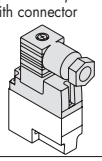
Electrical entry

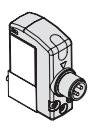
24, 12, 6, 5, 3 VDC / 100, 110, 200, 220 VAC			24, 12 VDC/ 100, 110, 200, 220 VAC	24, 12, 6, 5, 3 VDC
Grommet	L plug connector	M plug connector	DIN terminal	M8 connector
G: Lead wire length 300 mm	LO: Without connector	MO: Without connector	(Except SY3000) D: With connector	WO: Without connector cable



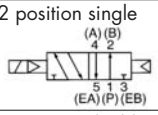
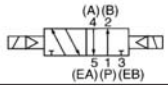
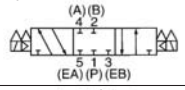
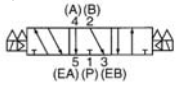
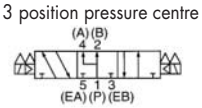








Symbols

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

Accessories for Base Mounted SY Valves

Valve type	Sinlge Subbase part no.	Subbase part size
SY3*40 valves	SY3000-27-1F-Q	G 1/8
SY5*40 valves	SY5000-27-1F-Q	G 1/4
SY7*40 valves	SY7000-27-1F-Q	G 1/4
SY7*40 valves	SY7000-27-2F-Q	G 3/8
SY9*40 valves	SY9000-27-1F-Q	G 3/8
SY9*40 valves	SY9000-27-2F-Q	G 1/2

Electrcal connectors are common to SY body ported valves.

Specifications

Series			SY3000	SY5000	SY7000	SY9000
Fluid			Air			
Internal pilot 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			
External pilot Operating pressure range (MPa)	Operating pressure range		-100 kPa to 0.7			
	Pilot pressure range	2 position single	0.25 to 0.7			
		2 position double	0.25 to 0.7			
		3 position	0.25 to 0.7			
Ambient and fluid temperature (°C)			-10 to 50 (No freezing)			
Max. operating frequency (Hz)	2 position single, double		10	5	5	5
	3 position		3	3	3	3
Manual override (Manual operation)			Non-locking push type, Push-turn locking slotted type, Push-turn locking lever type			
Pilot exhaust method	Internal pilot		Common exhaust type for main and pilot valve			
	External pilot		Pilot valve individual exhaust			
Lubrication			Not required			
Mounting orientation			Unrestricted			
Enclosure			Dustproof (* DIN terminal, M8 connector conforms to IP65)			

Response Time

SY3000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)		
	Without light/surge voltage suppressor	With light/surge voltage suppressor	
		Type Z	Type U
2 position single	12 or less	15 or less	12 or less
2 position double	10 or less	13 or less	10 or less
3 position	15 or less	20 or less	16 or less

SY5000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)		
	Without light/surge voltage suppressor	With light/surge voltage suppressor	
		Type Z	Type U
2 position single	19 or less	26 or less	19 or less
2 position double	18 or less	22 or less	18 or less
3 position	32 or less	38 or less	32 or less

SY7000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)		
	Without light/surge voltage suppressor	With light/surge voltage suppressor	
		Type Z	Type U
2 position single	31 or less	38 or less	33 or less
2 position double	27 or less	30 or less	28 or less
3 position	50 or less	56 or less	50 or less

SY9000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)		
	Without light/surge voltage suppressor	With light/surge voltage suppressor	
		Type Z	Type U
2 position single	35 or less	41 or less	35 or less
2 position double	35 or less	41 or less	35 or less
3 position	62 or less	64 or less	62 or less

Solenoid Specifications

Electrical entry			Grommet (G), (H) L plug connector: L M plug connector: M DIN terminal (D) (Y) M8 connector (W)
Coil rated voltage (V)	DC		24, 12, 6, 5, 3
	AC 50/60 Hz		100, 110, 200, 220 *
Allowable voltage fluctuation (%)			±10% of rated voltage
Power consumption (W)	DC	Standard	0.35 (with indicator light: 0.4 DIN terminal with indicator light: 0.45)
		With power saving circuit	0.1 (With indicator light only)
Apparent power	AC	100 V	1.4 (With indicator light: 1.5)
		110 V	1.6 (With indicator light: 1.7)
		200 V	2.3 (With indicator light: 2.4)
		220 V [230 V]	2.5 (With indicator light: 2.6) 2.7 (With indicator light: 2.8)
Surge voltage suppressor			Diode (Varistor is for DIN terminal and Non-polar type.)
Indicator light			LED (AC of DIN terminal is neon bulb.)

Flow Characteristics/Weight

	Type of actuation		Port size	Flow characteristics						Weight (g)		
				1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)			Grommet	Response times (m/s)	W M8 connector
				C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv			
Series SY3000	2 position	Single	1/8	1.0	0.30	0.24	1.1	0.30	0.26	84 (50)	15	89 (57)
		Double								102 (68)	13	115 (81)
	3 position	Closed centre		0.77	0.28	0.18	0.85	0.30	0.19	104 (69)	20	117 (82)
		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			

	Type of actuation		Port size	Flow characteristics						Weight (g)		
				1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)			Grommet	Response times (m/s)	W M8 connector
				C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv			
Series SY5000	2 position	Single	1/4	2.4	0.41	0.64	2.8	0.29	0.66	121 (58)	26	127 (65)
		Double								139 (76)	22	152 (89)
	3 position	Closed centre		1.8	0.47	0.50	1.8	0.40	0.47	144 (82)	38	158 (95)
		Exhaust centre		1.4	0.55	0.44	3.0	0.33	0.72			
		Pressure centre		3.3	0.36	0.85	1.8	0.40	0.48			

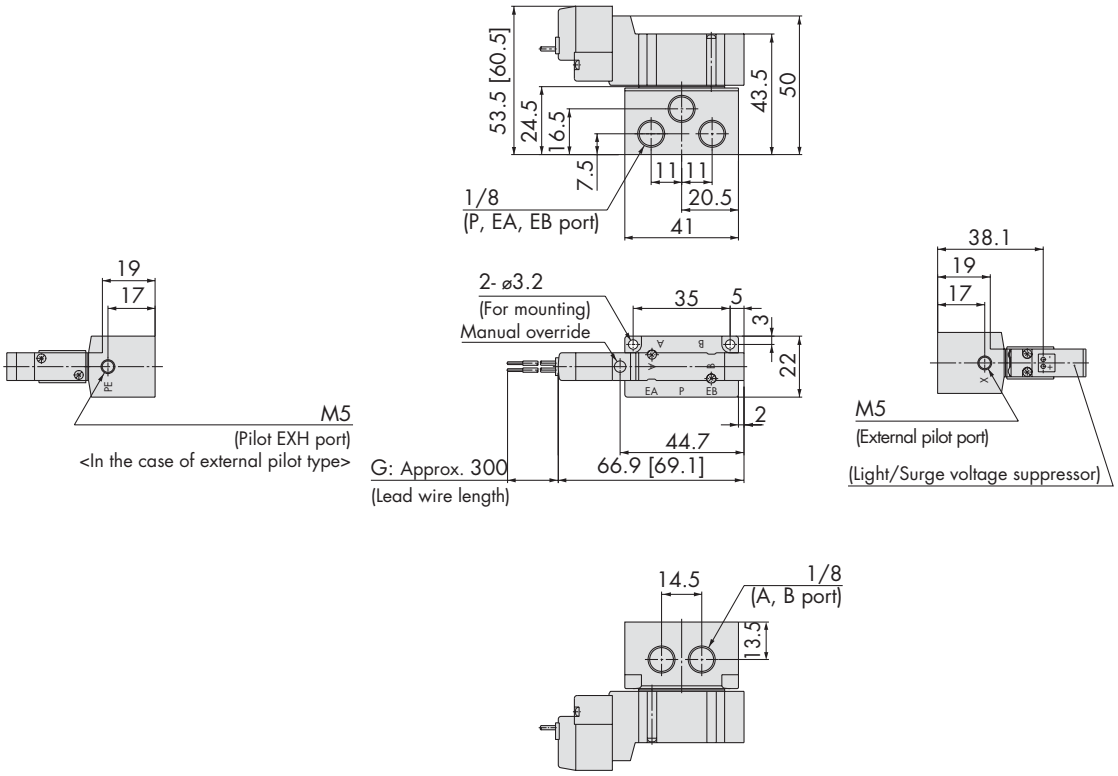
	Type of actuation		Port size	Flow characteristics						Weight (g)		
				1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)			Grommet	Response times (m/s)	W M8 connector
				C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv			
Series SY7000	2 position	Single	1/4	4.1	0.41	1.1	4.1	0.29	1.0	218 (89)	38	225 (96)
		Double								237 (108)	30	250 (121)
	3 position	Closed centre		3.0	0.43	0.80	2.6	0.41	0.72	239 (110)	56	253 (124)
		Exhaust centre		2.6	0.42	0.71	4.7	0.35	1.1			
		Pressure centre		5.3	0.39	1.3	2.2	0.49	0.63			
	2 position	Single	3/8	4.9	0.29	1.2	4.5	0.27	1.1	218 (89)	38	225 (96)
		Double								237 (108)	30	250 (121)
	3 position	Closed centre		3.0	0.40	0.80	2.6	0.45	0.73	239 (110)	56	253 (124)
		Exhaust centre		2.6	0.42	0.71	4.8	0.35	1.1			
		Pressure centre		5.3	0.31	1.3	2.3	0.45	0.66			

