5 Port Solenoid Valve

CE New

Flow-rate characteristics

C [dm³/(s·bar)]: **0.39**

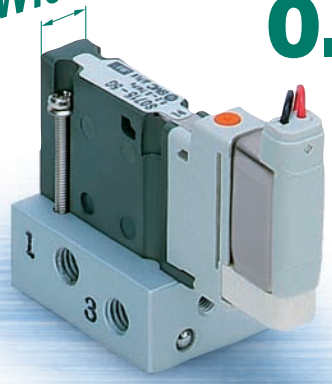
b: 0.39

Cv: 0.11

Width: 7mm

Power consumption

0.35 W



Cylinder driving size

Up to Ø25

New **Serial transmission system is added.**

EX180 (For Output)

- CC-Link
- DeviceNet™

EX260 (For Output)

- DeviceNet™
- PROFIBUS DP
- CC-Link
- EtherCAT
- PROFINET

New **Compatible communication protocol is added.**

EX600 (For Input/Output)

- EtherNet/IP™
- EtherCAT

Series S0700

SMC

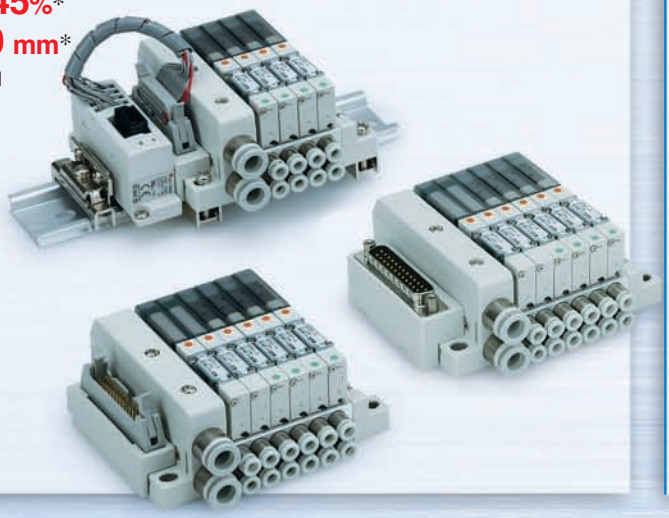
CAT.NAS11-88C

5 Port Solenoid Valve

Slim Compact Plug-in Manifold Bar Base

- Footprint: Reduced by **45%***
- Height: Reduced by **20 mm***

* Compared with plug-in manifold stacking base



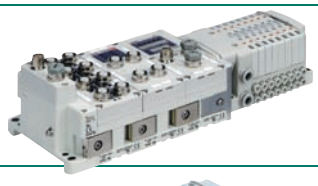
Plug-in Manifold Stacking Base

Many Combinations Available to Fit Your Needs

- Serial transmission
- D-sub connector
- Flat ribbon cable
- PC wiring system compatible flat ribbon cable
- Terminal block box
- Lead wire
- Circular connector
- Connector

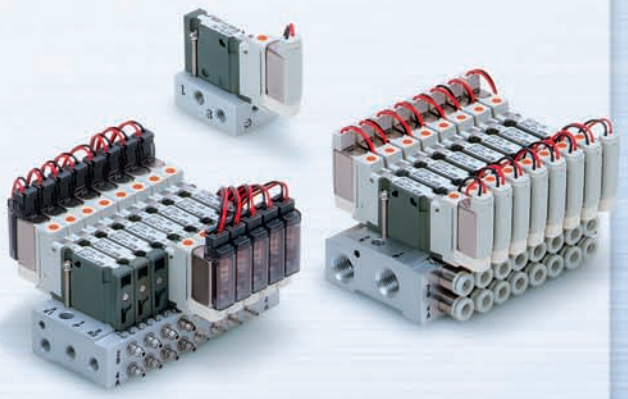
Many Combinations of Serial Transmission Systems Available

S kit

Series		Applicable protocol	Configuration
New **EX180**	**For Output Serial Transmission System**	• CC-Link • DeviceNet™	
New **EX260**	**For Output Serial Transmission System**	• DeviceNet™ • PROFIBUS DP • CC-Link • EtherCAT • PROFINET	
EX250	**For Input/Output Serial Transmission System**	• DeviceNet™ • PROFIBUS DP • CANopen • CC-Link • AS-Interface • EtherNet/IP™	
EX600	**For Input/Output Serial Transmission System**	• DeviceNet™ • PROFIBUS DP • CC-Link New • EtherNet/IP™ New • EtherCAT	
EX500	**Gateway-type Serial Transmission System**	• DeviceNet™ • PROFIBUS DP • CC-Link • EtherNet/IP™	
EX510	**Gateway-type Serial Transmission System**	• DeviceNet™ • PROFIBUS DP • CC-Link	

Plug Lead Manifold
Bar Base, Single Unit

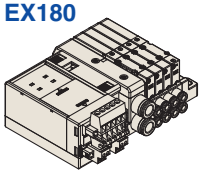
2 types of manifold pitch
are selectable.



