

Cable Appendix

Multi-way cables

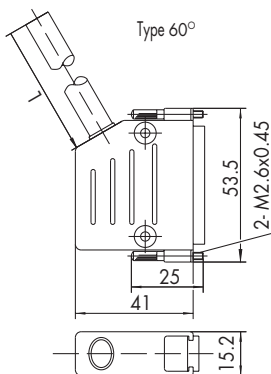
The multi-pole connector cables used on SMC valves are common across several ranges. Cables are available in accordance with the MIL standard C-24308 and also with the wiring colours according to DIN47100.

D-sub Connector Cables

Applicability:

VQ • SY • SV • SX

GVVZS3000-21A- $\frac{1}{2}$ - $\frac{5}{60}$ According to DIN47100



Wire color table by terminal number of D-sub connector cable assembly

Terminal No.	Lead wire colour	Dot marking
1	White	-
2	Brown	-
3	Green	-
4	Yellow	-
5	Grey	-
6	Pink	-
7	Blue	-
8	Red	-
9	Black	-
10	Violet	-
11	Grey	Pink
12	Red	Blue
13	White	Green
14	Brown	Green
15	White	Yellow
16	Yellow	Brown
17	White	Grey
18	Grey	Brown
19	White	Pink
20	Pink	Brown
21	White	Blue
22	Brown	Blue
23	White	Red
24	Brown	Red
25	White	Black

* Connector made in conformity with DIN47100.

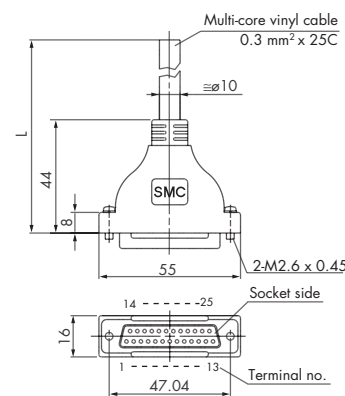
D-sub connector cable ass'y

Cable length (L)	Ass'y No.
1m	GVVZS3000-21A-1□
3m	GVVZS3000-21A-2□
5m	GVVZS3000-21A-3□
8m	GVVZS3000-21A-4□
20m	GVVZS3000-21A-5S

Model	
Standard	S
60°	60

AXT100-DS25- $\frac{015}{030}$ - $\frac{050}{050}$ Conforming to MIL-C-24308

(D-sub connector cable assemblies can be ordered by with manifolds.)
Refer to How to Order Manifold.



D-sub Connector Cable Assembly Terminal No.

Terminal no.	Lead wire colour	Dot marking
1	Black	None
2	Brown	None
3	Red	None
4	Orange	None
5	Yellow	None
6	Pink	None
7	Blue	None
8	Purple	White
9	Grey	Black
10	White	Black
11	White	Red
12	Yellow	Red
13	Orange	Red
14	Yellow	Black
15	Pink	Black
16	Blue	White
17	Purple	None
18	Grey	None
19	Orange	Black
20	Red	White
21	Brown	White
22	Pink	Red
23	Gray	Red
24	Black	White
25	White	None

D-sub Connector Cable Assembly (Option)

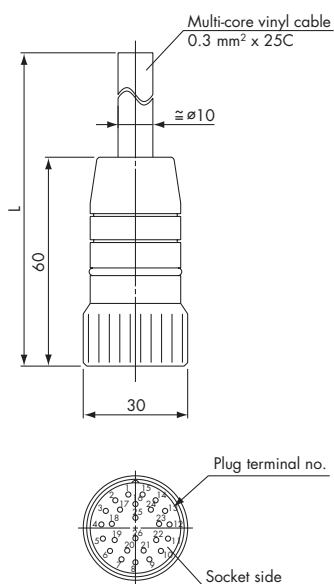
Cable length (L)	Assembly part no.	Note
1.5 m	AXT100-DS25-015	Cable 25 cores x 24AWG
3 m	AXT100-DS25-030	
5 m	AXT100-DS25-050	

NOTE: These cables appear similar to computer parallel connector hardware but there are differences in the threads on the clamping jack-screws and also the current capacity of the cable.

26 pin Circular Connector Cable

Applicability:
VQ2000 • SY • VQC

AXT100-MC26-
015
030
050



Circular Connector Cable Assembly (Option)

Cable length (L)	Assembly part no.	Note
1.5 m	AXT100-MC26-015	Cable 25 core x 24AWG
3 m	AXT100-MC26-030	
5 m	AXT100-MC26-050	

Circular Connector Cable
Assembly Terminal No.

Terminal no.	Lead wire colour	Dot marking
1	Black	None
2	Brown	None
3	Red	None
4	Orange	None
5	Yellow	None
6	Pink	None
7	Blue	None
8	Purple	White
9	Grey	Black
10	White	Black
11	White	Red
12	Yellow	Red
13	Orange	Red
14	Yellow	Black
15	Pink	Black
16	Blue	White
17	Purple	None
18	Grey	None
19	Orange	Black
20	Red	White
21	Brown	White
22	Pink	Red
23	Gray	Red
24	Black	White
25	White	None
26	White	None



Connecting cables for SX

Applicability: SX

How to Order Connector Assembly for L/M Plug Connector

Positive common specifications

For single solenoid: SX100-40-4S-

For double solenoid, 3 position: SX100-40-4D-

Negative common specifications

For single solenoid: SX100-41-4S-

For double solenoid, 3 position: SX100-41-4D-

Lead wire length

Nil	300 mm
6	600 mm
10	1000 mm
15	1500 mm
20	2000 mm
25	2500 mm
30	3000 mm
50	5000 mm

NOTE: The valve connecting cables are unique to SX. Select according to valve type, single solenoid (2 pin) or double solenoid (3 pin) types differ, also positive common and negative common types.

Connecting cable for SY and associated valves

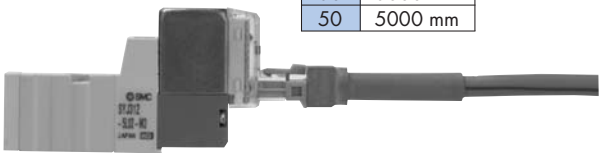
Applicability: SY • SYJ • V100

How to Order Connector Assembly with Cover

SY100-68-A -

Lead wire length

Nil	300 mm
6	600 mm
10	1000 mm
15	1500 mm
20	2000 mm
25	2500 mm
30	3000 mm
50	5000 mm



This is a shrouded lead with a rubber boot, as shown.

How to Order Connector Assembly for L/M Plug Connector

For DC: SY100-30-4A -

Lead wire length

Nil	300 mm
6	600 mm
10	1000 mm
15	1500 mm
20	2000 mm
25	2500 mm
30	3000 mm
50	5000 mm



This is an unshrouded lead suitable for inside panels and in undisturbed areas.

M8 Connector Cable

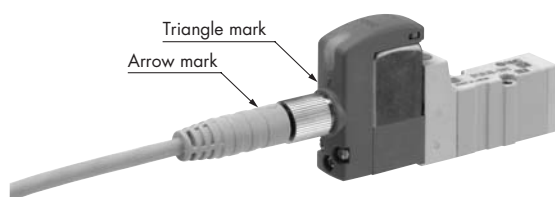
Applicability: SY • SYJ

V100-49-1-□

• Cable length

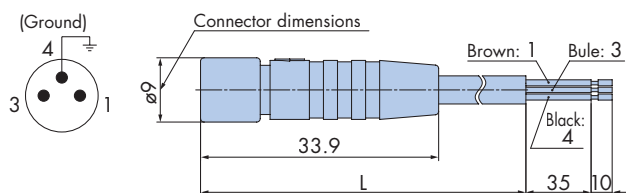
1	300 mm
2	600 mm
3	1000 mm
4	1500 mm
5	2000 mm
6	2500 mm
7	3000 mm

• Connector cable mounting

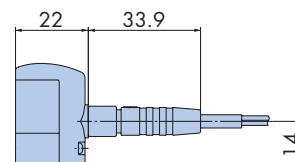


Note) Connector cable should be mounted in the correct direction. Make sure that the arrow symbol on the connector is facing the triangle symbol on the valve when using SMC connector cable (V100-49-1-□). Be careful not to squeeze it in the wrong direction, as problems such as pin damage may occur.

2. To order connector cable only



Cable length (L)	Part no.
300 mm	V100-49-1-1
500 mm	V100-49-1-2
1000 mm	V100-49-1-3
2000 mm	V100-49-1-4
5000 mm	V100-49-1-7



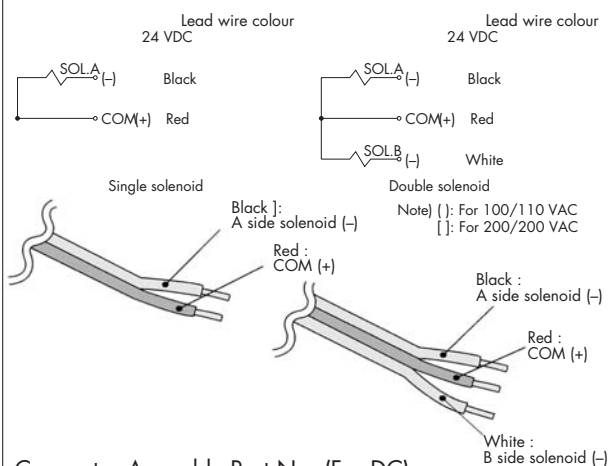
Note) Individual connector cables for SY valves are either 2 pin clip on cables or M8 screw-in plugs. Both types are shown here.

VQ Individual Wiring Cables

Applicability: VQ

● Wiring connectors: Positive COM

● The lead wires are connected to the valve as shown below. Connect each to the power supply side.



Connector Assembly Part No. (For DC)

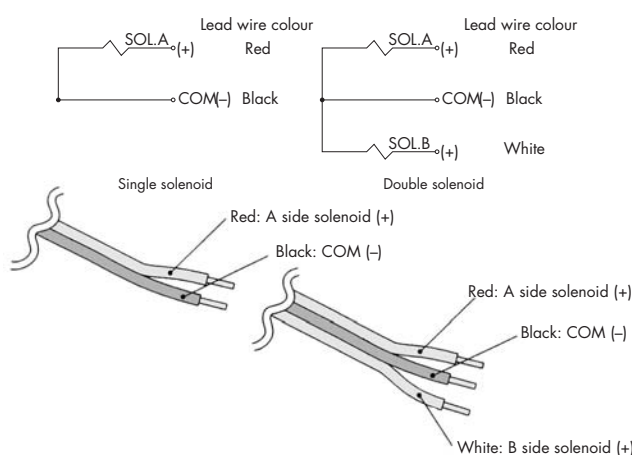
Lead wire length	Single/3 position part no.	Double solenoid part no.
300 mm	AXT661-14A	AXT661-13A
600 mm	AXT661-14A-6	AXT661-13A-6
1000 mm	AXT661-14A-10	AXT661-13A-10
2000 mm	AXT661-14A-20	AXT661-13A-20
3000 mm	AXT661-14A-30	AXT661-13A-30

Note 1) 3 position type requires 2 sets for A side and B side.

Note) Cables for VQ individual wiring valves (applicable only to VQ0000 in new catalogue) have either two cores (single solenoid) or three cores (double solenoid). There are also variants for negative common and positive common polarity.

● Wiring connectors: Negative COM (Option)

● The lead wires are connected to the valve as shown below. Connect each to the power supply side.



Connector Assembly Part No.

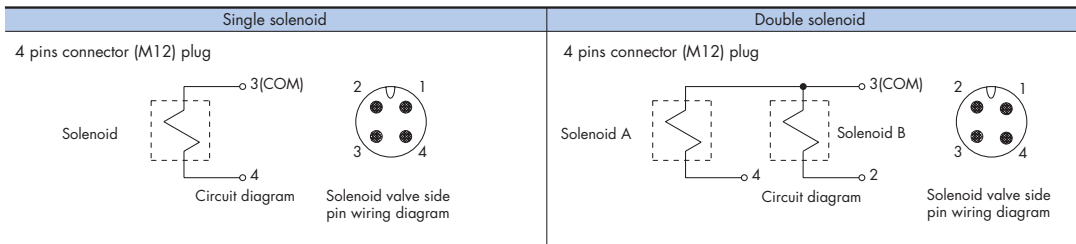
Lead wire length	Single/3 position part no.	Double solenoid part no.
300 mm	AXT661-14AN	AXT661-13AN
600 mm	AXT661-14AN-6	AXT661-13AN-6
1000 mm	AXT661-14AN-10	AXT661-13AN-10
2000 mm	AXT661-14AN-20	AXT661-13AN-20
3000 mm	AXT661-14AN-30	AXT661-13AN-30

Note 1) When using the negative common specifications, use valves for negative common.

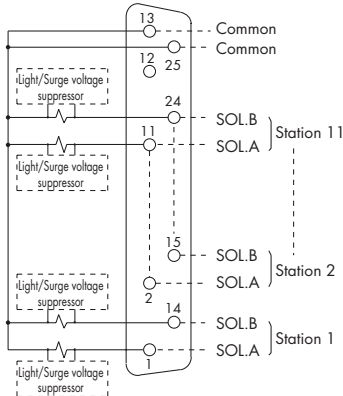
Note 2) 3 position type requires 2 sets for A side and B side.

Valve and Manifold Connection Diagrams

SV with M12 4 pin connector wiring

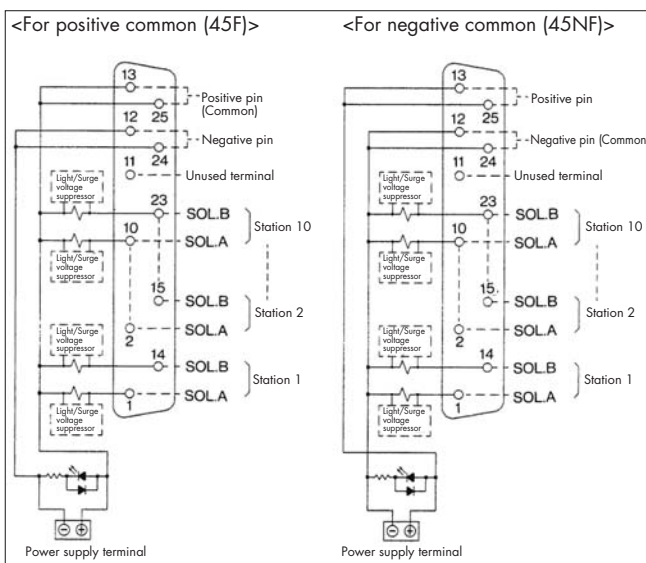


SV with 25 pin D-sub connector



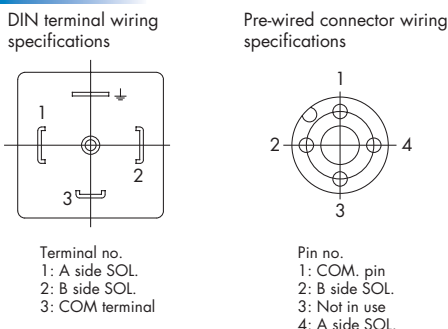
- This circuit has double wiring specifications for up to 11 stations. Since the usable number of solenoids differs depending on the manifold type, refer to the table below.
In the case of single solenoids, connect to SOL.A. Furthermore, when wiring is specified on the manifold specification sheet, connections are made without skipping any connectors, and signals A for single and A, B for double are in order 1 → 14 → 2 → 15, etc.
- Stations are counted from D side (connector side) as the 1st.
- Since solenoid valves do not have polarity, either the +COM or -COM can be used.

SX and SY with 25 pin D-sub connector

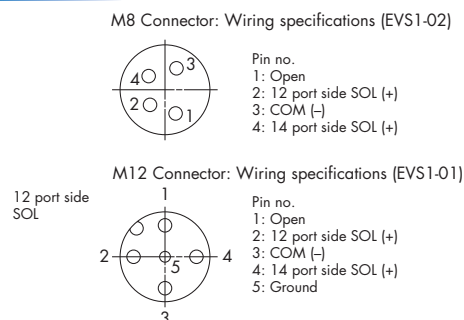


- The power source terminal is used for connecting to an external power source.
- The above diagram is the double wiring specifications for up to 10 stations. When the wiring specifications are specified on the manifold specification sheet, the valve assignment for the connector number will differ from the above diagram. For more information, please contact SMC.
- When using a single solenoid valve, connect wire to SOL.A.
- The maximum number of stations is 20 in terms of manifold bases, as well as solenoids. (Please consult with SMC for more stations.)
- Regardless of the connector mounting position, stations are to be counted from D side as the 1st one.

VQ7 DIN terminal and M12 connector wiring.



EVS1 and EVS7 M8 and M12 terminal wiring.



5 Port Base mounted solenoid valve



Series SV1/2/3/4000

Features

- IP67 base mounted valves
- Easy to expand manifolds
- Dual 3 port valve bodies available
- Cassette and tie rod manifold construction
- Wide choice of serial transmission options
- 50 million cycle valve design life

How to Order Valves

SV 1 1 00 — 5 F U D

Series

1	SV1000
2	SV2000
3	SV3000
4	SV4000

Pilot type

Nil	Internal pilot
R	External pilot

* External pilot specifications is not available for 4 position dual 3 port valves.

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
A*	4 position dual 3 port valve: N.C./N.C.
B*	4 position dual 3 port valve: N.O./N.O.
C*	4 position dual 3 port valve: N.C./N.O.

SV3000 and 4000 are not available with dual 3 port valve.

Rated voltage

5	24 VDC
6	12 VDC

Electrical Entry

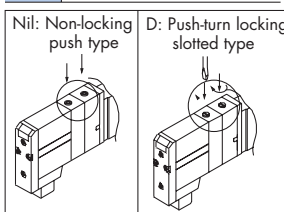
F	Plug in for manifold use
W2	With lead and M12 connector for single subbase. 500mm lead

NOTE: Other lead lengths on request.
NOTE: SV Valves must be used on a manifold (F type electrical connection) or on a single subbase (W type electrical connection)

Lamp and surge protection
U With lamp and surge

Manual override

Nil	Non-locking push type
D	Push-turn locking slotted type



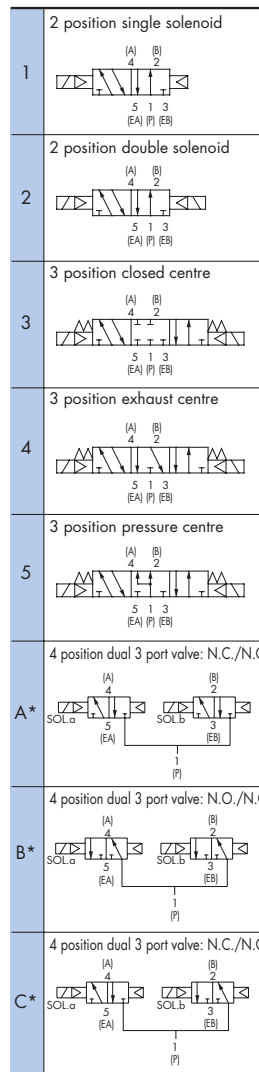
Single Subbase for SV Valves

Note: These are used with the individually wired valves which have a lead + M12 connector.

Part numbers are SV**00 - *W*

Valve Series	Applicable single subbases
SV1000	SY3000 - 27 - 1F - Q
SV2000	SY5000 - 27 - 1F - Q
SV3000	SY7000 - 27 - 1F - Q (1/4 ported size) SY7000 - 27 - 2F - Q (3/8 ported size)
SV4000	SY9000 - 27 - 1F (3/8 ported size) SY9000 - 27 - 2F (1/2 ported size)

Symbols



*Note: Not available in SV3000 and 4000 sizes

Series SV Solenoid Valve Specifications

Fluid		Air
Internal pilot operating pressure range (MPa)	2 position single	0.15 to 0.7
	4 position dual 3 port valve	
	2 position double	0.1 to 0.7
External pilot operating pressure range (MPa)	3 position	0.2 to 0.7
	Operating pressure range	-100 kPa to 0.7
	2 position single, double	0.25 to 0.7
Ambient and fluid temperature (°C)	3 position	
		-10 to 50 (No freezing.)
Max. operating frequency (Hz)	2 position single, double	5
	4 position dual 3 port valve	
	3 position	3
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		IP67 (Based on IEC529)
Coil rated voltage		24 VDC, 12 VDC
Allowable voltage fluctuation		±10% of rated voltage
Power consumption (W)		0.6 (With indicator light: 0.65)
Surge voltage suppressor and light		Zener diode + LED



CAD CD-ROM AVAILABLE



CATALOGUE ES11-81A AVAILABLE



PDF AVAILABLE ONLINE

Flow Characteristics/Weight

	Type of actuation		Port size	Flow characteristics ⁽¹⁾						Response Times (m/s)	Weight (g)
				1 → 4/2 (P → A/B)			4/2 → 5/3(A/B → EA/EB)				M12 waterproof connector (Cable length 300 mm)
				C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv		
Series SV1000	2 position	Single	1/8	1.0	0.30	0.24	1.1	0.30	0.26	11	123
		Double								10	128
	3 position	Closed centre		0.77	0.28	0.18	0.85	0.30	0.19	18	130
		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		
	4 position dual	N.C./N.C.		0.68	0.35	0.18	1.1	0.39	0.29	15	128
		N.O./N.O.		0.87	0.31	0.23	0.77	0.44	0.21		

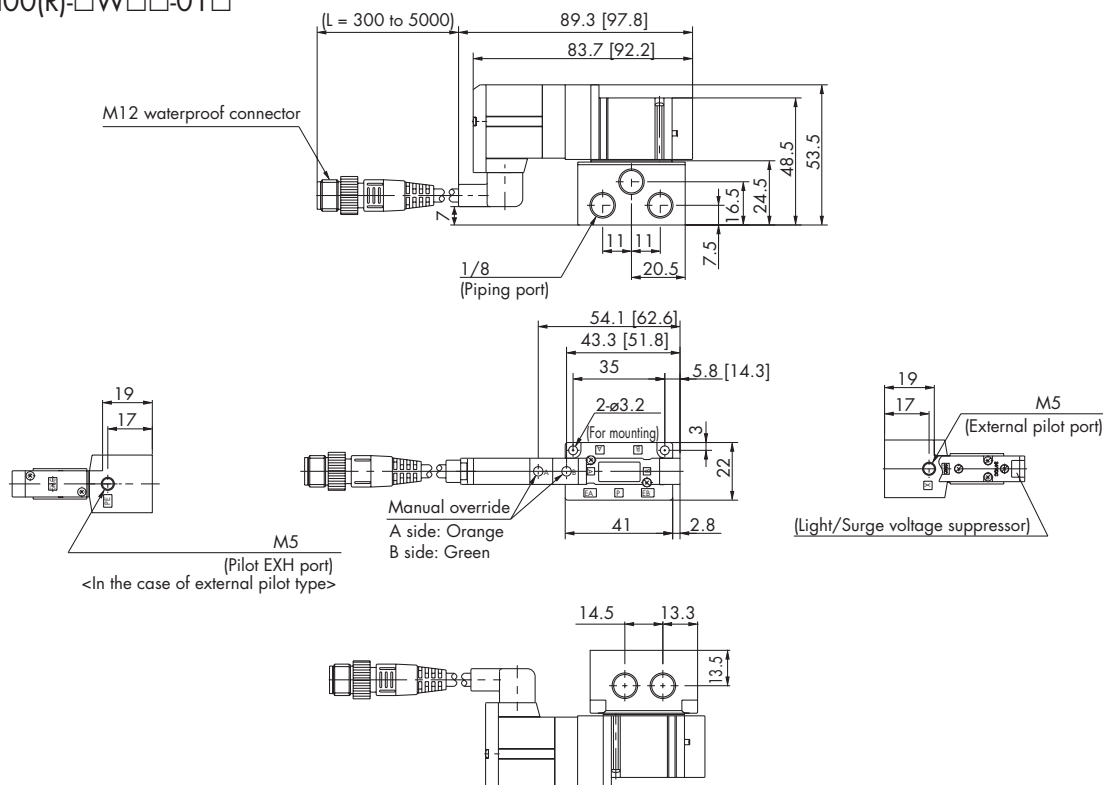
	Type of actuation		Port size	Flow characteristics ⁽¹⁾						Response Times [m/s]	Weight (g)
				1 → 4/2 (P → A/B)			4/2 → 5/3(A/B → EA/EB)				M12 waterproof connector (Cable length 300 mm)
				C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv		
Series SV2000	2 position	Single	1/4	2.4	0.41	0.64	2.8	0.29	0.66	25	159
		Double								17	163
	3 position	Closed centre		1.8	0.47	0.50	1.8	0.40	0.47	29	168
		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		
	4 position dual	N.C./N.C.		2.2	0.40	0.55	2.6	0.31	0.60	33	163
		N.O./N.O.		2.7	0.24	0.57	2.3	0.36	0.54		

Type of actuation			Port size	Flow characteristics ⁽¹⁾						Response Times (m/s)	Weight (g)
				1 → 4/2 (P → A/B)			4/2 → 5/3(A/B → EA/EB)				M12 waterproof connector (Cable length 300 mm)
				C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv		
Series SV3000	2 position	Single	1/4	4.1	0.41	1.1	4.1	0.29	1.0	28	250
		Double								26	253
	3 position	Closed centre		3.0	0.43	0.80	2.6	0.41	0.72	32	26 (132)
		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	28	235
		Double								26	238
	3 position	Closed centre		3.0	0.40	0.80	2.6	0.45	0.73	32	246
		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 ⁽¹⁾						Response Times (m/s)	Weight (g)
				1 → 4/2 (P → A/B)			4/2 → 5/3(A/B → EA/EB)				M12 waterproof connector (Cable length 300 mm)
				C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv		
Series SV4000	2 position	Single	3/8	7.9	0.34	2.0	9.6	0.43	2.5	40	505
		Double								40	509
	3 position	Closed centre		7.5	0.33	1.8	7.3	0.30	1.7	82	530
		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	40	484
		Double								40	488
	3 position	Closed centre		7.6	0.32	1.8	7.3	0.32	1.8	82	509
		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		

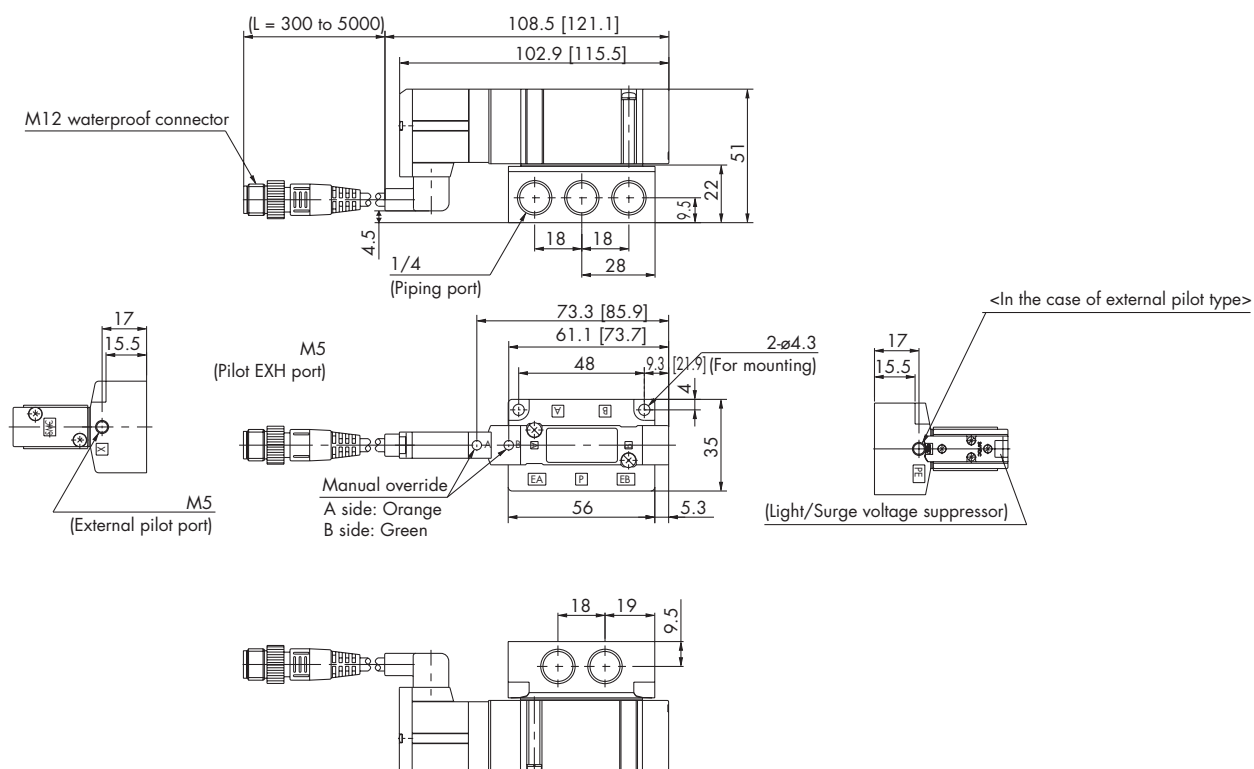
Dimensions: Series SV1000

2 position single/double, 4 position dual 3 port [] Shows 3 position valves
SV1□□00(R)-□W□□-01□



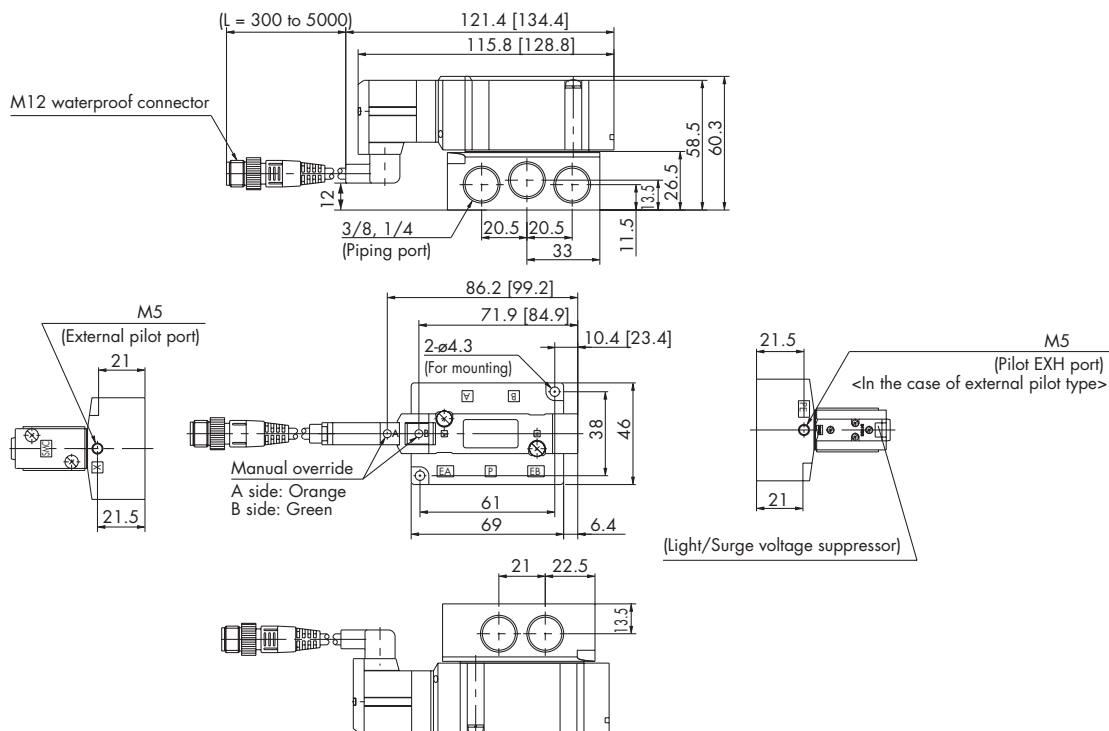
Dimensions: Series SV2000

2 position single/double, 4 position dual 3 port [] Shows 3 position valves
SV2□□00(R)-□W□□-02□



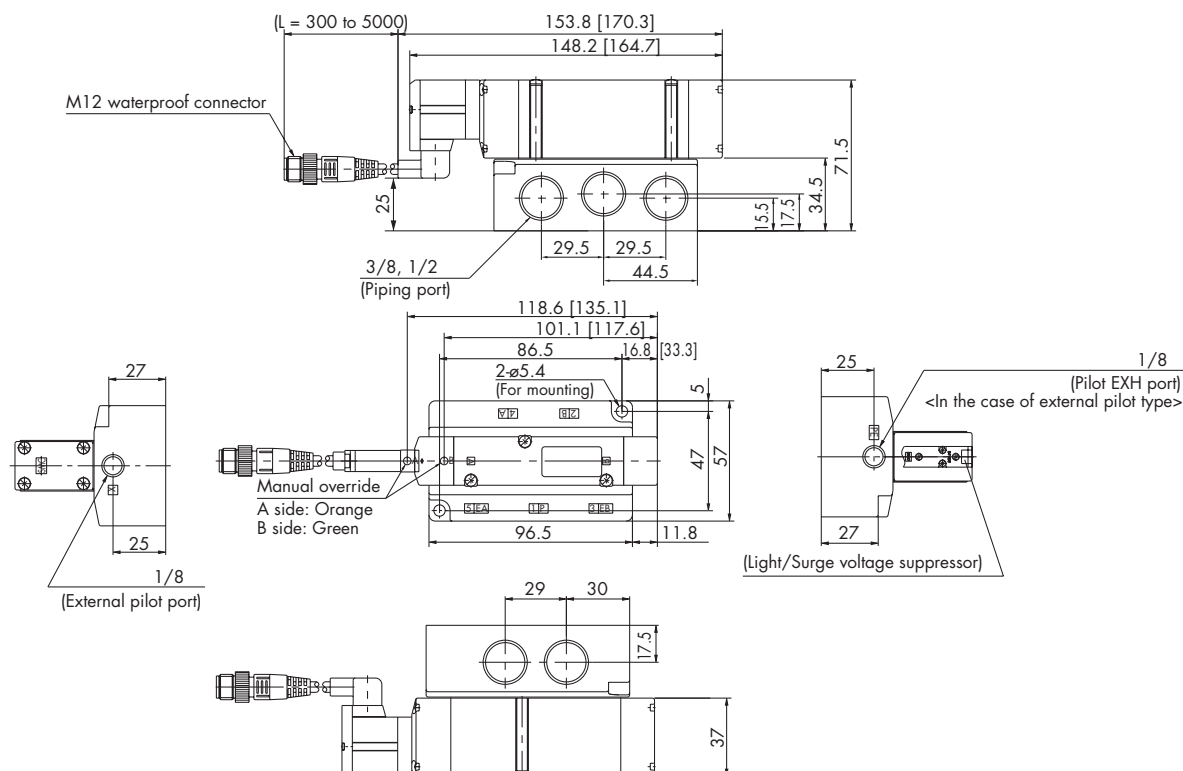
Dimensions: Series SV3000

2 position single/double [] Shows 3 position valves
SV3□00(R)-□W□□-02, 03□



Dimensions: Series SV4000

2 position single/double [] Shows 3 position valves
SV4□00(R)-□W□□-03, 04□

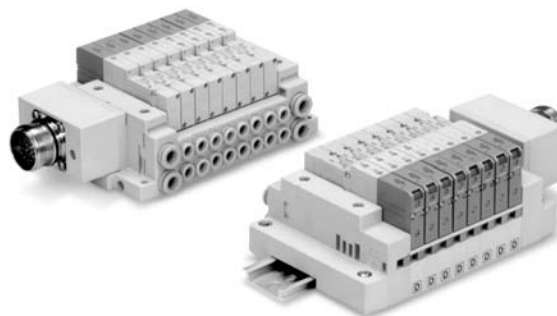


● Circular Connector Manifolds for SV



Features

- ➔ IP67 construction
- ➔ Removable cable 26 pin
- ➔ Both types can be easily expanded
- ➔ Wide choice of output port sizes
- ➔ Valves can be easily removed



Note: Applicable Valves SV1000 - 4000 plug in type (F electrical entry code).
Note 2: For connector cables and wiring diagrams see the cables appendix.

● Tie-rod base

SS5V 1-W 10CD-05 U C6

● Cassette base

SS5V 1-W 16CD-05 U C6

● Mounting

Nil	Direct mounting
D	DIN rail mounting (With DIN rail)

Series	Tie Rod Base	Cassette Base
1	SV1000	○
2	SV2000	○
3	SV3000	○
4	SV4000	○

Enclosure
IP67 specification

A, B Outlet Fitting Sizes

Valve Type	P/E Port Size	C4 (4mm tube)	C6 (6mm tube)	C8 (8mm tube)	C10 (10mm tube)	C12 (12mm tube)	C15 (15mm tube)	C20 (20mm tube)
SV1000	C8 (8mm tube)	○	○					
SV2000	C10 (10mm tube)	○	○	○				
SV3000	C12 (12mm tube)	○	○	○	○			
SV4000	C12 (12mm tube)		○	○	○	○	○	○

Number of Valve stations

Type of Manifold	Valve Size	Number of Stations	Wiring
Tie Rod Type Type 10	SV1000 - 4000	02 - 12	Double
		02 - 20	Custom
Cassette Type Type 16	SV1000	02 - 09	Double
		02 - 18	Custom
	SV2000	02 - 12	Double
		02 - 20	Custom

Note 1: If a manifold larger than the maximum for double wiring stations is specified, wiring configuration table is required. This details which stations have single wiring and which are wired for double solenoid valves. Please contact SMC for details before ordering manifolds exceeding these limits.

● SUP/EXH block assembly specifications

Nil	Internal pilot
S	Internal pilot/Built-in silencer
R	External pilot
RS	External pilot/Built-in silencer

P, E port location

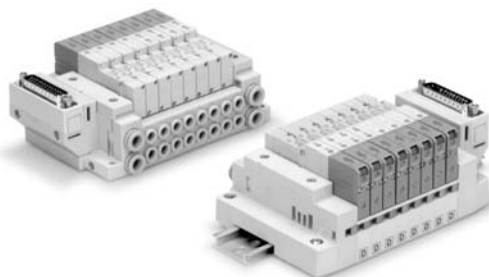
U	U side (2 to 10 stations)
D	D side (2 to 10 stations)
B	Both sides (2 to 20 stations)

D-sub Connector Manifold for SV



Features

- ➔ Removable 25 pin D-sub cable
- ➔ Cassette and tie rod manifold can be easily expanded
- ➔ Wide choice of outlet port sizes
- ➔ Easy to remove valves



Note: Applicable Valves SV1000 - 4000 plug in type (F electrical entry code).
Note 2: For connector cables and wiring diagrams see the cables appendix.

● Tie-rod base

SS5V 1 - 10FD 1 - 05 U - C6

● Cassette base

SS5V 1 - 16FD 1 - 05 U - C6

Series	Tie Rod Base	Cassette Base
1 SV1000	○	○
2 SV2000	○	○
3 SV3000	○	
4 SV4000	○	

Connector entry direction

1	Upward
2	Lateral

● Mounting

Nil	Direct mounting
D	DIN rail mounting (With DIN rail)

● A, B Outlet Fitting Sizes

Valve Type	P/E Port Size	C4 (4mm tube)	C6 (6mm tube)	C8 (8mm tube)	C10 (10mm tube)	C12 (12mm tube)	02 (1/16" thread)	03 (1/8" thread)
SV1000	C8 (8mm tube)	○	○					
SV2000	C10 (10mm tube)	○	○	○				
SV3000	C12 (12mm tube)	○	○	○	○			
SV4000	C12 (12mm tube)		○	○	○	○		

Number of Valve stations

Type of Manifold	Valve Size	Number of Stations	Wiring
Tie Rod Type Type 10	SV1000 - 4000 (All)	02 - 11	Double
		02 - 20	Custom
Cassette Type Type 16	SV1000	02 - 09	Double
		02 - 18	Custom
	SV2000	02 - 11	Double
		02 - 20	Custom

Note 1: If a manifold larger than the maximum for double wiring stations is specified, wiring configuration table is required. This details which stations have single wiring and which are wired for double solenoid valves. Please contact SMC for details before ordering manifolds exceeding these limits.

P, E port location

U	U side (2 to 10 stations)
D	D side (2 to 10 stations)
B	Both sides (2 to 20 stations)

● Pilot type

Nil	Internal pilot
S	Internal pilot/Built-in silencer
R	External pilot
RS	External pilot/Built-in silencer

Manifold Types Also Available

Flat Ribbon Cable



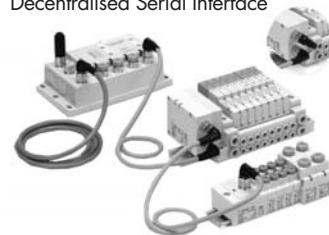
P type Flat ribbon cable connector manifold

Serial Interface Unit with Inputs



Serial interface wiring system with input units. IP67 rated Series EX250

Decentralised Serial Interface



Decentralised serial interface wiring system, with input modules. IP67 rated Series EX500

Serial Interface



Serial interface with 16 way communication modules, Series EX120

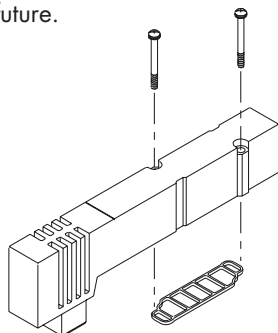
Contact SMC for details of these variations.

Note: For Manifold Electrical Wiring, see cables Appendix.

Manifold Accessories (1)

Blanking plate assembly

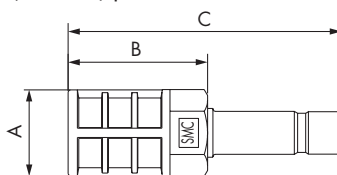
Used in situations where valves will be added in the future.



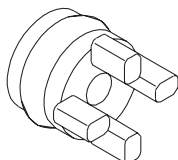
Series	Blanking plate assembly part no.
SV1000	SV1000-67-1A
SV2000	SV2000-67-1A
SV3000	SV3000-67-1A
SV4000	SV4000-67-1A

Silencer with One-touch fitting

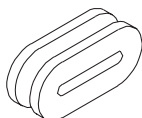
This silencer can be quickly mounted on the manifold's E (exhaust) port.



Series	Model	Effective area	A	B	C
SV1000 (For ø8)	AN203-KM8	14 mm ²	ø16	26	51
SV2000 (For ø10)	AN200-KM10	26 mm ²	ø22	53.8	80.8
	AN300-KM10	30 mm ²	ø25	70	97
SV3000 SV4000 (For ø12)	AN300-KM12	41 mm ²	ø25	70	98



Cassette base type 16

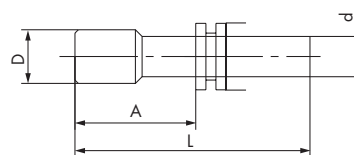


Tie-rod base type 10

Series	Manifold Model	SUP block disk	EXH block disk
SV1000	10	SV1000-59-1A	SV1000-59-2A
	16	SX3000-77-1A	SX3000-77-1A
SV2000	10	SV2000-59-1A	SV2000-59-2A
	16	SV2000-59-3A	SV2000-59-3A
SV3000	10	SV3000-59-1A	SV3000-59-1A
SV4000	10	SY9000-57-1A	SY9000-57-1A

Plug (White)

These are inserted in unused cylinder ports and P, E ports.



Applicable fitting size d	Model	A	L	D
ø4	KQP-04	16	32	ø6
ø6	KQP-06	18	35	ø8
ø8	KQP-08	20.5	39	ø10
ø10	KQ2P-10	22	43	ø12
ø12	KQ2P-12	24	44.5	ø14

Manifold Accessories (2)

■ Interface regulator

How to order interface regulator

Series SV1000

SV1 **0** 00—**05**—**P**

• Applicable valve

0	For single, double
3	For 3 position

• Regulating port

P	P port
A1	A port (P controlled type, A port regulation)
B1	B port (P controlled type, B port regulation)

Option

05	With pressure gauge [For odd number station]
06	With pressure gauge [For even number station]
M1	Without pressure gauge

Note: In the case of Series SV1000 with a pressure gauge when mounting on the manifold, take care that the part numbers are different between the odd no. stations and the even no. stations to avoid pressure gauges from interfering with each other.

Series SV2000/SV3000/SV4000

SV **2** 000—**00**—**P**

• Series

2	SV2000
3	SV3000
4	SV4000

• Regulating port

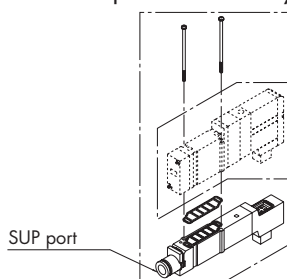
P	P port
A1	A port (P controlled type, A port regulation)
B1	B port (P controlled type, B port regulation)

Option

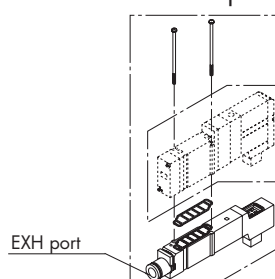
00	With pressure gauge
M1	Without pressure gauge

Manifold Accessories (3)

■ Individual SUP spacer assembly



■ Individual EXH spacer assembly



How to order individual SUP/EXH spacer assembly

Series SV1000

SV1000—**38**—1A—**C6**

• Port size

C4	One-touch fitting for ø4
C6	One-touch fitting for ø6

• Spacer type

38	Individual SUP spacer
39	Individual EXH spacer

Series SV2000/SV3000/SV4000

SV **2** 000—**38**—1 F A

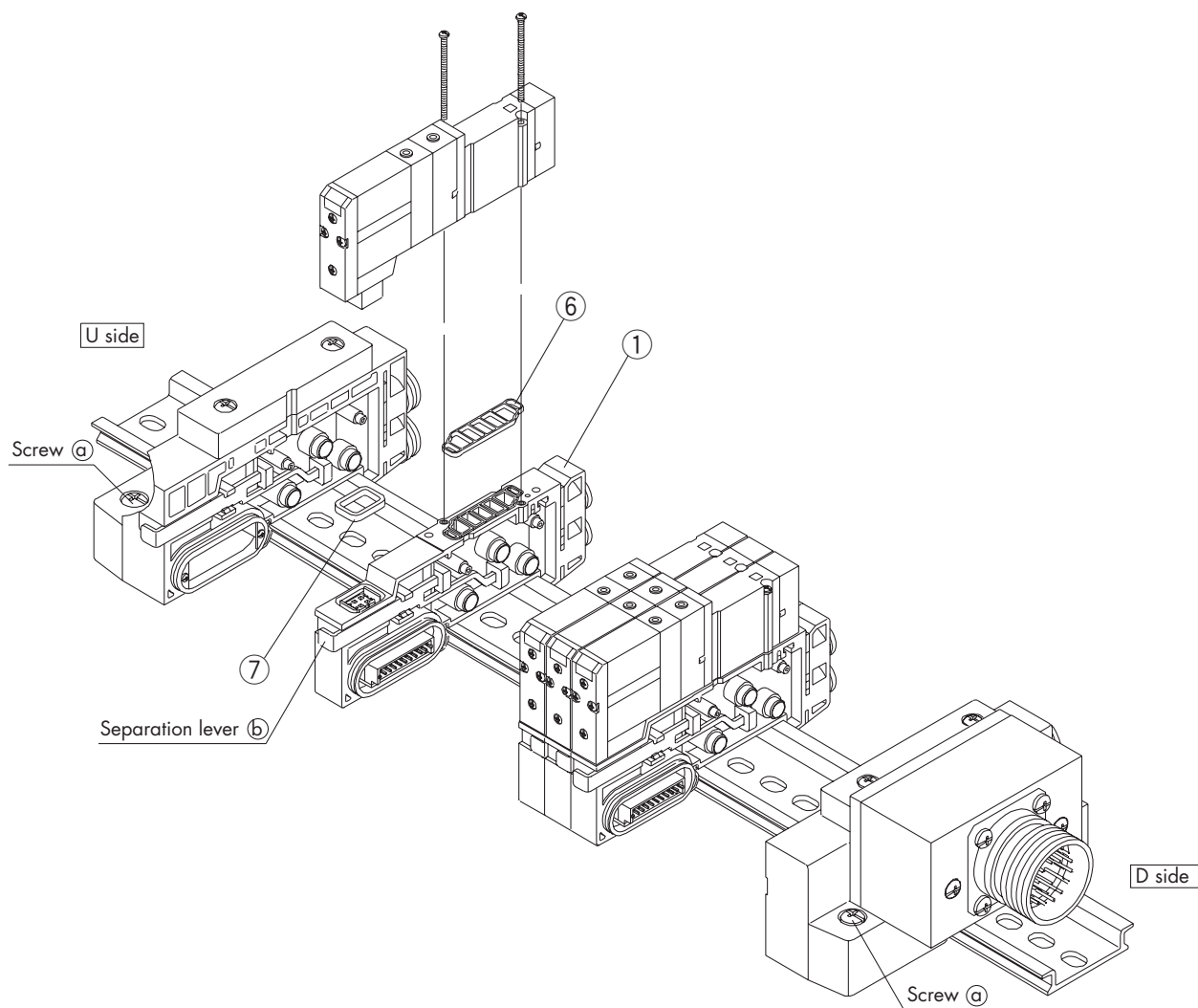
• Series

2	SV2000
3	SV3000
4	SV4000

Note) SV2000/3000/4000 port size

Series	Port size
SV2000	1/8
SV3000	1/4
SV4000	

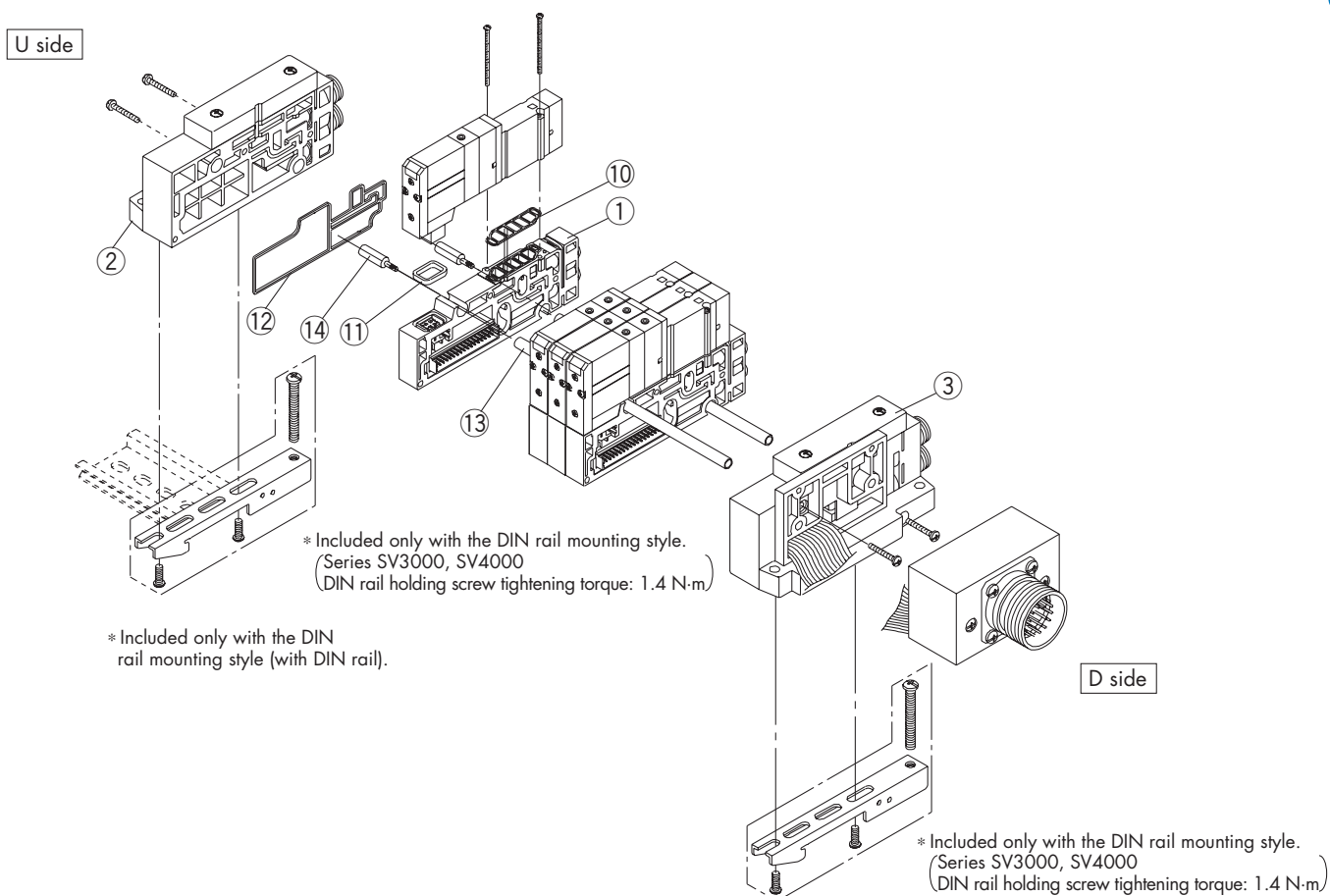
Type 16: Cassette Base Manifold Exploded View



Manifold Slice Assembly Part No. for manifold expansion

Series	Wiring specifications	Manifold block assembly part no.	Note
SV1000	Single Solenoid	SV1000-50-3A-□□	C4: With One-touch fitting for ø4 C6: With One-touch fitting for ø6 (Gaskets ⑥ and ⑦ are included.)
	Double Solenoid	SV1000-50-4A-□□	
SV2000	Single Solenoid	SV2000-50-3A-□□	C4: With One-touch fitting for ø4 C6: With One-touch fitting for ø6 C8: With One-touch fitting for ø8 (Gaskets ⑥ and ⑦ are included.)
	Double Solenoid	SV2000-50-4A-□□	

Type 10: Tie-rod Base Manifold Exploded View



Manifold Block Assembly Part No. for Manifold Expansion

	Wiring specifications	Manifold block assembly part no.	Note
SV1000	Single Solenoid	SV1000-50-1A-□□	C3: With One-touch fitting for ø3.2 C4: With One-touch fitting for ø4 C6: With One-touch fitting for ø6 (Tie-rod for station additions ⑭ and gaskets ⑩, ⑪, and ⑫ are included.)
	Double Solenoid	SV1000-50-2A-□□	
SV2000	Single Solenoid	SV2000-50-1A-□□	C4: With One-touch fitting for ø4 C6: With One-touch fitting for ø6 C8: With One-touch fitting for ø8 (Tie-rod for station additions ⑭ and gaskets ⑩, ⑪, and ⑫ are included.)
	Double Solenoid	SV2000-50-2A-□□	
SV3000	Single Solenoid	SV3000-50-1A-□□	C6: With One-touch fitting for ø6 C8: With One-touch fitting for ø8 C10: With One-touch fitting for ø10 (Tie-rod for station additions ⑭ and gaskets ⑩, ⑪, and ⑫ are included.)
	Double Solenoid	SV3000-50-2A-□□	
SV4000	Single Solenoid	SV4000-50-1A-□□	C8: With One-touch fitting for ø8 C10: With One-touch fitting for ø10 C12: With One-touch fitting for ø12 02F: G1/4 03F: G3/8 (Tie-rod for station additions ⑭ and gaskets ⑩, ⑪, and ⑫ are included.)
	Double Solenoid	SV4000-50-2A-□□	

Note: If parts ②, ③ or fitting cartridges are required, please contact SMC.

Valve Manifold Specifications

Cassette base manifold



- Changing the number of stations can be easily done by lever operation.

Manifold Specifications

Applicable series		SV1000	SV2000
Manifold type		Stacking type cassette base manifold	
1 (P: SUP)/3, 5 (E: EXH) type		Common SUP, EXH	
Valve stations (maximum)		18 stations	20 stations
Max. number of solenoids		18 points	26 points
Port size	1 (P), 3/5 (E) port	C8	C10
	4 (A), 2 (B) port	C4, C6	C4, C6, C8

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 → 3/5 (A/B → E)		
			C [dm ³ /[s·bar]]	b	Cv	C [dm ³ /[s·bar]]	b	Cv
SS5V1-16	C8	C6	0.89	0.22	0.22	0.98	0.21	0.23
SS5V2-16	C10	C8	2.3	0.28	0.50	2.7	0.18	0.56

Tie-rod base manifold



- 34 pins connector allows up to 16 stations with double solenoids.

Manifold Specifications

Applicable series		SV1000	SV2000	SV3000	SV4000
Manifold type		Tie-rod base manifold			
1 (P: SUP)/3, 5 (E: EXH) type		Common SUP, EXH			
Valve stations (maximum)		20 stations			
Max. number of solenoids		32 points			
Port size	1 (P), 3/5 (E) port	C8	C10	C12	C12, 03
	4 (A), 2 (B) port	C4, C6	C4, C6, C8	C6, C8, C10	C8, C10, C12 02, 03

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 → 3/5 (A/B → E)		
			C [dm ³ /[s·bar]]	b	Cv	C [dm ³ /[s·bar]]	b	Cv
SS5V1-10	C8	C6	0.98	0.26	0.24	1.1	0.35	0.28
SS5V2-10	C10	C8	2.1	0.20	0.46	2.4	0.18	0.48
SS5V3-10	C12	C10	4.2	0.22	0.91	4.3	0.21	0.93
SS5V4-10	C12	C12	6.2	0.19	1.3	7.0	0.18	1.6

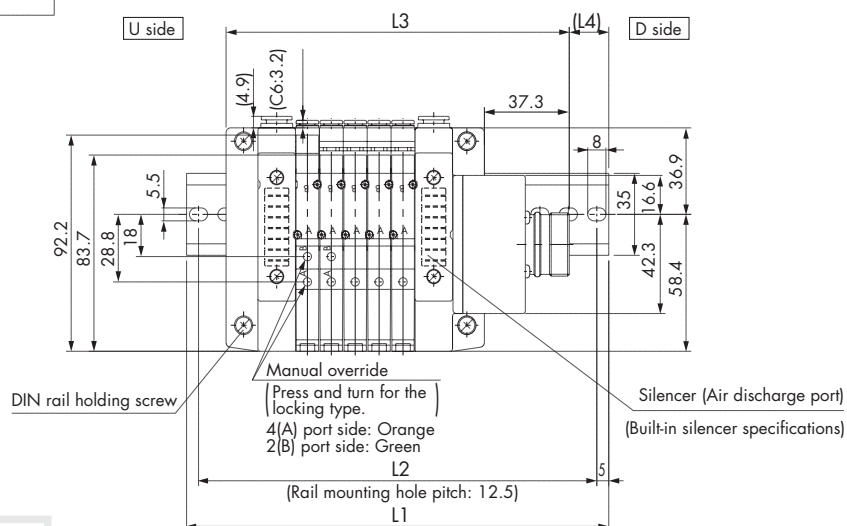
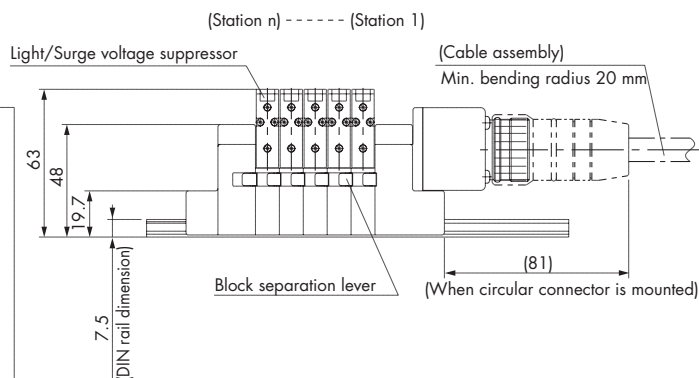
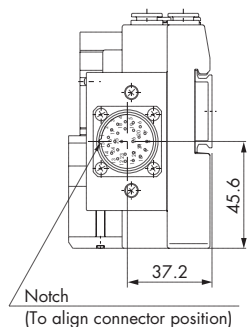
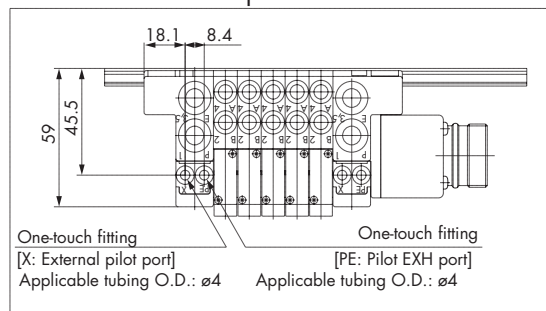
Enclosure of Manifold Variations (Common for cassette base and tie-rod base)

Series	Enclosure (Based on IEC529)
For circular connector	IP67
D-sub connector	IP40

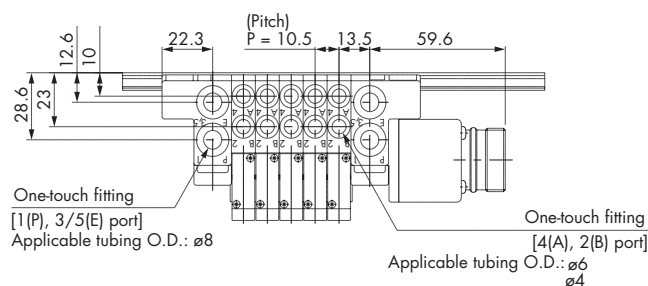
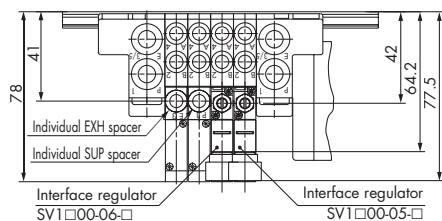
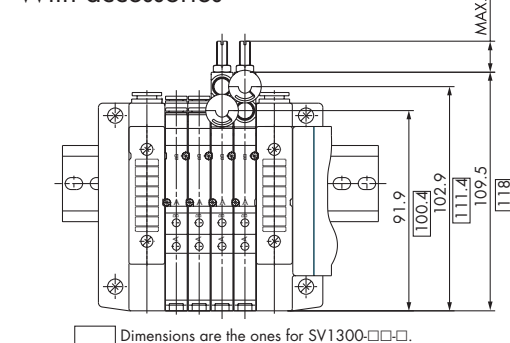
Dimensions: Series SV1000 for Circular Connector

● Cassette base manifold: SS5V1-W16CD- Stations $\frac{U}{D}$ (S, R, RS)- $\frac{C4}{C6}$

With External Pilot Specifications



With accessories



L Dimension

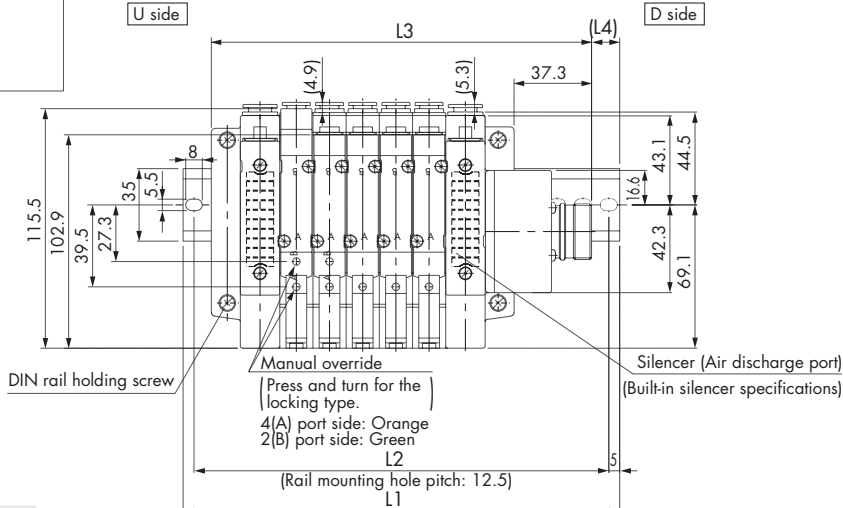
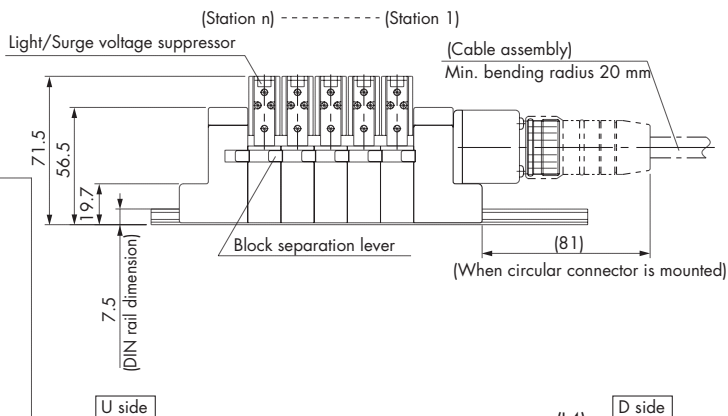
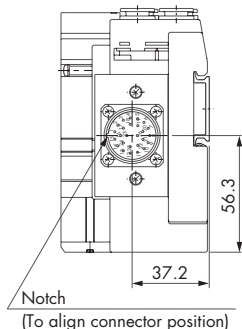
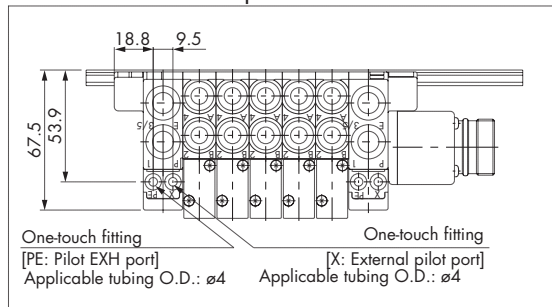
n: Stations

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
L1	148	160.5	173	185.5	185.5	198	210.5	223	235.5	248	248	260.5	273	285.5	298	310.5	310.5
L2	137.5	150	162.5	175	175	187.5	200	212.5	225	237.5	237.5	250	262.5	275	287.5	300	300
L3	119.3	129.8	140.3	150.8	161.3	171.8	182.3	192.8	203.3	213.8	224.3	234.8	245.3	255.8	266.3	276.8	287.3
L4	14.5	15.5	16.5	17.5	12	13	14	15	16	17	12	13	14	15	16	17	11.5

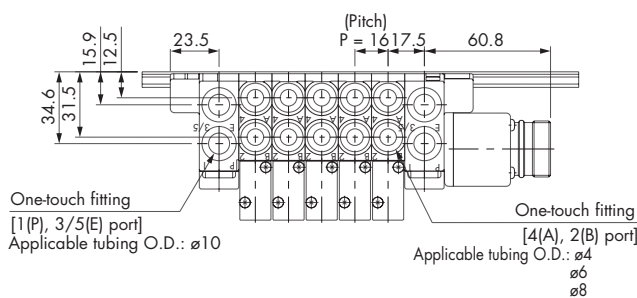
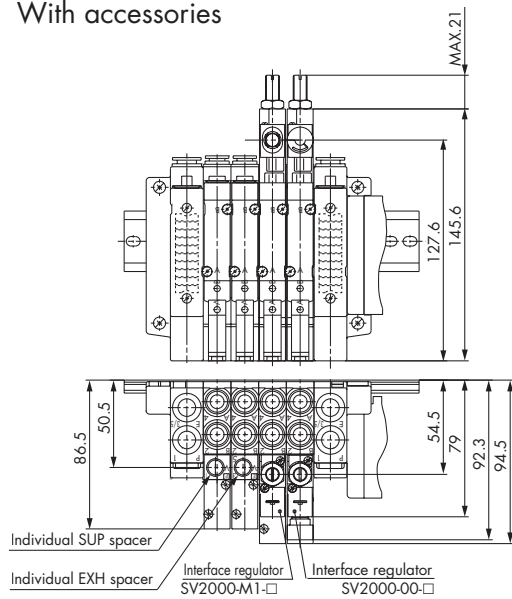
Dimensions: Series SV2000 for Circular Connector

● Cassette base manifold: SS5V2-W16CD- Stations $\begin{matrix} U \\ D \\ B \end{matrix}$ (S, R, RS)- $\begin{matrix} C4 \\ C6 \\ C8 \end{matrix}$

With External Pilot Specifications



With accessories



L Dimension

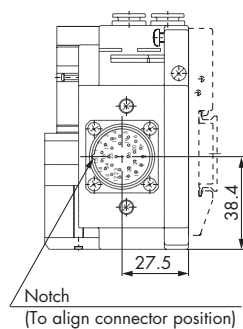
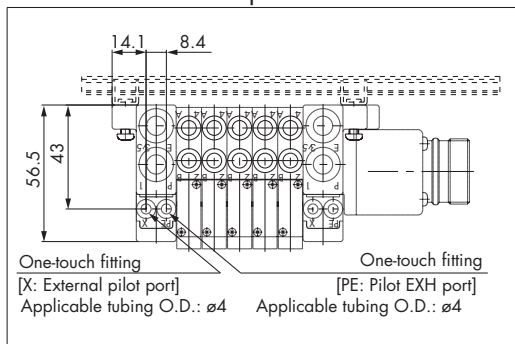
n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	160.5	185.5	198	210.5	223	248	260.5	273	298	310.5	323	335.5	360.5	373	385.5	410.5	423	435.5	448
L2	150	175	187.5	200	212.5	237.5	250	262.5	287.5	300	312.5	325	350	362.5	375	400	412.5	425	437.5
L3	135.3	151.3	167.3	183.3	199.3	215.3	231.3	247.3	263.3	279.3	295.3	311.3	327.3	343.3	359.3	375.3	391.3	407.3	423.3
L4	12.5	17	15.5	13.5	12	16.5	14.5	13	17.5	15.5	14	12	16.5	15	13	17.5	16	14	12.5

n: Stations

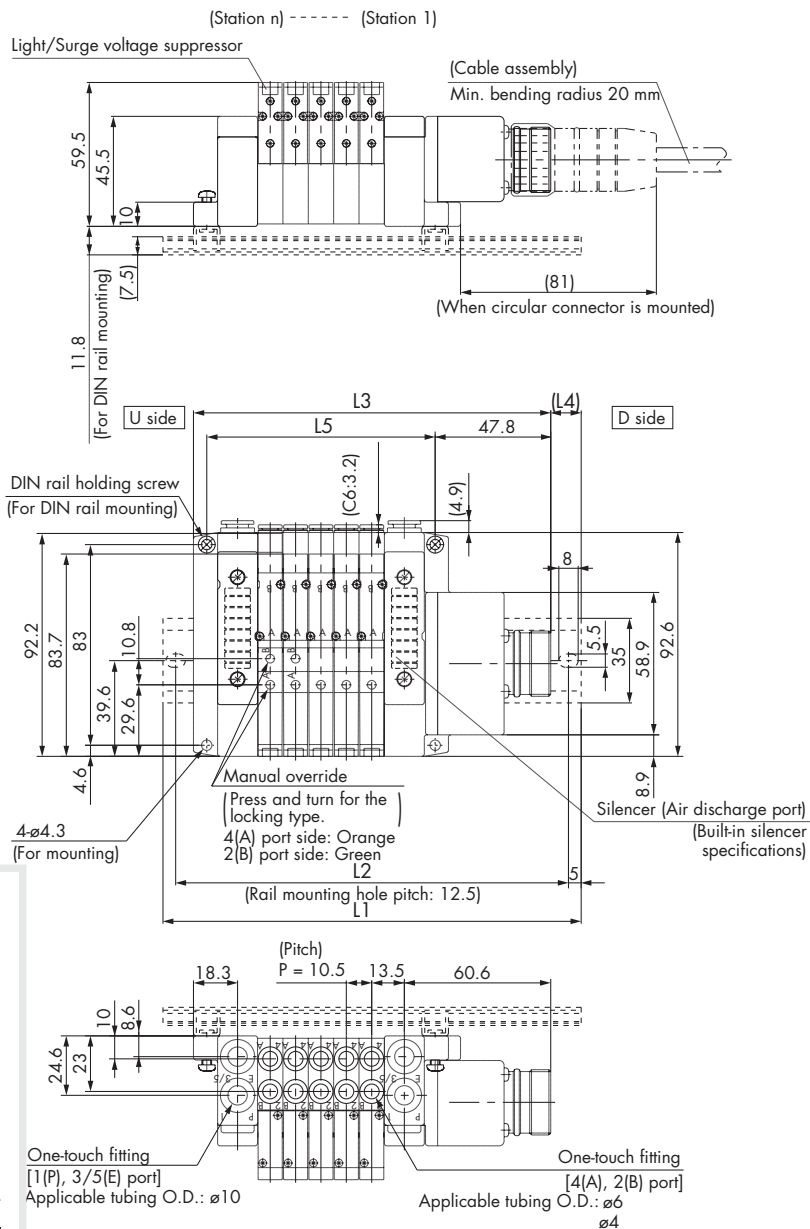
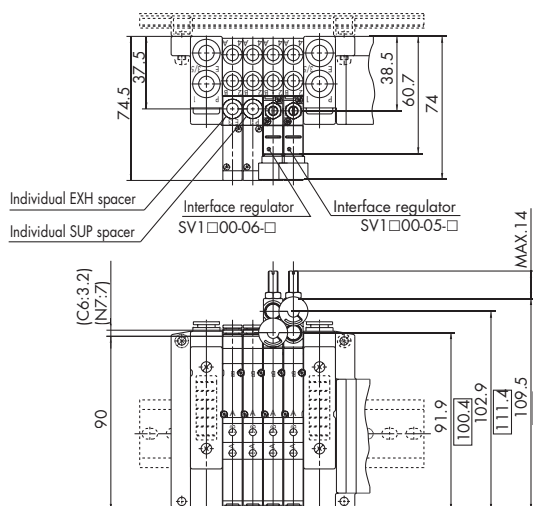
Dimensions: Series SV1000 for Circular Connector

● Tie-rod base manifold: SS5V1-W10CD- $\begin{matrix} \text{U} \\ \text{D} \\ \text{B} \end{matrix}$ (S, R, RS)- $\begin{matrix} \text{C4} \\ \text{C6} \end{matrix}$ (-D)

With External Pilot Specifications



With accessories



L Dimension

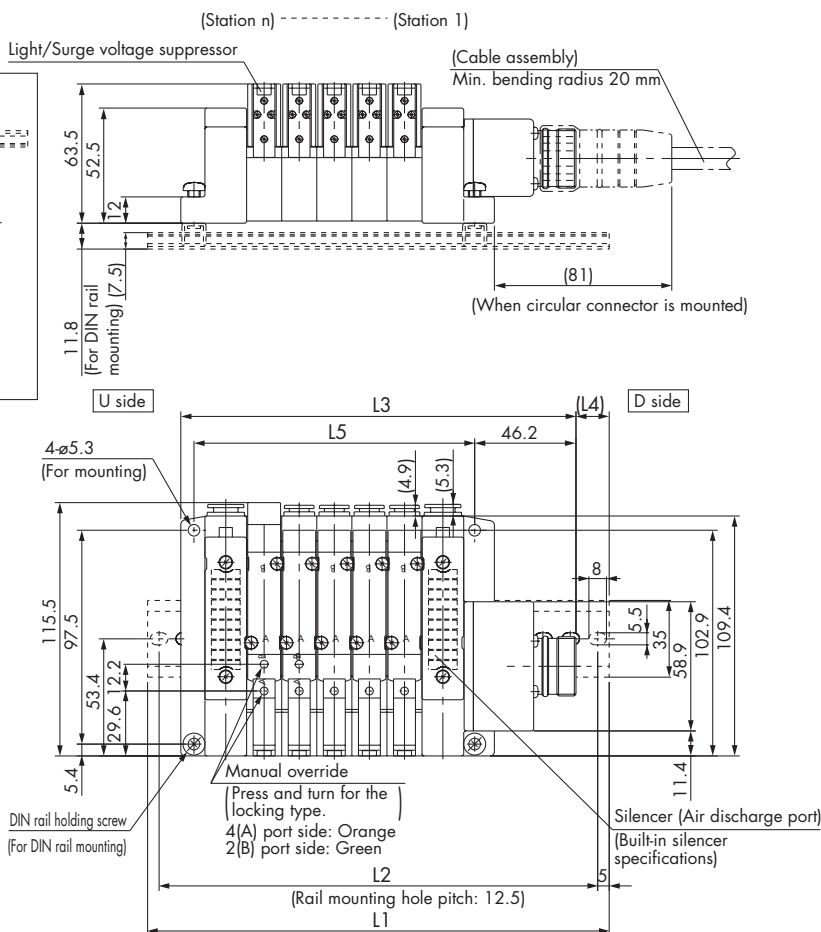
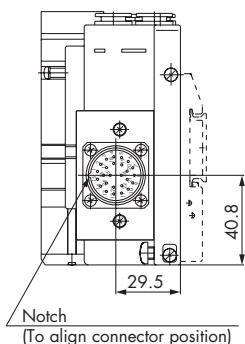
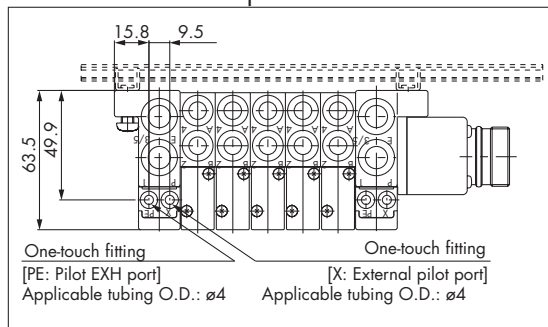
n: Stations

n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	148	160.5	160.5	173	185.5	198	210.5	223	235.5	235.5	248	260.5	273	285.5	298	298	310.5	323	335.5
L2	137.5	150	150	162.5	175	187.5	200	212.5	225	225	237.5	250	262.5	275	287.5	287.5	300	312.5	325
L3	116.3	126.8	137.3	147.8	158.3	168.8	179.3	189.8	200.3	210.8	221.3	231.8	242.3	252.8	263.3	273.8	284.3	294.8	305.3
L4	16	17	11.5	12.5	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5	12	13	14	15
L5	63	73.5	84	94.5	105	115.5	126	136.5	147	157.5	168	178.5	189	199.5	210	220.5	231	241.5	252

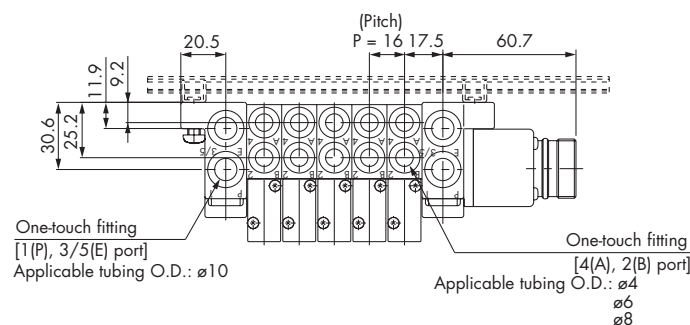
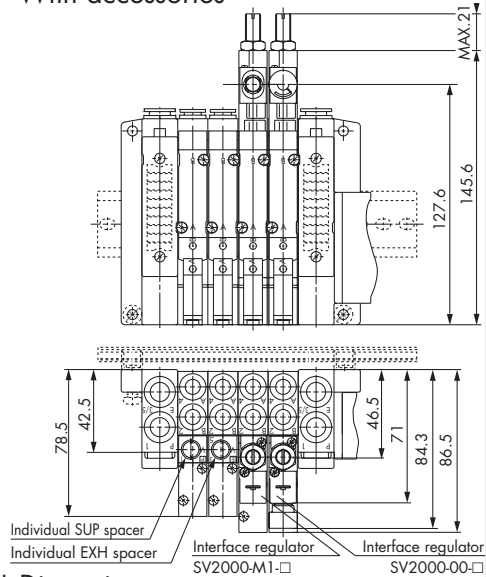
Dimensions: Series SV2000 for Circular Connector

● Tie-rod base manifold: SS5V2-W10CD- Stations U D (S, R, RS)- C4 C6 C8 (-D)

With External Pilot Specifications



With accessories



- When P, E port outlets are indicated on the U side or D side, the P, E ports on the opposite side are plugged.
- External pilot port positions and silencer discharge port positions are the same as P, E port outlet positions.

L Dimension

n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	160.5	173	198	210.5	223	235.5	260.5	273	285.5	310.5	323	335.5	348	373	385.5	398	423	435.5	448
L2	150	162.5	187.5	200	212.5	225	250	262.5	275	300	312.5	325	337.5	362.5	375	387.5	412.5	425	437.5
L3	132.2	148.2	164.2	180.2	196.2	212.2	228.2	244.2	260.2	276.2	292.2	308.2	324.2	340.2	356.2	372.2	388.2	404.2	420.2
L4	14	12.5	17	15	13.5	11.5	16	14.5	12.5	17	15.5	13.5	12	16.5	14.5	13	17.5	15.5	14
L5	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304	320	336	352	368

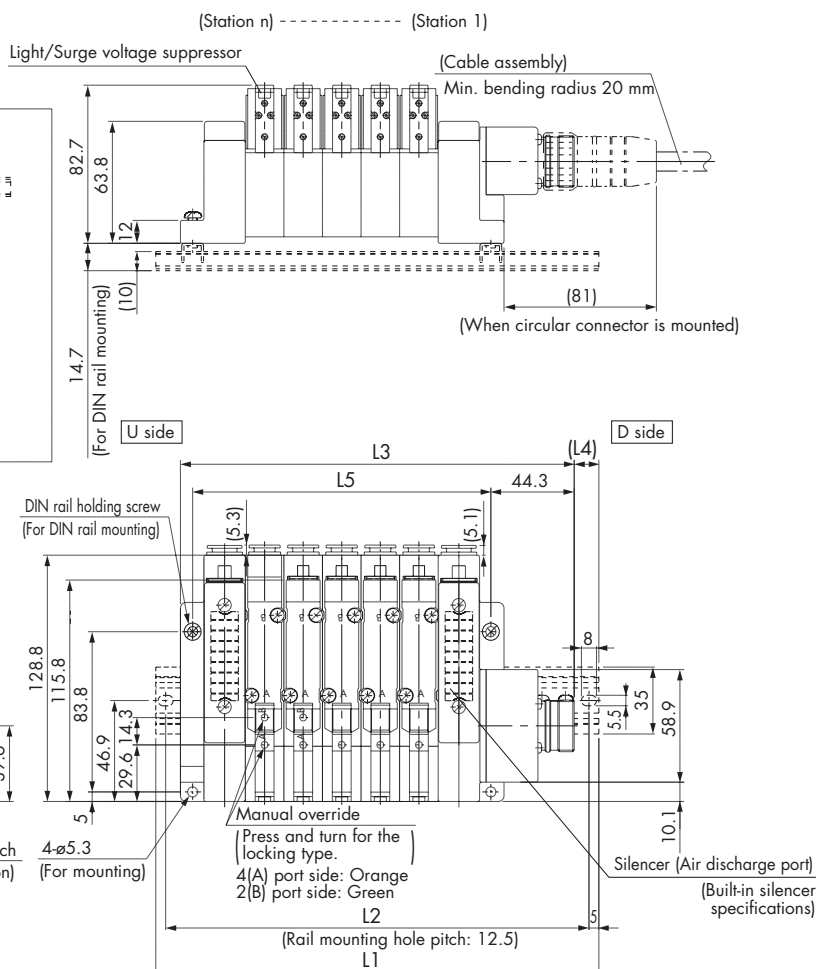
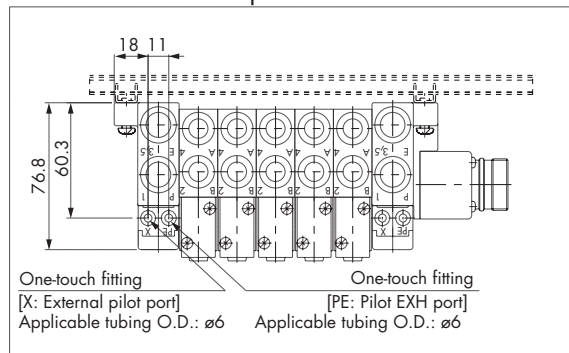
n: Stations

Dimensions: Series SV3000 for Circular Connector

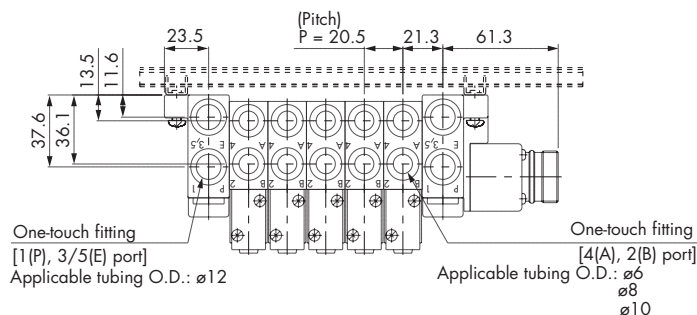
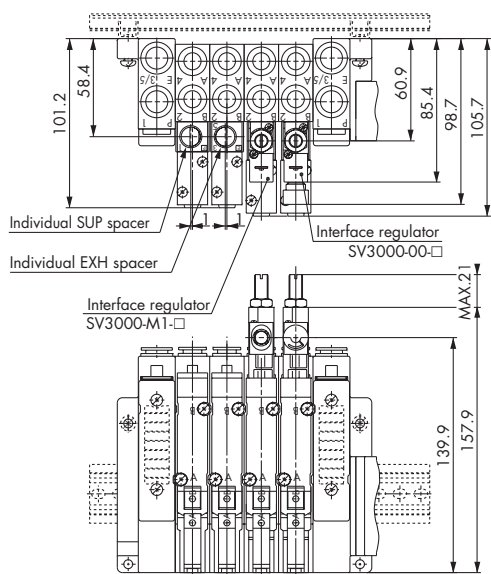
● Tie-rod base manifold: SS5V3-W10CD-

Stations $\frac{U}{D}$ (S, R, RS)- $\frac{C6}{C8}$ (D)
 $\frac{B}{C10}$

With External Pilot Specifications



With accessoires



- When P, E port outlets are indicated on the U side or D side, the P, E ports on the opposite side are plugged.
- External pilot port positions and silencer discharge port positions are the same as P, E port outlet positions.

L Dimension

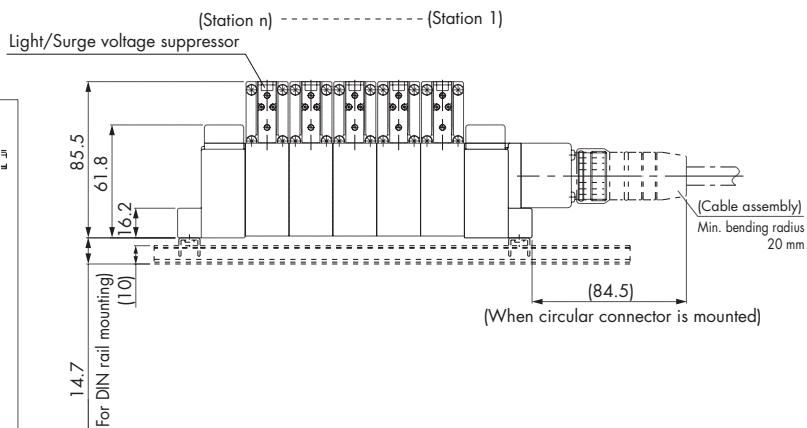
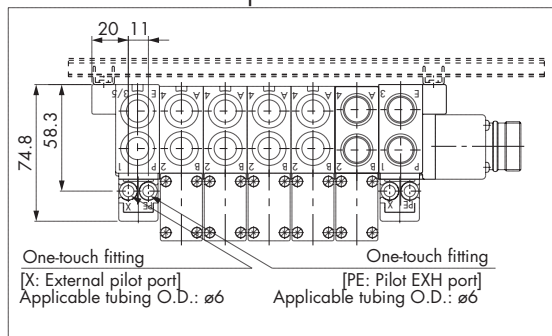
n: Stations

L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1		173	198	223	235.5	260.5	285.5	298	323	335.5	360.5	385.5	398	423	448	460.5	485.5	510.5	523	548
L2		162.5	187.5	212.5	225	250	275	287.5	312.5	325	350	375	387.5	412.5	437.5	450	475	500	512.5	537.5
L3		147.8	168.3	188.8	209.3	229.8	250.3	270.8	291.3	311.8	332.3	352.8	373.3	393.8	414.3	434.8	455.3	475.8	496.3	516.8
L4		12.5	15	17	13	15.5	17.5	13.5	16	12	14	16.5	12.5	14.5	17	13	15	17.5	13.5	15.5
L5		97	117.5	138	158.5	179	199.5	220	240.5	261	281.5	302	322.5	343	363.5	384	404.5	425	445.5	466

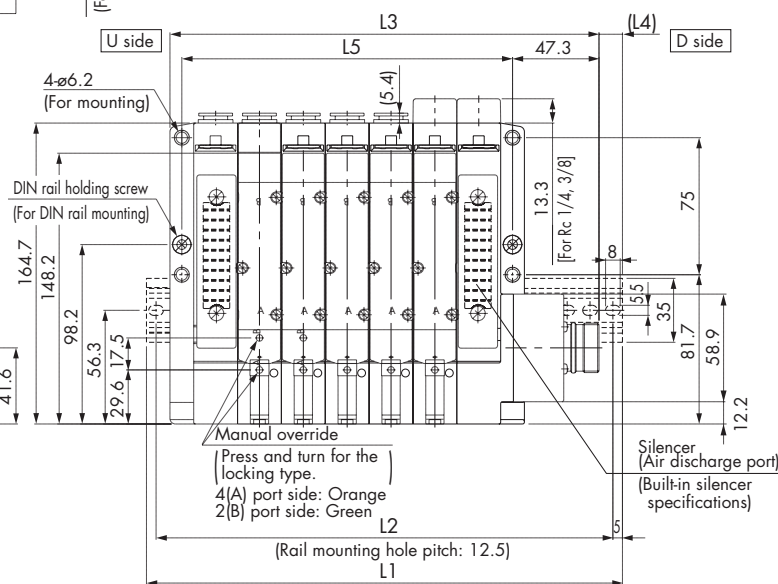
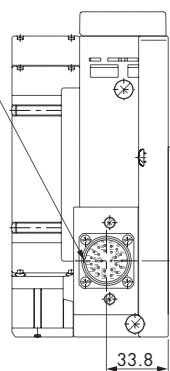
Dimensions: Series SV4000 for Circular Connector

● Tie-rod base manifold: SS5V4-W10CD- $\frac{U}{B}$ (S, R, RS)- $\frac{02, C8}{03, C10, C12}$ (-D)

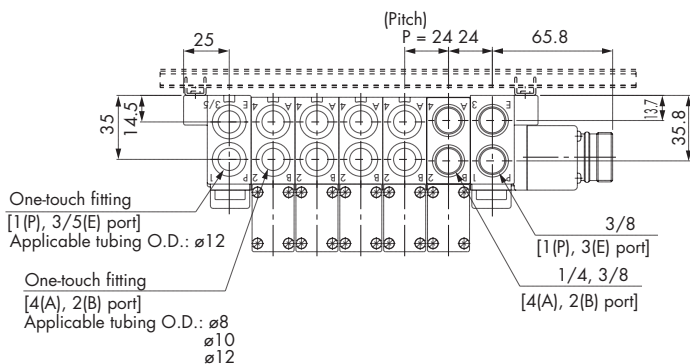
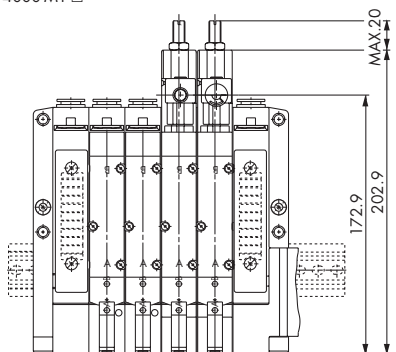
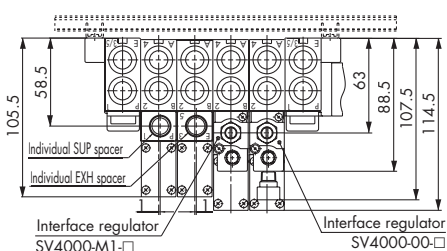
With External Pilot Specifications



Notch
(To align connector position)



With accessoires



- When P, E port outlets are indicated on the U side or D side, the P, E ports on the opposite side are plugged.
- External pilot port positions and silencer discharge port positions are the same as P, E port outlet positions.

L Dimension

n: Stations

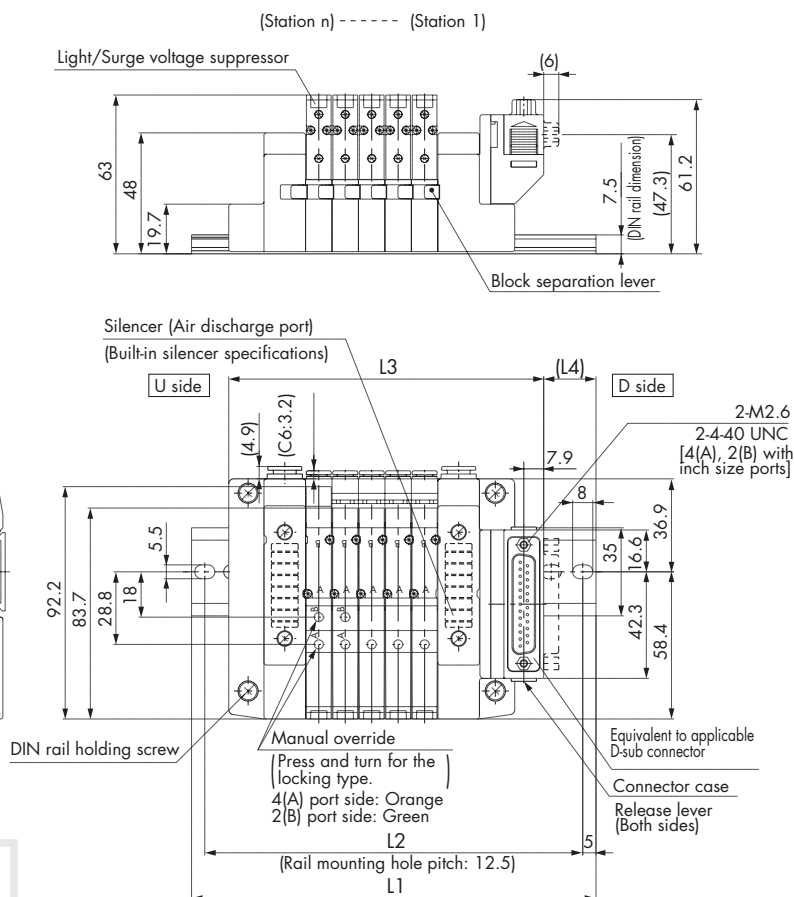
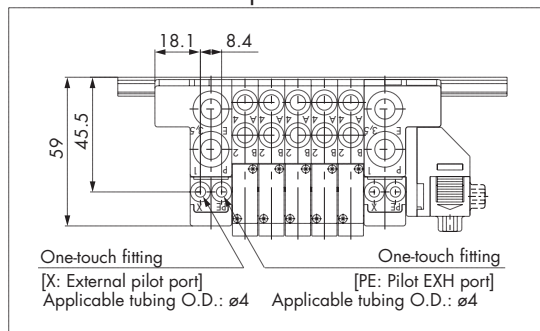
L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1		198	210.5	235.5	260.5	285.5	310.5	335.5	360.5	385.5	410.5	435.5	460.5	485.5	498	523	548	573	598	623
L2		187.5	200	225	250	275	300	325	350	375	400	425	450	475	487.5	512.5	537.5	562.5	587.5	612.5
L3		162.8	186.8	210.8	234.8	258.8	282.8	306.8	330.8	354.8	378.8	402.8	426.8	450.8	474.8	498.8	522.8	546.8	570.8	594.8
L4		17.5	12	12.5	13	13.5	14	14.5	15	15.5	16	16.5	17	17.5	11.5	12	12.5	13	13.5	14
L5		109	133	157	181	205	229	253	277	301	325	349	373	397	421	445	469	493	517	541

Dimensions: Series SV1000 for D-sub Connector

● Cassette base manifold: SS5V1-16FD $\frac{1}{2}$ - [Stations] $\frac{U}{D}$ (S, R, RS)- $\frac{C4}{C6}$

- When P, E port outlets are indicated on the U side or D side, the P, E ports on the opposite side are plugged.
- External pilot port positions and silencer discharge port positions are the same as P, E port outlet positions.

With External Pilot Specifications



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

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]

Rated voltage

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				○

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).

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

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 conform 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	2.5 (With indicator light: 2.6)	
		[230 V]	[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

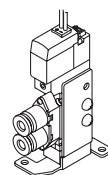
SY9000

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

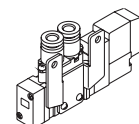
SY Valve Accessories

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)



Type F1



Type F2

Flow Characteristics/Weight

Series SY3000	Type of actuation		Port size		Flow characteristics						Weight (g)		
			1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1→4/2 (P→A/B)			4/2→5/3 (A/B→EA/EB)			Grommet	Response times (m/s)	W M8 connector
	C (l/dm ³ /s-bar)	b	Cv	C (l/dm ³ /s-bar)	b	Cv							
	2 position	Single	M5	0.61	0.44	0.16	0.64	0.45	0.18	51	15	57	
		Double		0.48	0.46	0.13	0.47	0.43	0.13	68	13	82	
	3 position	Closed centre		0.47	0.42	0.13	0.47	0.41	0.13	71	20	84	
		Exhaust centre		0.50	0.48	0.15	0.47	0.43	0.13				
	2 position	Single		M5	0.72	0.29	0.18	0.64	0.34	0.17	60	15	67
		Double	0.59		0.28	0.15	0.59	0.30	0.15	78	13	101	
	3 position	Closed centre	0.63		0.35	0.16	0.42	0.34	0.11	81	20	94	
Exhaust centre		0.76	0.42		0.21	0.59	0.29	0.15					
2 position	Single	M5	0.76		0.30	0.19	0.65	0.39	0.17	56	15	63	
	Double		0.76	0.55	0.24	0.60	0.33	0.16	74	13	87		
3 position	Closed centre		0.65	0.32	0.16	0.64	0.31	0.17	77	20	90		
	Exhaust centre		0.77	0.34	0.21	0.61	0.34	0.16					
	Pressure centre												

Series SY7000	Type of actuation		Port size		Flow characteristics						Weight [g]			
			1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1→4/2 (P→A/B)			4/2→5/3 (A/B→EA/EB)			Grom- met	Response times [m/s]	DIN terminal	W M8 connector
			C (dm ³ / [s·bar])	b	Cv	C (dm ³ / [s·bar])	b	Cv						
	2 position	Single	1/4	C8 (One- touch fitting for ø8)	4.1	0.23	0.93	3.3	0.33	0.81	101	38	125	129
		Double			2.9	0.31	0.70	2.4	0.38	0.63	120	30	167	175
	3 position	Closed centre			2.5	0.39	0.65	3.4	0.35	0.82	128	56	175	183
		Exhaust centre			4.3	0.23	0.97	2.2	0.39	0.58				
		Pressure centre			3.2	0.26	0.77	3.2	0.37	0.82	107	38	131	135
	2 position	Double	1/4	C8 (One- touch fitting for ø8)	2.6	0.24	0.63	2.4	0.31	0.62	126	30	174	182
	3 position	Closed centre			2.4	0.25	0.57	2.6	0.42	0.70	134	56	182	190
		Exhaust centre			3.3	0.28	0.78	2.2	0.34	0.60				
		Pressure centre			3.8	0.26	0.86	3.2	0.34	0.82	103	38	126	130
	2 position	Double			1/4	C10 (One- touch fitting for ø10)	2.8	0.27	0.67	2.4	0.21	0.59	122	30
	3 position	Closed centre	2.5	0.25			0.59	2.7	0.38	0.70	130	56	177	185
		Exhaust centre	3.8	0.25			0.89	2.3	0.38	0.61				
	Pressure centre													

Type of actuation			Port size		Flow characteristics						Weight (g)			
			1, 5, 3 P, EA, EB	4, 2 (A, B)	1→4/2 (P→A/B)			4/2→5/3 (A/B→EA/EB)			Grommet	Response times (m/s)	DIN terminal	W M8 connector
			C (dm ³ / s-bar)	b	Cv	C (dm ³ / s-bar)	b	Cv						
Series SY5000	2 position	Single	1/8	1/8	1.9	0.35	0.49	2.4	0.39	0.61	70	26	93	97
		Double			1.7	0.43	0.45	1.8	0.35	0.46	88	22	135	143
	3 position	Exhaust centre			1.5	0.44	0.41	2.5 (1.5)	0.32 (0.43)	0.59 (0.40)	93	38	140	148
		Pressure centre			2.2 (0.91)	0.46 (0.58)	0.61 (0.28)	1.8	0.38	0.46				
	2 position	Single	1/8	C4 (One-touch fitting for ø4)	0.75	0.43	0.20	0.85	0.64	0.30	94 111	26 22	117 159	121 167
		Double			0.74	0.40	0.19	0.84	0.57	0.28				
	3 position	Exhaust centre			0.75	0.36	0.19	0.84 (0.84)	0.64 (0.53)	0.30 (0.27)	117	38	164	172
		Pressure centre			0.78 (0.71)	0.44 (0.37)	0.21 (0.18)	0.84	0.57	0.27				
	2 position	Single	1/8	C6 (One-touch fitting for ø6)	1.5	0.33	0.33	2.0	0.37	0.52	88 106	26 22	112 153	116 161
		Double			1.3	0.31	0.33	1.6	0.32	0.39				
	3 position	Exhaust centre			1.3	0.33	0.33	1.8 (1.4)	0.35 (0.37)	0.44 (0.35)	111	38	158	166
		Pressure centre			1.7 (0.80)	0.31 (0.47)	0.42 (0.23)	1.7	0.33	0.44				
2 position	Single	1/8	C8 (One-touch fitting for ø8)	1.9	0.21	0.45	2.3	0.29	0.57	80 98	26 22	103 145	107 153	
	Double			1.6	0.29	0.39	1.7	0.38	0.46					
3 position	Exhaust centre			1.4	0.38	0.39	2.0 (1.5)	0.37 (0.41)	0.52 (0.43)	103	38	150	158	
	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		Flow characteristics						Weight (g)								
			1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1→4/2 (P→A/B)			4/2→5/3 (A/B→EA/EB)			Grommet	Response times (m/s)	DIN terminal	W M8 connector					
	C (dm ³ /s-bar)	b	Cv	C (dm ³ /s-bar)	b	Cv													
	2 position	Single	1/4	1/4	7.0	0.33	1.7	7.6	0.35	2.0	241	41	265	269					
		Double			6.7	0.37	1.7	6.4	0.34	1.6	260	41	308	316					
	3 position	Closed centre			1/4	6.4	0.36	1.6	8.3 (4.1)	0.41 (0.27)	2.2 (0.91)	284	64	332	340				
		Exhaust centre				8.0 (3.2)	0.27 (0.34)	1.8 (0.76)	6.5	0.22	1.4								
	Pressure centre	3/8				8.0	0.29	1.9	8.0	0.33	2.0					236 255	41 41	260 303	264 311
						Double	7.9	0.33	1.9	6.6	0.27					1.6	279	64	327
	Closed centre				8.0	0.33	1.9	8.7 (8.3)	0.34 (0.40)	2.2 (2.3)									
	Exhaust centre				8.9 (3.3)	0.34 (0.40)	2.2 (0.82)	6.5	0.25	1.5									
	Pressure centre	C8 (One-touch fitting for ø8)			4.3	0.28	0.96	7.1	0.32	1.7	293 312	41 41	317 360	321 368					
	Double				4.3	0.31	0.99	6.1	0.28	1.4	336	64	384	392					
	Closed centre		4.3	0.3	0.99	7.4 (3.8)	0.36 (0.29)	1.9 (0.86)											
	Exhaust centre		4.4 (3.2)	0.35 (0.26)	1.0 (0.71)	2.1	0.41	0.53											
Pressure centre	C10 (One-touch fitting for ø10)	6.1	0.28	1.4	7.9	0.33	1.9	279 298	41 41	303 346					307 354				
Double		5.9	0.30	1.4	6.5	0.26	1.5	322	64	370	378								
Closed centre		5.8	0.25	1.3	8.4 (4.1)	0.33 (0.27)	2.0 (0.93)												
Exhaust centre		6.3 (3.2)	0.29 (0.29)	1.5 (0.72)	6.4	0.25	1.5												
Pressure centre	C12 (One-touch fitting for ø12)	7.0	0.25	1.6	8.6	0.41	2.2					265 284	41 41	289 332	293 340				
Double		6.9	0.24	1.6	7.0	0.33	1.7	308	64	356	364								
Closed centre		6.6	0.23	1.4	9.4 (4.5)	0.48 (0.32)	2.6 (1.0)												
Exhaust centre		7.4 (3.7)	0.25 (0.34)	1.7 (0.74)	6.6	0.23	1.5												
Pressure centre																			

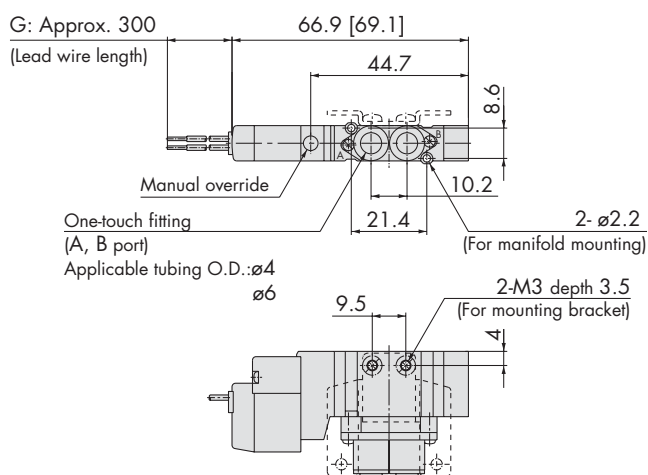
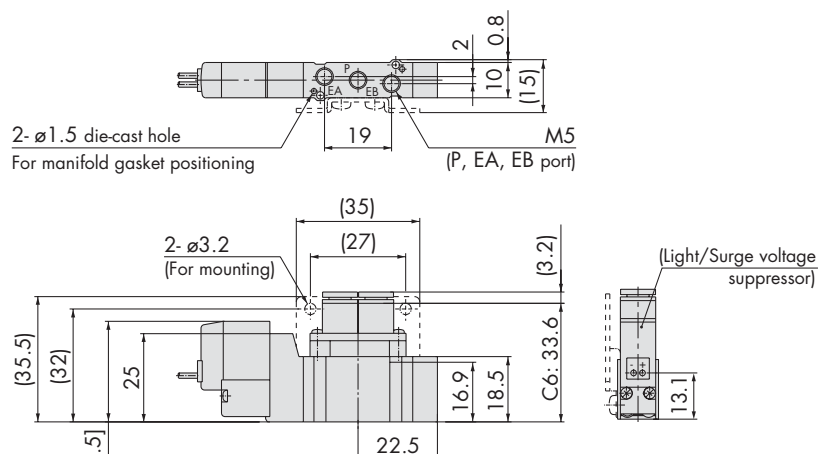
Note 1: The weights given are for grommet entry and M8 plug. L/M connector and DIN plug weights fall between these options.