	Type of actuation		Port size	Flow characteristics						Weight (g)		
				1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)			Grommet	Response times (m/s)	W M8 connector
				C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv			
Series SY9000	2 position	Single	3/8	7.9	0.34	2.0	9.6	0.43	2.6	469(172)	41	476(179)
		Double								488(191)	41	502(205)
	3 position	Closed centre		7.5	0.33	1.8	7.3	0.30	1.7	512(215)	64	526(229)
		Exhaust centre		7.2	0.34	1.7	13	0.23	2.8			
		Pressure centre		12	0.26	2.8	6.7	0.40	1.9			
	2 position	Single	1/2	8.0	0.48	2.2	10	0.29	2.5	448 (151)	41	457(160)
		Double								467 (170)	41	481(184)
	3 position	Closed centre		7.6	0.32	1.8	7.3	0.32	1.8	491 (194)	64	505(208)
		Exhaust centre		7.3	0.42	2.0	13	0.32	3.6			
		Pressure centre		12	0.33	3.3	7.4	0.33	1.9			

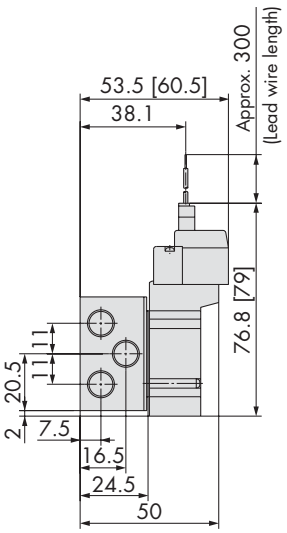
Note: Weights given for grommet and M8 connector. L/M connector and DIN version weights fall between these values.
Response time is 0.5 MPa with Z lamp and surge option fitted.

Dimensions: Series SY3000

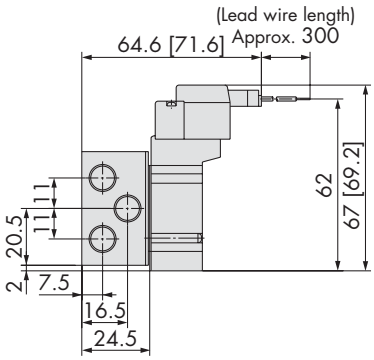
2 position single
Grommet (G): SY3140(R)-□G□□-01□-Q



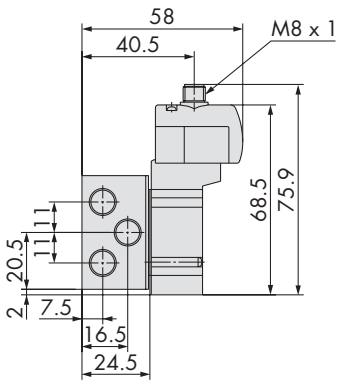
L plug connector (L):
SY3140(R)-□L□□-01□-Q



M plug connector (M):
SY3140(R)-□M□□-01□-Q

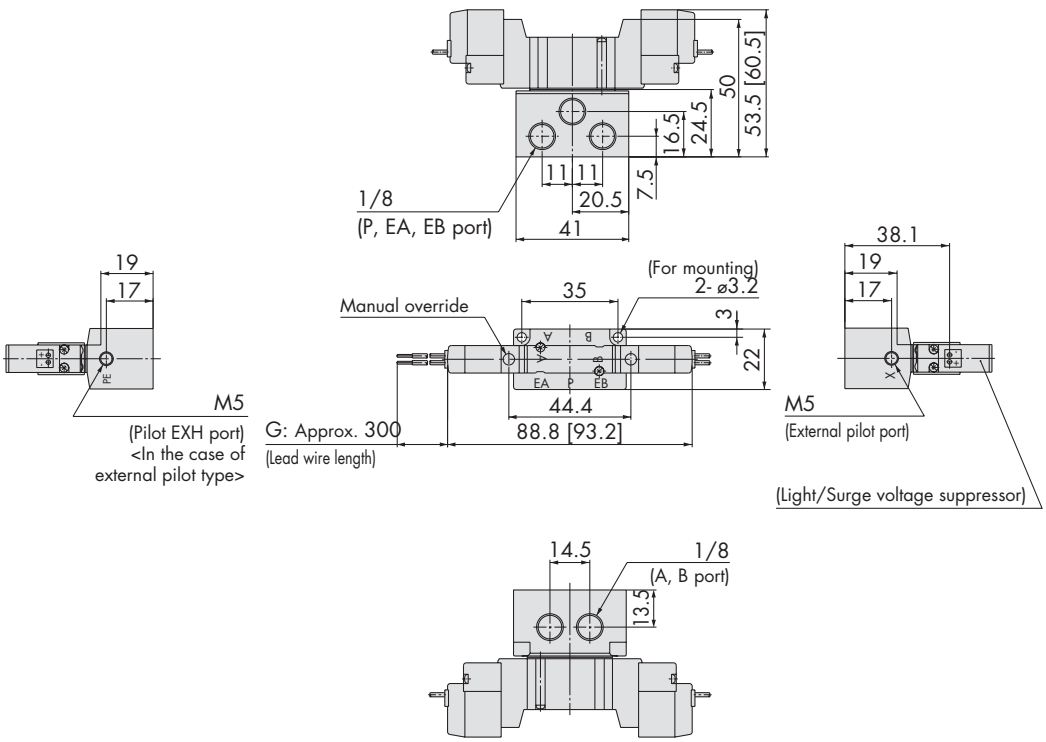


M8 connector (WO):
SY3140(R)-□WO□□-01□-Q

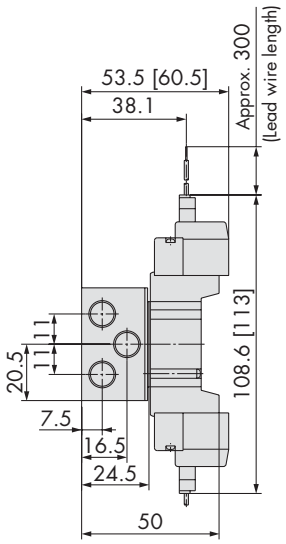


Dimensions: Series SY3000

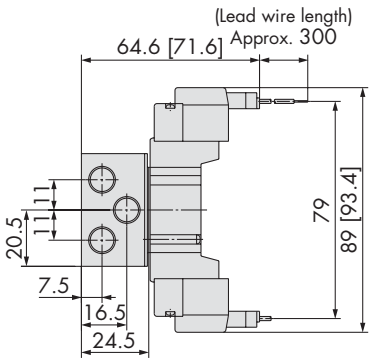
2 position double
Grommet (G): SY3240(R)-□G□□-01□-Q



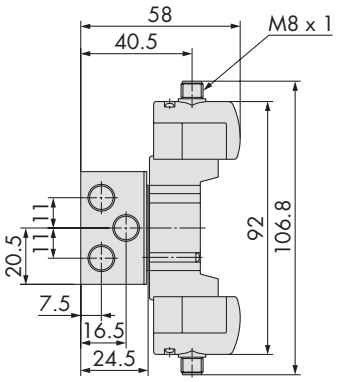
L plug connector (L):
SY3240(R)-□L□□-01□-Q



M plug connector (M):
SY3240(R)-□M□□-01□-Q

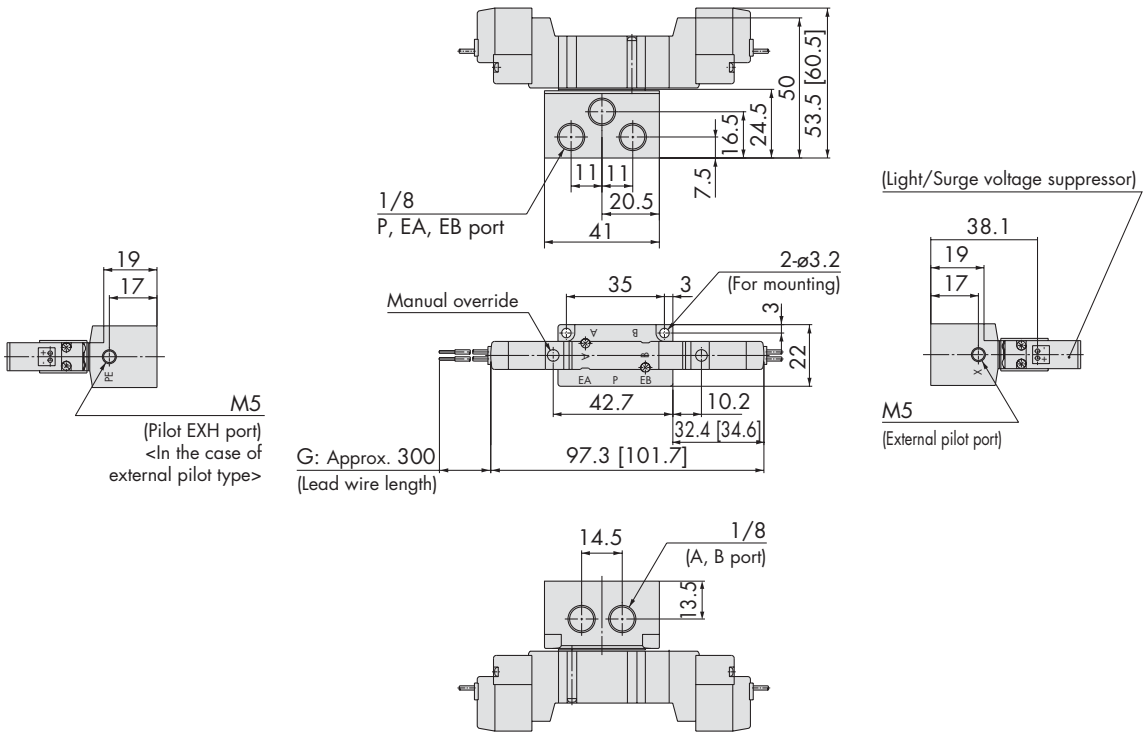


M8 connector (WO):
SY3240(R)-□WO□□-01□-Q

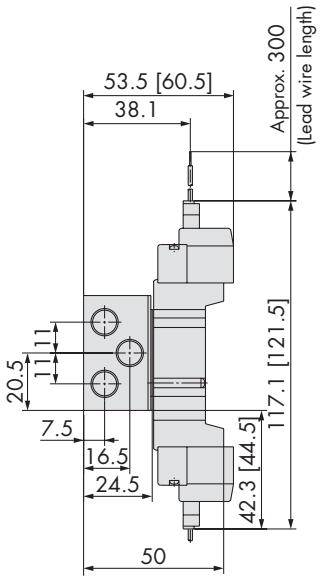


Dimensions: Series SY3000

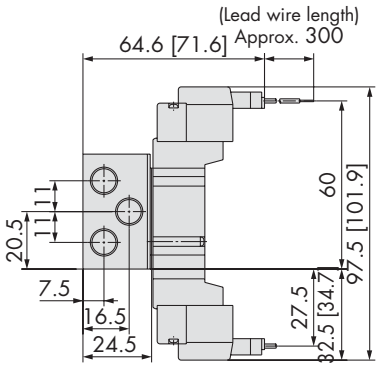
3 position closed centre/exhaust centre/pressure centre
Grommet (G): SY3$^{3}_{5}$40(R)-□G□□-01□-Q



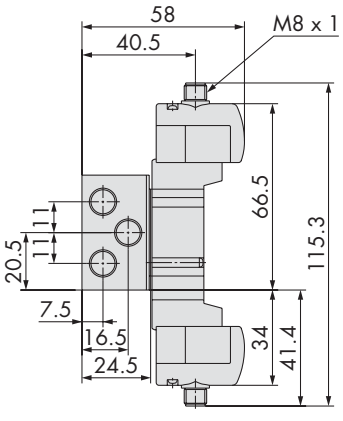
L plug connector (L):
SY3$^{3}_{5}$40(R)-□L□□-01□-Q