Note 2: Response time is 0.5MPa with Z type surge suppression.

Dimensions: Series SY3000

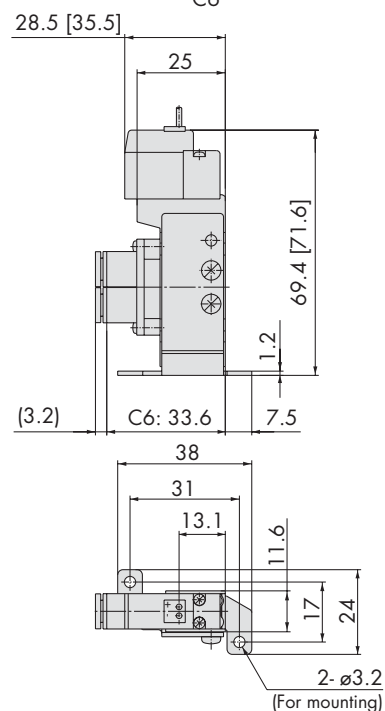
2 position single

Grommet (G): SY3120-□G□□-C₆⁴ - Q

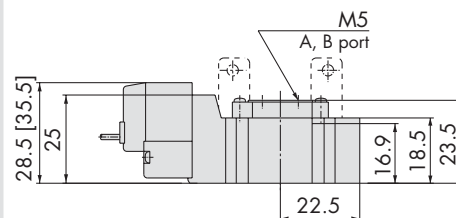


Foot bracket

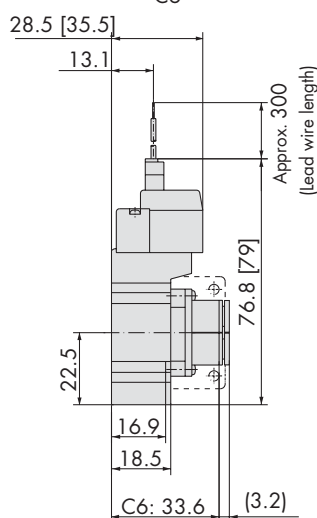
SY3120-□G□□-C₆⁴ - Q



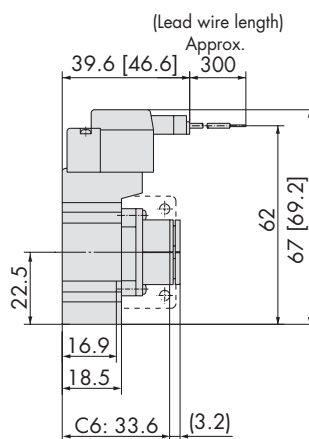
SY3120-□G□□-M5-Q



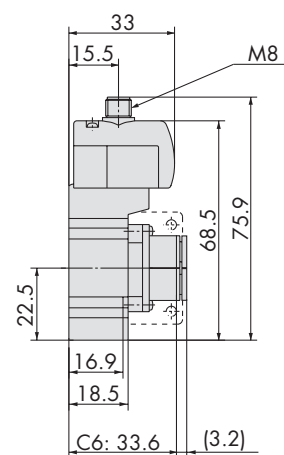
L plug connector (L):
SY3120-□L□□-C₆⁴ - Q



M plug connector (M):
SY3120-□M□□-C₆⁴ - Q

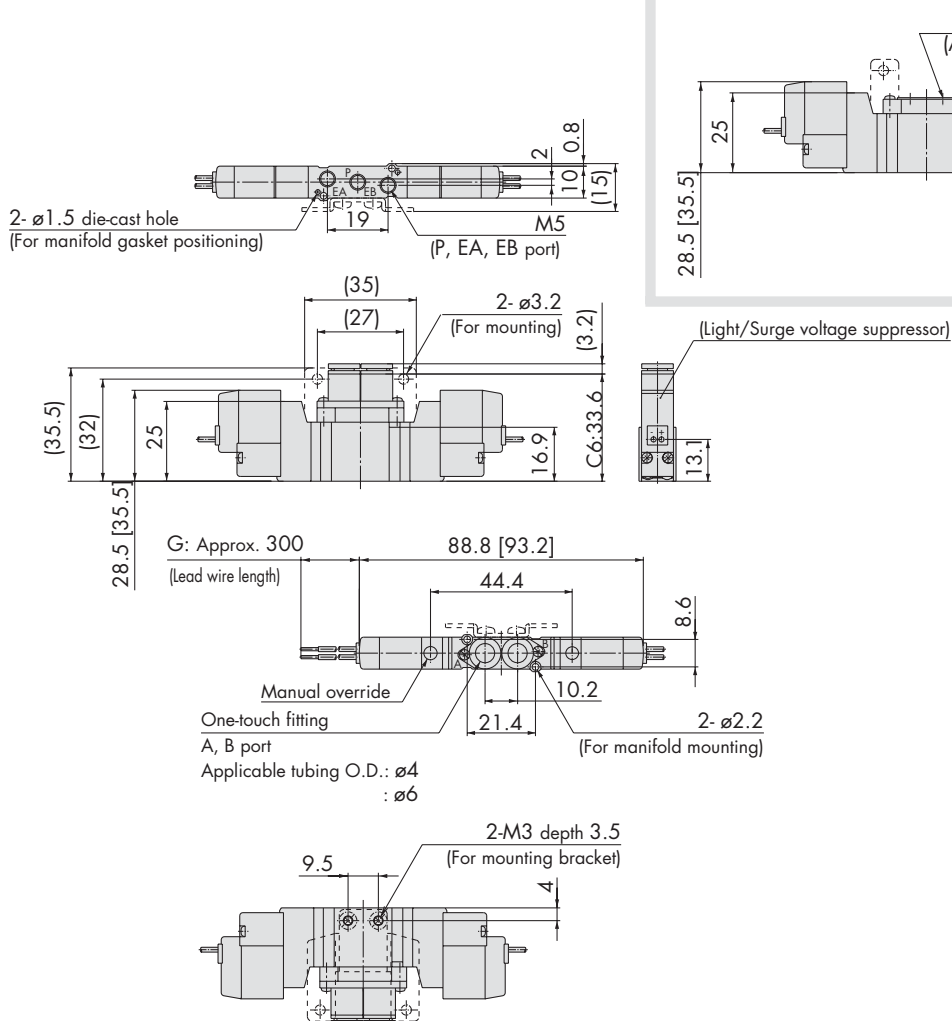


M8 connector (WO):
SY3120-□WO□□-C₆⁴ - Q



Dimensions: Series SY3000

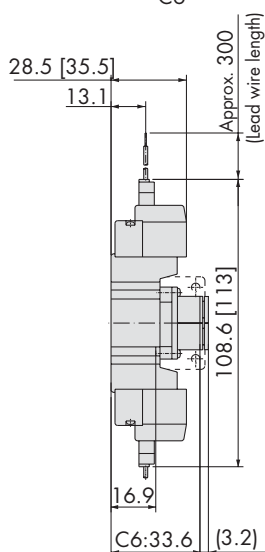
2 position double
Grommet (G): SY3220-□G□□-C₄-Q



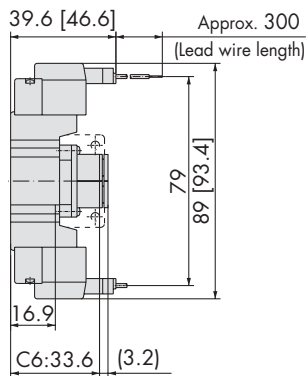
SY3220-□G□□-M5-Q

Valves

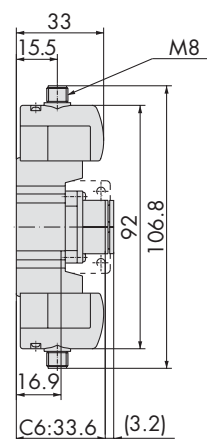
L plug connector (L):
SY3220-□L□□-C₄-Q



M plug connector (M):
SY3220-□M□□-C₄-Q

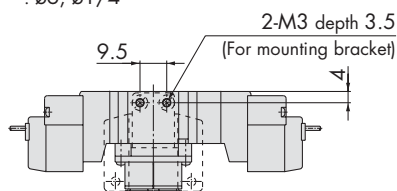
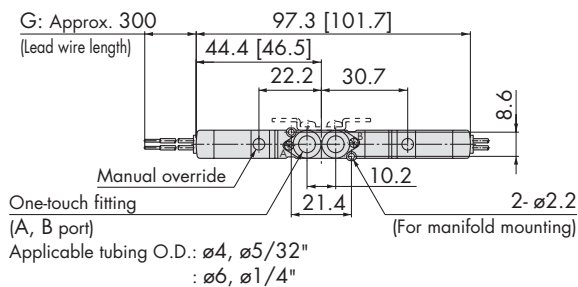
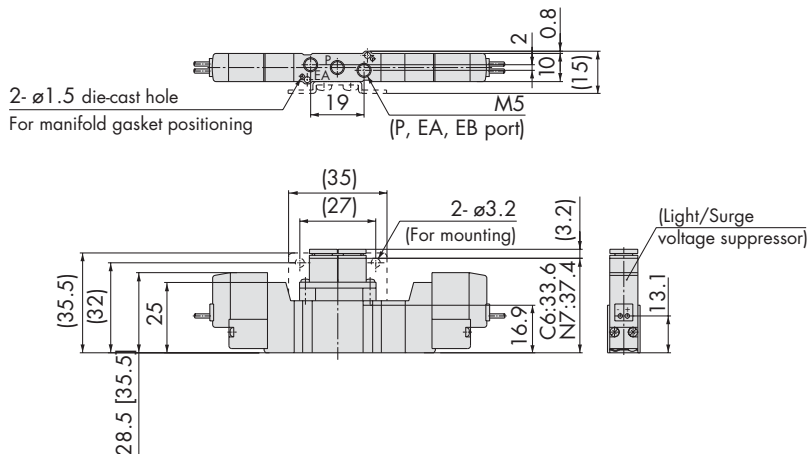


M8 connector (WO):
SY3220-WO□□-C₄-Q

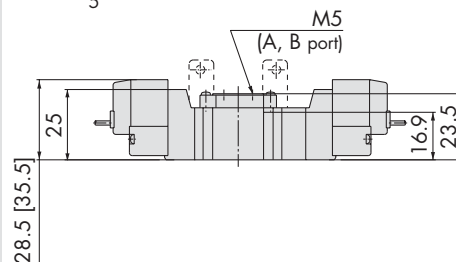


Dimensions: Series SY3000

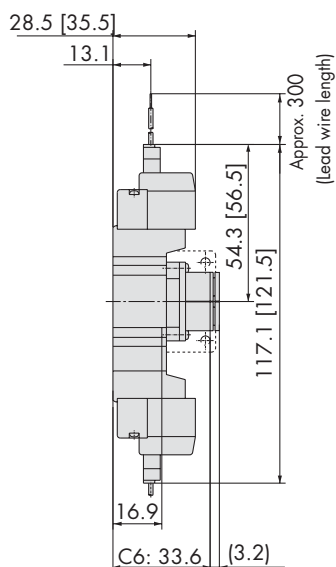
3 position closed centre/exhaust centre/pressure centre
Grommet (G): SY3 $\frac{3}{5}$ 20-□G□□-C $\frac{4}{6}$ -Q



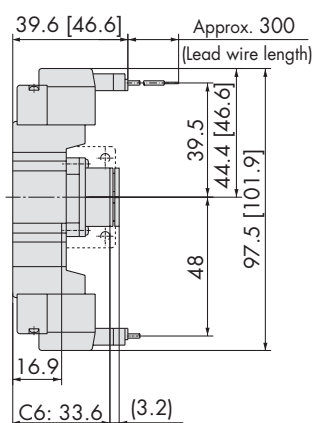
SY3 $\frac{3}{5}$ 20-□G□□-M5-Q



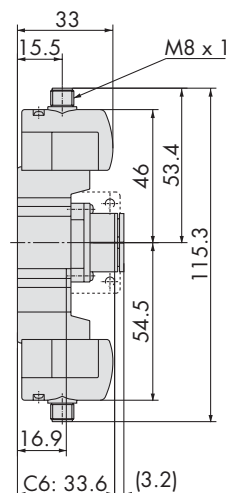
L plug connector (L):
SY3 $\frac{3}{5}$ 20-□L□□-C $\frac{4}{6}$ -Q



M plug connector (M):
SY3 $\frac{3}{5}$ 20-□M□□-C $\frac{4}{6}$ -Q



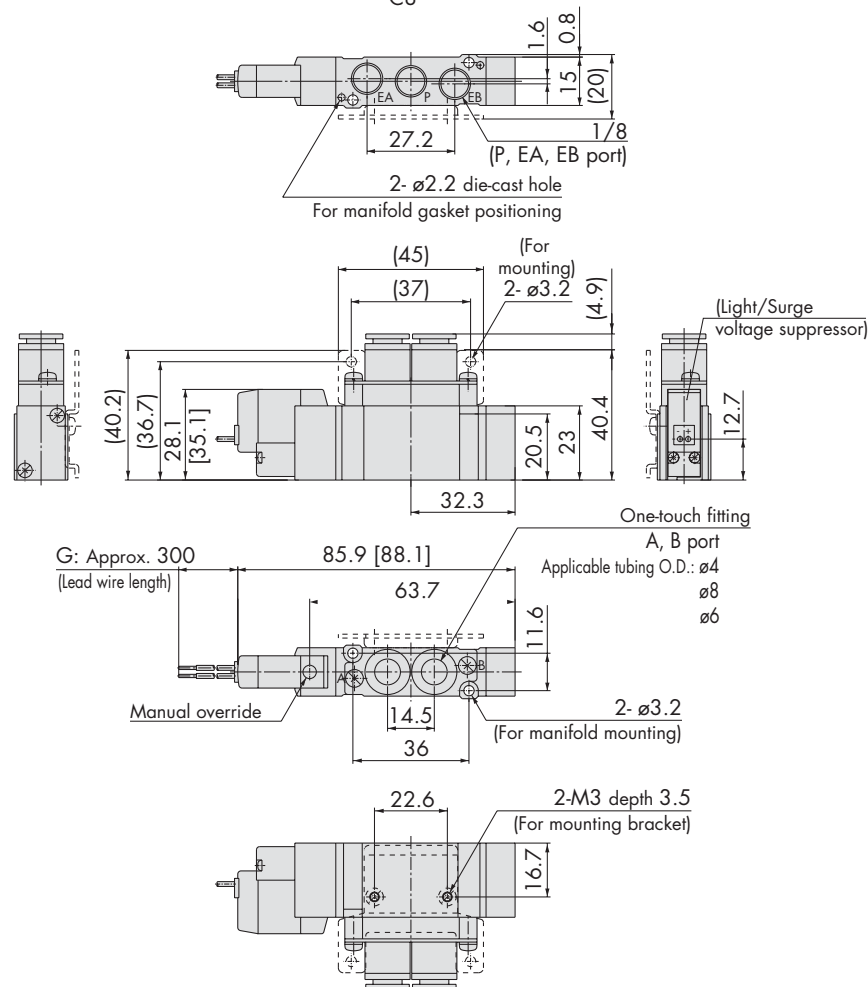
M8 connector (WO):
SY3 $\frac{3}{5}$ 20-□WO□□-C $\frac{4}{6}$ -Q



Dimensions: Series SY5000

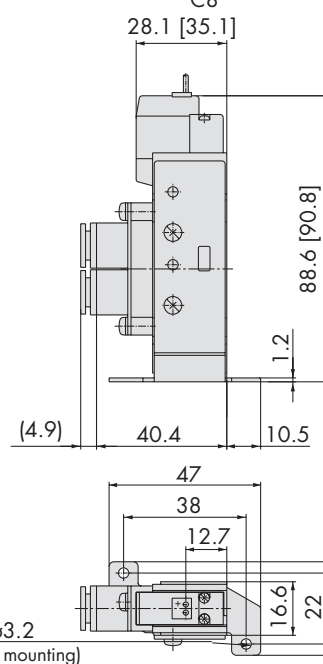
2 position single

Grommet (G): SY5120-□G□□-□
C4
C6
C8 -Q

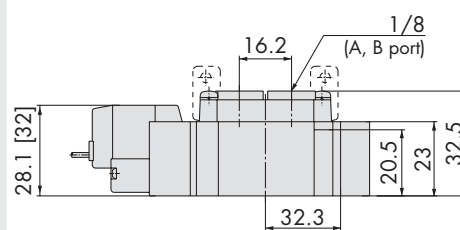


Foot bracket

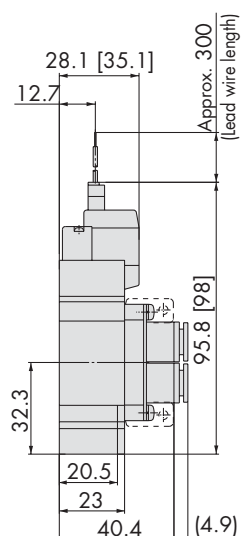
SY5120-□G□□-□
C4
C6
C8 -Q



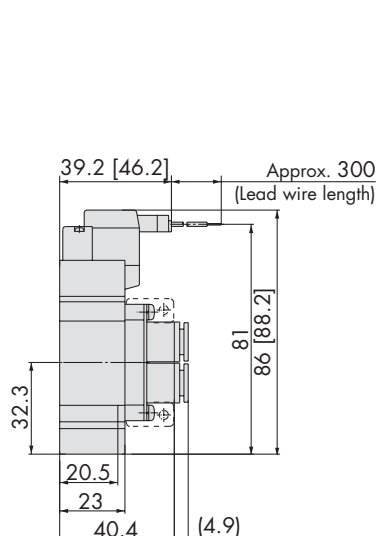
SY5120-□G□□-01□-Q



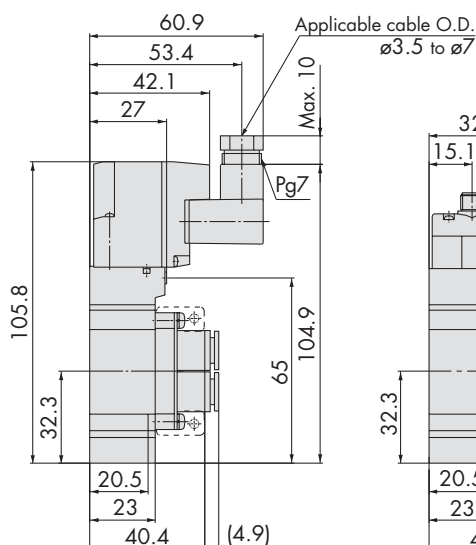
L plug connector: L
SY5120-□□□-□
C4
C6
C8 -Q



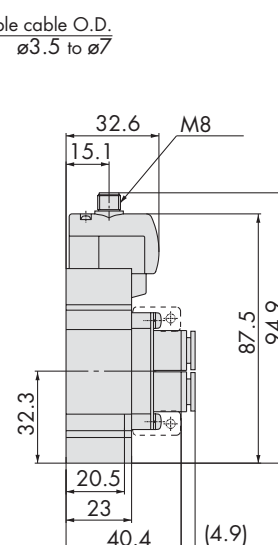
M plug connector: M
SY5120-□□□-□
C4
C6
C8 -Q



DIN terminal (D):
SY5120-□□□-□
C4
C6
C8 -Q



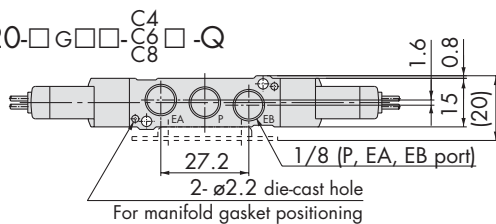
M8 connector (WO):
SY5120-□WO□□-□
C4
C6
C8 -Q



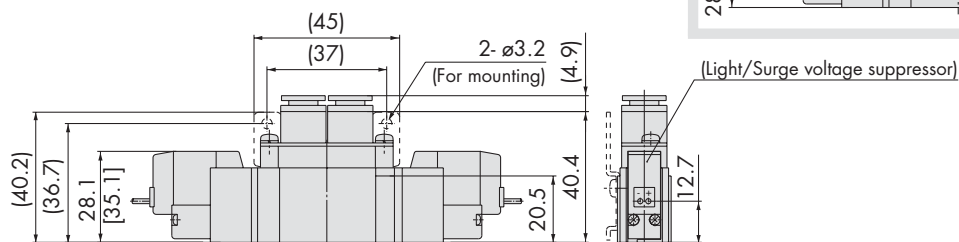
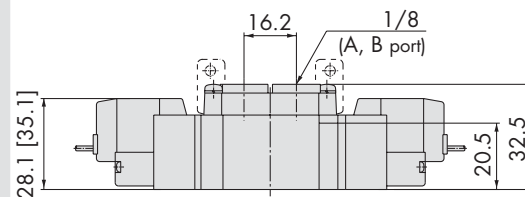
Dimensions: Series SY5000

2 position double

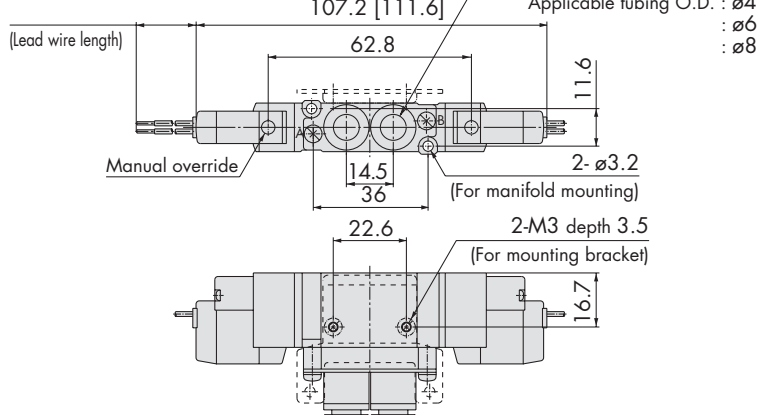
Grommet (G): SY5220-□G□□-C4-C6□-Q



SY5220-□G□□-01□-Q



G: Approx. 300

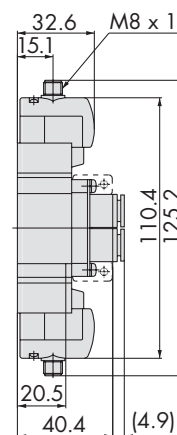
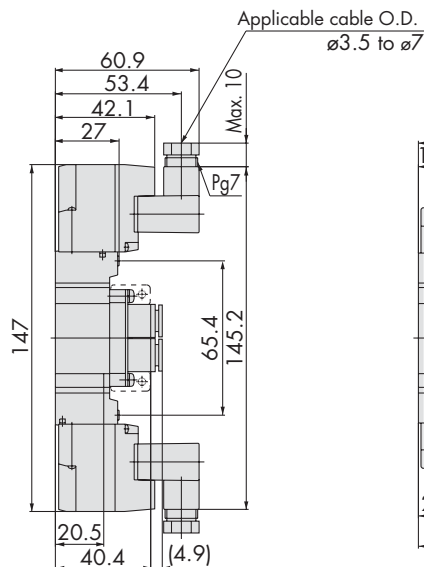
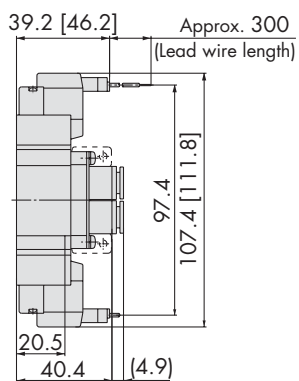
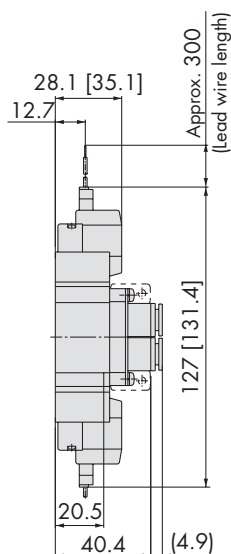


L plug connector: L
SY5220-□L□□-C4-C6□-Q

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

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

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

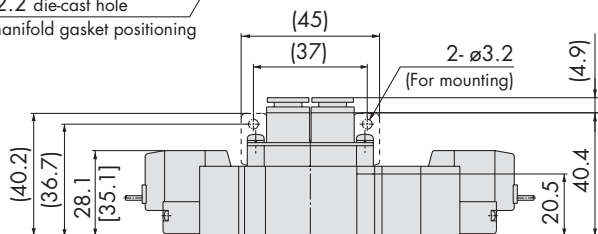
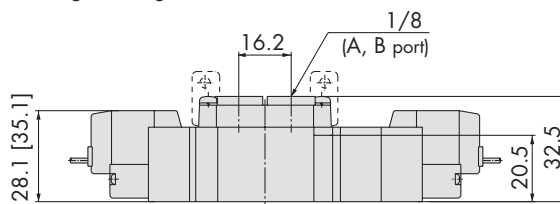
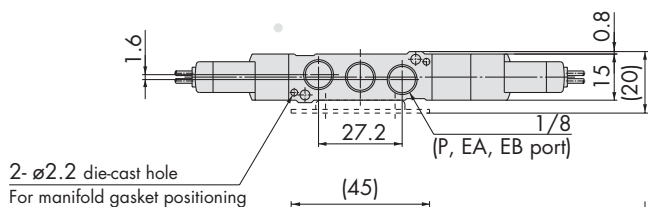


Dimensions: Series SY5000

3 position closed centre/exhaust centre/pressure centre

Grommet (G): SY5 $\frac{3}{5}$ 420-□□□-C $\frac{4}{8}$ □-Q

SY5 $\frac{3}{5}$ 420-□ $\frac{3}{5}$ □□-01□-Q



(Light/Surge voltage suppressor)



G: Approx. 300
(Lead wire length)

Manual override

L plug connector: L

SY5 $\frac{3}{5}$ 420-□□□-C $\frac{4}{8}$ □-Q

M plug connector: M

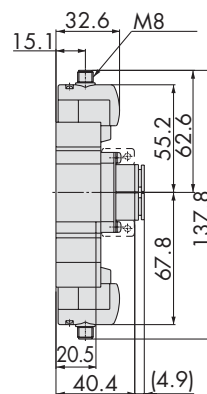
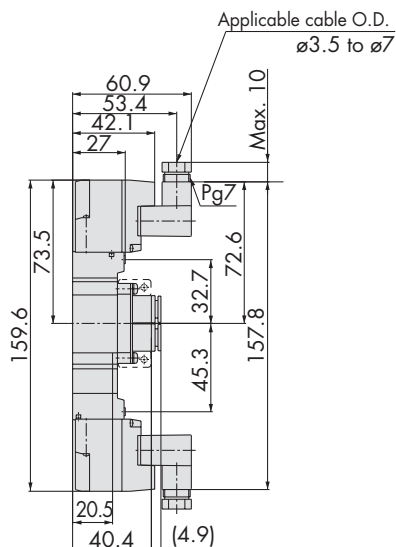
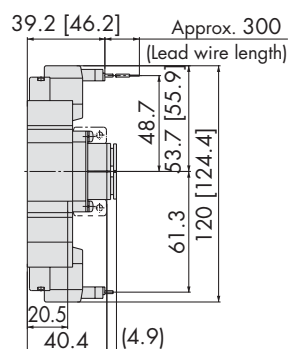
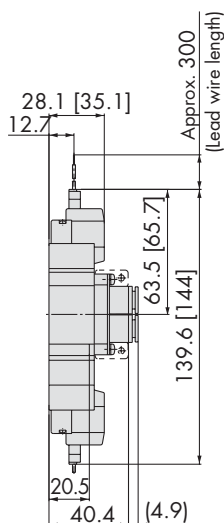
SY5 $\frac{3}{5}$ 420-□M□□-C $\frac{4}{8}$ □-Q

DIN terminal (D):

SY5 $\frac{3}{5}$ 420-□D□□-C $\frac{4}{8}$, N $\frac{3}{9}$ □□-F2

M8 connector (WO):

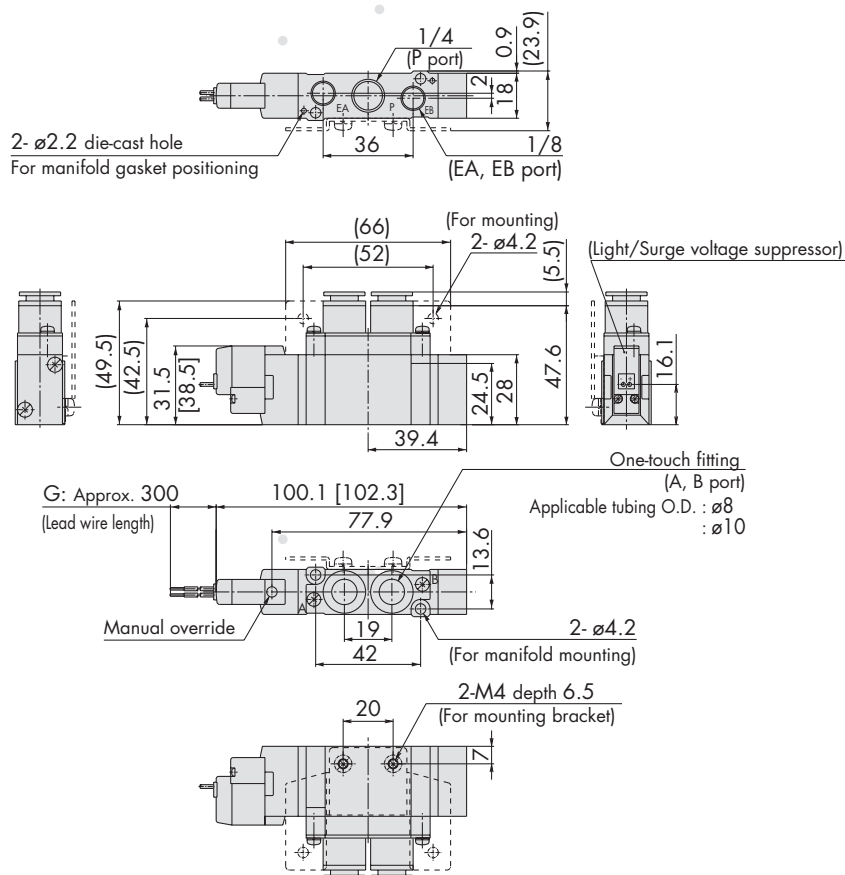
SY5 $\frac{3}{5}$ 420-□WO□□-C $\frac{4}{8}$ □-Q



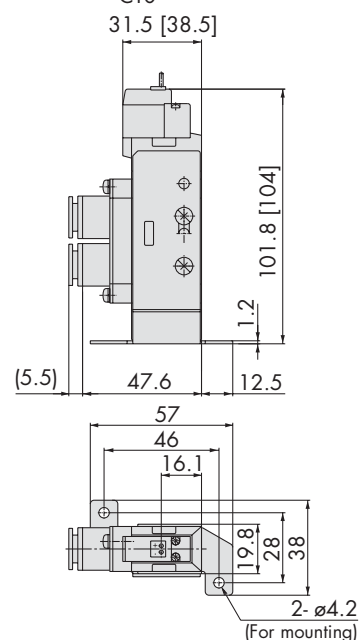
Dimensions: Series SY7000

2 position single

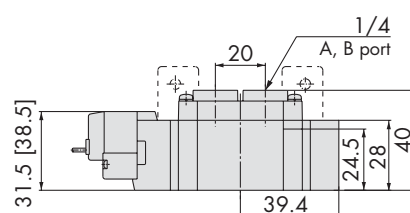
Grommet (G): SY7120-□G□□-C₈-Q



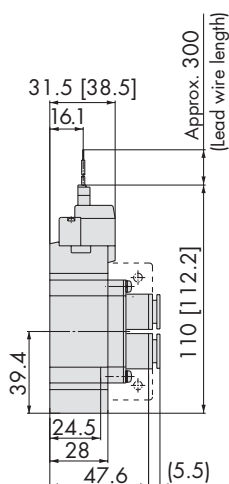
SY7120-□G□□-C₈-Q



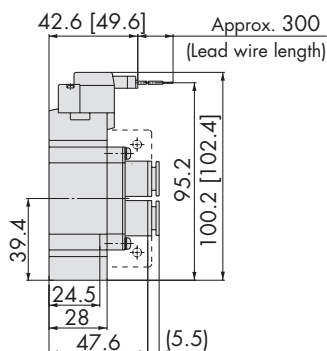
SY7120-□G□□-02□-Q



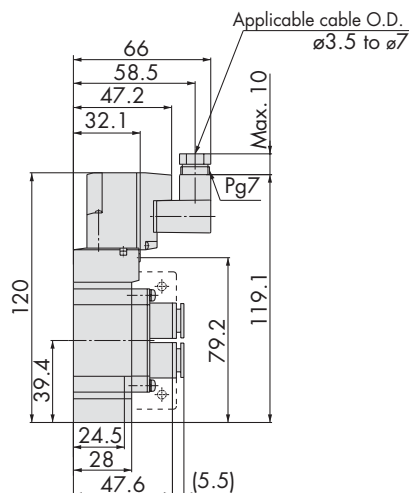
L plug connector (L) :
SY7120-□L□□-C₈-Q



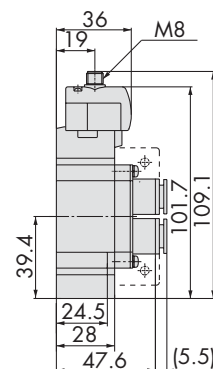
M plug connector (M):
SY7120-□M□□-C₈-Q



DIN terminal (D):
SY7120-□D□□-C₈-Q



M8 connector (WO):
SY7120-□WO□□-C₈-Q

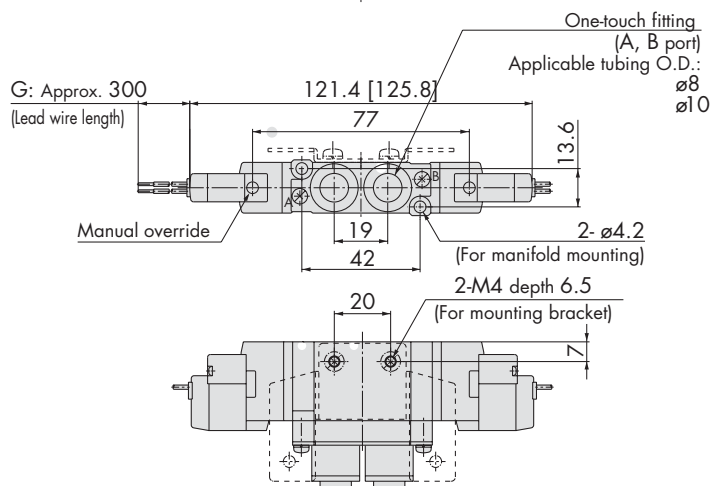
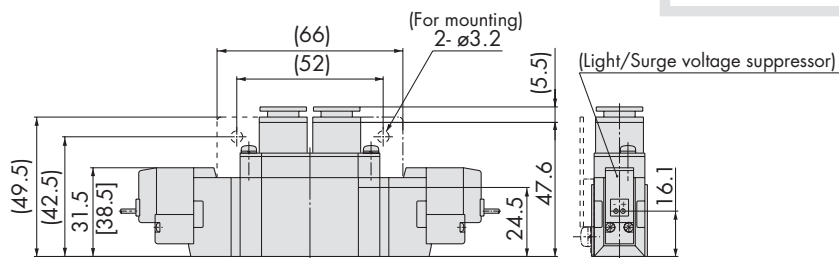
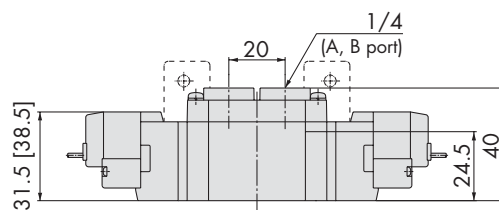
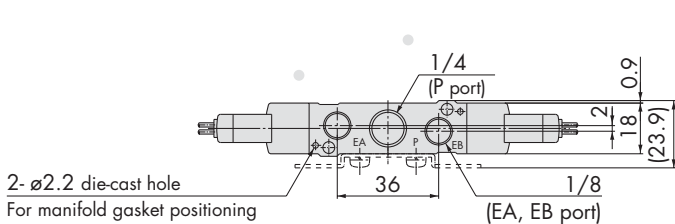


Dimensions: Series SY7000

2 position double

Grommet (G): SY7220-□G□□-C8-C10-Q

SY7220-□G□□-02□-Q

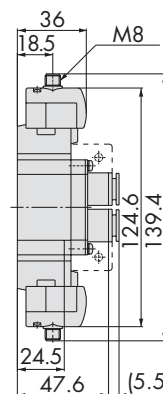
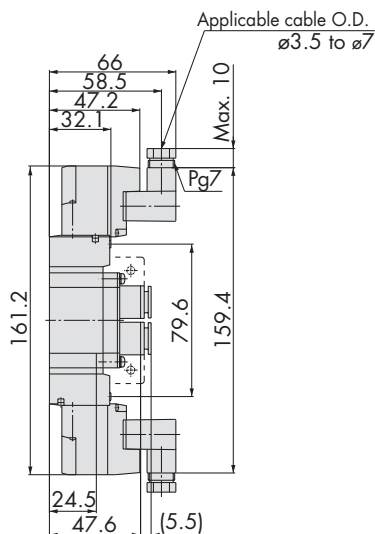
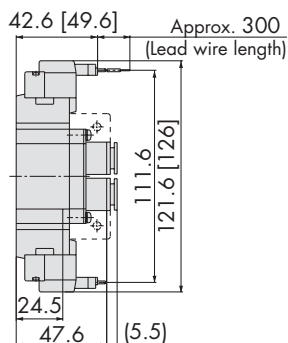
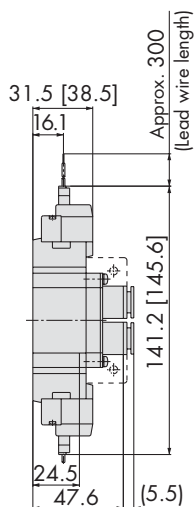


L plug connector (L):
SY7220-□L□□-C8-C10-Q

M plug connector (M):
SY7220-□M□□-C8-C10-Q

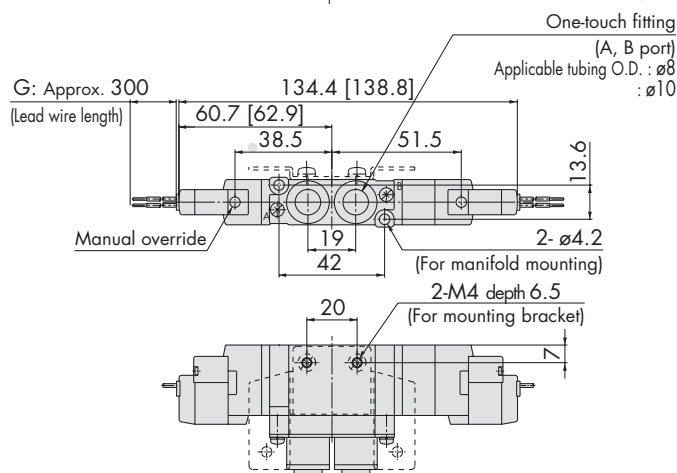
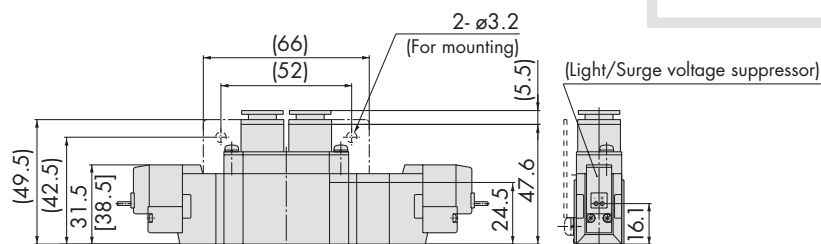
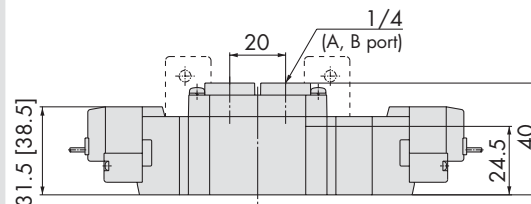
DIN terminal (D):
SY7220-□D□□-C8-C10-Q

M8 connector (WO):
SY7220-□WO□□-C8-C10-Q

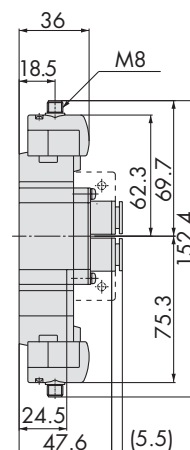
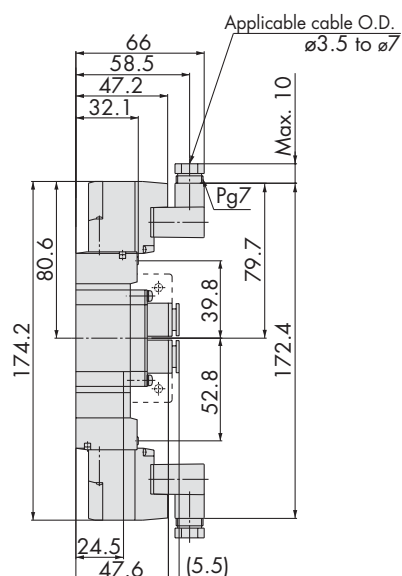
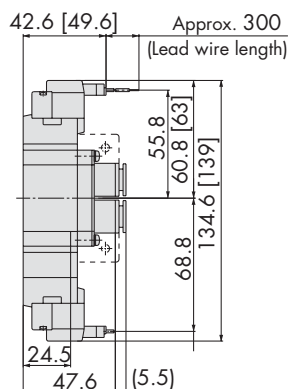
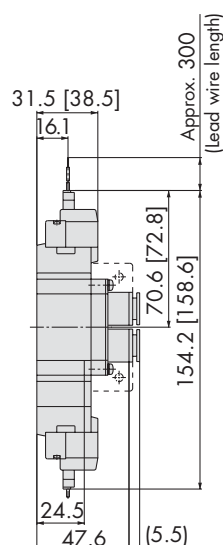


Grommet (G): SY7³₄20-□G□□-C⁸₁₀-Q

SY7 $\frac{3}{4}$ ₅20-□ G□□-02□-Q



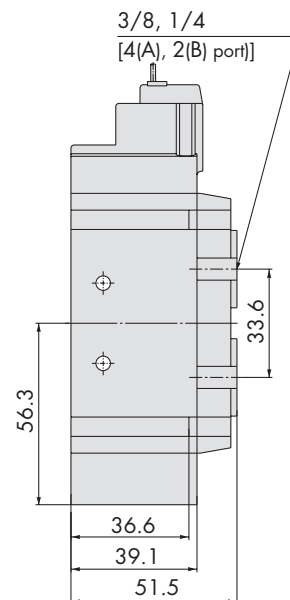
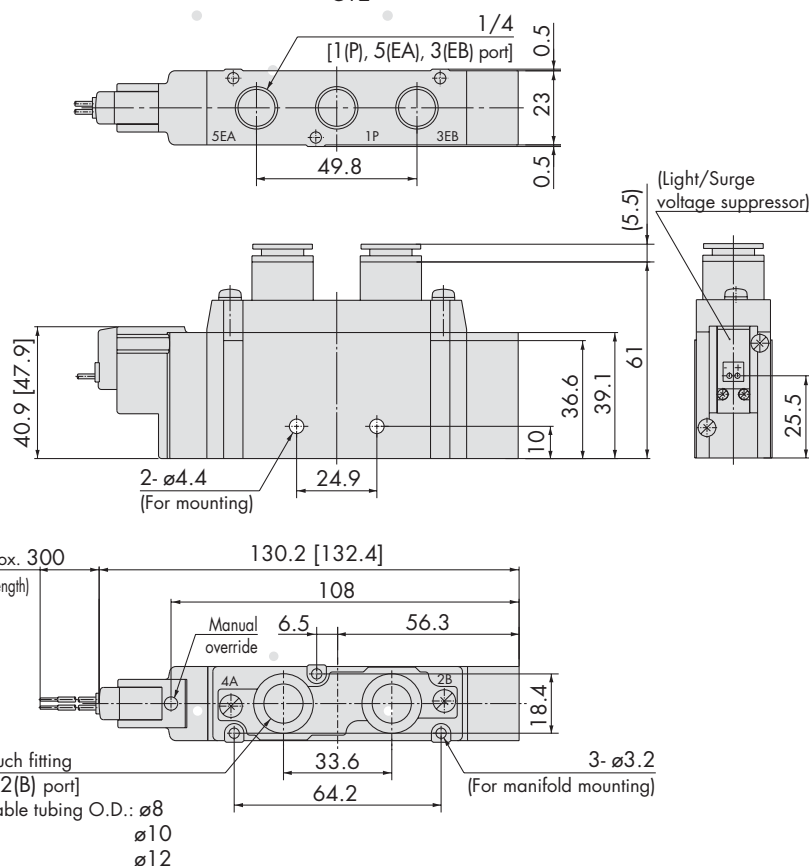
M8 connector (WO):
SY7³₄20-□WO□□-C⁸₁₀-Q



Dimensions: Series SY9000

2 position single
Grommet (G): SY9120-□G□□- $\frac{C8}{C10}$ -Q

SY9120-□G□□- $\frac{02}{03}$ -Q

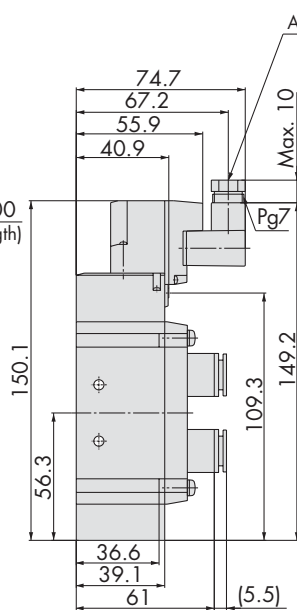
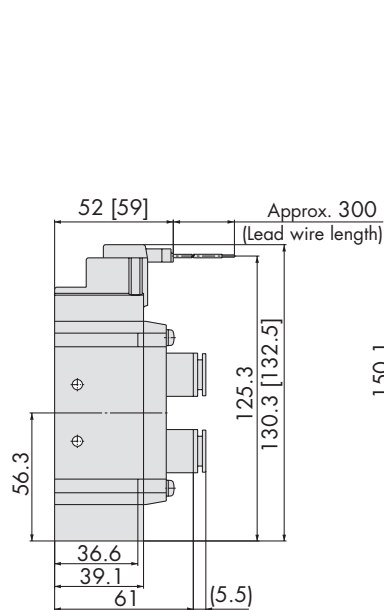
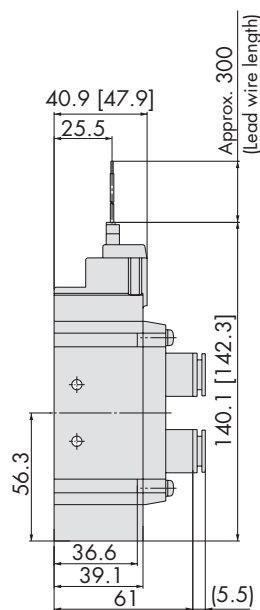


L plug connector (L):
SY9120-□L□□- $\frac{C8}{C12}$ -Q

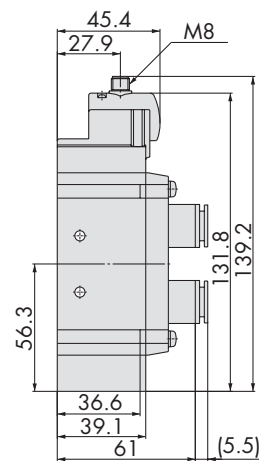
M plug connector (M):
SY9120-□M□□- $\frac{C8}{C12}$ -Q

DIN terminal (D):
SY9120-□D□□- $\frac{C8}{C12}$ -Q

M8 connector (WO):
SY9120-□WO□□- $\frac{C8}{C12}$ -Q

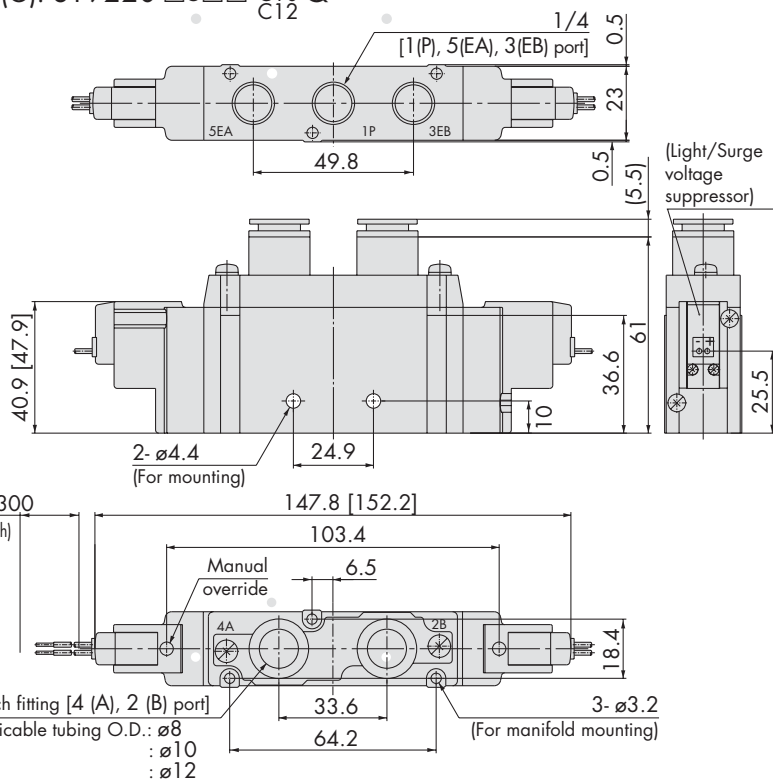


Applicable cable O.D.
ø3.5 to ø7

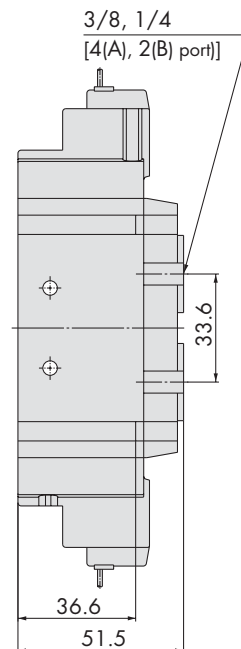


Dimensions: Series SY9000

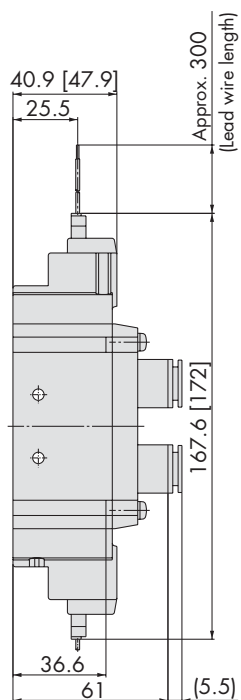
2 position double
Grommet (G): SY9220-□G□□-C₈
C₁₀-Q



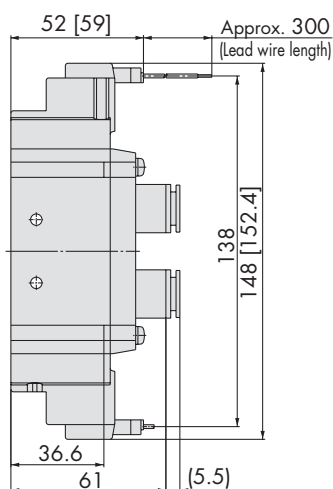
SY9220-□G□□-02-03-Q



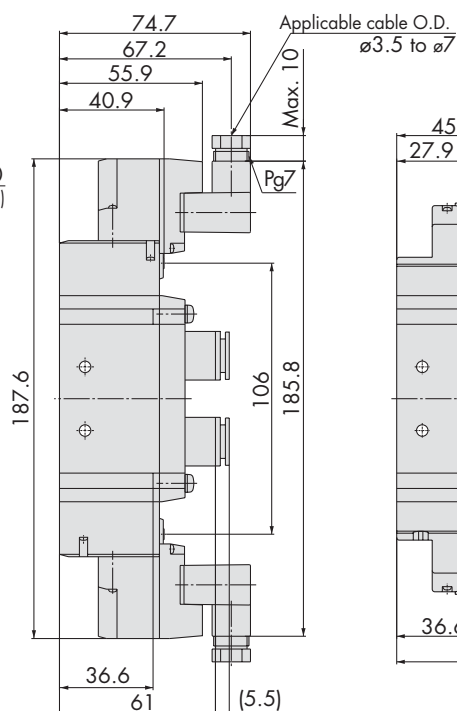
L plug connector (L):
SY9220-□L□□-C₈
C₁₀-Q



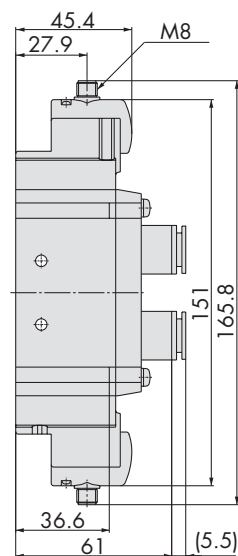
M plug connector (M):
SY9220-□M□□-C₈
C₁₀-Q



DIN terminal (D):
SY9220-□D□□-C₈
C₁₀-Q



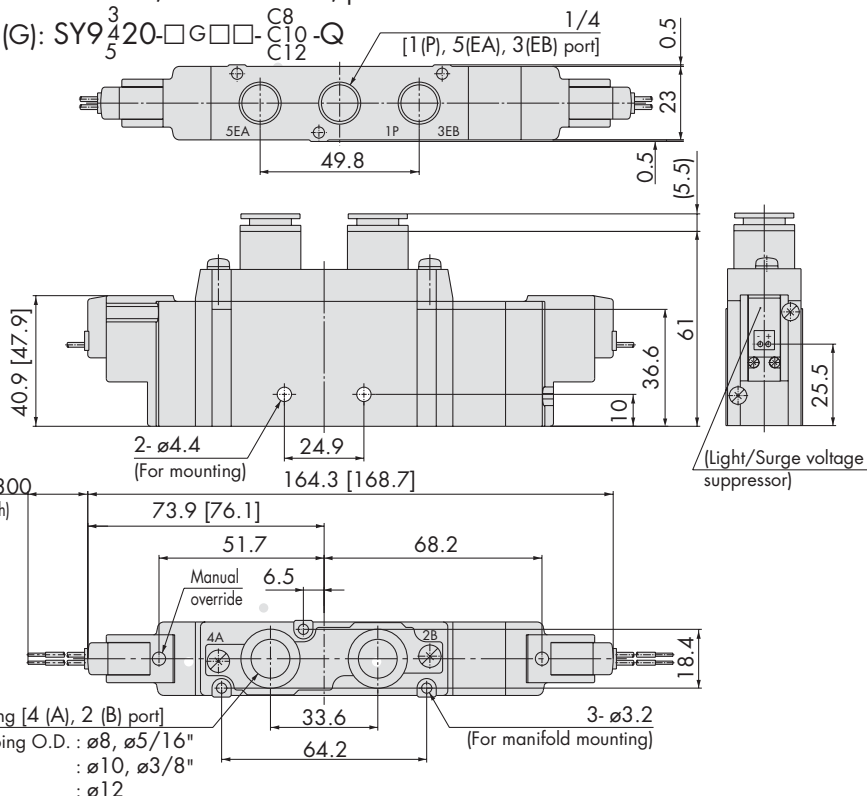
M8 connector (WO):
SY9220-□WO□□-C₈
C₁₀-Q



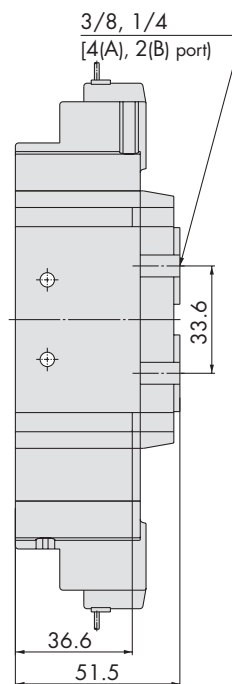
Dimensions: Series SY9000

3 position closed centre/exhaust centre/pressure

Grommet (G): SY9³/₄20-□G□□-C8
C10 -Q
C12



SY9³/₄20-□G□□-C8
C10 -Q
C12

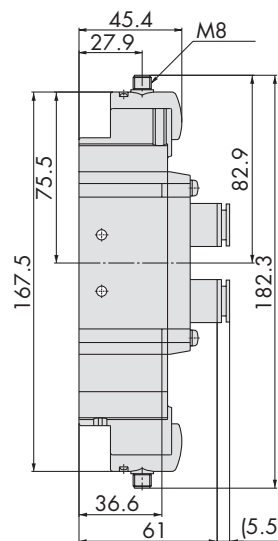
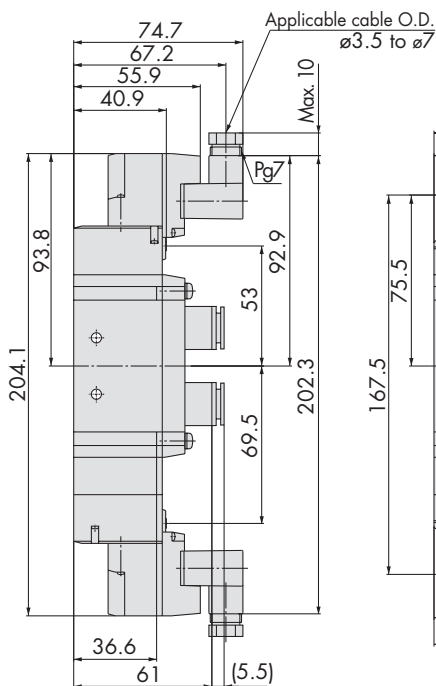
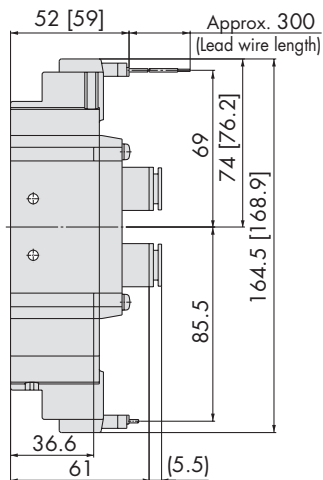
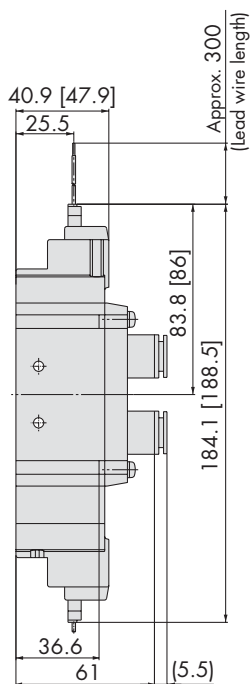


L plug connector (L):
SY9³/₄20-□L□□-C8
C10 -Q
C12

M plug connector (M):
SY9³/₄20-□M□□-C8
C10 -Q
C12

DIN terminal (D):
SY9³/₄20-□D□□-C8
C10 -Q
C12

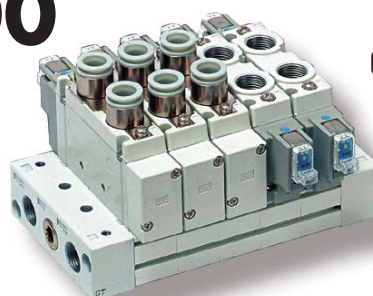
M8 connector (WO):
SY9³/₄20-□WO□□-C8
C10 -Q
C12



Body Ported Manifolds Individual Wiring

Series **SY3/5/7/9000**

How to Order Manifold



Manifold series	
3	SY3000
5	SY5000
7	SY7000

SY3000, SY5000, SY7000 **SS5Y 5** — 20 — **05** — 00F — Q

SY9000 **SS5Y 9** — 23 — **05** — 00F — Q

SY9000

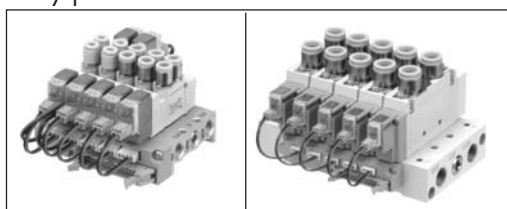
Stations

02	2 stations
⋮	⋮
20	20 stations

Suitable valves for these manifolds: SY**20 types

Also Available

Body ported manifolds with connectors for valve prewiring, types 20P and 23P.



Manifold Specifications

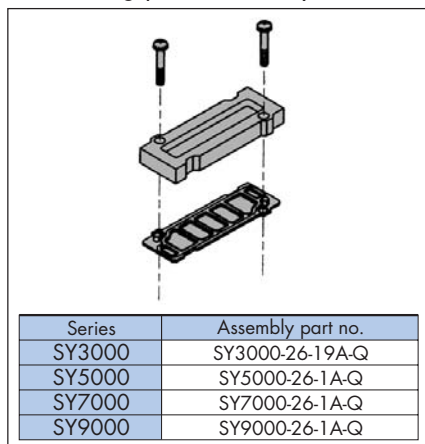
Model	SS5Y3-20	SS5Y5-20	SS5Y7-20	SS5Y9-23
Applicable valve	SY3□20	SY5□20	SY7□20	SY9□20
Manifold type	Single base/B mount			
P (SUP)/R (EXH)	Common SUP, Common EXH			
Valve stations	2 to 20 stations ^{Note 1)}			
A, B port location	Valve			
Port size	P, EA, EB port	1/8	1/4	1/4
	A, B port	1/8	1/4	3/8
	M5 C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6)	1/8 C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8)	1/4 C8 (One-touch fitting for ø8) C10 (One-touch fitting for ø10)	1/4, 3/8 C8 (One-touch fitting for ø8) C10 (One-touch fitting for ø10) C12 (One-touch fitting for ø12)
Manifold base weight W (g) n: Stations	W = 13n + 35	W = 36n + 64	W = 43n + 64	W = 66n + 246

Flow Characteristics

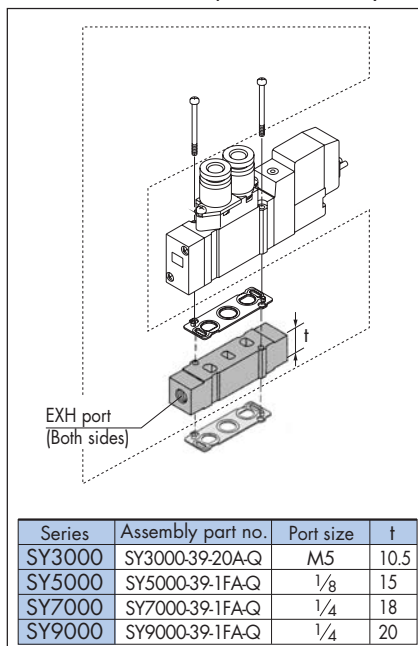
Model	Port size		Flow characteristics					
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)		
			C (dm ³ /[s·bar])	b	Cv	C (dm ³ /[s·bar])	b	Cv
SS5Y3-20	1/8	C6	0.72	0.29	0.18	0.80	0.36	0.21
SS5Y5-20	1/4	C8	1.9	0.28	0.48	2.2	0.20	0.53
SS5Y7-20	1/4	C10	3.6	0.31	0.93	3.6	0.27	0.88
SS5Y9-23	3/8	C12	6.3	0.20	1.5	8.2	0.28	1.9

Manifold Accessories

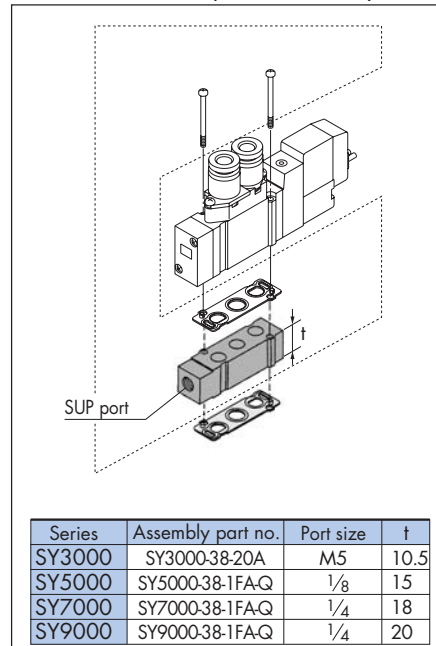
■ Type 20, 23 Blanking plate assembly



■ Individual EXH spacer assembly

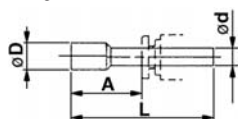


■ Individual SUP spacer assembly



■ Plug (white)

These are inserted in unused cylinder ports and SUP, EXH ports.
Note) 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	44.5	14

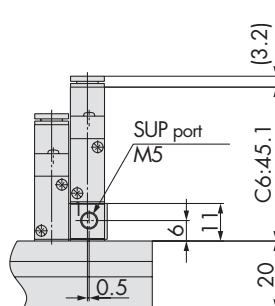
Also Available

■ Supply and Exhaust blocking disks for SY9000 manifold.



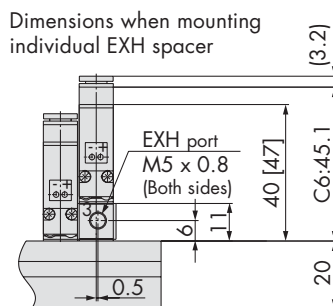
Note: Only available on the SY9000 because the manifold is the slice type not a metal bar manifold.

SY3000/SS5Y3-20 Stations - 00F-Q

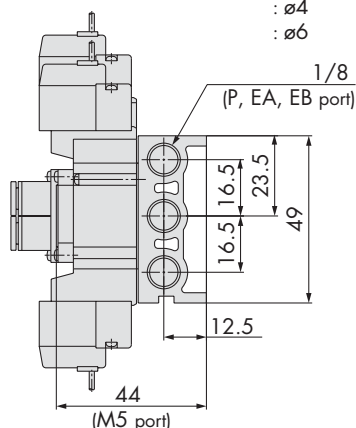
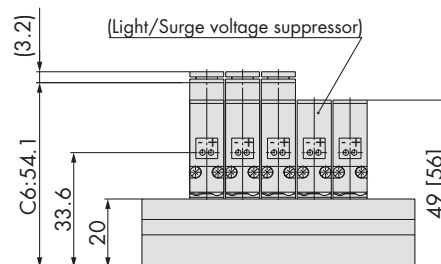


Dimensions when mounting individual SUP spacer

(SUP port is at the end plate of single solenoid.)

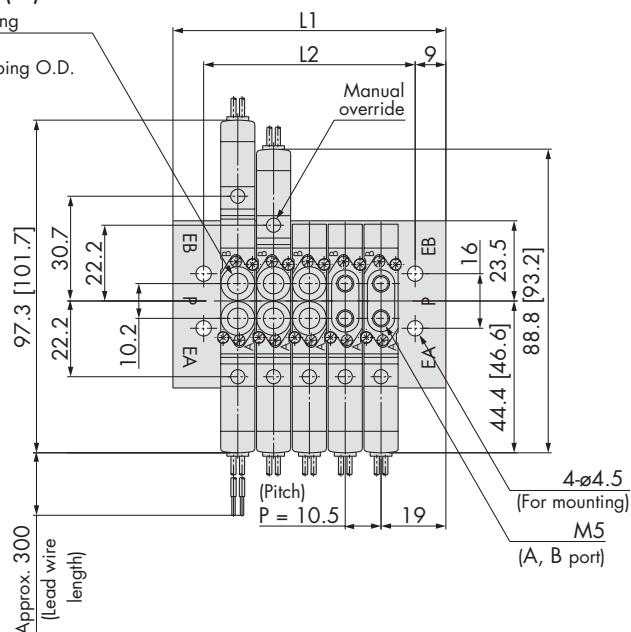


Dimensions when mounting individual EXH spacer

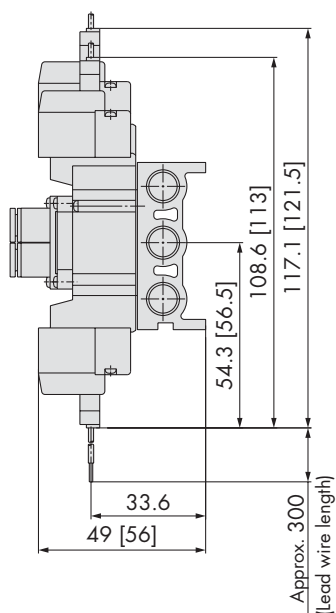


Grommet (G)

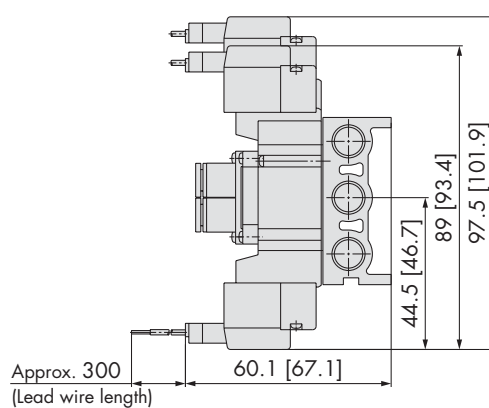
One-touch fitting
(A, B port)
Applicable tubing O.D.
: $\phi 4$
: $\phi 6$



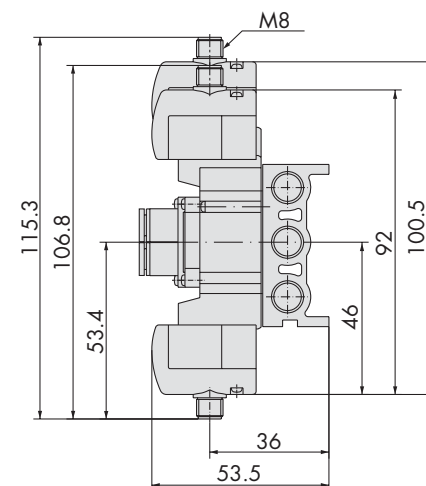
L plug connector (L)



M plug connector (M)

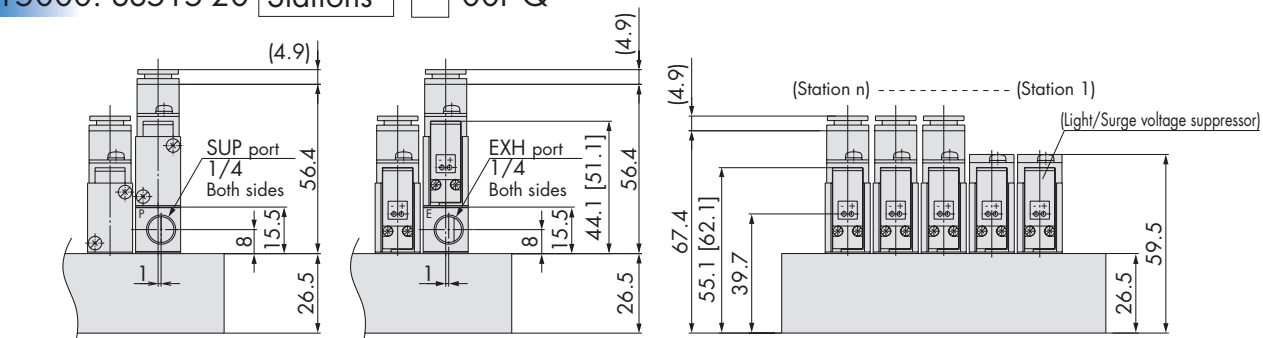


M8 connector (WO)



Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
L1	48.5	59	69.5	80	90.5	101	111.5	122	132.5	143	153.5	164	174.5	185	195.5	206	216.5	227	237.5
L2	30.5	41	51.5	62	72.5	83	93.5	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5

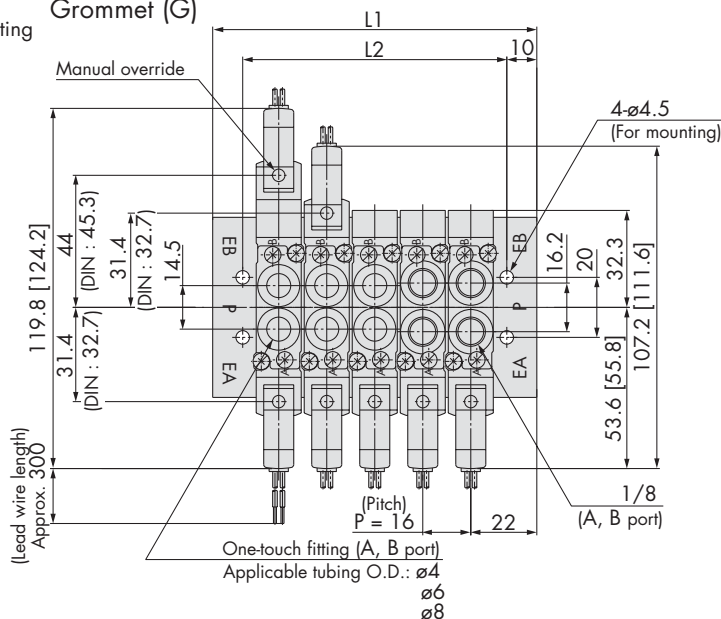
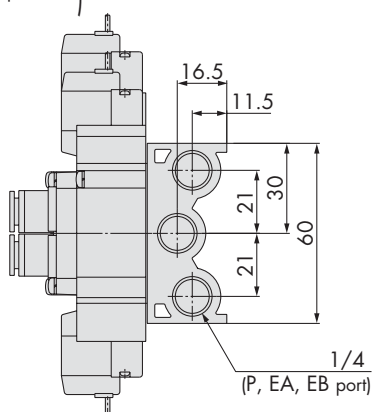
SY5000: SS5Y5-20-Stations - □ -00F-Q



Dimensions when mounting individual SUP spacer
(SUP port is at the end plate of single solenoid.)

Dimensions when mounting individual EXH spacer

Grommet (G)

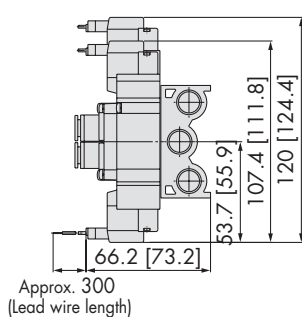
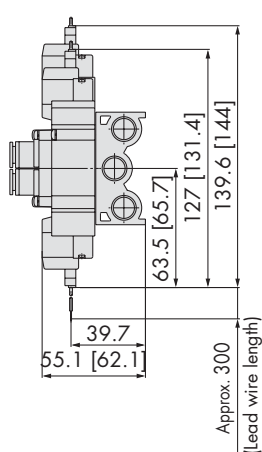


L plug connector (L)

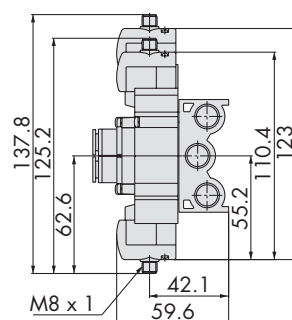
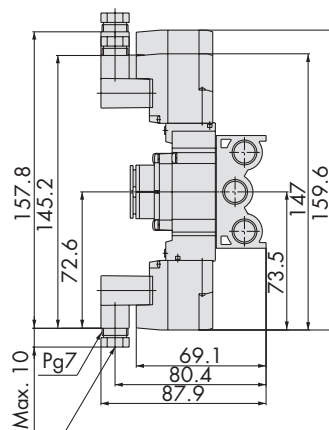
M plug connector (M)

DIN terminal (D)

M8 connector (WO)



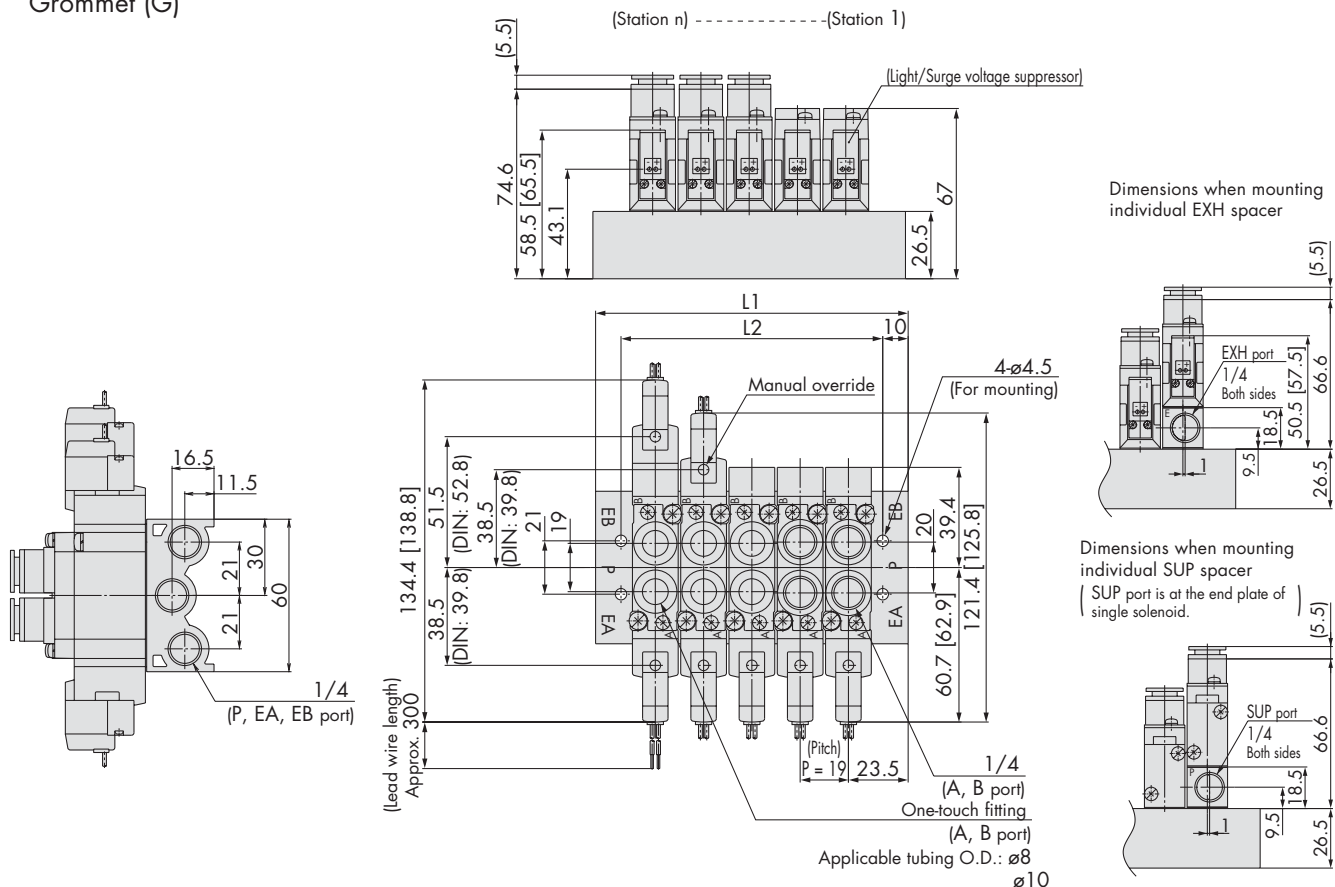
Applicable cable O.D.
ø3.5 to ø7



Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
L1	60	76	92	108	124	140	156	172	188	204	220	236	252	268	284	300	316	332	348
L2	40	56	72	88	104	120	136	152	168	184	200	216	232	248	264	280	296	312	328

SY7000: SS5Y7-20- Stations - -00F-Q

Grommet (G)

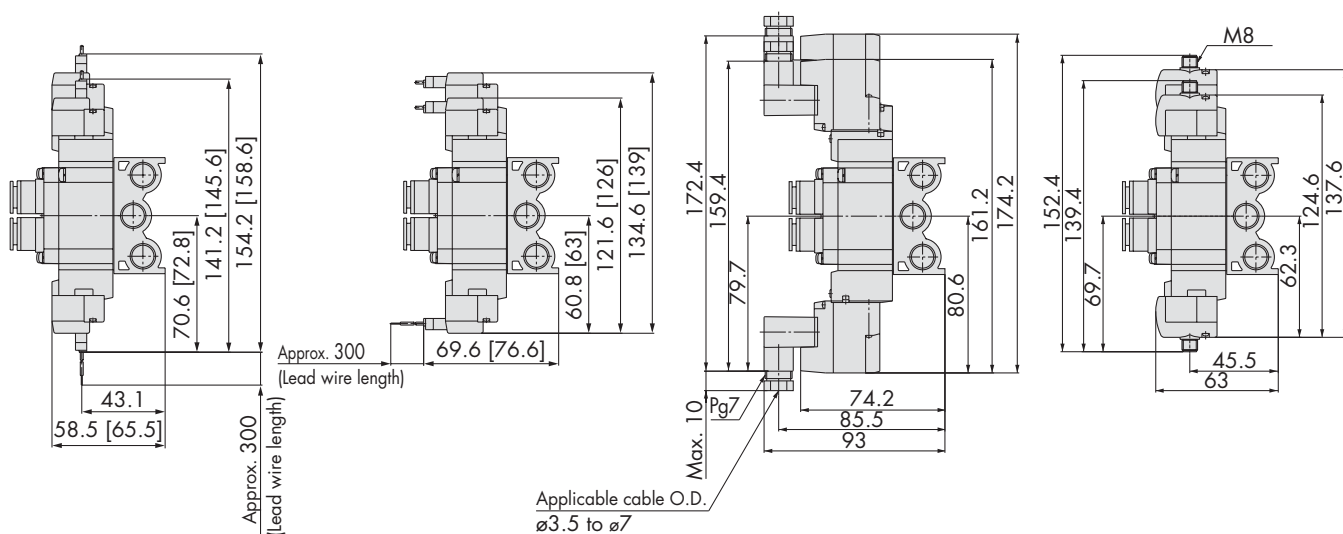


L plug connector (L)

M plug connector (M)

DIN terminal (D)

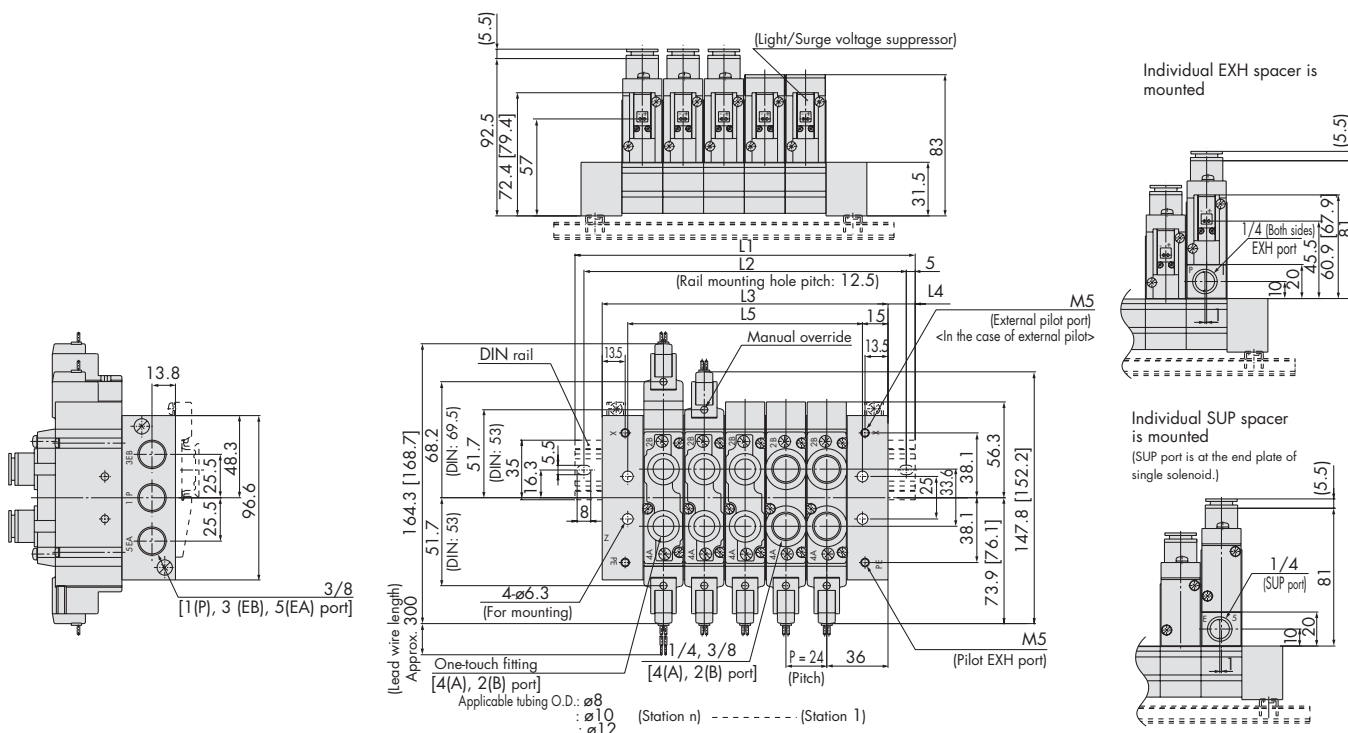
M8 connector (WO)



Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
L1	66	85	104	123	142	161	180	199	218	237	256	275	294	313	332	351	370	389	408
L2	46	65	84	103	122	141	160	179	198	217	236	255	274	293	312	331	350	369	388

SY9000: SS5Y9-23-Stations-(D)-00F-Q

Grommet (G)

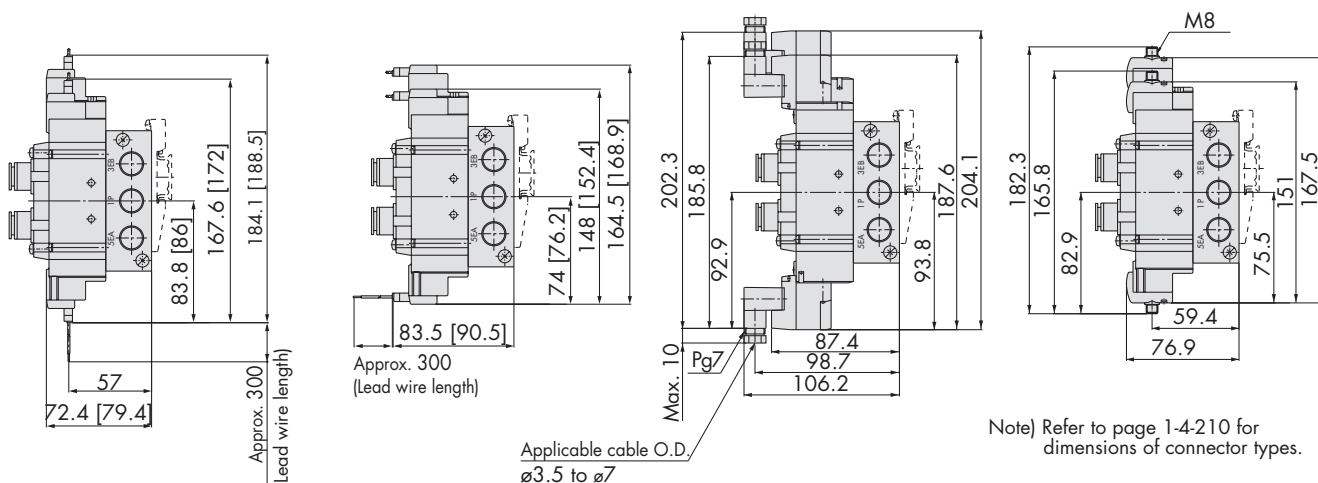


L plug connector (L)

M plug connector (M)

DIN terminal (D)

M8 connector (WO)



Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
L1	123	148	173	198	223	248	273	298	323	335.5	360.5	385.5	410.5	435.5	460.5	485.5	510.5	535.5	560.5
L2	112.5	137.5	162.5	187.5	212.5	237.5	262.5	287.5	312.5	325	350	375	400	425	450	475	500	525	550
L3	96	120	144	168	192	216	240	264	288	312	336	360	384	408	432	456	480	504	528
L4	13.5	14	14.5	15	15.5	16	16.5	17	17.5	12	12.5	13	13.5	14	14.5	15	15.5	16	16.5
L5	66	90	114	138	162	186	210	234	258	282	306	330	354	378	402	426	450	474	498

Note) In the case of direct mounting without DIN rail, total width of manifold is L3.

Base Mounted Valve Single Unit

Series SY3/5/7/9000



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

Rated voltage

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

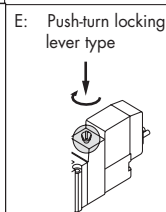
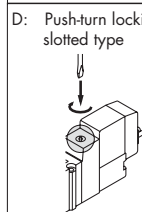
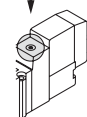
AC (50/60 Hz)

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

Manual override

Nil: Non-locking push type



Symbols

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

(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

Accessories for Base Mounted SY Valves

Valve type	Single 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

Electrical 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	Type Z	Type U
2 position single	12 or less	15 or less	12 or less	15 or less
2 position double	10 or less	13 or less	10 or less	13 or less
3 position	15 or less	20 or less	16 or less	20 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	Type Z	Type U
2 position single	19 or less	26 or less	19 or less	26 or less
2 position double	18 or less	22 or less	18 or less	22 or less
3 position	32 or less	38 or less	32 or less	38 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	Type Z	Type U
2 position single	31 or less	38 or less	33 or less	40 or less
2 position double	27 or less	30 or less	28 or less	35 or less
3 position	50 or less	56 or less	50 or less	56 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	Type Z	Type U
2 position single	35 or less	41 or less	35 or less	41 or less
2 position double	35 or less	41 or less	35 or less	41 or less
3 position	62 or less	64 or less	62 or less	64 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	2.5 (With indicator light: 2.6)
		[230 V]	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

Series SY3000	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 (dm ³ /s-bar)	b	Cv	C (dm ³ /s-bar)	b	Cv			
	2 position	Single										
		Double		1.0	0.30	0.24	1.1	0.30	0.26	84 (50)	15	89 (57)
		Closed centre		0.77	0.28	0.18	0.85	0.30	0.19	102 (68)	13	115 (81)
	3 position	Exhaust centre	1/8	0.73	0.31	0.18	1.1	0.26	0.24	104 (69)	20	117 (82)
		Pressure centre		1.2	0.24	0.29	0.89	0.47	0.24			

Series SY5000	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 (dm ³ /s-bar)	b	Cv	C (dm ³ /s-bar)	b	Cv			
	2 position	Single										
		Double		2.4	0.41	0.64	2.8	0.29	0.66	121 (58)	26	127 (65)
		Closed centre		1.8	0.47	0.50	1.8	0.40	0.47	139 (76)	22	152 (89)
	3 position	Exhaust centre	1/4	1.4	0.55	0.44	3.0	0.33	0.72	144 (82)	38	158 (95)
		Pressure centre		3.3	0.36	0.85	1.8	0.40	0.48			

Series SY7000	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 (dm ³ /s-bar)	b	Cv	C (dm ³ /s-bar)	b	Cv			
	2 position	Single										
		Double		4.1	0.41	1.1	4.1	0.29	1.0	218 (89)	38	225 (96)
		Closed centre		3.0	0.43	0.80	2.6	0.41	0.72	237 (108)	30	250 (121)
	3 position	Exhaust centre	1/4	2.6	0.42	0.71	4.7	0.35	1.1	239 (110)	56	253 (124)
		Pressure centre		5.3	0.39	1.3	2.2	0.49	0.63			
	2 position	Single		4.9	0.29	1.2	4.5	0.27	1.1	218 (89)	38	225 (96)
		Double		3.0	0.40	0.80	2.6	0.45	0.73	237 (108)	30	250 (121)
	3 position	Exhaust centre	3/8	2.6	0.42	0.71	4.8	0.35	1.1	239 (110)	56	253 (124)
		Pressure centre		5.3	0.31	1.3	2.3	0.45	0.66			

Series SY9000	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 (dm ³ /s-bar)	b	Cv	C (dm ³ /s-bar)	b	Cv			
	2 position	Single										
		Double		7.9	0.34	2.0	9.6	0.43	2.6	469(172)	41	476(179)
		Closed centre		7.5	0.33	1.8	7.3	0.30	1.7	488(191)	41	502(205)
	3 position	Exhaust centre	3/8	7.2	0.34	1.7	13	0.23	2.8	512(215)	64	526(229)
		Pressure centre		12	0.26	2.8	6.7	0.40	1.9			
	2 position	Single		8.0	0.48	2.2	10	0.29	2.5	448 (151)	41	457(160)
		Double		7.6	0.32	1.8	7.3	0.32	1.8	467 (170)	41	481(184)
	3 position	Exhaust centre	1/2	7.3	0.42	2.0	13	0.32	3.6	491 (194)	64	505(208)
		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.