M plug connector (M):
SY3$^{3}_{5}$40(R)-□M□□-01□-Q

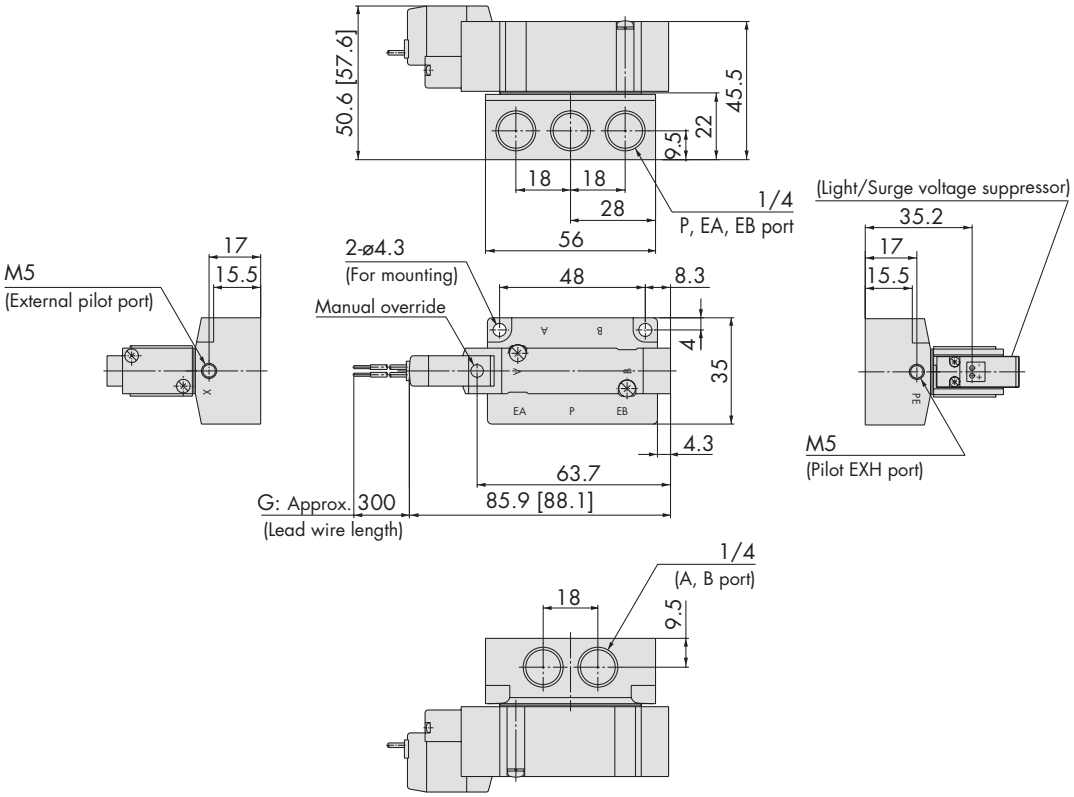


M8 connector (WO):
SY3$^{3}_{5}$40(R)-□WO□□-01□-Q



Dimensions: Series SY5000

2 position single
Grommet (G): SY5140(R)-□G□□-02□-Q

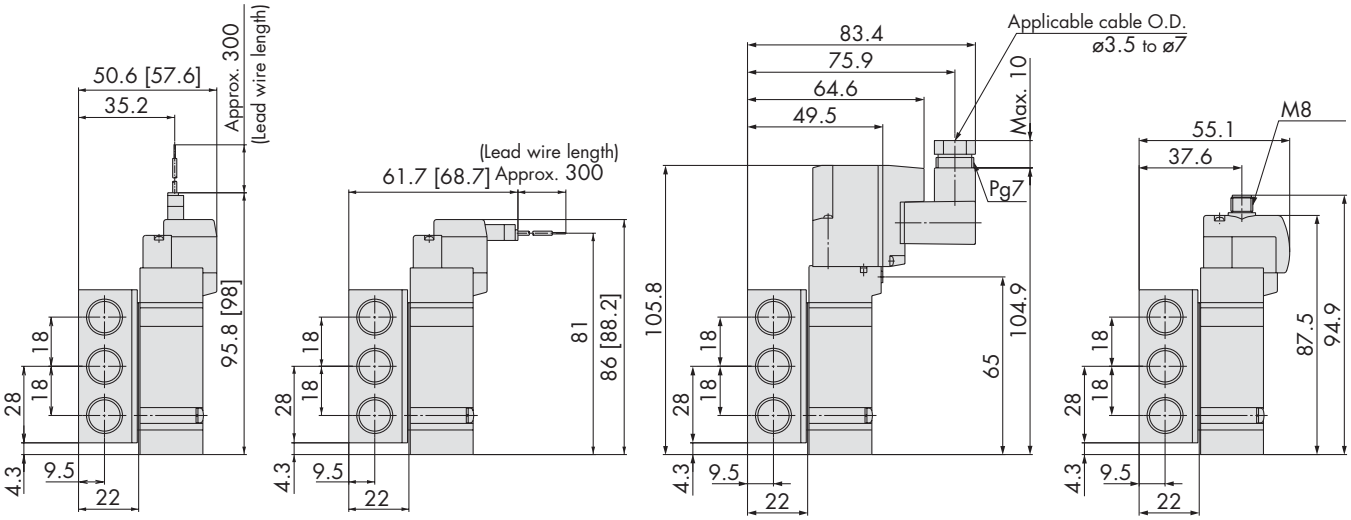


L plug connector (L):
SY5140(R)-□L□□-02□-Q

M plug connector (M):
SY5140(R)-□M□□-02□-Q

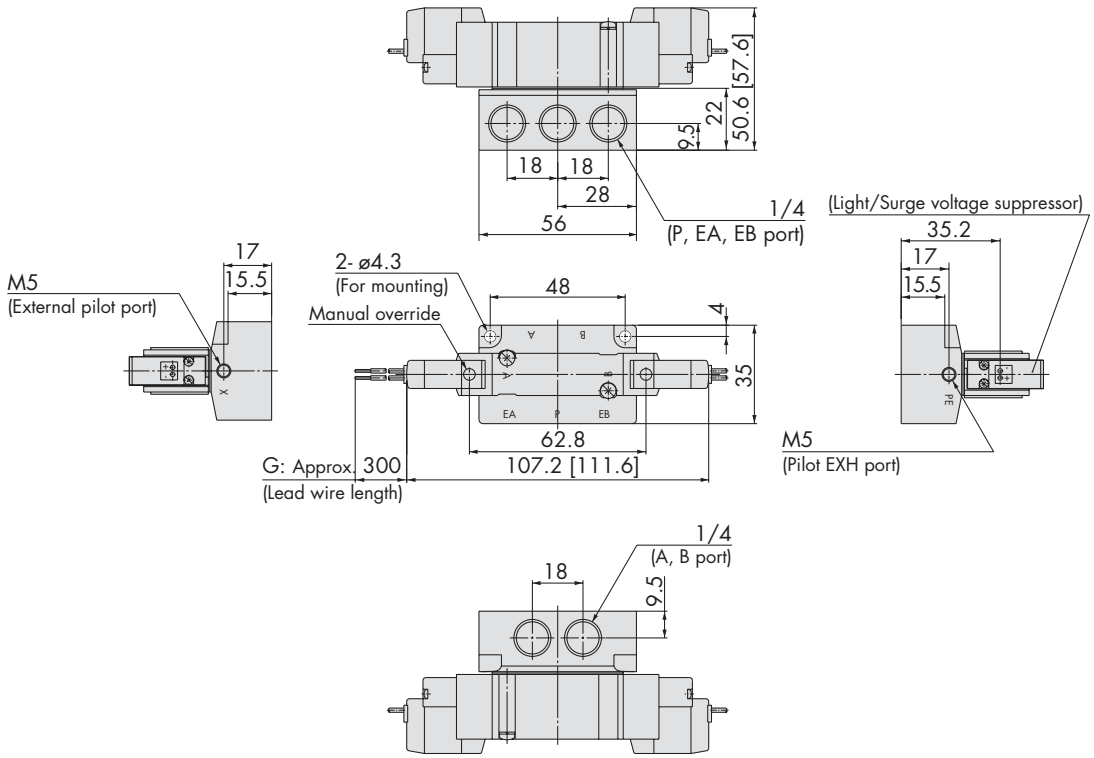
DIN terminal (D):
SY5140(R)-□D□□-02□-Q

M8 connector (WO):
SY5140(R)-□WO□□-02□-Q



Dimensions: Series SY5000

2 position double
Grommet (G): SY5240(R)-□G□□-02□-Q

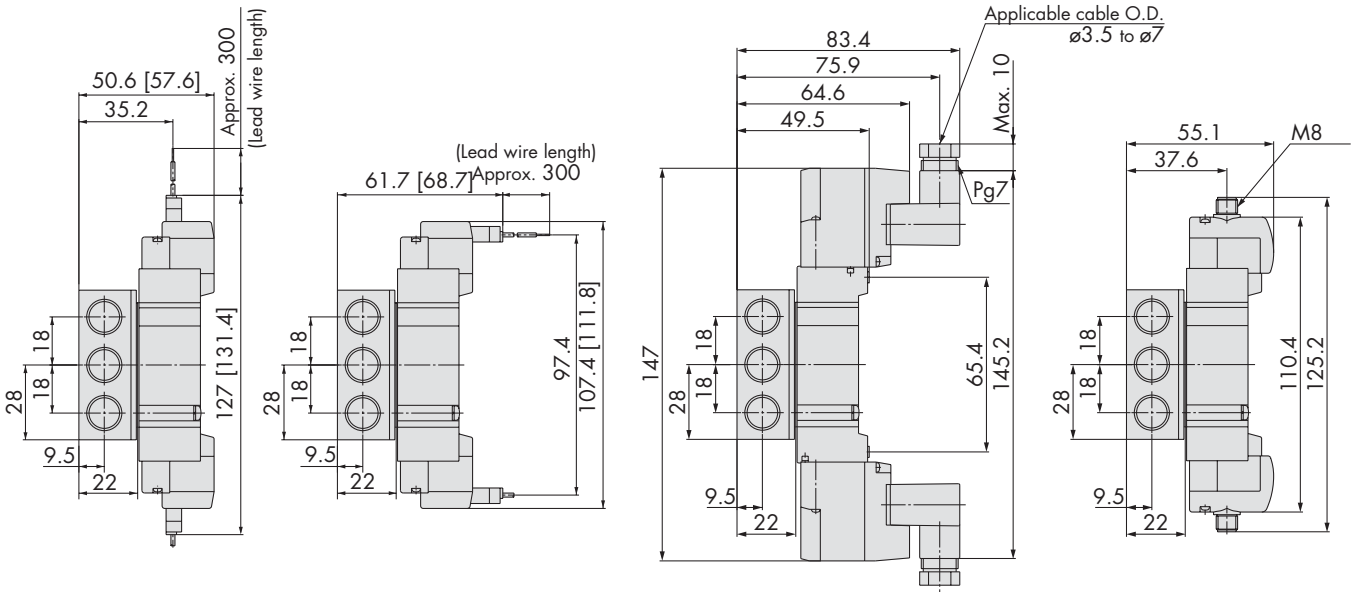


L plug connector (L):
SY5240(R)-□L□□-02□-Q

M plug connector (M):
SY5240(R)-□M□□-02□-Q

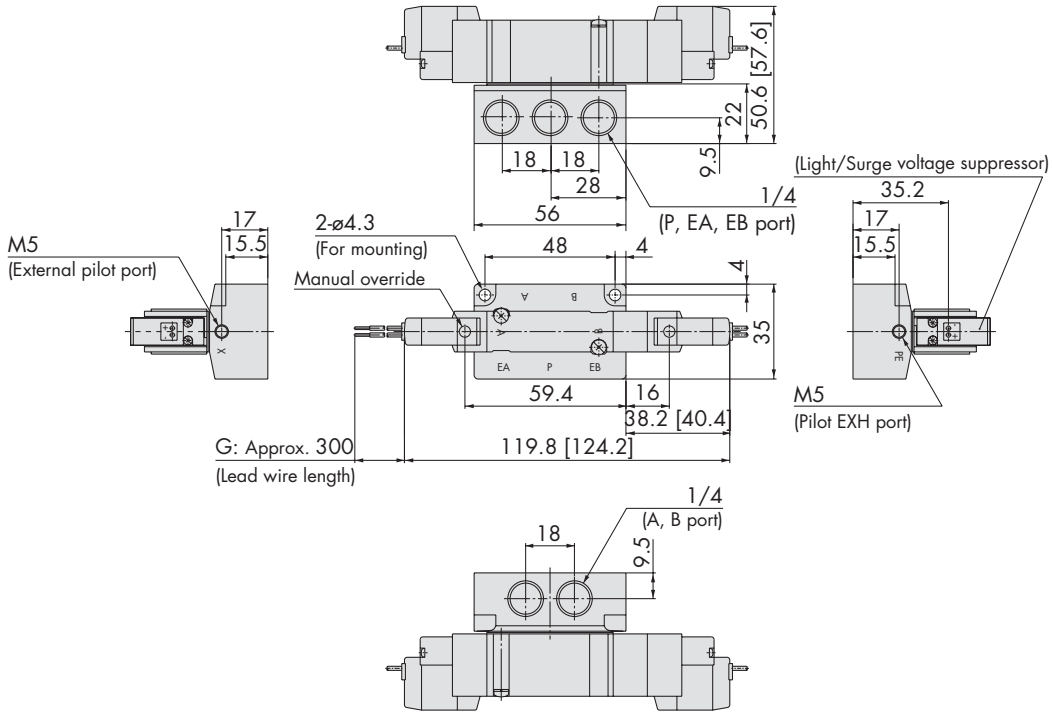
DIN terminal (D):
SY5240(R)-□D□□-02□-Q

M8 connector (WO):
SY5240(R)-□WO□□-02□-Q



Dimensions: Series SY5000

3 position closed centre/exhaust centre/pressure centre
Grommet (G): SY5$^{3}_{5}$40(R)-□G□□-02□-Q

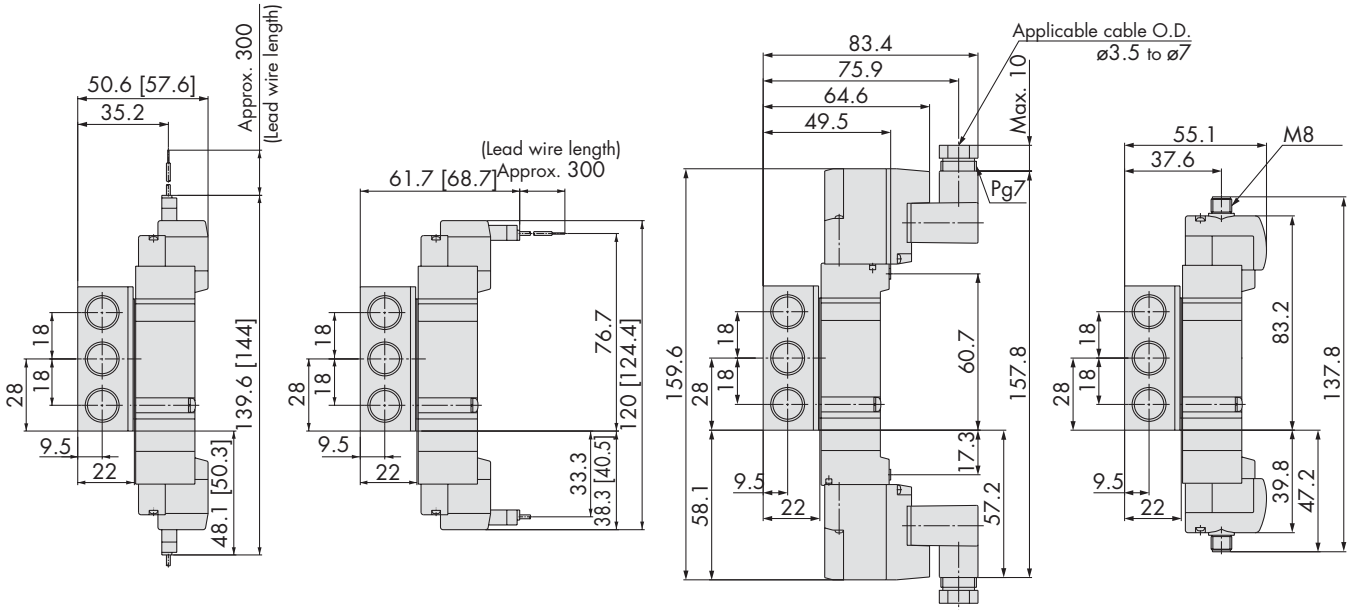


L plug connector (L):
SY5$^{3}_{5}$40(R)-□L□□-02□-Q

M plug connector (M):
SY5$^{3}_{5}$40(R)-□M□□-02□-Q

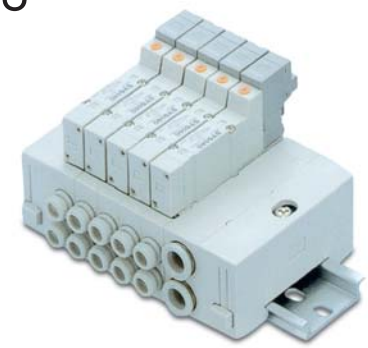
DIN terminal (D):
SY5$^{3}_{5}$40(R)-□D□□-02□-Q

M8 connector (WO):
SY5$^{3}_{5}$40(R)-□WO□□-02□-Q



Base Mounted Manifold Slice Type/DIN Rail Mounted Individual Wiring

Series SY3/5000



How to Order Manifold

SS5Y **3** – 45 – **05** **U** – **C6** – Q

Series

3	SY3000
5	SY5000

Valve stations

02	2 stations
⋮	⋮
20	20 stations

SUP/EXH block assembly mounting position

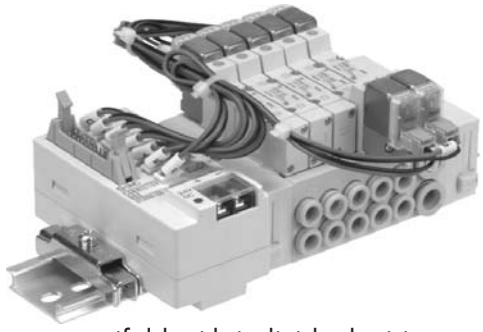
Symbol	Mounting position	Applicable no. of stations
U	U side	2 to 10 stations
D	D side	
B	(Both sides)	2 to 20 stations

A, B port size

One-touch fitting (Metric size)

Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	SY3000
C6	One-touch fitting for ø6	
C4	One-touch fitting for ø4	SY5000
C6	One-touch fitting for ø6	
C8	One-touch fitting for ø8	

Also Available



Slice type manifold with individual wiring and connector box.

Manifold Specifications

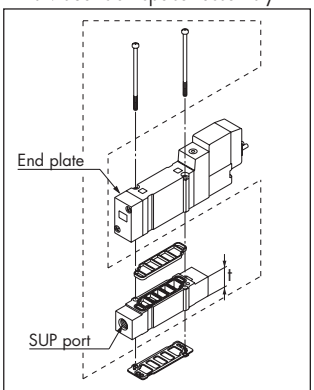
Model		SS5Y3-45	SS5Y5-45
Applicable valve		SY3□40	SY5□40
Manifold type		Stacking type/DIN rail mounted	
P (SUP)/R (EXH)		Common SUP, Common EXH	
Valve stations		2 to 20 stations Note 1)	
A, B port Porting specifications	Location	Base	
	Direction	Side	
Port size	P, R port	C8 (One-touch fitting for ø8)	C10 (One-touch fitting for ø10)
	A, B port	C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6)	C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8)

Flow Characteristics

Model	Port size		Flow characteristics					
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	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
SS5Y3-45	C8	C6	0.88	0.21	0.22	0.95	0.18	0.22
SS5Y5-45	C10	C8	2.2	0.24	0.53	2.5	0.18	0.58

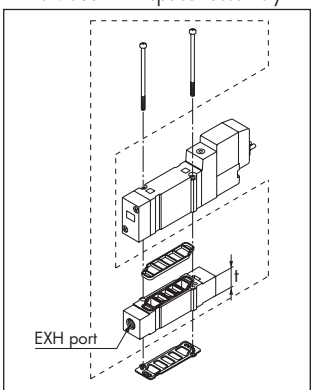
Type 45 Manifold Accessories (non-plug-in type)

■Individual SUP spacer assembly



Series	Assembly part no.	Port size	t
SY3000	SY3000-38-2A-Q	M5	11
SY5000	SY5000-38-16FA-Q	1/8	15

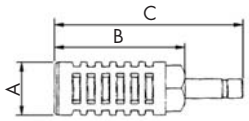
■Individual EXH spacer assembly



Series	Assembly part no.	Port size	t
SY3000	SY3000-39-2A-Q	M5	11
SY5000	SY5000-39-16FA-Q	1/8	15

■Silencer with One-touch fitting

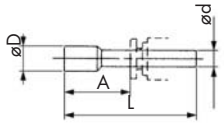
The silencer plugs directly into the One-touch fittings of the manifold.



Series	Model	Effective area	A	B	C
For SY3000 (ø8)	AN203-KM8	14 mm²	ø16	26	51
For SY5000 (ø10)	AN200-KM10	26 mm²	ø22	53.8	80.8
	AN300-KM10	30 mm²	ø25	70	97

■L Plug (white)

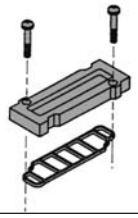
These are inserted in unused cylinder ports and SUP, EXH ports.
Purchasing order is available in units of 10 pieces.