How to Order Interface Regulators

Series SY3000

ARBY3000-05-P-2

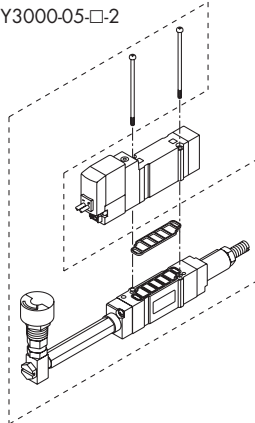
Pressure gauge connection port

05	Pressure gauge (G15-10-01)
M1	Plug (M-5P)

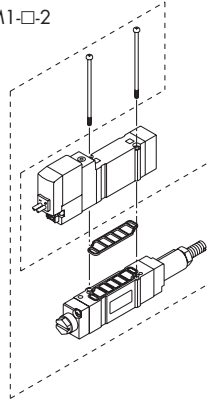
Regulating port

P	P port
A1	A port (P controlled type, A port regulation)
B1	B port (P controlled type, B port regulation)

ARBY3000-05-□-2



ARBY3000-M1-□-2



Series SY5000

ARBY5000-00-P-2

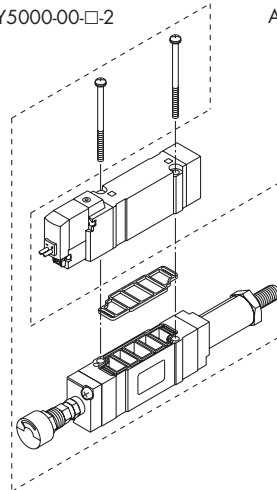
Pressure gauge connection port

00	Pressure gauge (G15-10-01)
M1	Plug (M-5P)

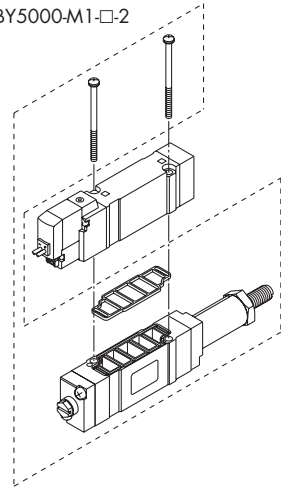
Regulating port

P	P port
A1	A port (P controlled type, A port regulation)
B1	B port (P controlled type, B port regulation)

ARBY5000-00-□-2



ARBY5000-M1-□-2



Series SY7000

ARBY7000-00-P-2

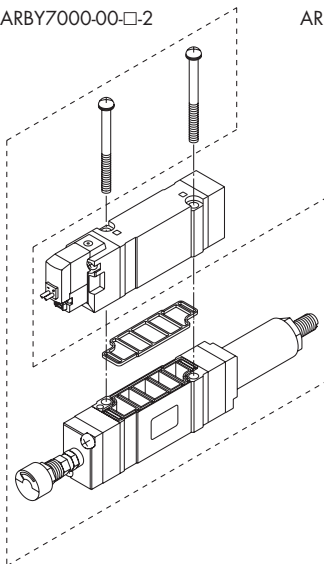
Pressure gauge connection port

00	Pressure gauge (G15-10-01)
M1	Plug (M-5P)

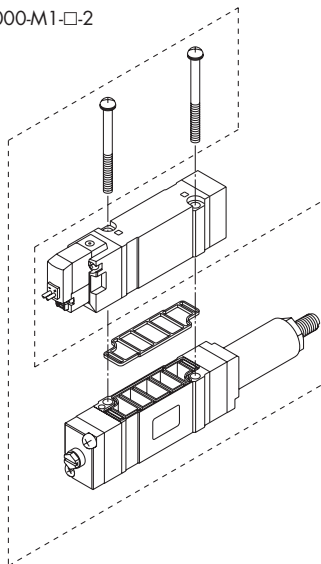
Regulating port

P	P port
A1	A port (P controlled type, A port regulation)
B1	B port (P controlled type, B port regulation)

ARBY7000-00-□-2



ARBY7000-M1-□-2



ARBY3000



ARBY5000

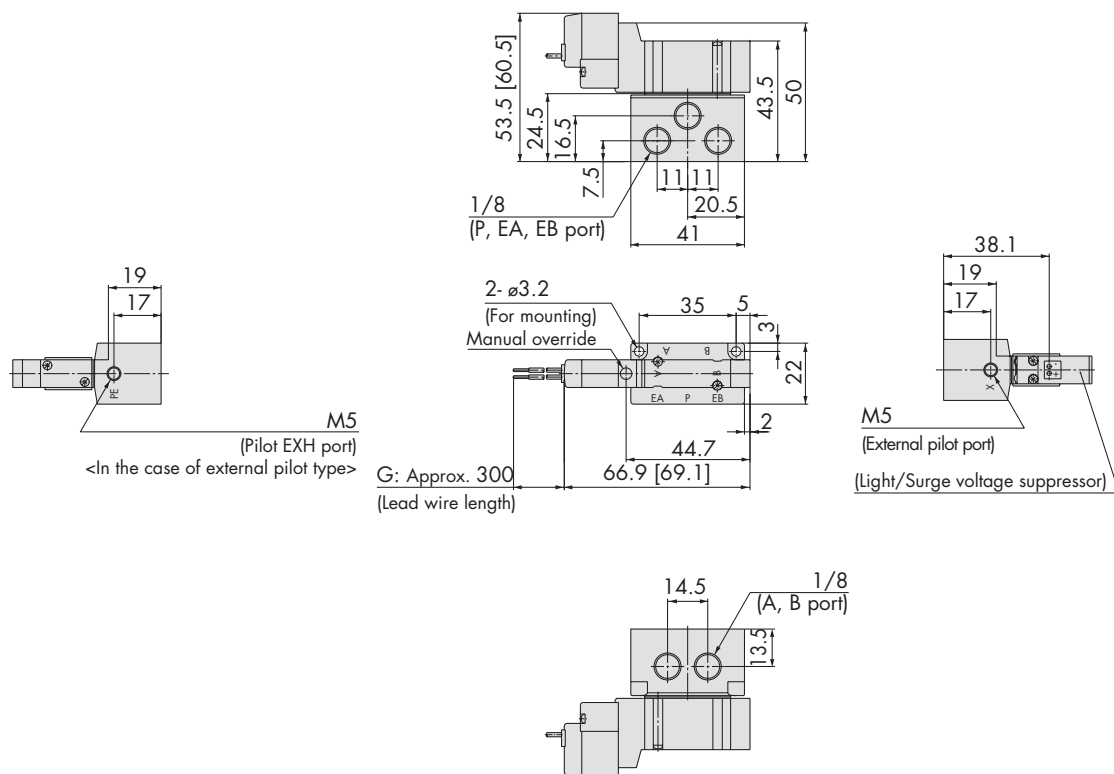


ARBY7000

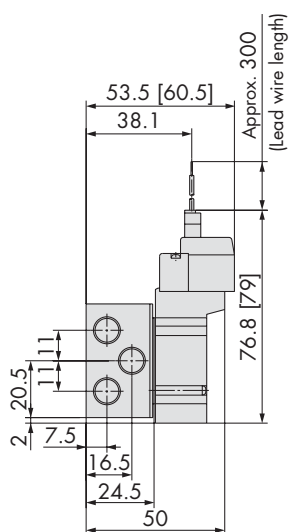
Dimensions: Series SY3000

2 position single

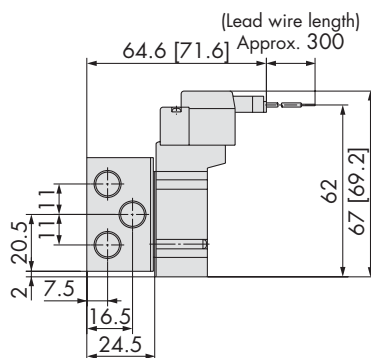
Grommet (G): SY3140(R)-□G□□-01□-Q



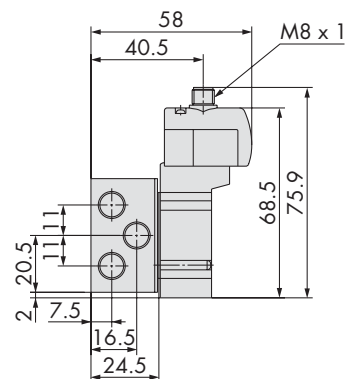
L plug connector (L):
SY3140(R)-□L□□-01□-Q



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



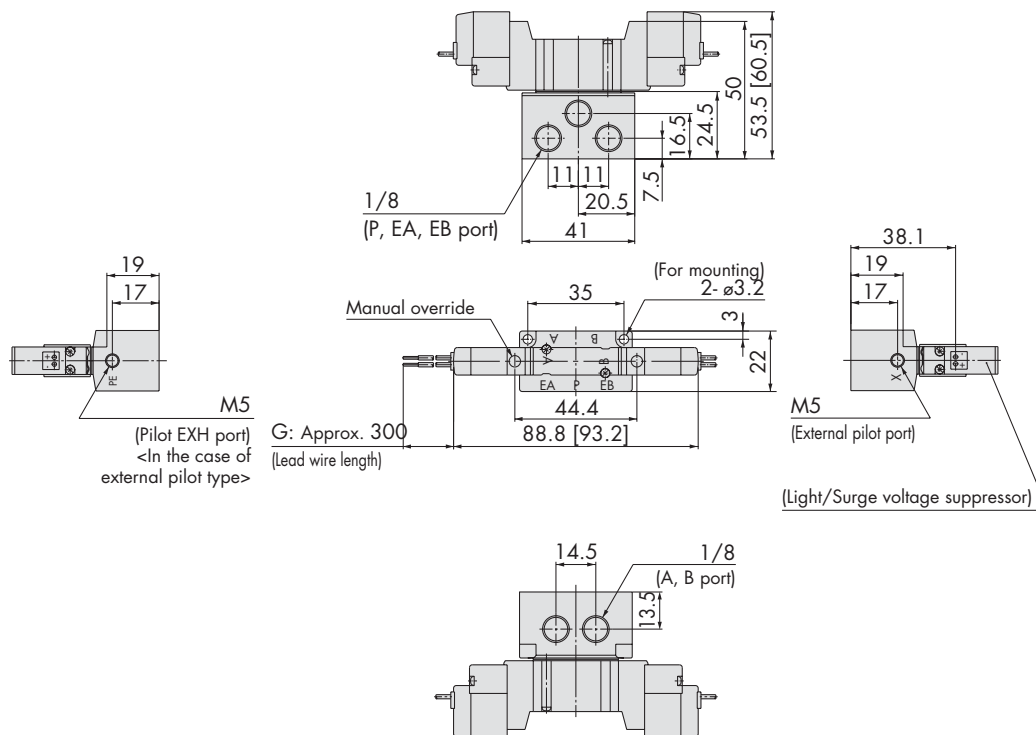
M8 connector (WO):
SY3140(R)-□WO□□-01□-Q



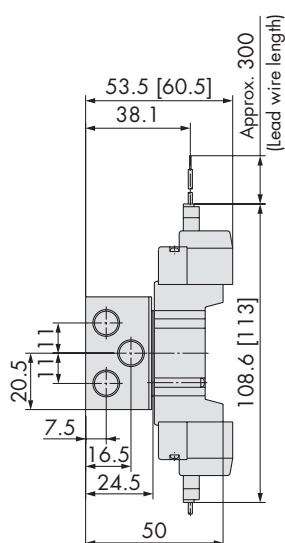
Dimensions: Series SY3000

2 position double

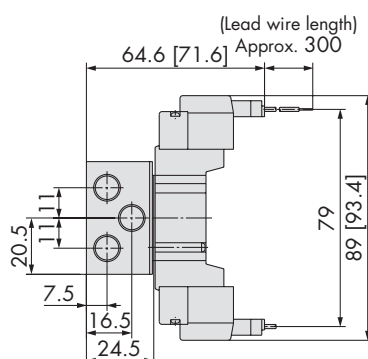
Grommet (G): SY3240(R)-□G□□-01□-Q



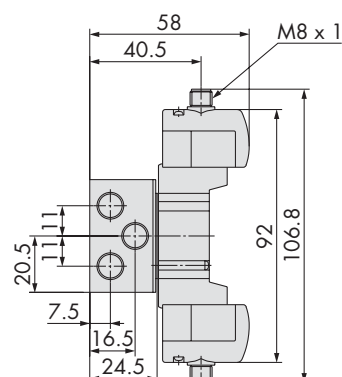
L plug connector (L):
SY3240(R)-□L□□-01□-Q



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

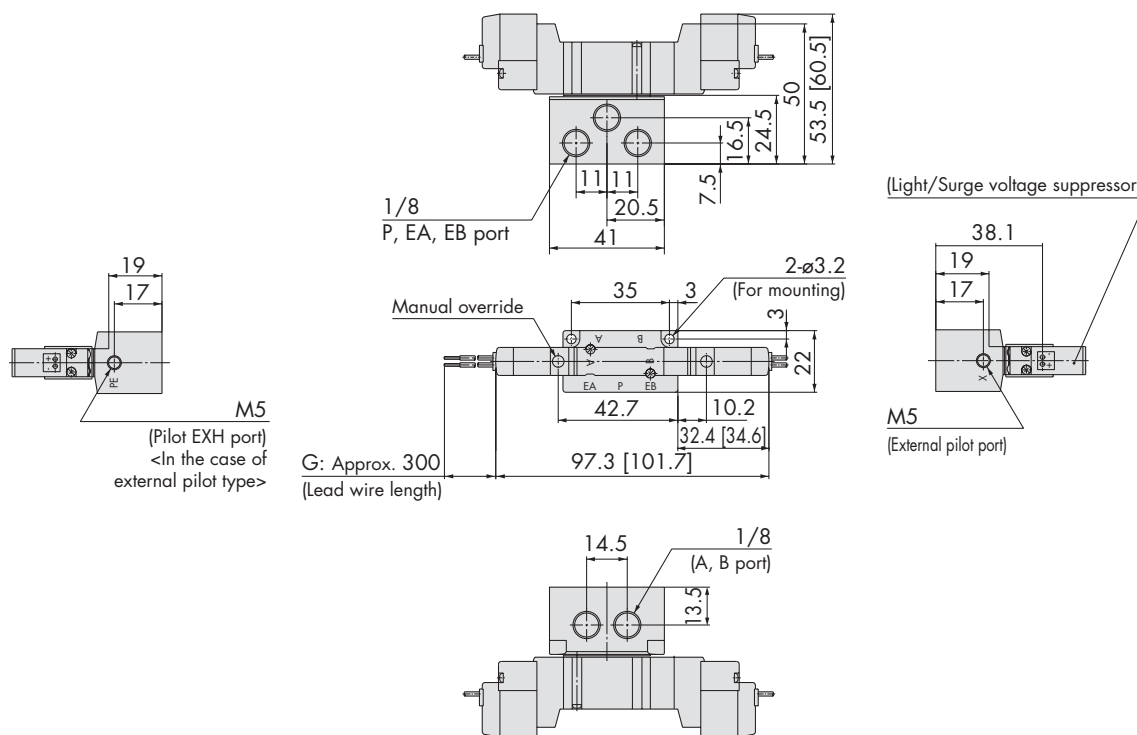


M8 connector (WO):
SY3240(R)-□WO□□-01□-Q

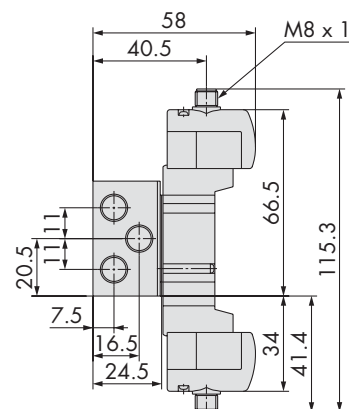
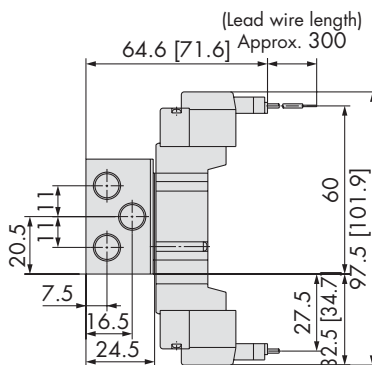
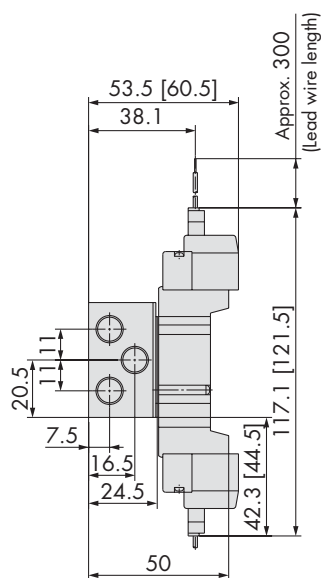


Valves

Grommet (G): SY3³₄40(R)-□G□□-01□-Q



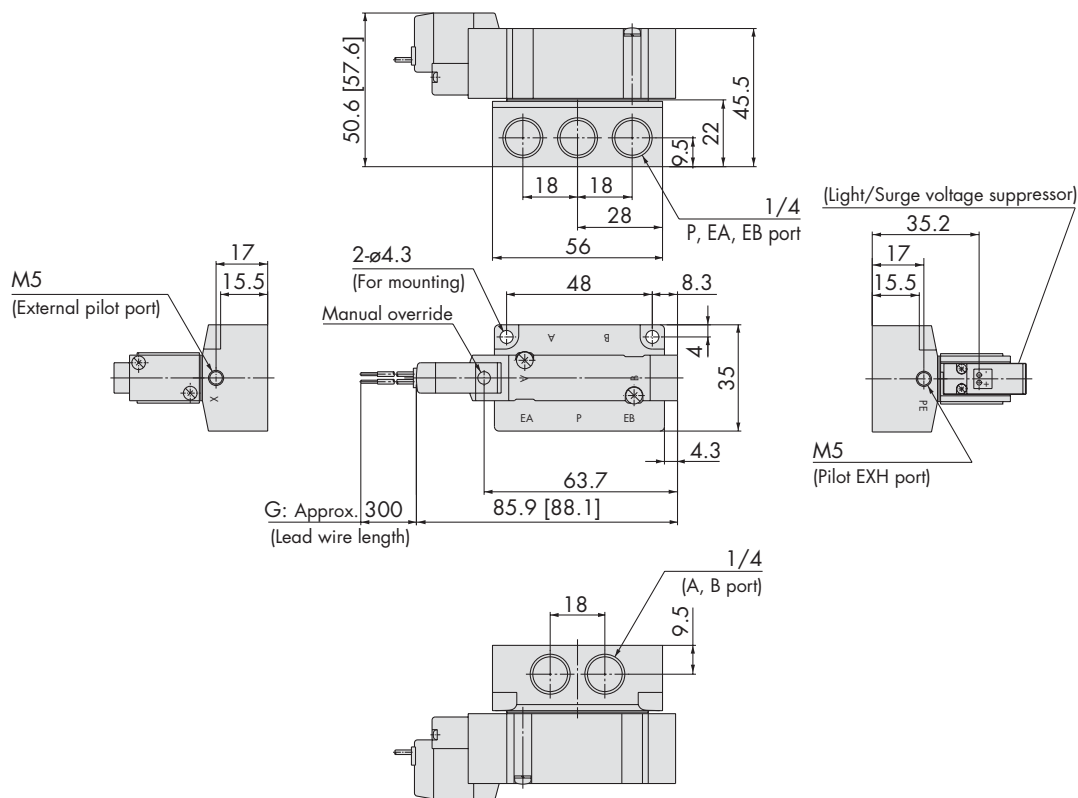
M8 connector (WO):
SY3 $\frac{3}{4}$ ₅40(R)-□WO□□-01□-Q



Dimensions: Series SY5000

2 position single

Grommet (G): SY5140(R)-□G□□-02□-Q

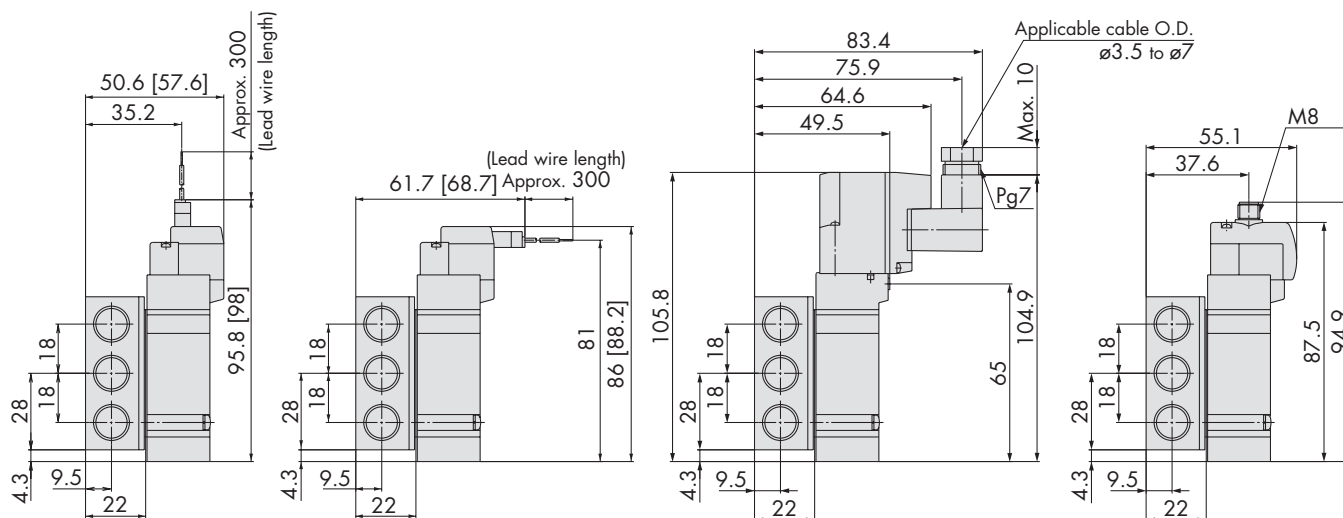


L plug connector (L):
SY5140(R)-□L□□-02□-Q

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

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

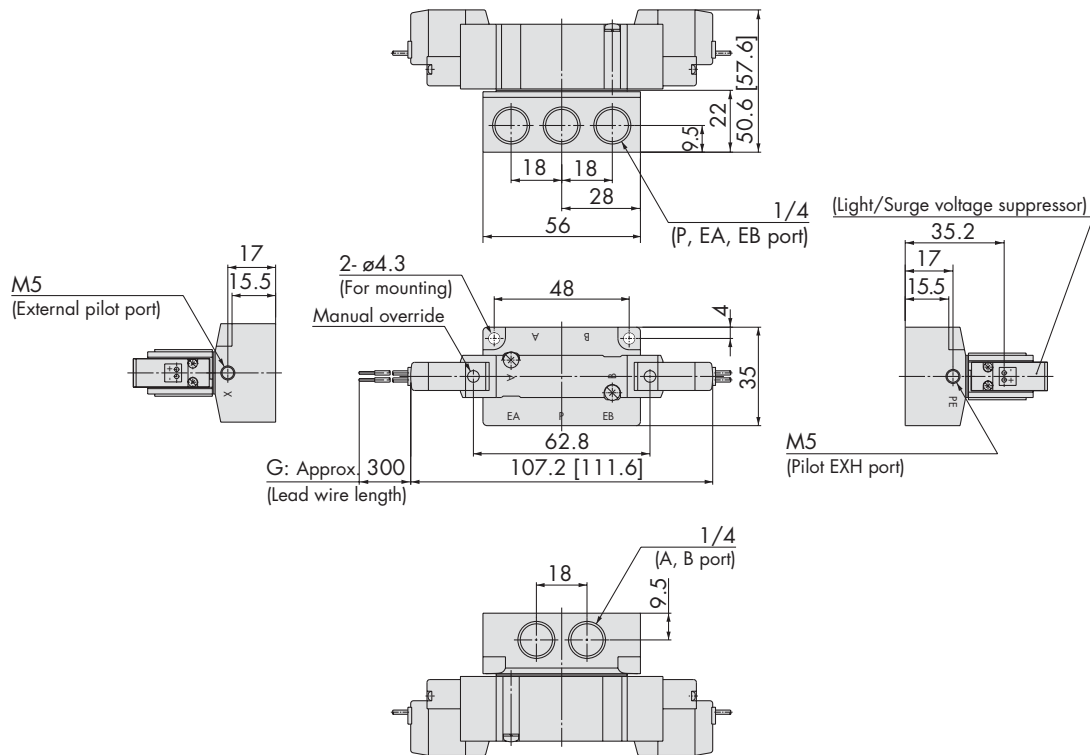
M8 connector (WO):
SY5140(R)-□WO□□-02□-Q



Dimensions: Series SY5000

2 position double

Grommet (G): SY5240(R)-□G□□-02□-Q

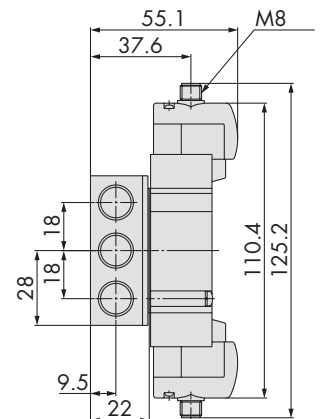
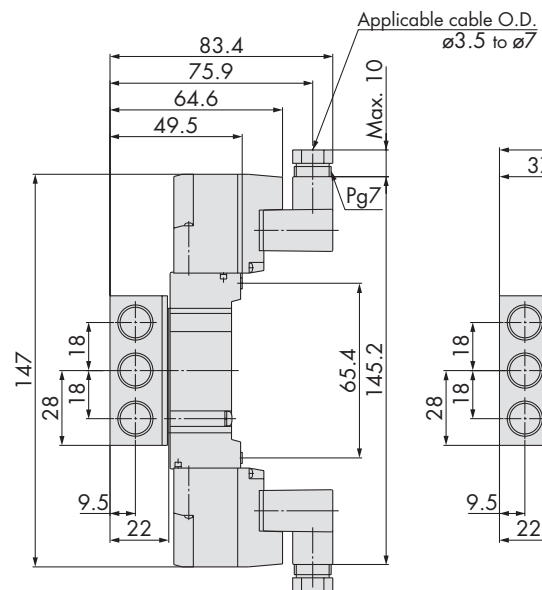
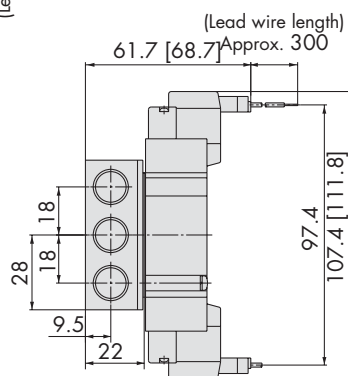
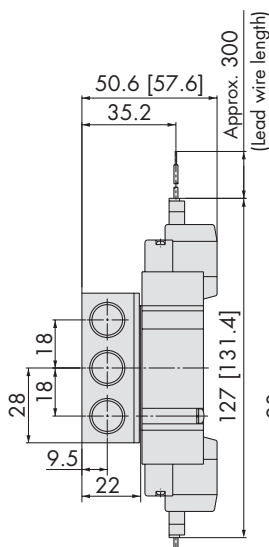


L plug connector (L):
SY5240(R)-□L□□-02□-Q

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

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

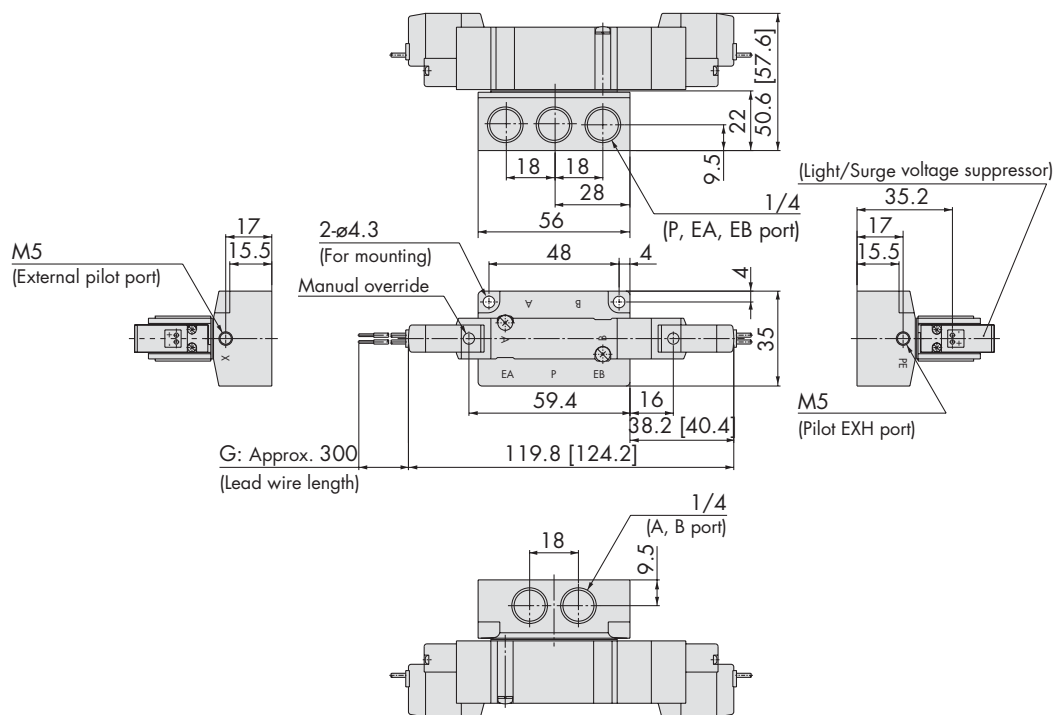
M8 connector (WO):
SY5240(R)-□WO□□-02□-Q



Dimensions: Series SY5000

3 position closed centre/exhaust centre/pressure centre

Grommet (G): SY5 $\frac{3}{5}$ 40(R)-□G□□-02□-Q

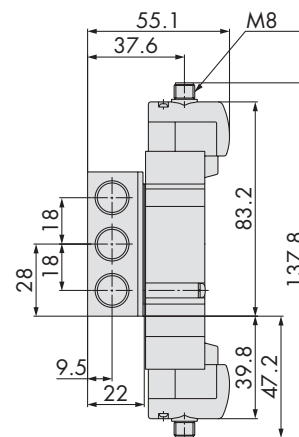
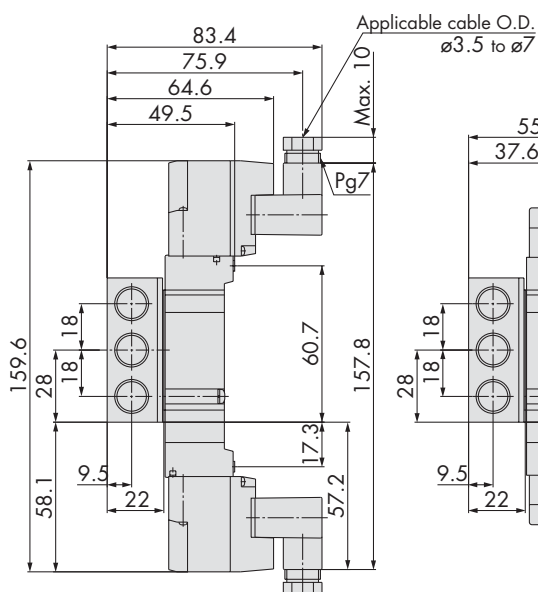
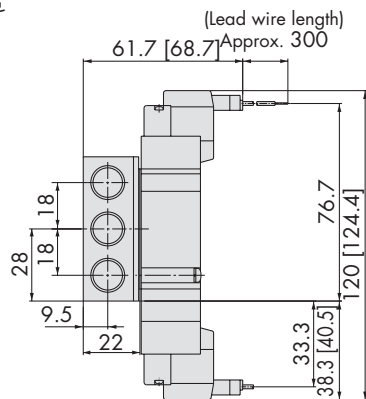
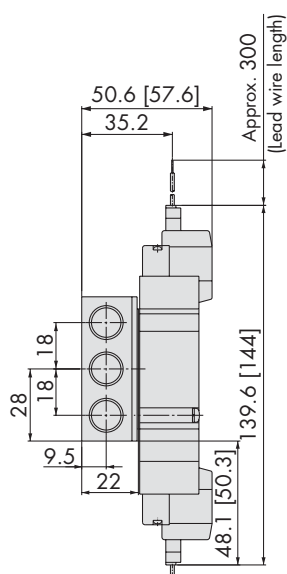


L plug connector (L):
SY5 $\frac{3}{5}$ 40(R)-□□□-02□-Q

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

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

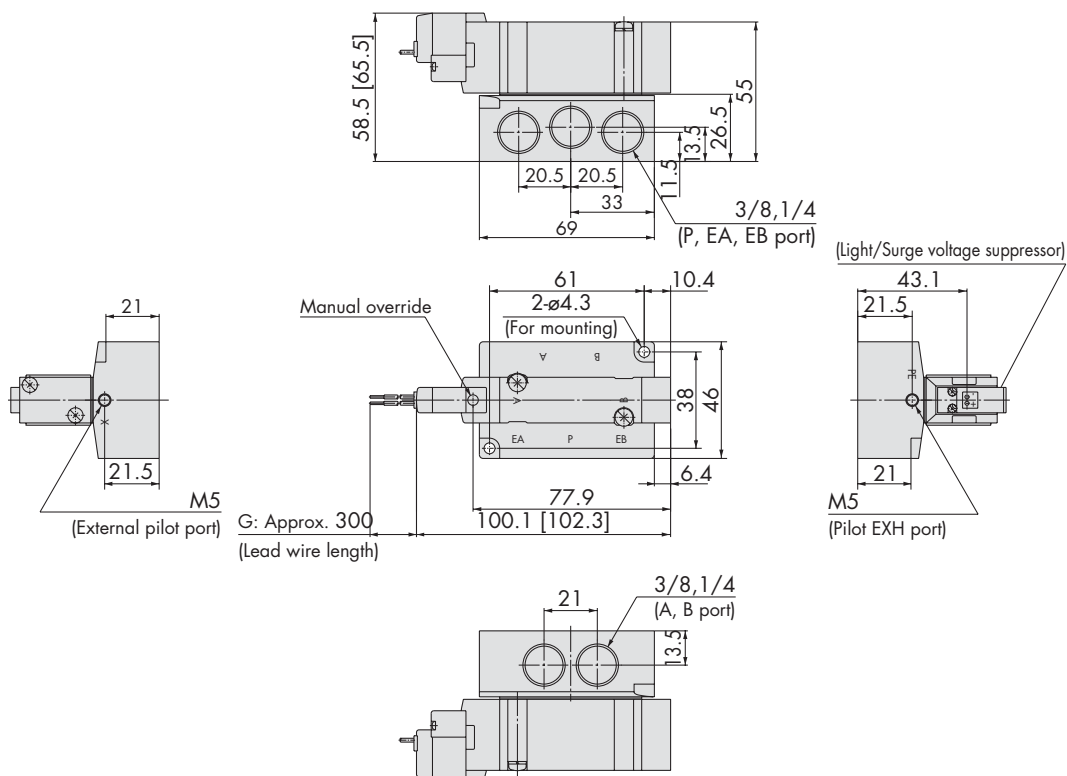
M8 connector (WO):
SY5 $\frac{3}{5}$ 40(R)-□WO□□-02□-Q



Dimensions: Series SY7000

2 position single

Grommet (G): SY7140(R)-□G□□- $\frac{02}{03}$ □-Q

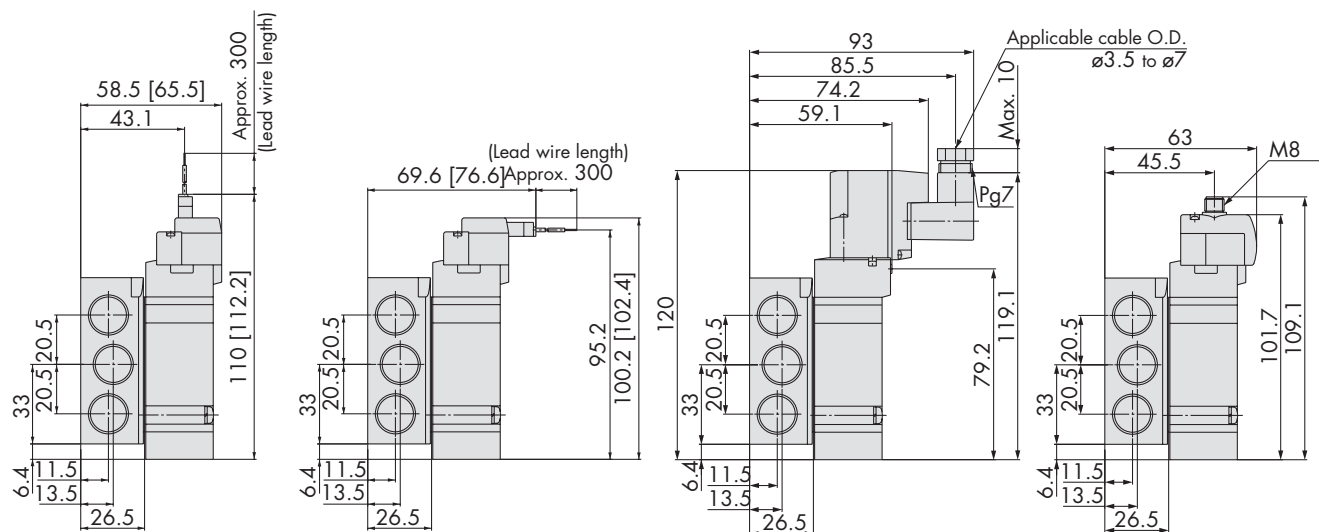


L plug connector (L):
SY7140(R)-□L□□- $\frac{02}{03}$ □-Q

M plug connector (M):
SY7140(R)-□M□□- $\frac{02}{03}$ □-Q

DIN terminal (D):
SY7140(R)-□D□□- $\frac{02}{03}$ □-Q

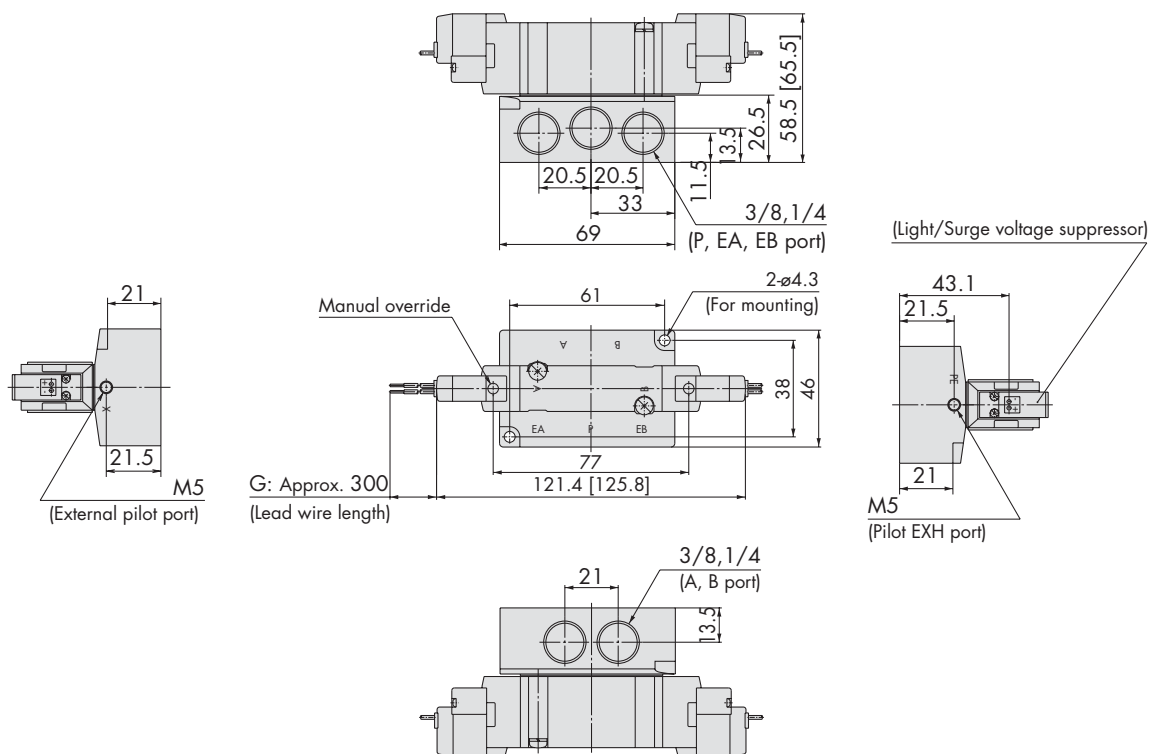
M8 connector (WO):
SY7140(R)-□WO□□- $\frac{02}{03}$ □-Q



Dimensions: Series SY7000

2 position double

Grommet (G): SY7240(R)-□G□□-02□-Q

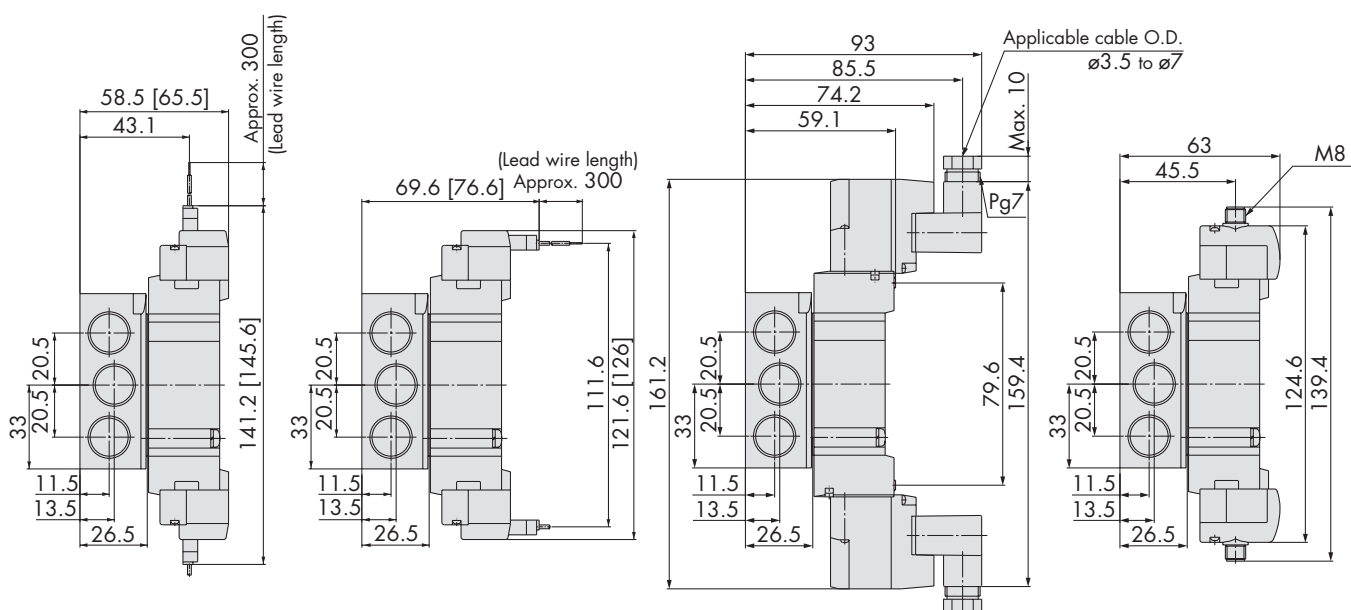


L plug connector: L
SY7240(R)-□L□□-02□-Q

M plug connector: M
SY7240(R)-□M□□-02□-Q

DIN terminal (D):
SY7240(R)-□D□□-02□-Q

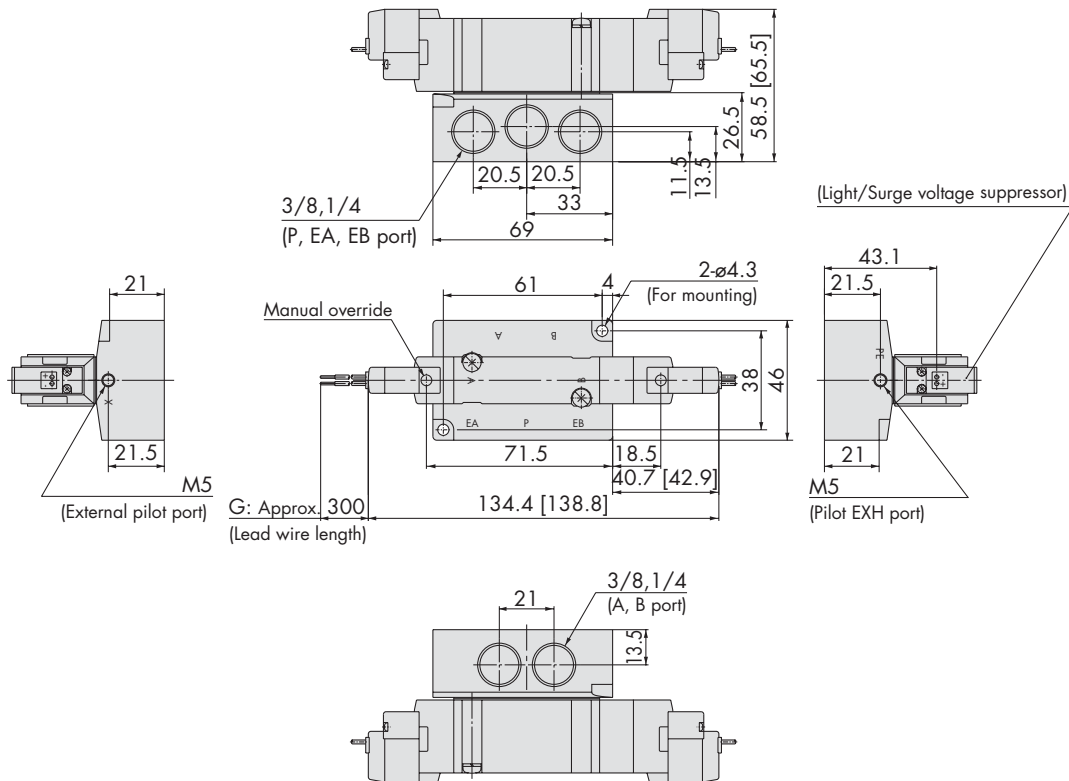
M8 connector (WO):
SY7240(R)-□WO□□-02□-Q



Dimensions: Series SY7000

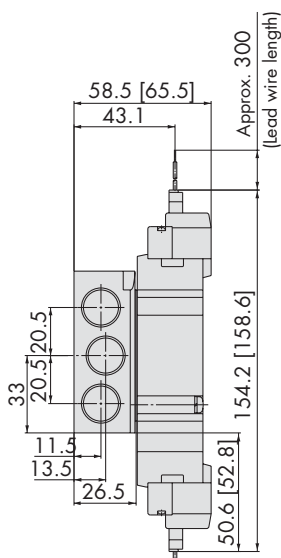
3 position closed centre/exhaust centre/pressure centre

Grommet (G): SY7³/₅40(R)-□G□□-0²/₃□-Q



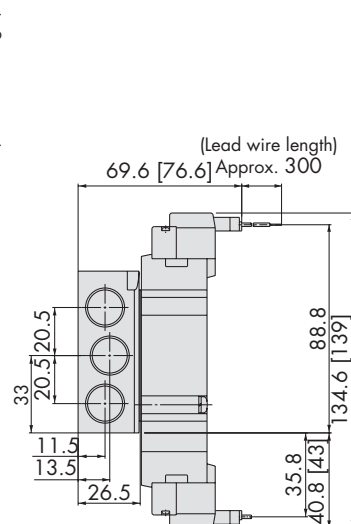
L plug connector: L

SY7³/₅40(R)-□L□□-0²/₃□-Q



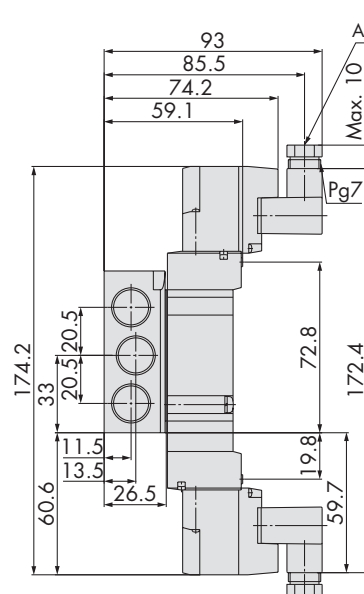
M plug connector: M

SY7³/₅40(R)-□M□□-0²/₃□-Q



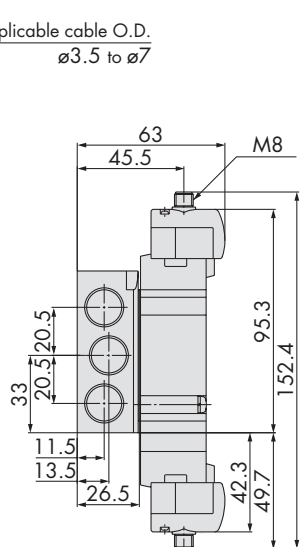
DIN terminal (D):

SY7³/₅40(R)-□D□□-0²/₃□-Q



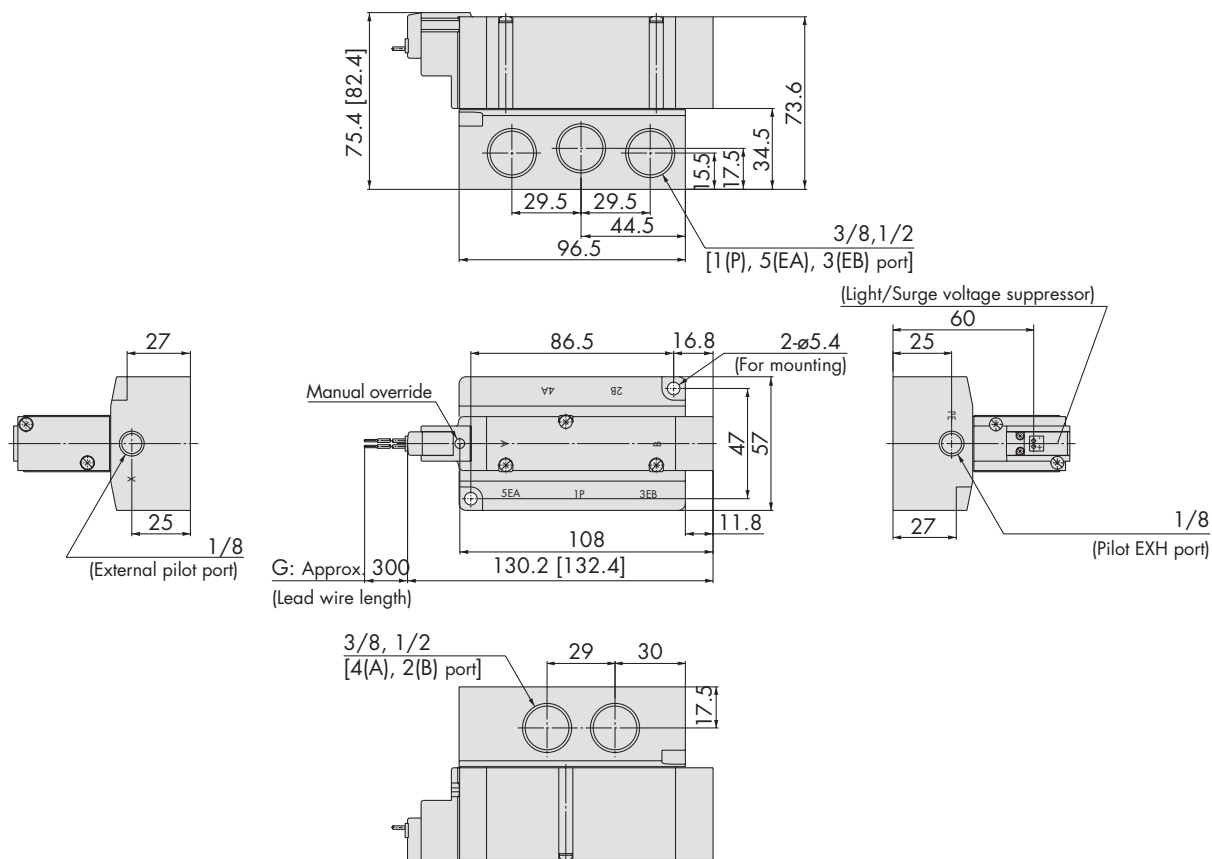
M8 connector (WO):

SY7³/₅40(R)-□WO□□-0²/₃□-Q



Dimensions: Series SY9000

2 position single
Grommet (G): SYJ9140-□G□□- $\frac{03}{04}$ □-Q

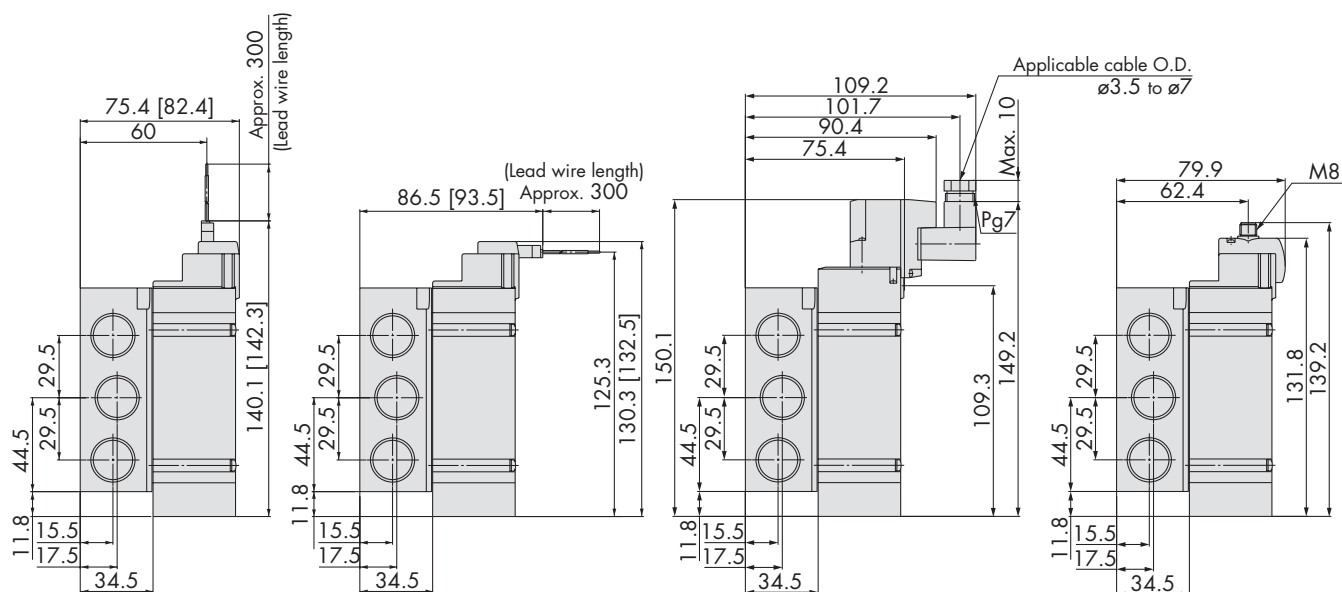


L plug connector (L):
SY9140(R)-□L□□- $\frac{03}{04}$ □-Q

M plug connector (M):
SY9140(R)-□M□□- $\frac{03}{04}$ □-Q

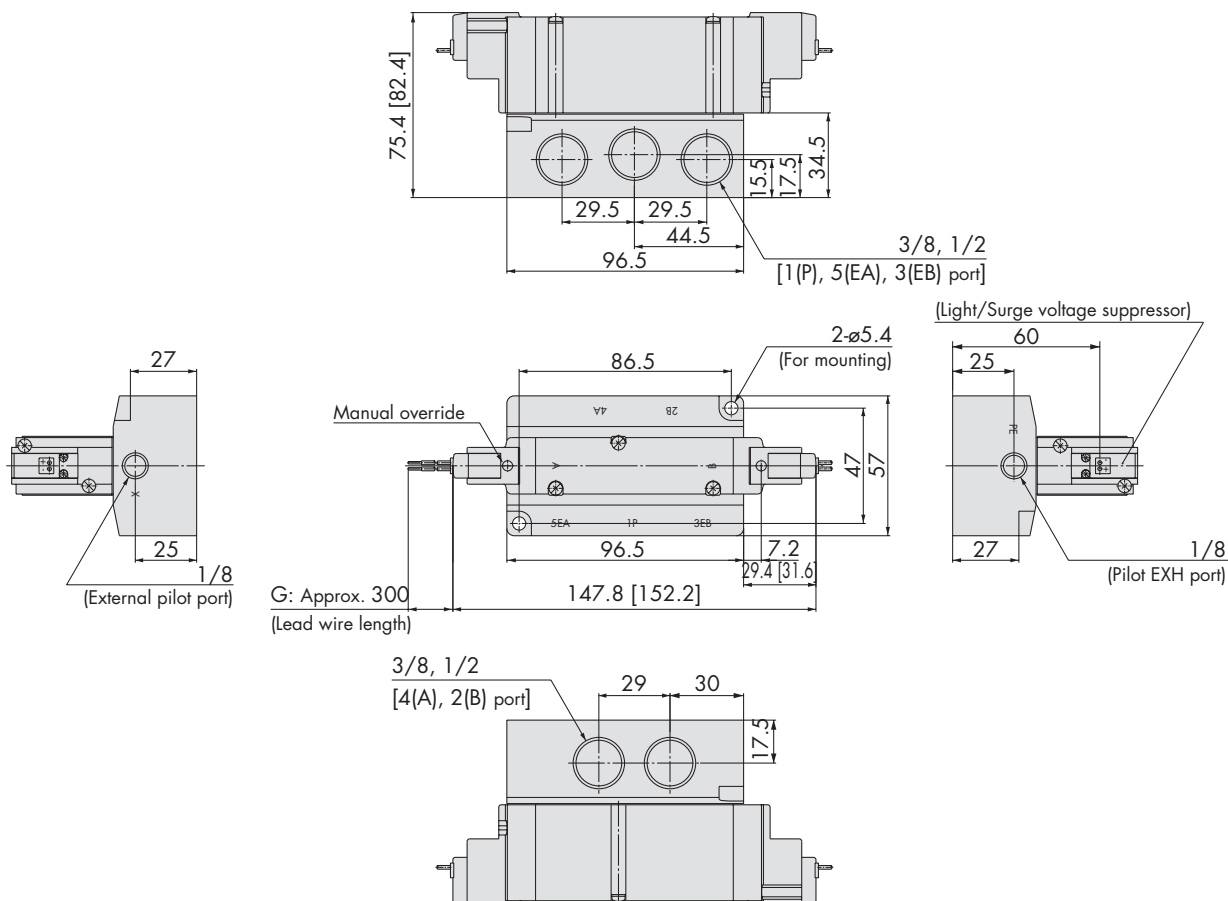
DIN terminal (D):
SY9140(R)-□D□□- $\frac{03}{04}$ □-Q

M8 connector (WO):
SY9140(R)-□WO□□- $\frac{03}{04}$ □-Q



Dimensions: Series SY9000

2 position double
Grommet (G): SY9240(R)-□G□□-03□-Q

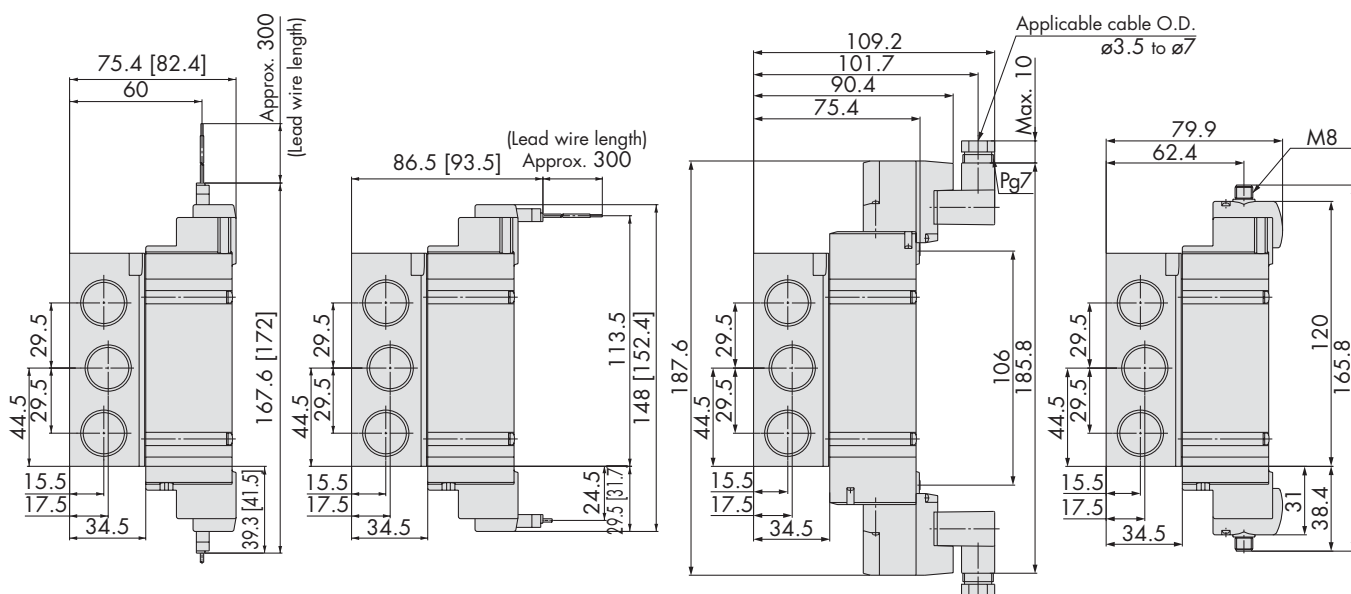


L plug connector (L):
SY9240(R)-□L□□-03□-Q

M plug connector (M):
SY9240(R)-□M□□-03□-Q

DIN terminal (D):
SY9240(R)-□D□□-03□-Q

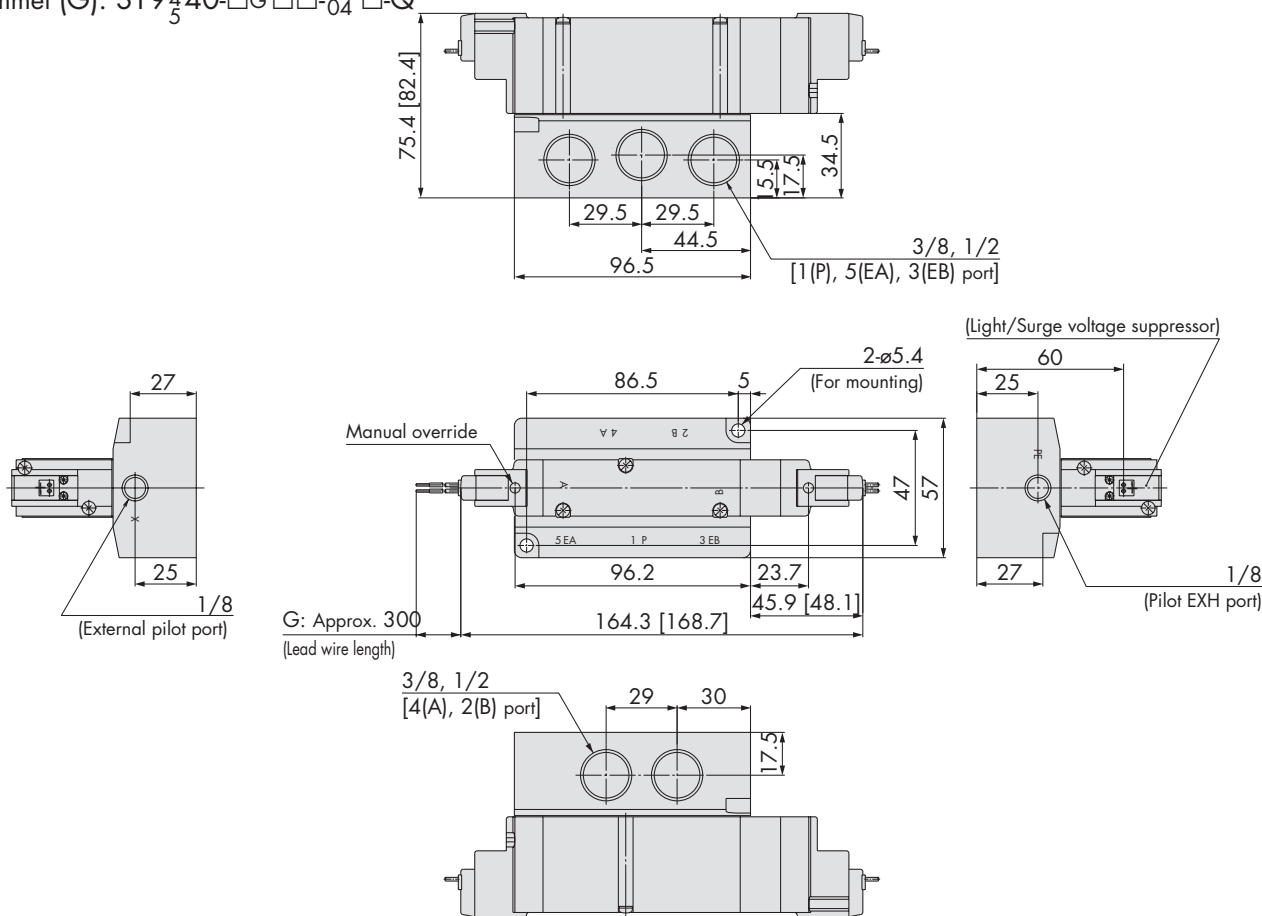
M8 connector (WO):
SY9240(R)-□WO□□-03□-Q



Dimensions: Series SY9000

3 position closed centre/exhaust centre/pressure centre

Grommet (G): SY9³/₅40-□G□□-⁰³/₀₄□-Q

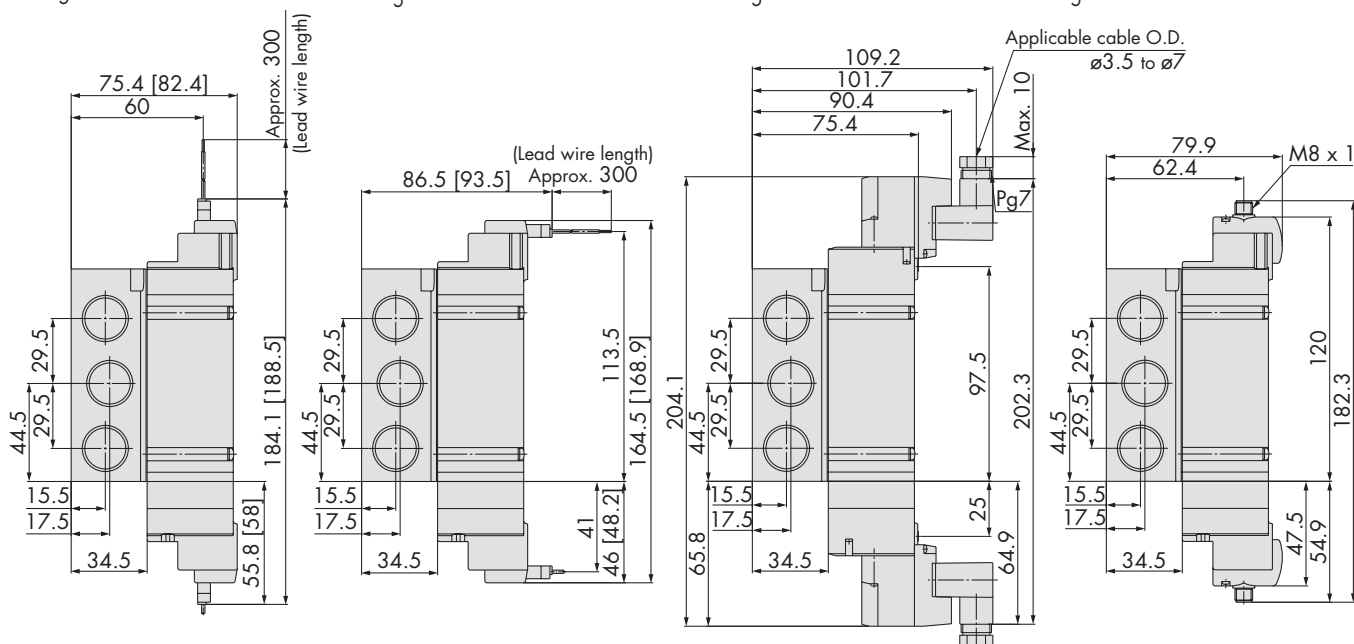


L plug connector (L):
SY9³/₅40(R)-□□□□-⁰³/₀₄□-Q

M plug connector (M):
SY9³/₅40(R)-□M□□□-⁰³/₀₄□-Q

DIN terminal (D):
SY9³/₅40(R)-□D□□□-⁰³/₀₄□-Q

M8 connector (WO):
SY9³/₅40(R)-□WO□□□-⁰³/₀₄□-Q



Base Mounted Manifold Individual Wiring

Series SY3/5/7/9000



How to Order Manifold

Type 41 (Compact type)

SS5Y **5** - 41 - **05** - **C8** F - Q

Manifold series

3	SY3000
5	SY5000

Stations

02	2 stations
⋮	⋮
20	20 stations

A, B port size
Thread piping

Symbol	Port size	Applicable series
M5	M5	SY3000
O1	1/8	SY5000

One-touch fitting (Metric size)

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

Type 43 (Slice type internal or external pilot)

SS5Y 9 - 43 - **05** **U** - **C8** F - Q

Manifold series

9	SY9000
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Valve stations

Symbol	Stations
02	2 stations
⋮	⋮
20	20 stations

P, R port outlets

Symbol	Port outlet	Applicable stations
U	U side	2 to 10 stations
D	D side	2 to 10 stations
B	Both sides	2 to 20 stations

SUP/EXH block assembly specifications

Symbol	Specifications
Nil	Standard/Internal pilot
R	External pilot
S	Internal pilot/Built-in silencer
RS	External pilot/Built-in silencer

A, B port size
Thread piping

Symbol	Port size
02	1/4
03	3/8

One-touch fitting (Metric size)

Symbol	Port size
C8	One-touch fitting for ø8
C10	One-touch fitting for ø10
C12	One-touch fitting for ø12

Type 42 (External pilot capable type)

SS5Y **5** - 42 - **05** - **C8** F - Q

Manifold series

3	SY3000
5	SY5000
7	SY7000

Stations

02	2 stations
⋮	⋮
20	20 stations

A, B port size
Thread piping

Symbol	Port size	Applicable series
O1	1/8	SY3000
02	1/4	SY5000
02	1/4	SY7000

One-touch fitting (Metric size)

Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	SY3000
C6	One-touch fitting for ø6	SY3000
C6	One-touch fitting for ø6	SY5000
C8	One-touch fitting for ø8	SY5000
C10	One-touch fitting for ø10	SY7000

Also Available

Base mounted manifolds, bar types with connectors for common wiring



Manifold Specifications

Model		SS5Y3-41	SS5Y3-42	SS5Y5-41	SS5Y5-42	SS5Y7-42	SS5Y9-43
Applicable valve		SY3□40		SY5□40		SY7□40	SY9□40
Manifold type		Single base/B mount					Stacking type
P(SUP)/R(EXH)		Common SUP, Common EXH					
Valve stations		2 to 20 stations					
A, B port		Base					
Porting specifications		Side					
Location							
Direction							
P, EA, EB port		1/8		1/4		1/4	C12 (One-touch fitting for ø12)
A, B port		M5 C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6)	1/8 C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6)	1/8 C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8)	1/4 C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8)	1/4 C10 (One-touch fitting for ø10)	3/8 C8 (One-touch fitting for ø8) C10 (One-touch fitting for ø10) C12 (One-touch fitting for ø12)
Manifold base weight W (g) n: Stations		W = 30n + 50	W = 37n + 63	W = 61n + 101	W = 79n + 127	W = 100n + 151	W = 107n + 330

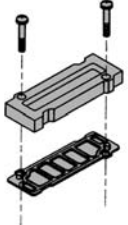
Flow Characteristics

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 (dm ³ /[s·bar])	b	Cv	C (dm ³ /[s·bar])	b	Cv
SS5Y3-41	1/8	C6	0.75	0.19	0.18	0.81	0.23	0.20
SS5Y3-42	1/8	C6	0.75	0.20	0.18	0.82	0.20	0.20
SS5Y5-41	1/4	C8	1.8	0.23	0.44	1.9	0.16	0.45
SS5Y5-42	1/4	C8	1.9	0.20	0.46	1.9	0.12	0.43
SS5Y7-42	1/4	C10	3.0	0.25	0.75	3.0	0.12	0.66
SS5Y9-43	C12	C12	6.4	0.29	1.6	7.3	0.29	1.8

Manifold Accessories

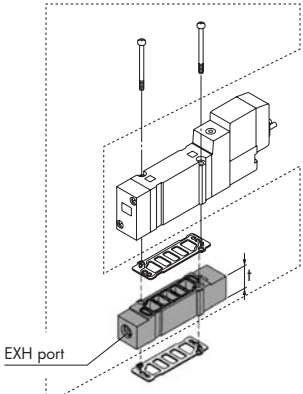
Manifold Option

■ Type 41, 42, 43 Blanking plate assembly



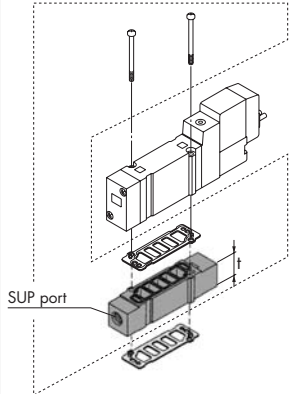
Series	Assembly part no.
SY3000	SY3000-26-9A-Q
SY5000	SY5000-26-2A-Q
SY7000	SY7000-26-2A-Q
SY9000	SY9000-26-2A-Q

■ 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
SY7000	SY7000-39-16FA-Q	1/4	18
SY9000	SY9000-39-2FA-Q	1/4	20

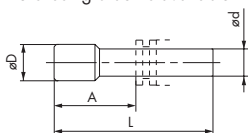
■ Individual SUP spacer assembly



Series	Assembly part no.	Port size	t
SY3000	SY3000-38-2A-Q	M5	11
SY5000	SY5000-38-16FA-Q	1/8	15
SY7000	SY7000-38-16FA-Q	1/4	18
SY9000	SY9000-38-2FA-Q	1/4	20

■ 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	44.5	14

■ Supply and Exhaust Block Disc

Inserted between manifold station to isolate pressure or exhaust zones within the manifold.



Series SY9000

Part Number: SY9000-57-1A

Manifold Accessories (2)

Interface Regulator

Series SY3000

ARBY3000—05—P—2

Pressure gauge
connection port

05	Pressure gauge (G15-10-01)
M1	Plug (M-5P)

Regulating port

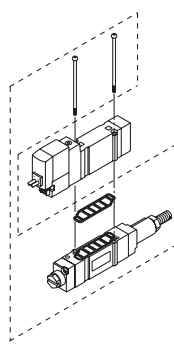
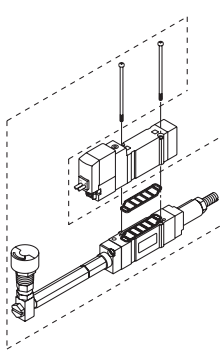
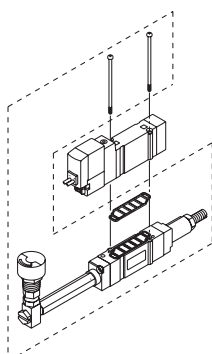
P	P port
A1	A port (P controlled type, A port regulation)
B1	B port (P controlled type, B port regulation)

Note) In the case of Series ARBY3000 with a pressure gauge when mounting on manifolds, use alternate 05 and 06 types. These have different length gauge stems to avoid gauges clashing on adjacent stations.

ARBY3000-05-□-2
(For odd number stations)

ARBY3000-06-□-2
(For even number stations)

ARBY3000-M1-□-2



Series SY5000

ARBY5000—00—P—2

Pressure gauge
connection port

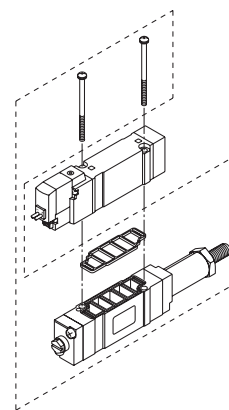
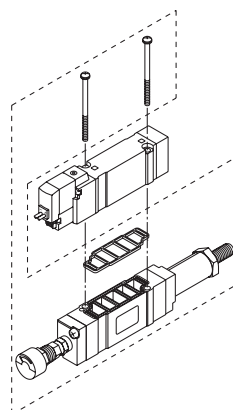
00	Pressure gauge (G15-10-01)
M1	Plug (M-5P)

Regulating port

P	P port
A1	A port (P controlled type, A port regulation)
B1	B port (P controlled type, B port regulation)

ARBY5000-00-□-2

ARBY5000-M1-□-2



Series SY7000

ARBY7000—00—P—2

Pressure gauge
connection port

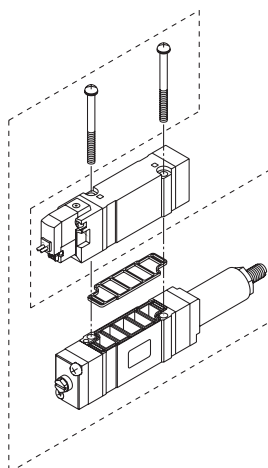
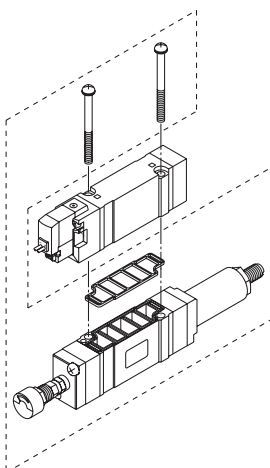
00	Pressure gauge (G15-10-01)
M1	Plug (M-5P)

Regulating port

P	P port
A1	A port (P controlled type, A port regulation)
B1	B port (P controlled type, B port regulation)

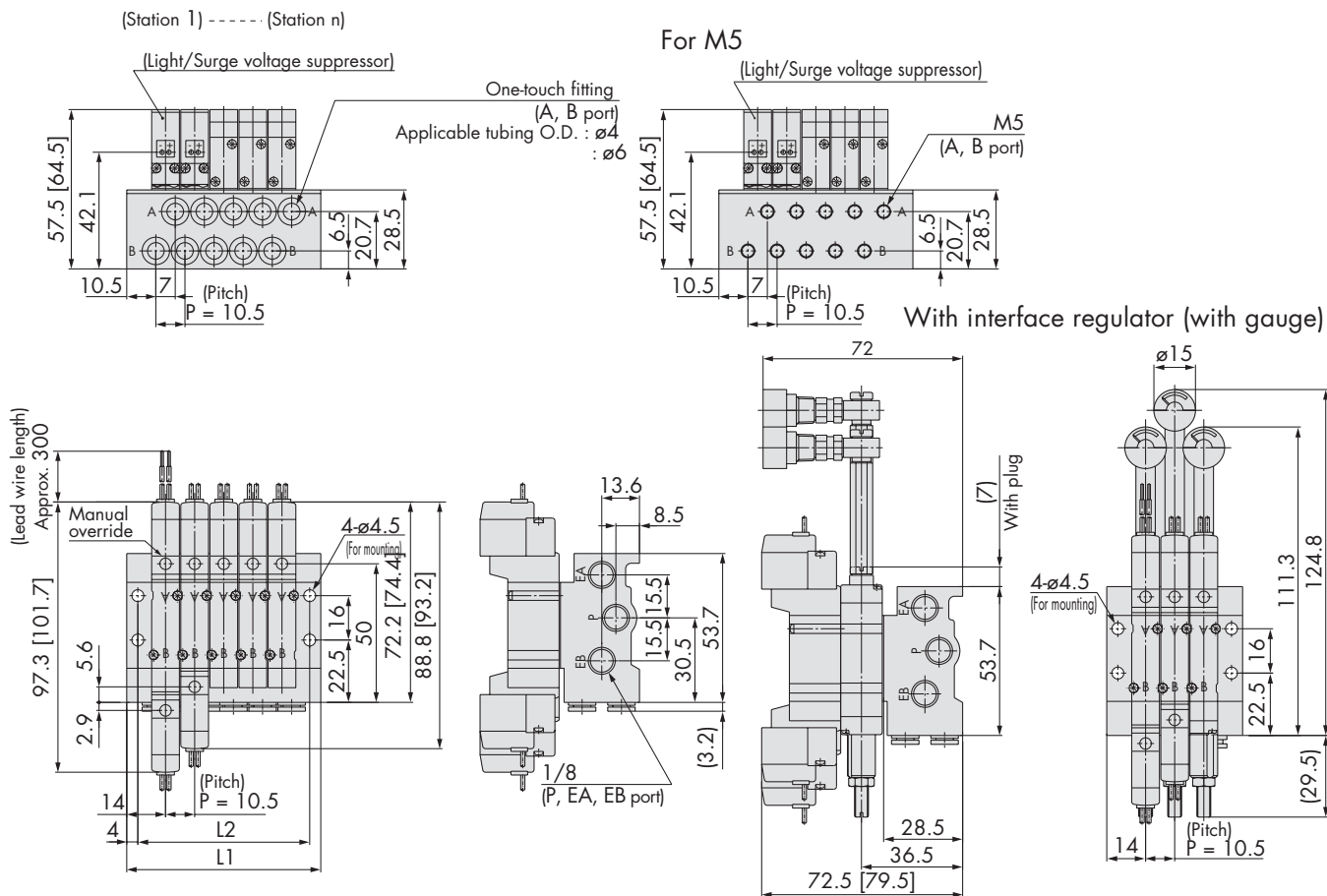
ARBY7000-00-□-2

ARBY7000-M1-□-2

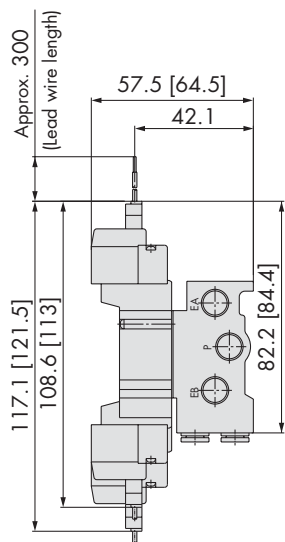


SY3000: SS5Y3-41 - Stations -M5, C⁴-00F-Q

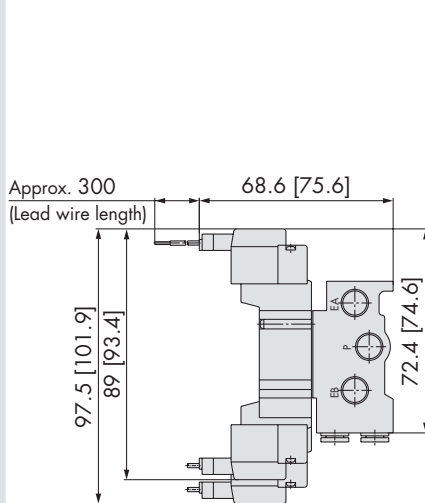
Grommet (G)



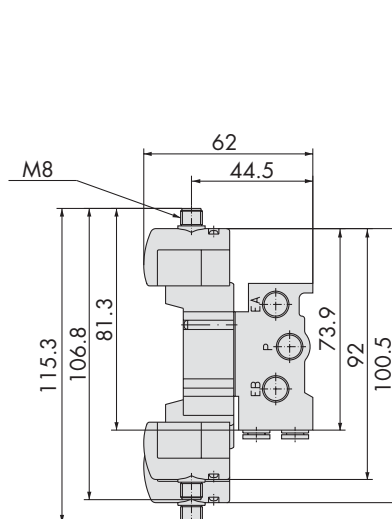
L plug connector (L)



M plug connector (M)



M8 connector (WO)

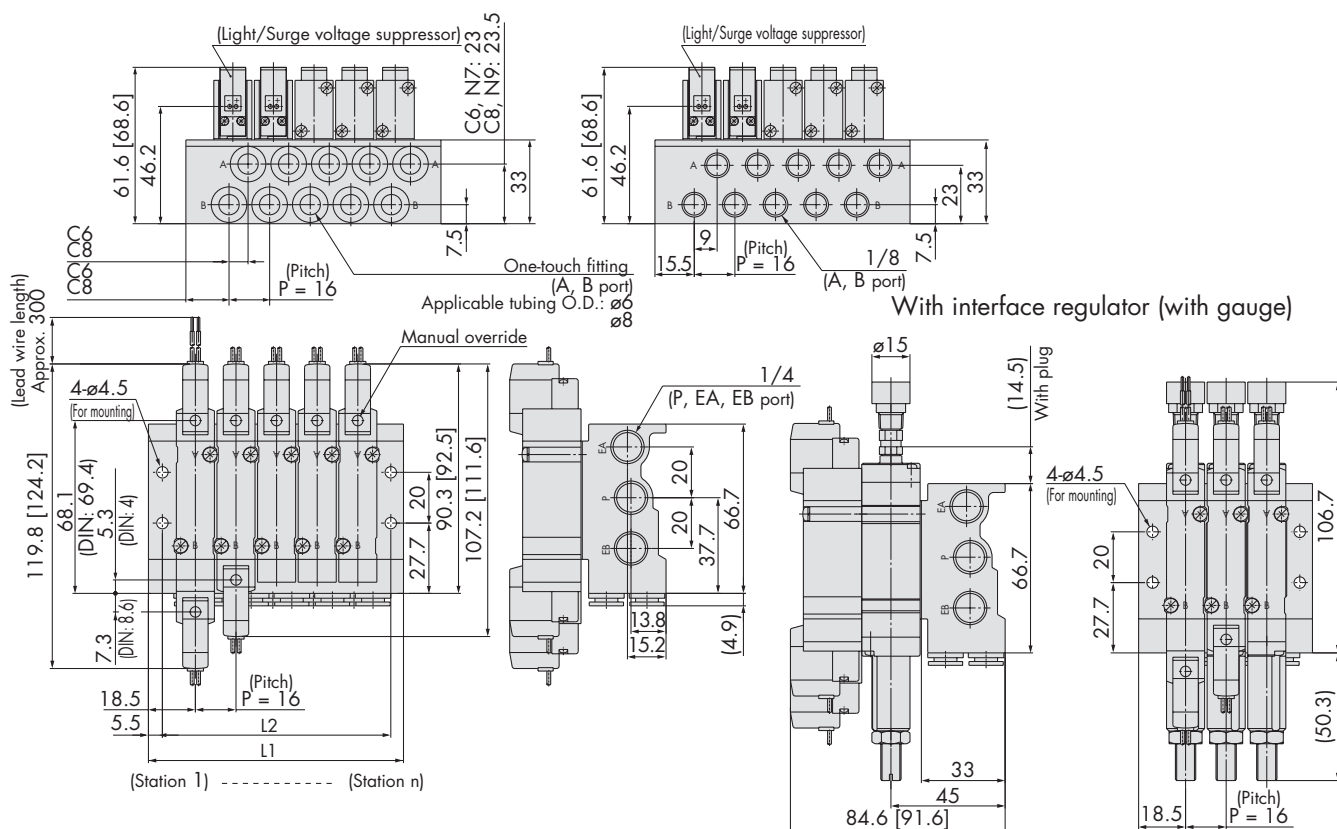


Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
L1	38.5	49	59.5	70	80.5	91	101.5	112	122.5	133	143.5	154	164.5	175	185.5	196	206.5	217	227.5
L2	30.5	41	51.5	62	72.5	83	93.5	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5

SY5000: SS5Y5-41- Stations -01, C₆, C₈-00F-Q

Grommet (G)

For 1/8

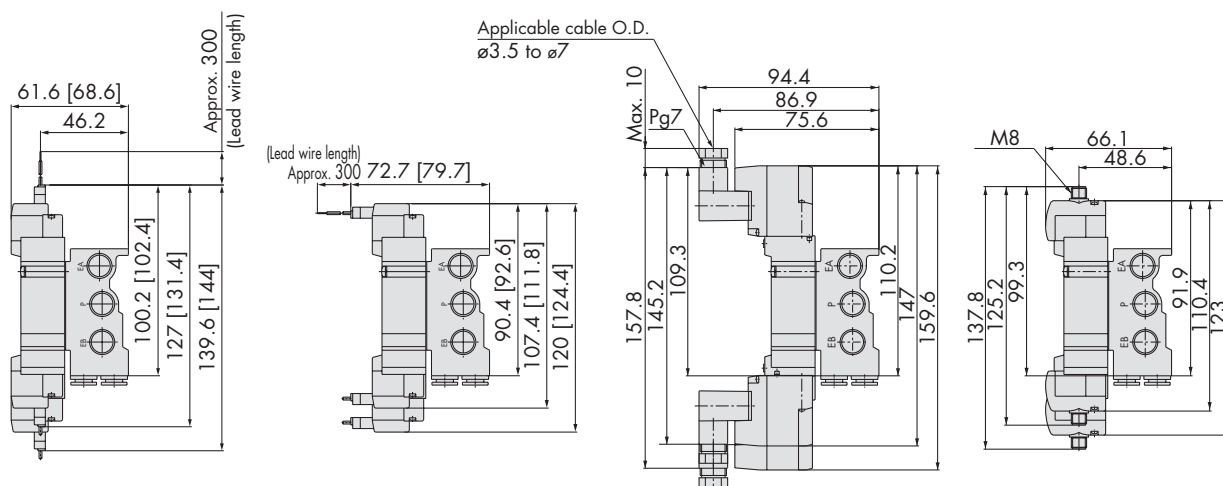


L plug connector: L

M plug connector: M

DIN terminal (D)

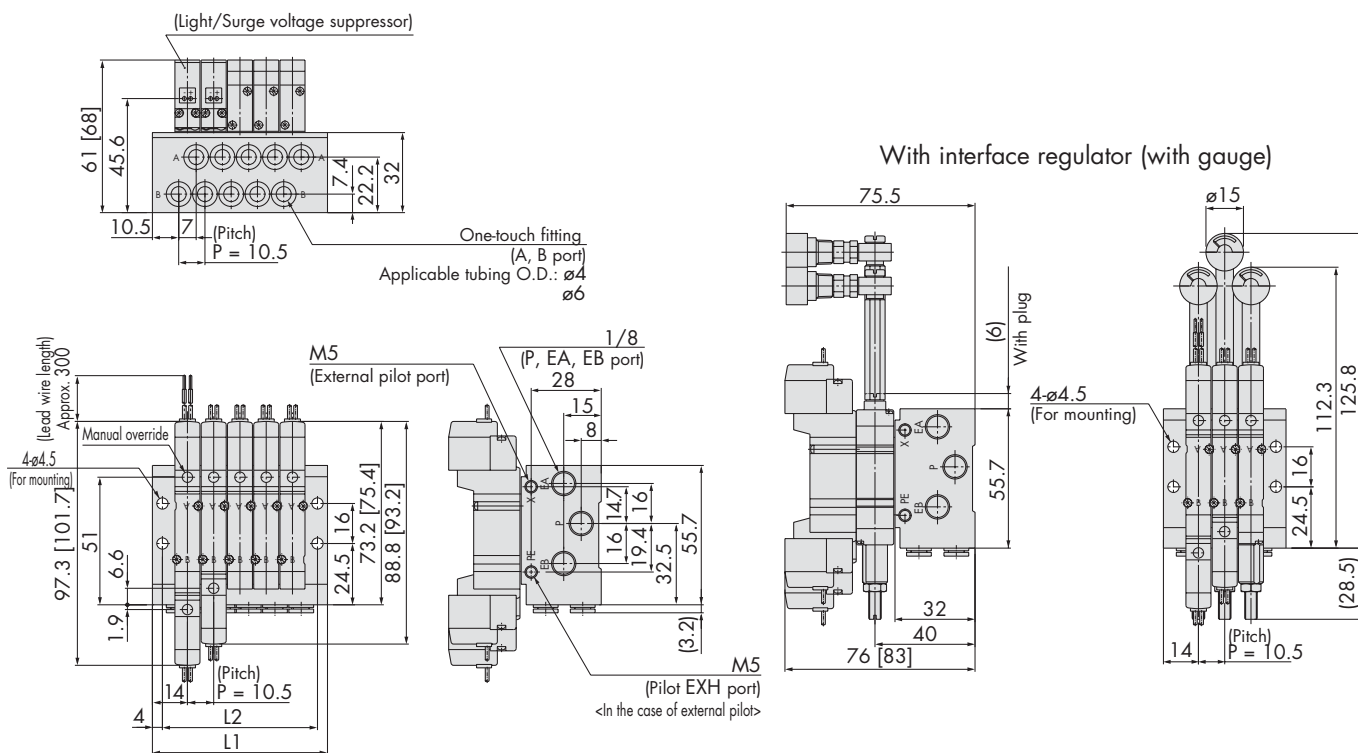
M8 connector (WO)



Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
L1	52.5	68.5	84.5	100.5	116.5	132.5	148.5	164.5	180.5	196.5	212.5	228.5	244.5	260.5	276.5	292.5	308.5	324.5	340.5
L2	42	58	74	90	106	122	138	154	170	186	202	218	234	250	266	282	298	314	330

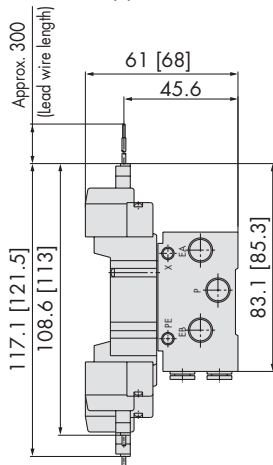
SY3000: SS5Y3-42- Stations -C₄-Q

Grommet (G)

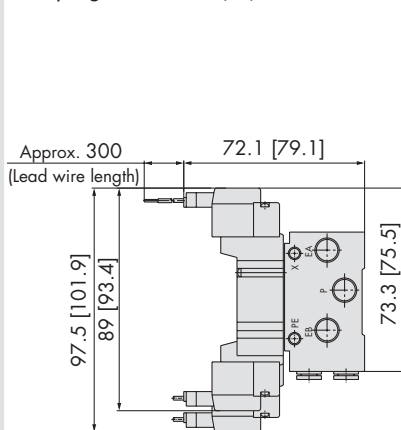


Valves

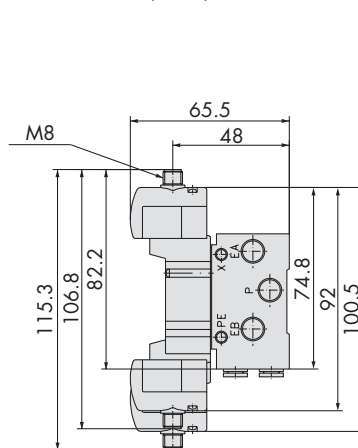
L plug connector (L)



M plug connector (M)



M8 connector (WO)



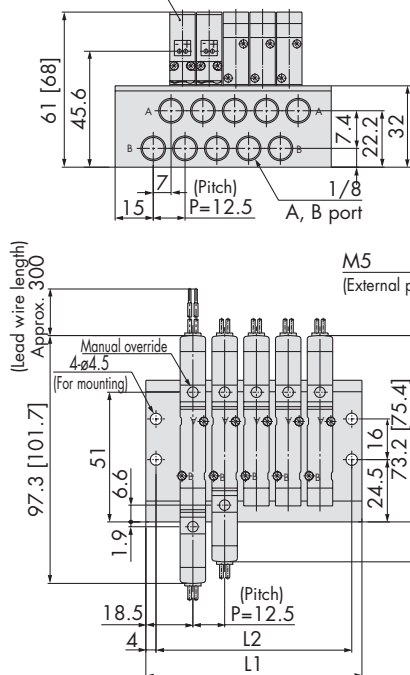
Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
L1	38.5	49	59.5	70	80.5	91	101.5	112	122.5	133	143.5	154	164.5	175	185.5	196	206.5	217	227.5
L2	30.5	41	51.5	62	72.5	83	93.5	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5

SY3000: SS5Y3-42- Stations -01 -00F-Q

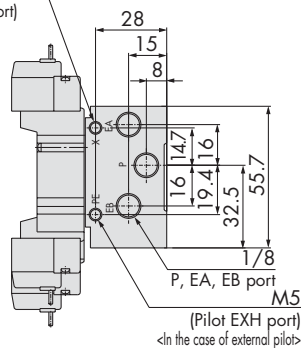
Grommet (G)

(Station 1) ----- (Station n)

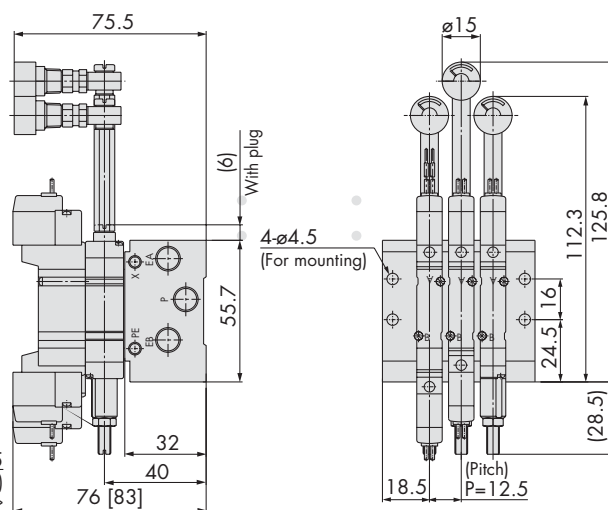
(Light/Surge voltage suppressor)



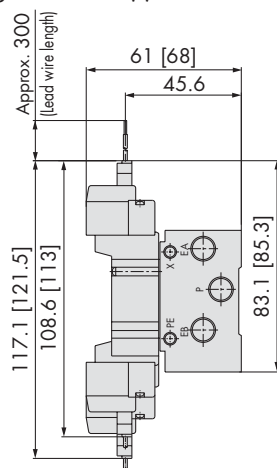
M5
(External pilot port)



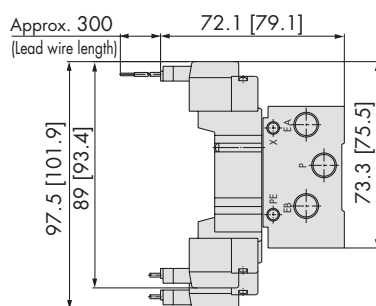
With interface regulator (with gauge)



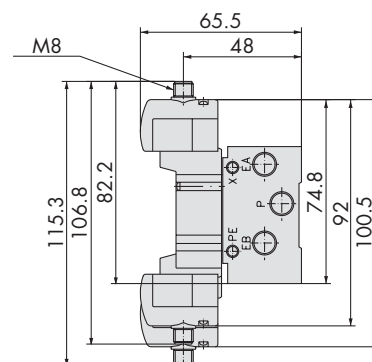
L plug connector (L)



M plug connector (M)



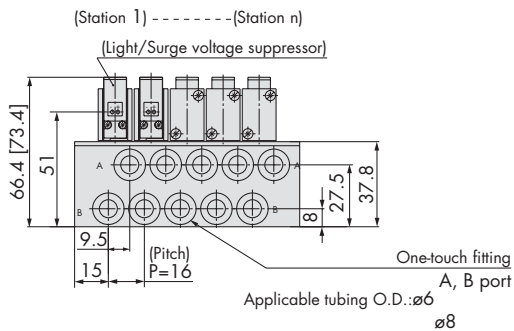
M8 connector (WO)



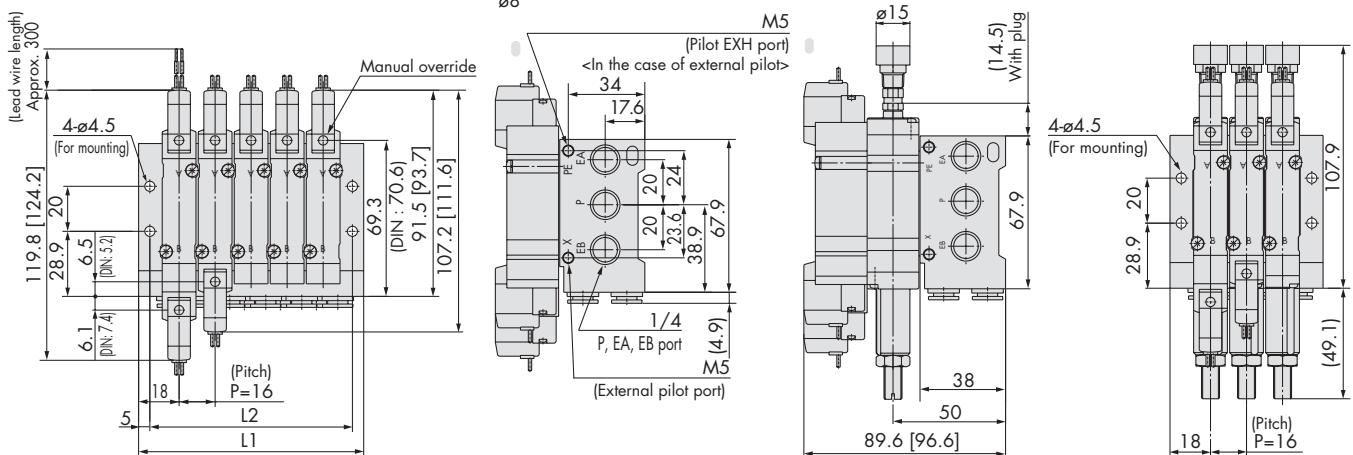
Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
L1	47.5	60	72.5	85	97.5	110	122.5	135	147.5	160	172.5	185	197.5	210	222.5	235	247.5	260	272.5
L2	39.5	52	64.5	77	89.5	102	114.5	127	139.5	152	164.5	177	189.5	202	214.5	227	239.5	252	264.5

SY5000: SS5Y5-42- Stations - $\frac{C4}{C6}$ -00F-Q

Grommet (G)



With interface regulator (with gauge)

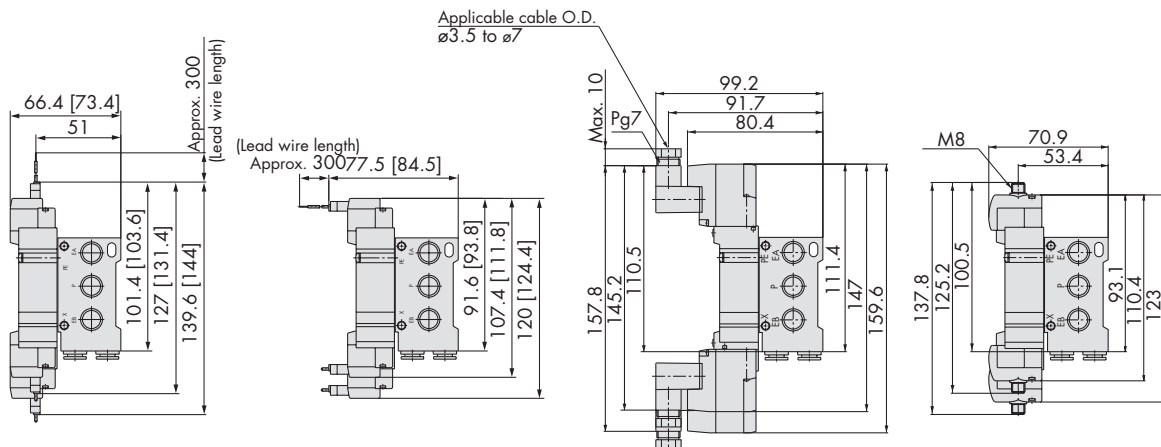


L plug connector (L)

M plug connector (M)

DIN terminal (D)

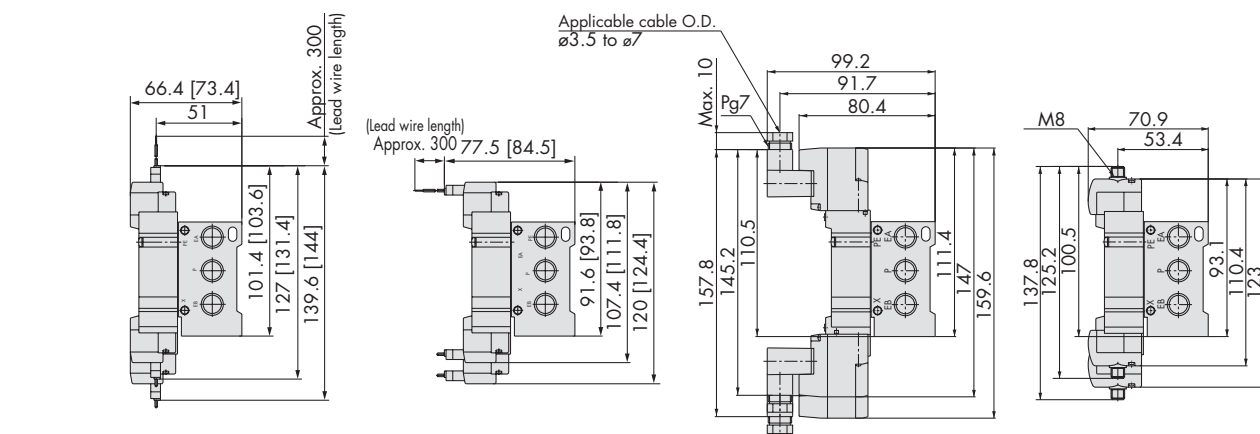
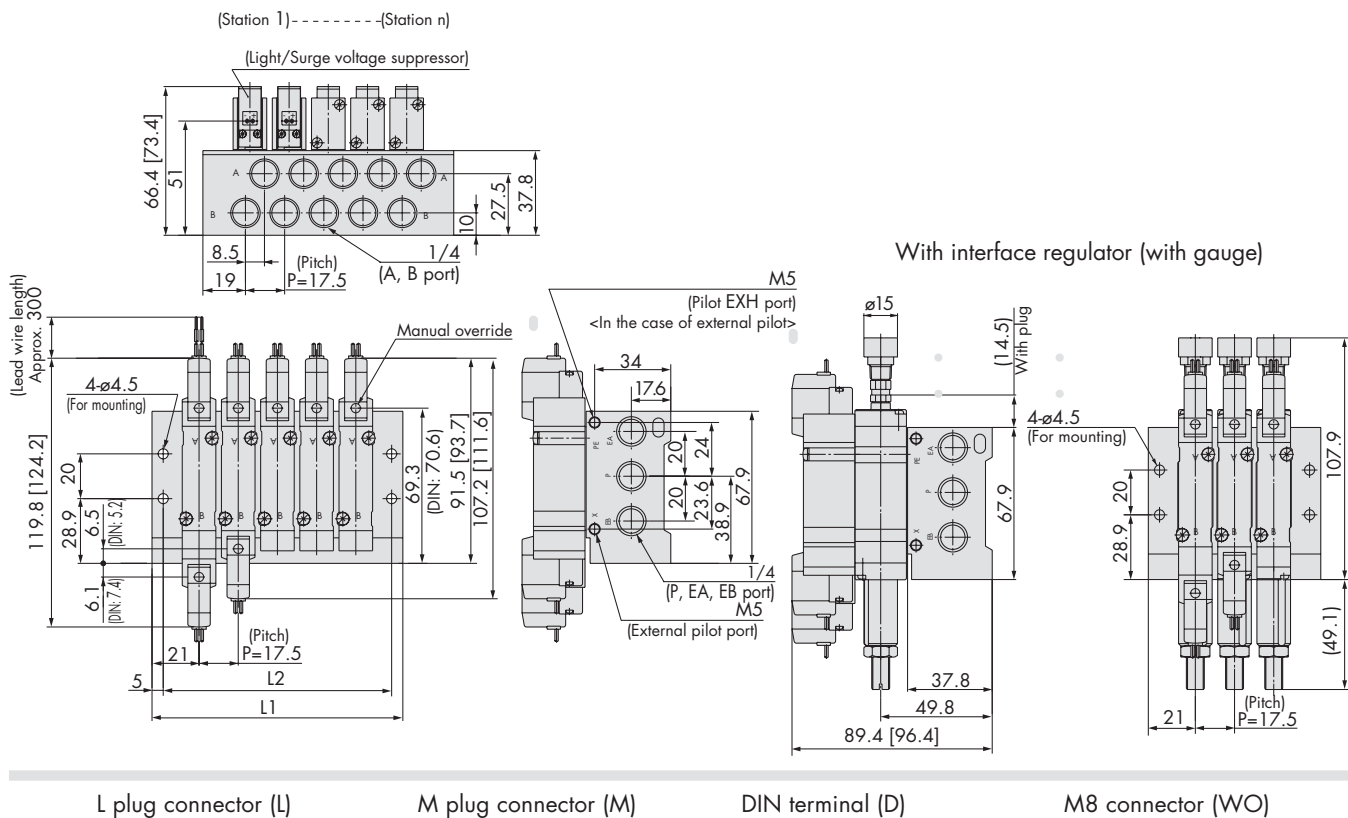
M8 connector (WO)



Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
L1	52	68	84	100	116	132	148	164	180	196	212	228	244	260	276	292	308	324	340
L2	42	58	74	90	106	122	138	154	170	186	202	218	234	250	266	282	298	314	330

SY5000: SS5Y5-42- Stations -02 -00F-Q

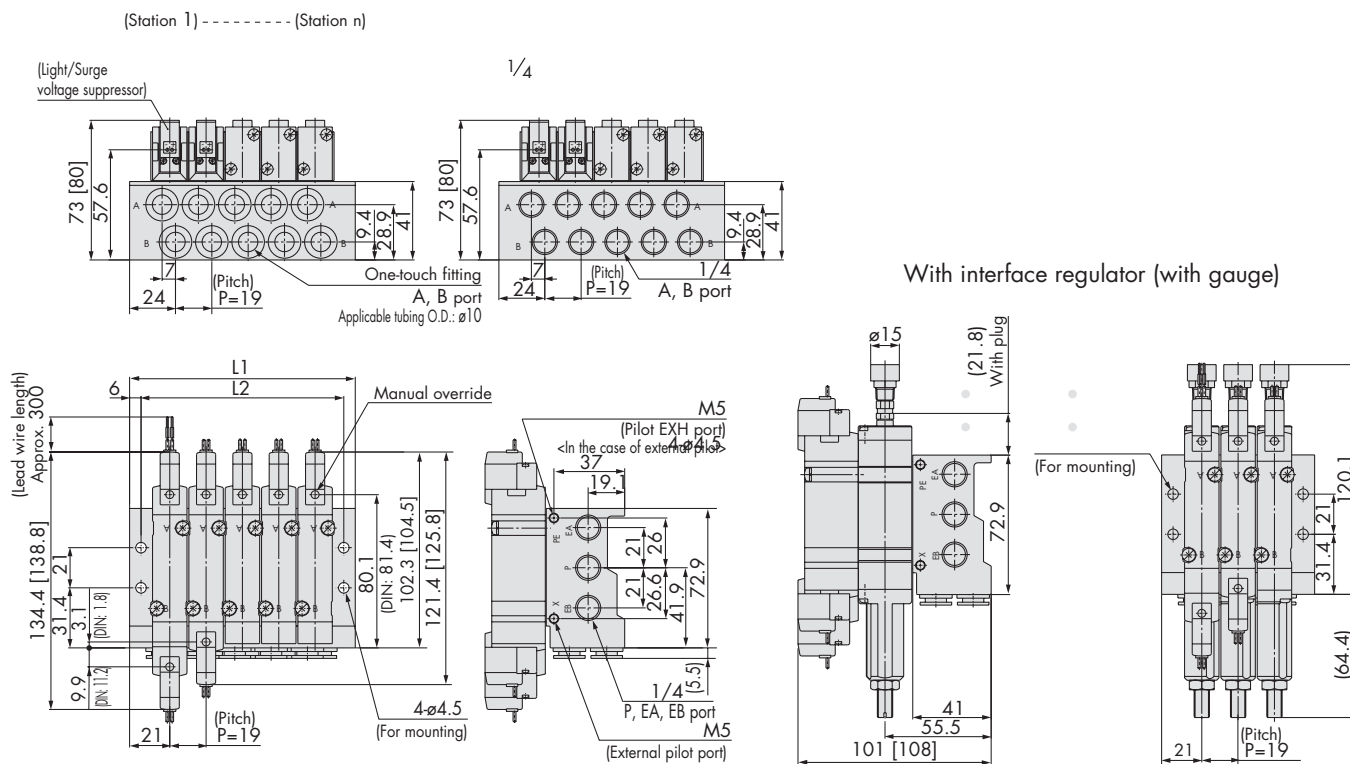
Grommet (G)



Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
L1	59.5	77	94.5	112	129.5	147	164.5	182	199.5	217	234.5	252	269.5	287	304.5	322	339.5	357	374.5
L2	49.5	67	84.5	102	119.5	137	154.5	172	189.5	207	224.5	242	259.5	277	294.5	312	329.5	347	364.5

SY7000: SS5Y7-42- Stations -02, C10-00F-Q

Grommet (G)

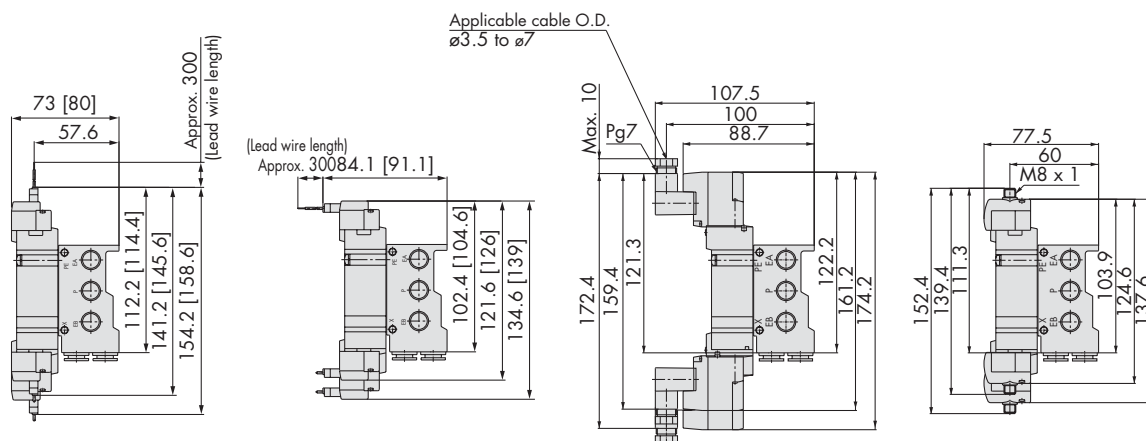


L plug connector (L)

M plug connector (M)

DIN terminal (D)

M8 connector (WO)

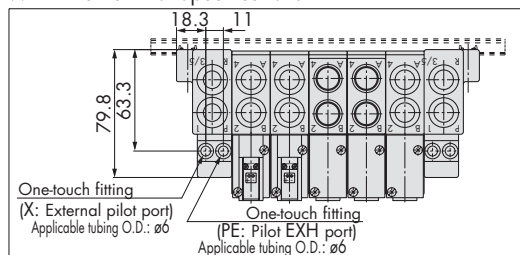


Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
L1	61	80	99	118	137	156	175	194	213	232	251	270	289	308	327	346	365	384	403
L2	49	68	87	106	125	144	163	182	201	220	239	258	277	296	315	334	353	372	391

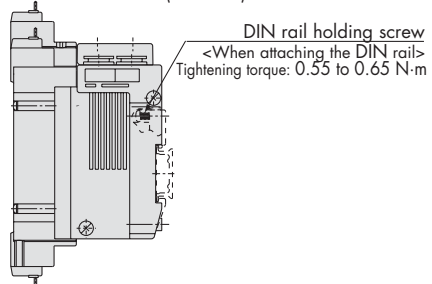
SY9000: SS5Y9-43- Stations - ^{02, C8}_{03, C10} (D)-Q

Grommet (G)

With External Pilot Specifications

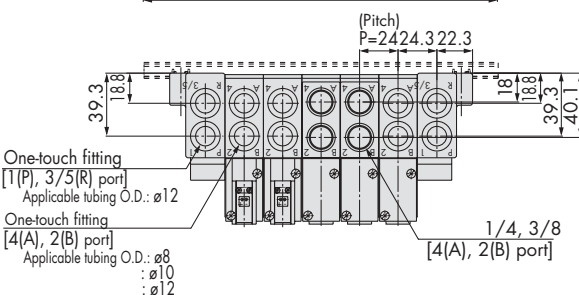
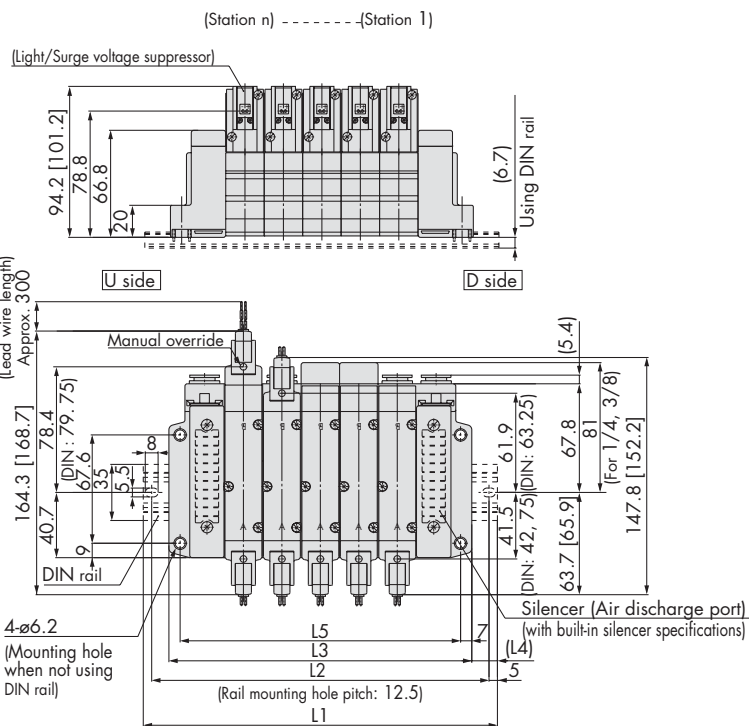


* Air discharge port on the built-in silencer type and the external pilot's extracting position are in the B side (both sides).

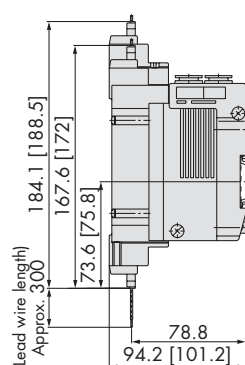


Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	148	173	198	223	248	260.5	285.5	310.5	335.5
L2	137.5	162.5	187.5	212.5	237.5	250	275	300	325
L3	117	141	165	189	213	237	261	285	309
L4	15.5	16	16.5	17	17.5	12	12.5	13	13.5
L5	103	127	151	175	199	223	247	271	295

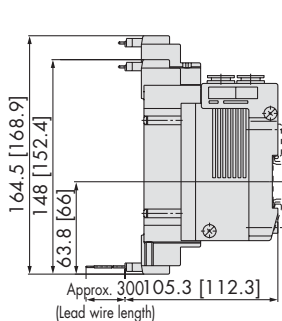
Stations n	11 stations	12	13	14	15	16	17	18	19	20 stations
L1	360.5	385.5	410.5	435.5	460.5	485.5	510.5	535.5	560.5	573
L2	350	375	400	425	450	475	500	525	550	562.5
L3	333	357	381	405	429	453	477	501	525	549
L4	14	14.5	15	15.5	16	16.5	17	17.5	18	12
L5	319	343	367	391	415	439	463	487	511	535



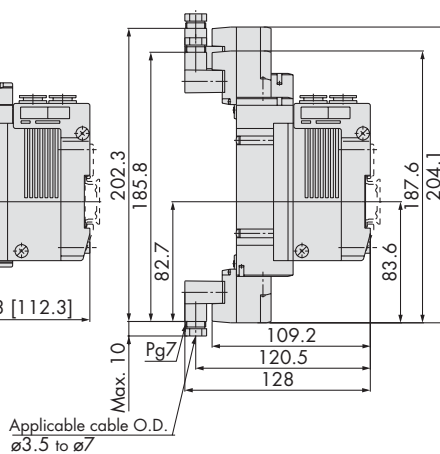
L plug connector (L)



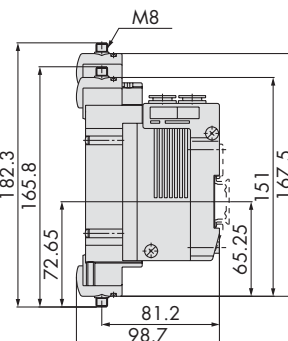
M plug connector (M)



DIN terminal (D)

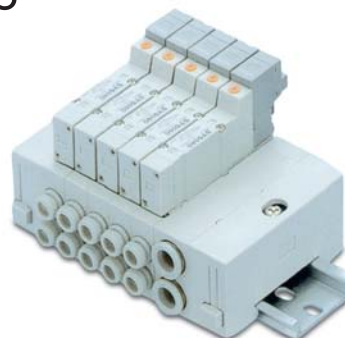


M8 connector (WO)



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	Valve stations
3 SY3000	02 2 stations
5 SY5000	20 20 stations

SUP/EXH block assembly
mounting position

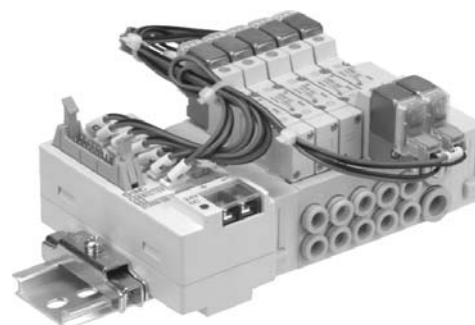
Symbol	Mounting position	Applicable no. of stations
U	U side	2 to 10 stations
D	D side	
B	(Both sides)	2 to 20 stations

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	Location	Base
Porting specifications	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) C8 (One-touch fitting for ø8)

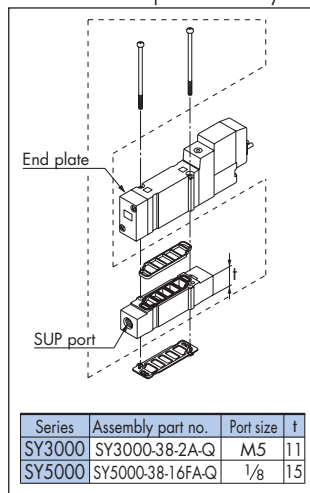
Flow Characteristics

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 (dm ³ /[s·bar])	b	Cv	C (dm ³ /[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

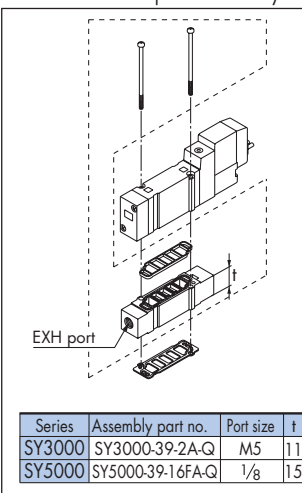


Type 45 Manifold Accessories (non-plug-in type)

Individual SUP spacer assembly

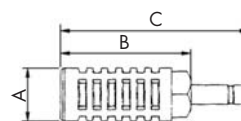


Individual EXH spacer assembly



Silencer with One-touch fitting

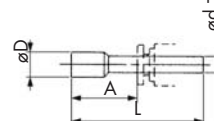
The silencer plugs directly into the One-touch fittings of the manifold.



Series	Model	Effective area	A	B	C
For SY3000 (ø8)	AN203-KM8	14 mm ²	ø16	26	51
For SY5000 (ø10)	AN200-KM10	26 mm ²	ø22	53.8	80.8
	AN300-KM10	30 mm ²	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.

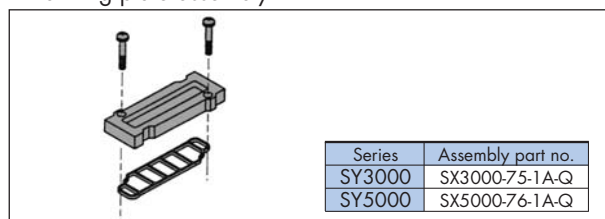


Dimensions

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

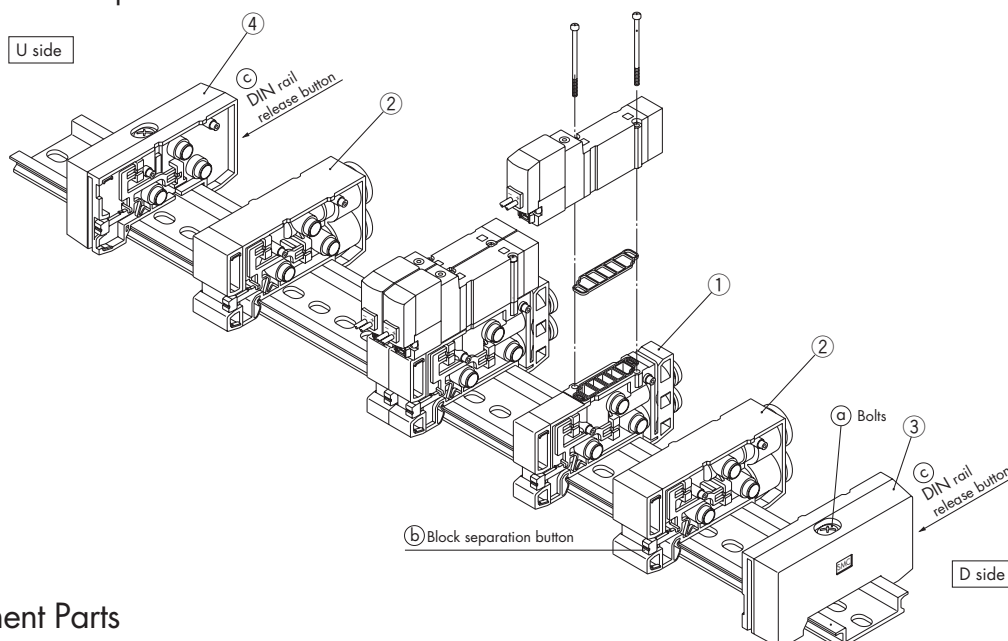
Note: Interface regulators are common to type 41 and 42 manifolds.

Blanking plate assembly



DIN Rail Manifold Exploded View

Type 45

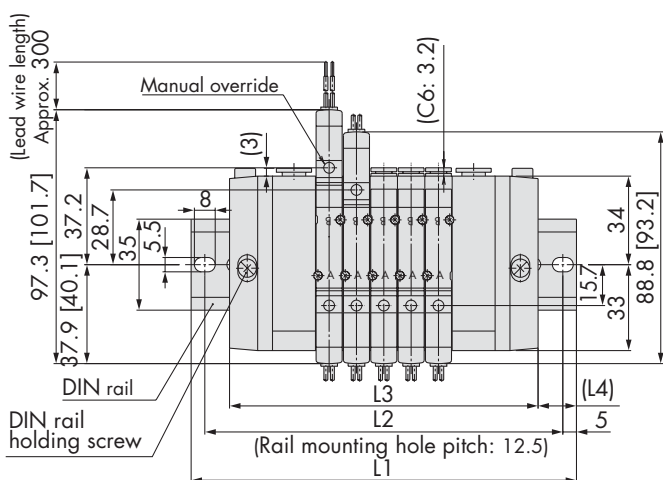
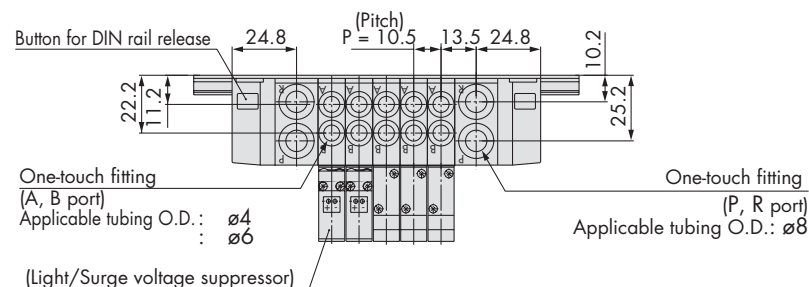


Replacement Parts

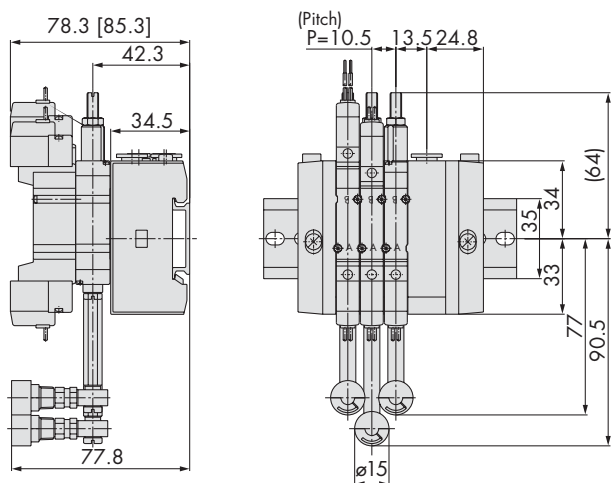
No.	Description	Part no.		Note
		SY3000	SY5000	
①	Manifold block assembly	SX3000-50-1A-□□-Q	SX5000-50-1A-□□-Q	SY3000 (Metric size) SY5000 (Metric size) C4: With One-touch fitting for ø4 C6: With One-touch fitting for ø6 C8: With One-touch fitting for ø8
②	SUP/EXH block assembly	SX3000-51-1A	SX3000-51-1A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

Dimensions: Series SY3000

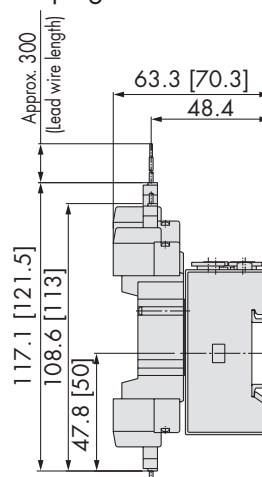
SS5Y3-45- Stations B-C₆-Q (Both end supplies)



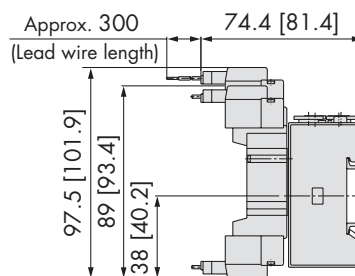
With interface regulator (with gauge)



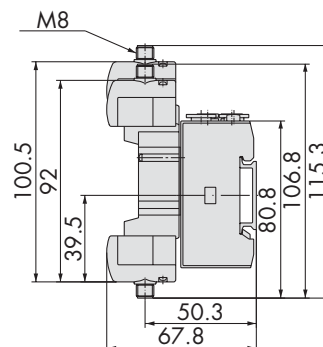
L plug connector



M plug connector



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

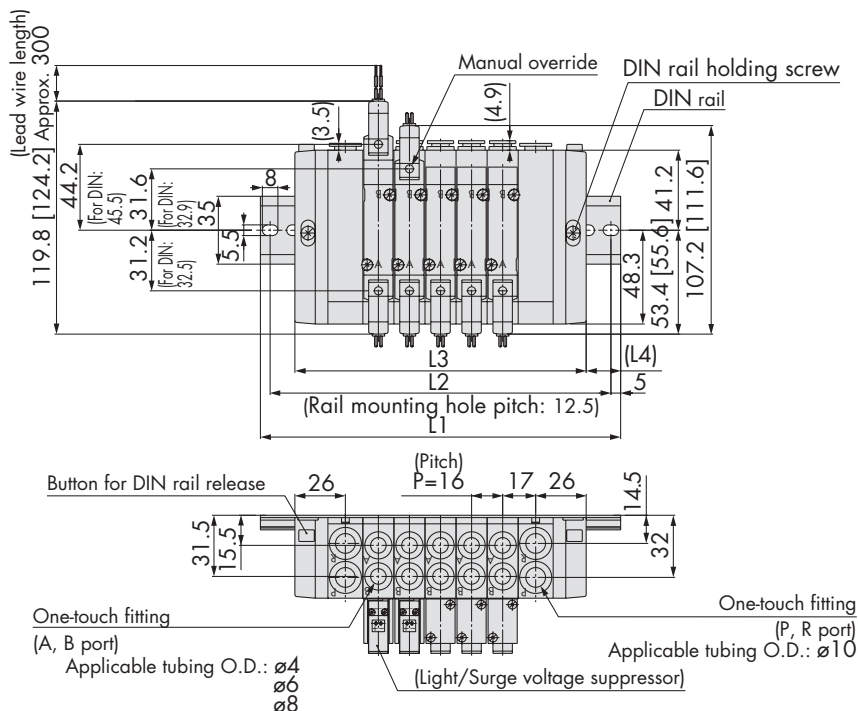
Stations n	11 stations	12	13	14	15	16	17	18	19	20 stations
L1	210.5	223	235.5	248	248	260.5	273	285.5	298	310.5
L2	200	212.5	225	237.5	237.5	250	262.5	275	287.5	300
L3	181.5	192	202.5	213	223.5	234	244.5	255	265.5	276
L4	14.5	15.5	16.5	17.5	12	13	14	15	16	17

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

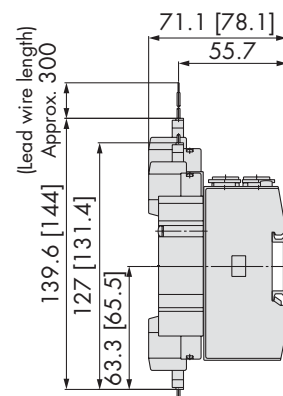
Note: This page shows the double supply type manifold. The U and D supply type is shorter. Apply the following corrections to the L1 and L4 dimensions.

Dimensions: Series SY5000

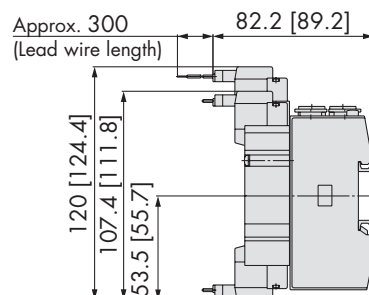
SS5Y3-45- Stations B- $\begin{matrix} C4 \\ C6 \\ C8 \end{matrix}$ -Q (Both end supplies)



L plug connector



M plug connector



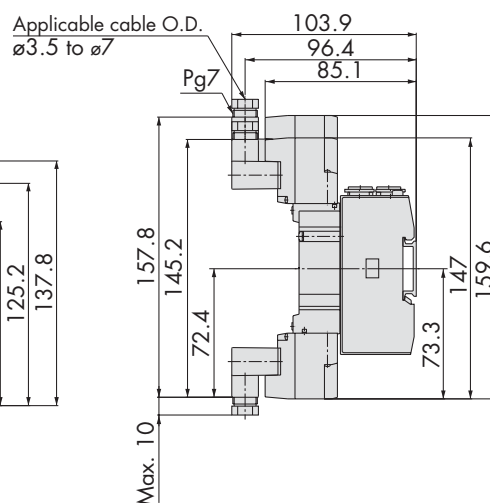
Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	135.5	148	160.5	185.5	198	210.5	223	248	260.5
L2	125	137.5	150	175	187.5	200	212.5	237.5	250
L3	102	118	134	150	166	182	198	214	230
L4	16.5	15	13	17.5	16	14	12.5	17	15

Stations n	11 stations	12	13	14	15	16	17	18	19	20 stations
L1	273	285.5	310.5	323	335.5	360.5	373	385.5	398	423
L2	262.5	275	300	312.5	325	350	362.5	375	387.5	412.5
L3	246	262	278	294	310	326	342	358	374	390
L4	13.5	11.5	16	14.5	12.5	17	15.5	13.5	12	16.5

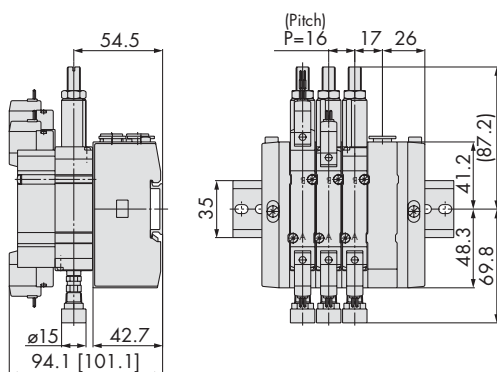
L1	-25mm
L2	-25mm
L3	-18mm
L4	-3.5mm

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

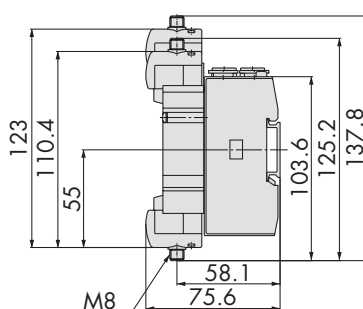
DIN terminal (D)



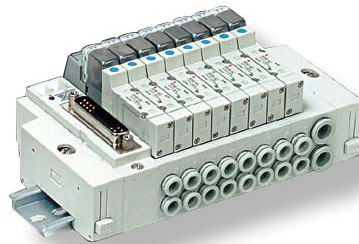
With interface regulator (with gauge)



M8 connector (WO)



Base Mounted Manifold Slice Type/DIN Rail Mounted Plug-in Series **SY3/5000**



How to Order Manifold

25 pin D-Sub and Serial transmission types

SS5Y 3-45 NFD-05 U C4-Q

Series	
3	SY3000
5	SY5000

Symbol	Stations	Note
02	2 stations	Single wiring spec. (Applicable up to 20 solenoid valves.)
:	:	
20	20 stations	

* This also includes the number of blanking plate assemblies.
* Two stations are necessary for the double, 3 position (Dual body type).

SUP/EXH block assembly mounting position

Symbol	Mounting position	Stations
U	U side	2 to 10 stations
D	D side	2 to 10 stations
B	(Both sides)	2 to 20 stations

SUP/EXH block assembly specifications

Symbol	Specifications
Nil	Internal Pilot standard
S	Internal Pilot/Built in silencer

A, B port 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	
C6	One-touch fitting for ø6	SY5000
C8	One-touch fitting for ø8	

Connection type

Symbol	Detail of connector type	Note
FD	25 pin D-Sub connector	D-side mounted
FU	25 pin D-Sub connector	U-side mounted
NFD	25 pin D-Sub connector	Negative common, D-side mounted
NFU	25 pin D-Sub connector	Negative common, U-side mounted
SB	Mitsubishi Melsec M3	EX122-SMB1
SC	Omron Sysbus	EX122-SIA1
SN	Profibus DP	EX122-SPR1
SP	Interbus-S	EX122-SIB1
SQ	Devicenet	EX122-SDN1
ST2	ASI 8 station	EX122-SA52
ST4	ASI 4 station	EX122-SA54
ST5	ASI 4 station bus powered	EX122-SA55
SY	Can-open	EX122-SCA1

How to Order Valves

2 position single **SY 3 1 4 0-5 FU-Q**

Double, 3 position **SY 3 2 4 5-5 FU-Q**

Series	
3	SY3000
5	SY5000

Type of actuation

2	2 position double
3	3 position closed center
4	3 position exhaust center
5	3 position pressure center

Dual body type (Double, 3 position)

Rated voltage

5	24 VDC
6	12 VDC

Manual override

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

Note: Suitable valves for this manifold are SY*140 or SY**45 types.
See the valves how-to-order on this page. Specifications of the valves are common to the standard base mounted SY valves.

Manifold Specifications type 45F/45NF

Manifold	Plug-in
P (SUP)/R (EXH)	Common SUP, Common EXH
Valve stations	2 to 20 stations
A, B port	Base
Porting specifications	Side
Port size	SY3000 C8 (One-touch fitting for ø8)
	SY5000 C10 (One-touch fitting for ø10)
	SY3000 C4 (One-touch fitting for ø4)/C6 (One-touch fitting for ø6)
	SY5000 C4 (One-touch fitting for ø4)/C6 (One-touch fitting for ø6)/C8 (One-touch fitting for ø8)
Internal wiring	+COM (Type 45□), -COM (Type 45N□)
Manifold base weight w (g) n: Stations (D-sub connector)	SY3000 2 to 10 stations: W = 26n + 172 11 to 20 stations: W = 26n + 199
	SY5000 2 to 10 stations: W = 54n + 227 11 to 20 stations: W = 52n + 264

Note: SI types similar except to max. number of stations.



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CATALOGUE E141-C AVAILABLE



PDF AVAILABLE ONLINE

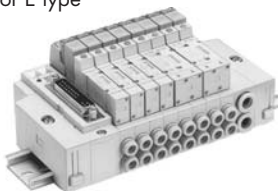
Flow Characteristics

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 (dm ³ /[s·bar])	b	Cv	C (dm ³ /[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

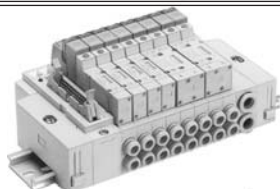
Also Available

Note: Several other plug-in connector and terminal versions of pre wired type 45 manifolds are available. Please request further details from SMC if required.

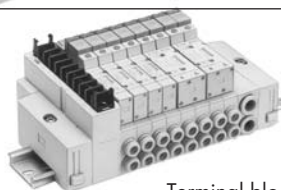
PC connector E type



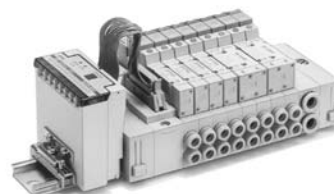
Flat ribbon cable P type (26 pin, 20 pin and 10 pin versions)



Terminal block T type

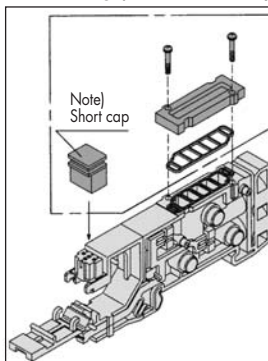


Serial transmission type with separate interface Type 4551



Manifold Accessories

Blanking plate assembly (including short cap)

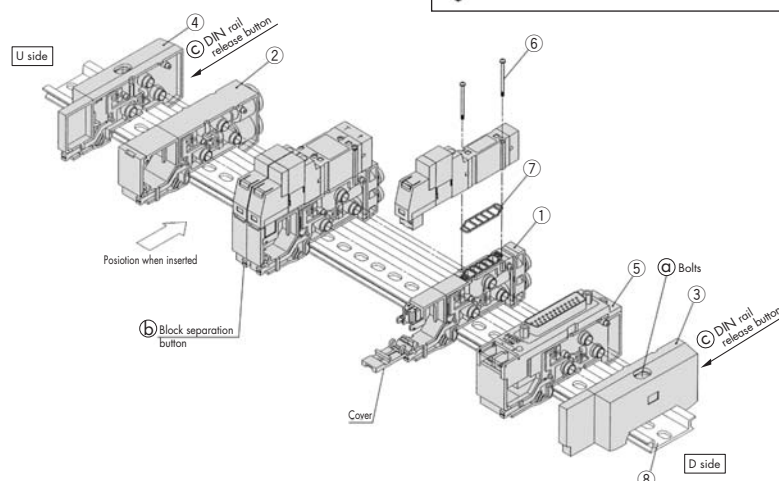


Series	Assembly part no.
SY3000	SX3000-75-2A-Q
SY5000	SX5000-76-2A-Q

- Note)
- When mounting blanking plate, be sure to mount a short cap.
 - Two stations are necessary for the double, 3 position (Dual body type).

DIN Rail Manifold Exploded View

Type 45F (D-sub Connector) Manifold



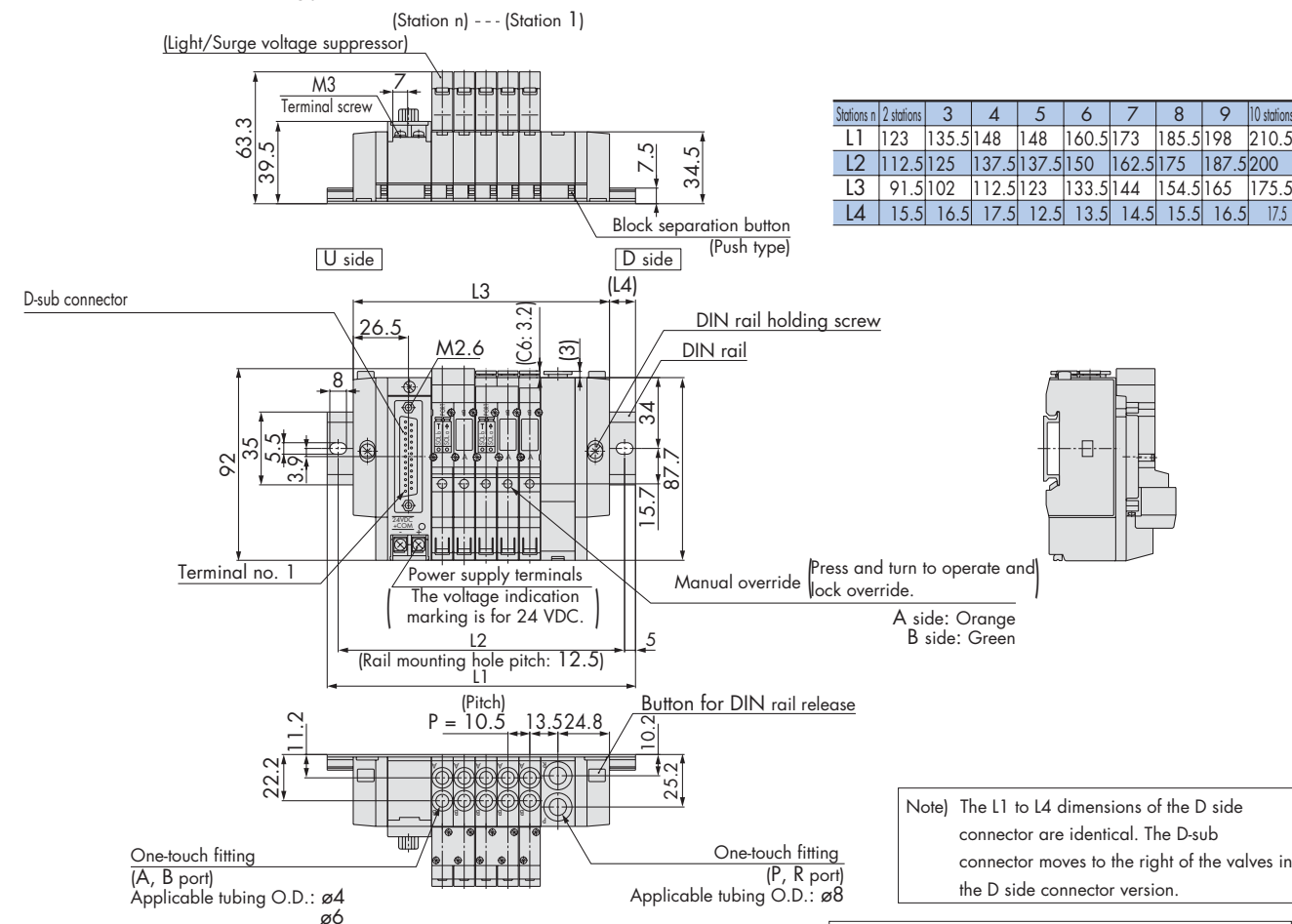
Replacement Parts

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

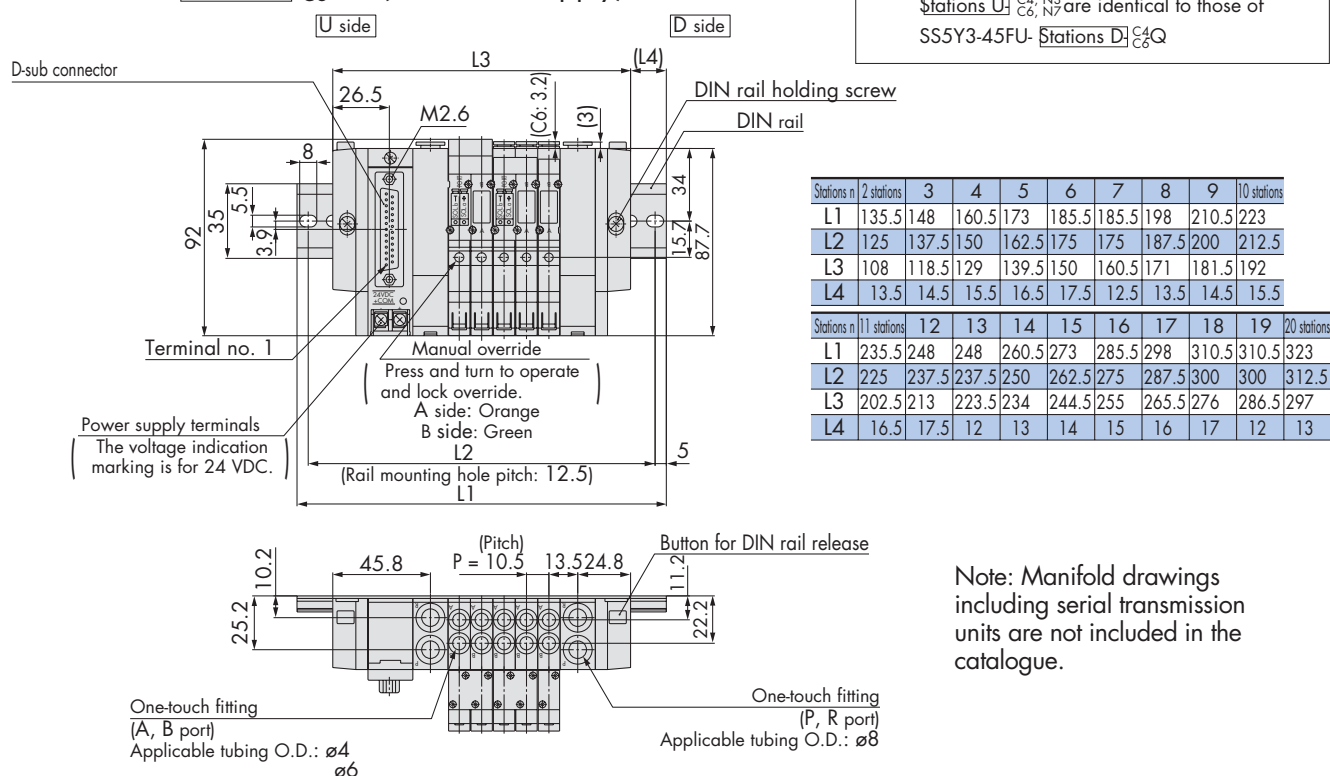
Note 1: For suitable parts for SI manifold, please contact SMC.

SY3000: D-sub Connector/Plug-in

SS5Y3-45FU- Stations D_{C6}-Q (One side supply)

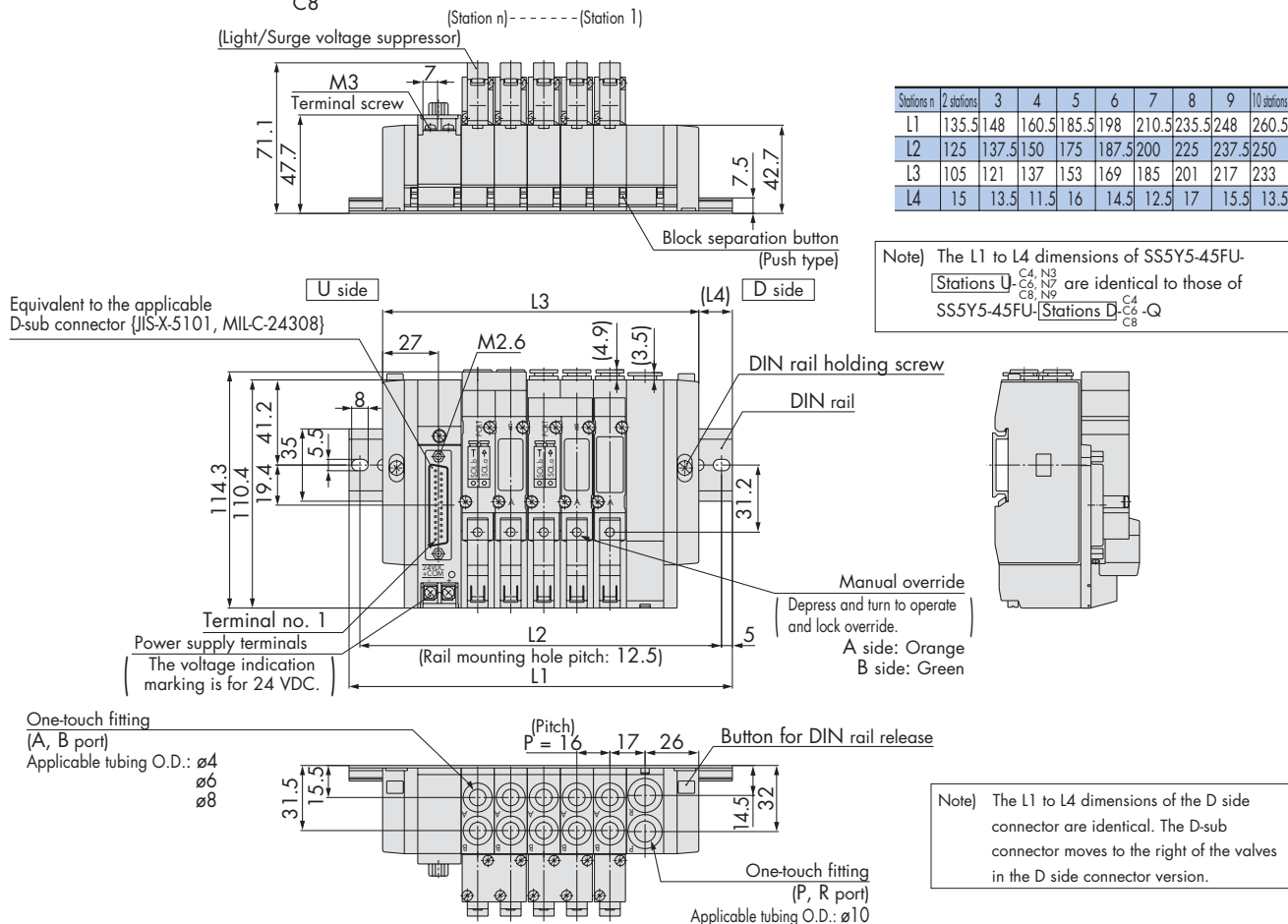


SS5Y3-45FU- Stations B_{C6}-Q (Both sides supply)

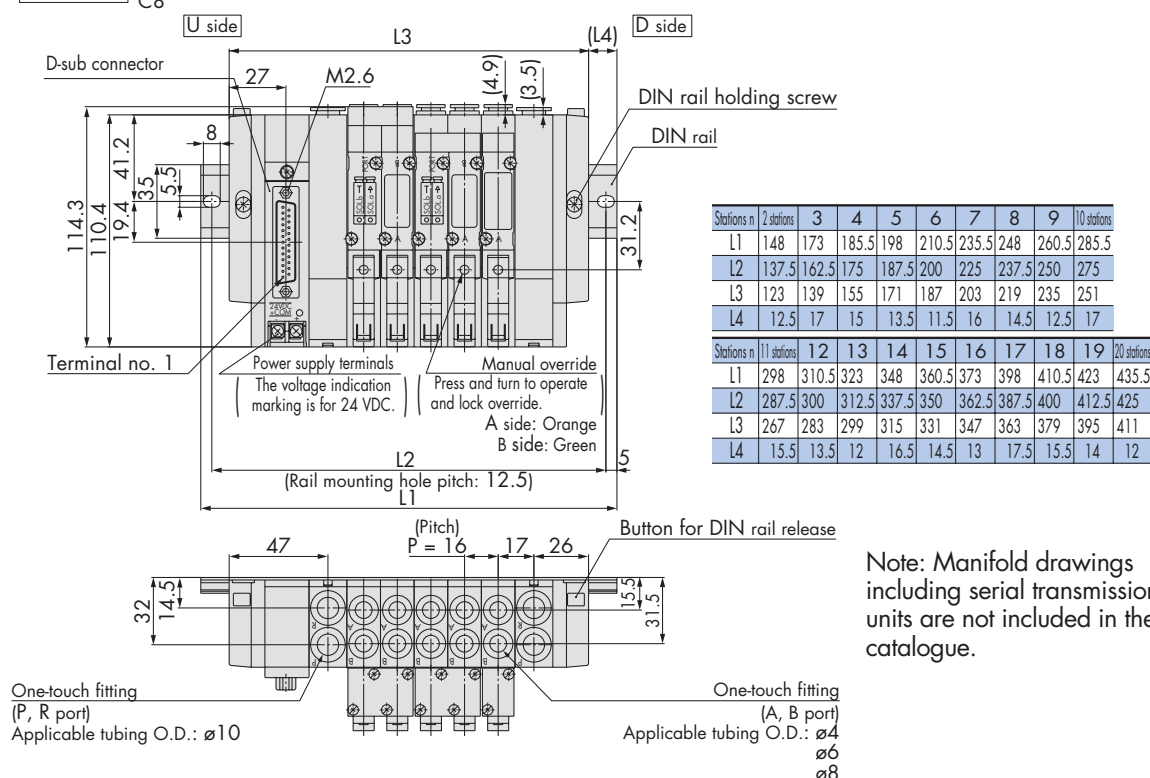


SY5000: D-sub Connector/Plug-in

SS5Y5-45FU- Stations D-^{C4}_{C6}-Q (One side supply)



SS5Y5-45FU- Stations B-^{C4}_{C6}-Q (Both sides supply)



3 Port Valves

Series **SY3/500**

Features

- ➔ 3 port solenoid valves
- ➔ Totally compatible with 5 port SY valves
- ➔ Single or double solenoid types
- ➔ Wide range of electrical connections



How to order SY300 and SY500 valves

Body Ported SY **5** **1** **3** **5** **LO** **01F** **Q**
 Base Mounted SY **5** **1** **5** **5** **LO** **Q**

Series

3	SY300
5	SY500

Type of actuation

1	Normally closed (N.C.)
2	Normally open

Solenoid type

Nil	Single solenoid
D	Double solenoid

Pilot type

Nil	Internal pilot
R	External pilot

Rated voltage

DC	AC
5 24 VDC	1 100 VAC
6 12 VDC	2 200 VAC
V 6 VDC	3 110 VAC [115 VAC]
S 5 VDC	4 220 VAC [230 VAC]
R 3 VDC	

Note: AC voltages can only be ordered in conjunction with DIN plugs (Y type entry)

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	Y: With connector (SY500 only)	WO: Without connector cable

Note: The above values can be used alone, or with all SY manifolds except plug-in types

A port size
Thread piping

Symbol	Port size	Applicable series
M5	M5	SY300
01F	G 1/8	SY500

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

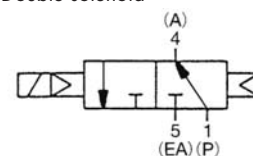
Nil	Without light/surge voltage suppressor
Z	With light/surge voltage suppressor
U	With light/surge voltage suppressor (Non-polar type)

Electrical entry for D
(SY500 only)

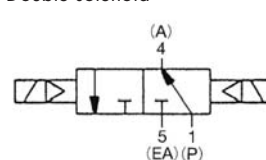
Nil	Without light/surge voltage suppressor
Z	With light/surge voltage suppressor

Symbol

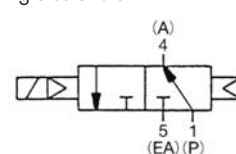
Double solenoid



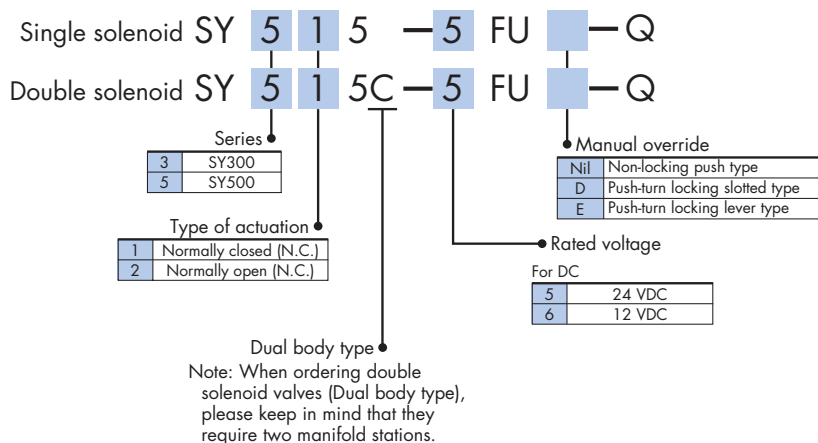
Double solenoid



Single solenoid



How to order Plug-in Valves



SY300/500 Accessories

The following accessories are common to 5 port SY valves. Please refer to the following pages:

Mounting Brackets	(P.40)
Connector Assemblies	(P.18)
Single Subbase	(P.61)

Connector cables can be found in the cables appendix.

Manifolds for SY300/500 Valves

SY**3 valves can be used on SS5Y*-20 manifolds. Please refer to page (P.54).

SY**5 individually wired valves can be used with types 41, 42 and 45 manifolds. Please refer to pages (P.76) and (P.91) for details.

SY**5:F plug in valves must be used with type 45 plug in manifolds. See page (P.91).

Specifications SY300/500

Dimensions, specifications, solenoid specifications, response time and effective area are the same as 5 port valve.

Weight

Series SY300

Valve model	Type of actuation	Weight (g)	
		Grommet	L, M plug connector
SY3□3-□□-M5	Single	51	53
	Double	68	74
SY3□3-□□-C4 N3	Single	56	59
	Double	74	79
SY3□3-□□-C6 N7	Single	54	57
	Double	72	77
SY3□5-□□	Single	47	50
	Double	65	70

Series SY500

Valve model	Type of actuation	Weight (g)		
		Grommet	L, M plug connector	DIN terminal
SY5□3-□□-01□	Single	69	72	93
	Double	87	93	135
SY5□3-□□-C4 N3	Single	82	82	103
	Double	100	102	144
SY5□3-□□-C6 N7	Single	79	77	98
	Double	97	98	140
SY5□3-□□-C8 N9	Single	75	84	105
	Double	93	105	147
SY5□5-□□	Single	55	58	79
	Double	73	78	120

SY300/500 Dimensions

Body and rounded dimensions are identical to the corresponding 5 port valve. Please refer to the relevant pages using the table below.

3 port Valve	Refer to for dimensions
SY3*3	SY3*20
SY3*5	SY3*40
SY5*3	SY5*20
SY5*5	SY5*40

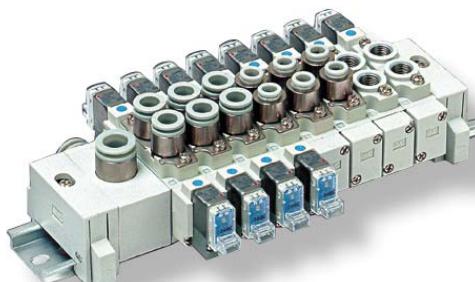
Body Ported Manifold Cassette Type

Series **SY3/5/7000**



Features

- ➔ Modular cassette slice system
- ➔ Integrated one-touch fittings
- ➔ Ultra low profile compact design
- ➔ Flexibility with air supply positions
- ➔ Valves can be easily added or removed



How to Order Manifold

SS5Y 3 — 60 — 05 D — Q

Series	
3	SY3000
5	SY5000
7	SY7000

Valve stations	
02	2 stations
⋮	⋮
20	20 stations

• SUP/EXH block assembly mounting position

Symbol	Mounting position	Applicable stations
U	U side	2 to 10 stations
D	D side	
B	Both sides	2 to 20 stations

Manifold Specifications

Model		SS5Y3-60	SS5Y5-60	SS5Y7-60
Applicable valve		SY3□60	SY5□60	SY7□60
Manifold type		Stacking type/DIN rail mounted		
P (SUP)/R (EXH)		Common SUP/Common EXH		
Valve stations		2 to 20 stations		
A, B port location		Valve		
Port size	P, R port	C8 (One-touch fitting for ø8)	C10 (One-touch fitting for ø10)	C12 (One-touch fitting for ø12)
	A, B port	M5 C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6)	1/8 C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8)	1/4 C8 (One-touch fitting for ø8) C10 (One-touch fitting for ø10)

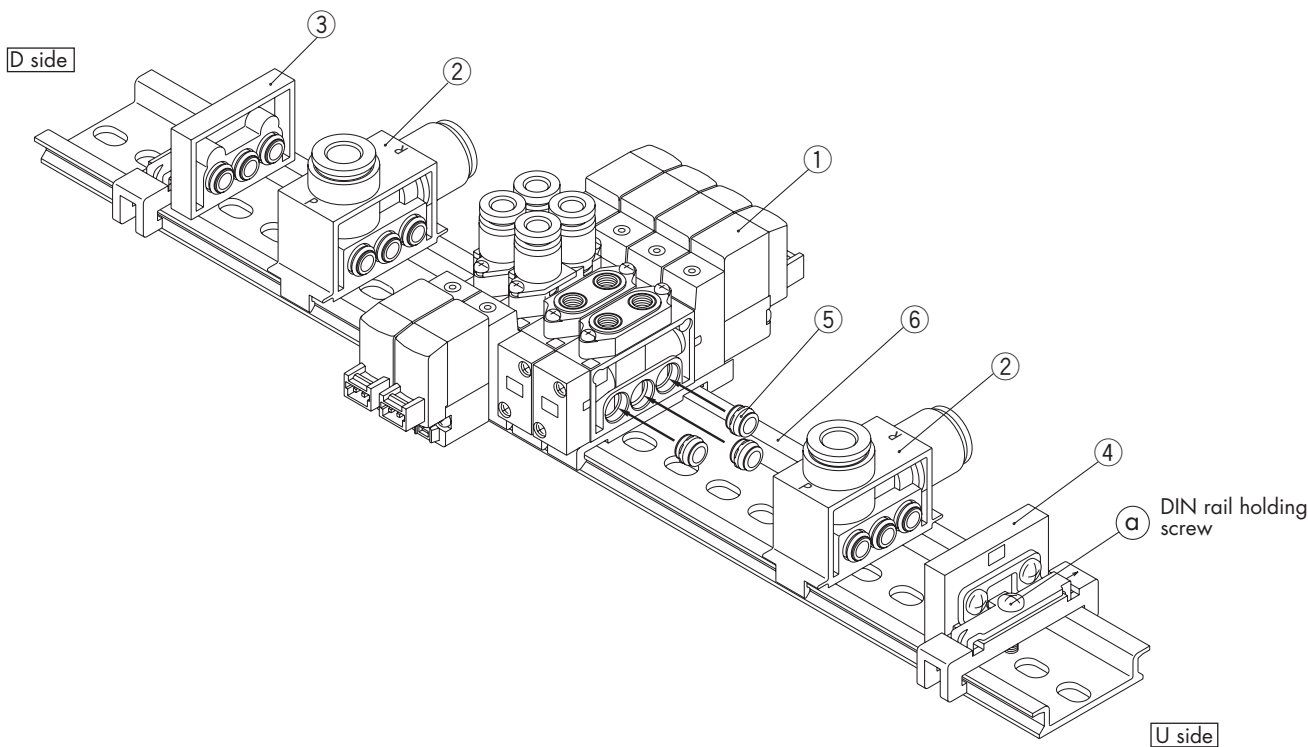
Flow Characteristics

Model	Port size		Flow characteristics					
	1, 5/3 (P, R)	4, 2 (A, B)	1 → 4/2(P → A/B)			4/2 → 5/3(A/B → R)		
			C (dm ³ /(s·bar))	b	Cv	C (dm ³ /(s·bar))	b	Cv
SS5Y3-60	C8	M5	0.55	0.29	0.14	0.72	0.24	0.18
		C4	0.57	0.24	0.14	0.71	0.20	0.17
		C6	0.68	0.28	0.17	0.77	0.24	0.19
SS5Y5-60	C10	1/8	1.8	0.24	0.44	2.1	0.17	0.47
		C6	1.5	0.30	0.37	2.0	0.16	0.46
		C8	1.8	0.20	0.45	2.2	0.17	0.50
SS5Y7-60	C12	1/4	3.7	0.25	0.96	3.8	0.19	0.94
		C8	3.2	0.26	0.81	4.0	0.18	0.96
		C10	3.7	0.28	0.98	4.1	0.19	1.0



DIN Rail Manifold Exploded View

Note: Drawing shows the SY3000 size



Replacement Parts

No.	Description	SY3000 size	SY5000 size	SY7000 size	Note
①	Valve	SY3□60-□□-□-Q	SY5□60-□□-□-Q	SY7□60-□□-□-Q	See valve How-to-order detail
②	SUP/EXH block assembly	SY3000-55-1A-Q	SY5000-55-1A-Q	SY7000-55-1A-Q	
③	End block assembly	SY3000-56-1A-Q	SY5000-56-1A-Q	SY7000-56-1A-Q	For D side
④	End block assembly	SY3000-56-1B-Q	SY5000-56-1B-Q	SY7000-56-1B-Q	For U side
⑤	Bushing assembly	SY3000-52-1A	SY5000-52-1A	SY7000-52-1A	3 pcs per station

How to Order Valve bodies

SY 3 1 60—5 LO — C6F—Q

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)

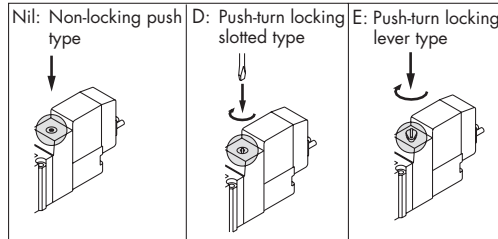
1	100 VAC
2	200 VAC
3	110 VAC [115 VAC]
4	220 VAC [230 VAC]

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

A, B port size
Thread piping

Symbol	Description	SY3000	SY5000	SY7000
M5	M5 thread	○	○	
O1F	1/8 thread		○	
O2F	1/4 thread			○
O3F	3/8 thread			
C4F	4mm tube	○	○	
C6F	6mm tube	○	○	
C8F	8mm tube		○	○
C10	10mm tube			○

Manual override



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)

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.

Symbols

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

Specifications

Series		SY3000	SY5000	SY7000
Fluid		Air		
Internal pilot	2 position single	0.15 to 0.7		
Operating pressure range (MPa)	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.)



CAD CD-ROM AVAILABLE



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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

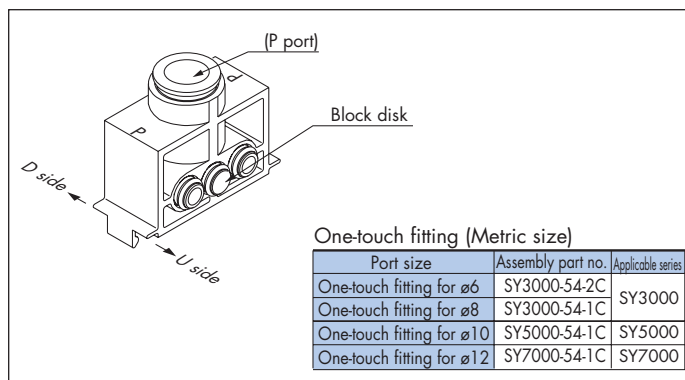
SY7000

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

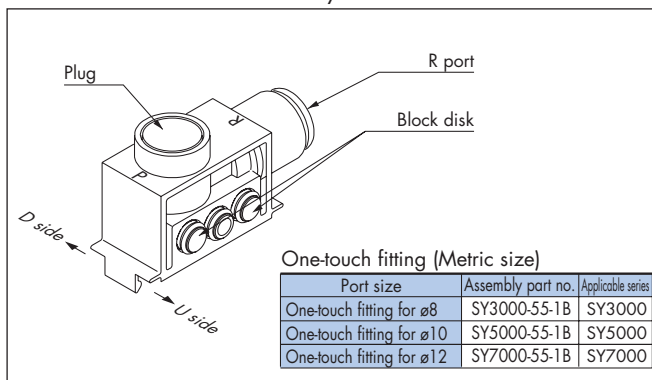
Note: response times as per SY base mounted valves.

SY Cassette Valve Accessories

Individual SUP block assembly

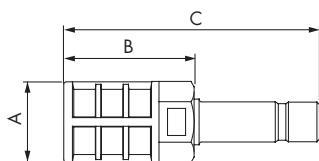


Individual EXH block assembly



Silencer with One-touch fitting

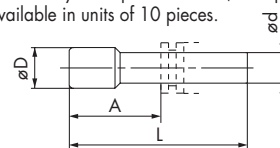
The silencer plugs directly into the One-touch fittings of the manifold.



Series	Model	Effective area	A	B	C
SY3000 (for ø8)	AN203-KM8	14 mm ²	ø16	26	51
SY5000 (for ø10)	AN200-KM10	26 mm ²	ø22	54	80.8
	AN300-KM10	30 mm ²	ø25	70	97
SY7000 (for ø12)	AN300-KM12	41 mm ²	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 disk between adjacent valves, the pressure or exhaust gallery between the valves can be split into separate zones.



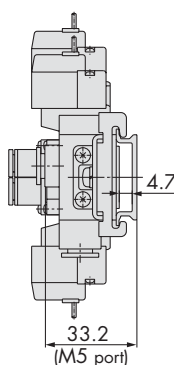
Series	Part no.
SY3000	SY3000-52-2A
SY5000	SY5000-52-4A
SY7000	SY7000-70-2A

Dimensions

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

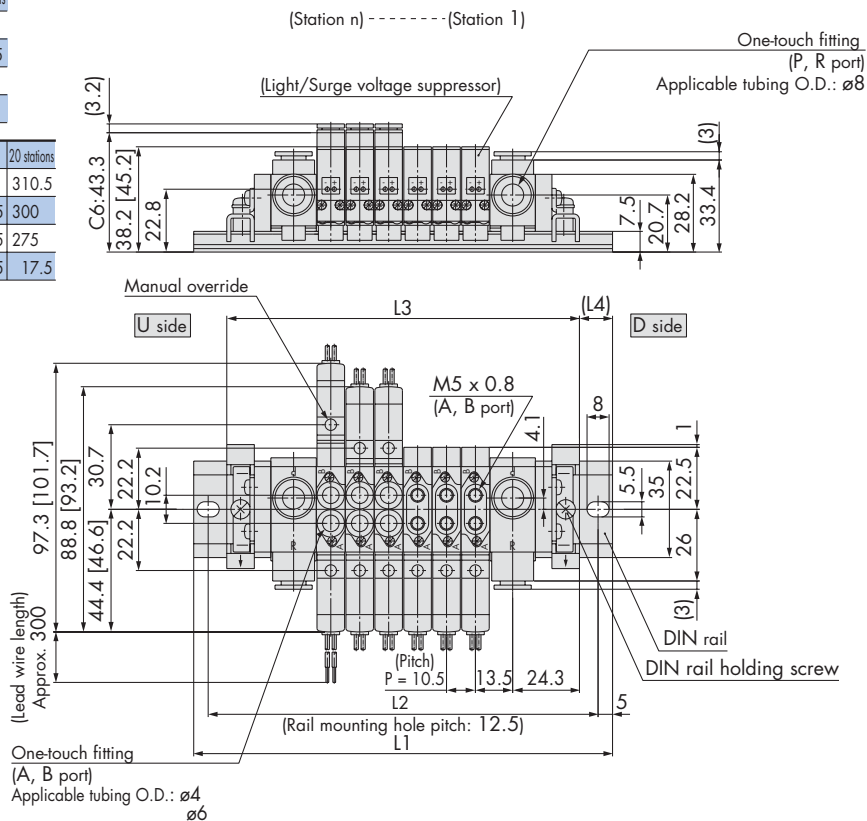
Stations	2 stations	3	4	5	6	7	8	9	10 stations
L1	110.5	123	135.5	148	160.5	173	173	185.5	198
L2	100	112.5	125	137.5	150	162.5	162.5	175	187.5
L3	86	96.5	107	117.5	128	138.5	149	159.5	170
L4	12	13	14	15	16	17	12	13	14

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

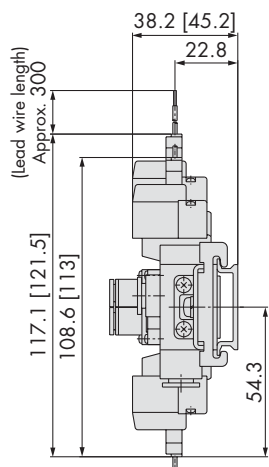


The above dimensions apply to the 'B' supply type (both ends).
If the U or D type (one end) is used, please use the table below.

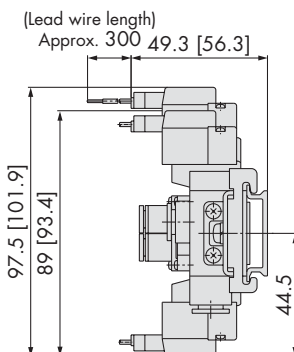
Stations	2 stations	3	4	5	6	7	8	9	10 stations
L1	98	110.5	123	135.5	135.5	148	160.5	173	185.5
L2	87.5	100	112.5	125	125	137.5	150	162.5	175
L3	69.5	80	90.5	101	111.5	122	132.5	143	153.5
L4	14	15	16	17	12	13	14	15	16



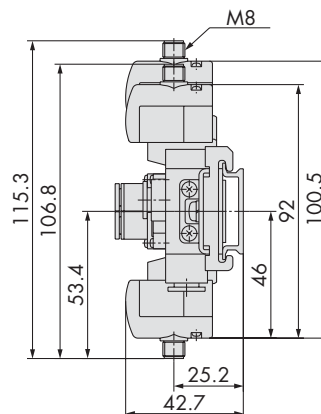
L plug connector (L)



M plug connector (M)



M8 connector (WO)



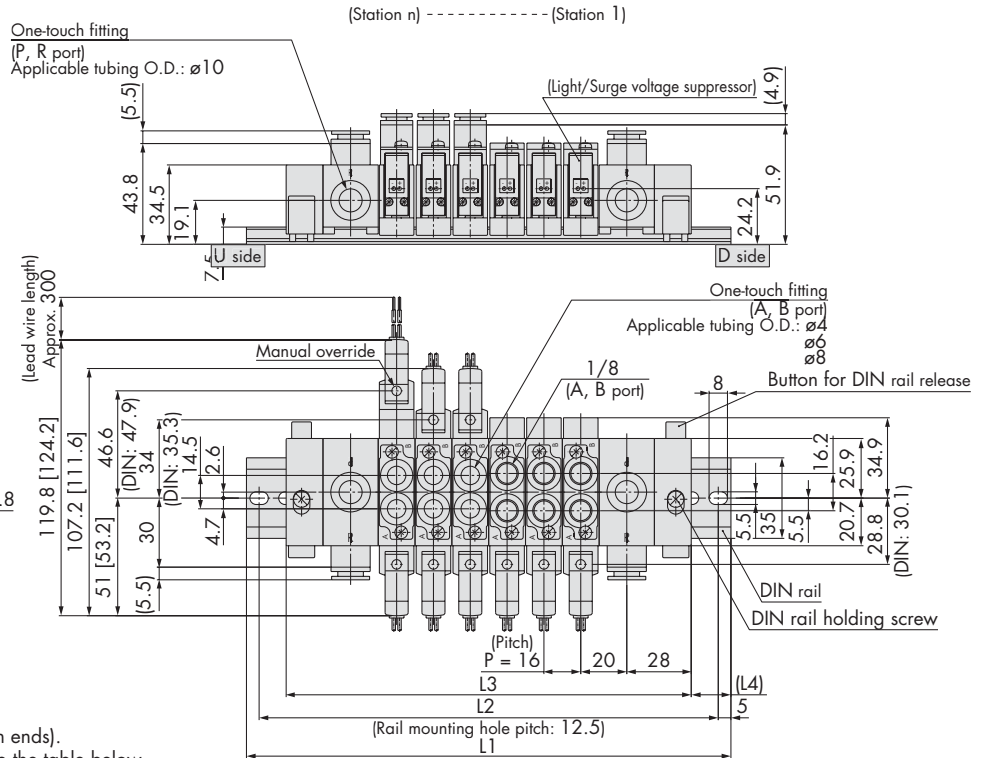
Dimensions

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

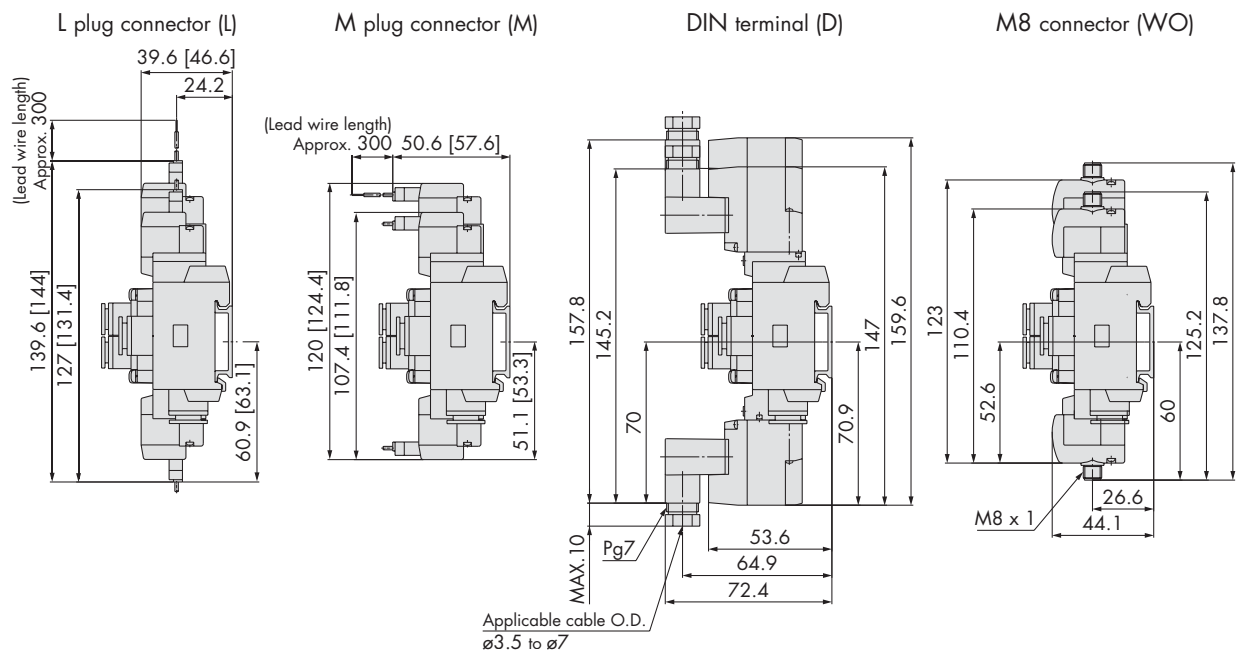
Stations	9 stations	10	11	12	13	14	15 stations
L1	248	273	285.5	298	323	335.5	348
L2	237.5	262.5	275	287.5	312.5	325	337.5
L3	224	240	256	272	288	304	320
L4	12	16.5	14.5	13	17.5	15.5	14

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



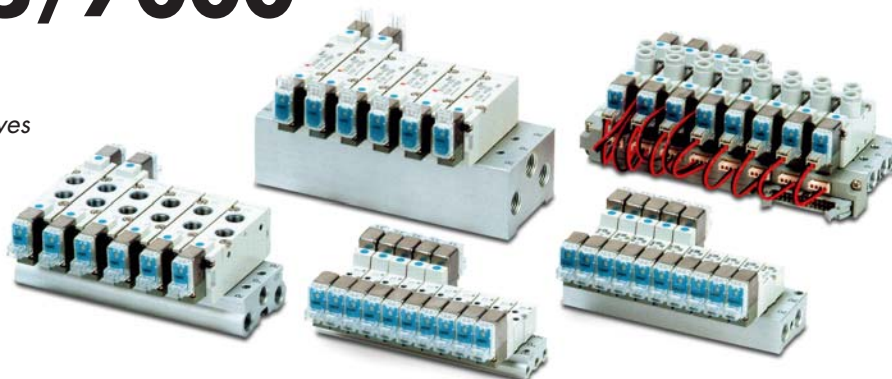
5 Port Solenoid Valve Rubber Seal



Series **SYJ3/5/7000**

Features

- ➔ Compact 5 port rubber seal valves
- ➔ Body ported or base mounted
- ➔ Very low power consumption
- ➔ Wide choice of manifold styles



How to Order Valves

Type of actuation

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

Body Size

3	SYJ3000 series
5	SYJ5000 series
7	SYJ7000 series

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)

Rated voltage

DC	AC (50/60 Hz)
5	1
6	2
V	3
S	4
R	

Note: AC voltages can only be ordered with a DIN plug

A, B port size
Thread piping

Symbol	Part Type	SYJ3000	SYJ5000	SYJ7000
M3	M3 thread	○		
M5	M5 thread		○	
O1F	1/8 thread			○
C4	4mm tube		○	
C6	6mm tube		○	○
C8	8mm tube			○

Body ported SYJ 5 1 2 0 5 LO M5 Q

Base mounted SYJ 5 2 4 0 5 LO Q

Body option

0: Pilot valve individual exhaust for the pilot

3: Common exhaust type for main and pilot valve

Manual override

Nil: Non-locking push type

D: Push-turn locking slotted type

E: Push-turn locking lever type

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	LO: Without connector	MO: Without connector	Y: With connector * D: With connector *	WO: Without connector cable

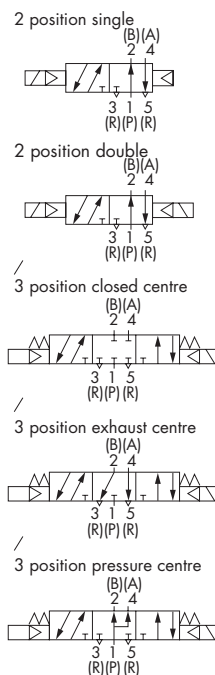
Note: Not SYJ3000 size

Note: For applicable connector cables, see cables 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.

Symbols

5 port



Also Available

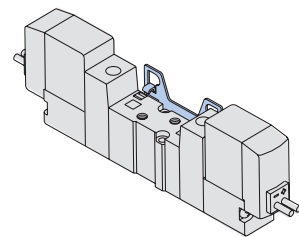
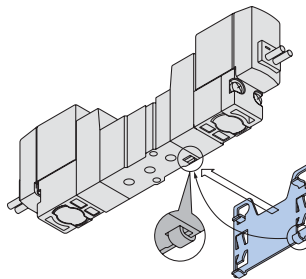
SYJ3000 base mounted 4 port valve. SYJ3*30

Single Subbases



Body Size	Part Number
SYJ3000	SYJ3000-22-1-Q (M5 port)
SYJ5000	SYJ5000-22-1F-Q (1/8 port)
SYJ7000	SYJ7000-22-1F-Q (1/8 port)
	SYJ7000-22-2F-Q (1/4 port)

Mounting Brackets



Body Size	Part Number
SYJ3000	VJ3000-13-1
SYJ5000	SYJ5000-13-3A
SYJ7000	No bracket available

Specifications

Series		SYJ3000	SYJ5000	SYJ7000
Fluid		Air		
Operating pressure range MPa	2 position single	0.15 to 0.7		
	2 position double	0.1 to 0.7	0.1 to 0.7	0.1 to 0.7
	3 position	0.2 to 0.7	0.15 to 0.7	0.15 to 0.7
Ambient and fluid temperature (°C)		-10 to 50°C (No freezing)		
Response time (ms) (at 0.5 MPa)	2 position single, double	15 or less	25 or less	30 or less
	3 position	30 or less	40 or less	60 or less
Max. operating frequency (Hz)	2 position single, double	10	5	5
	3 position	3		
Manual override (Manual operation)		Non-locking push type, push-turn locking slotted type, push-turn locking lever type		
Pilot exhaust method		Individual exhaust for the pilot valve, common exhaust for the pilot and main valve		
Lubrication		Not required		
Mounting orientation		Unrestricted		
Enclosure		Dustproof (M8 connector conforms to IP65.)		

Solenoid Specifications

Electrical entry			Grommet (G), L plug connector (L), M plug connector (M), 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)
		With power saving circuit	0.1 (With indicator light only)
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	2.5 (With indicator light: 2.6)
		[230 V]	[2.7 (With indicator light: 2.8)]
Surge voltage suppressor			Diode (Non-polarity type: varistor)
Indicator light			LED

Flow Characteristics/Weight

SYJ3000

Valve model		Type of actuation		Flow characteristics						Weight (g)			Effective area (mm ²)
				1→4/2 (P→A/B)			4/2→5/3 (A/B→EA/EB)			Grommet	L/M plug conector	M8 conector	
				C [dm ³ /[s·bar]]	b	Cv	C [dm ³ /[s·bar]]	b	Cv				
5 port Base mounted (with sub-plate)	SYJ314□	2 position	Single	0.46	0.36	0.12	0.46	0.35	0.12	62	63	67	—
	SYJ324□		Double							79	81	89	
	SYJ334□	3 position	Closed centre	0.47	0.33	0.12	0.47	0.31	0.12	82	84	—	—
	SYJ344□		Exhaust centre	0.36	0.39	0.10	0.59	0.43	0.16		92		
	SYJ354□		Pressure centre	0.58	0.42	0.16	0.46	0.32	0.11		37	41	
5 port Body ported	SYJ312□	2 position	Single							36	55	63	
	SYJ322□		Double							53			
	SYJ332□	3 position	Closed centre							56	58	66	0.9
	SYJ342□		Exhaust centre										
	SYJ352□		Pressure centre									37	

SYJ5000

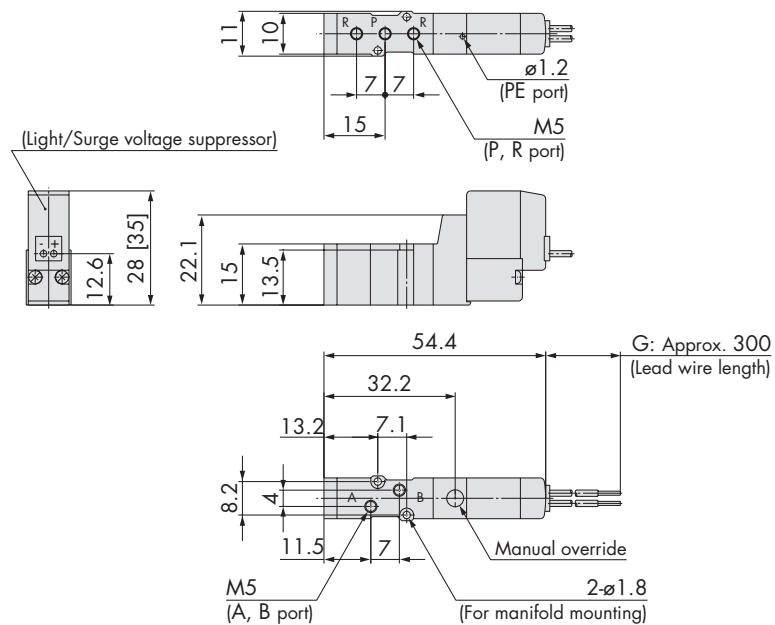
Valve model		Type of actuation		Port size		Flow characteristics						Weight (g)			
				1, 5, 3 [P, EA, EB]	4, 2 [A, B]	1→4/2 (P→A/B)			4/2→5/3 (A/B→EA/EB)			Grommet	L/M plug connector	DIN terminal	M8 connector
						C [dm³/[s·bar]]	b	Cv	C [dm³/[s·bar]]	b	Cv				
Body ported	SYJ5□20-□M5	2 position	Single	M5	M5	0.47	0.41	0.13	0.47	0.41	0.13	46	47	68	51
			Double									64	66	108	74
		3 position	Closed centre			0.49	0.44	0.13	0.44	0.40	0.12	75	77	119	85
			Exhaust centre			0.46	0.37	0.12	0.47	0.43	0.13				
			Pressure centre			0.49	0.51	0.14	0.45	0.42	0.12				
	SYJ5□20-□C4	2 position	Single	M5	C4 (One-touch fitting for ø4)	0.69	0.39	0.18	0.44	0.39	0.12	53	54	75	58
			Double									71	73	115	81
		3 position	Closed centre			0.69	0.40	0.19	0.43	0.40	0.12	82	84	126	72
			Exhaust centre			0.56	0.40	0.15	0.41	0.37	0.10				
			Pressure centre			0.57	0.4	0.15	0.41	0.37	0.10				
	SYJ5□20-□C6	2 position	Single	M5	C6 (One-touch fitting for ø6)	0.70	0.36	0.19	0.47	0.40	0.12	53	54	75	58
			Double									71	73	115	81
		3 position	Closed centre			0.72	0.37	0.19	0.44	0.34	0.12	82	84	126	92
			Exhaust centre			0.67	0.54	0.19	0.41	0.38	0.11				
			Pressure centre			0.82	0.41	0.23	0.41	0.36	0.11				
Base mounted	SYJ5□40-□01	2 position	Single	1/8	1/8	0.79	0.21	0.19	0.83	0.32	0.21	80	81	102	51
			Double									98	100	142	74
		3 position	Closed centre			0.80	0.28	0.18	0.86	0.34	0.20	109	111	153	85
			Exhaust centre			0.71	0.26	0.18	1.1	0.24	0.26				
			Pressure centre			0.99	0.29	0.24	0.72	0.38	0.18				

SYJ7000

Valve model		Type of actuation		Flow characteristics						Weight (g)			
				1→4/2 (P→A/B)			4/2→5/3 (A/B→EA/EB)			Grommet	L/M plug connector	DIN terminal	M8 connector
				C [dm ³ /[s·bar]]	b	Cv	C [dm ³ /[s·bar]]	b	Cv				
Body ported	SYJ7□20-□01	2 position	Single	2.2	0.36	0.58	2.4	0.34	0.63	85	86	107	90
			Double							98	100	142	108
		3 position	Closed centre	1.8	0.37	0.45	2.0	0.35	0.49	108	110	152	118
			Exhaust centre	1.2	0.50	0.34	3.0	0.35	0.73				
			Pressure centre	3.0	0.37	0.78	1.8	0.37	0.45				
	SYJ7□20-□C6	2 position	Single	1.6	0.33	0.4	2.2	0.32	0.53	96	97	98	101
			Double							109	111	153	119
		3 position	Closed centre	1.4	0.27	0.35	1.9	0.33	0.49	119	121	163	129
			Exhaust centre	1.1	0.37	0.27	2.5	0.32	0.61				
			Pressure centre	1.8	0.36	0.45	1.6	0.30	0.39				
	SYJ7□20-□C8	2 position	Single	2.0	0.39	0.52	2.3	0.34	0.61	96	97	98	101
			Double							109	111	153	119
		3 position	Closed centre	1.7	0.35	0.42	2.0	0.29	0.49	119	121	163	129
			Exhaust centre	1.2	0.38	0.33	2.6	0.35	0.67				
			Pressure centre	1.9	0.57	0.59	1.7	0.39	0.42				
Base mounted	SYJ7□40-□01	2 position	Single	2.3	0.45	0.57	2.8	0.37	0.71	165	166	187	170
			Double							178	180	222	188
		3 position	Closed centre	1.9	0.36	0.48	2.1	0.46	0.57	188	190	232	198
			Exhaust centre	1.2	0.48	0.35	3.4	0.36	0.86				
			Pressure centre	3.3	0.43	0.78	2.1	0.45	0.56				
	SYJ7□40-□02	2 position	Single	2.3	0.41	0.61	2.9	0.35	0.74	165	166	187	170
			Double							178	180	222	188
		3 position	Closed centre	1.9	0.46	0.50	2.2	0.44	0.60	188	190	232	198
			Exhaust centre	1.3	0.45	0.35	3.7	0.27	0.87				
			Pressure centre	3.6	0.23	0.84	2.1	0.47	0.58				

2 Position Single

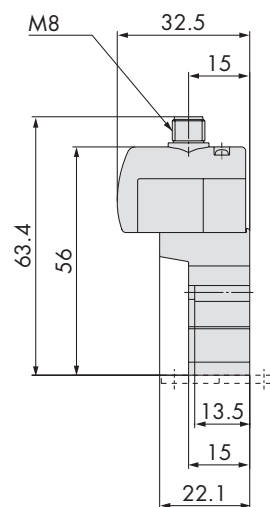
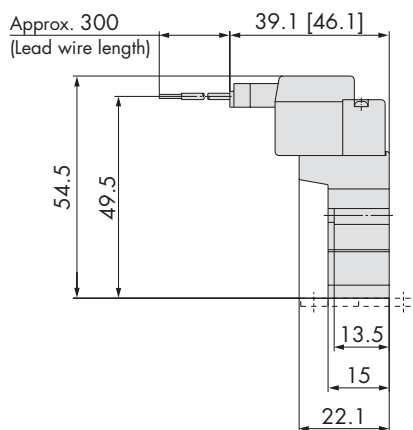
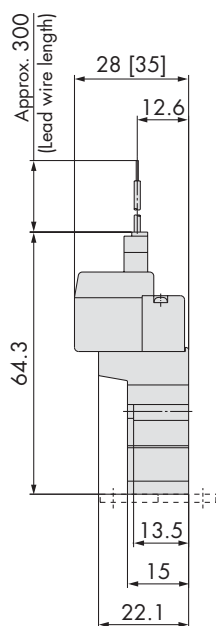
Grommet (G): SYJ3120-□G□□-M3-Q



L plug connector (L) :
SYJ3120-□□□□-M3-Q

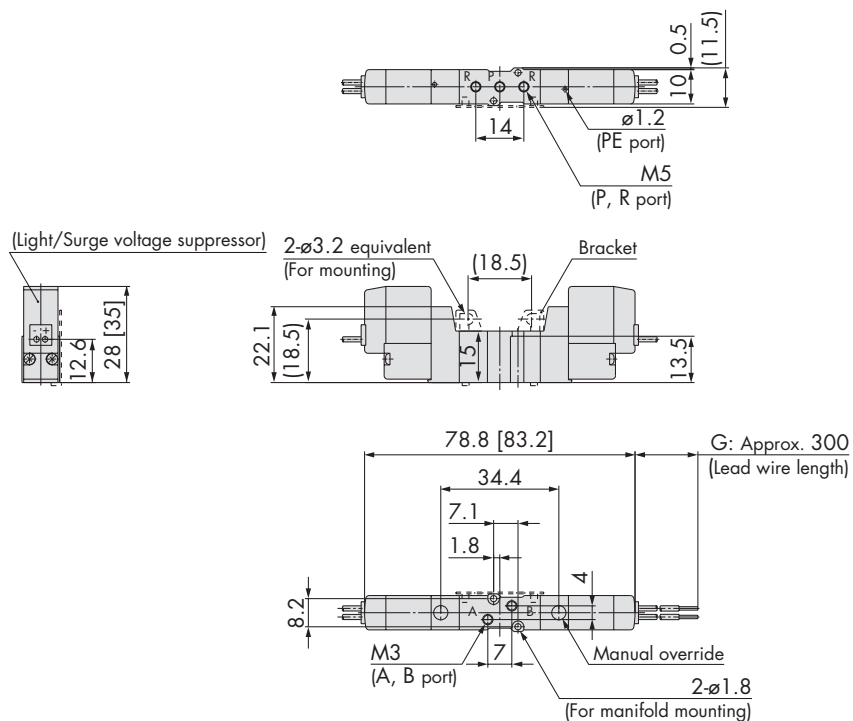
M plug connector (M):
SYJ3120-□M□□-M3-Q

M8 connector (WO):
SYJ3120-□WO□□-M3-Q



2 Position Double

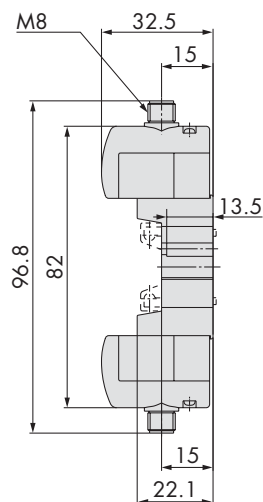
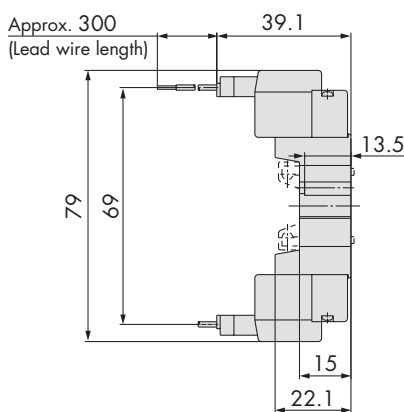
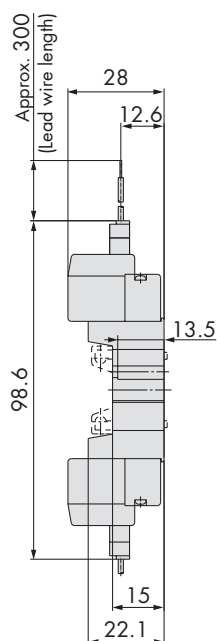
Grommet (G): SYJ3220-□G□□-M3-Q



L plug connector (L):
SYJ3220-□L□□-M3-Q

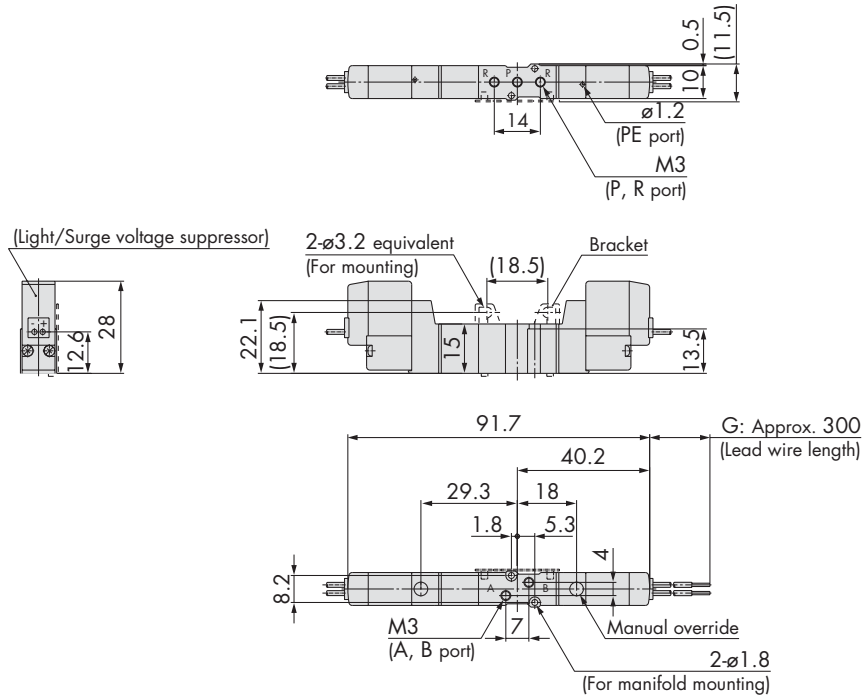
M plug connector (M):
SYJ3220-□M□□-M3-Q

M8 connector (WO):
SYJ3220-□WO□□-M3-Q

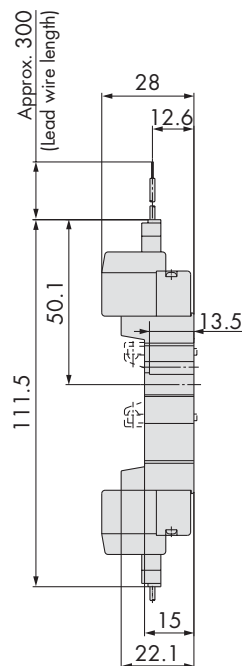


3 Position Closed Centre/Exhaust Centre/Pressure Centre

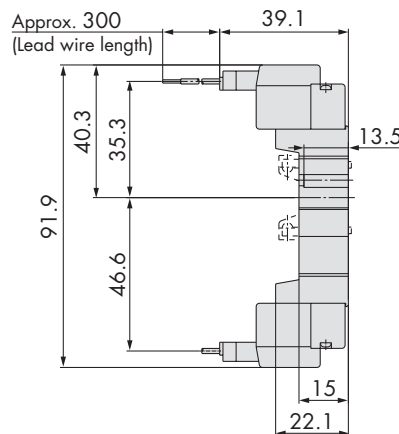
Grommet (G): SYJ3 $\frac{3}{4}$ 20-□G□□-M30-Q



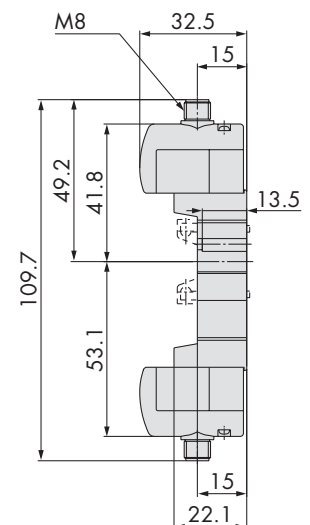
L plug connector (L):
SYJ3 $\frac{3}{4}$ 20-□L□□-M3-Q



M plug connector (M):
SYJ3 $\frac{3}{4}$ 20-□M□□-M3-Q

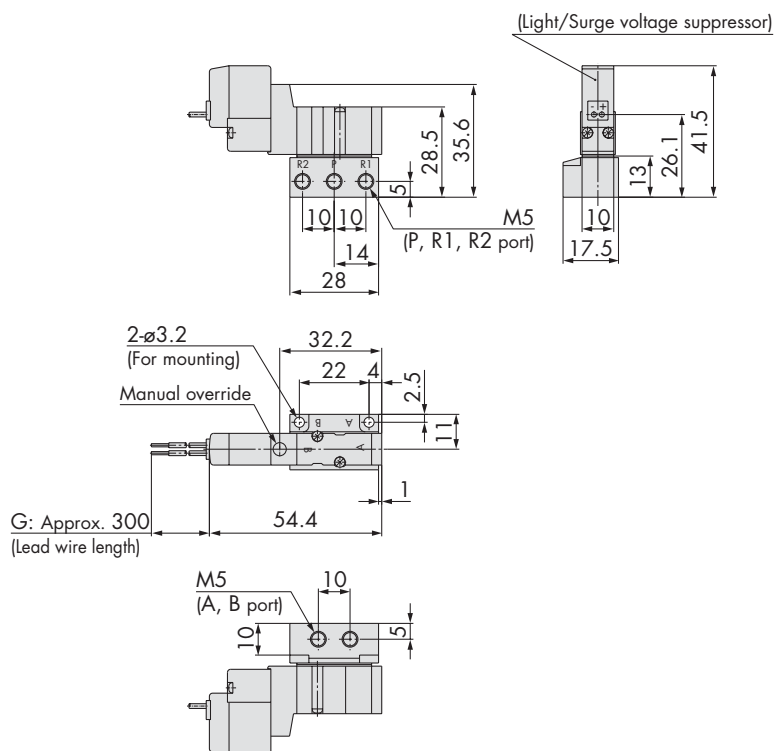


M8 connector (WO):
SYJ3 $\frac{3}{4}$ 20-□WO□□-M3-Q



2 Position Single

Grommet (G): SYJ3140-□G□□-M5-Q

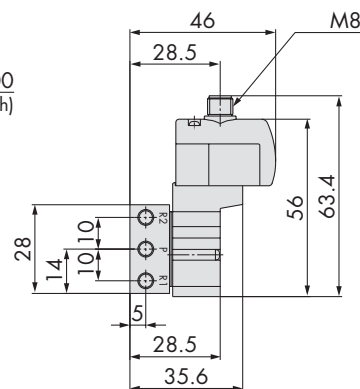
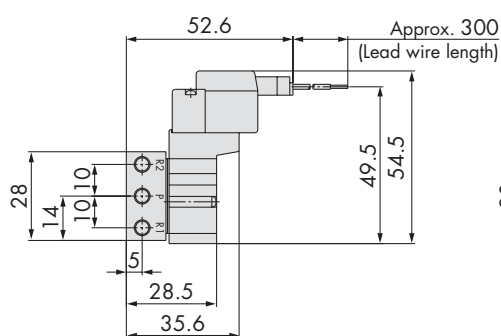
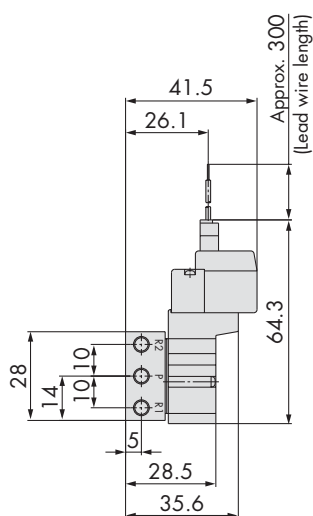


Valves

L plug connector (L):
SYJ3140-□L□□-M5-Q

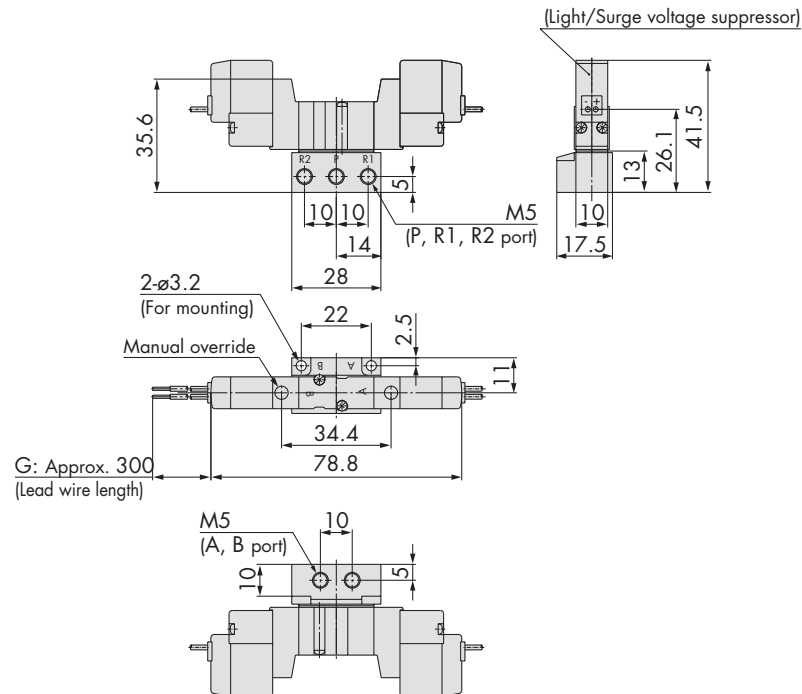
M plug connector (M):
SYJ3140-□M□□-M5-Q

M8 connector (WO):
SYJ3140-□WO□□-M5-Q



2 Position Double

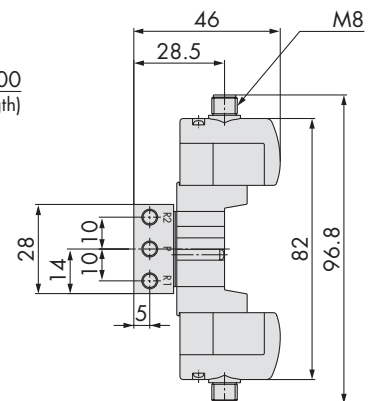
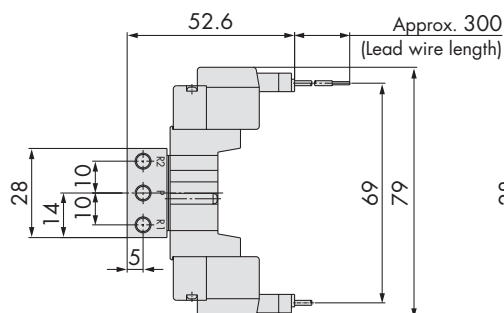
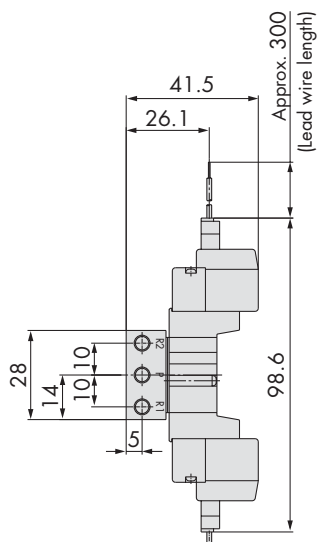
Grommet (G): SYJ3240-□G□□-M5-Q