Dimensions

Applicable fittings size ød	Model	A	L	D
4	KQ2P-04	16	32	6
6	KQ2P-06	18	35	8
8	KQ2P-08	20.5	39	10
10	KQ2P-10	22	43	12

■Blanking plate assembly

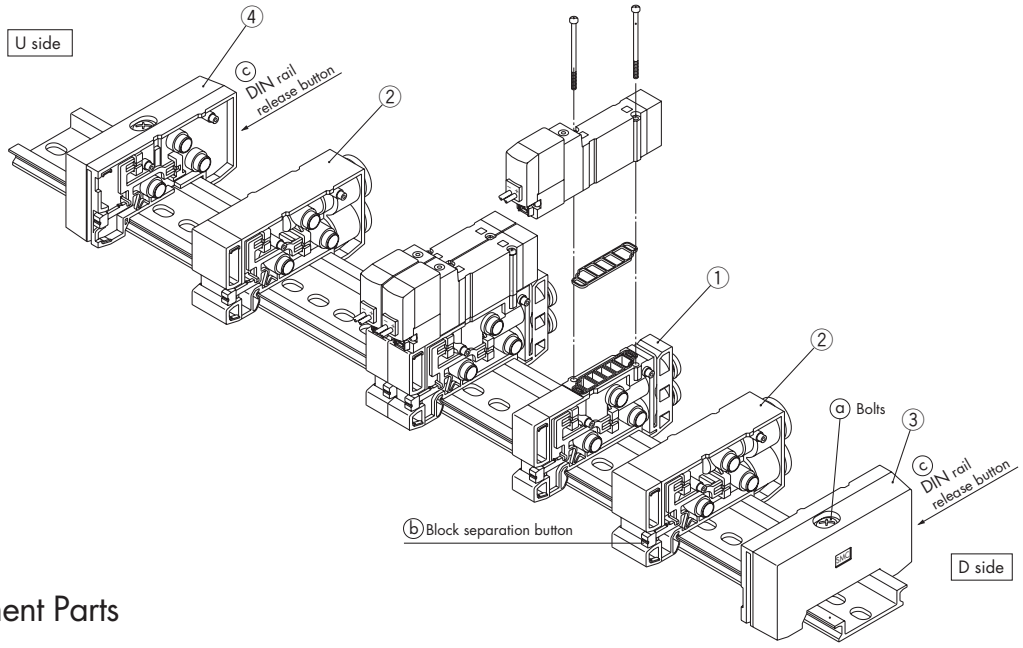


Series	Assembly part no.
SY3000	SX3000-75-1A-Q
SY5000	SX5000-76-1A-Q

Note: Interface regulators are common to type 41 and 42 manifolds.

DIN Rail Manifold Exploded View

Type 45

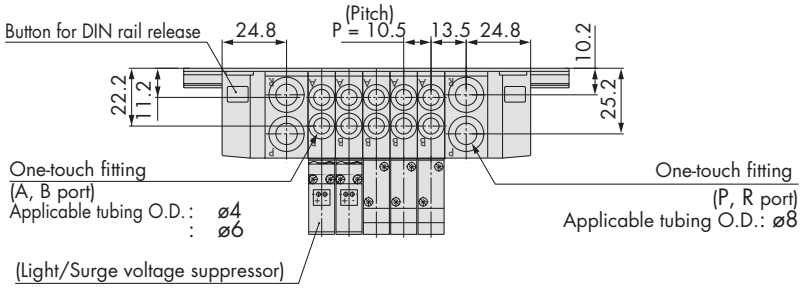


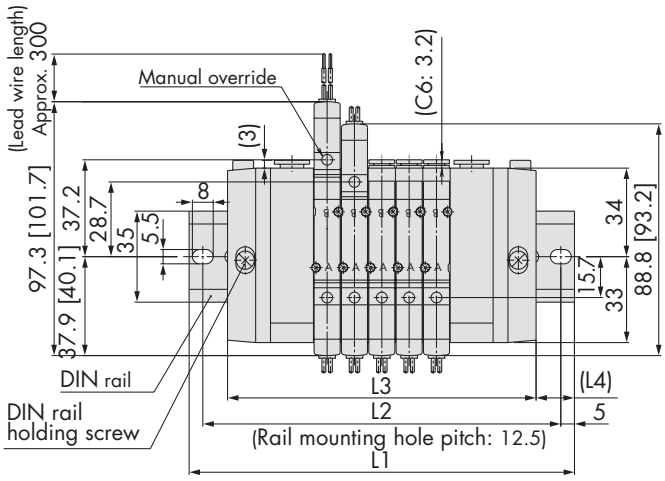
Replacement Parts

No.	Description	Part no. SY3000	Part no. SY5000	Note
①	Manifold block assembly	SX3000-50-1A-□□-Q	SX5000-50-1A-□□-Q	SY3000 (Metric size) C4: With One-touch fitting for ø4 C6: With One-touch fitting for ø6 SY5000 (Metric size) C4: With One-touch fitting for ø4 C6: With One-touch fitting for ø6 C8: With One-touch fitting for ø8
②	SUP/EXH block assembly	SX3000-51-1A	SX3000-51-1A	P, R port SY3000 (Metric size) With One-touch fitting for ø8 P, R port SY5000 (Metric size) With One-touch fitting for ø10
③	End block assembly R	SX3000-52-1A-Q	SX5000-52-1A-Q	For D side
④	End block assembly R	SX3000-53-1A-Q	SX5000-53-1A-Q	For U side

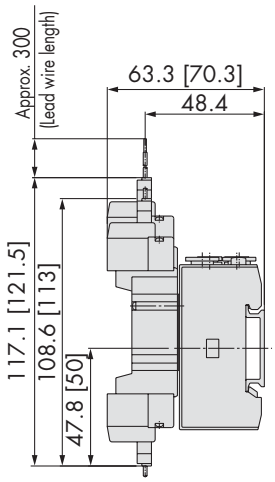
Dimensions: Series SY3000

SS5Y3-45- Stations B-$\frac{C4}{C6}$-Q (Both end supplies)

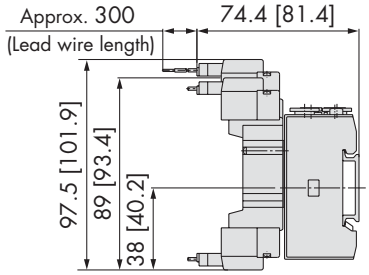




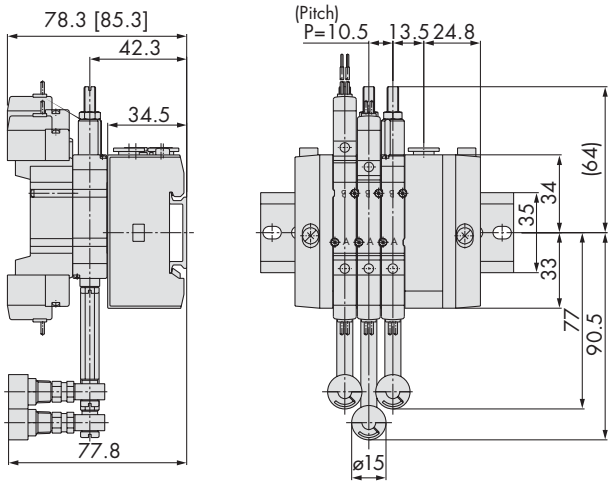
L plug connector



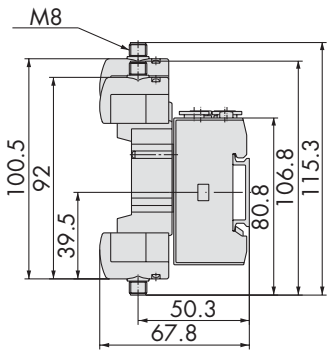
M plug connector



With interface regulator (with gauge)



M8 connector (WO)



Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	110.5	123	135.5	148	160.5	173	185.5	185.5	198
L2	100	112.5	125	137.5	150	162.5	175	175	187.5
L3	87	97.5	108	118.5	129	139.5	150	160.5	171
L4	11.5	12.5	13.5	14.5	15.5	16.5	17.5	12.5	13.5

Stations n	11 stations	12	13	14	15	16	17	18	19	20 stations
L1	210.5	223	235.5	248	248	260.5	273	285.5	298	310.5
L2	200	212.5	225	237.5	237.5	250	262.5	275	287.5	300
L3	181.5	192	202.5	213	223.5	234	244.5	255	265.5	276
L4	14.5	15.5	16.5	17.5	12	13	14	15	16	17

L1	-12.5mm
L2	-12.5mm
L3	-16.5mm
L4	+2mm

Note: This page shows the double supply type manifold.
The U and D supply type is shorter.
Apply the following corrections to to the
L1 and L4 dimensions.

How to Order Valve bodies

SY 3 1 60— 5 LO — —C6F —Q

A, B port size
Thread piping

Symbol	Description	SY3000	SY5000	SY7000
M5	M5 thread	○		
01F	1/8 thread		○	
02F	1/4 thread			○
03F	3/8 thread			
C4F	4mm tube	○	○	
C6F	6mm tube	○	○	
C8F	8mm tube		○	○
C10	10mm tube			○

Series

3	SY3000
5	SY5000
7	SY7000

Type of actuation

1	2 position single solenoid
2	2 position double solenoid
3	3 position closed centre
4	3 position exhaust centre
5	3 position pressure centre

Rated voltage

DC

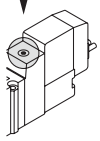
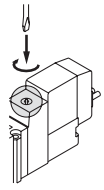
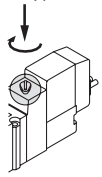
5	24 VDC
6	12 VDC
V	6 VDC
S	5 VDC
R	3 VDC

AC (50/60Hz)

1	100 VAC
2	200 VAC
3	110 VAC [115 VAC]
4	220 VAC [230 VAC]

Note: AC voltages can only be ordered in conjunction with DIN plyg (Y) electrical entry.