L plug connector (L):
SYJ3240-□L□□-M5-Q

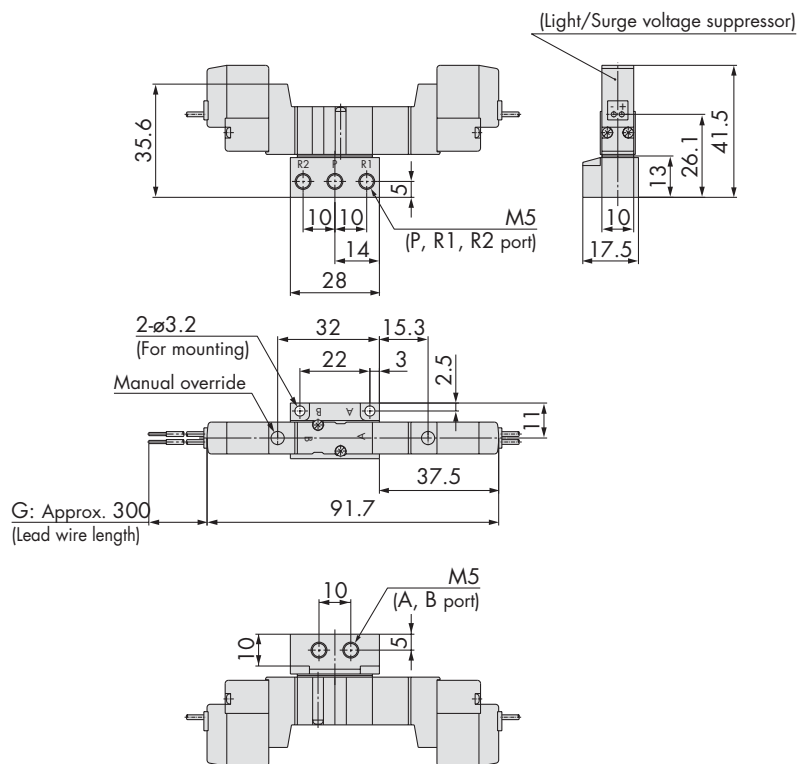
M plug connector (M):
SYJ3240-□M□□-M5-Q

M8 connector (WO):
SYJ3240-□WO□□-M5-Q



3 Position Closed Centre/Exhaust Centre/Pressure Centre

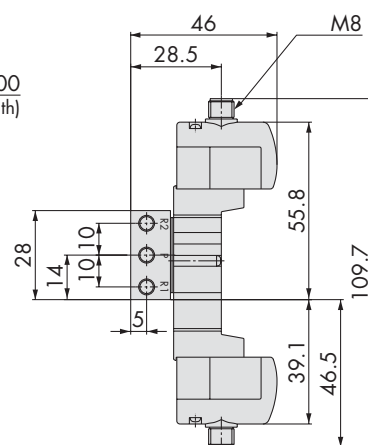
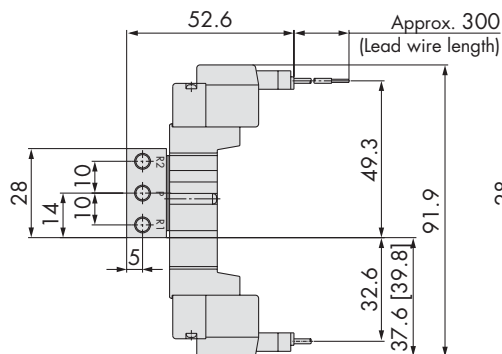
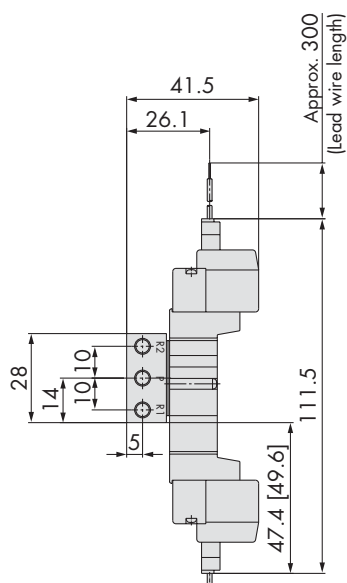
Grommet (G): SYJ3 $\frac{3}{4}$ 40-□G□□-M5-Q



L plug connector (L):
SYJ3 $\frac{3}{4}$ 40-□L□□-M5-Q

M plug connector (M):
SYJ3 $\frac{3}{4}$ 40-□M□□-M5-Q

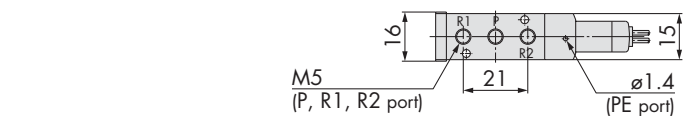
M8 connector (WO):
SYJ3 $\frac{3}{4}$ 40(R)-□WO□□-M5□-Q



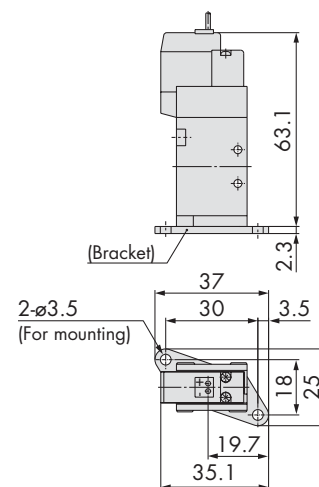
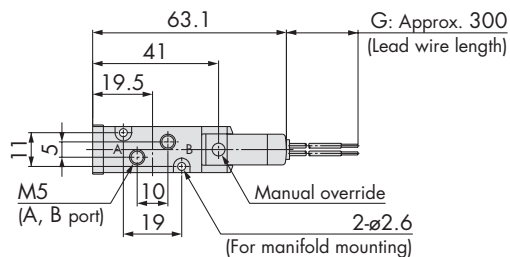
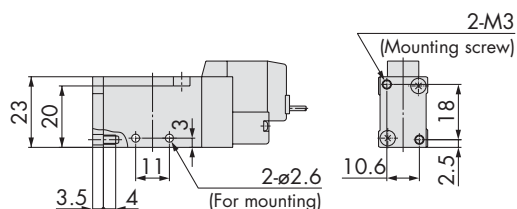
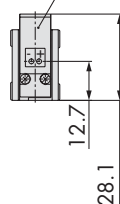
2 Position Single

Grommet (G): SYJ5120-□G□□-M5

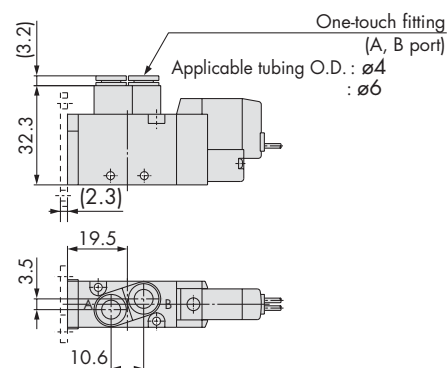
With bracket
SYJ5120-□□□□-M5-F



(Light/Surge voltage suppressor)



Built-in One-touch fitting:
SYJ5120-□G□□-C₄^C-Q

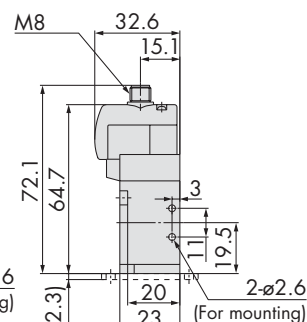
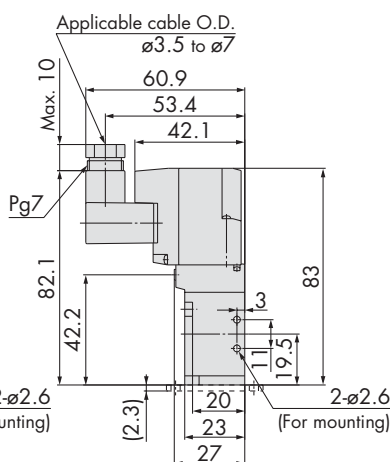
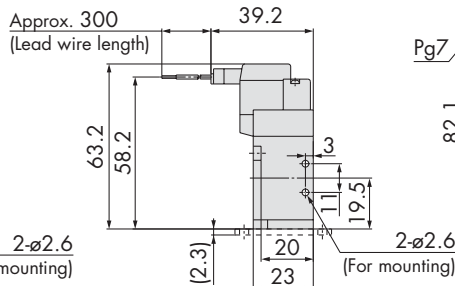
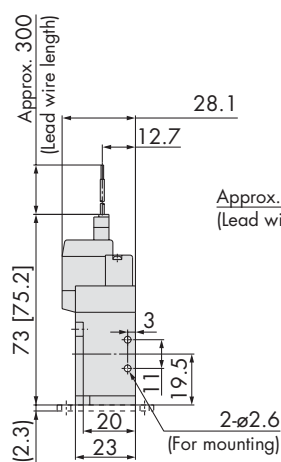


L plug connector (L):
SYJ5120-□L□□-M5-Q

M plug connector (M):
SYJ5120-□M□□-M5-Q

DIN terminal (D)(Y):
SYJ5120-□D□□-M5-Q

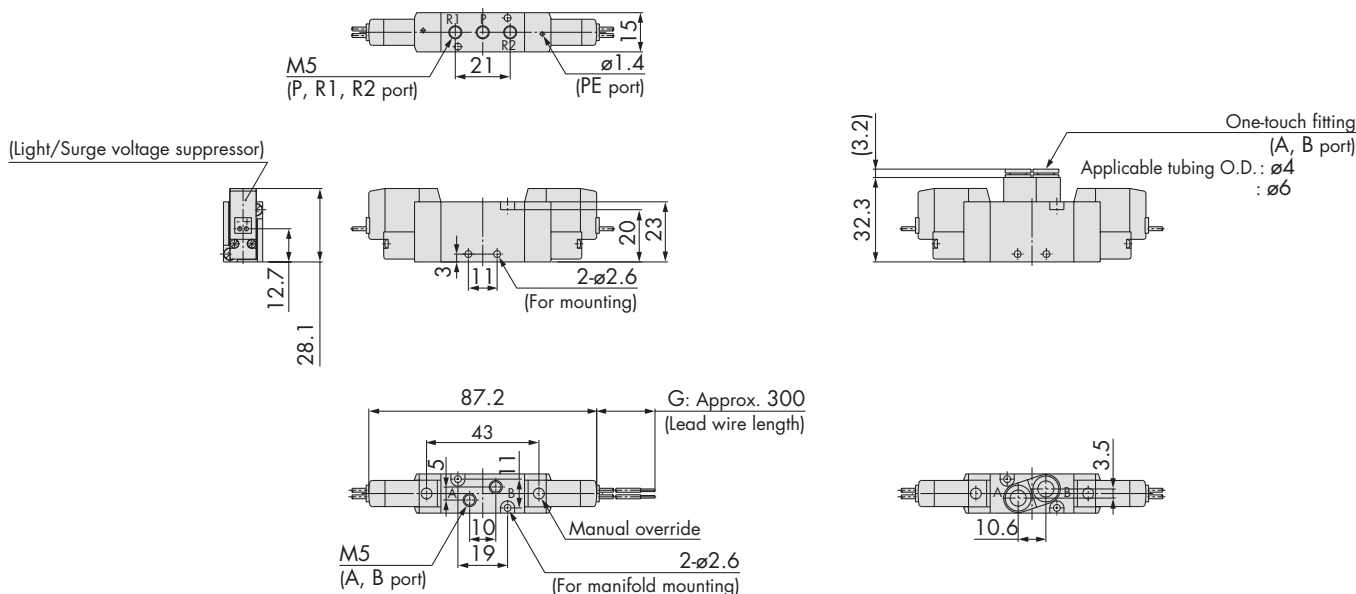
M8 connector (WO):
SYJ5120-□WO□□-M5-Q



2 Position Double

Grommet (G): SYJ5220-□G□□-M5-Q

Built-in One-touch fitting:
SYJ5220-□G□□-C⁴₆-Q

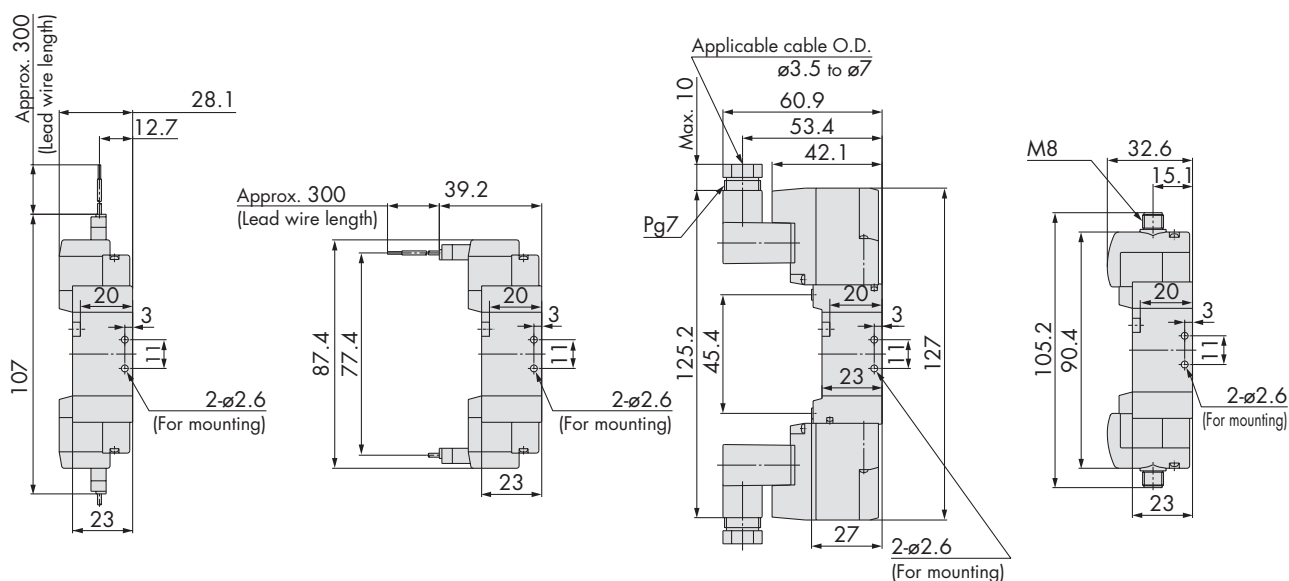


L plug connector (L):
SYJ5220-□L□□-M5-Q

M plug connector (M):
SYJ5220-□M□□-M5-Q

DIN terminal (D)(Y):
SYJ5220-□D□□-M5-Q

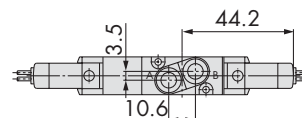
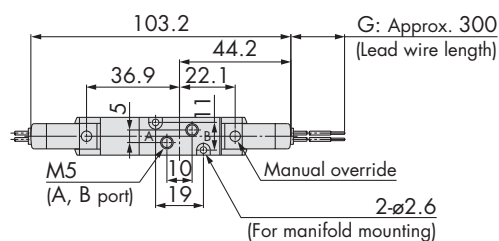
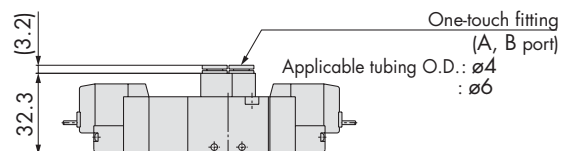
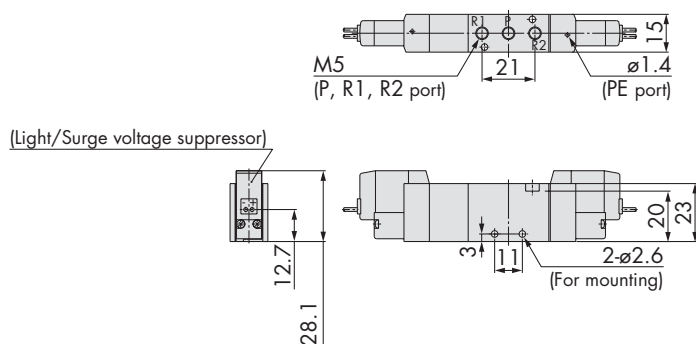
M8 connector (WO):
SYJ5220-□WO□□-M5-Q



3 Position Closed Centre/Exhaust Centre/Pressure Centre

Grommet (G): SYJ5 $\frac{3}{4}$ 20-□G□□-M5-Q

Built-in One-touch fitting:
SYJ5 $\frac{3}{4}$ 20-□G□□-C $\frac{4}{6}$ -Q

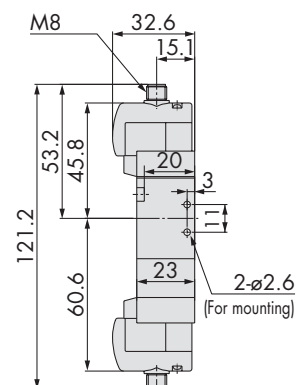
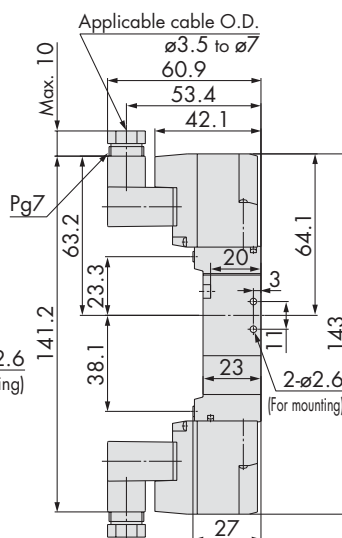
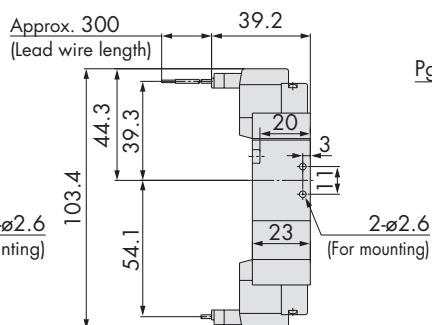
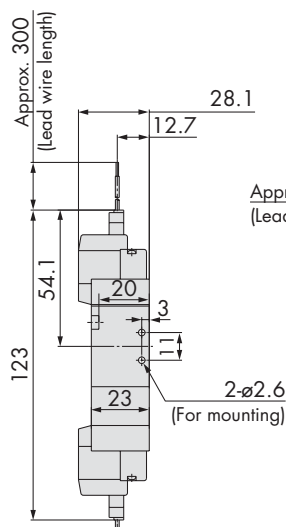


L plug connector (L):
SYJ5 $\frac{3}{4}$ 20-□L□□-M5-Q

M plug connector (M):
SYJ5 $\frac{3}{4}$ 20-□M□□-M5-Q

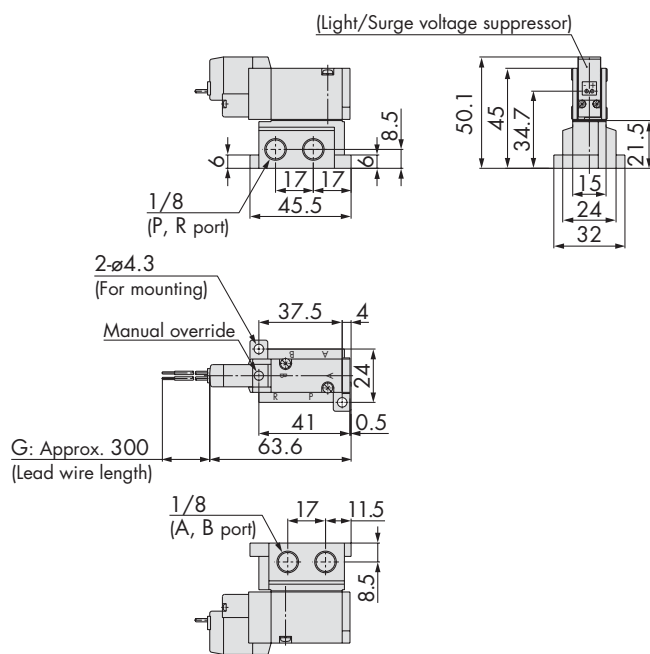
DIN terminal (D)(Y):
SYJ5 $\frac{3}{4}$ 20-□D□□-M5-Q

M8 connector (WO):
SYJ5 $\frac{3}{4}$ 20-□WO□□-M5-Q

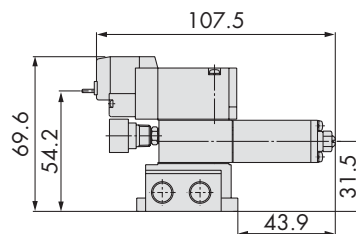


2 Position Single

Grommet (G): SYJ5140-□G□□-01□-Q



With interface regulator

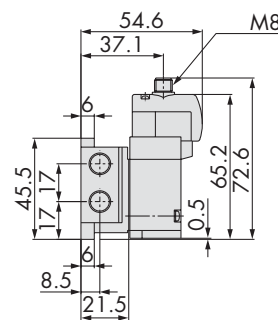
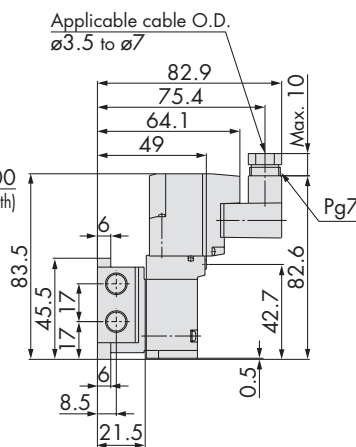
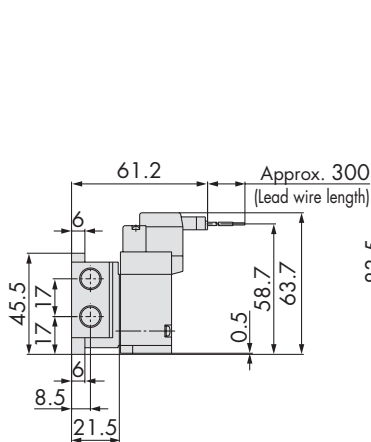
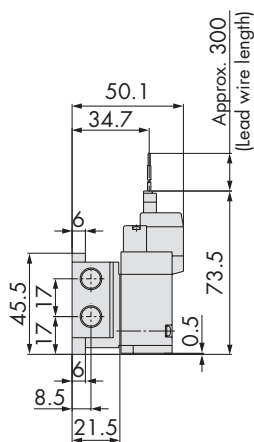


L plug connector (L):
SYJ5140-□L□□-01□-Q

M plug connector (M):
SYJ5140-□M□□-01□-Q

DIN terminal (D)(Y):
SYJ5140-□D□□-01□-Q

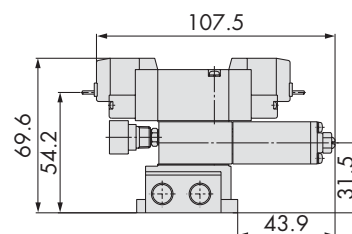
M8 connector (WO):
SYJ5140-□WO□□-01□-Q



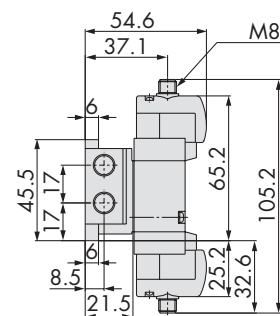
Valves



Valves

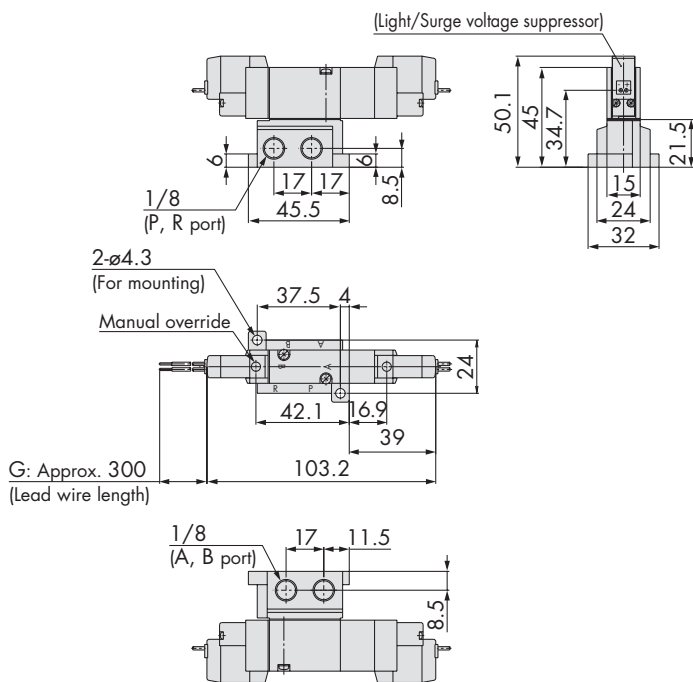


M8 connector (WO):
SYJ5240-□WO□□-01□-Q

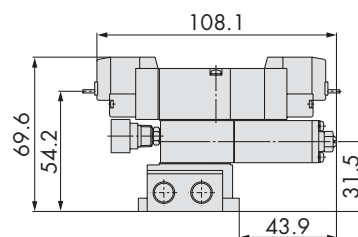


3 Position Closed Centre/Exhaust Centre/Pressure Centre

Grommet (G): SYJ5³/₅40-□G□□-01□-Q



With interface regulator

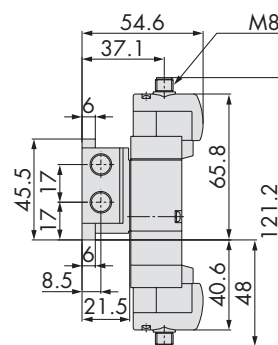
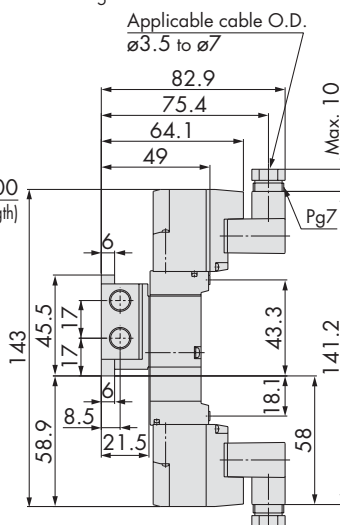
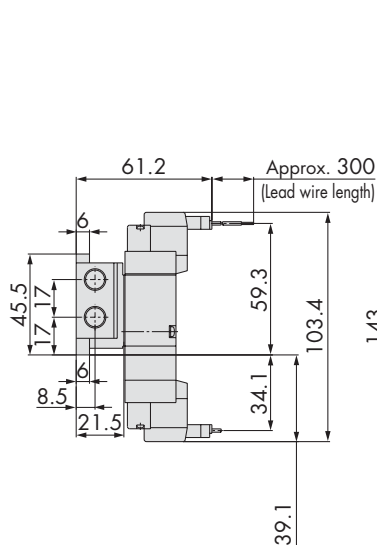
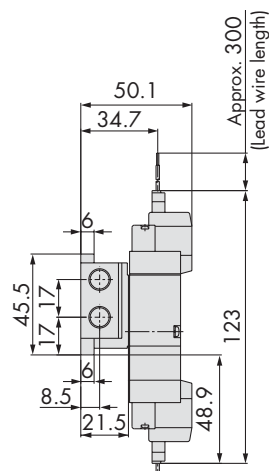


L plug connector (L):
SYJ5³/₅40-□L□□-01□-Q

M plug connector (M):
SYJ5³/₅40-□M□□-01□-Q

DIN terminal (D)(Y):
SYJ5³/₅40-□D□□-01□-Q

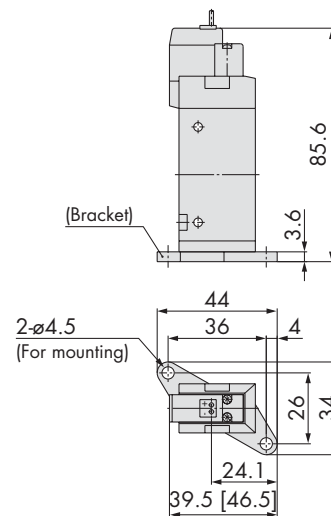
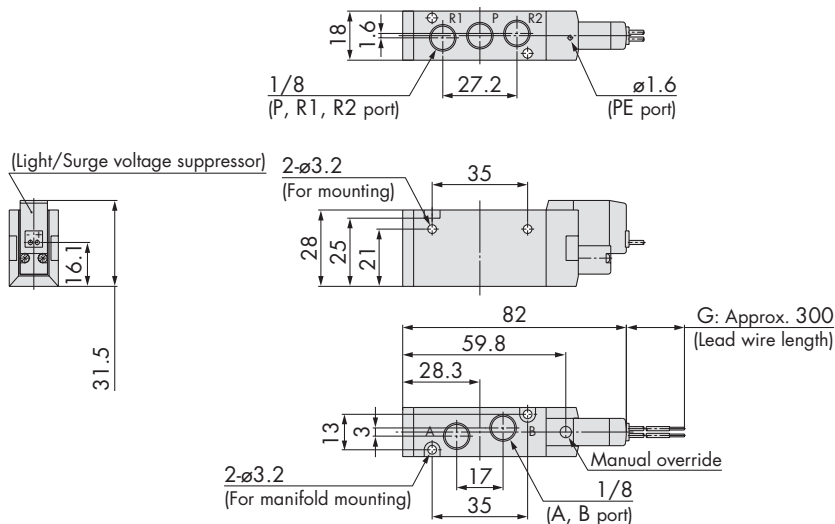
M8 connector (WO):
SYJ5³/₅40-□WO□□-01□-Q



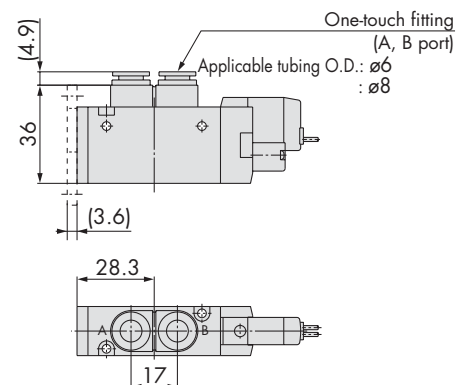
2 Position Single

Grommet (G): SYJ7120-□G□□-01F-Q

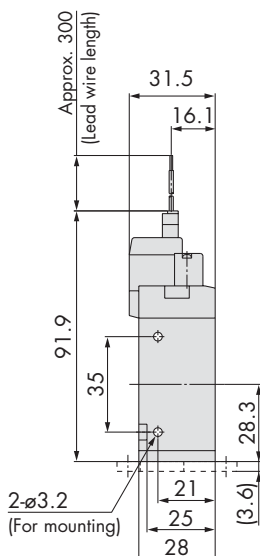
With bracket:
SYJ7120-□G□□-01F-Q



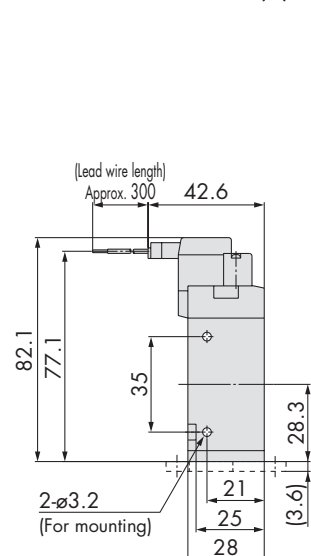
Built-in One-touch fitting:
SYJ7120-□G□□-C6-C8-Q



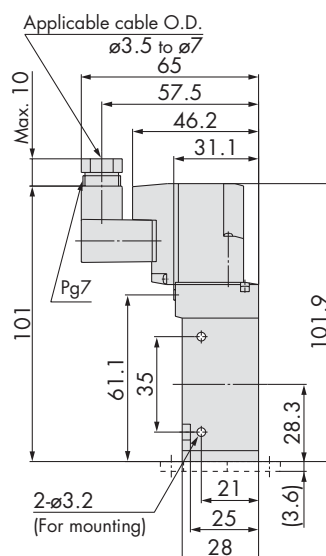
L plug connector (L):
SYJ7120-□L□□-01F-Q



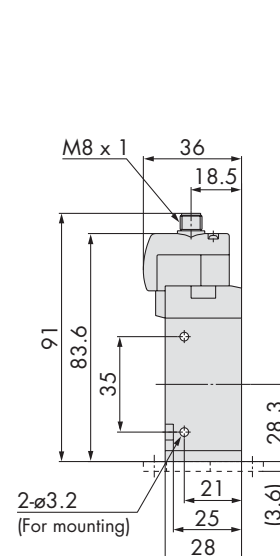
M plug connector (M):
SYJ7120-□M□□-01□ (-F)



DIN terminal (D)(Y):
SYJ7120-□D□□-01F-Q



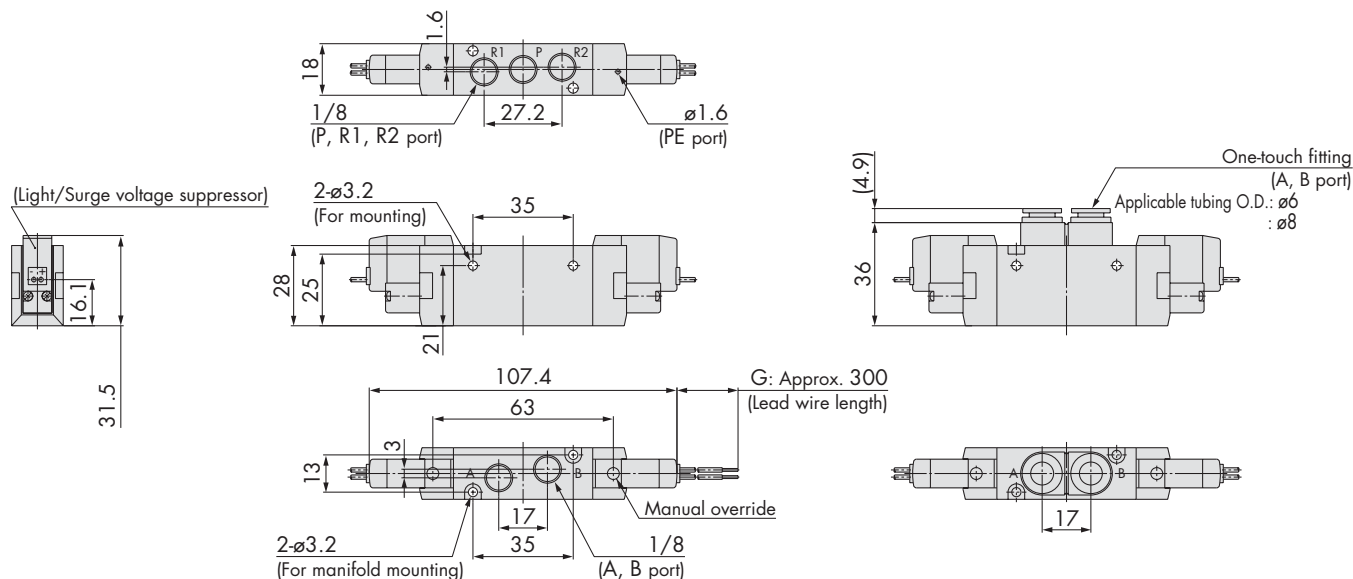
M8 connector (WO):
SYJ7120-□WO□□-01F-Q



2 Position Double

Grommet (G): SYJ7220-□G□□-01F-Q

Built-in One-touch fitting:
SYJ7220-□G□□- $\frac{C}{8}$ F-Q

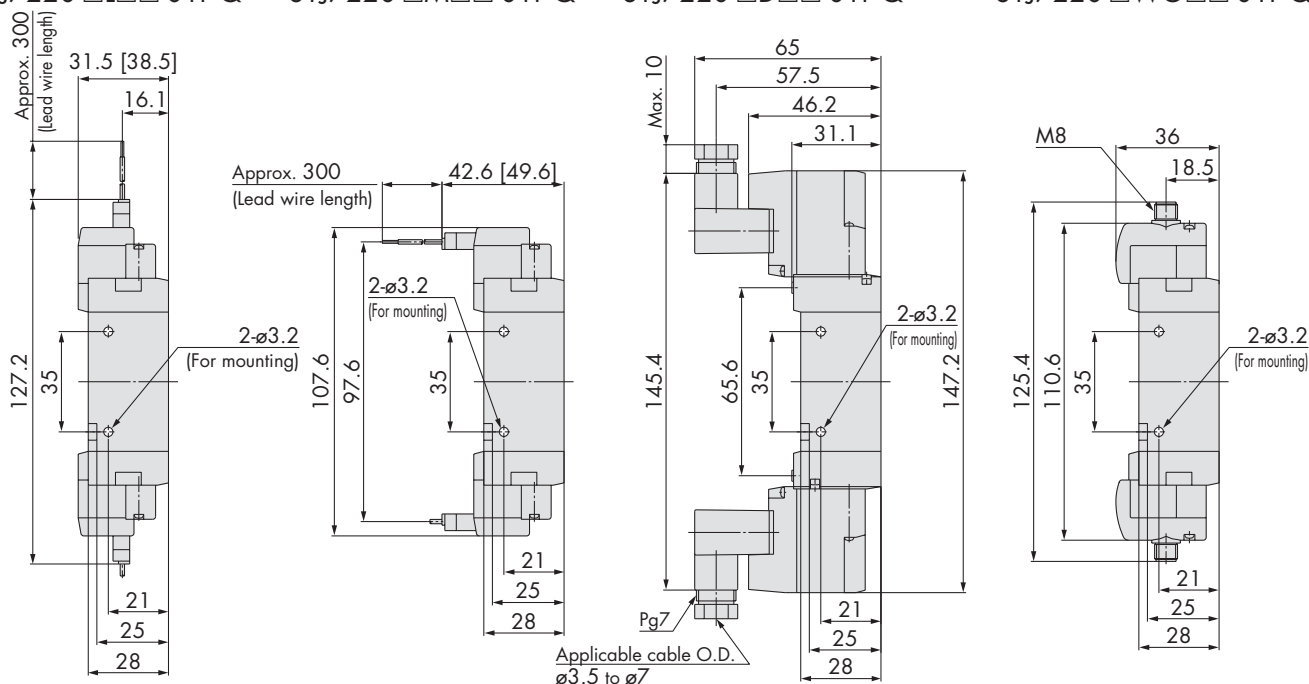


L plug connector (L):
SYJ7220-□L□□-01F-Q

M plug connector (M):
SYJ7220-□M□□-01F-Q

DIN terminal (D)(Y):
SYJ7220-□D□□-01F-Q

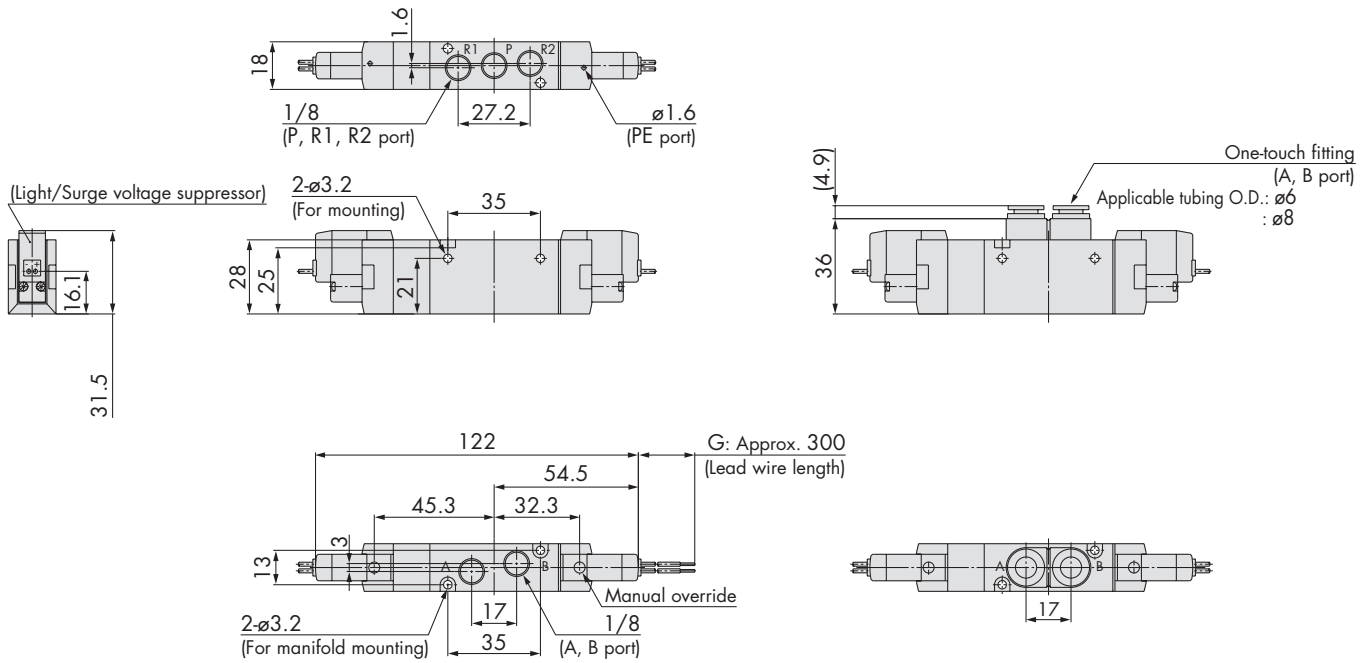
M8 connector (WO):
SYJ7220-□WO□□-01F-Q



3 Position Closed Centre/Exhaust Centre/Pressure Centre

Grommet (G): SYJ7³/₅20-□G□□-01F-Q

Built-in One-touch fitting:
SYJ7³/₅20-□G□□-C⁶/₈-Q

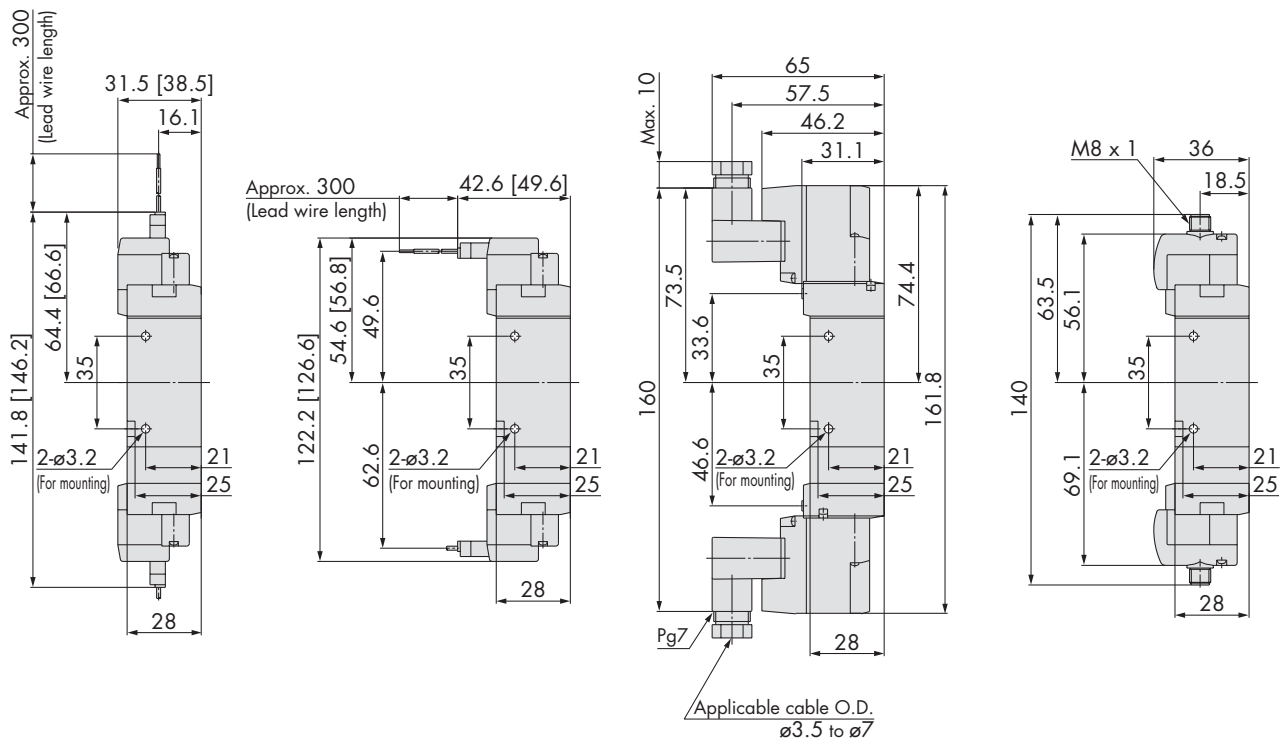


L plug connector (L):
SYJ7³/₅20-□L□□-01F-Q

M plug connector (M):
SYJ7³/₅20-□M□□-01F-Q

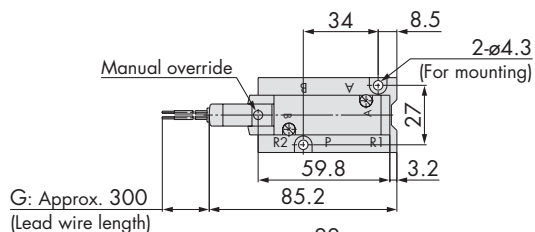
DIN terminal (D)(Y):
SYJ7³/₅20-□D□□-01F-Q

M8 connector (WO):
SYJ7³/₅20-□WO□□-01F-Q

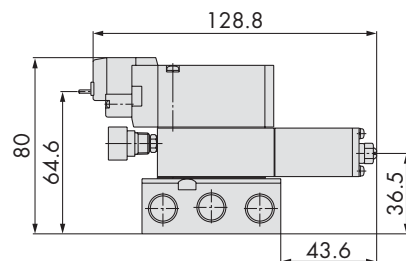
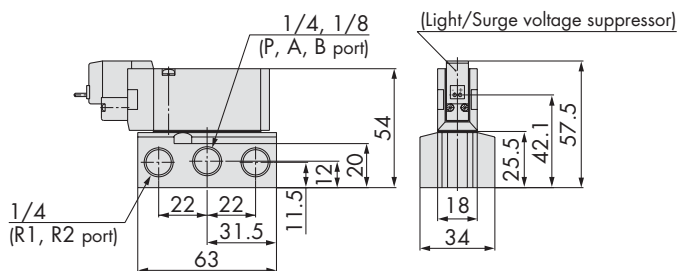


2 Position Single

Grommet (G): SYJ7140-□G□□⁰¹/₀₂ F-Q



With interface regulator

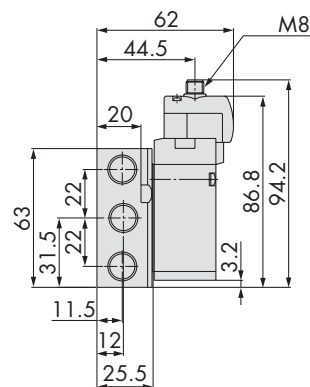
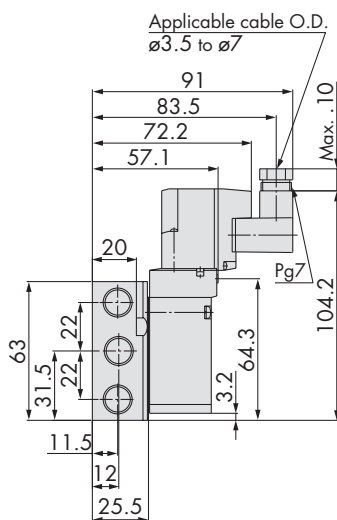
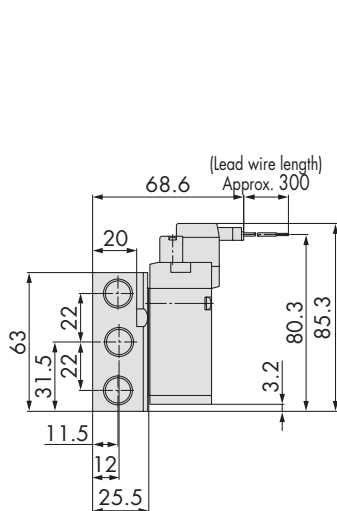
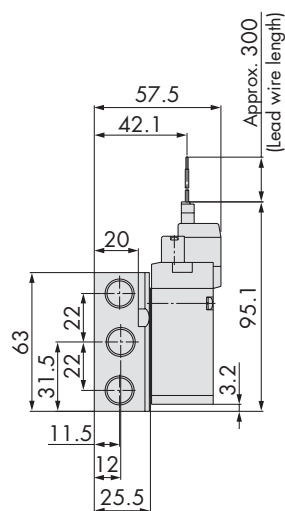


L plug connector (L):
SYJ7140-□L□□-⁰¹/₀₂□-Q

M plug connector (M):
SYJ7140-□M□□-⁰¹/₀₂□-Q

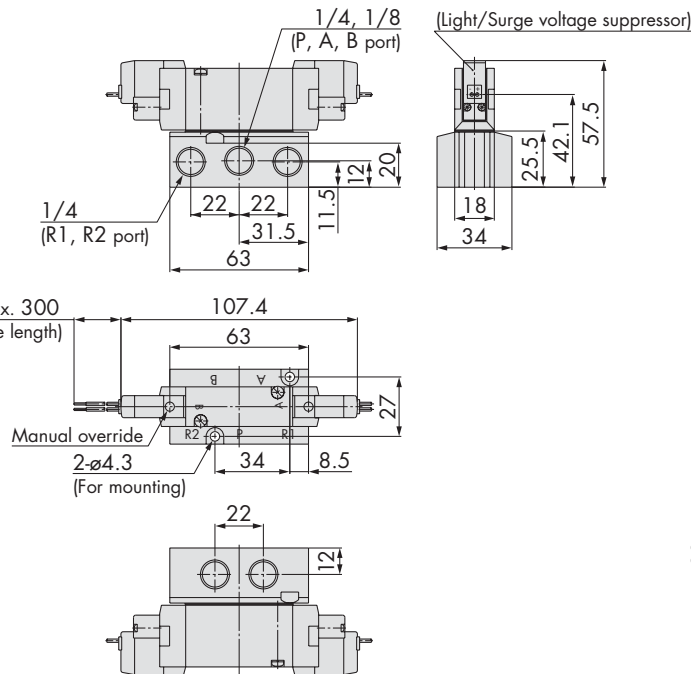
DIN terminal (D)(Y):
SYJ7140-□D□□-⁰¹/₀₂□-Q

M8 connector (WO):
SYJ7140-□WO□□-⁰¹/₀₂□-Q

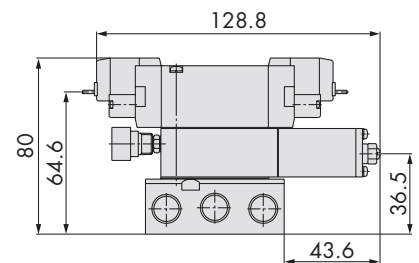


2 Position Double

Grommet (G): SYJ7240-□G□□-⁰¹/₀₂F-Q



With interface regulator

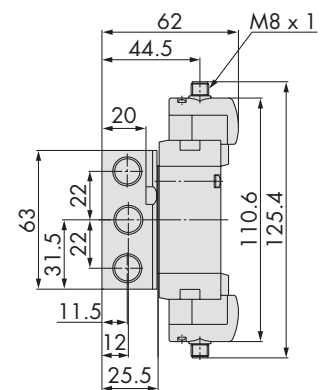
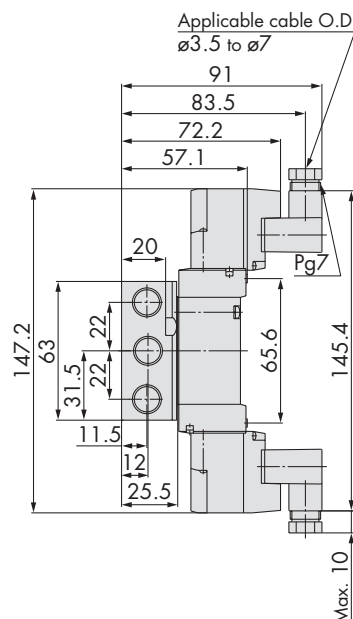
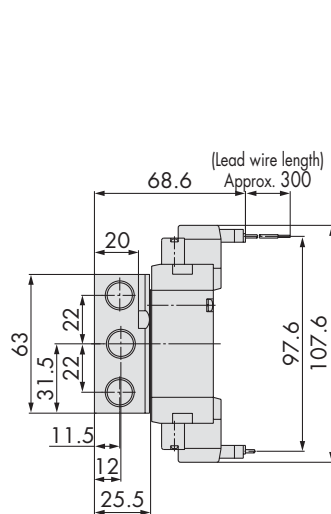
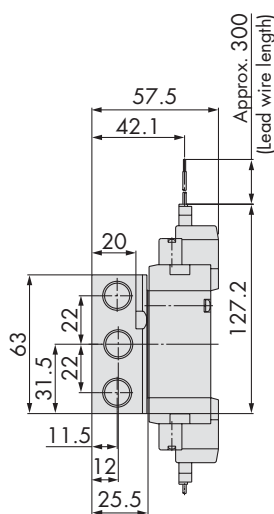


L plug connector (L):
SYJ7240-□L□□-⁰¹/₀₂F-Q

M plug connector (M):
SYJ7240-□M□□-⁰¹/₀₂F-Q

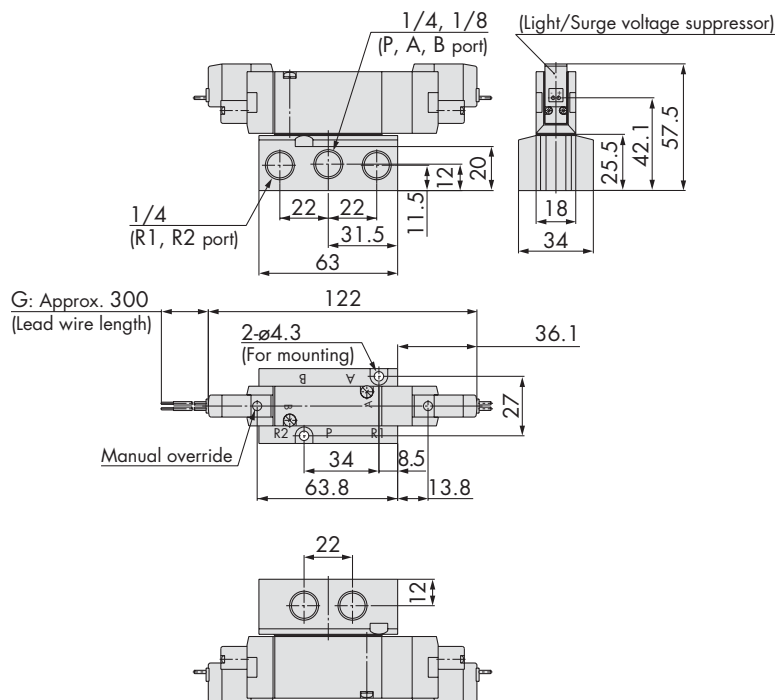
DIN terminal (D)(Y):
SYJ7240-□D□□-⁰¹/₀₂F-Q

M8 connector (WO):
SYJ7240-□WO□□-⁰¹/₀₂F-Q

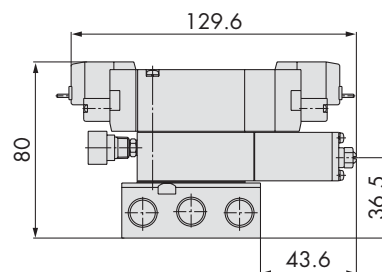


3 Position Closed Centre/Exhaust Centre/Pressure Centre

Grommet (G): SYJ7³/₅40-□G□□-0¹/₀₂□-Q



With interface regulator

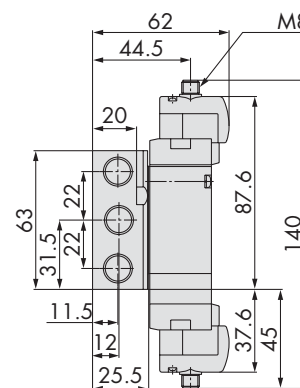
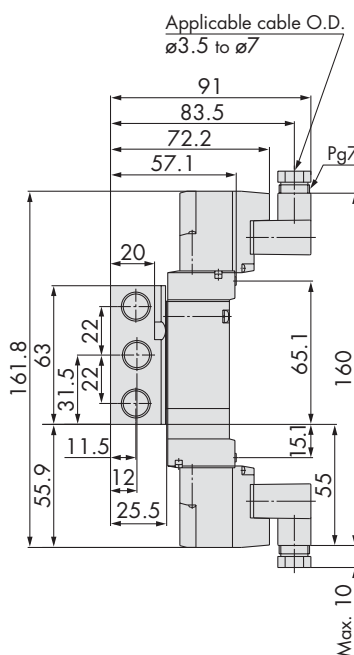
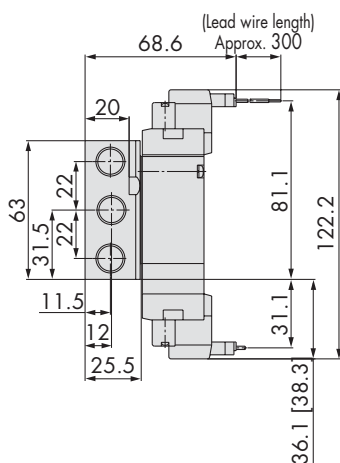
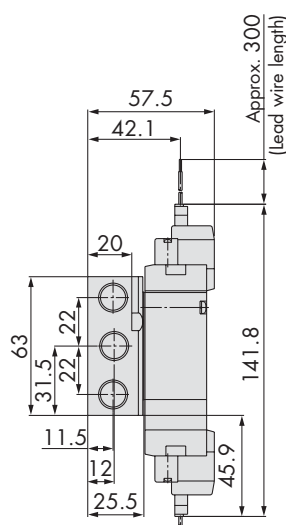


L plug connector (L):
SYJ7³/₅40-□L□□-0¹/₀₂□-Q

M plug connector (M):
SYJ7³/₅40-□M□□-0¹/₀₂□-Q

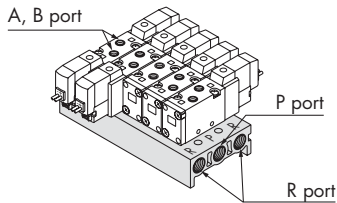
DIN terminal (D)(Y):
SYJ7³/₅40-□D□□-0¹/₀₂□-Q

M8 connector (WO):
SYJ7³/₅40-□WO□□-0¹/₀₂□-Q



How to Order Manifolds

Common SUP/Common EXH Type 20 (5 Port/Body ported)



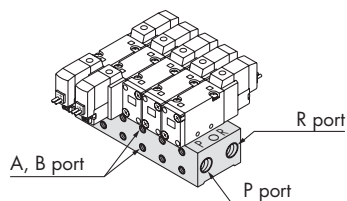
How to Order

SS5YJ 5 -20- 05 00F -Q

Applicable valves
SY***20

Size		Number of stations		P, R port thread type	
3	SYJ3000	02	2 stations	Nil	SYJ3000
5	SYJ5000	:	:	00F	SYJ5000
7	SYJ7000	20	20 stations		SYJ7000

Type 41 (5 Port/Base mounted)



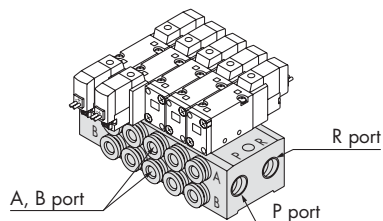
How to Order

SS5YJ 5 - 41- 05 - M5 F-Q

Applicable valves
SY***40

Size		Stations		A, B port size	
3	SYJ3000	02	2 stations	M5	M5
5	SYJ5000	:	:	C4	ø4 one-touch
7	SYJ7000	20	20 stations	O1	1/8

Type 42 (5 Port/Base mounted)



How to Order

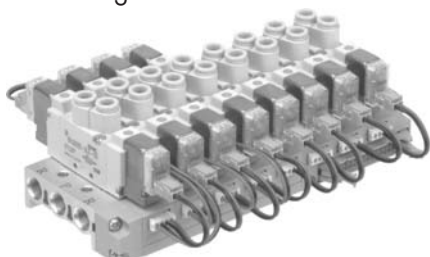
SS5YJ 5 - 42- 05 - C6 F-Q

Applicable valves
SY***40

Size		Stations		A, B port size	
3	SYJ3000	02	2 stations	O1	1/8
5	SYJ5000	:	:	C6	ø6 one-touch
7	SYJ7000	20	20 stations	C8	ø8 one-touch

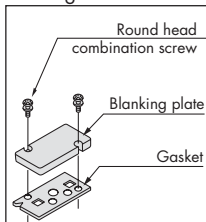
Also Available

Body ported and bar mounted manifolds with centralised wiring accessories.



Manifold Accessories

Blanking Plate Assemblies



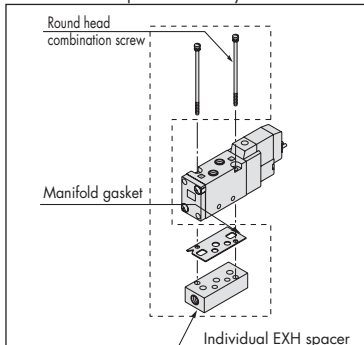
Body Ported Manifolds

SYJ3000	SYJ3000-21-1A-Q
SYJ5000	SYJ5000-21-1A-1-Q
SYJ7000	SYJ7000-21-1A-Q

Base Mounted Manifolds

SYJ3000	SYJ3000-21-2A-Q
SYJ5000	SYJ5000-21-1A-2-Q
SYJ7000	SYJ7000-21-2A-Q

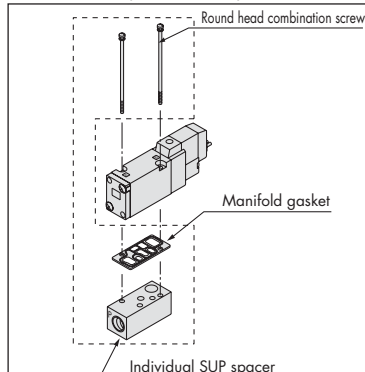
Individual EXH Spacer Assembly



Manifold Series Individual EXH Spacer assemblies

SS5YJ5-20	SYJ5000-17-1A-1-Q
SS5YJ5-41	SYJ5000-17-1A-2-Q
SS5YJ5-42	SYJ5000-17-1A-2-Q
SS5YJ7-20	SYJ7000-17-1FA-Q
SS5YJ7-41	SYJ7000-17-2FA-Q
SS5YJ7-42	SYJ7000-17-2FA-Q

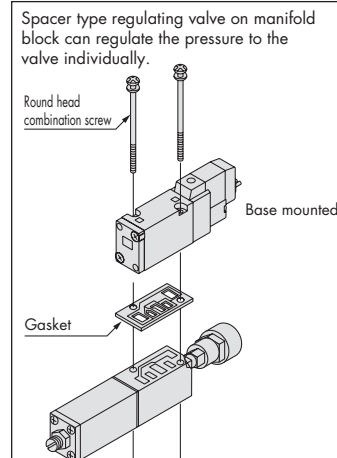
Individual SUP Spacer Assembly



Manifold Series Individual EXH Spacer assemblies

SS5YJ5-20	N/A
SS5YJ5-41	SYJ5000-16-2FA-Q
SS5YJ5-42	SYJ5000-16-2FA-Q
SS5YJ7-20	N/A
SS5YJ7-41	SYJ7000-16-2FA-Q
SS5YJ7-42	SYJ7000-16-2FA-Q

Interface Regulator (P port regulation)



Manifold Series Interface Regulator

SS5YJ5-41/42	ARBYJ5000-00-P-Q
SS5YJ7-41/42	ARBYJ7000-00-P-Q

Flow Characteristics

SYJ3000

Manifold			Port size		Flow characteristics						Effective area (mm ²)
					1→4/2 (P→A/B)			4/2→5/3 (A/B→R)			
			1[P], 5/3[R] port	2[B], 4[A] port	C [dm ³ /[s·bar]]	b	Cv	C [dm ³ /[s·bar]]	b	Cv	
Body ported for internal pilot	SS5YJ3-20	SYJ3□2□	M5	M3	—	—	—	—	—	0.9	
Base mounted for internal pilot	SS5YJ3-41-M5	SYJ3□4□	1/8	M5	0.32	0.25	0.081	0.33	0.19	0.079	—
	C4			0.32	0.28	0.079	0.35	0.24	0.084	—	

SYJ5000

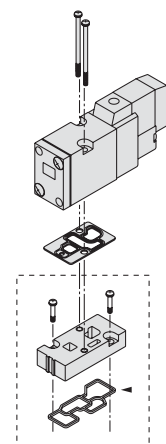
Manifold			Port size		Flow characteristics					
					1→4/2 (P→A/B)			4/2→5/3 (A/B→R)		
			1(P), 5/3(R) Port	2(B), 4(A) Port	C [dm ³ /(s·bar)]	b	Cv	C [dm ³ /(s·bar)]	b	Cv
Body ported for internal pilot	SS5YJ5-20	SYJ5□2□	1/8	M5	0.46	0.39	0.12	0.75	0.32	0.19
			1/8	C4	0.62	0.33	0.16	0.83	0.27	0.20
			1/8	C6	0.79	0.36	0.21	0.91	0.36	0.24
Base mounted for internal pilot	SS5YJ5-41	SYJ5□4□	1/8	M5	0.59	0.35	0.16	0.68	0.23	0.17
	SS5YJ5-42-01		1/4	1/8	0.74	0.22	0.18	0.82	0.31	0.21
	SS5YJ5-42-C6		1/4	C6	0.71	0.24	0.17	0.8	0.29	0.20

SYJ7000

Manifold			Port size		Flow characteristics					
					1→4/2 (P→A/B)			4/2→5/3 (A/B→R)		
			1(P), 5/3(R) port	2(B), 4(A) port	C [dm ³ /(s·bar)]	b	Cv	C [dm ³ /(s·bar)]	b	Cv
Body ported for internal pilot	SS5YJ7-20	SYJ7□2□	1/8	1/8	2.2	0.35	0.57	2.3	0.26	0.55
			1/8	C6	1.4	0.32	0.37	2.0	0.25	0.49
			1/8	C8	1.7	0.38	0.45	2.1	0.25	0.51
Base mounted for internal pilot	SS5YJ7-41	SYJ7□4□	1/4	1/8	2.0	0.30	0.50	2.2	0.30	0.55
	SS5YJ7-42-C6		1/4	C6	1.5	0.32	0.38	2.2	0.23	0.52
	SS5YJ7-42-C8		1/4	C8	1.9	0.24	0.46	2.2	0.26	0.53

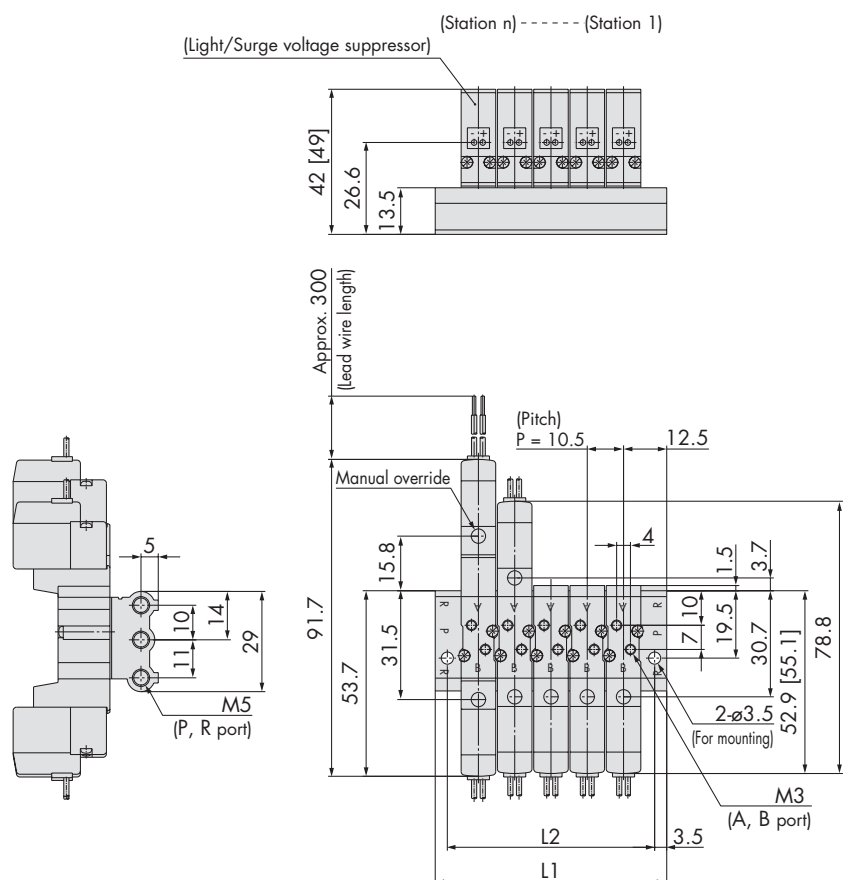
Also Available

For SYJ5000 and SYJ7000 an adapter is available to mount 3 port valves onto a 5 port manifold

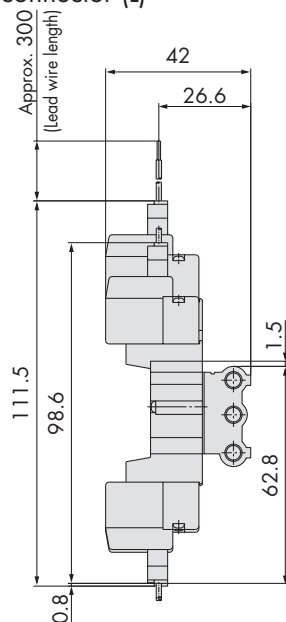


Type 20 Manifold: Top Ported/SS5YJ3-20- Stations -Q

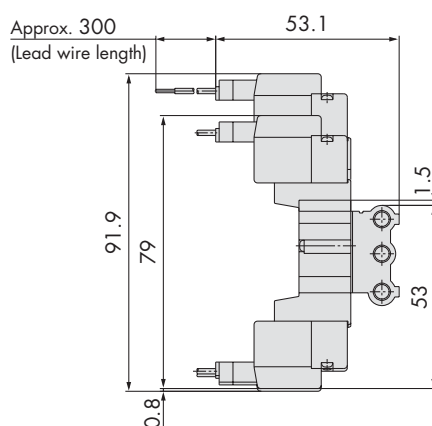
Grommet (G)



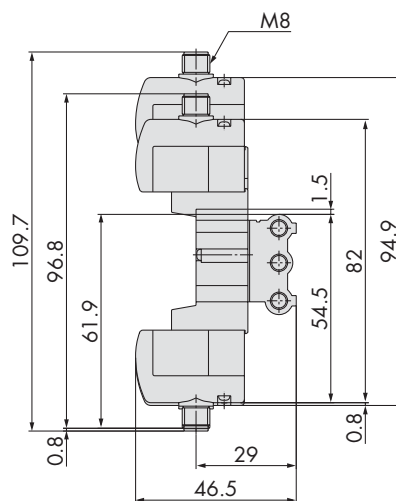
L plug connector (L)



M plug connector (M)



M8 connector (WO)

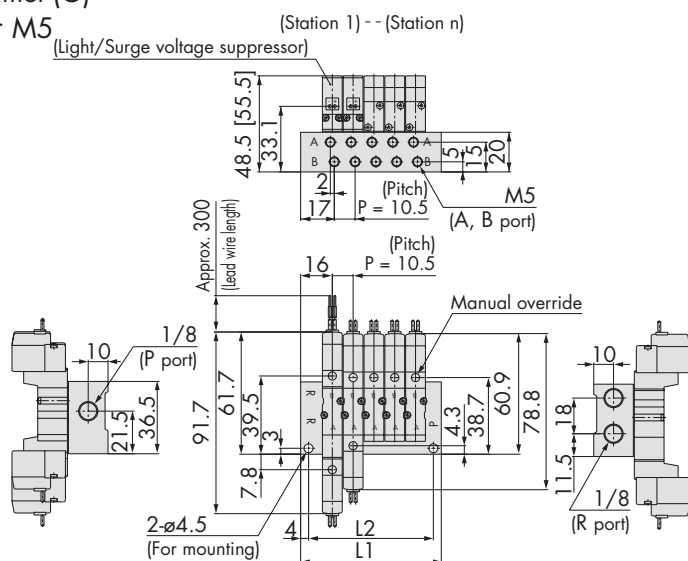


Station n	Station 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Station 20
L1	35.5	46	56.5	67	77.5	88	98.5	109	119.5	130	140.5	151	161.5	172	182.5	193	203.5	214	224.5
L2	28.5	39	49.5	60	70.5	81	91.5	102	112.5	123	133.5	144	154.5	165	175.5	186	196.5	207	217.5

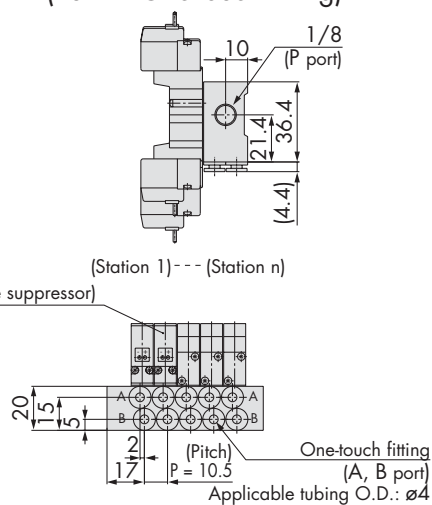
Type 41 Manifold: Side Ported/SS5YJ3-41 - Stations - M5, C4 F-Q

Grommet (G)

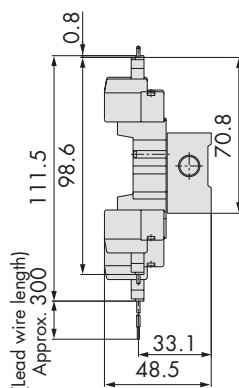
For M5



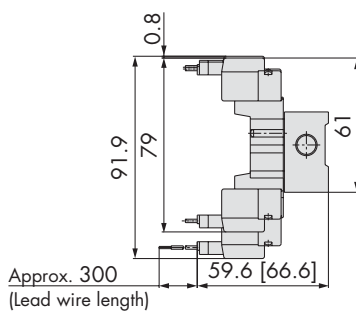
For C4 □ (Built-in One-touch fitting)



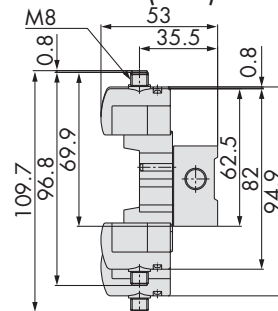
L plug connector (L)



M plug connector (M)



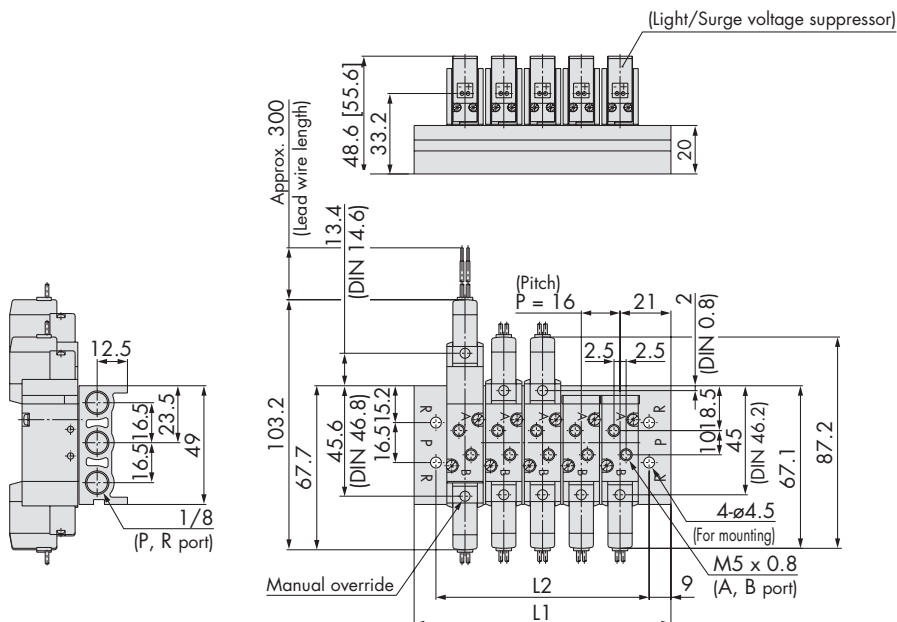
M8 connector (WO)



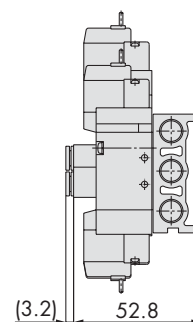
Type 20: Top Ported/SS5YJ5-20- Stations -00F-Q

Grommet (G)

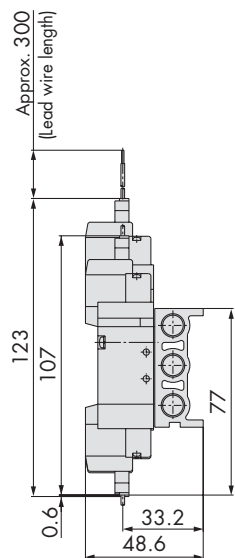
(Station n) ----- (Station 1)



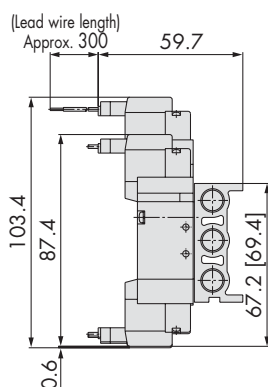
Built-in One-touch fitting



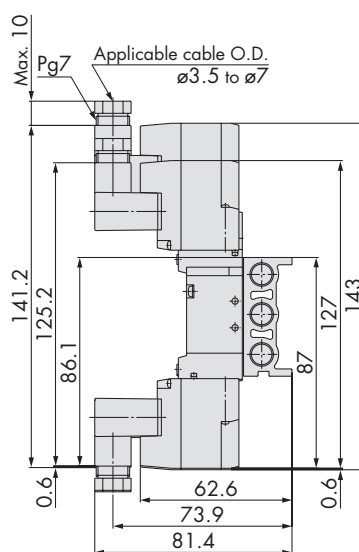
L plug connector (L)



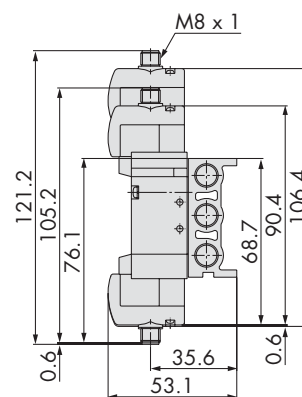
M plug connector (M)



DIN terminal (D)(Y)



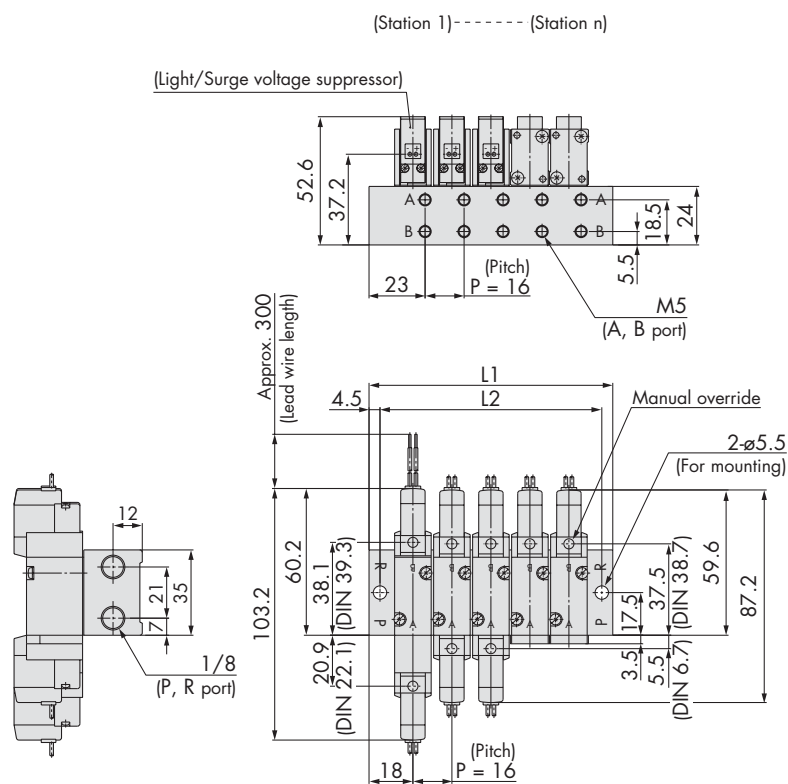
M8 connector (WO)



Station n	Station 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Station 20
L1	58	74	90	106	122	138	154	170	186	202	218	234	250	266	282	298	314	330	346
L2	40	56	72	88	104	120	136	152	168	184	200	216	232	248	264	280	296	312	328

Type 41: Side Ported/SS5YJ5-41- Stations -M5F-Q

Grommet (G)

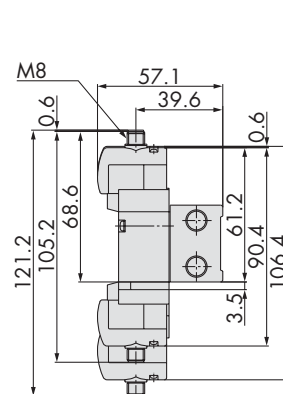
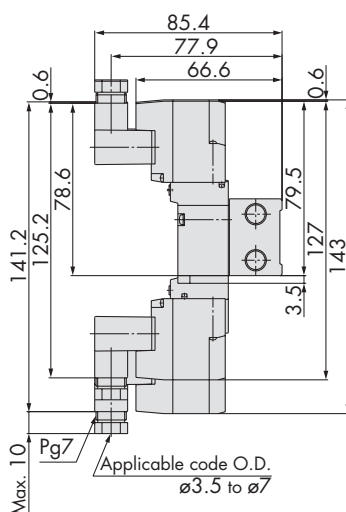
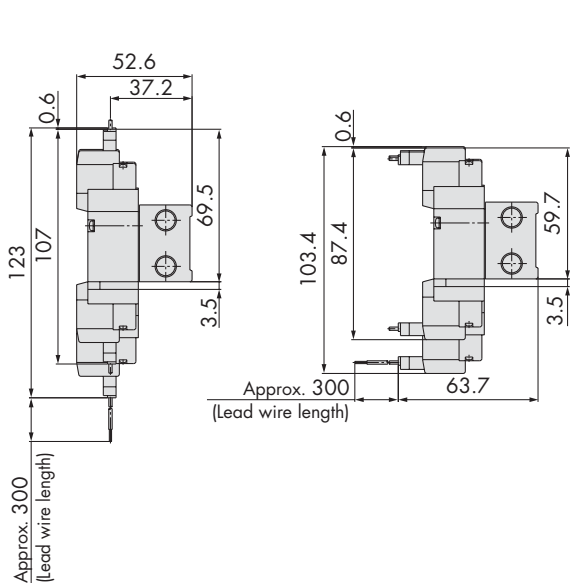


L plug connector (L)

M plug connector (M)

DIN terminal (D)(Y)

M8 connector (WO)

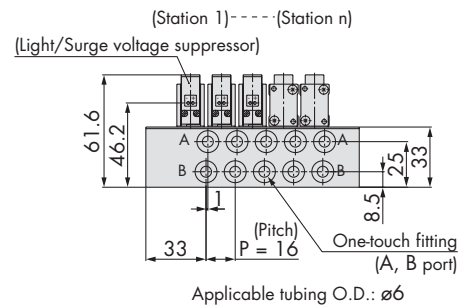
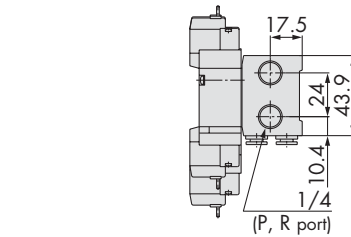
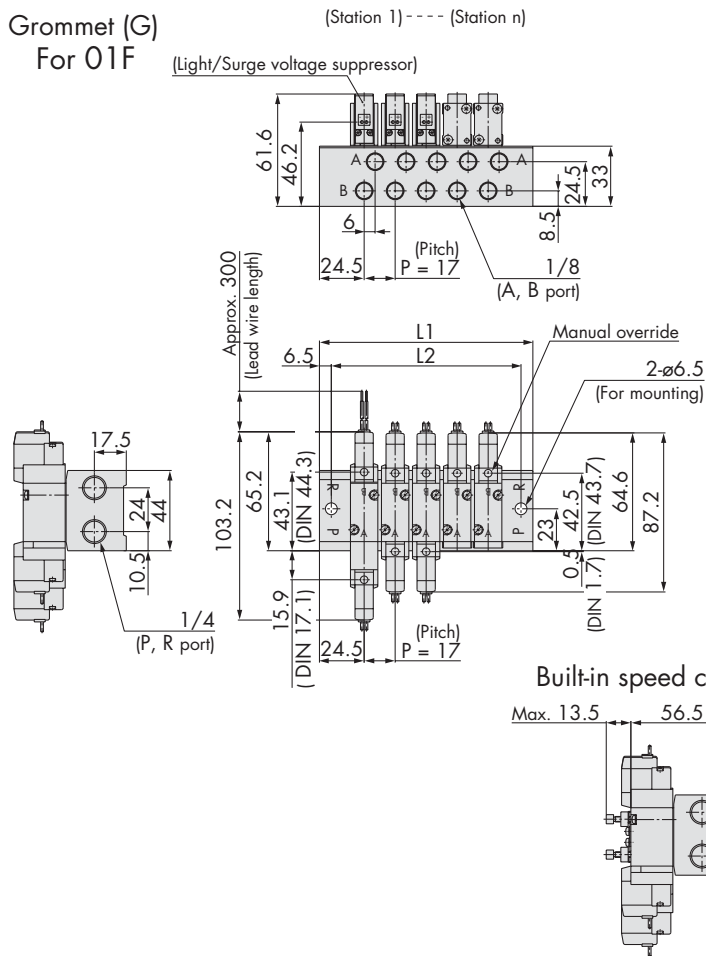


Station n	Station 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Station 20
L1	52	68	84	100	116	132	148	164	180	196	212	228	244	260	276	292	308	324	340
L2	43	59	75	91	107	123	139	155	171	187	203	219	235	251	267	283	299	315	331

Type 42: Side Ported/SS5YJ5-42- Stations -01, C6F -Q

Grommet (G)
For 01F

For C6 □ (Built-in One-touch fitting)



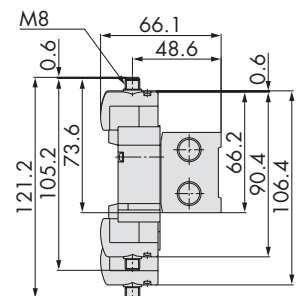
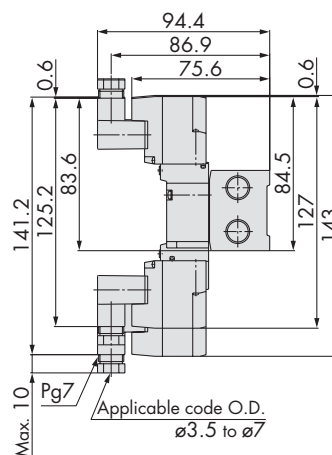
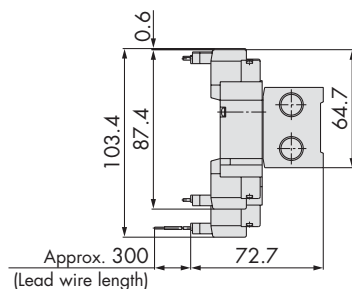
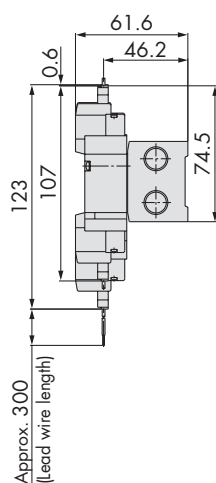
* Other dimensions are the same as the grommet type.

L plug connector (L)

M plug connector (M)

DIN terminal (D)(Y)

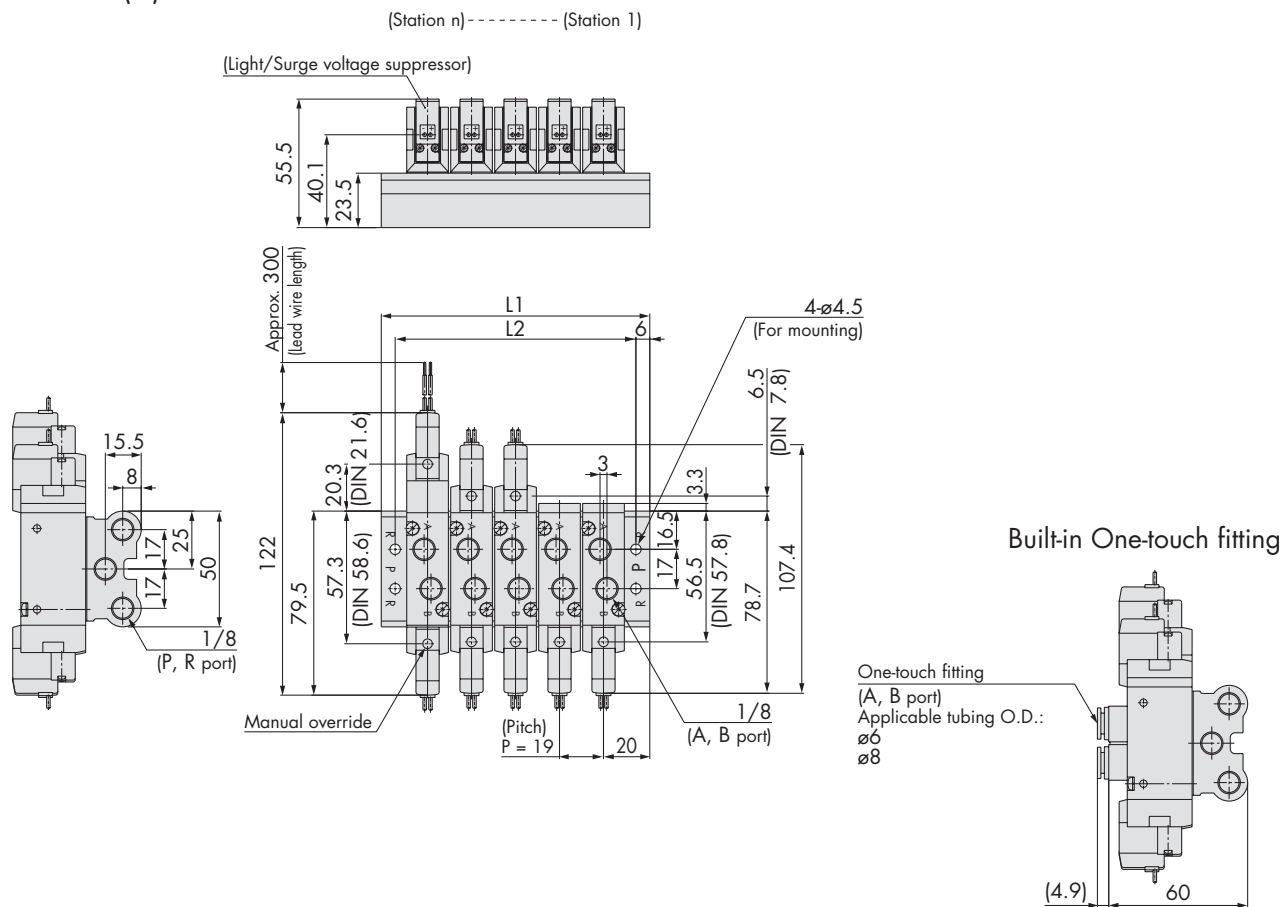
M8 connector (WO)



A, B port size	Station n	Station 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Station 20
For 1/8	L1	66	83	100	117	134	151	168	185	202	219	236	253	270	287	304	321	338	355	372
	L2	53	70	87	104	121	138	155	172	189	206	223	240	257	274	291	308	325	342	359
For C6/N7	L1	65	81	97	113	129	145	161	177	193	209	225	241	257	273	289	305	321	337	353
	L2	52	68	84	100	116	132	148	164	180	196	212	228	244	260	276	292	308	324	340

Type 20: Top Ported/SS5YJ7-20-Stations-00F-Q

Grommet (G)

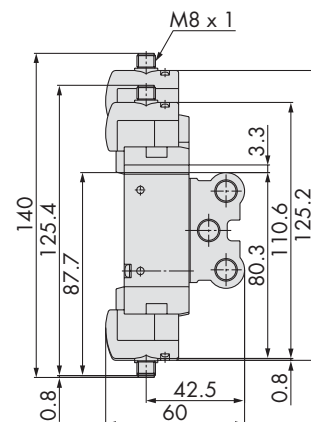
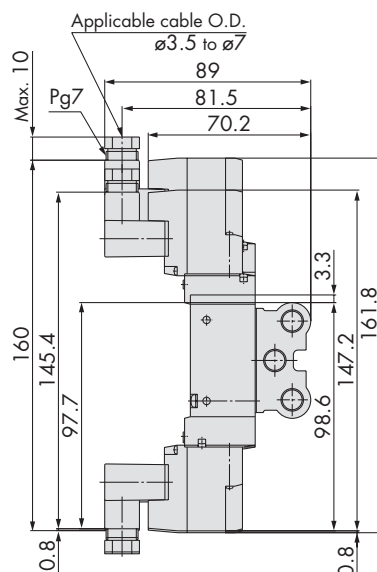
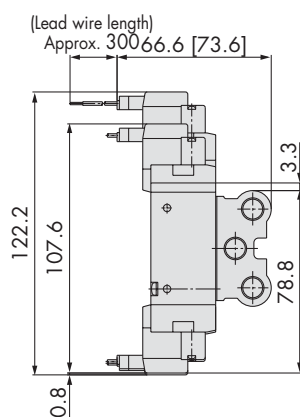
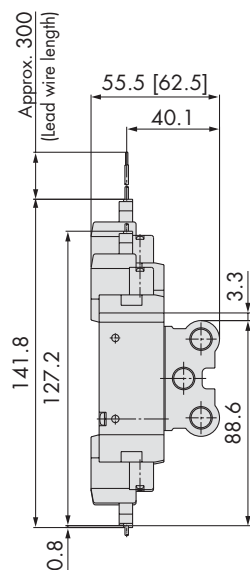


L plug connector (L)

M plug connector (M)

DIN terminal (D)(Y)

M8 connector (WO)

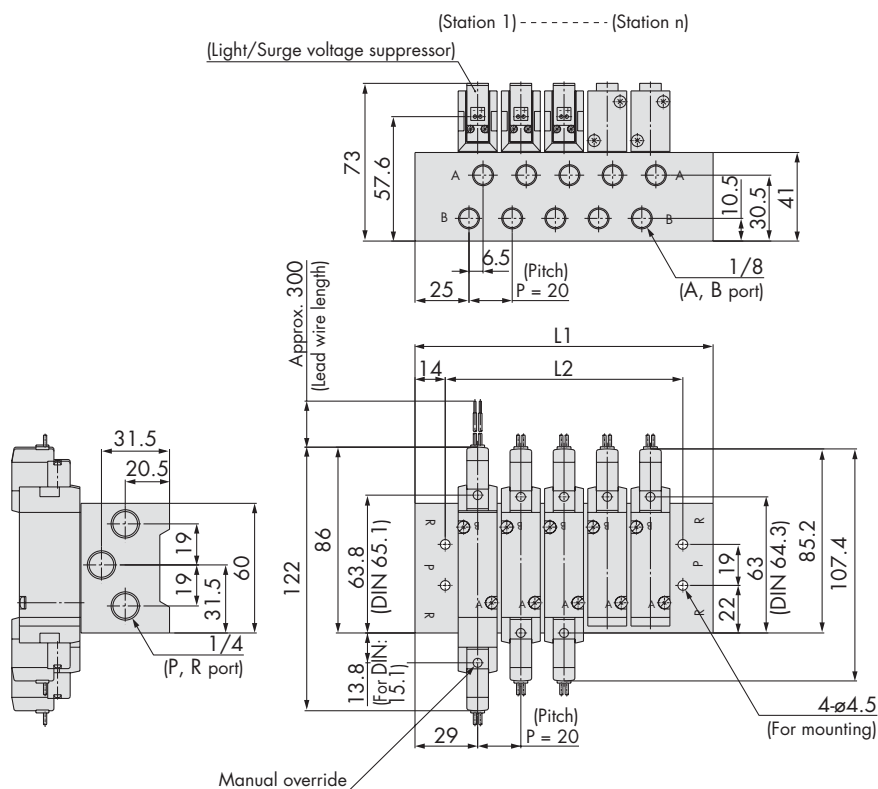


Refer to page 1-5-79 for dimensions with connector cable.

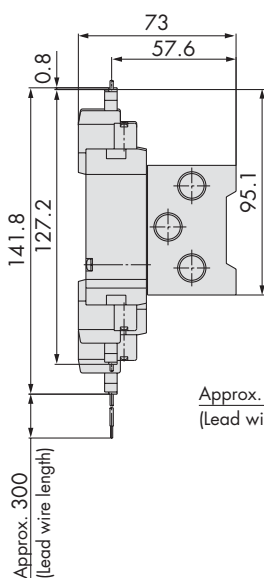
Station n	Station 2	3	4	5	6	7	8	9	10	11	12	13	14	Station 15
L1	59	78	97	116	135	154	173	192	211	230	249	268	287	306
L2	47	66	85	104	123	142	161	180	199	218	237	256	275	294

Type 41: Side Ported/SS5YJ7-41- Stations -01F-Q

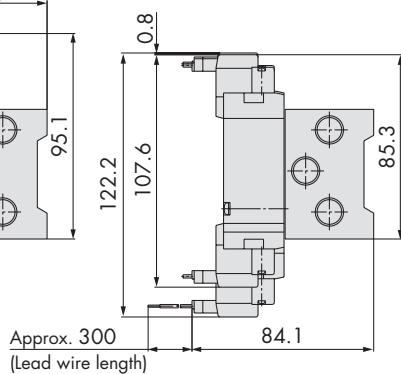
Grommet (G)



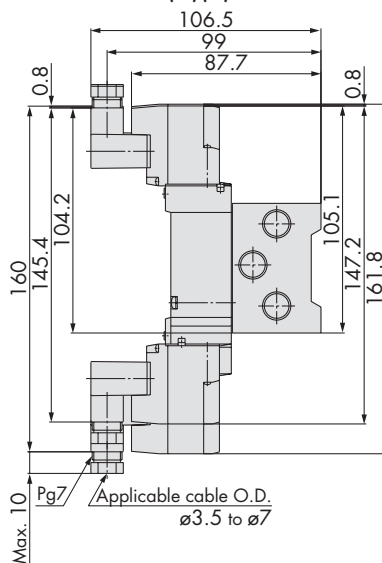
L plug connector (L)



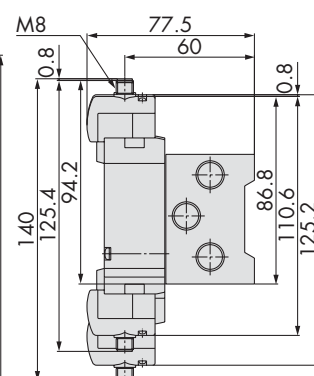
M plug connector (M)



DIN terminal (D)(Y)



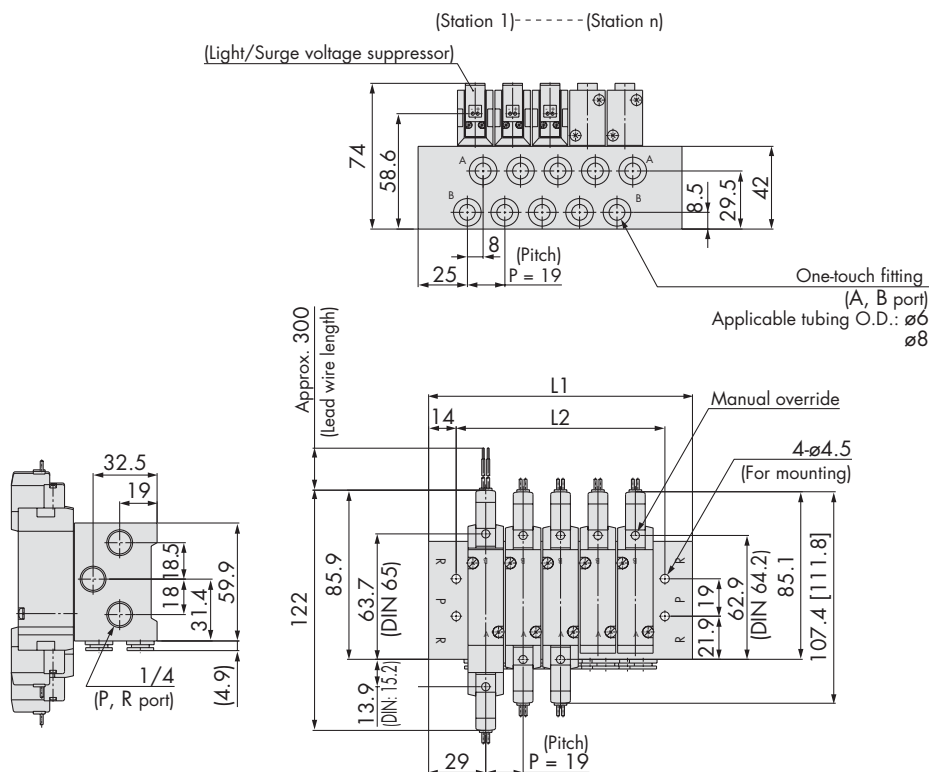
M8 connector (WO)



Station n	Station 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Station 20
L1	78	98	118	138	158	178	198	218	238	258	278	298	318	338	358	378	398	418	438
L2	50	70	90	110	130	150	170	190	210	230	250	270	290	310	330	350	370	390	410

Type 42: Side Ported/SS5YJ7-42- Stations -C₆ -C₈ F-Q

Grommet (G)

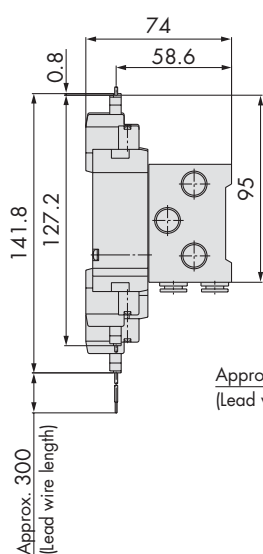


L plug connector (L)

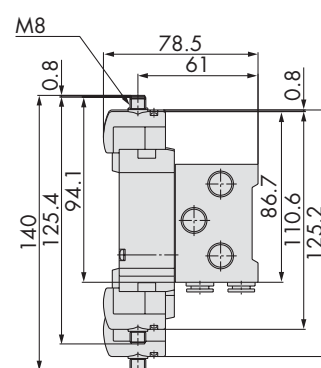
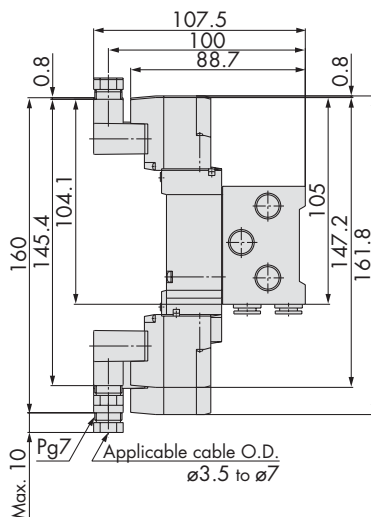
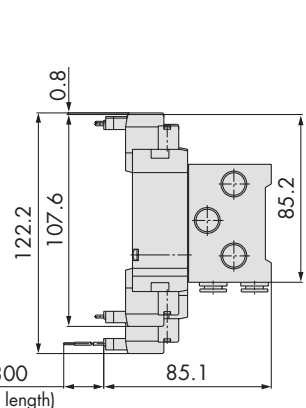
M plug connector (M)

DIN terminal (D)(Y)

M8 connector (WO)



Approx. 300
(Lead wire length)



Station n	Station 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Station 20
L1	77	96	115	134	153	172	191	210	229	248	267	286	305	324	343	362	381	400	419
L2	49	68	87	106	125	144	163	182	201	220	239	258	277	296	315	334	353	372	391

Body Ported Valve Single Unit

Series **SX3/5/7000**



Features

- ➔ 3 different body sizes
- ➔ Compact, narrow body design
- ➔ Simplified wiring with both solenoids at one end of the body



How to Order Valve Body

SX 5 1 20-5 N LO -01F-Q

Series	
3	SX3000
5	SX5000
7	SX7000

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

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

Common specifications

Nil	Positive common
N	Negative common

A, B Outlet Fitting Sizes

Valve Type	M5 (M5)	01F (1/8)	02F (1/4)	C4 (4mm tube)	C6 (6mm tube)	C10 (10mm tube)
SX3000						
SX5000						
SX7000						

Light/Surge voltage suppressor

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

Electrical entry

Grommet	L plug connector	M plug connector
G: Lead wire length 300 mm	LO: Without connector	MO: Without connector

Note: The cables can be found in the cables assembly appendix.

Symbols

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

Valve Specifications

Series		SX3000	SX5000	SX7000
Fluid		Air		
Internal pilot	2 position single	0.15 to 0.7		
Operating pressure range (MPa)	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 single, double	10	5	5
	3 position	3	3	3
Pilot exhaust method		Common exhaust type for main and pilot valve		
Lubrication		Not required		
Mounting orientation		Unrestricted		

Solenoid Specifications

Coil rated voltage (V)	DC	24, 12, 6, 5, 3
Allowable voltage fluctuation		±10% of rated voltage
Power consumption (W)	DC	0.6 (With indicator light: 0.65)
Surge voltage suppressor		Diode
Indicator light		LED

Response Time

SX3000

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

SX5000

2 position single	19 or less	26 or less
2 position double	18 or less	22 or less
3 position	32 or less	38 or less

SX7000

2 position single	31 or less	38 or less
2 position double	27 or less	30 or less
3 position	50 or less	56 or less

Flow Characteristics/Weight

	Type of actuation		Port size		Flow characteristics						Response time (m/s)	Weight (g)			
					1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)				L plug connector M plug connector			
			1, 5, 3 (P, EA, EB)	4, 2 (A, B)	C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv					
	SX3000	2 position	Single	M5	C4 (One-touch fitting for ø4)	0.61	0.44	0.16	0.64	0.45	0.18	15	63		
Double			0.48			0.46	0.13	0.47	0.43	0.13	13	72			
3 position		Closed centre	0.47			0.42	0.13	0.47	0.41	0.13	20	74			
		Exhaust centre	0.50			0.48	0.15	0.47	0.43	0.13					
2 position		Single	0.72			0.29	0.18	0.64	0.34	0.17	15	73			
		Double	0.59			0.28	0.15	0.59	0.30	0.15	13	81			
3 position		Closed centre	0.63			0.35	0.16	0.42	0.34	0.11	20	84			
		Exhaust centre	0.76			0.42	0.21	0.59	0.29	0.15					
2 position		Single	C4 (One-touch fitting for ø6)	0.76	0.30	0.19	0.65	0.39	0.17	15	69				
		Double		0.76	0.55	0.24	0.60	0.33	0.16	13	77				
		3 position		Closed centre	0.65	0.32	0.16	0.64	0.31	0.17	20	80			
				Exhaust centre	0.77	0.34	0.21	0.61	0.34	0.16					
SX5000	2 position	Single		1/8	C4 (One-touch fitting for ø4)	1.9	0.35	0.49	2.4	0.39	0.61	26	76		
		Double				1.7	0.43	0.45	1.8	0.35	0.46	22	84		
	3 position	Closed centre				1.5	0.44	0.41	2.5	0.32	0.59	38	90		
		Exhaust centre				2.2	0.46	0.61	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	26	84		
		Double				0.74	0.40	0.19	0.84	0.57	0.28	22	92		
	3 position	Closed centre				0.75	0.36	0.19	0.84	0.64	0.30	38	97		
		Exhaust centre				0.78	0.44	0.21	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	26	79				
		Double		1.3	0.31	0.33	1.6	0.32	0.39	22	87				
	3 position	Closed centre		1.3	0.33	0.33	1.8	0.35	0.44	38	92				
		Exhaust centre		1.7	0.31	0.42	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	26	80				
		Double		1.6	0.29	0.39	1.7	0.38	0.46	22	88				
		3 position		Closed centre	1.4	0.38	0.39	2.0	0.37	0.52	38	93			
				Exhaust centre	2.2	0.32	0.56	1.8	0.41	0.50					
	SX7000	2 position		Single	1(P) port 1/4	5, 3 (EA, EB) Port 1/8	C8 (One-touch fitting for ø8)	4.1	0.23	0.93	3.3	0.33	0.81	38	109
				Double				2.9	0.31	0.70	2.4	0.38	0.63	30	117
		3 position		Closed centre				2.5	0.39	0.65	3.4	0.35	0.82	56	126
				Exhaust centre				4.3	0.23	0.97	2.2	0.39	0.58		
2 position		Single	C10 (One-touch fitting for ø10)	3.2				0.26	0.77	3.2	0.37	0.82	38	116	
		Double		2.6				0.24	0.63	2.4	0.31	0.62	30	124	
3 position		Closed centre		2.4				0.25	0.57	2.6	0.42	0.70	56	132	
		Exhaust 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	38	111				
		Double		2.8	0.27	0.67	2.4	0.21	0.59	30	119				
		3 position		Closed centre	2.5	0.25	0.59	2.7	0.38	0.70	56	128			
				Exhaust centre	3.8	0.25	0.89	2.3	0.38	0.61					

Note: Response times are with light and surge voltage suppressor fitted.

Body Ported Manifold Bar Stock Type

Series **SX3/5/7000**

How to Order Manifold

SS5X **5** — 20 — **05** — 00F-Q

Series		Stations	
3	SX3000	02	2 stations
5	SX5000	:	:
7	SX7000	20	20 stations



Note: Applicable valves; Body ported SX series, SX**20 type.

Manifold Specifications

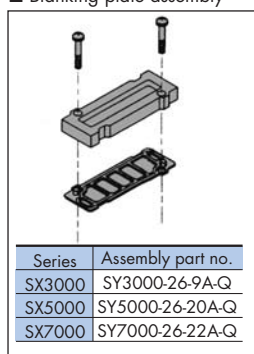
Model		SS5X3-20	SS5X5-20	SS5X7-20
Applicable valve		SX3□20	SX5□20	SX7□20
Manifold type		Single base/B mount		
P (SUP)/R (EXH)		Common SUP/Common EXH		
Valve stations		2 to 20 stations		
A, B port location		Valve		
Port size	P, EA, EB port	1/8	1/4	1/4
	A, B port	M5 C4 (One-touch fitting for ø4) C6 (One-touch fitting for ø6)	1/8 C4 (One-touch fitting ø4) C6 (One-touch fitting for ø6) C8 (One-touch fitting for ø8)	1/4 C8 (One-touch fitting for ø8) C10 (One-touch fitting for ø10)

Flow Characteristics

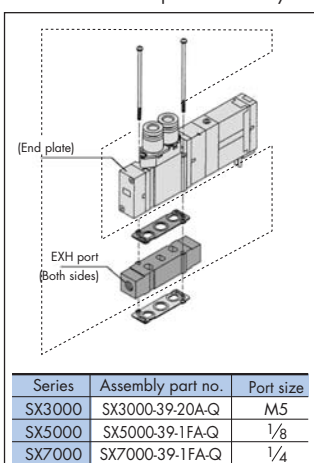
Model	Port size		Flow characteristics					
			1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)		
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	C [dm ³ / (s·bar)]	b	Cv	C [dm ³ / (s·bar)]	b	Cv
SS5X3-20	1/8	C6	0.72	0.29	0.18	0.80	0.36	0.21
SS5X5-20	1/4	C8	1.9	0.28	0.48	2.2	0.20	0.53
SS5X7-20	1/4	C10	3.6	0.31	0.93	3.6	0.27	0.88

Manifold Accessories

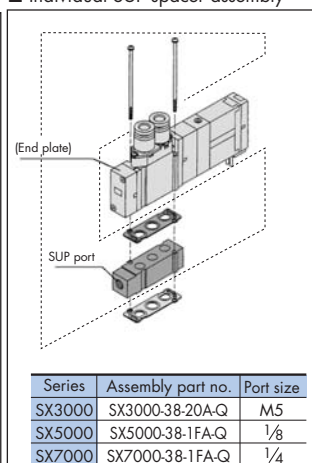
■ Blanking plate assembly



■ Individual EXH spacer assembly



■ Individual SUP spacer assembly



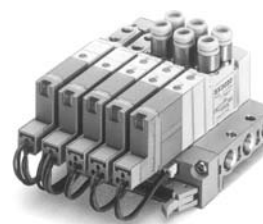
■ Plug

Inserted into an unused cylinder port and SUP/EXH ports.

Applicable fitting 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

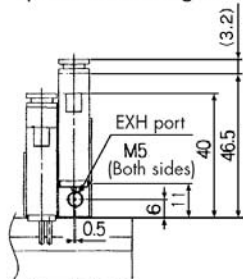
Also Available

Body ported valve with pre-wired connector.



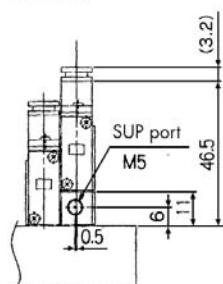
SX3000: SS5X3-20- Stations -00F-Q

Individual EXH
spacer mounting size

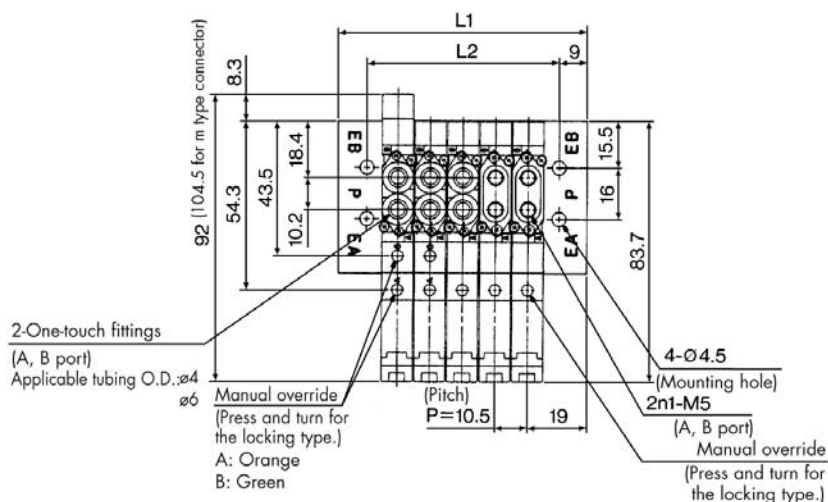
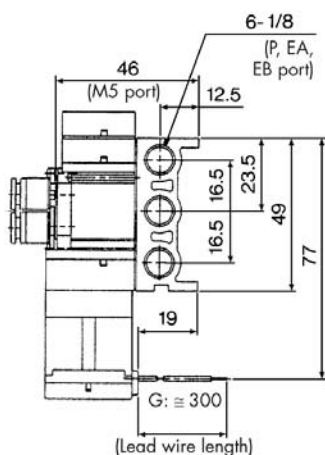
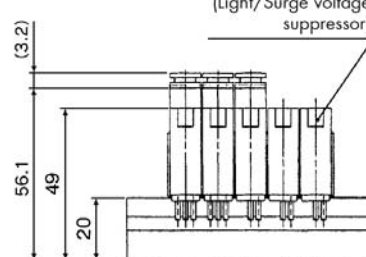


Individual SUP
spacer mounting size

(SUP port is mounted on the
end plate side of single
solenoid.)



(Light/Surge voltage
suppressor)

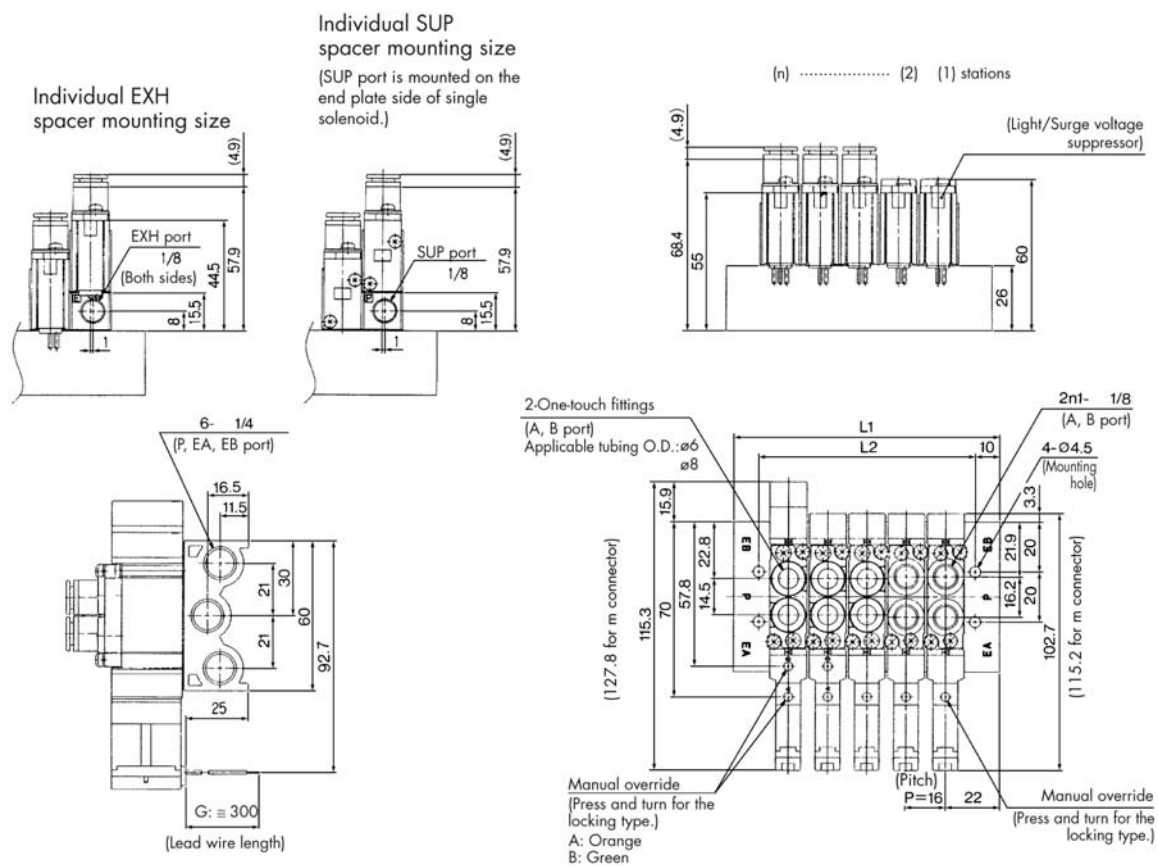


(n) (2) (1) stations

n: Stations (n1 + n2)

Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
L1	48.5	59	69.5	80	90.5	101	111.5	122	132.5	143	153.5	164	174.5	185	195.5	206	216.5	227	237.5
L2	30.5	41	51.5	62	72.5	83	93.5	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5

SX5000: SS5X5-20- Stations -00F-Q

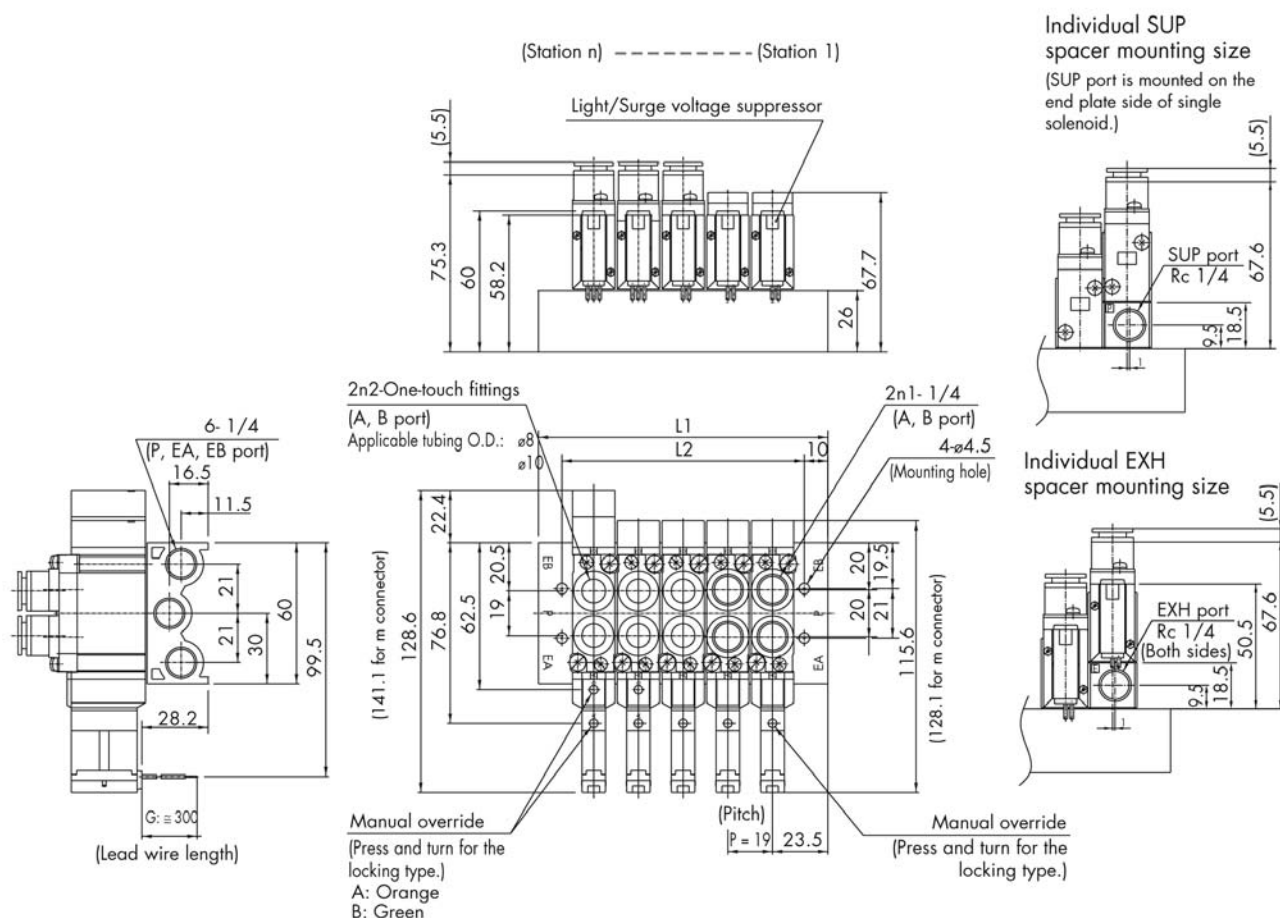


(n) (2) (1) stations

n: Stations ($n_1 + n_2$)

Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
L1	60	76	92	108	124	140	156	172	188	204	220	236	252	268	284	300	316	332	348
L2	40	56	72	88	104	120	136	152	168	184	200	216	232	248	264	280	296	312	328

SX7000: SS5X7-20- Stations -00F-Q



Valves

n: Stations ($n_1 + n_2$)

Stations n	2 stations	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 stations
L1	66	85	104	123	142	161	180	199	218	237	256	275	294	313	332	351	370	389	408
L2	46	65	84	103	122	141	160	179	198	217	236	255	274	293	312	331	350	369	388

Base Mounted Valve Single Unit

Series **SX3/5/7000**

Features

- Compact slide body design.
- Both solenoids at one end to simplify wiring.
- Choice of electrical entries.



How to Order

SX 5 2 40 — 5 N LO — Q

Series	
3	SX3000
5	SX5000
7	SX7000

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

Electrical entry

Grommet	L plug connector	M plug connector
G: Lead wire length 300 mm	LO: Without connector	MO: Without connector

Light/Surge voltage suppressor

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

Common specifications

Nil	Positive common
N	Negative common

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

Solenoid Specifications

Coil rated voltage (V)	DC	24, 12, 6, 5, 3
Allowable voltage fluctuation		±10% of rated voltage
Power consumption (W)	DC	0.6 (With indicator light: 0.65)
Surge voltage suppressor		Diode
Indicator light		LED

Specifications

Series		SX3000	SX5000	SX7000
Fluid		Air		
Internal pilot	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	-100 kPa to 0.7		
	Pilot pressure range	0.25 to 0.7		
	2 position single	0.25 to 0.7		
Ambient and fluid temperature (°C)	2 position double	0.25 to 0.7		
	3 position	0.25 to 0.7		
Max. operating frequency (Hz)		Max. 50		
Pilot exhaust method	Internal pilot	10	5	5
	External pilot	3	3	3
Common exhaust type for main and pilot valve		Common exhaust type for main and pilot valve		
Pilot valve individual exhaust		Pilot valve individual exhaust		
Lubrication		Not required		
Mounting orientation		Unrestricted		
Enclosure		Dusttight		

Symbols

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

Connector Assemblies

Please see the cables appendix for connector cables for L and M type valves.

Accessories for SX Base Mounted Valves

Single Subbases



Valve Size	Part Number
SX3000	SY3000-27-1F-Q (1/8 port)
SX5000	SY5000-27-1F-Q (1/4 port)
SX7000	SY7000-27-1F-Q (1/4 port) SY7000-27-2F-Q (3/8 port)

Response Time

(Note) Based on dynamic performance test, JIS B 8375-1981. (Coil temperature: 20°C, at rated voltage)

SX3000

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

SX5000

2 position single	19 or less	26 or less
2 position double	18 or less	22 or less
3 position	32 or less	38 or less

SX7000

2 position single	31 or less	38 or less
2 position double	27 or less	30 or less
3 position	50 or less	56 or less

Flow Characteristics/Weight

SX3000	Type of actuation		Port size	Flow characteristics ⁽¹⁾						Response time (m/s)	Weight (g)
				1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)				L plug connector M plug connector
				C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv		
	2 position	Single	1/8	1.0	0.30	0.24	1.1	0.30	0.26	15	101
		Double							13	110	
3 position	Closed centre	0.77		0.28	0.18	0.85	0.30	0.19	20	112	
	Exhaust centre	0.73		0.31	0.18	1.1	0.26	0.24			
	Pressure centre	1.2 [0.51]		0.24 [0.45]	0.29 [0.14]	0.89	0.47	0.24			

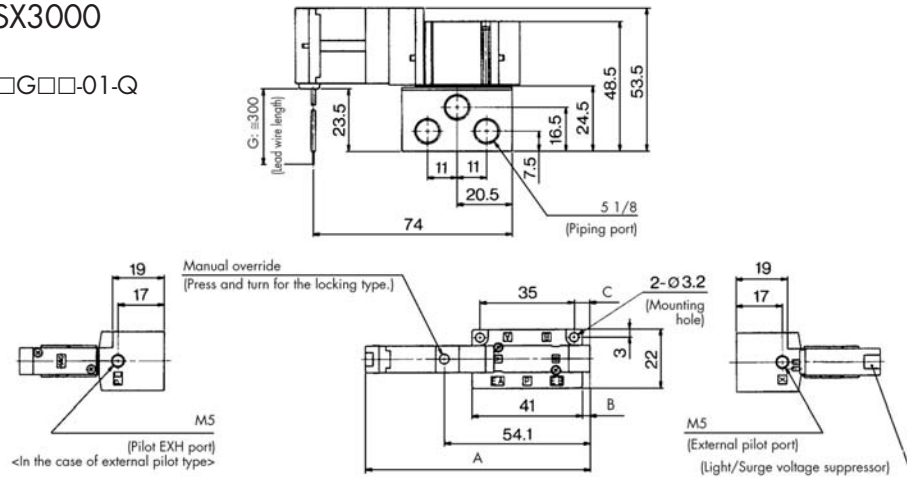
SX5000	Type of actuation		Port size	Flow characteristics ⁽¹⁾						Response time (m/s)	Weight (g)
				1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)				L plug connector M plug connector
				C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv		
	2 position	Single	1/4	2.4	0.41	0.64	2.8	0.29	0.66	26	137
		Double							22	145	
	3 position	Closed centre		1.8	0.47	0.50	1.8	0.40	0.47	38	151
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			

SX5000	Type of actuation		Port size	Flow characteristics ⁽¹⁾						Response time (m/s)	Weight (g)
				1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)				L plug connector M plug connector
				C [dm ³ /[s·bar]]	b	Cv	C [dm ³ /[s·bar]]	b	Cv		
	2 position	Single	1/4	4.1	0.41	1.1	4.1	0.29	1.0	38	223
		Double							30	231	
	3 position	Closed centre		3.0	0.43	0.80	2.6	0.41	0.72	50	240
		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	38	223
		Double							30	231	
3 position	Closed centre	3.0		0.40	0.80	2.6	0.45	0.73	56	240	
	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			

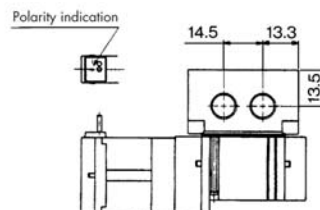
Note: Response times are with lamp and surge voltage suppressor fitted.

Dimensions: Series SX3000

2 position single
Grommet (G): SX3140(R)-□G□□-01-Q

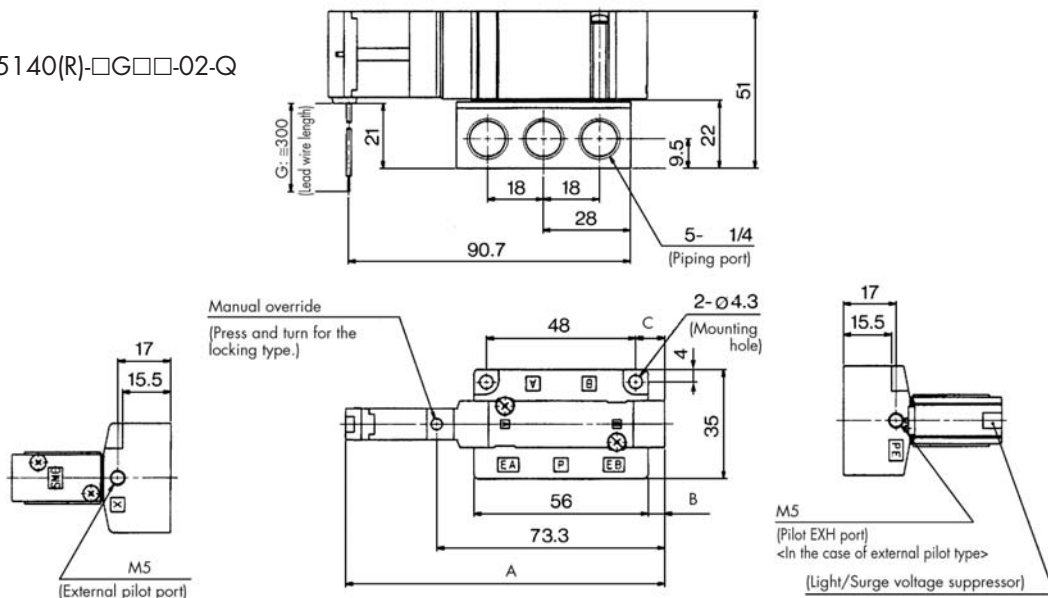


		A	B	C
Grommet / L Connector	Single Solenoid	83.5	2.8	5.8
	Double Solenoid	83.5	2.8	5.8
	3 Position	92	11.3	14.3
M Connector	Single Solenoid	96	2.8	5.8
	Double Solenoid	96	2.8	5.8
	3 Position	104.5	11.3	14.3

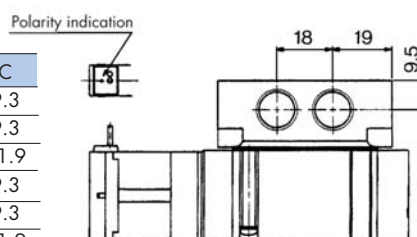


Dimensions: Series SX5000

2 position single
Grommet (G): SX5140(R)-□G□□-02-Q

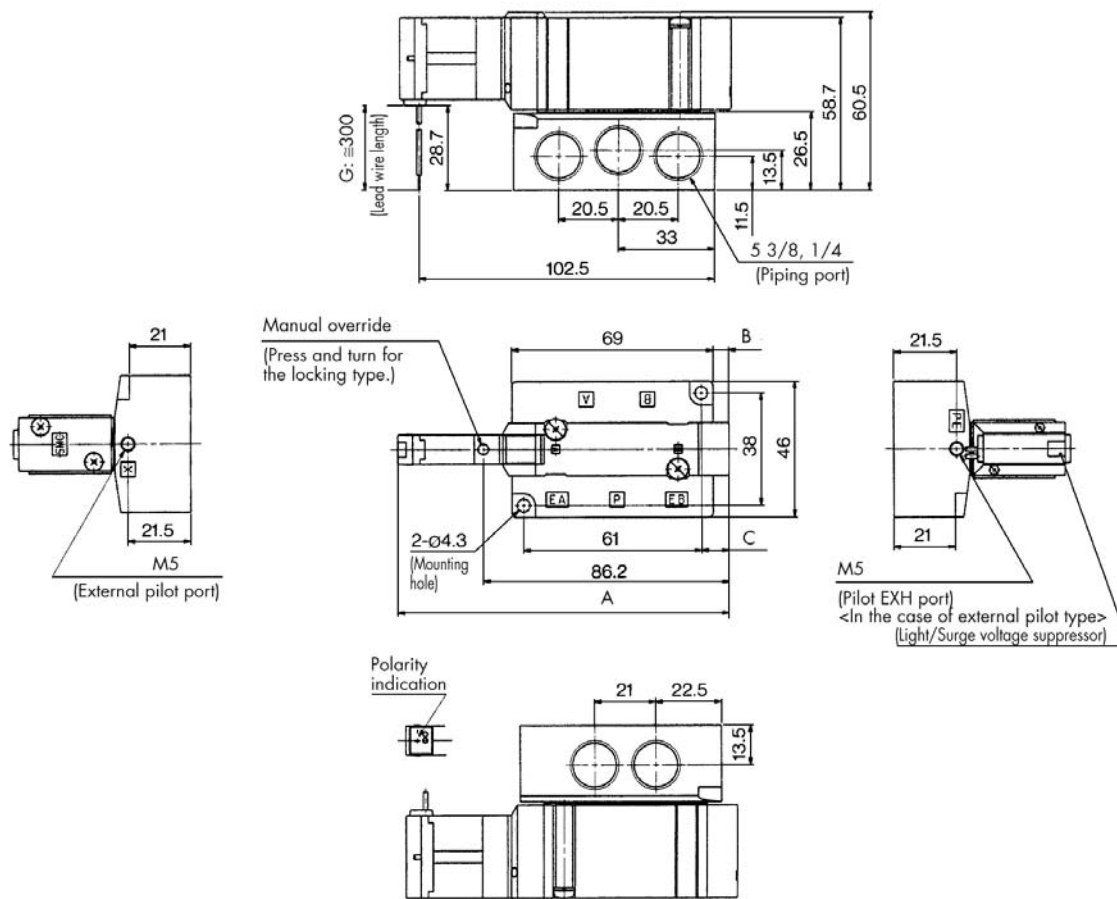


		A	B	C
Grommet / L Connector	Single Solenoid	102.7	5.3	9.3
	Double Solenoid	102.7	5.3	9.3
	3 Position	115.3	17.9	21.9
M Connector	Single Solenoid	115.2	5.3	9.3
	Double Solenoid	115.2	5.3	9.3
	3 Position	127.8	17.9	21.9



Dimensions: Series SX7000

2 position single
Grommet (G): SX7140(R)-□_H□□-₀₃-Q



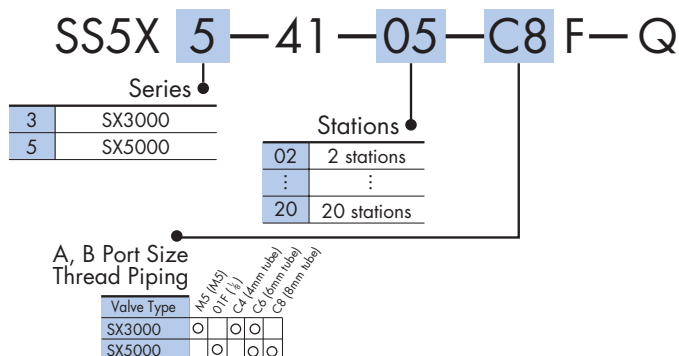
		A	B	C
Grommet / L Connector	Single Solenoid	115.6	6.4	10.4
	Double Solenoid	115.6	6.4	10.4
	3 Position	128.6	19.4	23.4
M Connector	Single Solenoid	128.1	6.4	10.4
	Double Solenoid	128.1	6.4	10.4
	3 Position	141.1	19.4	23.4

Base Mounted Manifold Bar Stock Type

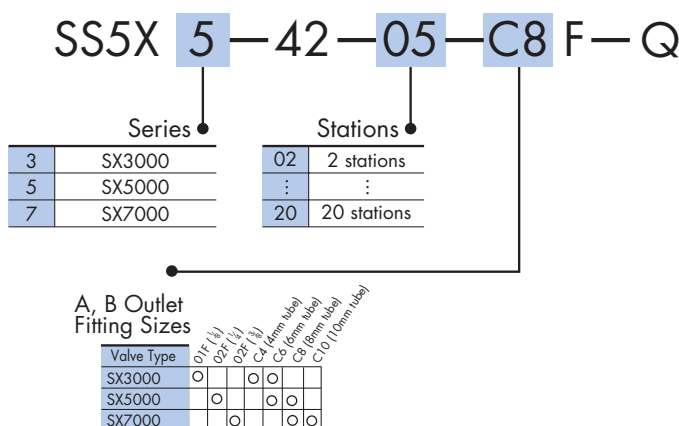
Series **SX3/5/7000**

How to Order Manifold

Type 41 (Compact type)



Type 42 (Common external pilot type)



Also Available

Base mounted bar manifolds with plug in wiring connections. Type 41P and 42P.



Manifold Specifications

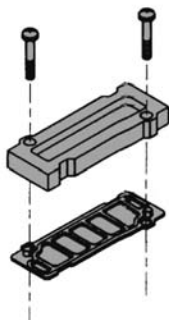
Model	SS5X3-41	SS5X3-42	SS5X5-41	SS5X5-42	SS5X7-42
Applicable valve	SX3□40	SX3□40(R)	SX5□40	SX5□40(R)	SX7□40(R)
Manifold type	Single base/B mount				
P(SUP)/R(EXH)	Common SUP/Common EXH				
Valve stations	2 to 20 stations				
A, B Porting specifications	Location				
	Base				
Port size	Direction				
	Side				
P, EA, EB port	1/8		1/4		1/4
	M5		1/8		1/4
	C4 (One-touch fitting for ø4)		C6 (One-touch fitting for ø6)		C10 (One-touch fitting for ø10)
A, B port	C6 (One-touch fitting for ø6)		C8 (One-touch fitting for ø8)		C10 (One-touch fitting for ø10)
	C4 (One-touch fitting for ø4)		C6 (One-touch fitting for ø6)		C10 (One-touch fitting for ø10)
	C6 (One-touch fitting for ø6)		C8 (One-touch fitting for ø8)		C10 (One-touch fitting for ø10)

Flow Characteristics

Model	Port size		Flow characteristics					
			1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)		
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	C [dm ³ / (s·bar)]	b	Cv	C [dm ³ / (s·bar)]	b	Cv
SS5X3-41	1/8	C6	0.75	0.19	0.18	0.81	0.23	0.20
SS5X3-42	1/8	C6	0.75	0.20	0.18	0.82	0.20	0.20
SS5X5-41	1/4	C8	1.8	0.23	0.44	1.9	0.16	0.45
SS5X5-42	1/4	C8	1.9	0.20	0.46	1.9	0.12	0.43
SS5X7-42	1/4	C10	3.0	0.25	0.75	3.0	0.12	0.66

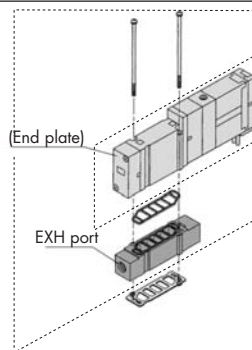
Manifold Accessories

■ Blanking plate assembly



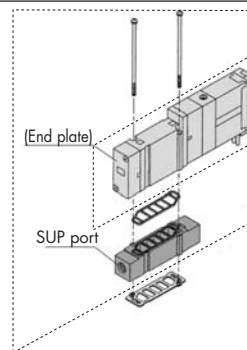
Series	Assembly part no.
SX3000	SY3000-26-9A-Q
SX5000	SY5000-26-20A-Q
SX7000	SY7000-26-22A-Q

■ Individual EXH spacer assembly



Series	Assembly part no.	Port size
SX3000	SX3000-39-2A-Q	M5
SX5000	SX5000-39-16FA-Q	1/8
SX7000	SX7000-39-16FA-Q	1/4

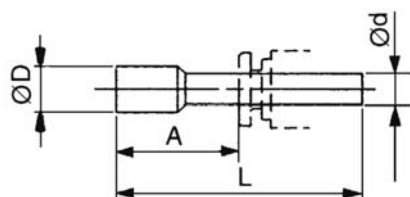
■ Individual SUP spacer assembly



Series	Assembly part no.	Port size
SX3000	SX3000-38-2A-Q	M5
SX5000	SX5000-38-16FA-Q	1/8
SX7000	SX7000-38-16FA-Q	1/4

■ Plug

Inserted into an unused cylinder port and SUP/EXH ports.
Purchasing order is available in units of 10 pieces.



Dimensions

Applicable fittings fitting ed	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

Type 41 and 42 Manifold Dimensions

If dimensions are needed please refer to the Best 2004 Pneumatics catalogue Volume 1, page 1-6-57 onwards. Please note also that the manifold dimensions are common to SY type 41 and 42 shown earlier in this catalogue, but the valve body dimensions differ.

Base Mounted Manifold Slice Type DIN Rail Mounted Individual Wiring



Series **SX3/5000**

How to Order Manifold

SS5X 3-45-04 U-C6-Q

Series	Valve stations
3	SX3000
5	SX5000
02	2 stations
⋮	⋮
20	20 stations

SUP/EXH block assembly
mounting position

Symbol	Mounting position	Applicable stations
U	U side	2 to 10 stations
D	D side	
B	Both sides	2 to 20 stations



A, B port size
(Metric size)

Symbol	Port size	Applicable series
C4	One-touch fitting for ø4	SX3000
C6	One-touch fitting for ø6	
C4	One-touch fitting for ø4	SX5000
C6	One-touch fitting for ø6	
C8	One-touch fitting for ø8	

Individual Wiring Manifold

Note: Applicable valves for type 45 manifolds:

SX Base Mounted Valves, series SX**40.

Manifold Specifications

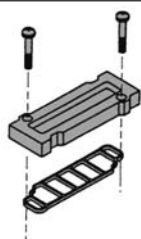
Model	SS5X3-45	SS5X5-45
Applicable valve	SX3□40	SX5□40
Manifold type	Stacking type/DIN rail mounted	
P(SUP), R(EXH)	Common SUP/Common EXH	
Valve stations ^{Note)}	2 to 20 stations	
A, B port specifications	Location	Base
	Direction	Side
Port size	P, R port	C8 (One-touch fitting for ~8) C10 (One-touch fitting for ~10)
	A, B port	C4 (One-touch fitting for ~4) C6 (One-touch fitting for ~6) C8 (One-touch fitting for ~8)

Flow Characteristics

Model	Port size		Flow characteristics					
			1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)		
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	C [dm ³ / [sΣbar]]	b	Cv	C [dm ³ / [sΣbar]]	b	Cv
SS5X3-45	C8	C6	0.88	0.21	0.22	0.95	0.18	0.22
SS5X5-45	C10	C8	2.2	0.24	0.53	2.5	0.18	0.58

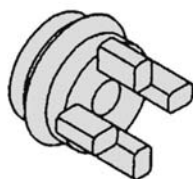
Manifold Accessories

■ Blanking plate assembly



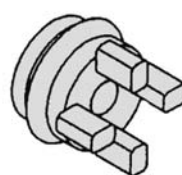
Series	Assembly part no.
SX3000	SX3000-75-1A
SX5000	SX5000-76-1A

■ SUP block disk



Series	Part no.
SX3000	SX3000-77-1A
SX5000	SX5000-77-1A

■ EXH block disk

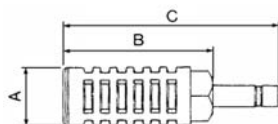


Series	Part no.
SX3000	SX3000-77-1A
SX5000	SX5000-77-1A

Note: Individual supply and exhaust spacers plus port plugs are common to type 41 and 42 manifolds.

■ Silencer with One-touch fitting

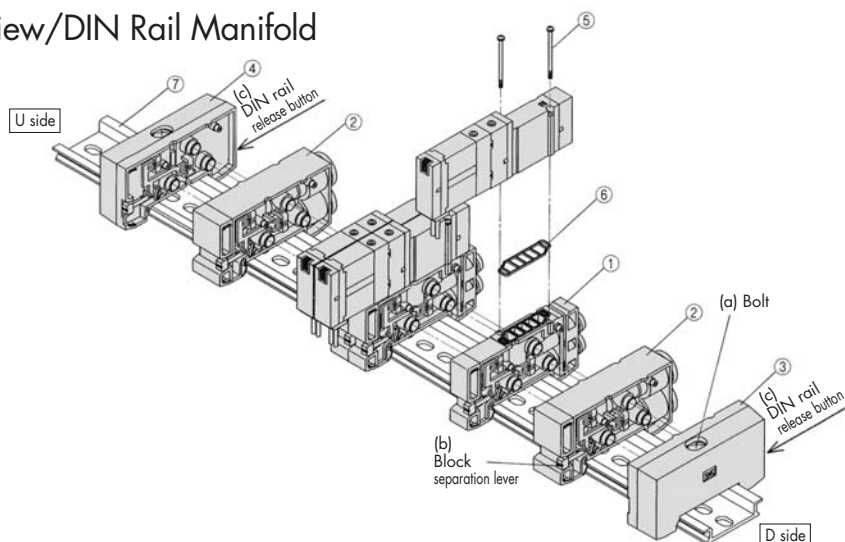
This silencer can be mounted on the manifold's port R (exhaust) with a single touch.



Series	Model	Effective area	A	B	C
SX3000 (ø8)	AN203-KM8	14 mm ²	ø16	26	51
SX5000 (ø10)	AN200-KM10	26 mm ²	ø22	53.8	80.8
	AN300-KM10	30 mm ²	ø25	70	97

Exploded View/DIN Rail Manifold

Type 45



Replacement Parts

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

Base Mounted Manifold Slice Type DIN Rail Mounted, Plug-in connection



Series **SX3/5000**

How to Order Manifold

Type 45F (D-sub connector, 25 pins type)

SS5X 3-45 F D-05 U-C4-Q

Series	
3	SX3000
5	SX5000

Common specifications	
Nil	Positive common
N	Negative common

Connector mounting position	
Symbol	Mounting position
U	U side
D	D side

Valve stations		
Symbol	Stations	Note
02	2 stations	Double wiring specifications
⋮	⋮	
10	10 stations	
02	2 stations	Available up to 20 solenoids. Specify the wiring specifications on the manifold specification sheet.
⋮	⋮	
20	20 stations	



A, B Port Size
Thread Piping

Valve Type	C4 (4mm tube)	C6 (6mm tube)	C8 (8mm tube)
SX3000	○	○	
SX5000	○	○	○

SUP/EXH block assembly
mounting position

Symbol	Mounting position	Stations
U	U side	2 to 10 stations
D	D side	2 to 10 stations
B	Both sides	2 to 20 stations
M	Special specifications	

Note: For manifolds larger than 10 stations the electrical specifications must be agreed, as not all stations can be double wired. Contact SMC for further details and a specifications form.

Note: Internal wiring and pin-outs can be found in the cables appendix.

Manifold Specifications Type 45F Manifold

Manifold		Plug-in type
P(SUP), R(EXH)		Common SUP/Common EXH
Valve stations (Note)		2 to 20 stations
A, B porting specifications	Location	Base
	Direction	Side
Port size	P, R port	SX3000 C8 (One-touch fitting for ø8)
		SX5000 C10 (One-touch fitting for ø10)
	A, B port	SX3000 C4 (One-touch fitting for ø4)/C6 (One-touch fitting for ø6)
		SX5000 C4 (One-touch fitting for ø4)/C6 (One-touch fitting for ø6)/C8 (One-touch fitting for ø8)

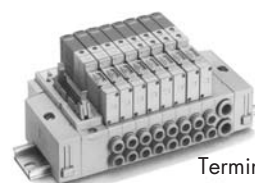
Flow Characteristics

Model	Port size		Flow characteristics					
			1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)		
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	C [dm ³ /s-bar]	b	Cv	C [dm ³ /s-bar]	b	Cv
SS5X3-45	C8	C6	0.88	0.21	0.22	0.95	0.18	0.22
SS5X5-45	C10	C8	2.2	0.24	0.53	2.5	0.18	0.58

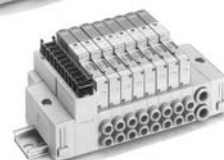
Also Available

Alternative wiring methods for type 45 plug in manifolds are available. These are flat ribbon cable connectors, PC connectors and wiring terminal blocks. Please contact SMC or refer to Best Pneumatics 2004 for details.

Flat ribbon cable



Terminal block



Serial Transmission



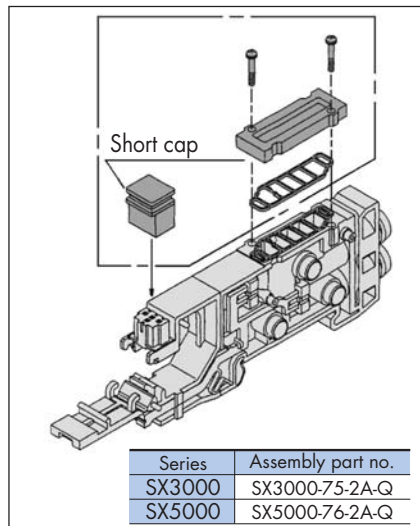
For 25-pin D-sub connector cables, please refer to the cables appendix.

Manifold Accessories

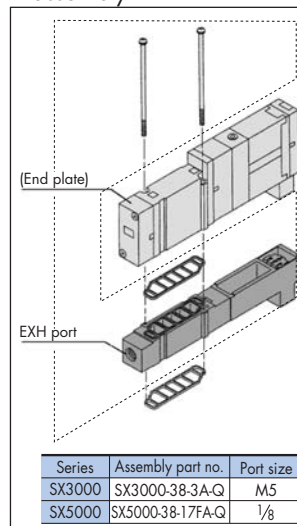
The following accessories are common to type 45 non-plug-in manifolds.

■ Supply and Exhaust blocking disks ■ Blocking disk labels ■ Silencers ■ Port plugs

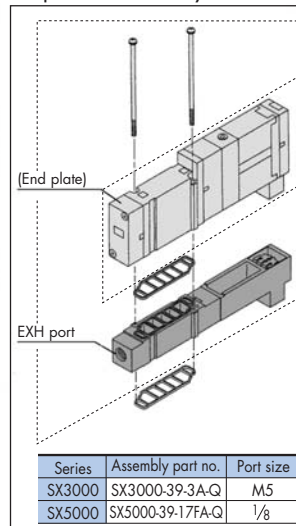
■ Blanking plate assembly



■ Individual SUP spacer assembly

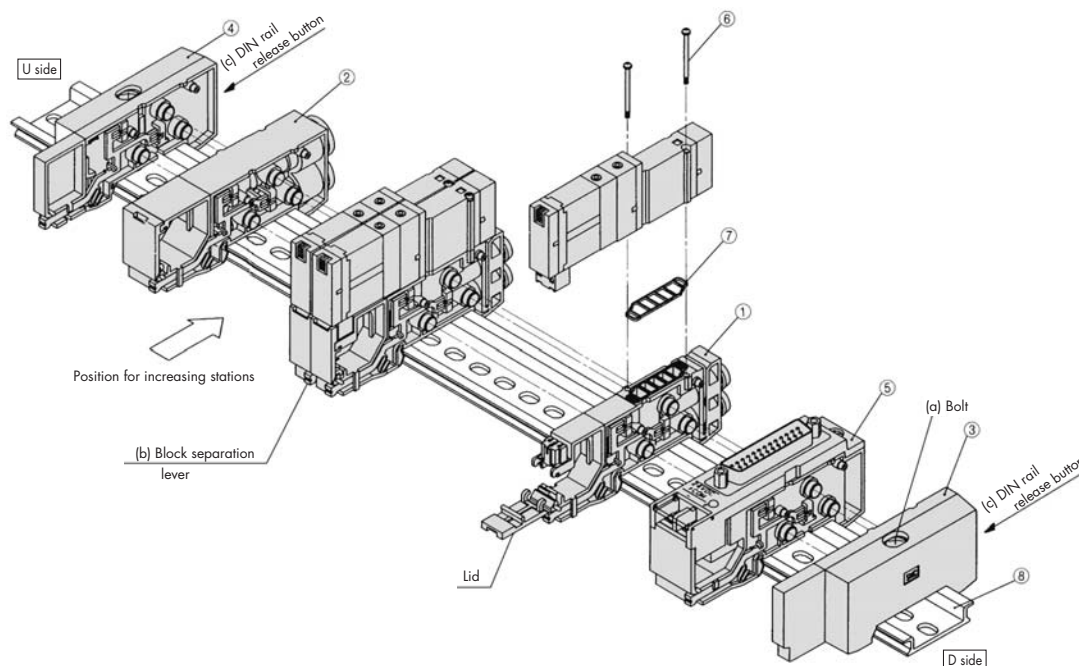


■ Individual EXH spacer assembly



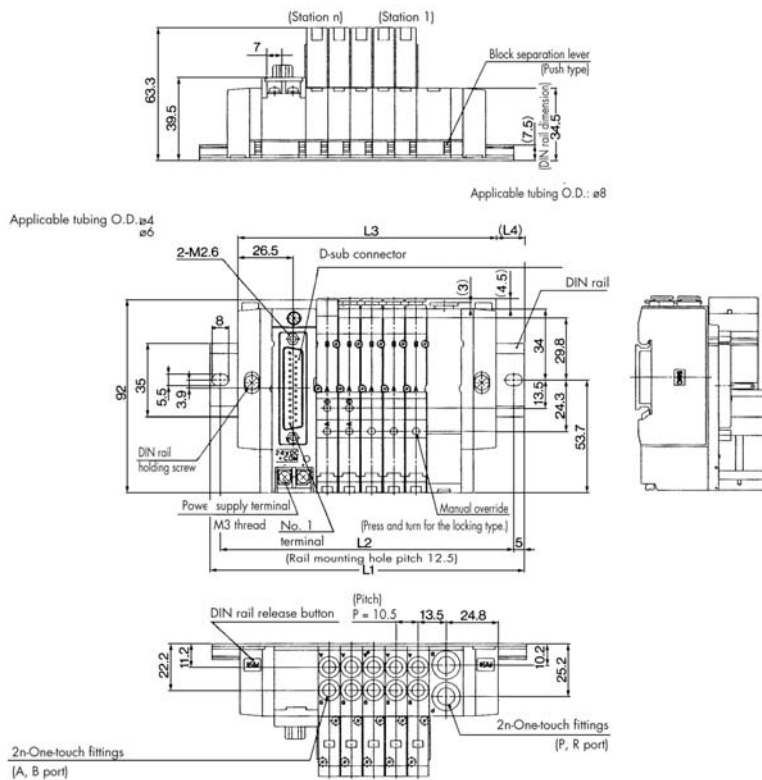
Exploded View: DIN Rail Manifold

Type 45F (D-sub connector type) Manifold



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

SX3000: D-sub Connector/Plug-in

SS5X3-45FU- Stations D-C₆-Q

Note: For the D-side electrical entry from the left is the same right of the manifold. Dimensions L1 to L4 do not change.

Dimensions for Station D manifold (mm)

Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	123	135.5	148	148	160.5	173	185.5	198	210.5
L2	112.5	125	138.5	137.5	150	162.5	175	187.5	200
L3	91.5	102	112.5	123	133.5	144	154.5	165	175.5
L4	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5

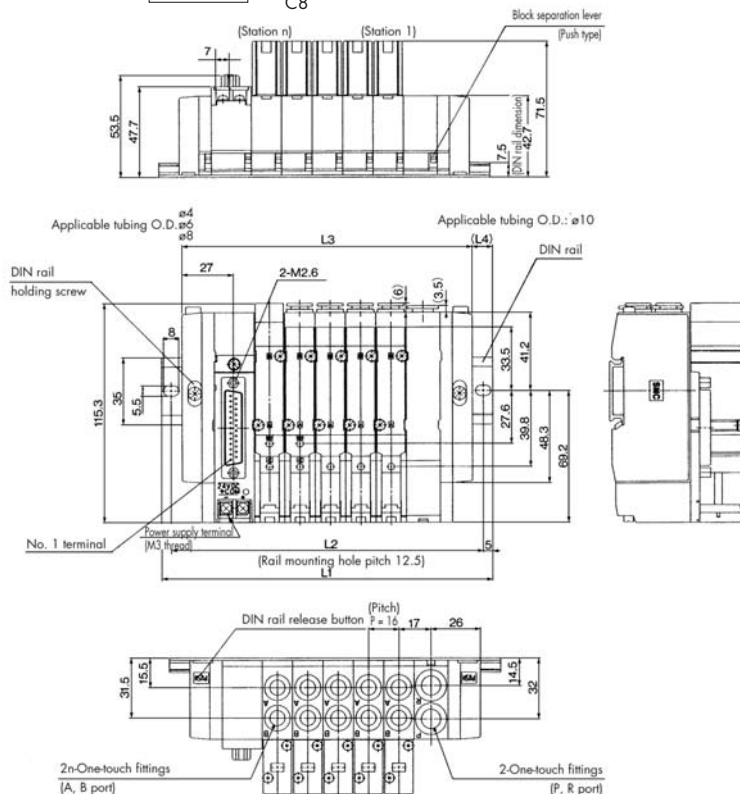
Note 2: For the B supply option, please use the L1 to L4 dimensions below.

Dimensions for Dual Supply Type Station B (mm)

Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	135.5	148	160.5	173	185.5	185.5	198	210.5	223
L2	125	137.5	150	162.5	175	17.5	187.5	200	212.5
L3	108	118.5	129	139.5	150	160.5	171	181.5	192
L4	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5

Stations n	11 stations	12	13	14	15	16	17	18	19	20 stations
L1	235.5	248	248	260.5	273	285.5	298	310.5	310.5	323
L2	225	237.5	237.5	250	262.5	27.5	287.5	300	300	312.5
L3	202.5	213	223.5	234	244.5	255	265.5	276	286.5	297
L4	16.5	17.5	12	13	14	15	16	17	12	13

SX5000: D-sub Connector/Plug-in

SS5X5-45FU- Stations D- $\frac{C_4}{C_6-C_8}$ -Q

Dimensions for Station D manifold (mm)

Stations n	2 stations	3	4	5	6	7	8	9	10 stations
L1	135.5	148	160.5	185.5	198	210.5	235.5	248	260.5
L2	125	137.5	150	175	187.5	200	225	237.5	250
L3	105	121	137	153	169	185	201	217	233
L4	15	13.5	11.5	16	14.5	12.5	17	15.5	13.5

Note: For the D-side electrical entry the connector moves from the left side to the right of the manifold. Dimensions L1 to L4 do not change.

Note 2: For the B supply option, please use the L1 to L4 dimensions below.

Dimensions for Dual Supply Type Station B (mm)

Stations n	2 stations	3	4	5	6	7	8	9	10 stations	
L1	148	173	185.5	198	210.5	235.5	248	260.5	285.5	
L2	137.5	162.5	175	187.5	200	225	237.5	250	275	
L3	123	139	155	171	187	203	219	235	251	
L4	12.5	17	15	13.5	11.5	16	14.5	12.5	17	
Stations n	11 stations	12	13	14	15	16	17	18	19	20 stations
L1	298	310.5	323	348	360.5	373	398	410.5	423	435.5
L2	287.5	300	312.5	337.5	350	362.5	387.5	400	412.5	425
L3	267	288	299	315	331	347	363	379	395	411
L4	15.5	13.5	12	16.5	14.5	13	17.5	15.5	14	12

SI (Serial Interface) Systems Overview

What are they?

Discrete wiring involves running a wire from the control system to every solenoid and input on a machine. When large numbers of solenoid or inputs are involved, this leads to large bundles of cables. To avoid the weight penalties, installation expenses and commissioning problems, Serial Interfaces were developed. A two or three wire bus runs between nodes where the encoded control signals are decoded to switch individual solenoids or send input signals back onto the bus.

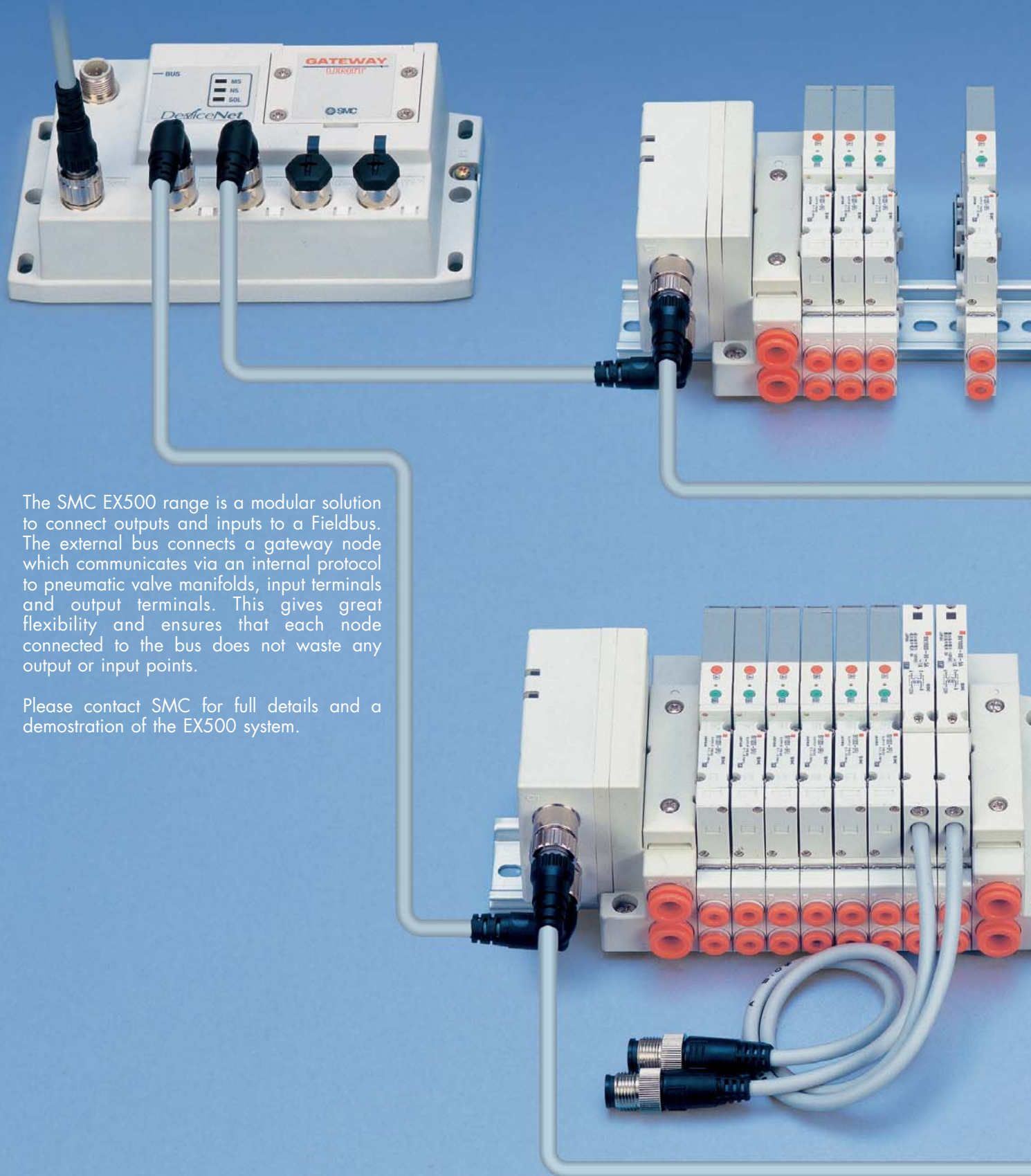
SMC can offer many interfaces to connect to different systems. Depending on the valve type, inputs may also be handled and the protection rating varies between IP40 and IP67. Please see the table below for the availability of interfaces. This is just a selection of the most common types used in Europe. Please contact SMC if the required interface is not shown.

						
Valve types	SV (IP40)	SV (IP65)	SY / SX (IP40)	VQC (IP65)	VQ (IP40)	VQ (IP65)
Open Protocols						
Profibus DP	●	●	●	●	●	
DeviceNet	●	●	●	●	●	●
CANopen	●	●	●	●	●	
ASi	●	●	●	●	●	
Interbus-S	●		●		●	
CC Link	●	●		●	●	●
Closed Protocols						
Mitsubishi MelsecNet mini	●		●		●	●
Omron CompoBus-S	●		●		●	●
Omron Sysbus	●		●		●	
Rockwell RIO	●		●			●
Inputs and outputs		●		●		
Outputs only	●		●		●	●

Note: Full details of these systems, how to order them and options available are not included in this catalogue. Please contact SMC for full details and ordering assistance.

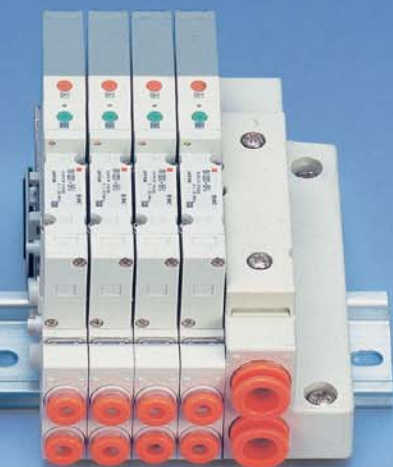
Gateway System

Series EX500



The SMC EX500 range is a modular solution to connect outputs and inputs to a Fieldbus. The external bus connects a gateway node which communicates via an internal protocol to pneumatic valve manifolds, input terminals and output terminals. This gives great flexibility and ensures that each node connected to the bus does not waste any output or input points.

Please contact SMC for full details and a demonstration of the EX500 system.



No.	Item	Part number	Inputs	Series	Enclosure
①	Input unit	EX500-IB1	Max. 16	SV/VQC	IP65
②	Input block	EX500-IE1	2 (M8)		
③	Input block	EX500-IE3	2 (M12)		
④	Input block	EX500-IE5	8 (M8)		
⑤	End plate	EX500-EB1			
⑥	DIN rail	VZ1000-11-3-□			

□ = Enter a number from length Din rail dimension.

Accessories

Communication plug with cable for gateway unit with DeviceNet

Cable, L = 1 m	Cable, L = 5 m
EX500-AC010-DN	EX500-AC050-DN

Connection cable between Gateway - valve manifold - input unit

	Cable, L = 0.5 m	Cable, L = 1 m	Cable, L = 3 m	Cable, L = 5
Straight	EX500-AC005-SSPS	EX500-AC010-SSPS	EX500-AC030-SSPS	EX500-AC050-SSPS
Elbow	EX500-AC005-SAPA	EX500-AC010-SAPA	EX500-AC030-SAPA	EX500-AC050-SAPA

Connector for power supply

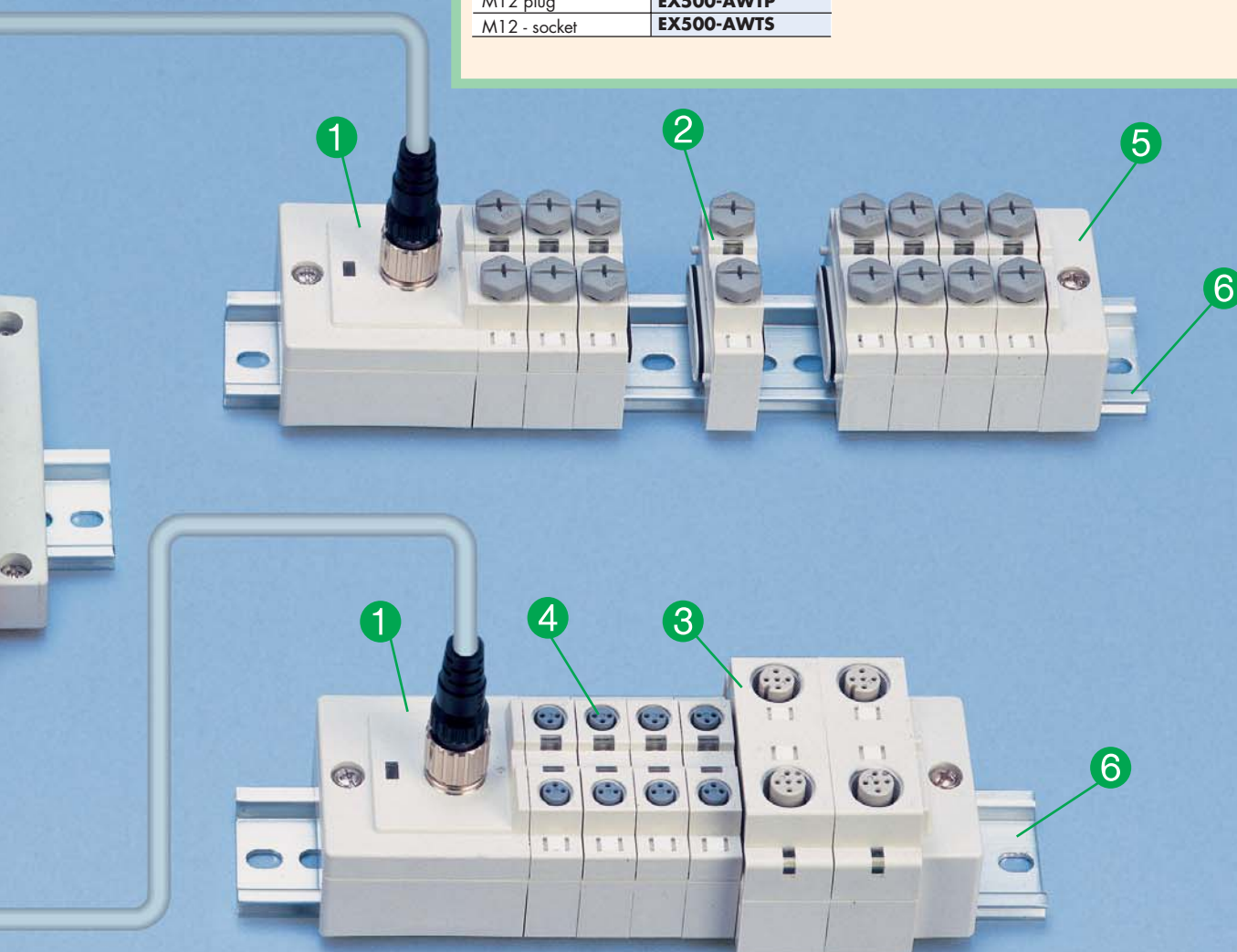
	Cable, L = 1 m	Cable, L = 5 m
Straight	EX500-AP010-S	EX500-AP050-S
Angled	EX500-AP010-A	EX500-AP050-A

Terminal-plug input unit: **EX500-AC000-S**

is needed if no input unit is connected to the valve manifold.

Protection cap for gateway and input blocks

M8 - socket	EX500-AWES
M12 plug	EX500-AWTP
M12 - socket	EX500-AWTS



CAD CD-ROM AVAILABLE



CATALOGUE P99-EX1-B AVAILABLE



PDF AVAILABLE ONLINE

5 Port Solenoid Valve

Series VQC

Features

- Conforms to IP67, Serial transmission and kits
- Outstanding response times and long life
- Connector entry direction can be changed easily
- Accommodates serial interface
- Dual 3-port valves, 4 position function



How to order applicable valves

VQC 1 1 0 0 N-5 B

Series VQC1000
Series VQC2000
Series VQC4000

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
6	3-position double pilot check
A Note	Dual 3-port valve (N.C. + N.C.)
B Note	Dual 3-port valve (N.O. + N.O.)
C Note	Dual 3-port valve (N.C. + N.O.)

Manual override

Nil	Non-locking push type
B	Slotted locking type (tool required)
C	Locking type (manual)

Coil voltage

5	24VDC
6	12VDC

Function

Nil	Standard type (1W)
N	Negative COM

Seal type

0	Metal seal
1	Rubber seal

Note) Available for the rubber seal type only.

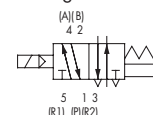
Note: The VQC valves can only be used on a manifold.

Valve Specifications

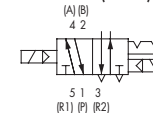
Valve specifications	Valve Configuration		Metal seal		Rubber seal		
	Fluid		Air/Inert gas				
	VQC1000/2000	Max. operating pressure		0.7MPa (High pressure type: 1.0MPa - metal seal only)			
		Min. operating pressure	Single	0.1MPa		0.15MPa	
			Double	0.1MPa			
			3-position	0.1MPa		0.2MPa	
			4-position	—		0.15MPa	
	VQC4000	Max. operating pressure ^{Note 3)}		1.0MPa			
		Min. operating pressure	Single	0.15MPa		0.2MPa	
			Double	0.15MPa			
			3-position	0.15MPa		0.2MPa	
	Proof pressure		1.5MPa				
	Ambient and fluid temperature		-10 to 50°C (No freezing)				
	Lubrication		Not required				
	Manual override		Push type/Locking type (tool required) optional				
Enclosure		Dust proof (conforms to IP67)					
Electrical specifications	Rated coil voltage		24VDC				
	Allowable voltage fluctuation		10% of rated voltage				
	Coil insulation type		Equivalent to B type				

ISO Symbols

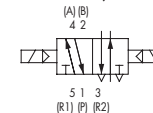
2-position single



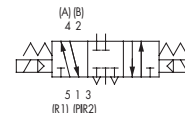
2-position double (metal)



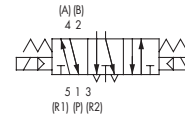
2-position double (rubber)



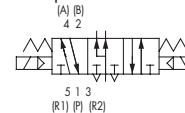
3-position closed centre



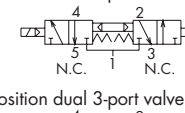
3-position exhaust centre



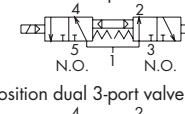
3-position pressure centre



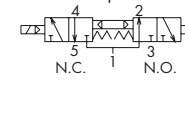
4-position dual 3-port valve (A)



4-position dual 3-port valve (B)



4-position dual 3-port valve (C)



Flow Characteristics

Series	No. of solenoids		Model		Flow characteristics						Response time ^{Note 2)} ms		Weight g
					1→4, 2 (P→A, B)			4, 2→5, 3 (A, B→R1, R2)			Standard: 1W	Low wattage	
					C[dm³/[s•bar]]	b	C _v	C[dm³/[s•bar]]	b	C _v			
VQC1000	2-position	Single	Metal seal	VQC1100	0.70	0.15	0.16	0.72	0.25	0.18	12 or less	15 or less	64
			Rubber seal	VQC1101	0.85	0.20	0.21	1.0	0.30	0.25	15 or less	20 or less	
		Double	Metal seal	VQC1200	0.70	0.15	0.16	0.72	0.25	0.18	10 or less	13 or less	78
			Rubber seal	VQC1201	0.85	0.20	0.21	1.0	0.30	0.25	15 or less	20 or less	
	3-position	Closed centre	Metal seal	VQC1300	0.68	0.15	0.16	0.72	0.25	0.18	20 or less	26 or less	
			Rubber seal	VQC1301	0.70	0.20	0.16	0.65	0.42	0.18	25 or less	33 or less	
		Exhaust centre	Metal seal	VQC1400	0.68	0.15	0.16	0.72	0.25	0.18	20 or less	26 or less	
			Rubber seal	VQC1401	0.70	0.20	0.16	1.0	0.30	0.25	25 or less	33 or less	
		Pressure centre	Metal seal	VQC1500	0.70	0.15	0.16	0.72	0.25	0.18	20 or less	26 or less	
			Rubber seal	VQC1501	0.85	0.20	0.21	0.65	0.42	0.18	25 or less	33 or less	
	4-position	Dual 3-port valve	Rubber seal	VQC1 ^A _B _C 01	0.70	0.20	0.16	0.70	0.20	0.16	25 or less	33 or less	
VQC2000	2-position	Single	Metal seal	VQC2100	2.0	0.15	0.46	2.6	0.15	0.60	22 or less	29 or less	90
			Rubber seal	VQC2101	2.2	0.28	0.55	3.2	0.30	0.80	24 or less	31 or less	
		Double	Metal seal	VQC2200	2.0	0.15	0.46	2.6	0.15	0.60	15 or less	20 or less	110
			Rubber seal	VQC2201	2.2	0.28	0.55	3.2	0.30	0.80	20 or less	26 or less	
	3-position	Closed centre	Metal seal	VQC2300	2.0	0.15	0.46	2.0	0.18	0.46	29 or less	38 or less	
			Rubber seal	VQC2301	2.0	0.28	0.49	2.2	0.31	0.60	34 or less	44 or less	
		Exhaust centre	Metal seal	VQC2400	2.0	0.15	0.46	2.6	0.15	0.60	29 or less	38 or less	
			Rubber seal	VQC2401	2.0	0.28	0.49	3.2	0.30	0.80	34 or less	44 or less	
		Pressure centre	Metal seal	VQC2500	2.4	0.17	0.57	2.0	0.18	0.46	29 or less	38 or less	
			Rubber seal	VQC2501	3.2	0.28	0.80	2.2	0.31	0.60	34 or less	44 or less	
	4-position	Dual 3-port valve	Rubber seal	VQC2 ^A _B _C 01	1.8	0.28	0.46	1.8	0.28	0.46	34 or less	44 or less	
VQC4000	2-position	Single	Metal seal	VQC4100	6.2	0.19	1.5	6.9	0.17	1.7	20 or less	22 or less	230
			Rubber seal	VQC4101	7.2	0.43	2.1	7.3	0.38	2.0	25 or less	27 or less	
		Double	Metal seal	VQC4200	6.2	0.19	1.5	6.9	0.17	1.7	12 or less	12 or less	260
			Rubber seal	VQC4201	7.2	0.43	2.1	7.3	0.38	2.0	15 or less	15 or less	
	3-position	Closed centre	Metal seal	VQC4300	5.9	0.23	1.5	6.3	0.18	1.6	45 or less	47 or less	280
			Rubber seal	VQC4301	7.0	0.34	1.9	6.4	0.42	1.9	50 or less	52 or less	
		Exhaust centre	Metal seal	VQC4400	6.2	0.18	1.5	6.9	0.17	1.7	45 or less	47 or less	
			Rubber seal	VQC4401	7.0	0.38	1.9	7.3	0.38	2.0	50 or less	52 or less	
		Pressure centre	Metal seal	VQC4500	6.2	0.18	1.9	6.4	0.18	1.6	45 or less	47 or less	
			Rubber seal	VQC4501	7.0	0.38	1.9	7.1	0.38	2.0	50 or less	52 or less	
		Perfect	Metal seal	VQC4600	2.7	—	—	3.7	—	—	55 or less	57 or less	500
			Rubber seal	VQC4601	2.8	—	—	3.9	—	—	62 or less	64 or less	

Note 1) Values represented in this column are in the following conditions:
VQC1000: Cylinder port size C6 without a back pressure check valve
VQC2000: Cylinder port size C8 without a back pressure check valve
VQC4000: Cylinder port size Rc 3/8

Note 2) Values represented in this column are based on JISB8375-1981 (operating with clean air and a supply pressure of 0.5MPa. Equipped with light and surge voltage suppressor. Values vary depending on the pressure as well as the air quality.) Values for double types are when the switch is ON.

Series VQC Manifold

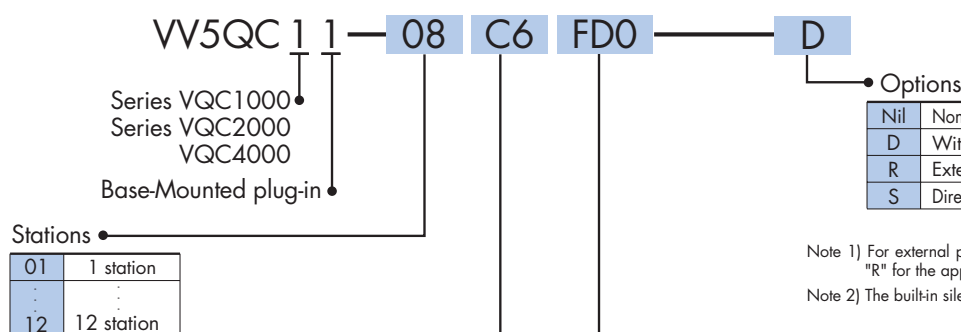
Manifold Specification Sheet

VQC1000/2000/4000

F Kit D Sub Connector/M Kit Multiple Connector



How to Order Manifolds



Cylinder port size		VQC1000	VQC2000	VC4000
C4	With ø4 One-touch fitting	○	○	
C6	With ø6 One-touch fitting	○	○	
C8	With ø8 One-touch fitting		○	○
C10	With ø10 One-touch fitting			○
C12	With ø12 One-touch fitting			○
M5	M5 thread	○		
02F	1/4 thread			○
03F	3/8 thread			○

D-side entry	Kit, Cable length	Number of allowable Stations
FD0	D-sub connector kit (25P) without cable	1 to 12 (24)
MD0	Multipole connector kit (26P) without cable	

Note 1) For suitable cables please see the cables appendix.

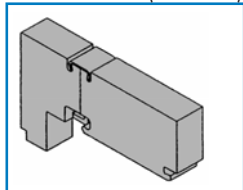
The options shown below are also available but the detailed information is not shown in this catalogue. Please consult SMC, CAD Disk, Web Site or Best Pneumatics for these options.

Also Available: Electrical Entry Variations S Kit/ P Kit/ T Kit/ L Kit

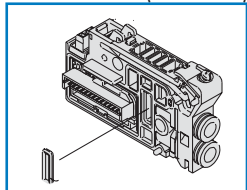
S Kit (IP67)				P Kit (IP40)	T Kit (IP67)	L Kit (IP67)
Serial transmission				Flat ribbon cable	Terminal block box	Electrical entry
Gateway application Compatible network • Remote I/O • DeviceNet • PROFIBUS-DP Decentralized Serial Wiring Gateway application requires a gateway unit and communication cable separately. Contact SMC for more details. Serial unit: EX500	Compatible network • DeviceNet • PROFIBUS-DP I/O Serial unit: EX250	Compatible network • DeviceNet • PROFIBUS-DP I/O Serial unit: EX240	Compatible network • CC-Link Output Serial unit: EX126	Flat ribbon cable Compatible with flat ribbon cable connector that complies with MIL standard. 26-pin 20-pin	Terminal block box (Terminal blocks) Terminals are concentrated in compact clusters within the terminal block box. 	Lead wire IP67 enclosure with use of multiple wire cable with sheath and waterproof connector 25-core cable

Manifold Accessories VQC1000/2000/4000

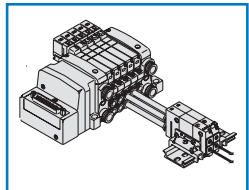
Blanking plate assembly
VVC1000-10A-1 (VQC1000)
VVC2000-10A-1 (VQC2000)
VVC4000-10A-1 (VQC4000)



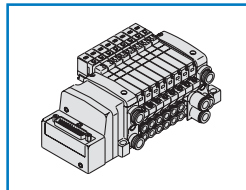
SUP block plate
VVC1000-16A (VQC1000)
VVC2000-16A (VQC2000)
VVC4000-16A (VQC4000)



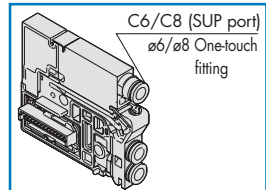
Double pilot check
VVC1000-FPG-□ (VQC1000)
VVC2000-FPG-□ (VQC2000)
Not available for VQC4000



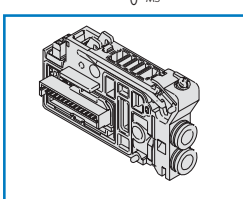
Dual flow fitting assembly
VVC1000-52A-C8 (VQC1000)
VVC2000-52A-C10 (VQC2000)
Not available for VQC4000



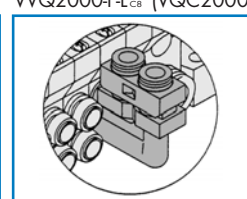
Individual SUP spacer
VVC1000-P-1-C6 (VQC1000)
VVC2000-P-1-C8 (VQC2000)
VVC4000-P-1- $\frac{1}{2}$ (VQC2000)



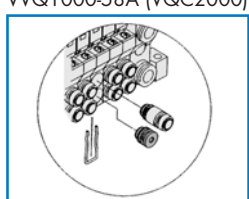
EXH block plate assembly
VVC1000-19A- $\frac{1}{2}$ (VQC1000)



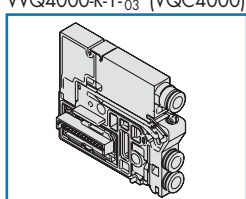
Elbow fitting assembly
VVC1000-F-L $\frac{1}{2}$ (VQC1000)
VVC2000-F-L $\frac{1}{2}$ (VQC2000)



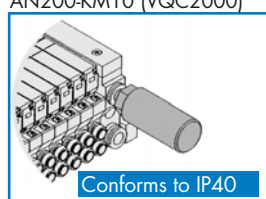
Port plug
VVC0000-58A (VQC1000)
VVC1000-58A (VQC2000)



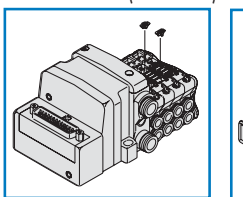
Individual EXH spacer
VVC1000-R-1-C6 (VQC1000)
VVC2000-R-1-C8 (VQC2000)
VVC4000-R-1- $\frac{1}{2}$ (VQC4000)



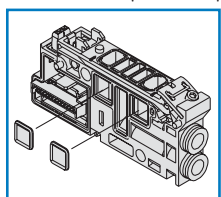
Silencer (for EXH port)
AN200-KM8 (VQC1000)
AN203-KM8 (VQC1000)
AN200-KM10 (VQC2000)



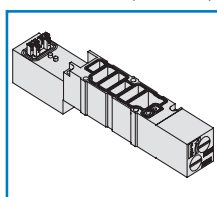
Back pressure check valve assembly
VVC1000-18A (VQC1000)
VVC2000-18A (VQC2000)



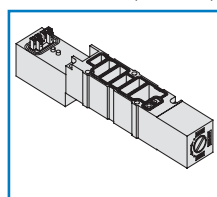
EXH block plate
VVC2000-19A (VQC2000)
VVC4000-16A (VQC4000)



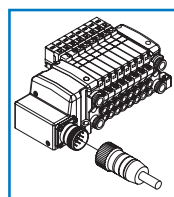
Throttle valve spacer
VVC4000-20A-1 (VQC4000)



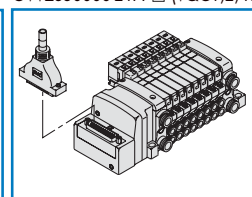
SUP stop valve spacer
VVC4000-37A-1 (VQC4000)



Cable Assembly
GAXT100-MC26-□
(VQC1,2,4000)



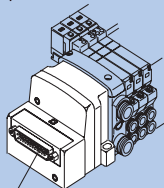
Cable Assembly
GVVZS30000-21A-□ (VQC1,2,4000)



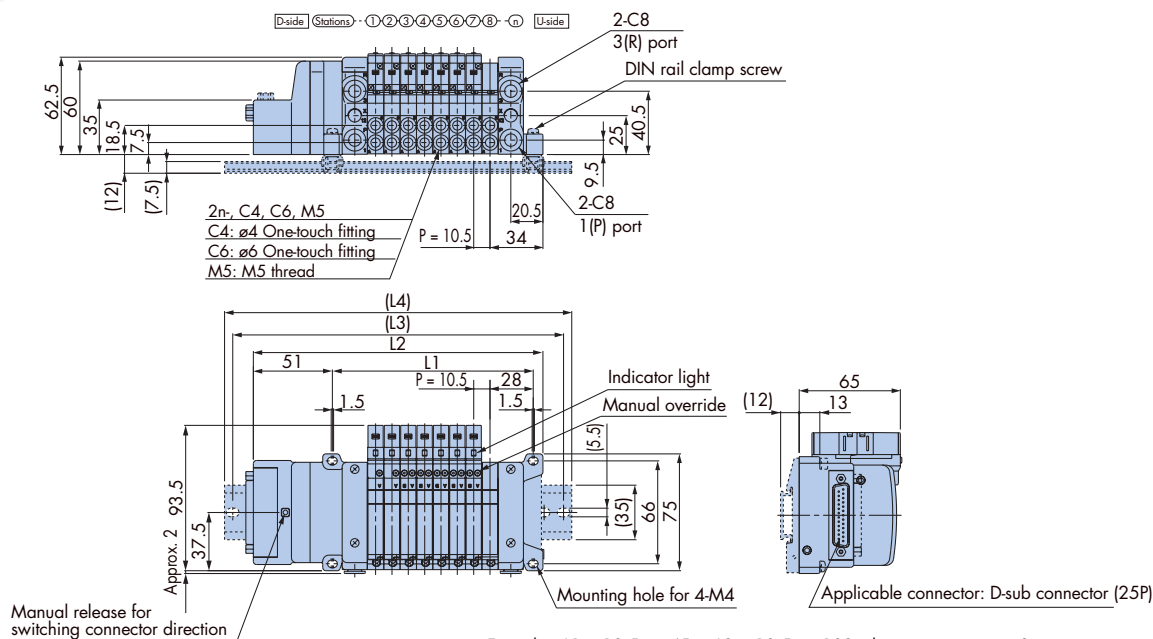
The two primary criteria for manifold selection are valve body size and electrical connection type.

Manifold Specifications: F Kit, M Kit

This table shows featured available options.

This table shows featured available options.			Sonic Conductance C[dm ³ /[s·bar]] (Values of CYL to EXH (From 4 to 5 and from 2 to 3))			Cv		F Kit (IP40)		M Kit (IP67)		Port size	
								D-sub connector		Multiple connector		Supply Exhaust Ports 1, 3 (P, R)	Valve port 2, 4 (A, B)
								(Compatible with D-sub connector that complies with MIL standard.)		(IP67 enclosure with use of waterproof multiple connector)			
								Single/Double 3-position (Closed centre)		 25-pin			
VQC1000	Metal seal	VQC1□00	0.72	0.72	0.16	See Best Pneumatics Catalogue		See Best Pneumatics Catalogue		C8 (for ø8)		C4 (for ø4) C6 (for ø6) M5 (M5 thread)	
	Rubber seal	VQC1□01	1.0	0.65	0.21								
VQC2000	Metal seal	VQC2□00	2.6	2.0	0.46	See Best Pneumatics Catalogue		See Best Pneumatics Catalogue		C10 (for ø10)		C4 (for ø4) C6 (for ø6) C8 (for ø8)	
	Rubber seal	VQC2□01	3.2	2.2	0.55								
VQC4000	Metal seal	VQC4□00	6.9	6.3	1.5	See Best Pneumatics Catalogue		See Best Pneumatics Catalogue		<SUP port> 1/2 <EXH port> 3/4		C8 (for ø8) C10 (for ø10) C12 (for ø12)	
	Rubber seal	VQC4□01	7.3	6.4	2.1								

VV5QC11 F Kit D Sub Connector

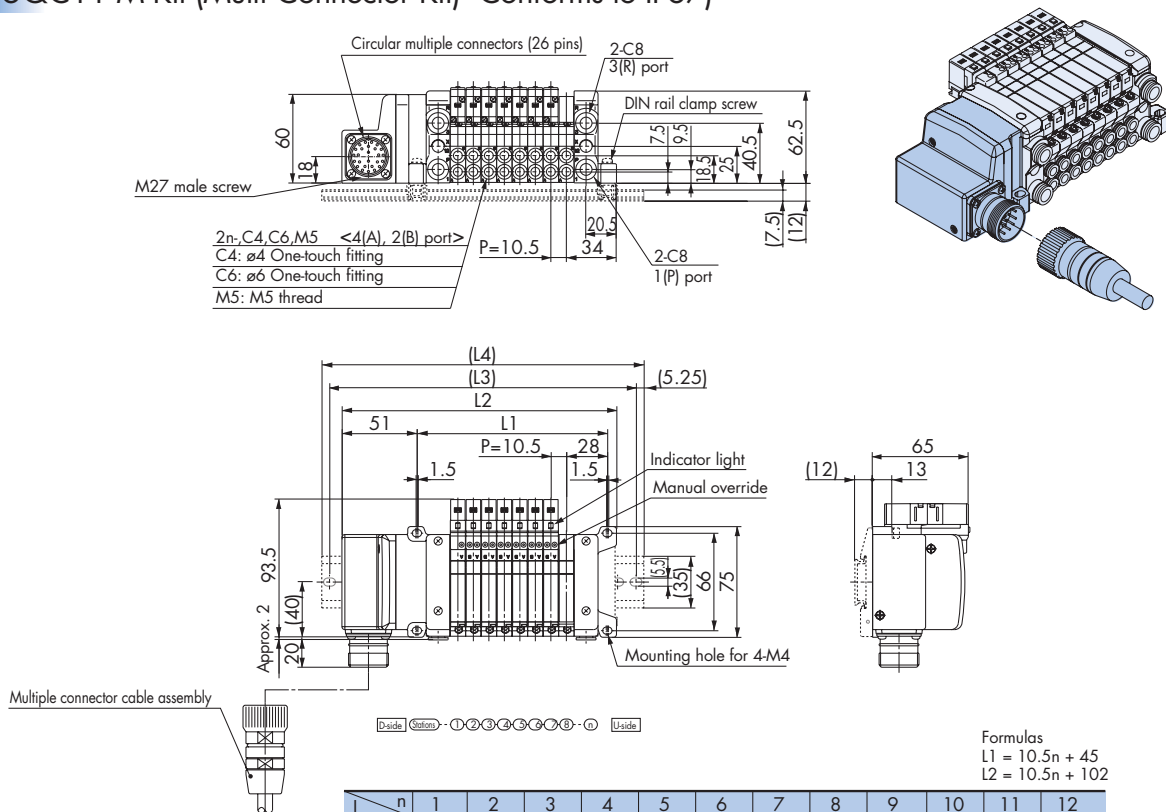


n = stations

Formulas: $L1 = 10.5n + 45$ $L2 = 10.5n + 102$ where n = stations

n	1	2	3	4	5	6	7	8	9	10	11	12
L1	55.5	66	76.5	87	97.5	108	118.5	129	139.5	150	160.5	171
L2	112.5	123	133.5	144	154.5	165	175.5	186	196.5	207	217.5	228
L3	137.5	150	162.5	175	175	187.5	200	212.5	225	237.5	237.5	250
L4	148	160.5	173	185.5	185.5	198	210.5	223	235.5	248	248	260.5

VV5QC11 M Kit (Multi Connector Kit) Conforms to IP67)



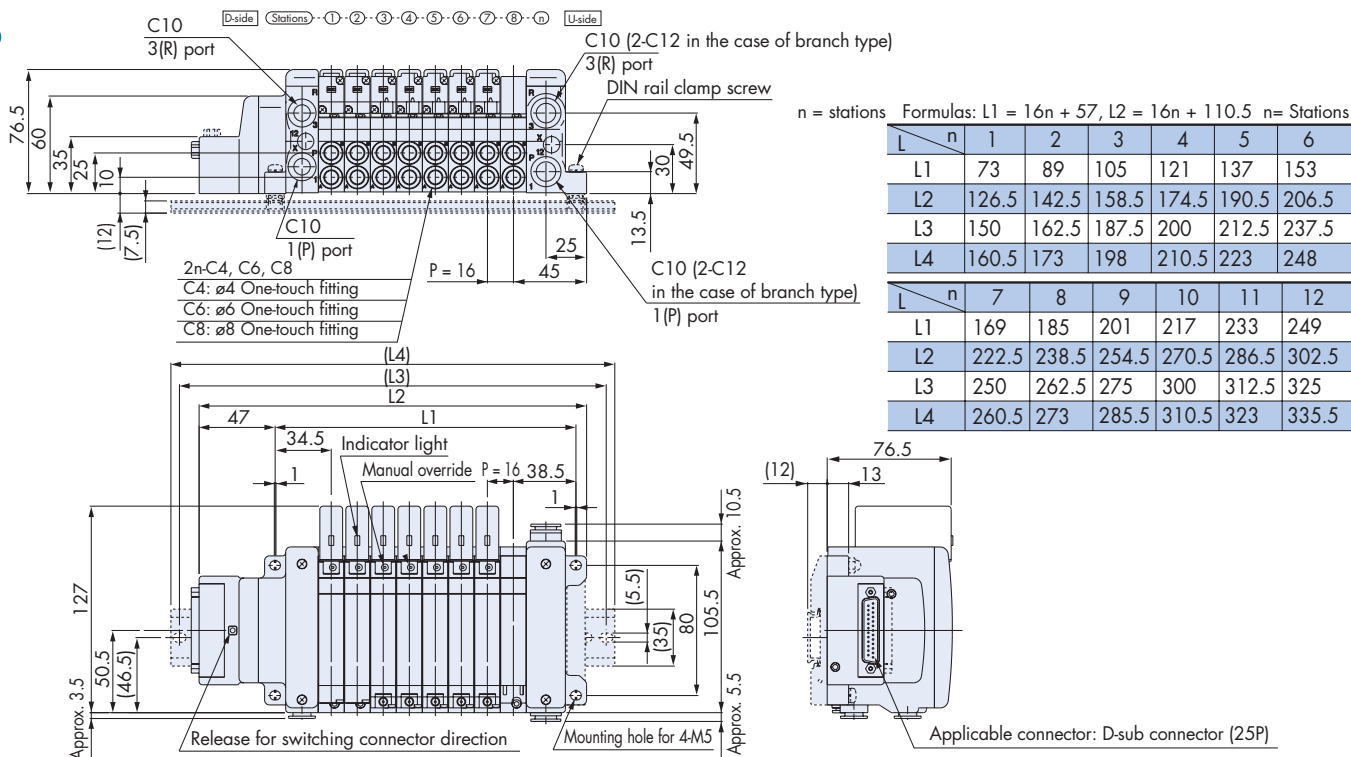
Formulas
 $L1 = 10.5n + 45$
 $L2 = 10.5n + 102$

n	1	2	3	4	5	6	7	8	9	10	11	12
L1	55.5	66	76.5	87	97.5	108	118.5	129	139.5	150	160.5	171
L2	112.5	123	133.5	144	154.5	165	175.5	186	196.5	207	217.5	228
L3	137.5	150	162.5	175	175	187.5	200	212.5	225	237.5	237.5	250
L4	148	160.5	173	185.5	185.5	198	210.5	223	235.5	248	248	260.5

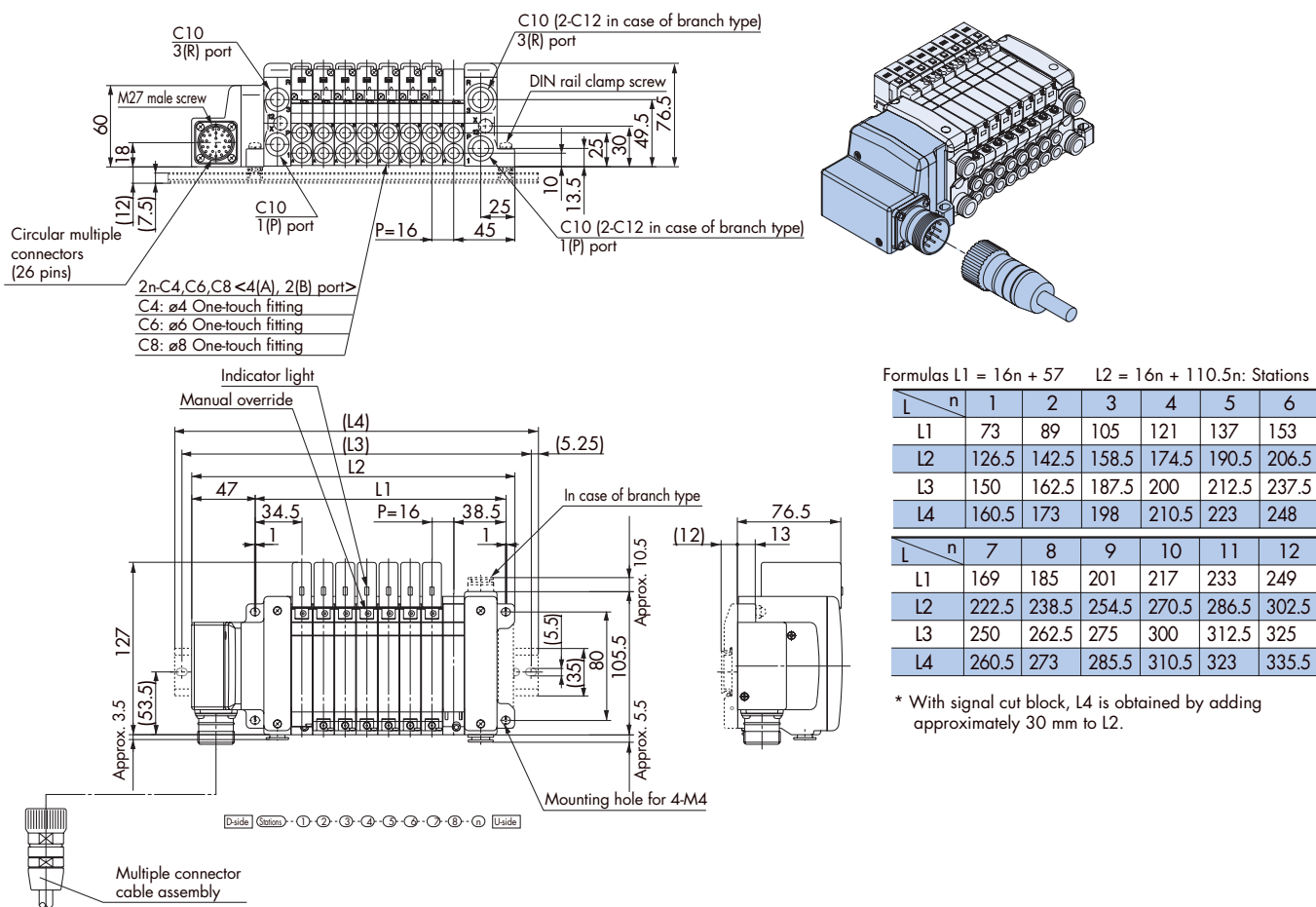
? With signal cut block, L4 is obtained by adding approximately 30 mm to L2.

n: Stations

VV5QC21 F Kit D Sub Connector

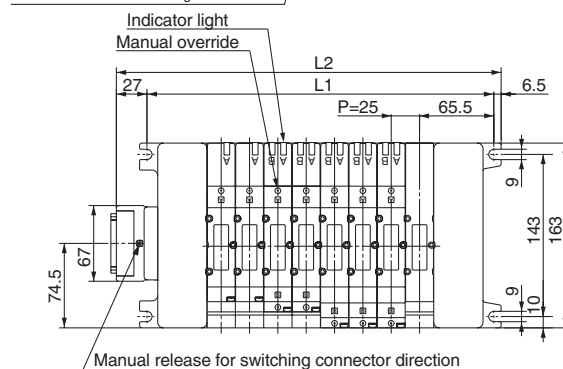
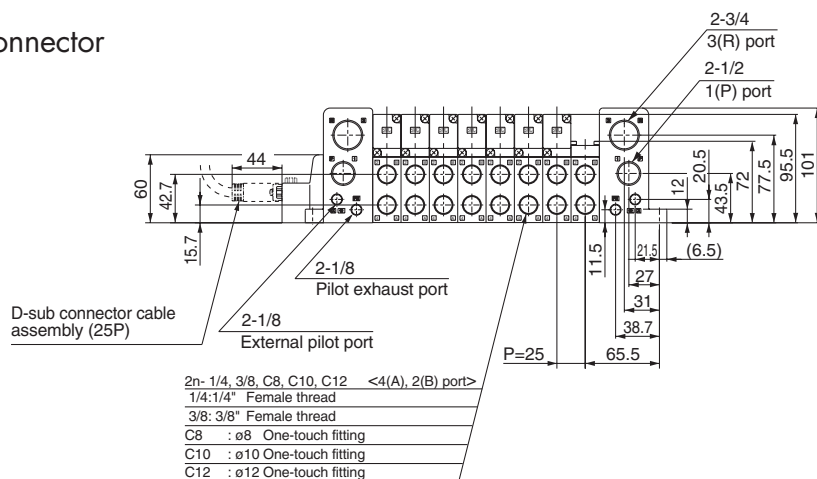


VV5QC21 M Kit (Multi Connector Kit) Conforms to IP67



* With signal cut block, L4 is obtained by adding approximately 30 mm to L2.