Manual override

Nil: Non-locking push type	D: Push-turn locking slotted type	E: Push-turn locking lever type
		

Light/Surge voltage suppressor

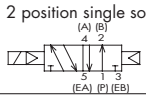
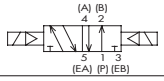
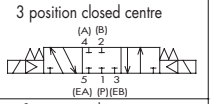
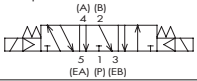
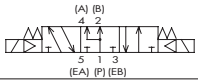
Electrical entry for G, H, L, M, W

Nil	Without light/surge voltage suppressor
Z	With light/surge voltage suppressor
U	With light/surge voltage suppressor (Non-polar type)

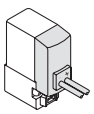
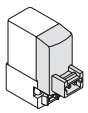
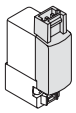
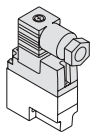
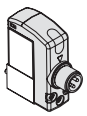
Electrical entry for D (SY5000/7000 only)

Nil	Without light/surge voltage suppressor
Z	With light/surge voltage suppressor (Non-polar type)

Symbols

1	2 position single solenoid 
2	2 position double solenoid 
3	3 position closed centre 
4	3 position exhaust centre 
5	3 position pressure centre 

Electrical entry

24, 12, 6, 5, 3 VDC			24, 12 VDC/ 100, 110, 200, 220 VAC	24, 12, 6, 5, 3 VDC
Grommet	L plug connector	M plug connector	DIN terminal	M8 connector
G: Lead wire length 300 mm 	LO: Without connector 	MO: Without connector 	(SY5000, 7000) Y: With connector D: With connector 	WO:Without connector cable 

Note: A manifold assembly is required to use SY cassette valves. See separate how-to-order section.

Specifications

Series		SY3000	SY5000	SY7000
Fluid		Air		
Internal pilot 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		
Ambient and fluid temperature (°C)		Max. 50		
Max. operating frequency (Hz)	2 position double	10	5	5
	3 position	3	3	3
Manual override (Manual operation)		Non-locking push type, Push-turn locking slotted type, Push-turn locking lever type		
Pilot exhaust method		Common exhaust type for main and pilot valve		
Lubrication		Not required		
Mounting position		Unrestricted		
Enclosure		Dustproof (* DIN terminal, M8 connector conforms to IP65)		

Solenoid Specifications

Electrical entry			Grommet (G) L plug connector (L) M plug connector (M) DIN terminal (D), (Y) M8 connector (W)
Coil rated voltage (V)	DC		24 ,12 ,6 ,5 ,3
	AC 50/60Hz		100 ,110 ,200 ,220*
Allowable voltage fluctuation (%)			±10% of rated voltage
Power consumption (W)	DC	Standard	0.35 [With indicator light: 0.4 (DIN terminal with indicator light: 0.45)]
Apparent power* VA	AC	100V	1.4 (With indicator light: 1.5)
		110V	1.6 (With indicator light: 1.7)
		200V	2.3 (With indicator light: 2.4)
		220V [230V]	2.5 (With indicator light: 2.6) [2.7 (With indicator light: 2.8)]
Surge voltage suppressor			Diode (Varistor is for DIN terminal and non-polar)
Indicator light			LED (AC of DIN connector is neon bulb.)

Response Time

SY3000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)		
	Without surge voltage suppressor	With surge voltage suppressor	
		Z type	U type
2 position single	12 or less	15 or less	12 or less
2 position double	10 or less	13 or less	10 or less
3 position	15 or less	20 or less	16 or less

SY5000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)		
	Without surge voltage suppressor	With surge voltage suppressor	
		Z type	U type
2 position single	19 or less	26 or less	19 or less
2 position double	18 or less	22 or less	18 or less
3 position	32 or less	38 or less	32 or less

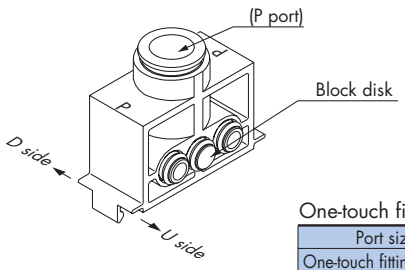
SY7000

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)		
	Without light/surge voltage suppressor	With light/surge voltage suppressor	
		Z type	U type
2 position single	31 or less	38 or less	33 or less
2 position double	27 or less	30 or less	28 or less
3 position	50 or less	56 or less	50 or less

Note: response times as per SY base mounted valves.

SY Cassette Valve Accessories

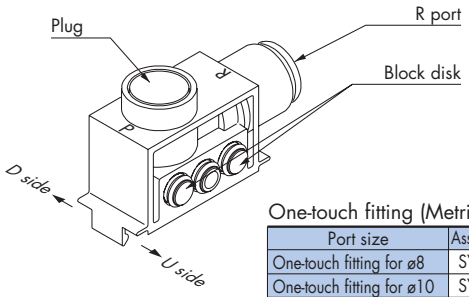
■ Individual SUP block assembly



One-touch fitting (Metric size)

Port size	Assembly part no.	Applicable series
One-touch fitting for ø6	SY3000-54-2C	SY3000
One-touch fitting for ø8	SY3000-54-1C	
One-touch fitting for ø10	SY5000-54-1C	SY5000
One-touch fitting for ø12	SY7000-54-1C	SY7000

■ Individual EXH block assembly

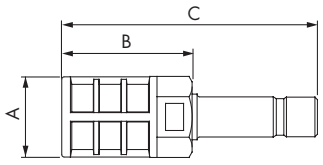


One-touch fitting (Metric size)

Port size	Assembly part no.	Applicable series
One-touch fitting for ø8	SY3000-55-1B	SY3000
One-touch fitting for ø10	SY5000-55-1B	SY5000
One-touch fitting for ø12	SY7000-55-1B	SY7000

■ Silencer with One-touch fitting

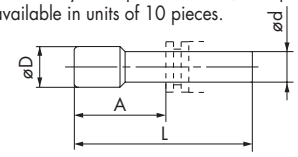
The silencer plugs directly into the One-touch fittings of the manifold.



Series	Model	Effective area	A	B	C
SY3000 (for ø8)	AN203-KM8	14 mm²	ø16	26	51
SY5000 (for ø10)	AN200-KM10	26 mm²	ø22	54	80.8
	AN300-KM10	30 mm²	ø25	70	97
SY7000 (for ø12)	AN300-KM12	41 mm²	ø25	70	98

■ Plug (white)

These are inserted in unused cylinder ports and SUP, EXH ports.
Purchasing order is available in units of 10 pieces.



Dimensions

Applicable fittings size ød	Model	A	L	D
4	KQ2P-04	16	32	6
6	KQ2P-06	18	35	8
8	KQ2P-08	20.5	39	10
10	KQ2P-10	22	43	12
12	KQ2P-12	24	45.5	14

■ EXH block disk

By inserting a block disc between adjacent valves, the pressure or exhaust gallery between the valves can be split into separate zones.

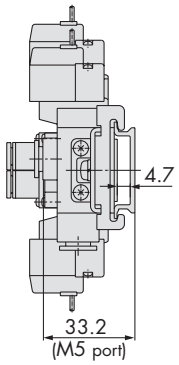
Series	Part no.
SY3000	SY3000-52-2A
SY5000	SY5000-52-4A
SY7000	SY7000-70-2A

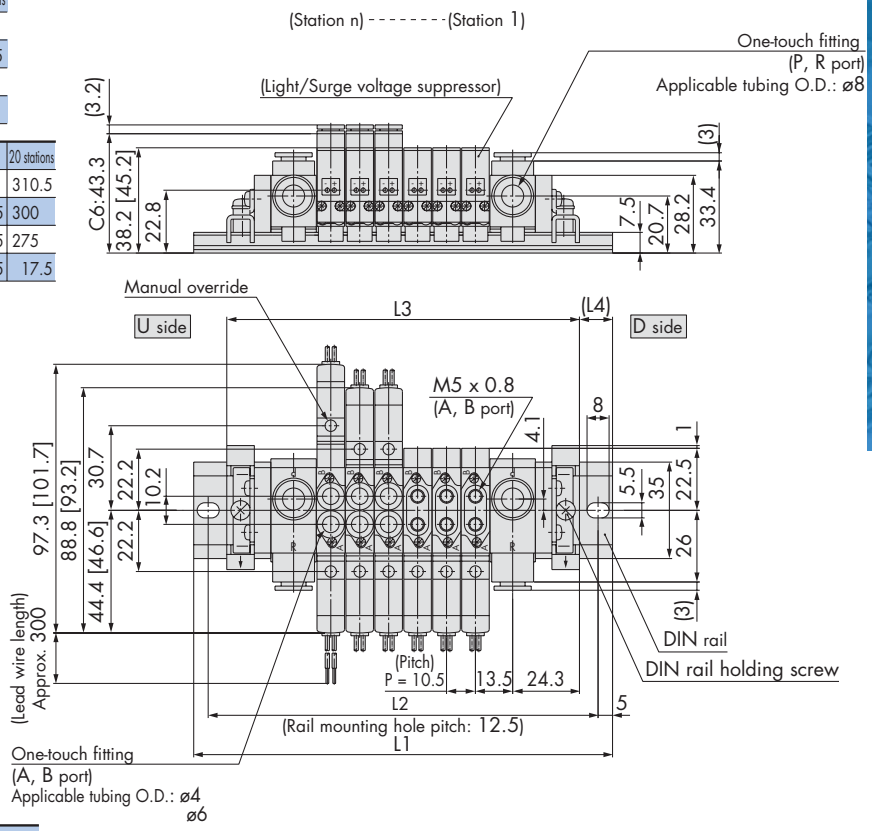
Dimensions

SS5Y3-60- Stations B -Q (Both ends supplies)