VV5QC41 F Kit D Sub Connector



Applicable connector:
D-sub connector (25P)

D-side (Stations) 1 2 3 4 5 6 7 8 ... n U-side

Formulas

$$L2 = 25n + 139.5$$

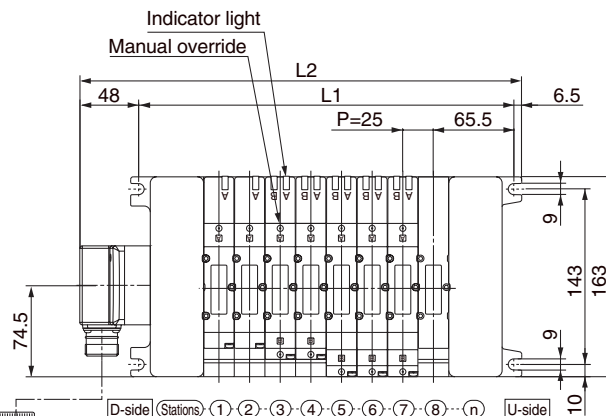
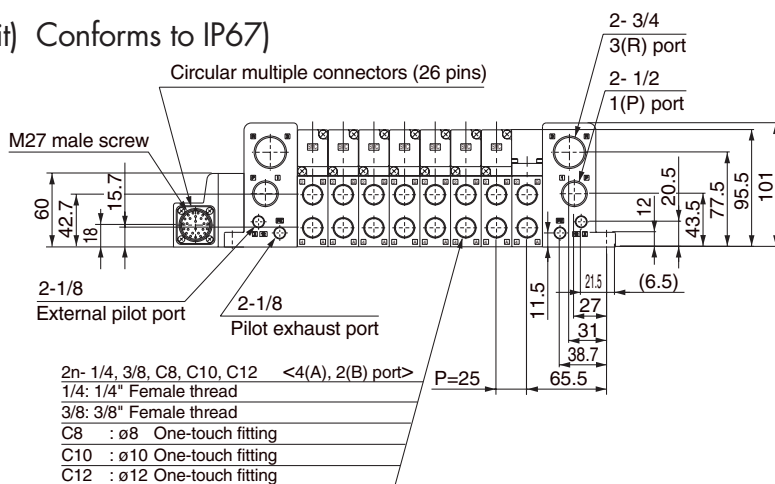
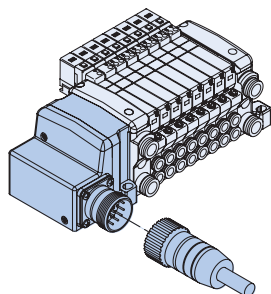
$$L1 = 25n + 106$$

n: Stations

L	n	1	2	3	4	5	6
L1		131	156	181	206	231	256
L2		164.5	189.5	214.5	239.5	264.5	289.5

L	n	7	8	9	10	11	12
L1		281	306	331	356	381	406
L2		314.5	339.5	364.5	389.5	414.5	439.5

VV5QC41 M Kit (Multi Connector Kit) Conforms to IP67



Formulas

$$L1 = 25n + 106 \text{ (Maximum 16 single wiring stations)}$$

$$L2 = 25n + 160.5$$

n: Stations

L	n	1	2	3	4	5	6
L1		131	156	181	206	231	256
L2		185.5	210.5	235.5	260.5	285.5	310.5

L	n	7	8	9	10	11	12
L1		281	306	331	356	381	406
L2		335.5	360.5	385.5	410.5	435.5	460.5

Multiple connector
cable assembly

5 Port Solenoid Valve

Series **SQ1000/2000**

Features

- Very low profile compact design.
- Modular slice manifold can be expanded.
- Choice of metal or rubber seals in valve.
- Fast response and long life.
- Fittings are interchangeable.
- Pre-wired manifold for easy connection.
- Dual 3 port bodies available.



How to Order Valves

SQ1 1 3 0 5 C6 Q

Valve size

1	SQ1000 Series
2	SQ2000 Series

Function

1	2 position single
2	2 position double (Latching) 2 position double (Double solenoid)
3	3 position closed centre
4	3 position exhaust centre
5	3 position pressure centre
A	4 position dual 3 port valve
B	4 position dual 3 port valve
C	4 position dual 3 port valve

Seal

0	Metal seal
1	Rubber seal

Options

Nil	Standard type (1.0 W DC)
D	2 position double (Double solenoid specifications)
N	Negative COM
Y	Low wattage type (0.5 W DC)

Note: If the 2 position double solenoid function is selected, option D must also be specified.

Coil voltage

5	24 VDC
6	12 VDC

With/Without manifold block

Nil	M
Without manifold block	With manifold block

• When ordering with manifolds
• When only valves are required.

Cylinder port

	SQ1000	SQ2000
C4 One-touch fitting for ø4	○	○
C6 One-touch fitting for ø6	○	○
C8 One-touch fitting for ø8	○	○
M5 M5 thread	○	○
L4 One-touch fitting for ø4	○	○
L6 One-touch fitting for ø6	○	○
L8 One-touch fitting for ø8	○	○
L5 M5 thread	○	○

Manual override

Nil	B
Non-locking push type	Locking type (Tool required)

Note: SQ series valves must be used on a manifold. They cannot be used alone or on a single sub-base.

Symbols

1	2 position single	
2	2 position double (Latching) 2 position double (Double solenoid) (1)	
3	3 position closed centre	
4	3 position exhaust centre	
5	3 position pressure centre	
A	4 position dual 3 port valve (Rubber seal only)	
B	4 position dual 3 port valve (Rubber seal only)	
C	4 position dual 3 port valve (Rubber seal only)	

Note 1) For double solenoid specification, the function symbol below is "D".
Note 2) Only rubber seal types are applicable.

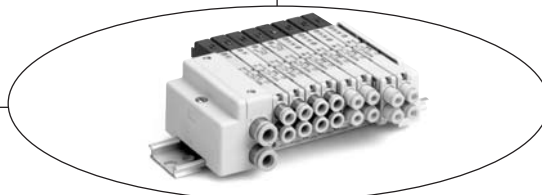
Also available

SQ Plug lead valves

The SQ1000 and 2000 shown in this catalogue are all plug-in types, the valves connect to a wiring loom within the manifold. A plug-lead variant is also available where each valve can be wired individually.

SQ High pressure version

A variant of metal seal valve is available, applicable to pressure up to 1.0MPa.



SQ External pilot

The 5 port SQ valves can be specified with an external pilot function.

SQ Valve accessories

The fittings used on the valves can be changed individually by removing the retaining clip.

Applicable tubing O.D. (mm)	Fitting assembly part no.	
	SQ1000	SQ2000
4	VVQ1000-50A-C4	VVQ1000-51A-C4
6	VVQ1000-50A-C6	VVQ1000-51A-C6
8	—	VVQ1000-51A-C8

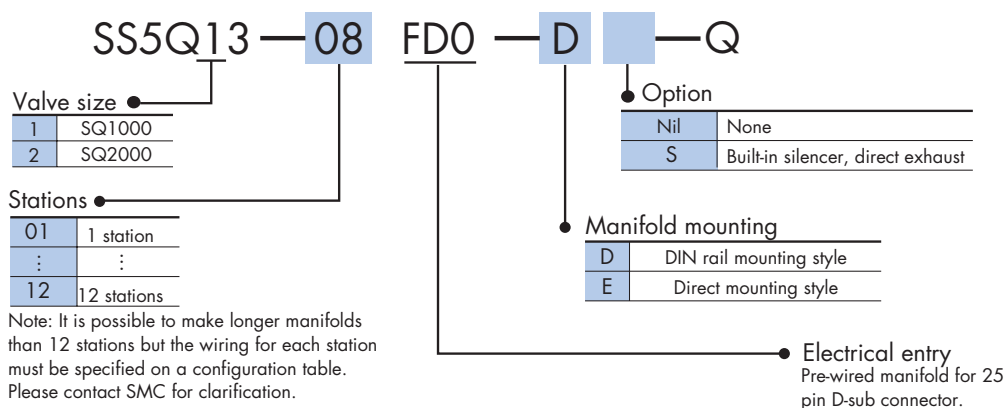
Valve Specifications

Valve specifications	Valve construction		Metal seal	Rubber seal
	Fluid		Air/Inert gas	
	Maximum operating pressure		0.7 MPa (High pressure type: 1.0 MPa) ⁽³⁾	
	Min. operating pressure	Single	0.1 MPa	0.15 MPa
		Double (Latching)	0.18 MPa	0.18 MPa
		Double (Double solenoid)	0.1 MPa	0.1 MPa
		3 position	0.1 MPa	0.2 MPa
		Dual 3 port valves	—	0.15 MPa
	Ambient and fluid temp.		-10 to 50°C (No freezing)	
	Lubrication		Not required	
	Pilot valve manual override		Push type/Locking type (Tool required)	
	Protection structure		Dust tight	
Solenoid specifications	Coil rated voltage		12 VDC, 24 VDC	
	Allowable voltage fluctuation		±10% of rated voltage	
	Coil insulation type		Equivalent to class B	
	Power consumption (Current)	24 VDC	1 W DC (42 mA), 0.5 W DC (21 mA) (Low power type)	
		12 VDC	1 W DC (83 mA), 0.5 W DC (42 mA) (Low power type)	

Flow Characteristics

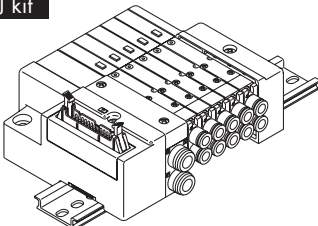
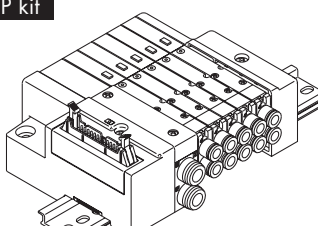
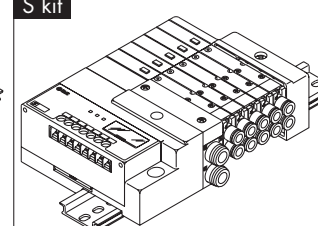
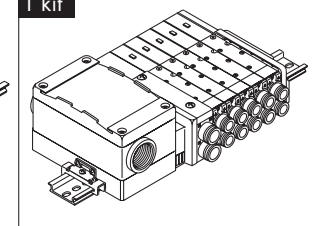
Series		Number of solenoids	Model		Flow characteristic						Response time (ms) ⁽²⁾		Weight (g)
					1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → R1/R2)			Standard: 1 W	Low wattage	
					C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv			
SQ1000	2 position	Single	Metal seal	SQ1130	0.62	0.10	0.14	0.63	0.11	0.14	12 or less	15 or less	80
			Rubber seal	SQ1131	0.79	0.20	0.19	0.80	0.20	0.19	15 or less	20 or less	80
		Double (Latching)	Metal seal	SQ1230	0.62	0.10	0.14	0.63	0.11	0.14	15 or less	—	80
			Rubber seal	SQ1231	0.79	0.20	0.19	0.80	0.20	0.19	20 or less	—	80
		Double (Double solenoid)	Metal seal	SQ1230D	0.62	0.10	0.14	0.63	0.11	0.14	10 or less	13 or less	95
			Rubber seal	SQ1231D	0.79	0.20	0.19	0.80	0.20	0.19	15 or less	20 or less	95
	3 position	Closed centre	Metal seal	SQ1330	0.58	0.12	0.14	0.63	0.11	0.14	20 or less	26 or less	100
			Rubber seal	SQ1331	0.64	0.20	0.15	0.58	0.26	0.16	25 or less	33 or less	100
		Exhaust centre	Metal seal	SQ1430	0.58	0.12	0.14	0.60	0.14	0.14	20 or less	26 or less	100
			Rubber seal	SQ1431	0.64	0.20	0.15	0.80	0.20	0.19	25 or less	33 or less	100
		Pressure centre	Metal seal	SQ1530	0.62	0.12	0.14	0.63	0.14	0.14	20 or less	26 or less	100
			Rubber seal	SQ1531	0.79	0.21	0.19	0.59	0.20	0.14	25 or less	33 or less	100
	4 position	Dual 3 port valve	Rubber seal	SQ1 ^A _B 31	0.59	0.28	0.15	0.59	0.28	0.15	25 or less	33 or less	95
SQ2000	2 position	Single	Metal seal	SQ2130	2.2	0.17	0.51	2.4	0.14	0.57	20 or less	26 or less	145
			Rubber seal	SQ2131	2.3	0.17	0.51	3.1	0.18	0.71	24 or less	31 or less	140
		Double (Latching)	Metal seal	SQ2230	2.2	0.17	0.51	2.4	0.14	0.57	26 or less	—	145
			Rubber seal	SQ2231	2.3	0.17	0.51	3.1	0.18	0.71	31 or less	—	140
		Double (Double solenoid)	Metal seal	SQ2230D	2.2	0.17	0.51	2.4	0.14	0.57	15 or less	20 or less	160
			Rubber seal	SQ2231D	2.3	0.17	0.51	3.1	0.18	0.71	20 or less	26 or less	155
	3 position	Closed centre	Metal seal	SQ2330	1.9	0.17	0.46	2.1	0.15	0.47	34 or less	44 or less	180
			Rubber seal	SQ2331	1.9	0.17	0.46	1.8	0.29	0.47	34 or less	44 or less	175
		Exhaust centre	Metal seal	SQ2430	1.9	0.17	0.46	2.4	0.14	0.55	34 or less	44 or less	180
			Rubber seal	SQ2431	1.9	0.17	0.46	3.1	0.14	0.65	34 or less	44 or less	175
		Pressure centre	Metal seal	SQ2530	2.3	0.17	0.51	2.1	0.18	0.47	34 or less	44 or less	180
			Rubber seal	SQ2531	2.5	0.17	0.56	1.8	0.30	0.47	34 or less	44 or less	175
	4 position	Dual 3 port valve	Rubber seal	SQ2 ^A _B 31	1.5	0.17	0.40	1.5	0.17	0.40	34 or less	44 or less	155

How to Order SQ Plug-in Manifold

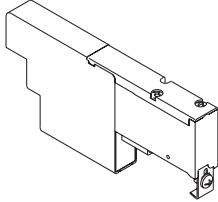
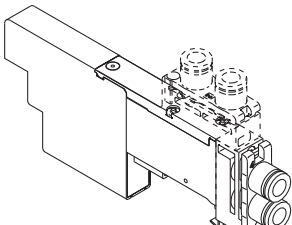
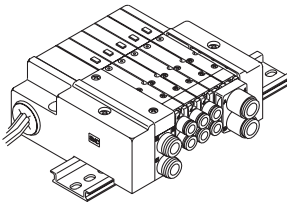
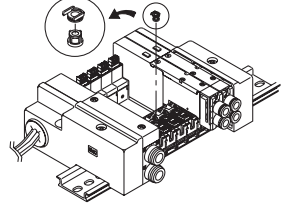
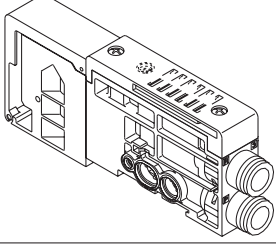
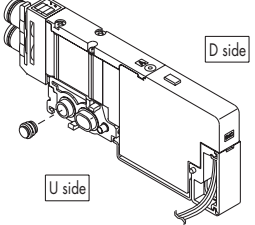
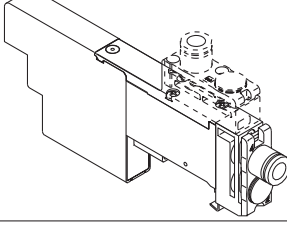
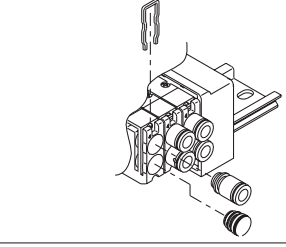
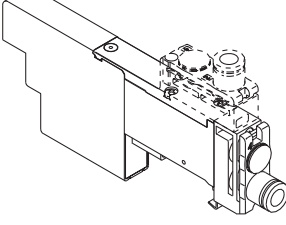
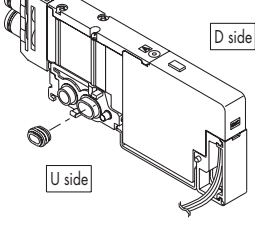


Note: Suitable 25 pin D-sub cable assemblies for this manifold are detailed in the appendix to the valve section.

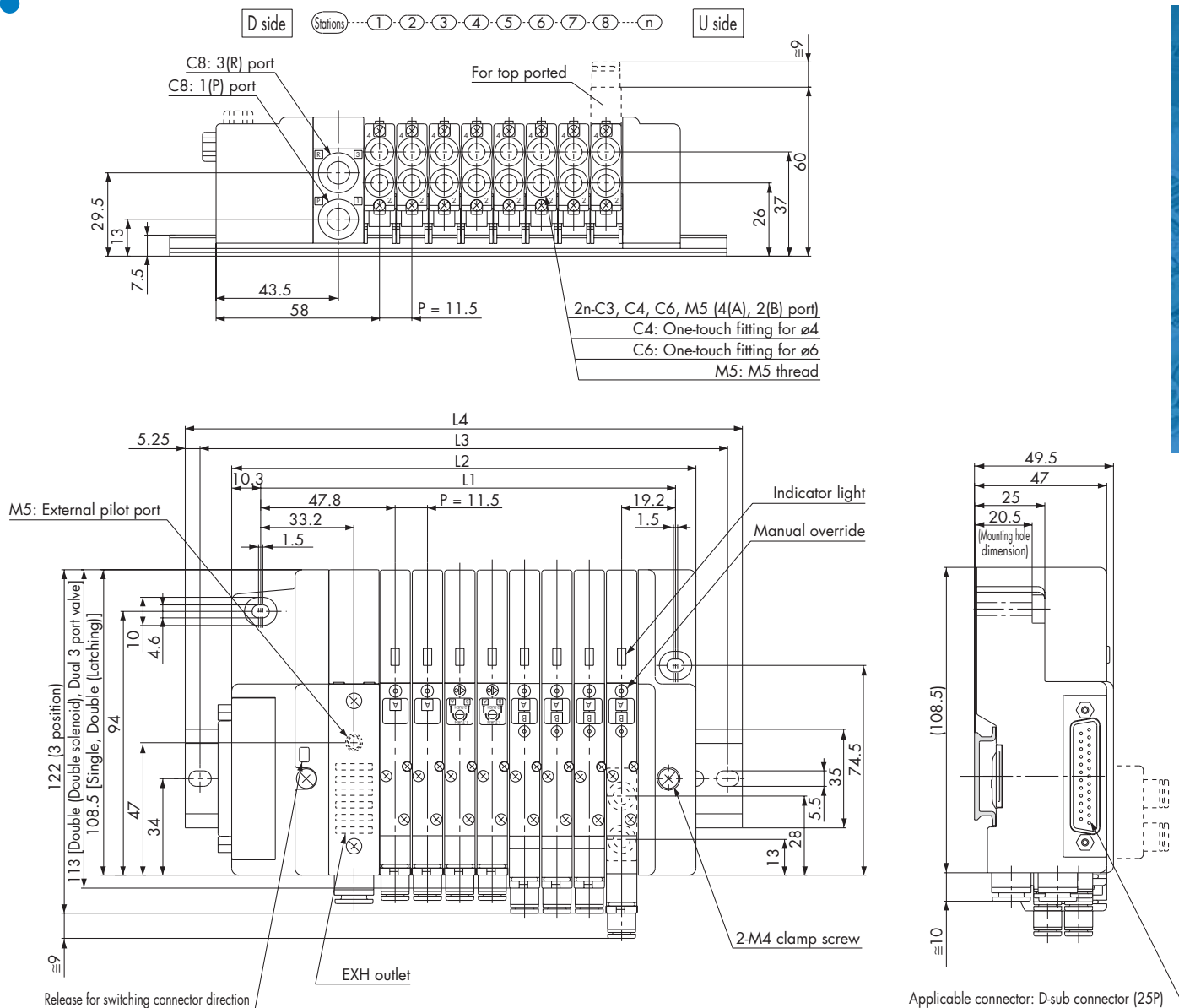
Manifolds - Options also available

J kit  PC wiring system flat cables connector (J type)	P kit  Flat cable connector electrical entry manifold (P type).	S kit  Serial interface manifold (S type).	T kit  Terminal box type electrical connection (T type)
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Manifold Accessories

Blanking plate SSQ1000-10A-3 (SQ1000) SSQ2000-10A-3 (SQ2000) 	Individual SUP/EXH spacer SSQ1000-PR1-3-^{C6}_{L6} (SQ1000) SSQ2000-PR1-3-^{C8}_{L8} (SQ2000) 	Dual flow fitting SSQ1000-52A-C8(SQ1000) SSQ2000-52A-C10(SQ2000) 	Back pressure check valve (-B) SSQ1000-BP (SQ1000) SSQ2000-BP (SQ2000) 
SUP/EXH block SSQ1000-PR-3-C8(SQ1000) SSQ2000-PR-3-C10(SQ2000) 	SUP block plate SSQ1000-B-P (SQ1000) SSQ1000-B-R (SQ2000)  D side U side	Individual EXH spacer SSQ1000-R-3-^{C6}_{L6} (SQ1000) SSQ2000-R-3-^{C8}_{L8} (SQ2000) 	Port plug VVQZ100-CP (SQ1000) VVQZ200-CP (SQ2000) 
Individual SUP spacer SSQ1000-P-3-^{C6}_{L6} (SQ1000) SSQ2000-P-3-^{C8}_{L8} (SQ2000) 	EXH block plate SSQ1000-B-R (SQ1000) SSQ2000-B-R (SQ2000)  D side U side		

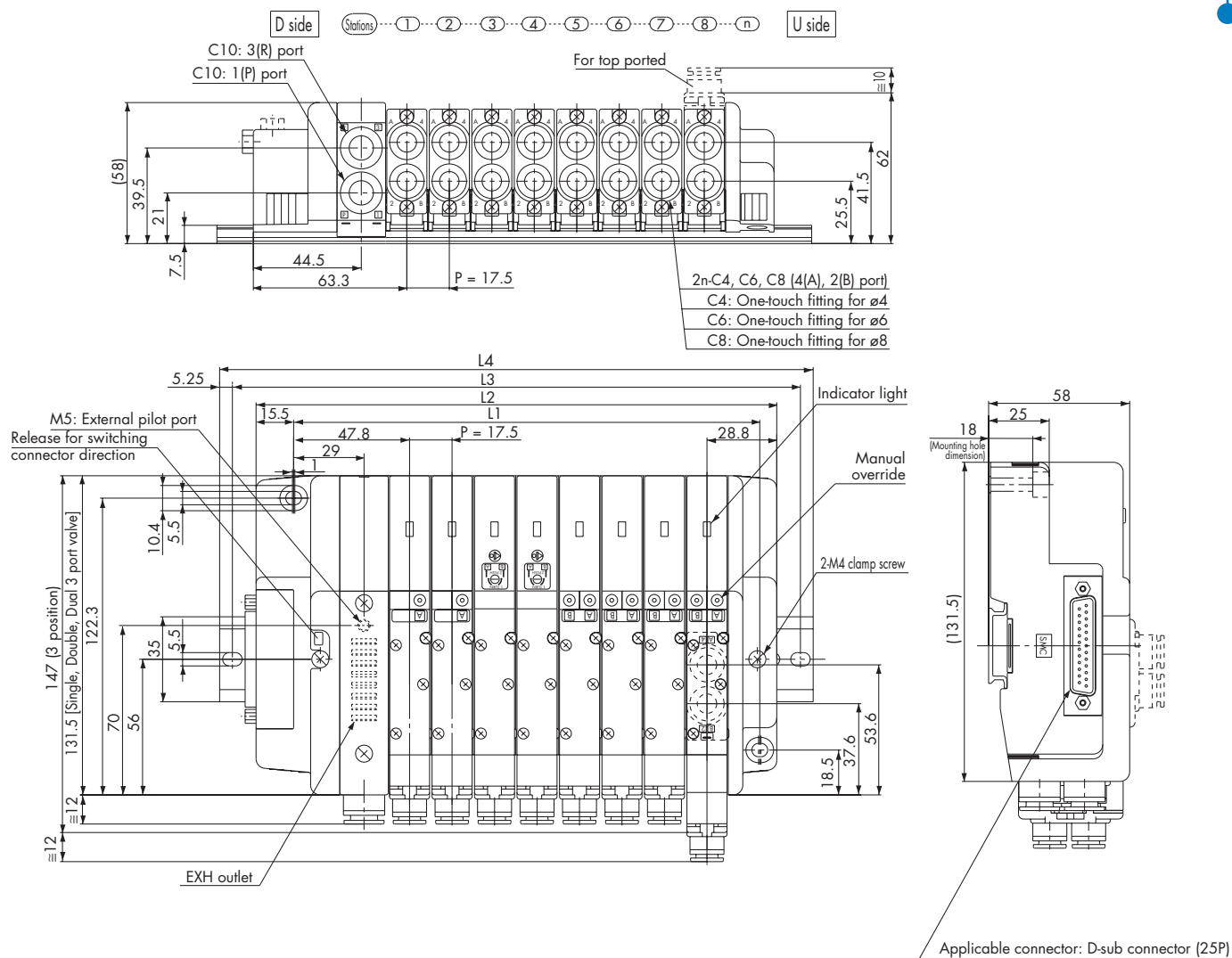
SQ1000 D-sub Connector manifold



n	1	2	3	4	5	6	7	8	9	10	11	12
L1	67	78.5	90	101.5	113	124.5	136	147.5	159	170.5	182	193.5
L2	84.5	96	107.5	119	130.5	142	153.5	165	176.5	188	199.5	211
L3	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	248
L4	123	135.5	148	160.5	173	185.5	198	210.5	223	235.5	248	

Formula: L1 = 11.5n + 55.5, L2 = 11.5n + 73 n: Stations

SQ2000 D-sub Connector manifold



n	1	2	3	4	5	6	7	8	9	10	11	12
L1	69.5	87	104.5	122	139.5	157	174.5	192	209.5	227	244.5	262
L2	92	109.5	127	144.5	162	179.5	197	214.5	232	249.5	267	284.5
L3	112.5	137.5	150	175	187.5	200	225	237.5	262.5	275	287.5	312.5
L4	123	148	160.5	185.5	198	210.5	235.5	248	273	285.5	298	323

Formula: L1 = 17.5n + 52, L2 = 17.5n + 74.5 n: Stations

Series VQ Introduction

The smaller SMC VQ valves are available in many variations.

- 2 basic manifold styles, body ported and base mounted
- 3 body sizes, VQ0000, VQ1000 and VQ2000
- Multiple electrical connection options, including D-sub connectors, terminal boxes, flat ribbon cables and serial transmission.

The variants detailed in this catalogue are highlighted below.

For details and how-to-order information on the other variations, please contact SMC.

The smaller VQ valves are laid out in the following sequence.

1. Base mounted valves
2. Manifolds and accessories for base mounted valves
3. Body ported valves
4. Manifold and accessories for body ported valves

NB: VQ4000, VQ5000 and VQ7 ranges are located in other sections of this catalogue.

Please refer to the index pages.



Series VQ/Base Mounted: Featured variations

F kit D-sub connector Conforming to MIL D-sub connector		
Plug-in Series VQ0000	Series VQ1000	Plug Lead Series VQ2000

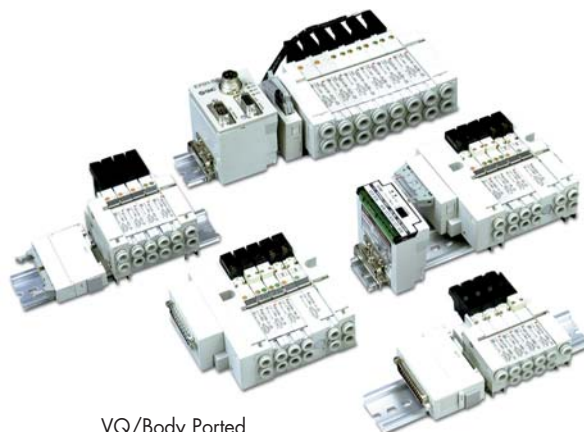


VQ/Base Mounted

M kit Circular connector IP65 (Dusttight/Low jetproof type)
Plug-in Series VQ2000

Series VQ/Body Ported: Featured variations

C kit Lead wire Direct electrical entry type		
Plug-Lead Series VQ0000	Series VQ1000	Series VQ2000

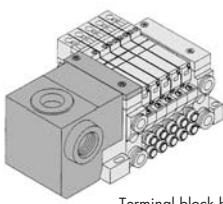
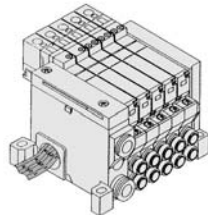
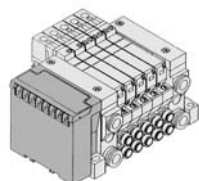
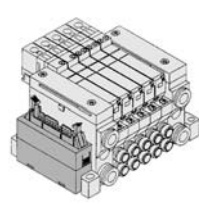
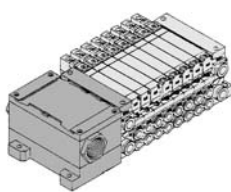
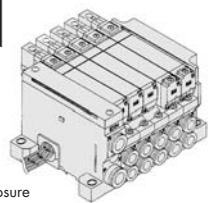
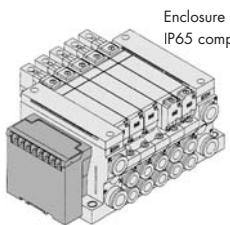
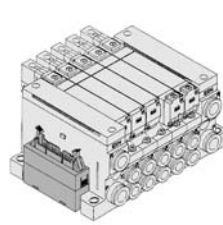
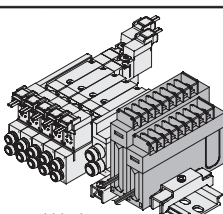
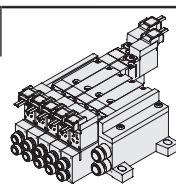
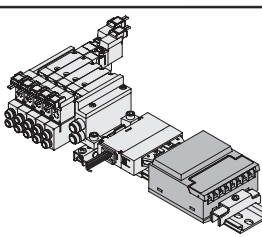
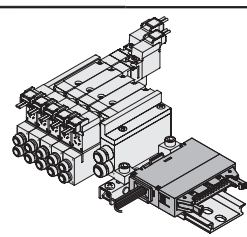
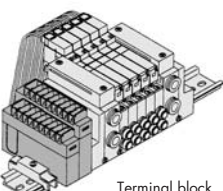
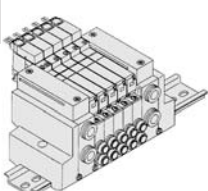
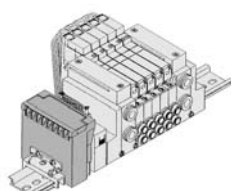
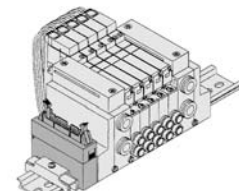
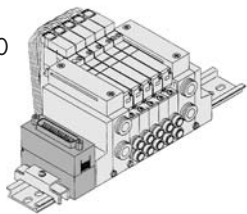
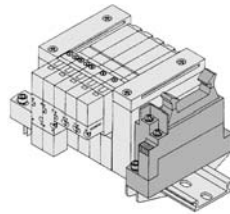
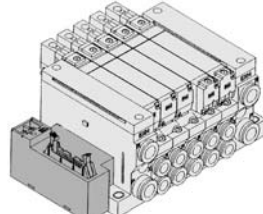


VQ/Body Ported

Series VQ/Body Ported: Variations NOT featured in this catalogue.

	F kit	P kit	J kit	T kit	S kit
	D-sub connector Conforming to MIL D-sub connector	Flat ribbon cable connector (26, 20, 16, 10 pins) Conforming to MIL flat ribbon cable connector	Flat ribbon cable connector (20 pins) Conforming to MIL flat. ribbon cable connector PC Wiring System compatible	Terminal block Two kinds of terminal are available in accordance with the number of stations.	Serial transmission unit Enables single-wire solenoid valve-PLC operation
Valves					
Plug-in	Series VQ1000 	 P/J kit		—	
	Series VQ0000 	 P kit			
Plug Lead	Series VQ1000 	 P kit			
	Series VQ2000 	 P kit			
Cassette	Series VQ1000 	 P kit			
	L C kit	L kit	C kit		
	Lead wire Direct electrical entry type				

Series VQ/Base Mounted: Variations not featured in this catalogue.

	T kit	L C kit	S kit	P kit	J kit
	Terminal block box (Terminal block) Terminal blocks are compactly arranged on one side.	Lead wire Direct electrical entry type	Serial transmission unit Enables single-wire solenoid valve-PLC operation	Flat ribbon cable connector (26, 20, 16, 10 pins) Conforming to MIL flat ribbon cable connector	Flat ribbon cable connector (20 pins) Conforming to MIL flat ribbon cable connector PC Wiring System compatible
Plug-in	 Terminal block box	 L kit	 S kit	 P/J kit	
	 Enclosure IP65 compliant	 L kit Enclosure IP65 compliant	 Enclosure IP65 compliant	 P/J kit	
Plug Lead	 Terminal block	 C kit	 P kit only	 P kit only	
	 Terminal block	 C kit	 P kit only	 P kit only	
Plug Lead	F kit D-sub connector Conforming to MIL D-sub connector				
	Series VQ1000 				
Plug-in				G kit Flat ribbon cable with power supply terminal block Conforming to MIL flat ribbon cable connector Applicable to OMRON's serial transmission unit PC Wiring System compatible	
					

Base Mounted Solenoid Valve

Series **VQ1000/2000**

Features

- Three body sizes VQ0000, VQ1000 and VQ2000.
- Choice of metal seal or rubber seal.
- Wide range of manifold mounting options.
- Fast response and long design life.
- High pressure and power saving coil designs available.
- Pre-wired manifolds for ease of connection.



How to Order Plug-In Valves

VQ 1 1 0 0 Y 5 [] [] - Q

Series

1	VQ1000
2	VQ2000

Type of actuation

	VQ1000	VQ2000
1	2 position single	●
2	2 position double (latching)	●
3	3 position closed centre	●
4	3 position exhaust centre	●
5	3 position pressure centre	●

Seal

0	Metal seal
1	Rubber seal

Function

Symbol	Specifications
Nil	Standard type (1.0W)
H	High pressure type (1.5W)
N	Negative Common (0.5W)
R	External pilot (1.0W)
Y	Low wattage type (1.0W)

IP65 (for use with M kit manifold only)

Nil	IP40
W	IP65 (VQ2000 only)

Manual override

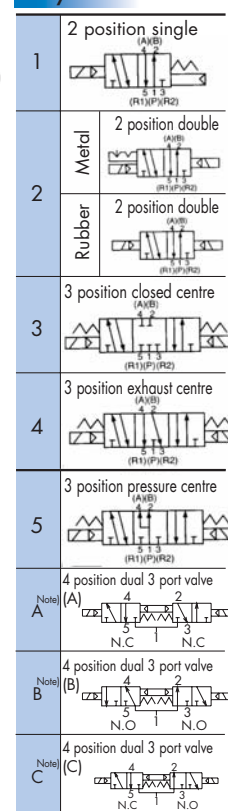
Nil: Non-locking push type (Tool required) B: Push-locking slotted type

C: Locking type (Manual)

Coil voltage

5	24 VDC
6	12 VDC

Symbols



Note) Rubber seal type only.

Valve Specifications

Valve specifications	Valve construction		Metal seal	Rubber seal
	Fluid		Air/Inert gas	Air/Inert gas
	Maximum operating pressure		0.7 MPa (High pressure type: 0.8 MPa)	
	Minimum operating pressure	Single	0.1 MPa	0.15 MPa
		Double	0.1 MPa	0.1 MPa
		3 position	0.1 MPa	0.2 MPa
	Ambient and fluid temperature		-10 to 50°C (No freezing)	
	Lubrication		Not required	
	Manual override		Push type/Locking type (Tool required, Manual type) Option	
	Enclosure		Dust-protected, Dust tight/Low jetproof type (IP65)	
Coil rated voltage		12 , 24 VDC, 100, 110, 200, 220 VAC (50/60 Hz)		
Solenoid	Allowable voltage fluctuation		±10% of rated voltage	
	Coil insulation type		Class B or equivalent	
	Power consumption (Current)	24 VDC	1 W DC (42 mA), 1.5 W DC (63 mA), 0.5 W DC (21 mA)	
		12 VDC	1 W DC (83 mA), 1.5 W DC (125 mA), 0.5 W DC (42 mA)	

How to Order Manifold 25 Pin D-Sub Type for VQ1000 and VQ2000

Ordering Example: VV5Q 1 1-08 C6 F U0 - -Q

Series

1	VQ1000
2	VQ2000

Manifold

1	Plug-in unit
---	--------------

Stations

01	1 station
...	...
12	12 station

Cylinder port

Symbol	Port size	VQ1000	VQ2000
C4	With One-touch fitting for ø4	○	○
C6	With One-touch fitting for ø6	○	○
C8	With One-touch fitting for ø8	○	○
M5	M5 thread	○	○
L4	W/ elbow One-touch fitting ø4 for top piping	○	○
L6	W/ elbow One-touch fitting ø6 for top piping	○	○
L8	W/ elbow One-touch fitting ø8 for top piping	○	○
L5	Elbow M5 thread for top piping	○	○
B4	W/ elbow One-touch fitting ø4 for bottom piping	○	○
B6	W/ elbow One-touch fitting ø6 for bottom piping	○	○
B8	W/ elbow One-touch fitting ø8 for bottom piping	○	○
B5	Elbow M5 thread for bottom piping	○	○

Option

Symbol	Option
Nil	None
B	With back pressure check valves
D	DIN rail mounting
R	External pilot
S	Built-in silencer, direct exhaust

Note) When two or more symbols are specified, indicate them alphabetically. Example) -BRS

Kit/Electrical entry/Cable length

F kit (D-sub connector)

Top entry

Note 1) 25P

Note: For applicable connection cables, see the appendix to the valves section.

Without cable	2 to 12 stations
---------------	------------------

Manifolds longer than 12 stations are available if the wiring of single and double wiring is specified for each station.
Please contact SMC for clarification and the wiring specification sheets.

Manifold Options also available

The following options are also available for VQ1000/VQ2000 plug in manifolds. Please contact SMC for full details.

With vacuum ejector unit [J□]	Regulator unit VVQ1000-AR-1	Name plate [-N] VQ2000-N-Station (1 to Max. stations)	Double check block VQ2000-FPG-□□

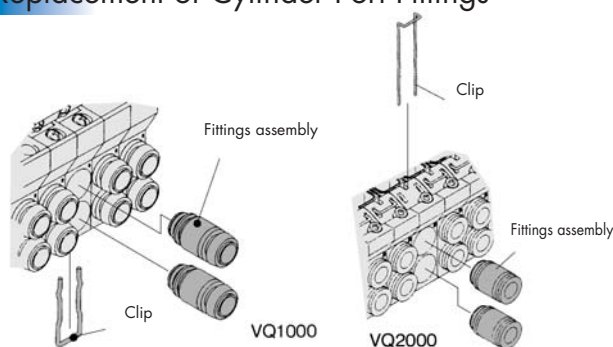
Manifold Accessories

Blanking plate assembly VVQ1000-10A-1	SUP block plate VVQ1000-16A	Silencer (For EXH port) AN200-KM8/AN203-KM8	Blanking plate with conn. VVQ1000-1C□□	2 stations matching fitting ass'y VQ1000-52A-C8 (VQ1000) VQ2000-52A-C10 (VQ2000)	Single sub-base IP65 (VQ2000 only) VQ2000-PW-165
Individual SUP spacer VVQ1000-P-1-C6	EXH block base assembly VVQ1000-19A- ^{F-B} 0003	Individual EXH spacer VVQ1000-R-1-C6	Back pressure check valve ass'y [B] VVQ1000-18A	Port plug VVQ0000-58A	EXH block plate VVQ2000-19A

C6 (SUP port) One-touch fitting for ø6

C6 (EXH port) One-touch fitting for ø6

Replacement of Cylinder Port Fittings



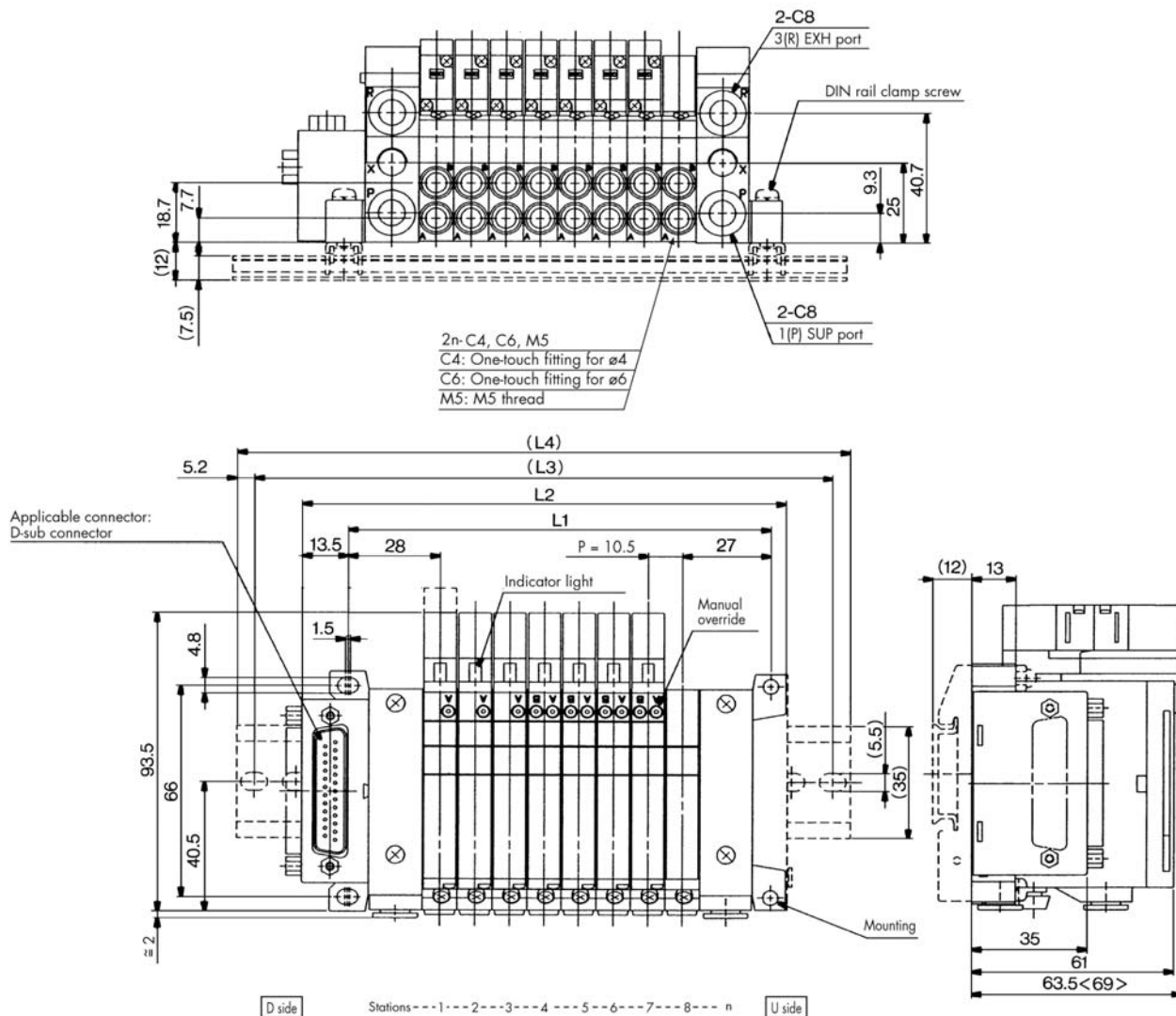
Applicable tubing O.D.	Fitting assembly part no.	
	VQ1000	VQ2000
Applicable tubing $\varnothing 4$	VVQ1000-50A-C4	VVQ1000-51A-C4
Applicable tubing $\varnothing 6$	VVQ1000-50A-C6	VVQ1000-51A-C6
Applicable tubing $\varnothing 8$	—	VVQ1000-51A-C8
M5	VVQ1000-50A-M5	—

Flow Characteristics

Series	Number of solenoids		Model		Flow characteristics						Response time (ms)			Weigh (g)
					1 → 2/4 (P → A/B)			2/4 → 3/5 (A/B → R1/R2)			Standard: 1 W H: 1.5 W	Low wattage: 0.5 W	AC	
					C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv				
VQ1000	2 position	Single	Metal seal	VQ1100	0.70	0.15	0.16	0.72	0.25	0.18	12 or less	15 or less	29 or less	64
			Rubber seal	VQ1101	0.85	0.20	0.21	1.0	0.30	0.25	15 or less	20 or less	34 or less	
		Double	Metal seal	VQ1200	0.70	0.15	0.16	0.72	0.25	0.18	10 or less	13 or less	13 or less	
			Rubber seal	VQ1201	0.85	0.20	0.21	1.0	0.30	0.25	15 or less	20 or less	20 or less	
	3 position	Closed centre	Metal seal	VQ1300	0.68	0.15	0.16	0.72	0.25	0.18	20 or less	26 or less	40 or less	78
			Rubber seal	VQ1301	0.70	0.20	0.16	0.65	0.42	0.18	25 or less	33 or less	47 or less	
		Exhaust centre	Metal seal	VQ1400	0.68	0.15	0.16	0.72	0.25	0.18	20 or less	26 or less	40 or less	
			Rubber seal	VQ1401	0.70	0.20	0.16	1.0	0.30	0.25	25 or less	33 or less	47 or less	
		Pressure centre	Metal seal	VQ1500	0.70	0.15	0.16	0.72	0.25	0.18	20 or less	26 or less	40 or less	
			Rubber seal	VQ1501	0.85	0.20	0.21	0.65	0.42	0.18	25 or less	33 or less	47 or less	
	4 position	Dual 3 port valve	Rubber seal	VQ1 ^A _B _C 01	0.70	0.20	0.16	0.70	0.20	0.16	25 or less	33 or less	47 or less	
	VQ2000	2 position	Single	Metal seal	VQ2100	2.0	0.15	0.46	2.6	0.15	0.60	22 or less	29 or less	49 or less
Rubber seal				VQ2101	2.2	0.28	0.55	3.2	0.30	0.80	24 or less	31 or less	51 or less	
Double			Metal seal	VQ2200	2.0	0.15	0.46	2.6	0.15	0.60	15 or less	20 or less	20 or less	
			Rubber seal	VQ2201	2.2	0.28	0.55	3.2	0.30	0.80	20 or less	26 or less	26 or less	
3 position		Closed centre	Metal seal	VQ2300	2.0	0.15	0.46	2.0	0.18	0.46	29 or less	38 or less	58 or less	110
			Rubber seal	VQ2301	2.0	0.28	0.49	2.2	0.31	0.60	34 or less	44 or less	64 or less	
		Exhaust centre	Metal seal	VQ2400	2.0	0.15	0.46	2.6	0.15	0.60	29 or less	38 or less	58 or less	
			Rubber seal	VQ2401	2.0	0.28	0.49	3.2	0.30	0.80	34 or less	44 or less	64 or less	
		Pressure centre	Metal seal	VQ2500	2.4	0.17	0.57	2.0	0.18	0.46	29 or less	38 or less	58 or less	
			Rubber seal	VQ2501	3.2	0.28	0.80	2.2	0.31	0.60	34 or less	44 or less	64 or less	
4 position		Dual 3 port valve	Rubber seal	VQ2 ^A _B _C 01	1.8	0.28	0.46	1.8	0.28	0.46	34 or less	44 or less	64 or less	

VQ1000 F Kit (D-sub connector)

The broken lines indicate the DIN rail mounting style [-D] and the side entry connection [-FS].

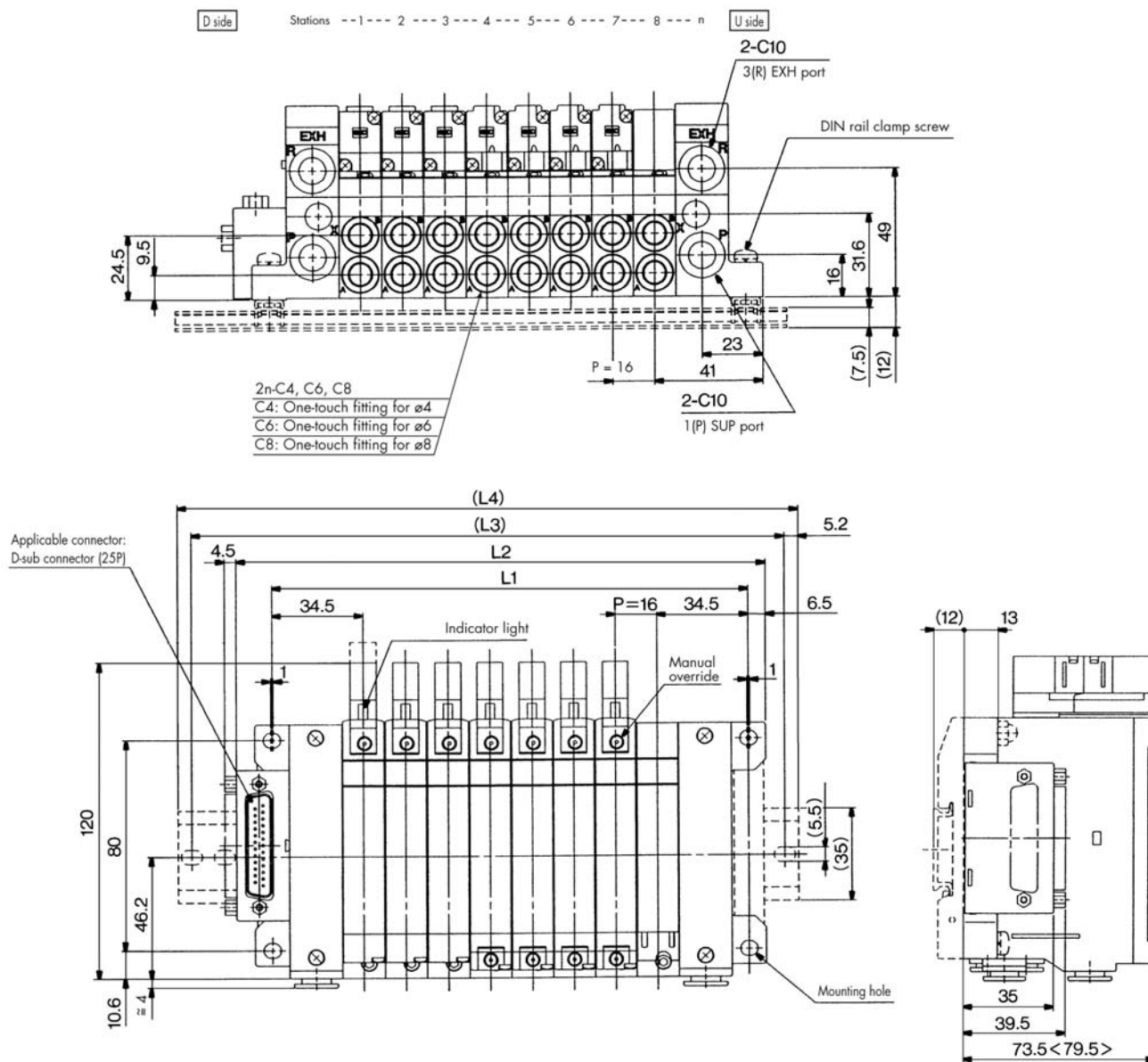

Dimensions

L	n	2	3	4	5	6	7	8	9	10	11	12
L1		65.5	76	86.5	97	107.5	118	128.5	139	149.5	160	170.5
L2		83.5	94	104.5	115	125.5	136	146.5	157	167.5	178	188.5
(L3)		112.5	125	125	137.5	150	162.5	175	187.5	187.5	200	212.5
(L4)		123	135.5	135.5	148	160.5	173	185.5	198	198	210.5	223

Formula $L1 = 10.5n + 44.5$, $L2 = 10.5n + 62.5$ n: Station (Maximum 12 stations)

VQ2000 F Kit (D-sub connector)

The broken lines indicate the DIN rail mounting style [-D] and the side entry connection [-FS].



Dimensions

Formula $L1 = 16n + 53$, $L2 = 16n + 73$ n: Station (Maximum 12 stations)

L	n	2	3	4	5	6	7	8	9	10	11	12
L1		85	101	117	133	149	165	181	197	213	229	245
L2		105	121	137	153	169	185	201	217	233	249	265
(L3)		137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5
(L4)		148	160.5	173	186	198.5	211	223.5	236	248.5	261	273.5

How to Order Manifold - Circular Connector type (VQ2000 only)

VV5Q 2 1-08 C6 M D -N W-Q

- Series**: 2 VQ2000
- Manifold**: 1 Plug-in unit
- Stations**:

02	2 stations
...	...
12	12 stations
- Cylinder port**:

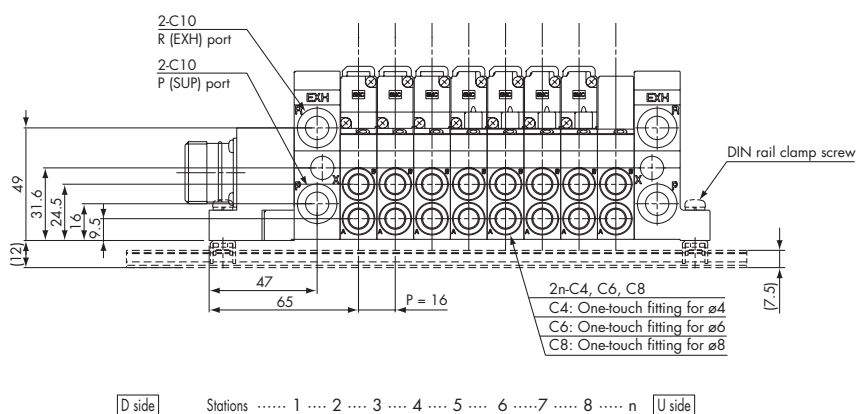
Symbol	Port size
C4	With One-touch fitting for ø4
C6	With One-touch fitting for ø6
C8	With One-touch fitting for ø8
- Cable (Length)**:

0	Without cable
---	---------------
- Enclosure**: IP65 (Dust tight/splash-proof type)
- Option**:

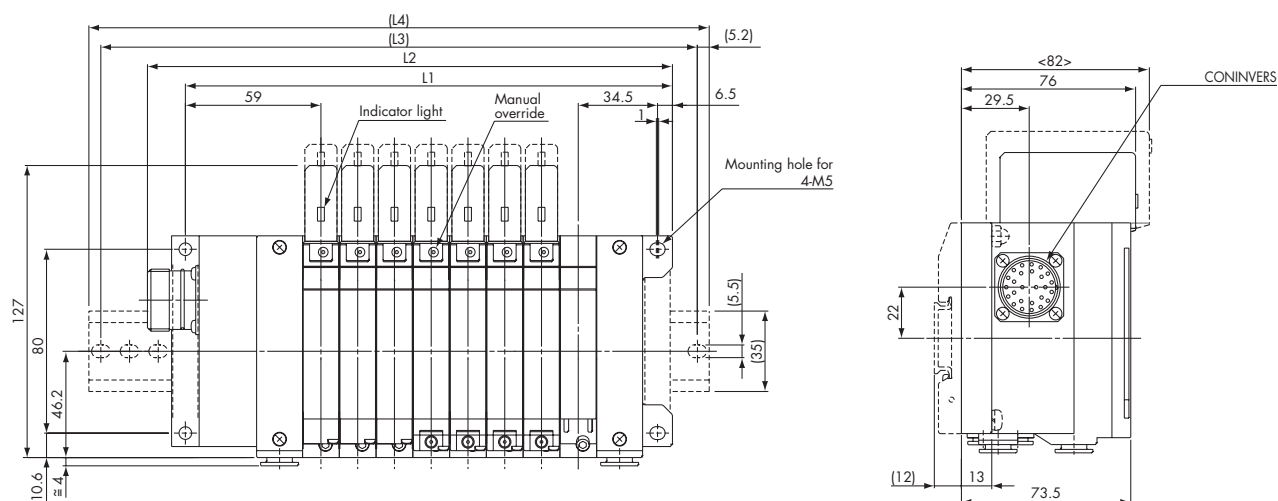
Symbol	Option
Nil	None
B	With back pressure check valve
D	DIN rail mounting
R	External pilot

Note: Applicable Valves VQ2 * O * - ** W - Q

VQ2000 M Kit



The broken lines indicate the DIN rail mounting style [-D] and the side entry connection [-FS].



Dimensions

Formula $L1 = 16n + 77.5$, $L2 = 16n + 100.5$ n: Station (Maximum 12 stations)

n	2	3	4	5	6	7	8	9	10	11	12
L1	109.5	125.5	141.5	157.5	173.5	189.5	205.5	221.5	237.5	253.5	269.5
L2	132.5	148.5	164.5	180.5	196.5	212.5	228.5	244.5	260.5	276.5	292.5
(L3)	162.5	175	187.5	200	225	237.5	250	275	287.5	300	312.5
(L4)	173	185.5	198	210.5	235.5	248	260.5	285.5	298	310.5	323

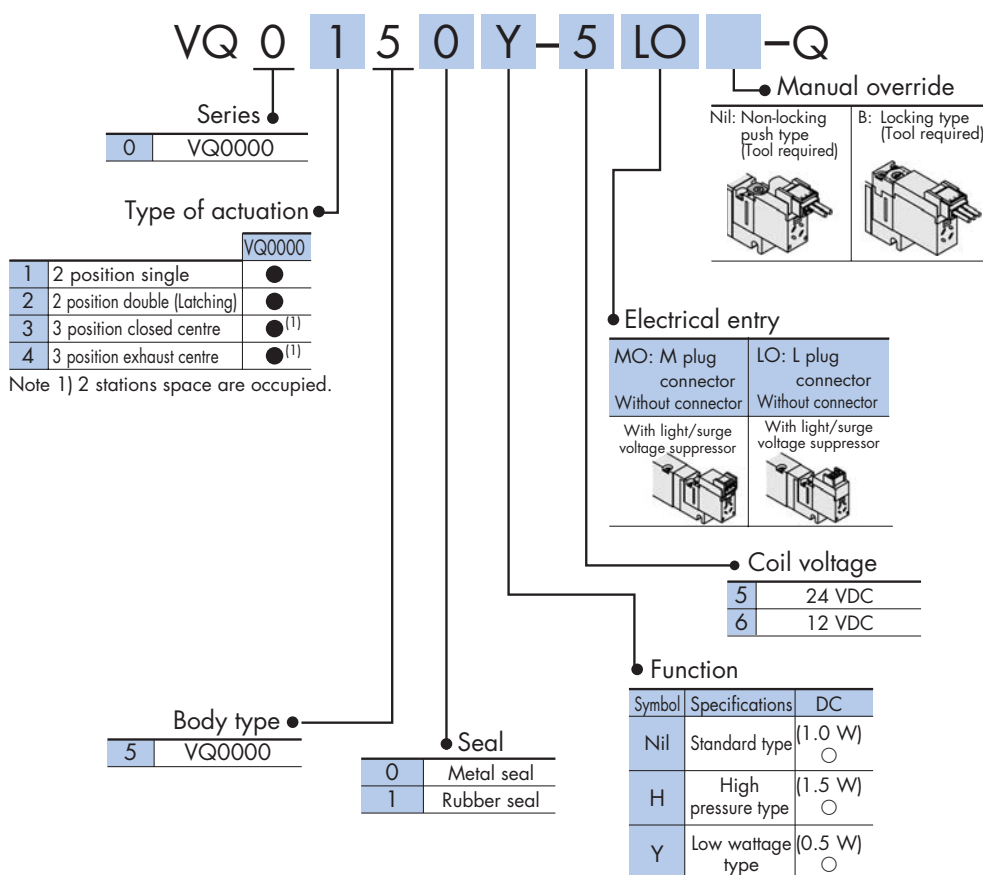
Base Mounted Solenoid Valve

Series **VQ0000**

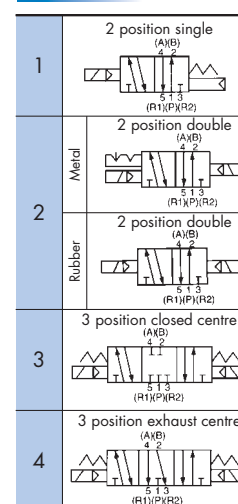
Features

- Choice of metal seal or rubber seal.
- Wide range of manifold mounting options.
- Fast response and long design life.
- High pressure and power saving coil designs available.
- Pre-wired manifolds for ease of connection.

VQ0000 How to Order Valves



Symbols



Valve Specifications

Valve specifications	Valve construction		Metal seal	Rubber seal
	Fluid		Air/Inert gas	
	Maximum operating pressure		0.7 MPa (High pressure type: 0.8 MPa)	
	Min. operating pressure	Single	0.1 MPa	0.15 MPa
		Double	0.1 MPa	
		3 position	0.1 MPa	0.2 MPa
	Ambient and fluid temperature		−10 to 50°C (No freezing)	
	Lubrication		Not required	
	Manual override		Non-locking push type/Locking type (Tool required, Manually operated) Option	
Enclosure		Dust tight		
Solenoid	Coil rated voltage		12, 24 VDC	
	Allowable voltage fluctuation		±10% of rated voltage	
	Coil insulation type		Equivalent to class B	
	Power consumption (Current)	24 VDC	1 W DC (42 mA), 1.5 W DC (63 mA) , 0.5 W DC (21 mA)	
		12 VDC	1 W DC (83 mA), 1.5 W DC (125 mA) , 0.5 W DC (42 mA)	

Flow Characteristics

Series	Number of solenoids		Model		Flow characteristic						Response time (ms)			Weight (g)
					1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → R1/R2)			Standard: 1 W H: 1.5 W	Low wattage: ⁽³⁾ 0.5 W	AC ⁽³⁾	
					C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv				
VQ0000	2 position	Single	Metal seal	VQ0150	0.41	0.20	0.10	0.44	0.26	0.11	12 or less	15 or less	29 or less	36
			Rubber seal	VQ0151	0.53	0.20	0.12	0.53	0.22	0.13	15 or less	20 or less	34 or less	
		Double	Metal seal	VQ0250	0.41	0.20	0.10	0.44	0.26	0.11	10 or less	13 or less	13 or less	
			Rubber seal	VQ0251	0.53	0.20	0.12	0.53	0.22	0.13	15 or less	20 or less	20 or less	
	3 position	Closed centre	Metal seal	VQ0350	0.32	0.10	0.07	0.32	0.20	0.07	20 or less	26 or less	40 or less	50
			Rubber seal	VQ0351	0.43	0.21	0.10	0.44	0.24	0.11	25 or less	33 or less	47 or less	
		Exhaust centre	Metal seal	VQ0450	0.32	0.10	0.07	0.44	0.26	0.11	20 or less	26 or less	40 or less	
			Rubber seal	VQ0451	0.43	0.21	0.10	0.53	0.22	0.13	25 or less	33 or less	47 or less	

How to Order Manifold

VV5Q 05 - 08 C4 F U0 - D - Q

Series/Manifold

05 VQ0000

Stations

01	1 station
⋮	⋮
12	12 stations

Cylinder port

Symbol	Port size
C4	With One-touch fitting for ø4
M5	M5 thread

Kit type

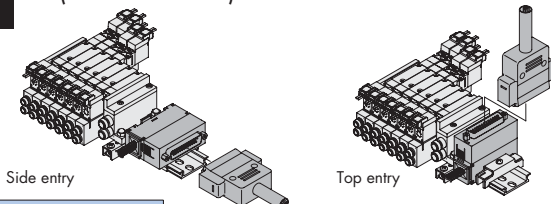
Option

Symbol	Option
Nil	None
D	DIN rail mounting style
S	Built-in silencer, direct exhaust

Note: Applicable valves: VQ*5* type.

Kit/Electrical entry: Cable length

F kit (D-sub connector)



Connector entry direction	
Top entry	Side entry
Kit F	U0
Kit F	S0

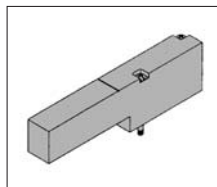
Without cable

Max. 12 stations

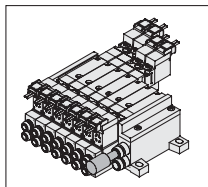
Note: For applicable connector cables, see the cables appendix to the valve section.

VQ0000 Manifold Accessories

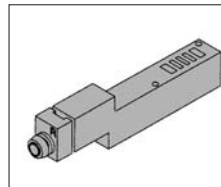
Blanking plate assembly
VVQ0000-10A-5



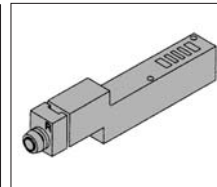
Silencer
AN103-X233



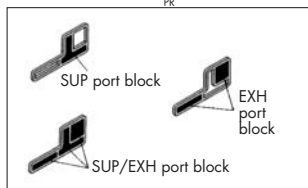
Individual SUP spacer
VVQ0000-P-5-C4



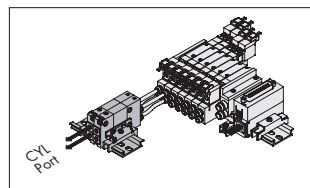
Individual EXH spacer
VVQ0000-R-5-C4



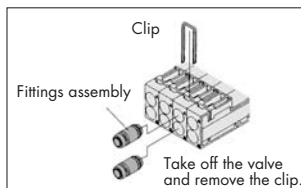
SUP/EXH block plate
VVQ0000-16A-5



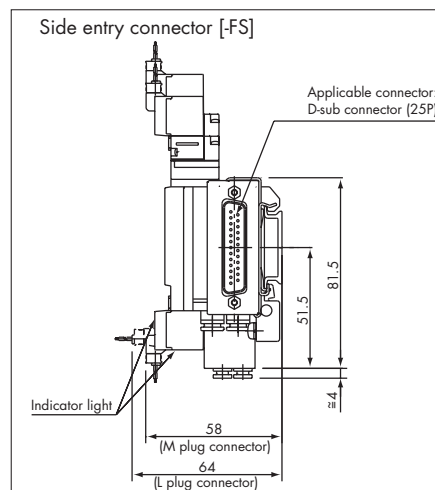
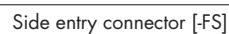
Double check block
VQ1000-FPG-□□



Fitting Cartridge
VVQ1000-51A-C4



Valves



$\begin{matrix} \text{L} \\ \text{n} \end{matrix}$	1	2	3	4	5	6	7	8	9	10	11	12
L1	46.5	57.4	68.1	78.8	89.5	100.2	110.9	121.6	132.3	143	153.7	164.4
L2	55.7	66.4	77.1	87.8	98.5	109.2	119.9	130.6	141.3	152	162.7	173.4
L3	112.5	125	137.5	150	162.5	175	175	187.5	200	212.5	225	237.5
L4	123	135.3	148	160.5	173	185.5	185.5	198	210.5	223	235.5	248

n	1	2	3	4	5	6	7	8	9	10	11	12
L3	137.5	150	150	162.5	175	187.5	200	212.5	225	225	237.5	250
L4	148	160.5	160.5	173	185.5	198	210.5	223	235.5	235.5	248	260.5

Page 178

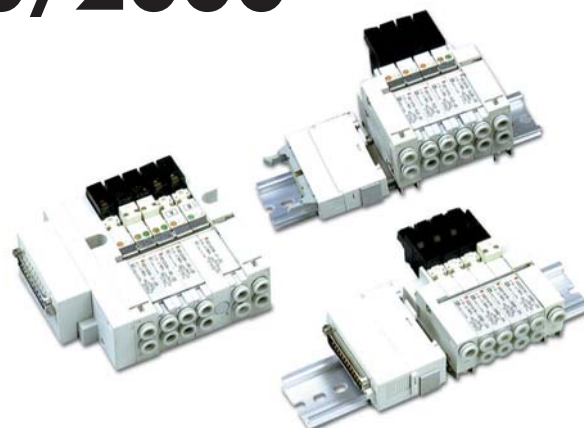
Body Ported Solenoid Valve

Series **VQ0000/1000/2000**

Features

- Choice of metal seal or rubber seal.
- Wide range of manifold mounting options.
- Fast response and long design life.
- High pressure and power saving coil designs available.
- Pre-wired manifolds for ease of connection.

VQ0000/1000/2000 How to Order Valves



Valves

VQ 1 1 4 0 Y - 5 L - C6 - Q

Series	
0	VQ0000
1	VQ1000
2	VQ2000

Seal	
0	Metal seal
1	Rubber seal

Type of actuation	VQ0000	VQ1000	VQ2000
1 2 position single	●	●	●
2 2 position double (Latching)	●	●	●
3 3 position closed centre	● ⁽¹⁾	●	—
4 3 position exhaust centre	● ⁽¹⁾	●	—
5 3 position pressure centre	—	●	—

Note 1) 2 stations space are occupied.

Function

Symbol	Specifications	DC
Nil	Standard type	(1.0 W)
H	High pressure type	(1.5 W) ^{Note}
N	Negative Common	○
Y	Low wattage type	(0.5 W) ^{Note}

Note) Except double (latching)

Coil voltage

5	24 VDC
6	12 VDC

Cylinder port

Symbol	Port size	VQ0000	VQ1000	VQ2000
C4	With One-touch fitting for ø4	●	●	●
C6	With One-touch fitting for ø6	—	●	●
C8	With One-touch fitting for ø8	—	—	●
M5	M5 thread	●	●	—

Manual override

Nil	Non-locking push type
B	Locking type (Tool required)
C	Locking type (Manual)

Note) All double latching valves of VQ0000 are non-locking push type.

Electrical entry

LO	L plug connector without connector
MO	M plug connector without connector

Symbols

1	2 position single (A)(B) 5 1 3 (R1)(P)(R2)
2	2 position double (Latching) (A)(B) 4 2 5 1 3 (R1)(P)(R2) Metal seal (A)(B) 4 2 5 1 3 (R1)(P)(R2) Rubber seal
3	3 position closed centre (A)(B) 4 2 5 1 3 (R1)(P)(R2)
4	3 position exhaust centre (A)(B) 4 2 5 1 3 (R1)(P)(R2)
5	3 position pressure centre (A)(B) 4 2 5 1 3 (R1)(P)(R2)

Valve Specifications

Valve specifications	Valve construction		Metal seal	Rubber seal
	Fluid		Air/Inert gas	Air/Inert gas
	Maximum operating pressure		0.7 MPa (High pressure type: 0.8 MPa) ⁽³⁾	
	Min. operating pressure	Single	0.1 MPa	0.15 MPa
		Double (latching)	0.1 MPa	0.15 MPa
		3 position	0.15 MPa	0.2 MPa
	Ambient and fluid temperature		−10 to 50°C	
	Lubrication		Not required	
	Manual override		Push type/Locking type (Tool required, Manual type) Option	
	Enclosure		Dust-protected	
Coil rated voltage		12, 24 VDC		
Solenoid	Allowable voltage fluctuation		±10% of rated voltage	
	Coil insulation type		Class B or equivalent	
	Power consumption (Current)	24 VDC	1 W DC (42 mA), 1.5 W DC (63 mA) ⁽³⁾ , 0.5 W DC (21 mA)	
		12 VDC	1 W DC (83 mA), 1.5 W DC (125 mA) ⁽³⁾ , 0.5 W DC (42 mA)	



CAD CD-ROM AVAILABLE



CATALOGUE E131-B AVAILABLE



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Flow Characteristics

Series	Number of solenoids		Model		Flow characteristics						Response time ^[2] (ms)			Weight (g)
					1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → R1/R2)			Standard: 1 W H: 1.5 W	Low wattage: 0.5 W	AC	
					C [dm ³ /[s·bar]]	b	C _v	C [dm ³ /[s·bar]]	b	C _v				
VQ0000	2 position	Single	Metal seal	VQ0140	0.43	0.20	0.10	0.50	0.19	0.12	12 or less	29 or less	29 or less	57
			Rubber seal	VQ0141	0.49	0.34	0.13	0.59	0.19	0.14	15 or less	34 or less	34 or less	
		Double (latching)	Metal seal	VQ0240	0.43	0.20	0.10	0.50	0.19	0.12	12 or less	29 or less	29 or less	
			Rubber seal	VQ0241	0.49	0.34	0.13	0.59	0.19	0.14	15 or less	34 or less	34 or less	
	3 position	Closed centre	Metal seal	VQ0340	0.34	0.12	0.08	0.36	0.38	0.10	20 or less	40 or less	40 or less	105
			Rubber seal	VQ0341	0.37	0.25	0.09	0.42	0.45	0.12	25 or less	47 or less	47 or less	
		Exhaust centre	Metal seal	VQ0440	0.36	0.21	0.09	0.48	0.18	0.12	20 or less	40 or less	40 or less	
			Rubber seal	VQ0441	0.37	0.31	0.11	0.59	0.24	0.14	25 or less	47 or less	47 or less	
VQ1000	2 position	Single	Metal seal	VQ1140	0.77	0.14	0.18	0.84	0.14	0.19	12 or less	29 or less	29 or less	57
			Rubber seal	VQ1141	0.91	0.19	0.21	1.0	0.21	0.25	15 or less	34 or less	34 or less	
		Double (latching)	Metal seal	VQ1240	0.77	0.14	0.18	0.84	0.14	0.19	12 or less	29 or less	29 or less	
			Rubber seal	VQ1241	0.91	0.19	0.21	1.0	0.21	0.25	15 or less	34 or less	34 or less	
	3 position	Closed centre	Metal seal	VQ1340	0.67	0.13	0.16	0.73	0.13	0.17	20 or less	40 or less	40 or less	72
			Rubber seal	VQ1341	0.78	0.22	0.18	0.84	0.21	0.20	25 or less	47 or less	47 or less	
		Exhaust centre	Metal seal	VQ1440	0.74	0.14	0.17	0.84	0.16	0.20	20 or less	40 or less	40 or less	
			Rubber seal	VQ1441	0.78	0.28	0.19	1.0	0.21	0.24	25 or less	47 or less	47 or less	
		Pressure centre	Metal seal	VQ1540	0.74	0.14	0.17	0.82	0.18	0.20	20 or less	40 or less	40 or less	
			Rubber seal	VQ1541	0.80	0.28	0.19	0.84	0.21	0.22	25 or less	47 or less	47 or less	
VQ2000	2 position	Single	Metal seal	VQ2140	2.0	0.13	0.43	2.3	0.15	0.58	22 or less	49 or less	49 or less	103
			Rubber seal	VQ2141	2.3	0.21	0.54	2.7	0.25	0.62	24 or less	51 or less	51 or less	
		Double (latching)	Metal seal	VQ2240	2.0	0.13	0.43	2.3	0.15	0.58	22 or less	49 or less	49 or less	
			Rubber seal	VQ2241	2.3	0.21	0.54	2.7	0.25	0.62	24 or less	51 or less	51 or less	

How to Order Manifold

VV5Q 1 4 - 08 C - N - Q

Series	
0	VQ0000
1	VQ1000
2	VQ2000

Manifold	
4	Plug lead unit/Flip

Stations	
01	1 station
...	...
16	16 stations



Option	
Nil	None
D	DIN rail mounting style
N	With name plate
S	Built-in silencer, direct exhaust

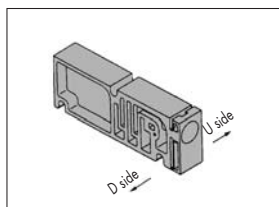
Note 1) When two or more symbols are specified, indicate them alphabetically.
Example) -DNS

Note: Applicable valves VQ**4*, See above.

Manifold Accessories

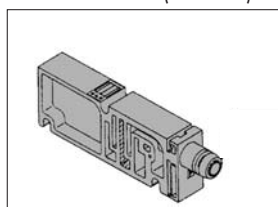
Blanking plate assembly

VVQ0000-10A-4 (VQ0000)
VVQ1000-10A-4 (VQ1000)
VVQ2000-10A-4 (VQ2000)



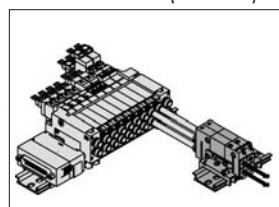
Individual SUP spacer

VVQ0000-P-4-C4 (VQ0000)
VVQ1000-P-4-C6 (VQ1000)
VVQ2000-P-4-C8 (VQ2000)

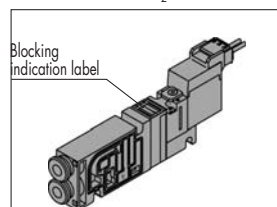


Double Check block

VQ1000-FPG-□□ (VQ0000)
VQ1000-FPG-□□ (VQ1000)
VQ2000-FPG-□□ (VQ2000)

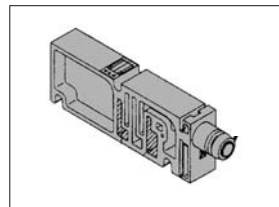


P Block valve VQ⁰₂1⁴0-□□ - P_{PR} - Q



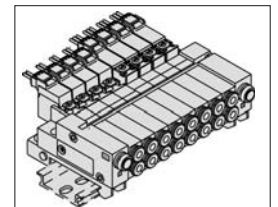
Individual EXH spacer

VVQ0000-R-4-C4 (VQ0000)
VVQ1000-R-4-C6 (VQ1000)
VVQ2000-R-4-C8 (VQ2000)



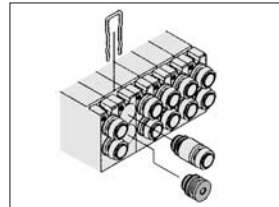
DIN rail mounting bracket

VVQ0000-57A-4 (VQ0000)
VVQ1000-57A-4 (VQ1000)
VVQ2000-57A-4 (VQ2000)

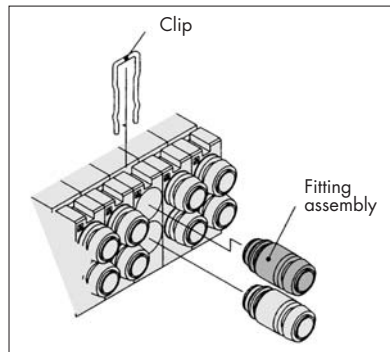


Port plug

VVQ0000-58A (VQ0000)
VVQ1000-58A (VQ1000)

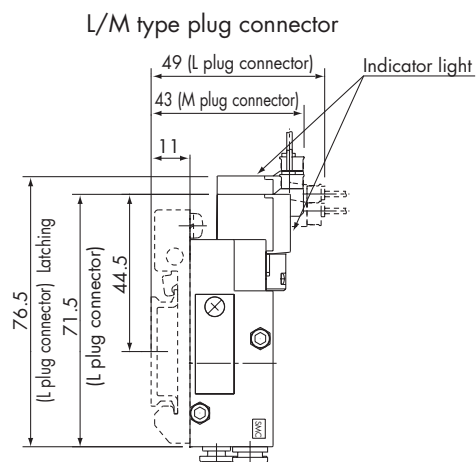
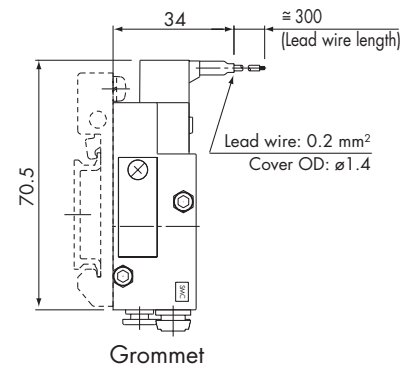
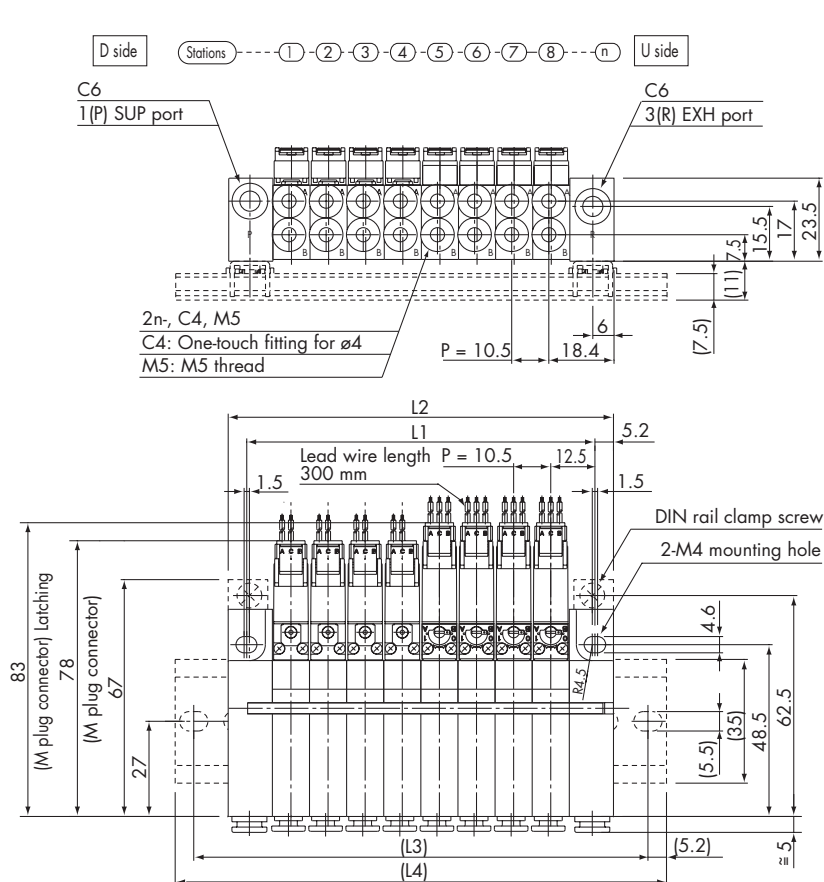


Fittings Cartridge Assembly



Applicable tubing O.D	Fitting assembly part no.	
	VQ1000	VQ2000
Applicable tubing ø4	VVQ1000-50A-C4	VVQ1000-51A-C4
Applicable tubing ø6	VVQ1000-50A-C6	VVQ1000-51A-C6
Applicable tubing ø8	—	VVQ1000-51A-C8

Series VQ0000



The broken lines indicate the DIN rail mounting style [D].

Note 1) Built-in silencer types are equipped with a 1 (P) SUP port on both D and U sides.

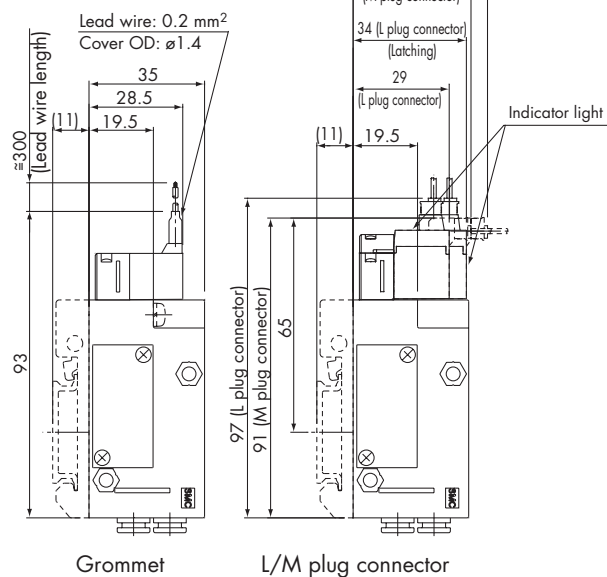
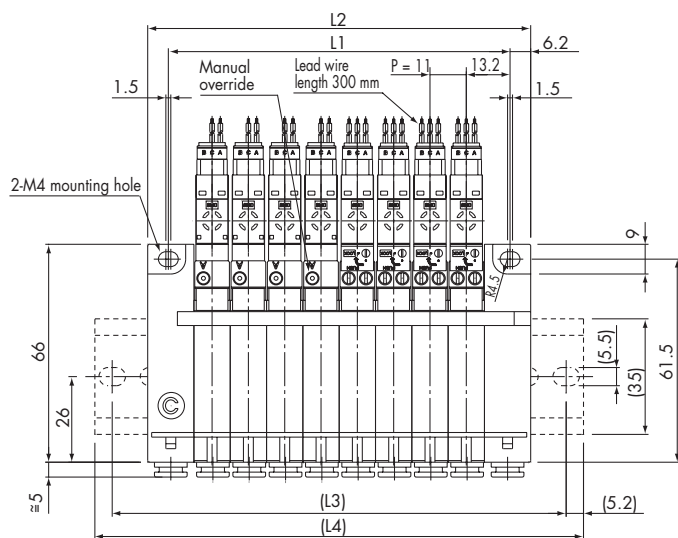
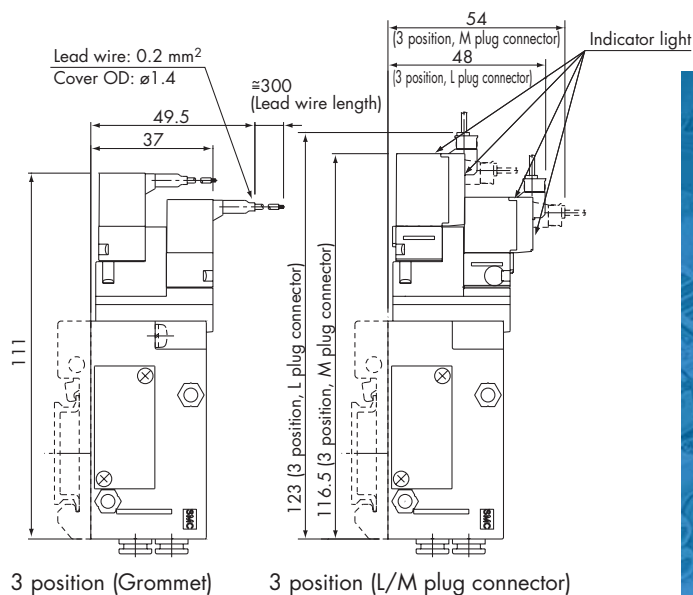
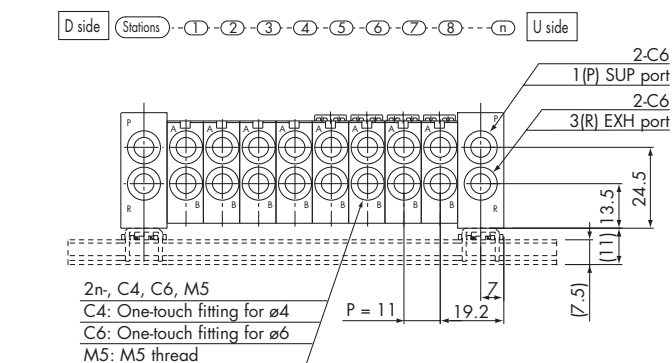
Note 2) 3 position needs two stations. Cylinder port is located at U side of body.

Dimensions

Formula L1 = 10.5n + 14.5, L2 = 10.5 n + 25 n: Station (Maximum 16 stations)

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	25	35.5	46	56.5	67	77.5	88	98.5	109	119.5	130	140.5	151	161.5	172	182.5
L2	35.5	46	56.5	67	77.5	88	98.5	109	119.5	130	140.5	151	161.5	172	182.5	193
(L3)	62.5	75	87.5	87.5	100	112.5	125	137.5	150	150	162.5	175	187.5	200	212.5	212.5
(L4)	73	85.5	98	98	110.5	123	135.5	148	160.5	160.5	173	185.5	198	210.5	223	223

Series VQ1000 C Kit (Connector)

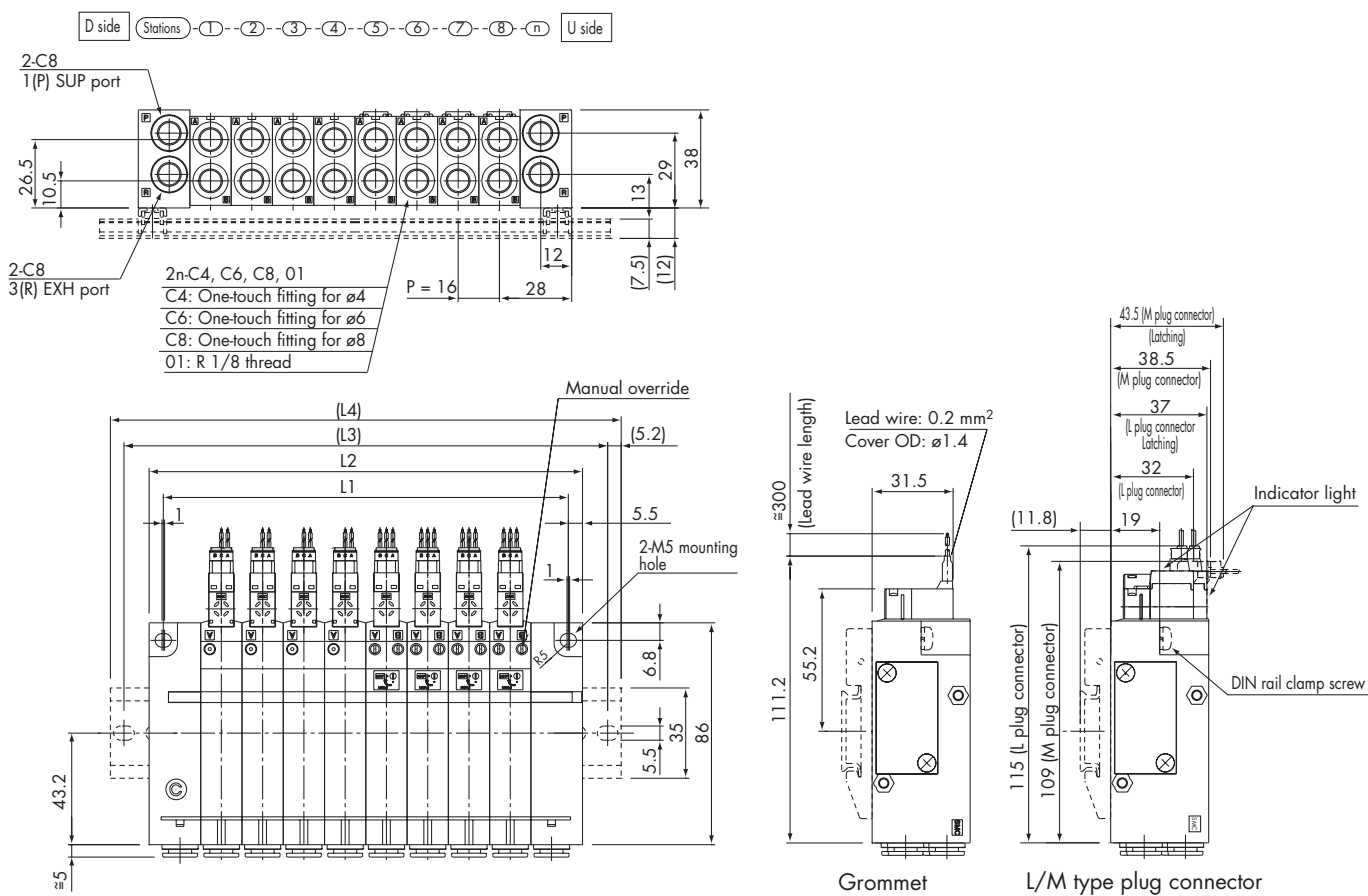


Dimensions

Formula $L1 = 11n + 15.5$, $L2 = 11n + 28$ n: Station (Maximum 16 stations)

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	26.5	37.5	48.5	59.5	70.5	81.5	92.5	103.5	114.5	125.5	136.5	147.5	158.5	169.5	180.5	191.5
L2	39	50	61	72	83	94	105	116	127	138	149	160	171	182	193	204
(L3)	62.5	75	87.5	100	112.5	125	125	137.5	150	162.5	175	187.5	200	212.5	212.5	225
(L4)	73	85.5	98	110.5	123	135.5	135.5	148	160.5	173	185.5	198	210.5	223	223	235.5

Series VQ2000 C Kit (Connector)



Dimensions

Formula L1 = 16n + 29, L2 = 16n + 40 n: Station (Maximum 16 stations)

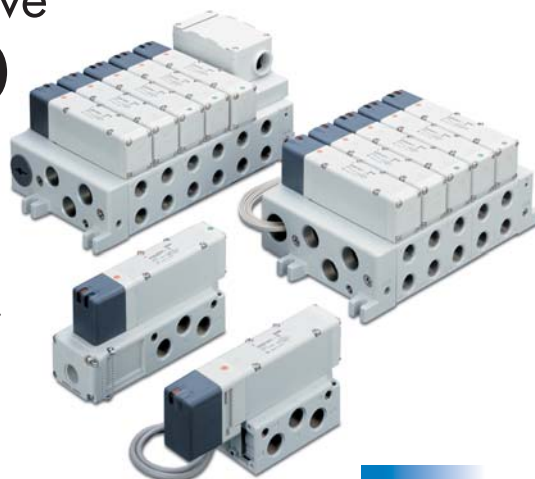
L	n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	45	61	77	93	109	125	141	157	173	189	205	221	237	253	269	285	
L2	56	72	88	104	120	136	152	168	184	200	216	232	248	264	280	296	
(L3)	87.5	100	112.5	125	150	162.5	175	187.5	212.5	225	237.5	262.5	275	287.5	300	325	
(L4)	98	110.5	123	135.5	160.5	173	185.5	198	223	235.5	248	273	285.5	298	310.5	335.5	

Base Mounted Solenoid Valve

Series VQ4000/5000

Features

- Larger size, fast response solenoid valves.
- Choice of metal or rubber seal.
- Plug-in or plug-lead (individually wired) electrical connections.
- IP65 splashproof option.
- Manifold or single subbase mounted.



How to Order Plug-In Valves

Plug-in VQ4 1 0 0 5 — Q

Plug lead VQ4 2 5 1 5 H — Q

Body size

4	VQ4000
5	VQ5000

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
6	3 position double check

*Metal and Rubber

Body

5: Plug lead sub-base

Seal

0	Metal seal
1	Rubber seal

Function

Nil	Standard type (1 W)
Y	Low wattage type (0.5 W) (DC only)
R	External pilot

Note: VQ4000/5000 valves must be used with a sub-base or manifold. There is no body ported version.

Enclosure

Nil	Dust-protected
W	Dusttight/Low jetproof type (IP65)

Manual override

Nil: Non-locking push type (Tool required)

B: Slotted locking type (Tool required)

Coil voltage

1	100 VAC (50/60 Hz)
2	200 VAC (50/60 Hz)
3	110 VAC (50/60 Hz)
4	220 VAC (50/60 Hz)
5	24 VDC
6	12 VDC

Electrical entry

Grommet	H	Lead wire length 1.5 m
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Body

0: Plug-in sub-base

Symbols

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

How to Order Sub-base

VQ4000 — — — F - Q

Body size

4	VQ4000
5	VQ5000

Electrical entry

P	Plug-in conduit terminal
S	Plug lead

Enclosure

Nil	Dust-protected
W	IP65

Porting specifications

Nil	Side ported
B	Bottom ported

Port size

02	1/4	VQ4000 only
03	3/8	VQ4000 side ported only
04	1/2	VQ5000 only

Standard Specifications VQ4000/VQ5000

Valve specifications	Valve construction		Metal seal	Rubber seal
	Fluid		Air/Inert gas	Air/Inert gas
	Maximum operating pressure		1.0 MPa (0.7 MPa for low power version)	
	Min. operating pressure	Single	0.15 MPa	0.20 MPa
		Double	0.15 MPa	0.15 MPa
		3 position	0.15 MPa	0.20 MPa
	Ambient and fluid temperature		-10* to 50°C (No freezing)	-5 to 50°C (No freezing)
	Lubrication		Not required	
Solenoid specifications	Manual override		Push type/Locking type (Tool required) Option	
	Enclosure		Dust tight (IP65 compatible)	
	Coil rated voltage		12, 24 VDC, 100, 110, 200, 220 VAC (50/60 Hz)	
	Allowable voltage fluctuation		±10% of rated voltage	
	Coil insulation type		Class B or equivalent	
	Power consumption (Current)	24 VDC	1 W DC (0.5 W DC low power version)	
		12 VDC	1 W DC (0.5 W DC low power version)	
		100 VAC	Inrush 1.2 VA (12 mA), Holding 1.2 VA (12 mA)	
		110 VAC	Inrush 1.3 VA (11.7 mA), Holding 1.3 VA (11.7 mA)	
		200 VAC	Inrush 2.4 VA (12 mA), Holding 2.4 VA (12 mA)	
		220 VAC	Inrush 2.6 VA (11.7 mA), Holding 2.6 VA (11.7 mA)	

* VQ5000 metal seal minimum temperature: -5°C

Flow Characteristics/Weight

VQ4000

Configuration		Model		Port size	Flow characteristics						Response time (ms)			Weight (kg)
					1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)			Standard 1 W	Low wattage 0.5 W	AC	
					C [dm ³ /(s·bar)]	b	Cv	C [dm ³ /(s·bar)]	b	Cv				
2 position	Single	Metal seal	VQ41 ⁰ ₁₅ 0	Rc 3/8	6.2	0.19	1.5	6.9	0.17	1.7	20 or less	22 or less	22 or less	0.23 (0.29)
		Rubber seal	VQ41 ⁰ ₁₅ 1		7.2	0.43	2.1	7.3	0.38	2.0	25 or less	27 or less	27 or less	
	Double	Metal seal	VQ42 ⁰ ₁₅ 0		6.2	0.19	1.5	6.9	0.17	1.7	12 or less	14 or less	14 or less	0.26 (0.32)
		Rubber seal	VQ42 ⁰ ₁₅ 1		7.2	0.43	2.1	7.3	0.38	2.0	15 or less	17 or less	17 or less	
3 position	Closed centre	Metal seal	VQ43 ⁰ ₁₅ 0		5.9	0.23	1.5	6.3	0.18	1.6	45 or less	47 or less	47 or less	0.28 (0.34)
		Rubber seal	VQ43 ⁰ ₁₅ 1		7.0	0.34	1.9	6.4	0.42	1.9	50 or less	52 or less	52 or less	
	Exhaust centre	Metal seal	VQ44 ⁰ ₁₅ 0		6.2	0.18	1.5	6.9	0.17	1.7	45 or less	47 or less	47 or less	0.28 (0.34)
		Rubber seal	VQ44 ⁰ ₁₅ 1		7.0	0.38	1.9	7.3	0.38	2.0	50 or less	52 or less	52 or less	
	Pressure centre	Metal seal	VQ45 ⁰ ₁₅ 0		6.2	0.18	1.6	6.4	0.18	1.6	45 or less	47 or less	47 or less	0.28 (0.34)
		Rubber seal	VQ45 ⁰ ₁₅ 1		7.0	0.38	1.9	7.1	0.38	2.0	50 or less	52 or less	52 or less	
	Double check	Metal seal	VQ46 ⁰ ₁₅ 0		2.7	—	—	3.7	—	—	55 or less	57 or less	57 or less	0.50 (0.56)
		Rubber seal	VQ46 ⁰ ₁₅ 1		2.8	—	—	3.9	—	—	62 or less	64 or less	64 or less	

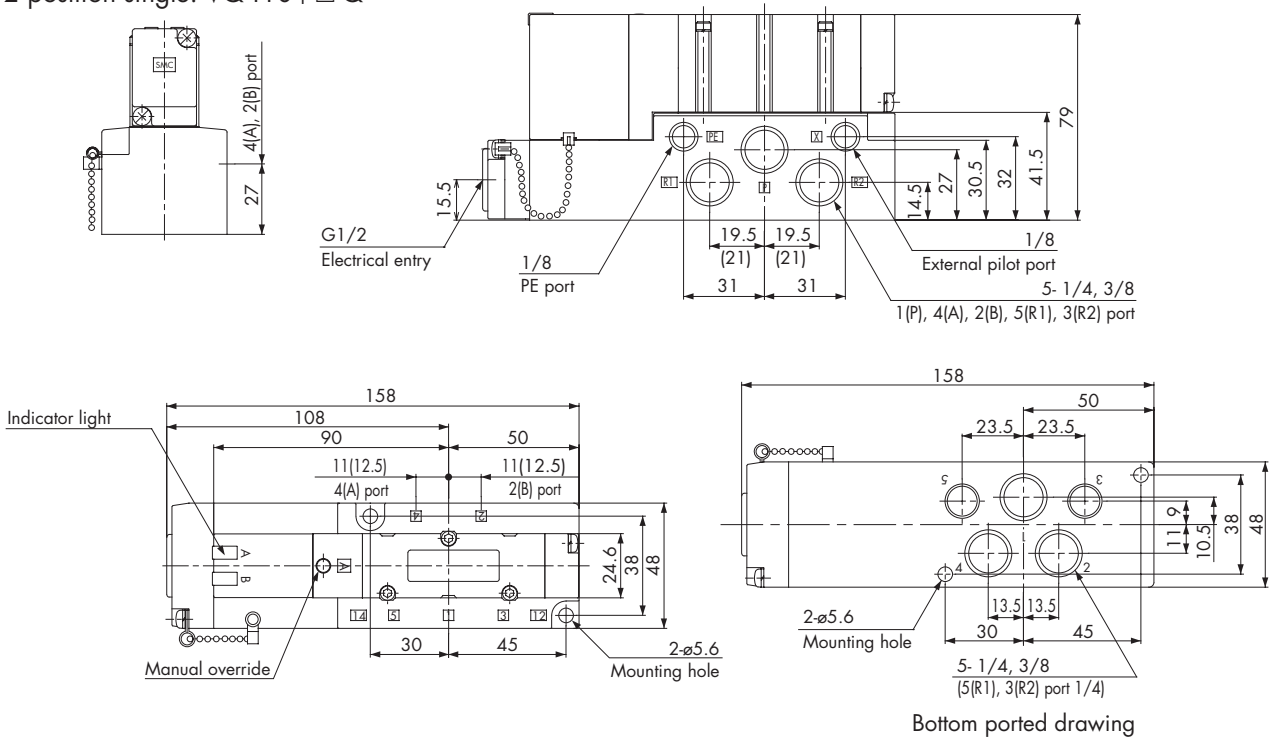
VQ5000

Number of solenoids		Model		Port size	Flow Characteristics						Response time (ms)			Weight (kg)
					1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)			Standard 1 W	Low wattage 0.5 W	AC	
					C [dm³/[s·bar]]	b	Cv	C [dm³/[s·bar]]	b	Cv				
2 position	Single	Metal seal	VQ51 ⁰ ₁ 0	Rc 1/2	12	0.14	2.9	14	0.18	3.4	35 or less	38 or less	38 or less	0.59 [0.67]
		Rubber seal	VQ51 ⁰ ₁ 1		16	0.33	4.4	17	0.31	4.7	40 or less	43 or less	43 or less	0.58 [0.66]
	Double	Metal seal	VQ52 ⁰ ₁ 0		12	0.14	2.9	14	0.18	3.4	20 or less	23 or less	23 or less	0.62 [0.70]
		Rubber seal	VQ52 ⁰ ₁ 1		16	0.33	4.4	17	0.31	4.7	25 or less	28 or less	28 or less	0.60 [0.68]
3 position	Closed centre	Metal seal	VQ53 ⁰ ₁ 0		11	0.24	2.6	11	0.23	2.8	50 or less	53 or less	53 or less	0.65 [0.73]
		Rubber seal	VQ53 ⁰ ₁ 1		12	0.33	3.4	13	0.37	3.7	60 or less	63 or less	63 or less	0.58 [0.66]
	Exhaust centre	Metal seal	VQ54 ⁰ ₁ 0		12	0.13	2.9	14	0.18	3.4	50 or less	53 or less	53 or less	0.65 [0.73]
		Rubber seal	VQ54 ⁰ ₁ 1		14	0.39	3.9	16	0.35	4.5	60 or less	63 or less	63 or less	0.58 [0.66]
	Pressure centre	Metal seal	VQ55 ⁰ ₁ 0		12	0.23	2.9	13	0.24	3.3	50 or less	53 or less	53 or less	0.65 [0.73]
		Rubber seal	VQ55 ⁰ ₁ 1		13	0.32	3.4	14	0.40	3.9	60 or less	63 or less	63 or less	0.58 [0.66]
	Double check	Metal seal	VQ56 ⁰ ₁ 0		8.0	—	—	8.5	—	—	62 or less	65 or less	65 or less	1.17 [1.25]
		Rubber seal	VQ56 ⁰ ₁ 1		8.3	—	—	9.0	—	—	75 or less	78 or less	78 or less	1.10 [1.18]

Note) Value for valve on sub-plate.