Stations	2 stations	3	4	5	6	7	8	9	10 stations
L1	110.5	123	135.5	148	160.5	173	173	185.5	198
L2	100	112.5	125	137.5	150	162.5	162.5	175	187.5
L3	86	96.5	107	117.5	128	138.5	149	159.5	170
L4	12	13	14	15	16	17	12	13	14

Stations	11 stations	12	13	14	15	16	17	18	19	20 stations
L1	210.5	223	235.5	235.5	248	260.5	273	285.5	298	310.5
L2	200	212.5	225	225	237.5	250	262.5	275	287.5	300
L3	180.5	191	201.5	212	222.5	233	243.5	254	264.5	275
L4	15	16	17	11.5	12.5	13.5	14.5	15.5	16.5	17.5

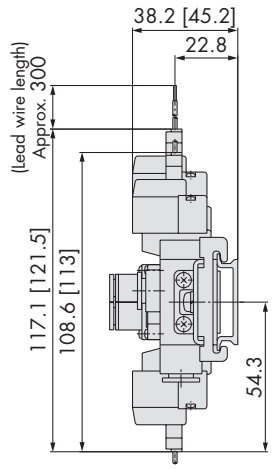




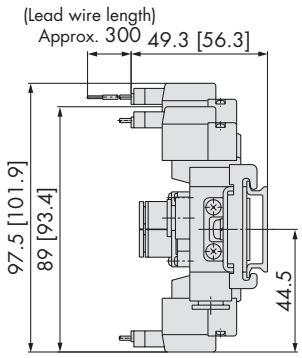
The above dimensions apply to the 'B' supply type (both ends). If the U or D type (one end) is used, please use the table below.

Stations	2 stations	3	4	5	6	7	8	9	10 stations
L1	98	110.5	123	135.5	135.5	148	160.5	173	185.5
L2	87.5	100	112.5	125	125	137.5	150	162.5	175
L3	69.5	80	90.5	101	111.5	122	132.5	143	153.5
L4	14	15	16	17	12	13	14	15	16

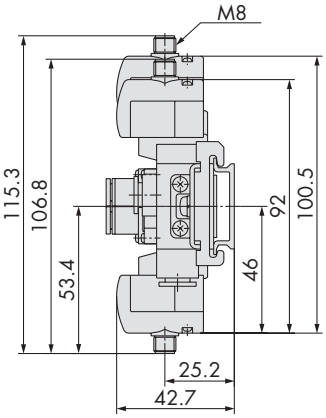
L plug connector (L)



M plug connector (M)



M8 connector (WO)



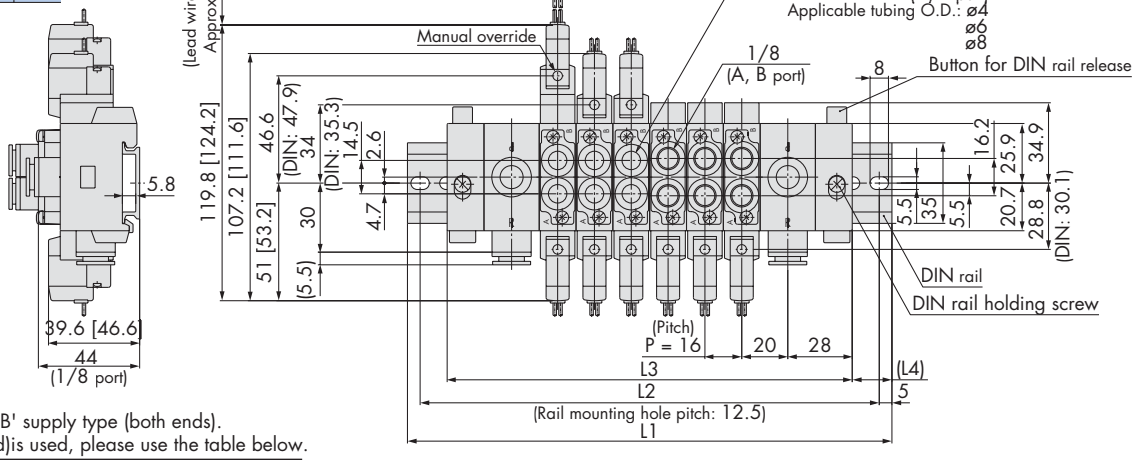
Dimensions

SS5Y5-60-Stations B-Q (Both ends supplies)

Stations	2 stations	3	4	5	6	7	8 stations
L1	135.5	160.5	173	185.5	210.5	223	235.5
L2	125	150	162.5	175	200	212.5	225
L3	112	128	144	160	176	192	208
L4	11.5	16	14.5	12.5	17.5	15.5	13.5

Stations	9 stations	10	11	12	13	14	15 stations
L1	248	273	285.5	298	323	335.5	348
L2	237.5	262.5	275	287.5	312.5	325	337.5
L3	224	240	256	272	288	304	320
L4	12	16.5	14.5	13	17.5	15.5	14

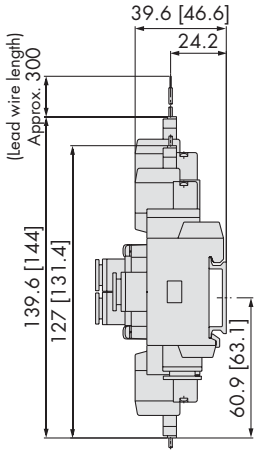
Stations	16 stations	17	18	19	20 stations
L1	360.5	385.5	398	410.5	435.5
L2	350	375	387.5	400	425
L3	336	352	368	384	400
L4	12	16.5	15	13	17.5



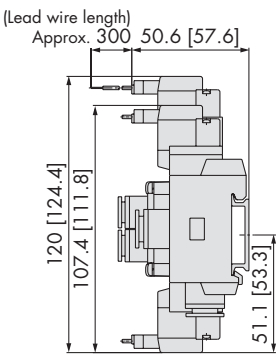
The above table is for the'B' supply type (both ends).
If the U or D type (one end)is used, please use the table below.

Stations	2 stations	3	4	5	6	7	8	9	10 stations
L1	123	135.5	148	160.5	185.5	198	210.5	235.5	248
L2	112.5	125	137.5	150	175	187.5	200	225	237.5
L3	88	104	120	136	152	168	184	200	216
L4	17.5	15.5	14	12	16.5	15	13	17.5	16

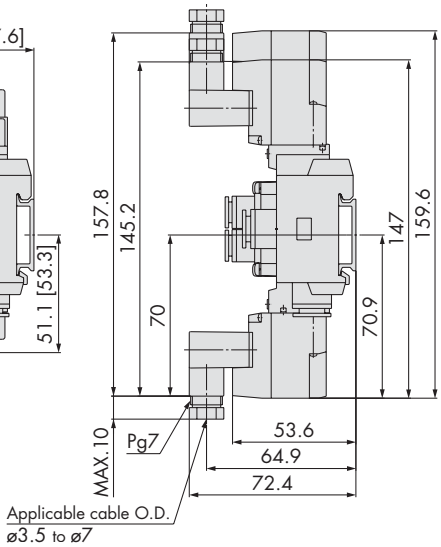
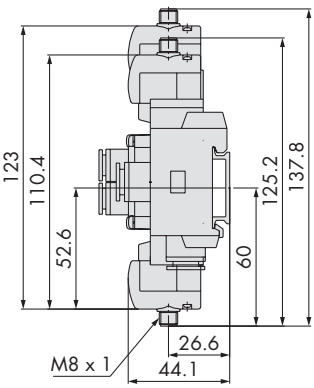
L plug connector (L)



M plug connector (M)



DIN terminal (D)



M8 connector (WO)