VQ4000 Plug-in type (conduit terminal)

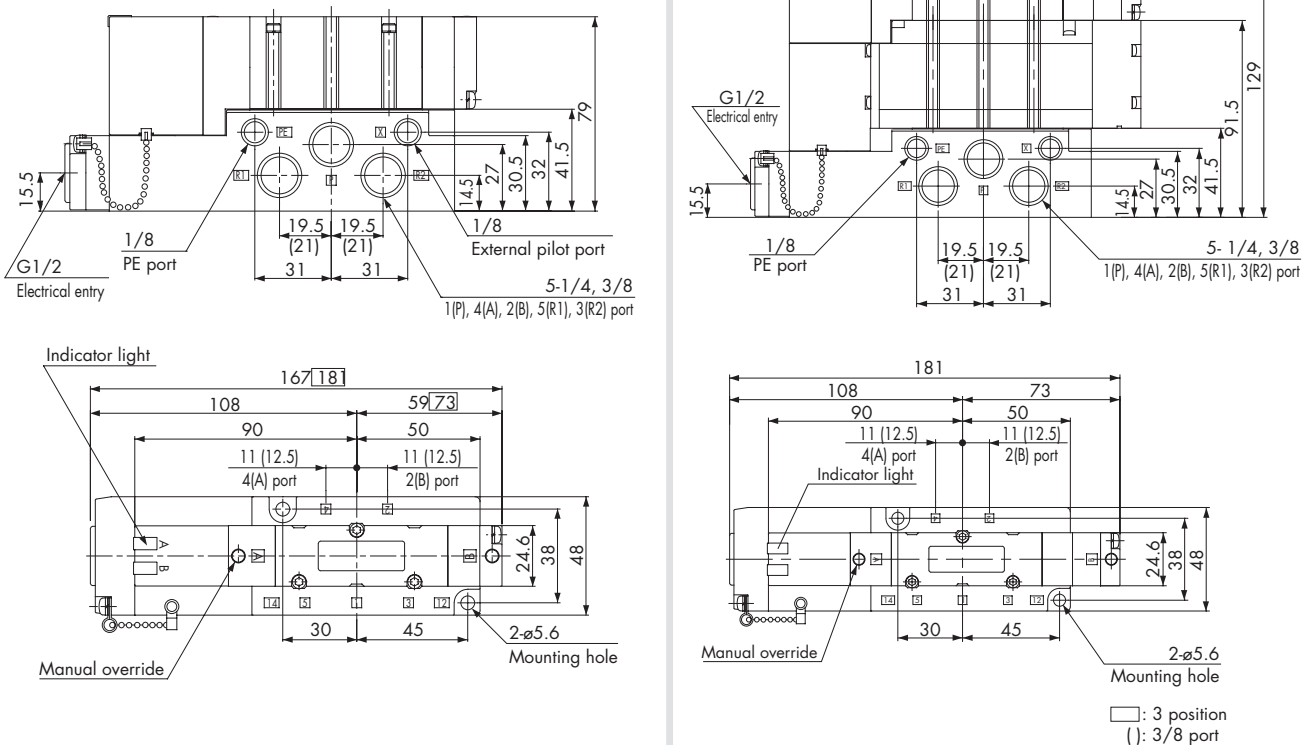
2 position single: VQ410[□]-□-Q



(): 3/8 port

- 2 position double: VQ420[□]-□-Q
- 3 position closed centre: VQ430[□]-□-Q
- 3 position exhaust centre: VQ440[□]-□-Q
- 3 position pressure centre: VQ450[□]-□-Q

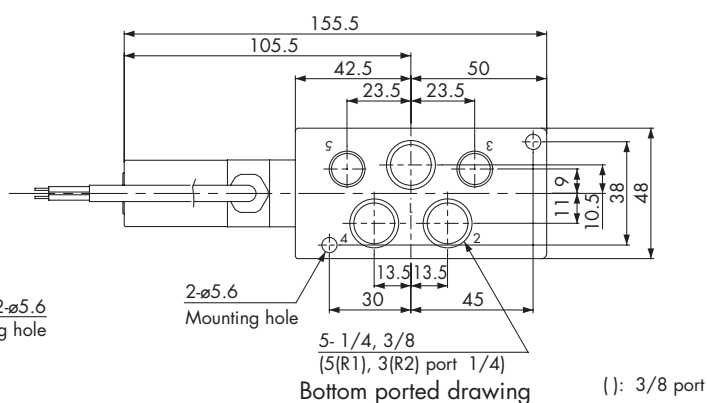
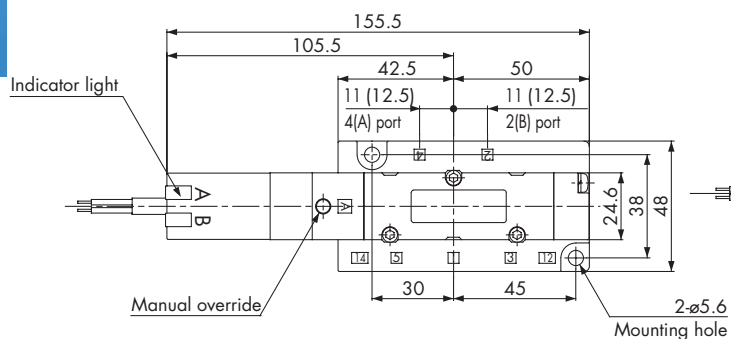
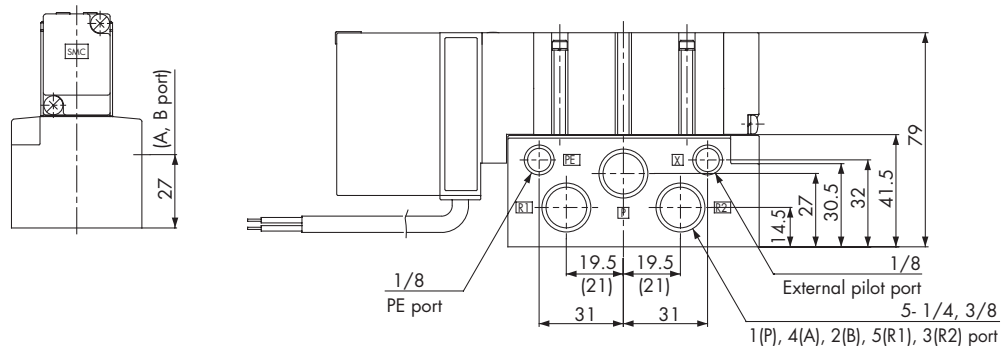
3 position double check: VQ460[□]-□-Q



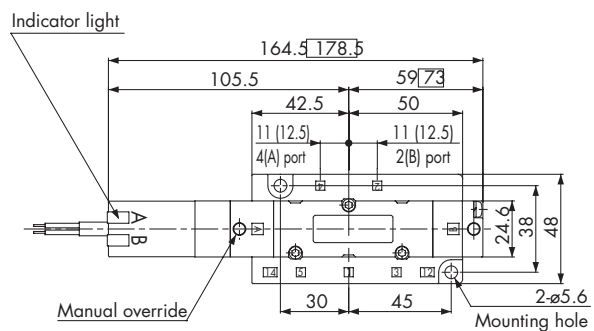
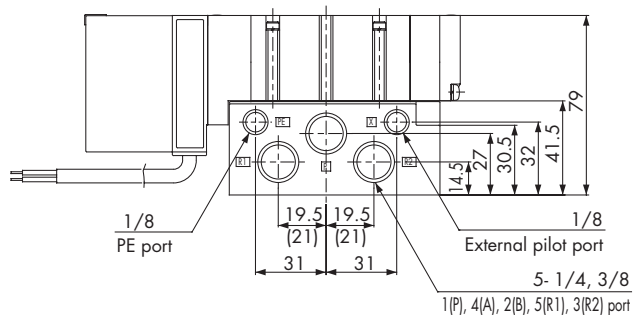
VQ4000 Plug Lead Type

Grommet

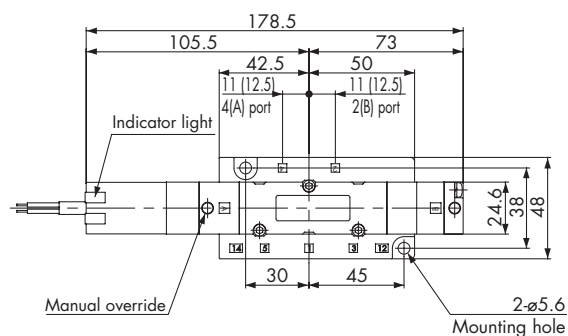
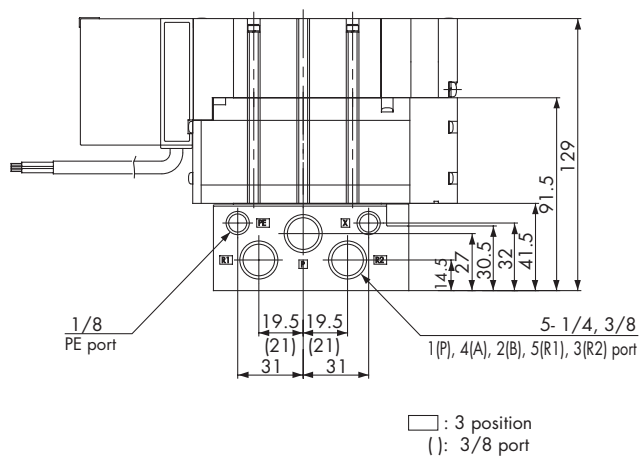
2 position single: VQ415⁰-□⁰_□⁰_□-Q



2 position double: VQ425⁰-□⁰_□⁰_□-Q
 3 position closed centre: VQ435⁰-□⁰_□⁰_□-Q
 3 position exhaust centre: VQ445⁰-□⁰_□⁰_□-Q
 3 position pressure centre: VQ455⁰-□⁰_□⁰_□-Q



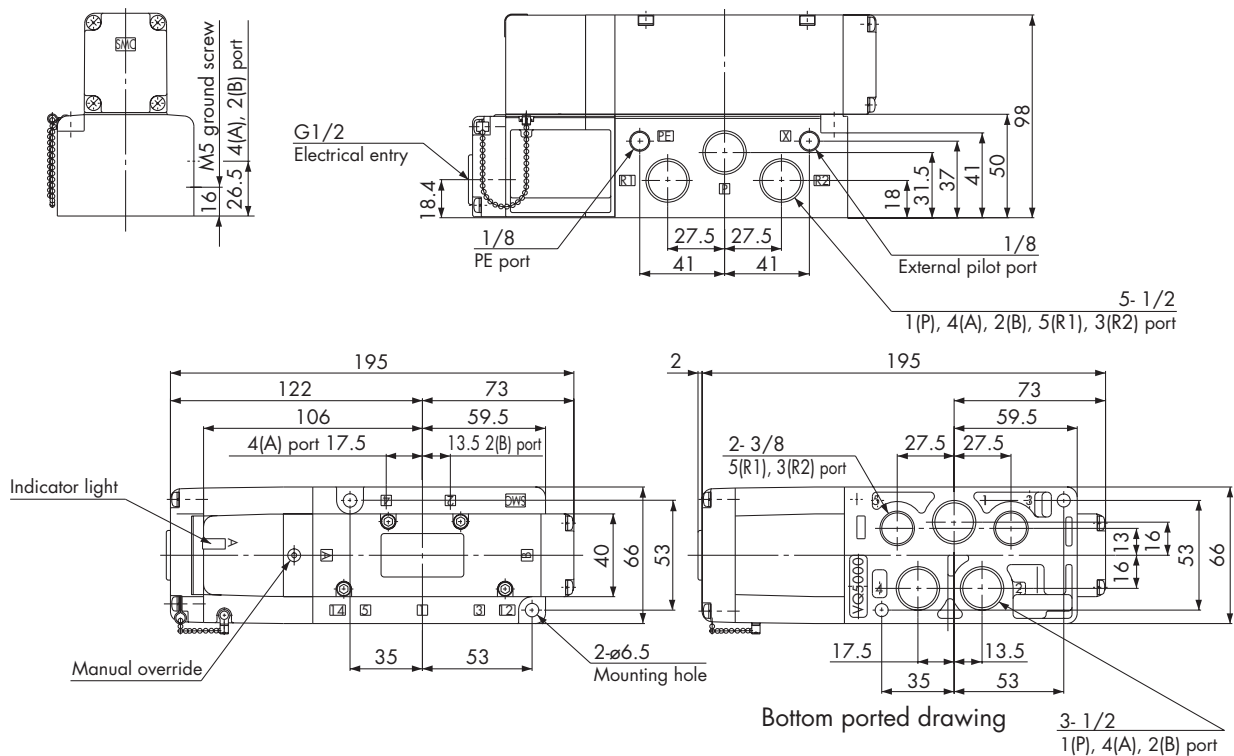
3 position double check: VQ465⁰-Q



□ : 3 position
 () : 3/8 port

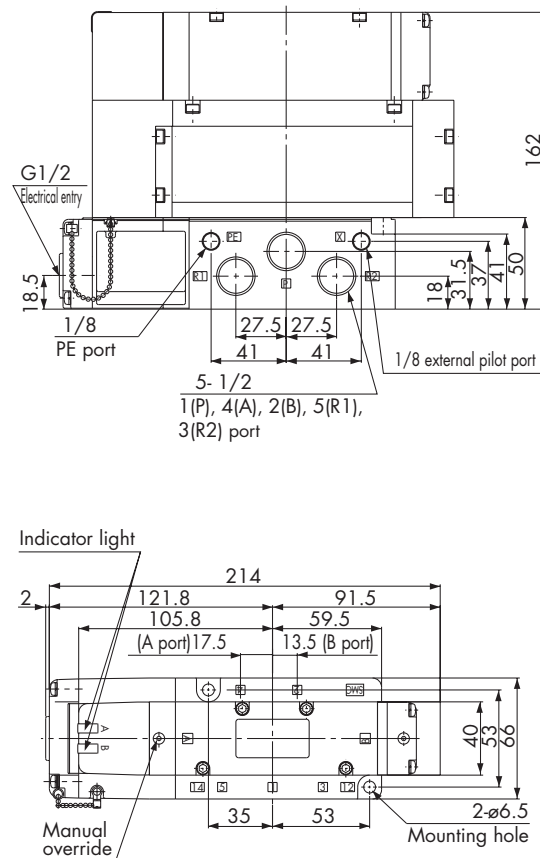
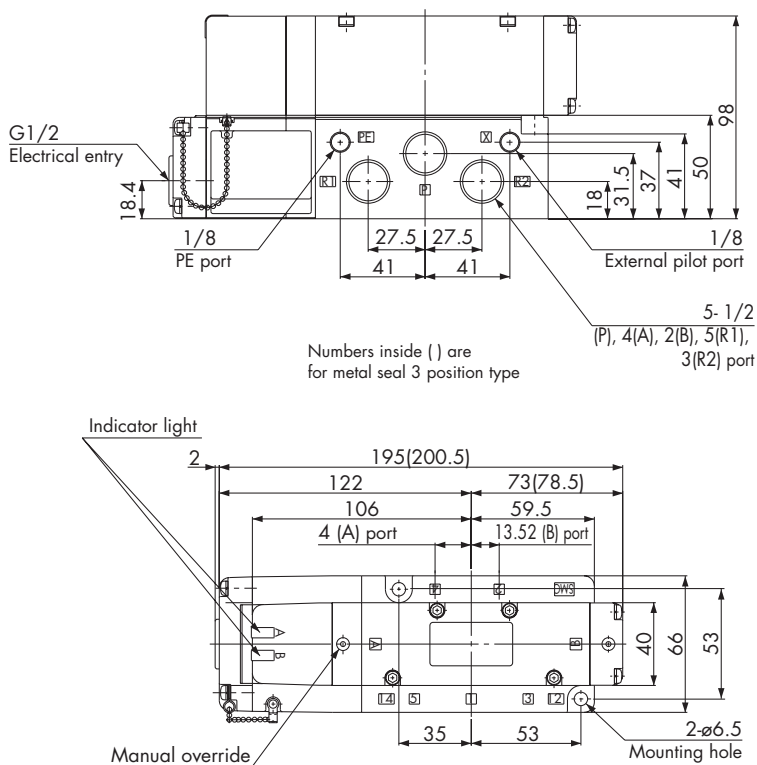
VQ5000 Plug InType (conduit terminal)

2 position single: VQ510⁰-Q



- 2 position double: VQ520⁰-Q
- 3 position closed centre: VQ530⁰-Q
- 3 position exhaust centre: VQ540⁰-Q
- 3 position pressure centre: VQ550⁰-Q

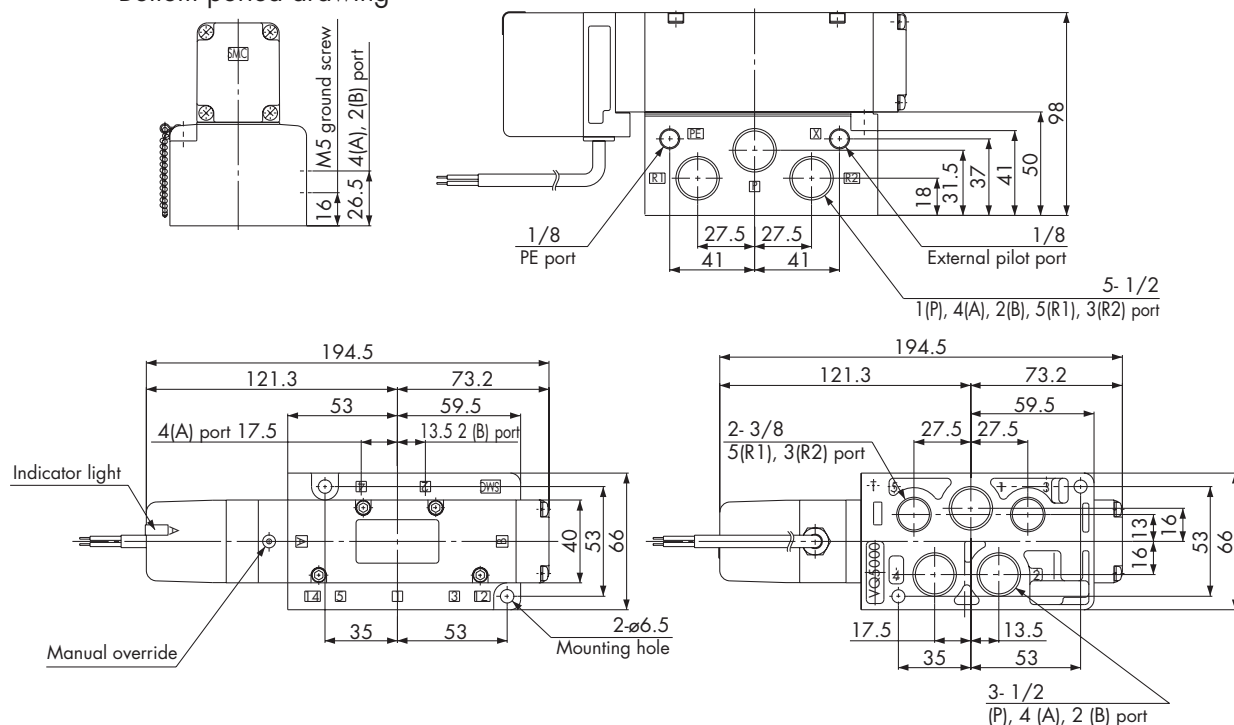
3 position double check: VQ560⁰-Q



VQ5000 Plug Lead Type (Grommet)

2 position single: VQ515⁰-□[□]-Q

Bottom ported drawing

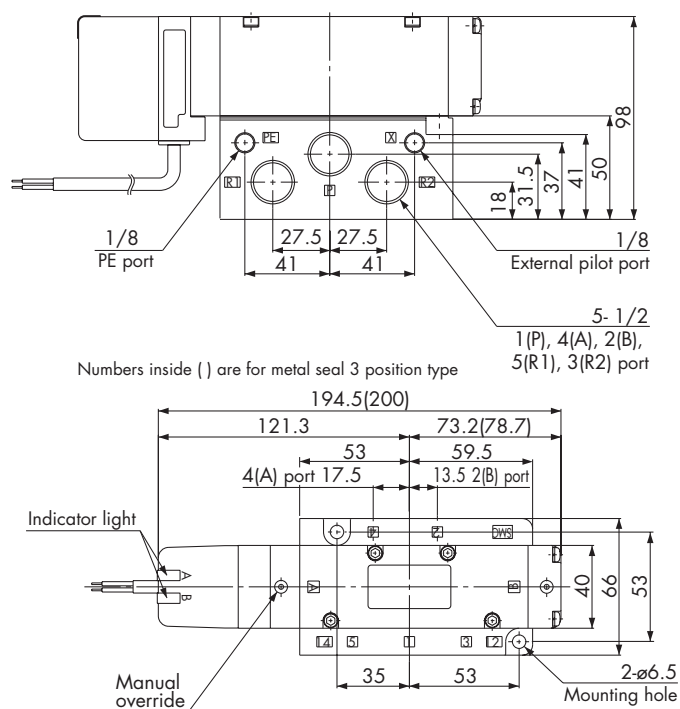


2 position double: VQ525⁰-□[□]-Q

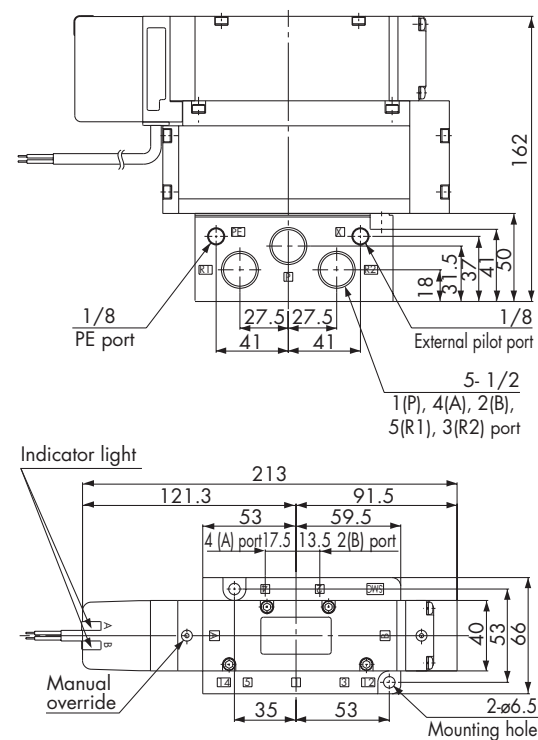
3 position closed centre: VQ535⁰-□[□]-Q

3 position exhaust centre: VQ545⁰-□[□]-Q

3 position pressure centre: VQ555⁰-□[□]-Q



3 position double check: VQ565⁰-□[□]-Q



VQ4000/VQ5000 How to Order Manifolds

VV5Q 4 1 - 08 C8 F U0 - W - Q

Series	
4	VQ4000
5	VQ5000

Manifold wiring	
1	Plug-in type
5	Plug Lead type

Stations	
01	1 station
:	:

Cylinder port size

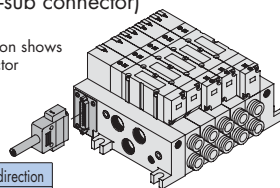
		VQ4000	VQ5000
C8	With One-touch fitting for ø8	○	
C10	With One-touch fitting for ø10	○	
C12	With One-touch fitting for ø12	○	
02	1/4	○	
03	3/8	○	○
04	1/2		○
B	Bottom ported 1/4	○	
B	Bottom ported 1/2		○

Kit type

Kit/Electrical entry/Cable length

F kit Applicable valves VQ**0* (D-sub connector)

Note: Illustration shows D side connector



Connector entry direction

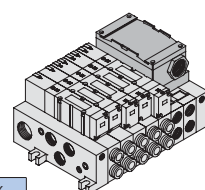
D side	U side
Kit F D0	Kit F U0

Without cable 1 to 12 stations

Option

Symbol	Option
Nil	None
CD	Exhaust cleaner: For D side mounting
CU	Exhaust cleaner: For U side mounting
SB	Direct exhaust with silencer box: Exhaust from both sides
SD	Direct exhaust with silencer box: D side exhaust
SU	Direct exhaust with silencer box: U side exhaust
W	Enclosure IP65 (Except F kit)

T kit Applicable valves VQ**0* (Terminal block box kit)



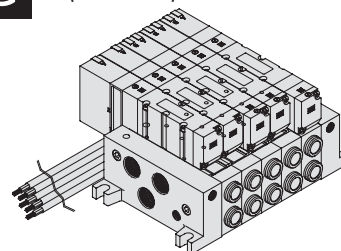
Note: Illustration shows U side terminal box. Add 1 station to manifold for box. 1 - 4 valves require a 5 station manifold.

Terminal block mounting position

D side	U side
TD	TO

IP65 compatible Terminal block box 3 to 18 stations

C kit (Connector)

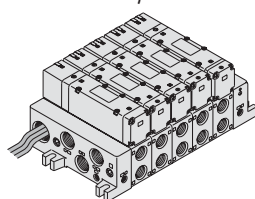


Connector kit Max. 16 stations

VQ4000/VQ5000 Also Available Manifolds

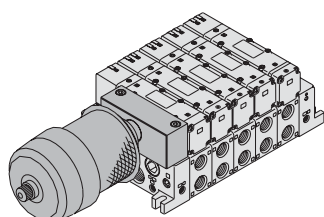
Different manifold types are available. Contact SMC for full details.

L kit (Lead wire cable)

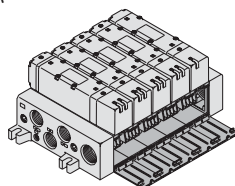


Electrical entry		IP65 compatible	
D side	U side		
Kit L D0	Kit L U0	Cable length 0.6 m	1 to 12 stations
D1	U1	Cable length 1.5 m	
D2	U2	Cable length 3 m	

Manifold with air cleaner option.



T1 kit (Individual terminal block kit)

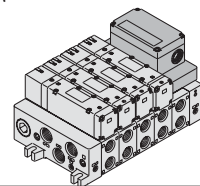


Kit T1 With terminal blocks 1 to 12 stations

Manifold with a Control Unit. Air cleans and supply switching



S kit (Serial transmission unit)



The valve voltage is 24 VDC and it is equipped with light/surge voltage suppressor. IP65 compatible

Unit mounting position

D side	U side
--------	--------

O	Without SI unit	
A	With general type SI unit (Series EX300)	
B	Mitsubishi Electric Corp.: MELSECNET/MINI-S3 Data Link System	
BB	Mitsubishi Electric Corp.: MELSECNET/MINI-S3 Data Link System (2 power supply systems)	
C	OMRON Corp.: SYSBUS Wire System	
D	SHARP Corp.: Satellite I/O Link System	
F1	NKE Corp.: Uni-wire System (16 output points)	
J1	SUNX Corp.: S-LINK System (16 output points)	
J2	SUNX Corp.: S-LINK System (8 output points)	
K	Fuji Electric Co.: T-LINK Mini System	
Q	DeviceNet, CompoBus/D (OMRON Corp.)	
R1	OMRON Corp.: CompoBus/S System (16 output points)	
R2	OMRON Corp.: CompoBus/S System (8 output points)	
U	JEMANET (IPC-N1)	
V	Mitsubishi Electric Corp.: CC-LINK System	
G	Rockwell Automation: Allen Bradley Remote I/O (RIO) System	
H	NKE Corp.: Uni-wire H System	

2 to 12 stations

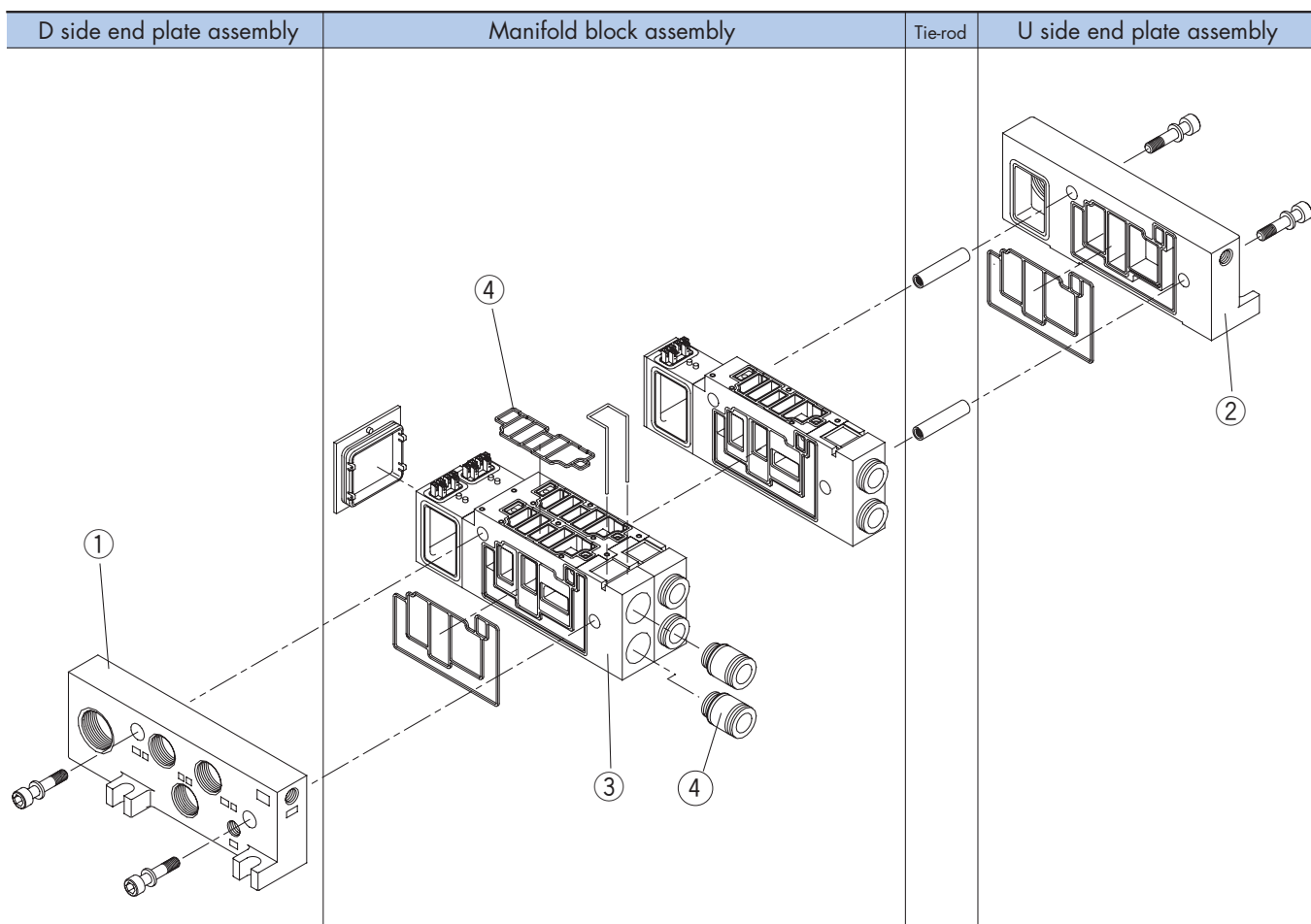
VQ4000/VQ5000 Manifold Specifications

Series	Base model	Type of connection	Porting specifications			Applicable solenoid valve	5 station weight (kg)
			4(A), 2(B) port location	Port size	Note)		
VQ4000	VV5Q41-□□□	■ F kit-D-sub connector ■ T kit-Terminal block box ■ L kit-Lead wire ■ S kit-Serial transmission	Side	1/2	C8 (For ø8) C10 (For ø10) C12 (For ø12)	VQ4□00 VQ4□01	2.24 • L kit • Except solenoid valve weight
			Bottom	Option (Direct exhaust with silencer box)	1/4 3/8 1/4		
VQ4000	VV5Q45-□□□	■ C kit-Grommet	Side	1/2	C8 (For ø8) C10 (For ø10) C12 (For ø12)	VQ4□50 VQ4□51	2.0 • Except solenoid valve weight
			Bottom	Option (Direct exhaust with silencer box)	1/4 3/8 1/4		
VQ5000	VV5Q51-□□□	■ F kit-D-sub connector ■ T kit-Terminal block box ■ T1 kit-Individual terminal block kit ■ L kit-Lead wire ■ S kit-Serial transmission	Side	3/4	3/8 1/2	VQ5L00 VQ5L01	4.1 • L kit • Not including solenoid valve weight.
			Bottom	Option (Direct exhaust with silencer box)	1/2		
VQ5000	VV5Q55-□□□	■ C kit-Grommet	Side	3/4	3/8 1/2	VQ5□50 VQ5□51	3.7 • Except solenoid valve weight
			Bottom	Option (Direct exhaust with silencer box)	1/2		

VQ4000/VQ5000 Manifold Accessories

Blanking plate assembly VVQ4000-10A-1 Electrical type 1 Plug-in 5 Plug-lead Valve Size 4 VQ4000 5 VQ5000	Individual SUP spacer VVQ4000-P-1-02 (VQ4000) VVQ5000-P-1-03 (VQ5000) Electrical type 1 Plug-in 5 Plug-lead	Individual EXH spacer VVQ4000-R-1-02 (VQ4000) VVQ5000-R-1-03 (VQ5000) Electrical type 1 Plug-in 5 Plug-lead	Throttle valve spacer VVQ4000-20A-1 Electrical type 1 Plug-in 5 Plug-lead Valve Size 4 VQ4000 5 VQ5000
SUP stop valve spacer VVQ4000-37A-1 Electrical type 1 Plug-in 5 Plug-lead Valve Size 4 VQ4000 5 VQ5000	SUP/EXH block plate VVQ4000-16A (VQ4000) VVQ5000-16A-1 (VQ5000) < EXH blocking plate > < SUP blocking plate >	Release valve spacer VVQ4000-24A-1D Electrical type 1 Plug-in 5 Plug-lead Valve Size 4 VQ4000 5 VQ5000	Double check spacer with residual pressure exhaust VVQ4000-25A-1 Electrical type 1 Plug-in 5 Plug-lead Valve Size 4 VQ4000 5 VQ5000
Interface regulator ARBQ4000-00-A-1 Electrical type 1 Plug-in 5 Plug-lead Valve Size 4 VQ4000 5 VQ5000			

VQ4000/VQ5000 Exploded View of Manifold



Note) The electrical entry cannot be changed.

Note) Manifold block used is 2-station integrated type. For odd number of stations, 1 station manifold block is added at U side; for even number of stations, 2 pcs. are added, to increase the manifold size.

The drawing shows a plug-in type.

D Side End Plate Assembly

1. D side end plate assembly

VVQ4000—3A—1—F—

Valve Size

4	VQ4000
5	VQ5000

Electrical entry

L	F, T, kit
F	F kit (Connector side)
C	C kit (Plug lead type)

Option

Nil	Standard
W	IP65 enclosure (not for F kit)
CD	For exhaust cleaner mounting
SD	Direct exhaust with silencer box

Manifold Block Assembly

3. Manifold block assembly part no.

VVQ4000—1A—F1—02—

Electrical entry

A	For 1 station
C	For 2 stations ⁽³⁾

Option

Nil	Standard
W	IP65 enclosure

Electrical entry

F1	F kit Double wiring
F2	F kit Single wiring
T1	T kit Double wiring
T2	T kit Single wiring
C	C kit (Plug lead type)

Port size

02	1/4
03	3/8
B	Bottom ported 1/4
C8	With One-touch fitting for ø8
C10	With One-touch fitting for ø10
C12	With One-touch fitting for ø12

Valve Size

4	VQ4000
5	VQ5000

Tie-rods (2 pcs.) and lead wire assembly for station addition included.

U Side End Plate Assembly Part No.

2. U side end plate assembly

VVQ4000—2A—1—F—

Electrical entry

L	F, T, kit
F	F kit (Connector side)
C	C kit (Plug lead type)

Option

Nil	Standard
W	IP65 enclosure (not for F kit)
CU	For exhaust cleaner mounting
SU	Direct exhaust with silencer box

Valve Size

4	VQ4000
5	VQ5000

Fitting Assembly

4. Fitting assembly part no. (For cylinder port)

VVQ4000—50B—C8

Note: VQ4000 only

Port size

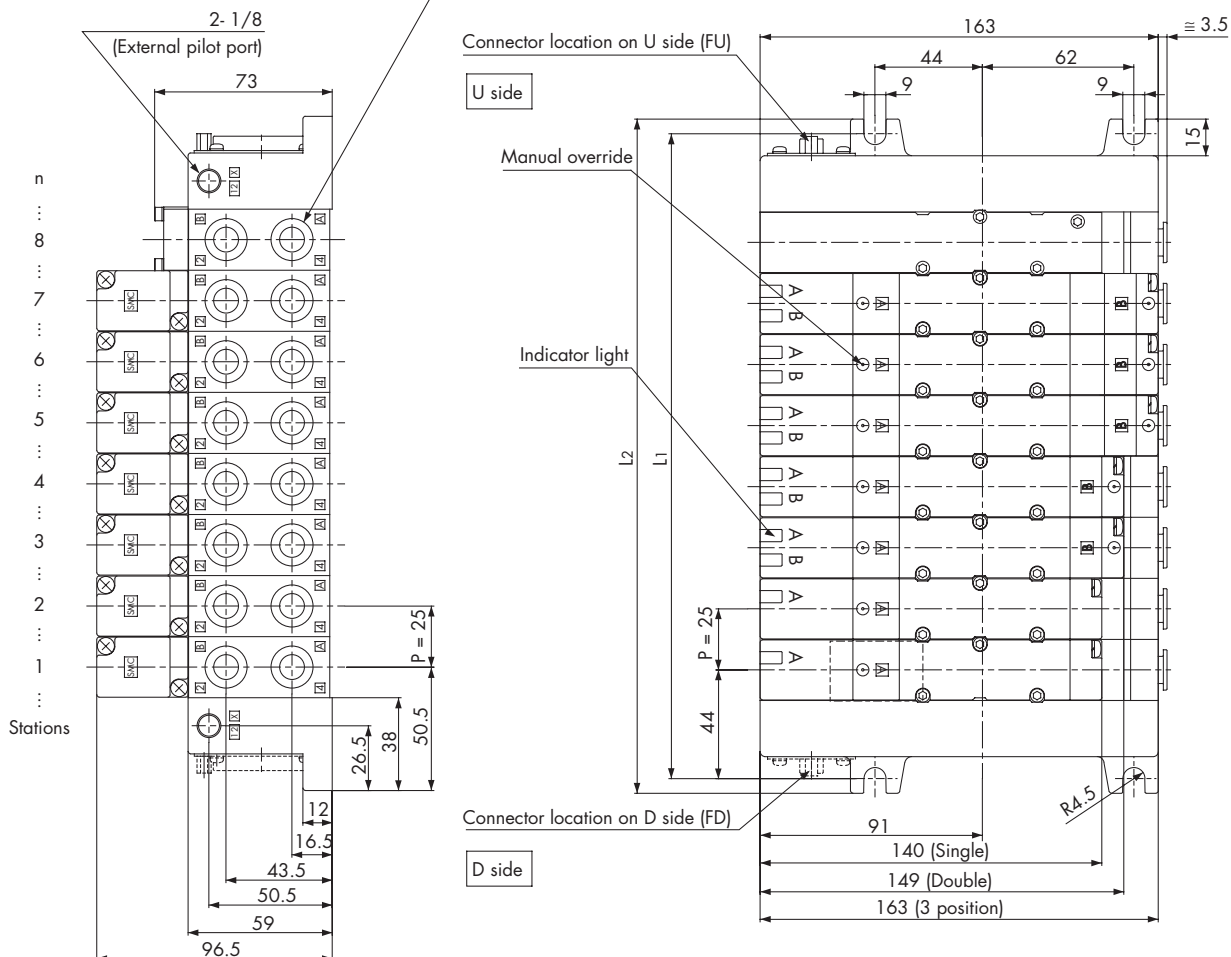
C8	Applicable tubing ø8
C10	Applicable tubing ø10
C12	Applicable tubing ø12

Series VQ4000/5000 5 Port Solenoid Valve



VQ4000 F Kit (D-sub connector kit)

2n- 1/4, 3/8, C8, C10, C12 4(A), 2(B) port
 1/4 thread
 3/8 thread
 C8: One-touch fitting for ø8
 C10: One-touch fitting for ø10
 C12: One-touch fitting for ø1

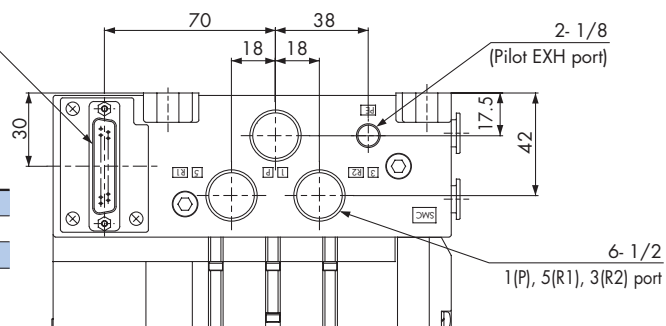


Dimensions

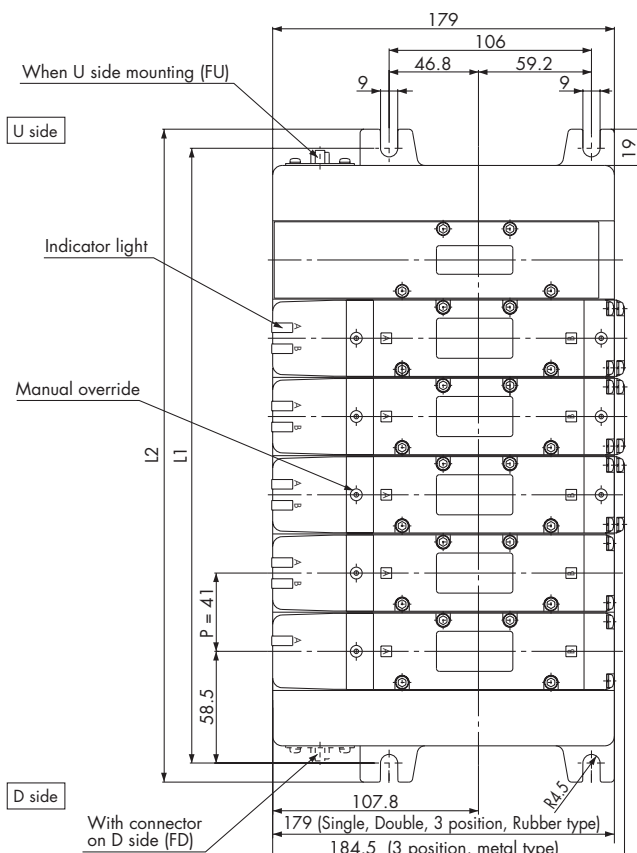
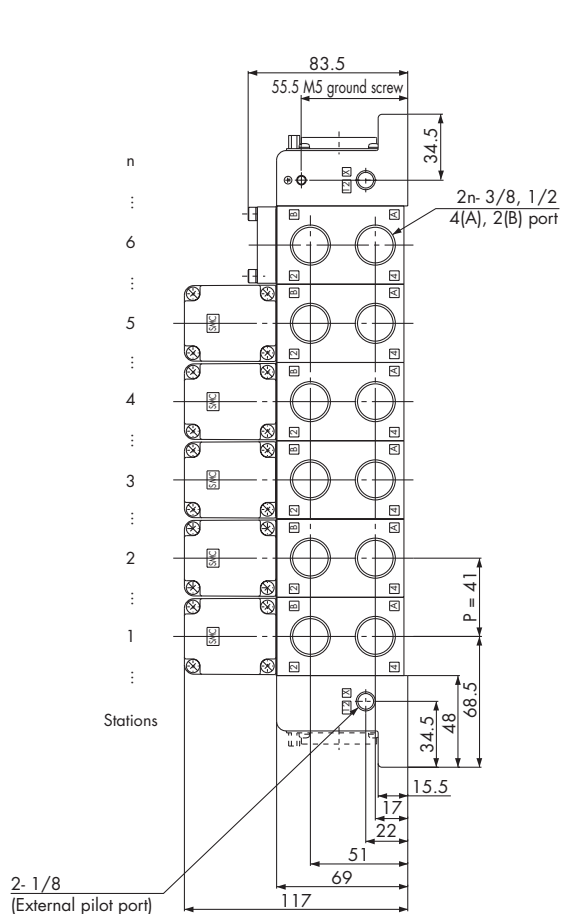
L	n	1	2	3	4	5	6	7	8	9	10	11	12
L1		88	113	138	163	188	213	238	263	288	313	338	363
L2		101	126	151	176	201	226	251	276	301	326	351	376

Formula L1 = 25n + 63, L2 = 25n + 76 n: Station

Applicable connector: D-sub connector (25P)



VQ5000 F Kit (D-sub connector kit)

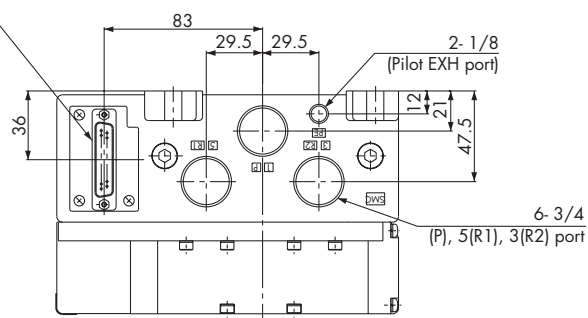


Dimensions

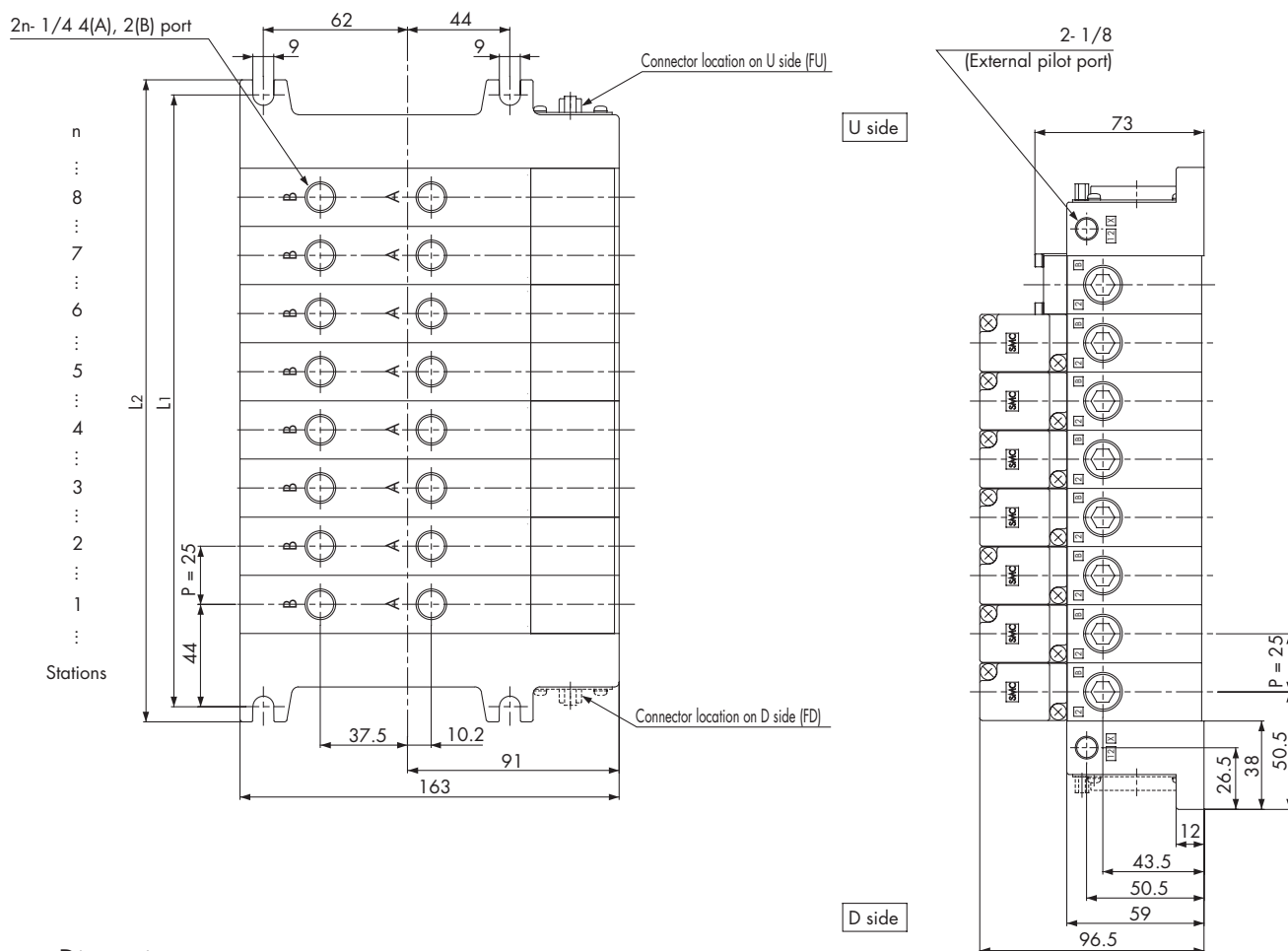
Formula: $L1 = 41n + 76$, $L2 = 41n + 96$
 n: Stations (Maximum 12 stations)

L	n	1	2	3	4	5	6	7	8	9	10	11	12
L1		117	158	199	240	281	322	363	404	445	486	527	568
L2		137	178	219	260	301	342	383	424	465	506	547	588

Applicable connector: D sub connector (25P)



VQ4000 F Kit (D-sub connector kit) Bottom Ported Drawing

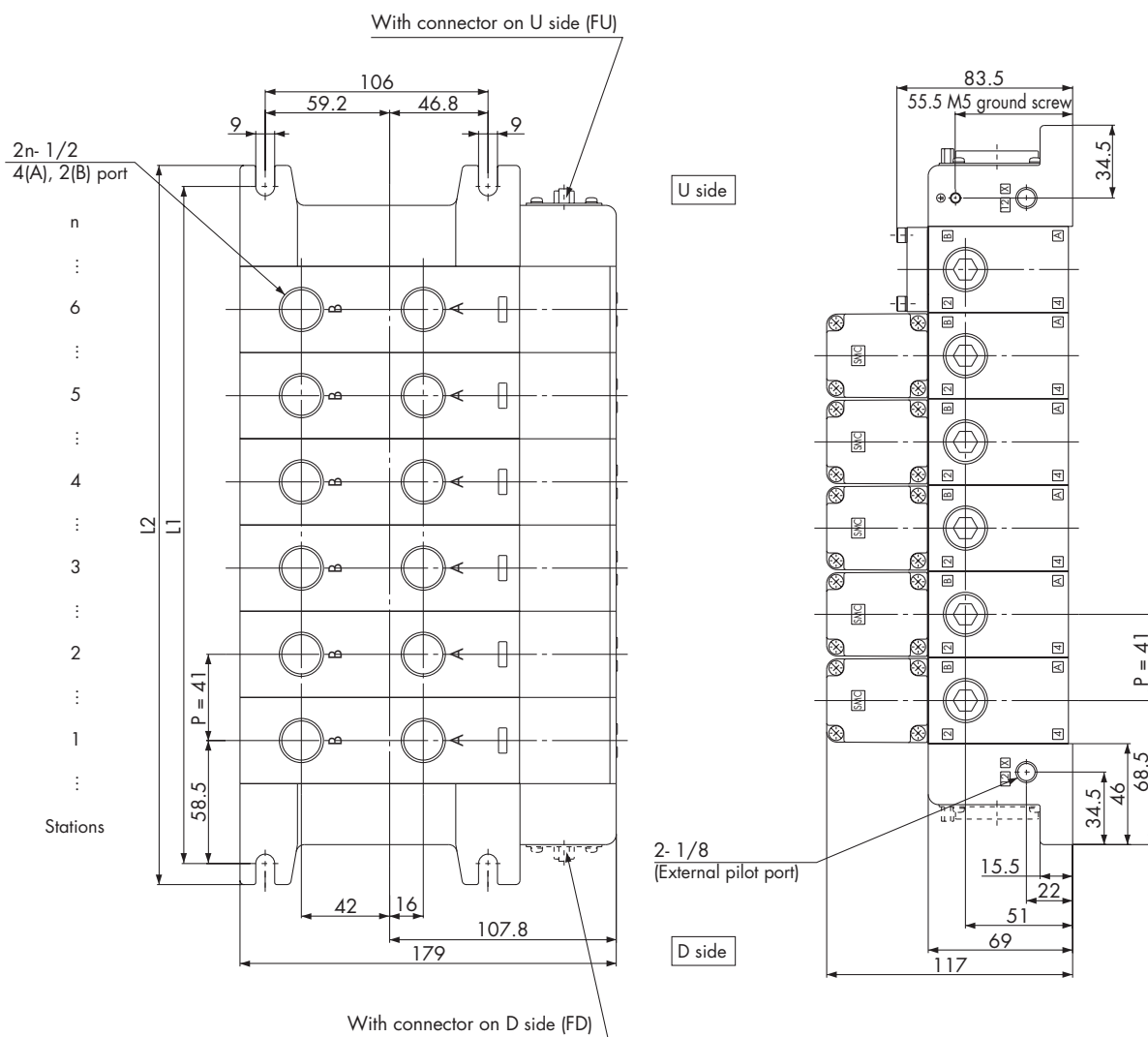


Dimensions

L	n	1	2	3	4	5	6	7	8	9	10	11	12
L1		88	113	138	163	188	213	238	263	288	313	338	363
L2		101	126	151	176	201	226	251	276	301	326	351	376

Formula L1 = 25n + 63, L2 = 25n + 76 n: Station

VQ5000 F Kit (D-sub connector kit)



Formula: $L1 = 41n + 76$, $L2 = 41n + 96$
n: Stations (Maximum 12 stations)

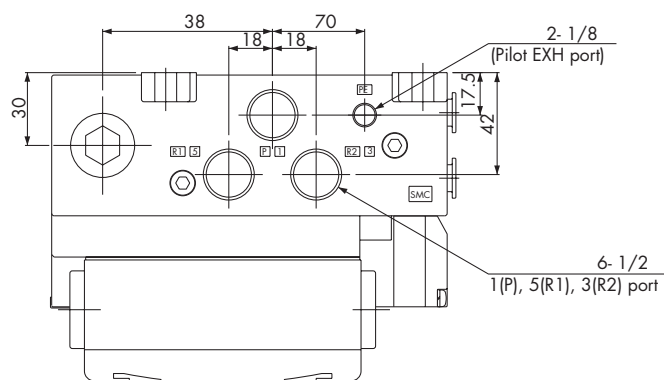
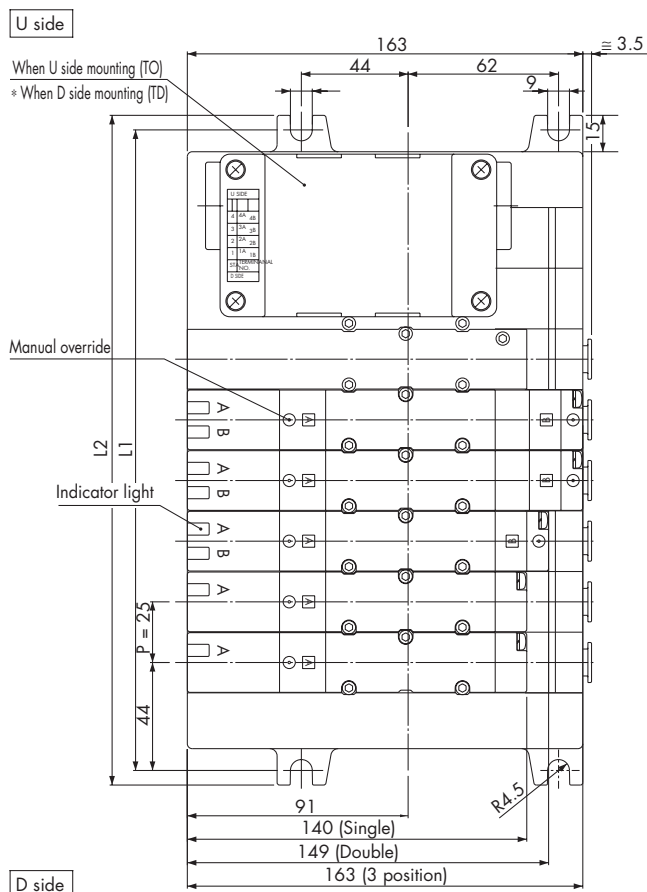
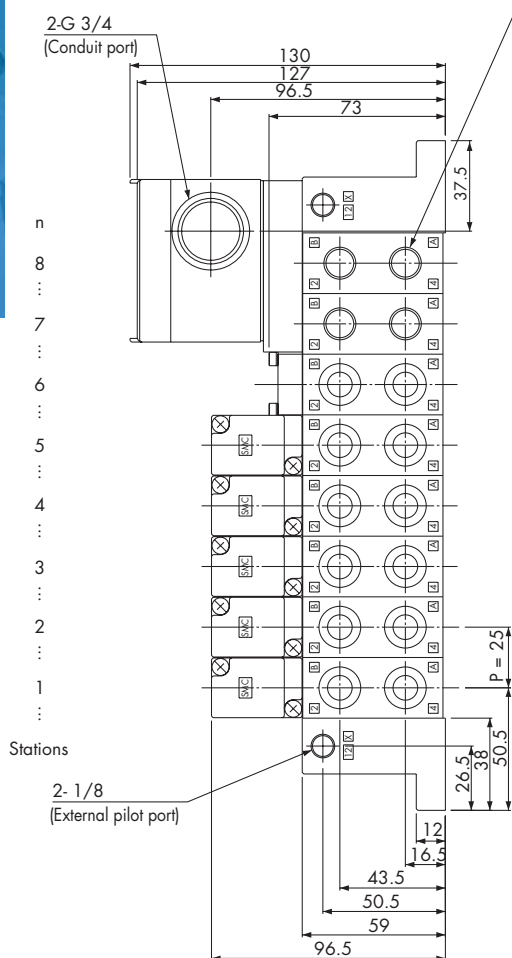
n	1	2	3	4	5	6	7	8	9	10	11	12
L1	117	158	199	240	281	322	363	404	445	486	527	568
L2	137	178	219	260	301	342	383	424	465	506	547	588

Series VQ4000/5000 5 Port Solenoid Valve



VQ4000 T Kit (Terminal block box kit)

2n- 1/4, 3/8, C8, C10, C12 4(A), 2(B) port
 1/4 thread
 3/8 thread
 C8: One-touch fitting for ø8
 C10: One-touch fitting for ø10
 C12: One-touch fitting for ø12



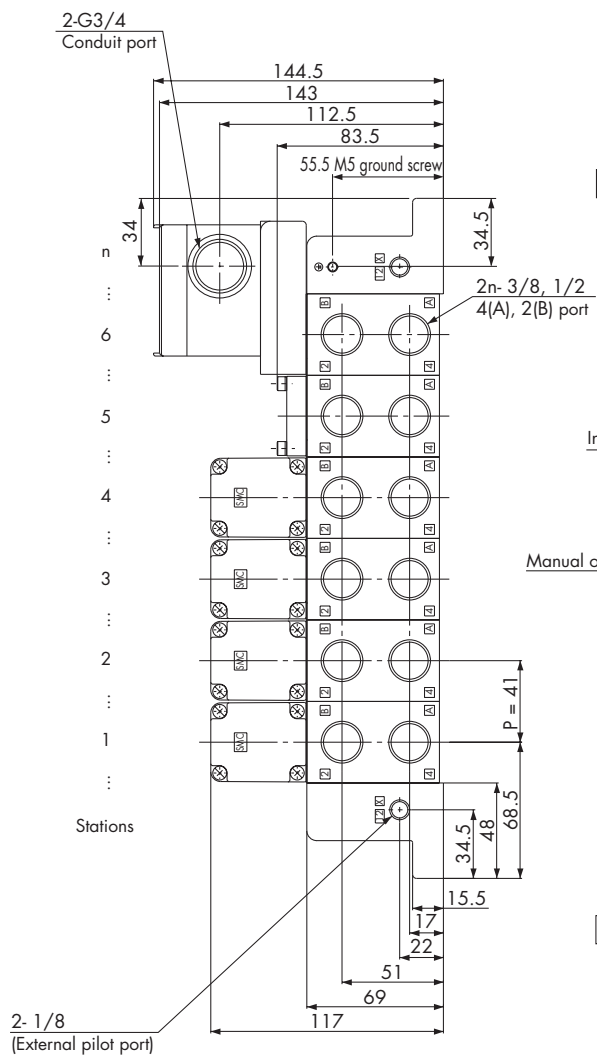
Note) Shown VV5Q41-08C12TO-W

Note: Dimensions of bottom ported are similar to F kit.

Formula L1 = 25n + 63, L2 = 25n + 76
 n: Station (Maximum standard 18 stations)
 * Including 2 stations for terminal box.

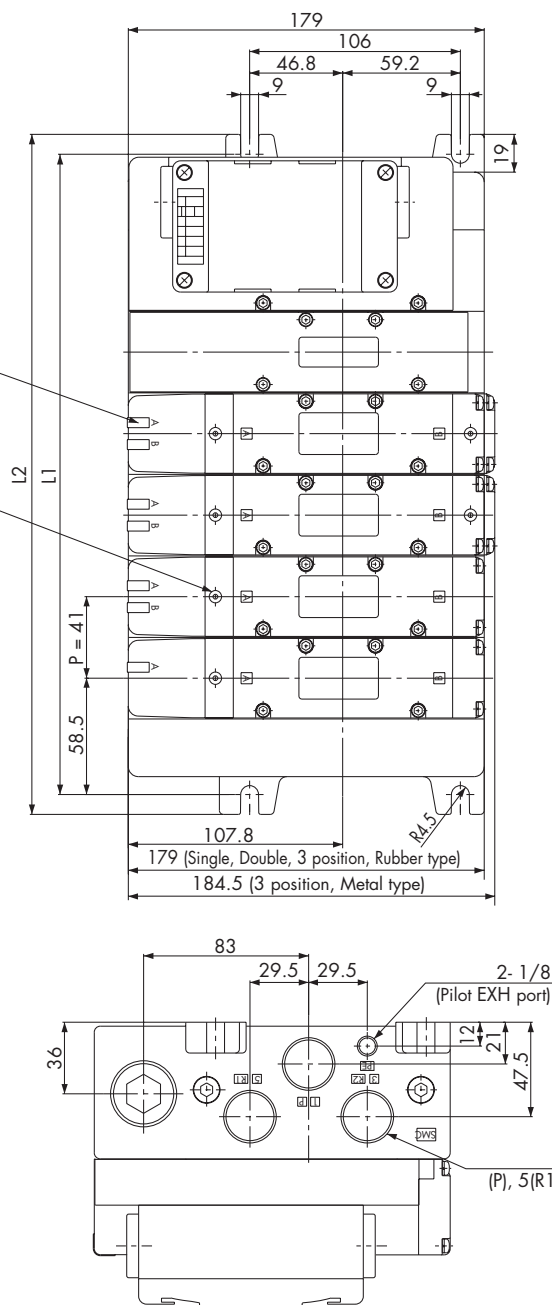
L \ n	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
L1	138	163	188	213	238	263	288	313	338	363	388	413	438	463	488	513
L2	151	176	201	226	251	276	301	326	351	376	401	426	451	476	501	526

VQ5000 T Kit (Terminal block box kit)



U side

D side



Formula: $L1 = 41n + 76$, $L2 = 41n + 96$
 n: Stations (Maximum 12 stations)
 * Including 1 station for terminal box mounting.

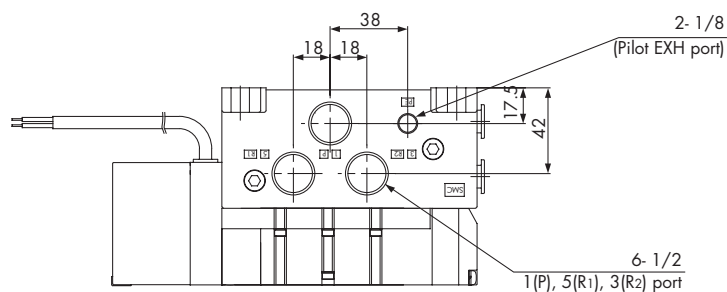
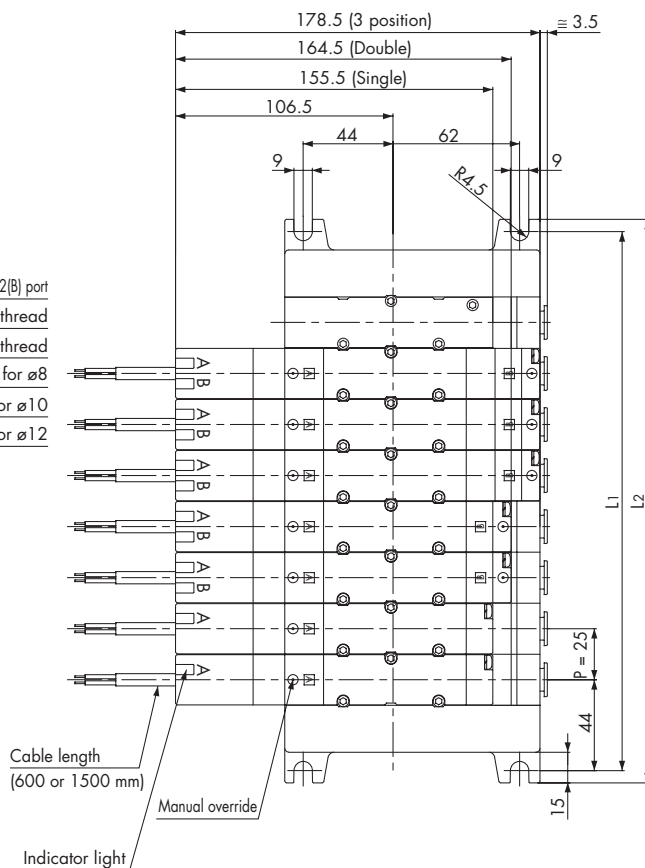
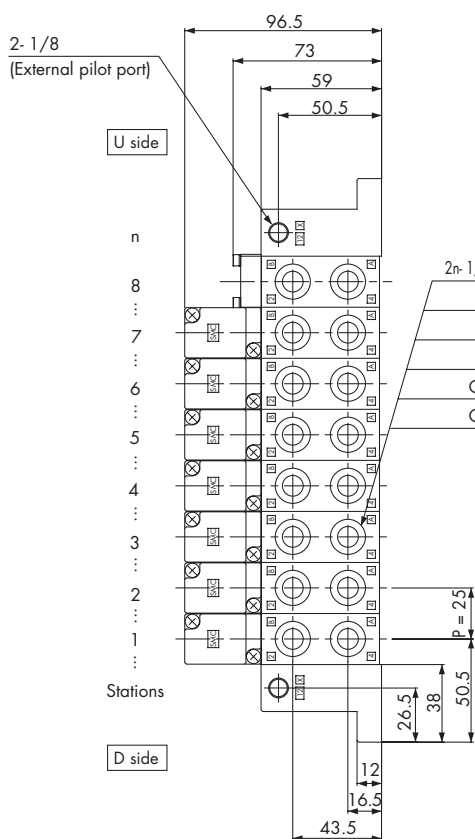
n	2	3	4	5	6	7	8	9	10	11	12
L1	158	199	240	281	322	363	404	445	486	527	568
L2	178	219	260	301	342	383	424	465	506	547	588

Note: For base ported version see the F Kit drawings.

Series VQ4000/5000 5 Port Solenoid Valve



VQ4000 C Kit (Connector kit)

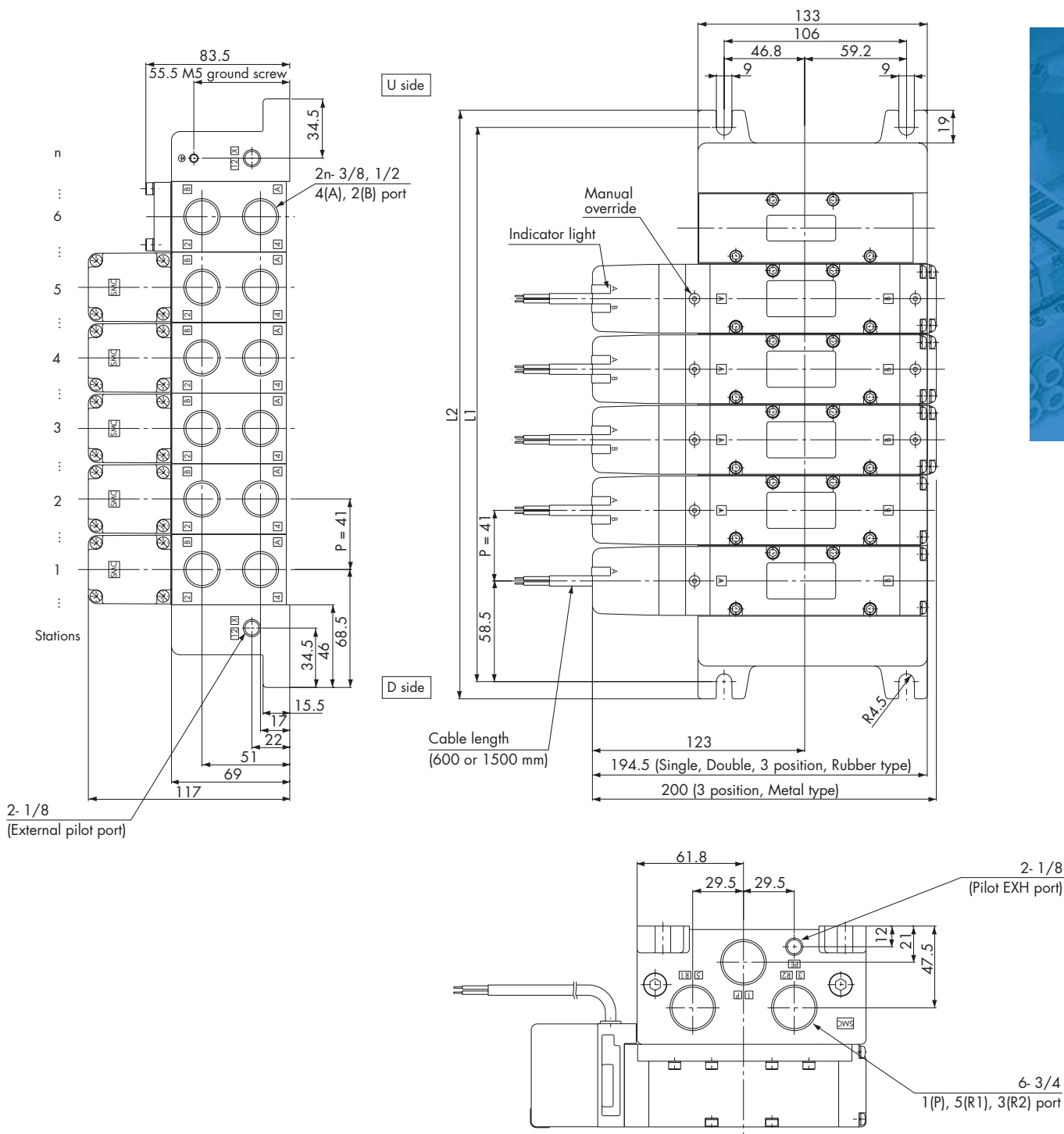


Note: For configuration of base ported manifold, see the plug-in version (F kit)

Formula $L1 = 25n + 63$, $L2 = 25n + 76$ n: Station (Maximum 16 stations)

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	88	113	138	163	188	213	238	263	288	313	338	363	388	413	438	463
L2	101	126	151	176	201	226	251	276	301	326	351	376	401	426	451	476

VQ5000 C Kit (Connector kit)



Formula: $L1 = 41n + 76$, $L2 = 41n + 96$
 n: Stations (Maximum 12 stations)

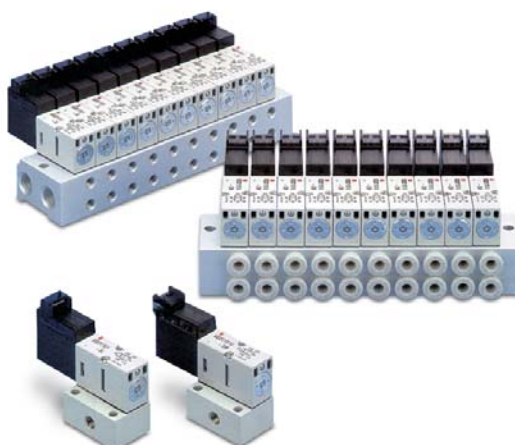
n	1	2	3	4	5	6	7	8	9	10	11	12
L1	117	158	199	240	281	322	363	404	445	486	527	568
L2	137	178	219	260	301	342	383	424	465	506	547	588

4 Port Direct Operated Poppet Solenoid Valve

Series VQD1000

Features

- High flow capacity in small valve body.
- Ultra fast response times.
- Compact design, low weight.
- Body ported or base mounted.
- Direct acting 4 port design
- Possible to use for vacuum switching operation.



How to Order Valves

VQD11 5 1 — 5 LO — — Q

Body type

2	Body ported (Single unit)
3	Body ported (Manifold)
5	Base mounted

Valve option

Nil	Standard
V	Vacuum
U	For large flow
W	For large flow, vacuum

Rated voltage

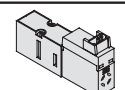
5	24 VDC
6	12 VDC

Port size

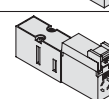
Body ported	M5	M5 thread
Base mounted	Nil	Without sub-plate (Manifold)
	M5	M5 thread single sub-base

Electrical entry

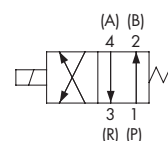
LO: Plug lead type
L plug connector, Without lead wire
With light/surge voltage suppressor



MO: Plug lead type
M plug connector, Without lead wire
With light/surge voltage suppressor



Symbol



How to Order Connector Assembly

AXT661-14A-

Lead wire length

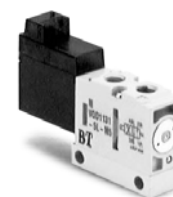
Nil	300 mm
6	600 mm
10	1000 mm
20	2000 mm
30	3000 mm

Standard Specifications

Item		Type	Standard (2 W)	Large flow type (3.2 W, Energy saving type)
Valve specifications	Valve construction		4 port direct operated poppet valve	
	Fluid		Air/Inert gas	
	Maximum operating pressure		0.7 MPa	
	Minimum operating pressure/Vacuum		0 MPa/-100 kPa	
	Response time		ON: 4 ms, OFF: 2 ms	
	Ambient and fluid temperature		-10 to 50°C (No freezing)	
	Lubrication		Not required	
	Manual override		Non-locking push type	
	Mounting position		Unrestricted	
	Enclosure		Dust tight	
	Weight		34 g (Without sub-plate)	
Electricity specifications	Coil rated voltage		24 V, 12 V	
	Allowable voltage fluctuation	DC	±10% of rated voltage	
	Power consumption	DC	2 W	3.2 W (Energy saving type) (Inrush: 3.2 W, Holding: 2.4 W)
	Electrical entry		L plug connector, M plug connector (With indicator light and surge voltage suppressor)	



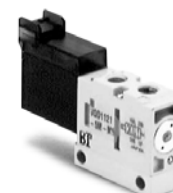
L plug connector
Base mounted



L plug connector
Body ported



M plug connector
Base mounted



M plug connector
Body ported

Flow Characteristics

Valve model		Port size	Flow characteristics					
			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
Body ported	VQD1121-□ ^L _M -M5	M5 × 0.8	0.22	0.16	0.05	0.19	0.31	0.05
	VQD1121 ^U _W -□ ^L _M -M5		0.27	0.24	0.07	0.28	0.28	0.07
Base mounted (With sub-plate)	VQD1151-□ ^L _M -M5		0.22	0.10	0.05	0.22	0.31	0.06
	VQD1151- ^U _W -□ ^L _M -M5		0.27	0.25	0.07	0.27	0.28	0.07

How to Order Manifold

VV4QD1 5 — 04 C4 — 00F-Q

2	Body ported for VQD1131 type valves
5	Base mounted for VQD1151 type valves

Valve station

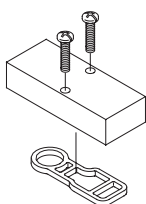
02	2 stations
⋮	⋮
20	20 stations (Max.)

Cylinder port
(Base mounted only)

M5	M5 thread
C4	One-touch fitting for ø4 tube 1(P), 3(R) port: 1/8

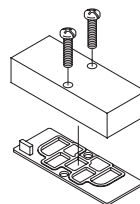
Manifold Option

Blanking plate assembly/Body ported
VVQD1000-10A-2



Blanking plate assembly includes
2 screws and gasket

Blanking plate assembly/Base mounted
VVQD1000-10A-5

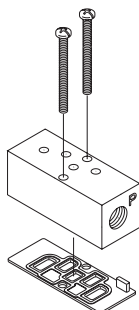


Blanking plate assembly
includes 2 screws and gasket

Individual SUP and exhaust spacers for
base mounted manifolds (VVQD15)

VVQD1000-P-M5-5 Supply Spacer

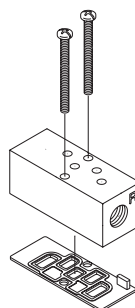
Mount between the valve and the manifold to have an independent
supply or exhaust for a valve.



Individual SUP spacer with
screw (2 pcs.) and gasket

Individual EXH spacer/Base mounted

VVQD1000-R-M5-5 Exhaust Spacer

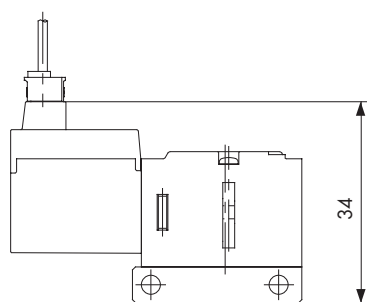


Individual EXH spacer with
screw (2 pcs.) and gasket

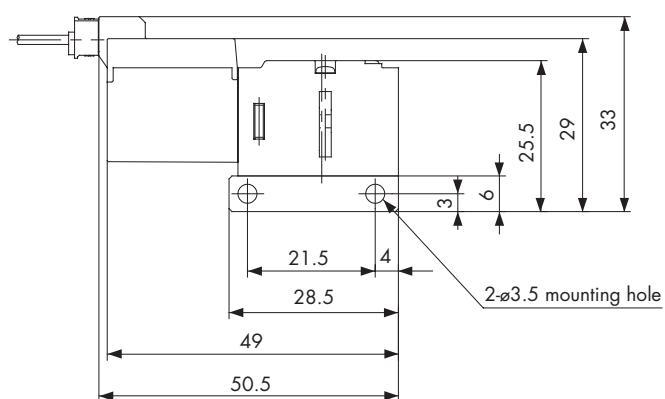
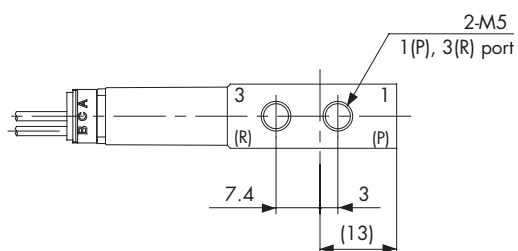
VQD1000 Body Ported Valve

L plug connector: VQD1121□-□L-M5-Q

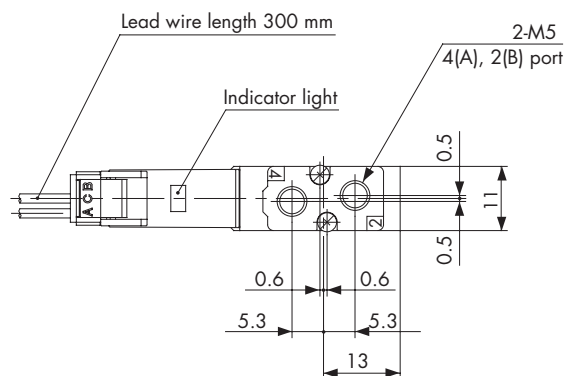
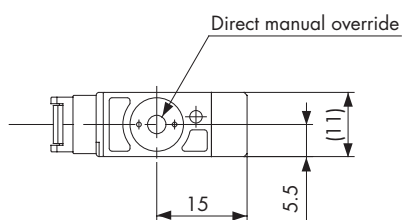
M plug connector: VQD1121□-□M-M5-Q



L plug connector (L)

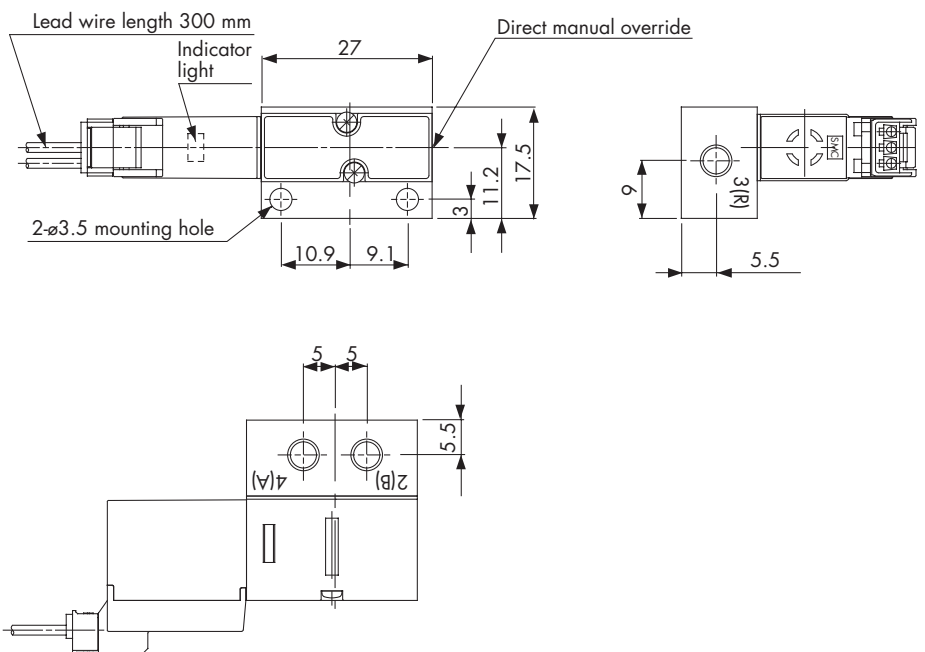
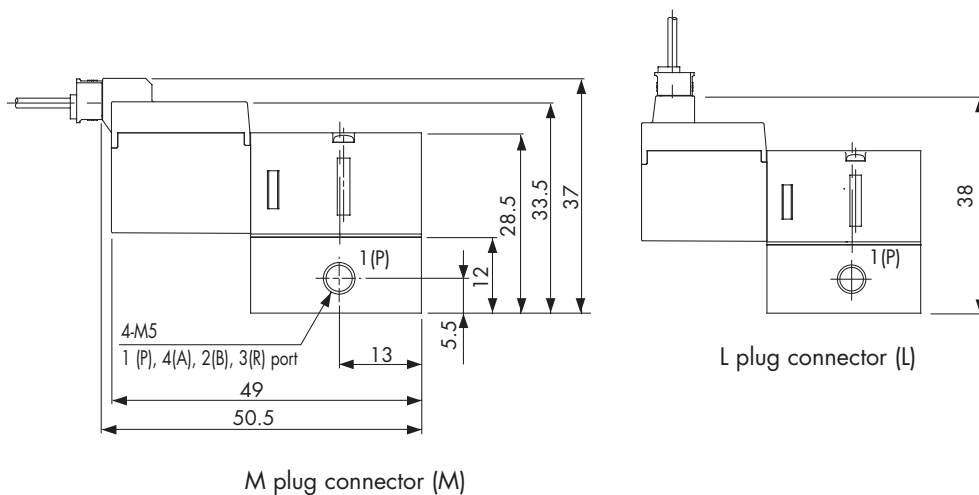


M plug connector (M)

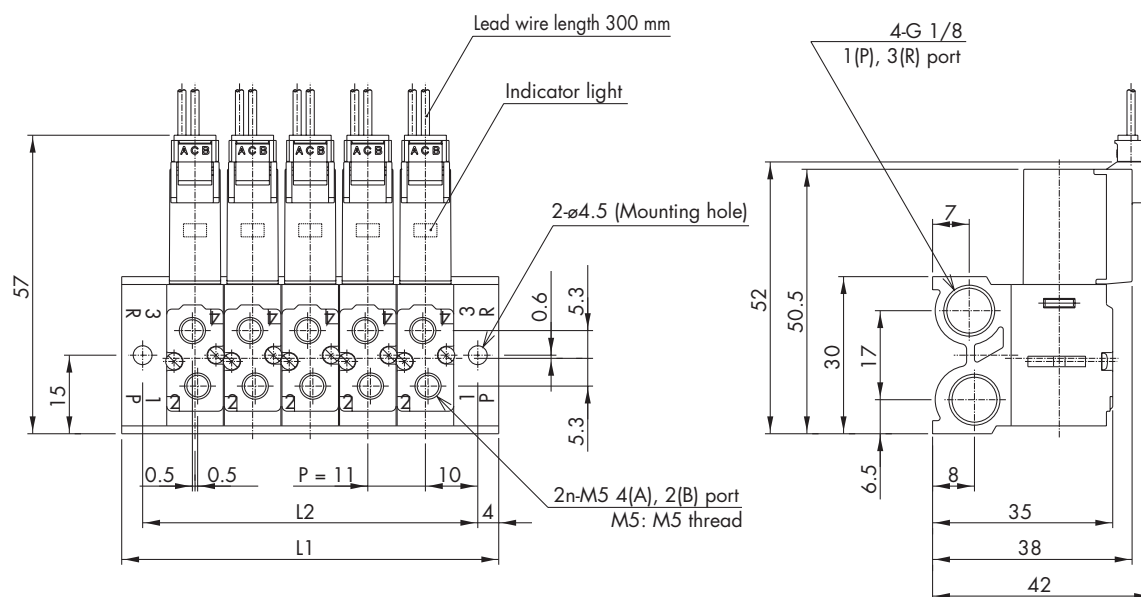


VQD1000 Single Sub-base Mounted Valve

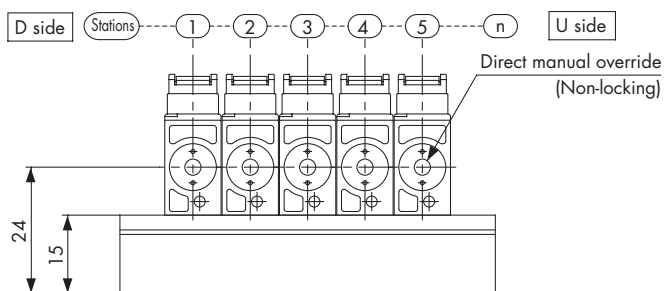
L plug connector: VQD1151□-□L-M5-Q
M plug connector: VQD1151□-□M-M5-Q



VQD1000 Plug lead unit manifold (VV4QD12-□-Q)



M plug connector (M)



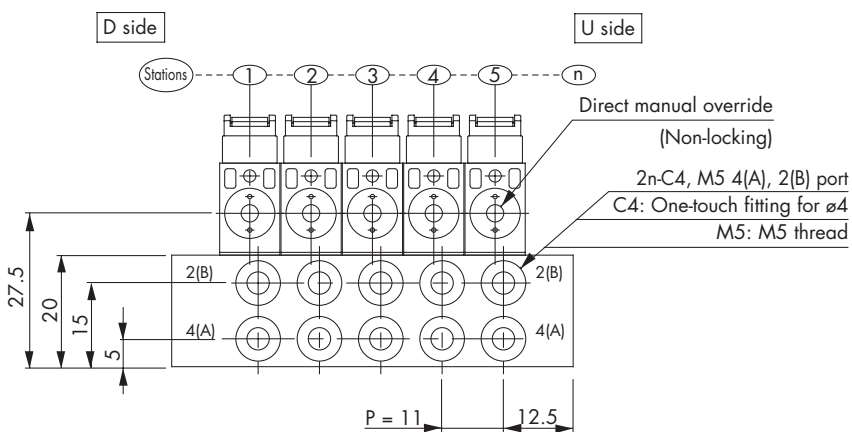
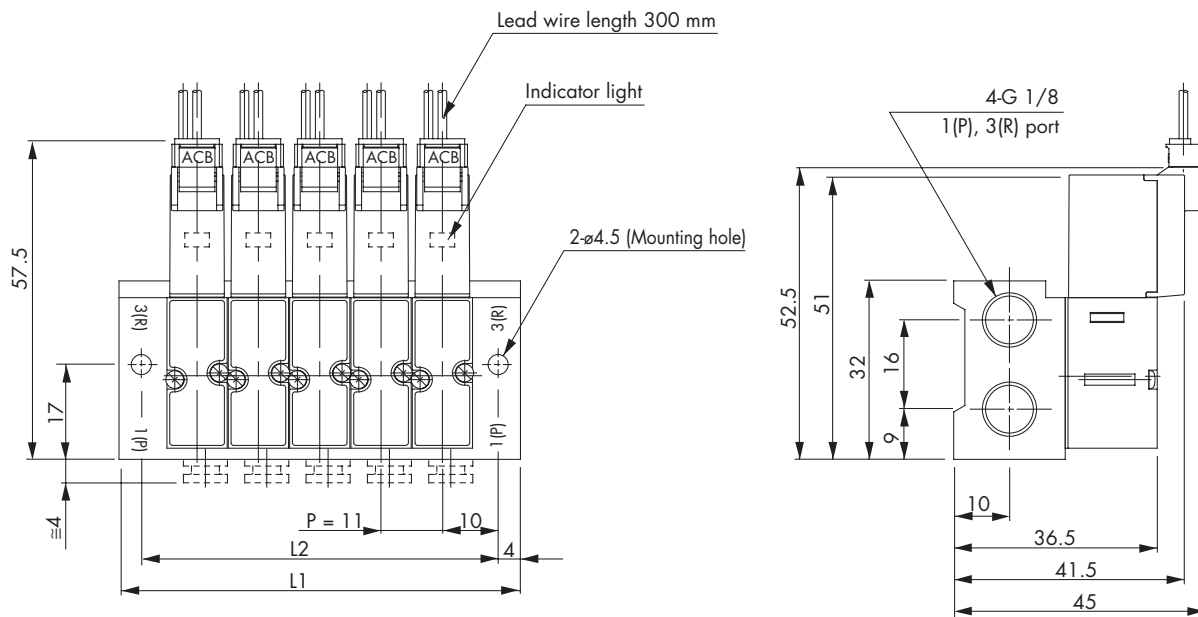
L plug connector (L)

Dimensions

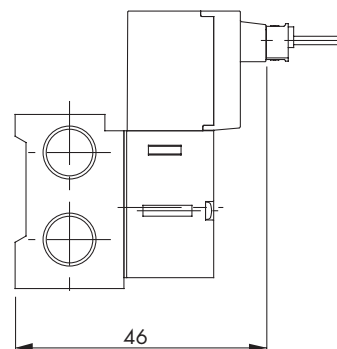
n: Stations

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	28	39	50	61	72	83	94	105	116	127	138	149	160	171	182	193	204	215	226	237
L2	20	31	42	53	64	75	86	97	108	119	130	141	152	163	174	185	196	207	218	229

VQD1000 Plug lead manifold unit (VV4QD15-□□-Q)



M plug connector (M)



L plug connector (L)

Dimensions

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
l1	39	50	61	72	83	94	105	116	127	138	149	160	171	182	193	204	215	226	237
l2	31	42	53	64	75	86	97	108	119	130	141	152	163	174	185	196	207	218	229

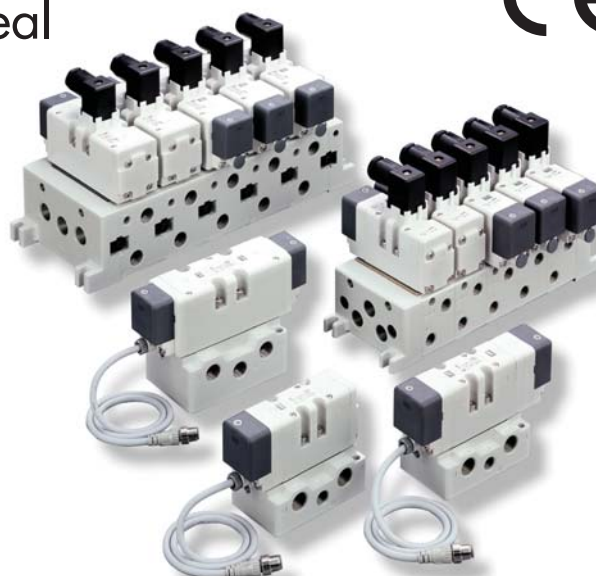
ISO Standard Solenoid Valve: Metal Seal/Rubber Seal



Series **VQ7**

Features

- Conforms to ISO standard 5599 sizes 1 and 2
- DIN plug or M12 flying lead entry
- Subbases and manifolds available
- Compact body design, low weight
- Choice of metal or rubber seals
- Fast response and high flow
- IP65 splashproof construction



How to Order Valve Body

VQ7-6-FG-S-3- - -Q

Valve Size

6	ISO 1 size
8	ISO 2 size

Function

FG	5 port 2 position
YZ*	5 port 2 position
FHG	5 port 3 position Centre closed
FJG	5 port 3 position Exhaust closed
FPG	5 port 3 position Check valve centre
FIG	5 port 3 position Pressure centre

* Option

Connector

Nil	DIN terminal block (With connector)
SC	Pre-wired connector

Seal

Nil	Metal seal
R	Rubber seal

Option

Nil	None
Z	Light/Surge voltage suppressor
V	Individual pilot exhaust

* When two or more symbols are specified, indicate them alphabetically.

Coil rated

1	100 VAC
2	200 VAC
3	24 VDC
4	12 VDC

Number of solenoids

S	Single (FG)
D	Double

Symbols

FG	
YZ*	
FHG	
FJG	
FPG	
FIG	

* Option

How to Order Subbase

VS7-1-A02 F

Valve Size

1	ISO 1 size
2	ISO 2 size

Port size

		ISO 1	ISO 2
A02	Side ported 1/4	0	
A03	Side ported 3/8	0	
A04	Side ported 1/2		0
A06	Side ported 3/4		0
B02	Bottom ported 1/4	0	
B03	Bottom ported 3/8	0	
B04	Bottom ported 1/2		0
B06	Bottom ported 3/4		0

Thread type

F	
G	

Specifications

Model	Piping location	Porting specifications	
		1(P), 2(B), 4(A) port size	3(R2), 5(R1) port size
VS7-1-A02□	Side	1/4	3/8
VS7-1-A03□			3/8
VS7-1-B02□	Bottom	1/4	3/8
VS7-1-B03□			3/8
VS7-2-A03□	Side		3/8
VS7-2-A04□			1/2
VS7-2-A06□	Bottom		3/4
VS7-2-B03□			3/8
VS7-2-B04□			1/2
VS7-2-B06□			3/4

Flow Characteristics

Series	Number of positions		Model		Port size	Flow characteristics						(1) Response time (ms)		
						1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)					
						$\overset{C}{C}$ [dm ³ /[s·bar]]	b	Cv	$\overset{C}{C}$ [dm ³ /[s·bar]]	b	Cv			
VQ7-6	2 position	Single	Metal seal	VQ7-6-FG-S-□	1/4	4.1	0.10	0.9	5.2	0.10	1.1	20 or less		
			Rubber seal	VQ7-6-FG-S-□R		5.0	0.13	1.1	6.0	0.11	1.4	25 or less		
		Double	Metal seal	VQ7-6-FG-D-□		4.1	0.10	0.9	5.2	0.10	1.1	12 or less		
			Rubber seal	VQ7-6-FG-D-□R		5.0	0.13	1.1	6.0	0.11	1.4	15 or less		
	3 position	Closed center	Metal seal	VQ7-6-FHG-D-□		4.1	0.10	0.9	5.2	0.10	1.1	40 or less		
			Rubber seal	VQ7-6-FHG-D-□R		5.0	0.13	1.1	5.6	0.20	1.3	45 or less		
		Exhaust center	Metal seal	VQ7-6-FJG-D-□		4.1	0.10	0.9	5.2	0.10	1.1	40 or less		
			Rubber seal	VQ7-6-FJG-D-□R		4.8	0.16	1.1	6.0	0.17	1.4	45 or less		
		Double check	Metal seal	VQ7-6-FPG-D-□		1.4	—	—	3.1	—	—	50 or less		
			Rubber seal	VQ7-6-FPG-D-□R		1.4	—	—	3.1	—	—	50 or less		
		Pressure center	Metal seal	VQ7-6-FIG-D-□		4.1	0.10	0.9	5.2	0.08	1.1	40 or less		
			Rubber seal	VQ7-6-FIG-D-□R		5.6	0.15	1.2	5.9	0.08	1.3	45 or less		
	VQ7-8	2 position	Single	Metal seal		VQ7-8-FG-S-□	3/8	10	0.18	2.4	12	0.24	3.0	40 or less
				Rubber seal		VQ7-8-FG-S-□R		12	0.24	3.0	13	0.27	3.3	45 or less
			Double	Metal seal		VQ7-8-FG-D-□		10	0.18	2.4	12	0.24	3.0	15 or less
				Rubber seal		VQ7-8-FG-D-□R		12	0.24	3.0	13	0.27	3.3	20 or less
3 position		Closed center	Metal seal	VQ7-8-FHG-D-□	10	0.28		2.4	10	0.24	2.4	45 or less		
			Rubber seal	VQ7-8-FHG-D-□R	11	0.25		2.8	11	0.27	2.8	50 or less		
		Exhaust center	Metal seal	VQ7-8-FJG-D-□	10	0.16		2.4	10	0.20	2.4	45 or less		
			Rubber seal	VQ7-8-FJG-D-□R	11	0.26		2.8	13	0.27	3.3	50 or less		
		Double check	Metal seal	VQ7-8-FPG-D-□	7.2	—		—	7.0	—	—	60 or less		
			Rubber seal	VQ7-8-FPG-D-□R	7.2	—		—	7.0	—	—	60 or less		
		Pressure center	Metal seal	VQ7-8-FIG-D-□	10	0.26		2.4	11	0.25	2.8	45 or less		
			Rubber seal	VQ7-8-FIG-D-□R	13	0.27		3.3	12	0.29	3.0	50 or less		

Note 1) Based on JIS B 8375-1981 (Value for supply pressure of 0.5 MPa, with light/surge voltage suppressor, when using clean air.) Response time values will change depending on pressure and air quality.

Value when ON for double type.

Note 2) Weight without sub-plate. (Sub-plate: 0.37 kg)

Valve Specifications

Valve specifications	Valve construction		Metal seal	Rubber seal
	Fluid		Air/Inert gas	
	Maximum operating pressure		1.0 MPa	
	Min. operating pressure	Single	0.15 MPa	0.20 MPa
		Double	0.15 MPa	0.15 MPa
		3 position	0.15 MPa	0.20 MPa
	Ambient and fluid temperature		-10 to 60 °C No Freezing	-5 to 60 °C No freezing
	Lubrication		Not required	
	Manual override		Push type (Tool required)	
	Enclosure		IP65 (Dusttight, Low jetproof)	
Solenoid specifications	Coil rated voltage		12 VDC, 24 VDC, 100 VAC, 110 VAC, 200 VAC, 220 VAC (50/60 Hz)	
	Allowable voltage fluctuation		±10% of rated voltage	
	Coil insulation type		Class B or equivalent	
	Power consumption (Current)	24 VDC	1 W DC (42 mA)	
		12 VDC	1 W DC (83 mA)	
		100 VAC	Inrush 1.2 VA (12 mA), Holding 1.2 VA (12 mA)	
		110 VAC	Inrush 1.3 VA (11.7 mA), Holding 1.3 VA (11.7 mA)	
		200 VAC	Inrush 2.4 VA (12 mA), Holding 2.4 VA (12 mA)	
		220 VAC	Inrush 2.6 VA (11.7 mA), Holding 2.6 VA (11.7 mA)	