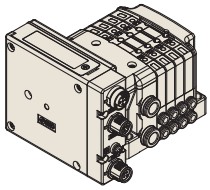
Many Combinations Available to Fit Your Needs

S kit Serial Transmission

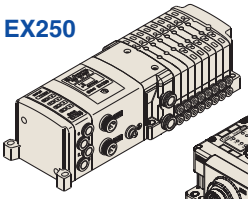
EX180



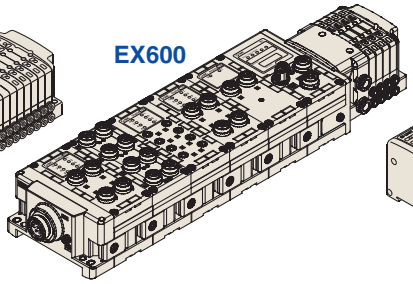
EX260



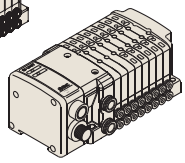
EX250



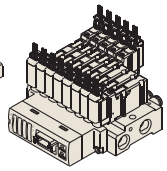
EX600



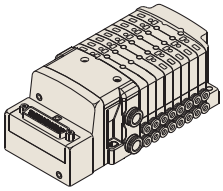
EX500



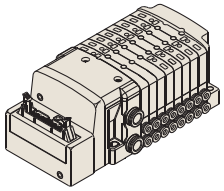
EX510



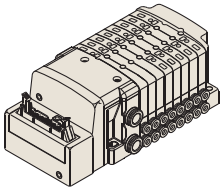
F kit D-sub Connector



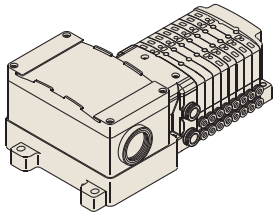
P kit Flat Ribbon Cable



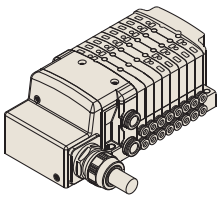
J kit PC Wiring System Compatible Flat Ribbon Cable



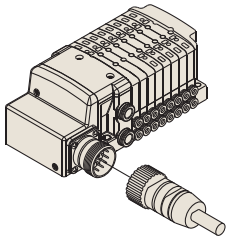
T kit Terminal Block Box



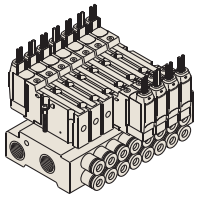
L kit Lead Wire



M kit Circular Connector

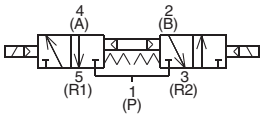
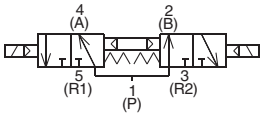
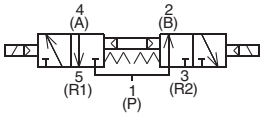


C kit Connector



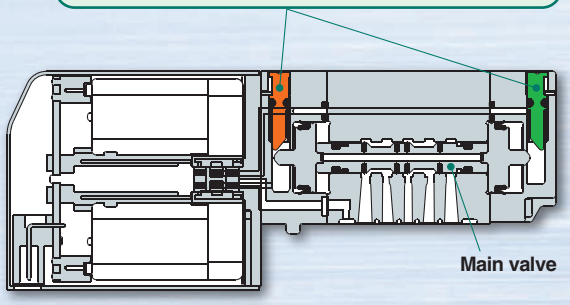
4-Position Dual 3-Port Valve

- Two 3-port valves in one body.
- Independently operating 3-port valve at each side of A and B.
- Number of stations occupied for 3-port valve – halved.
- Available as 4-position 5-port valve.

A side	B side	Symbol
N.C.	N.C.	
N.O.	N.O.	
N.C.	N.O.	

Direct Manual Is Adopted.

Possible to switch the main valve reliably by direct manual override even when pressure is below the operating pressure range during maintenance.

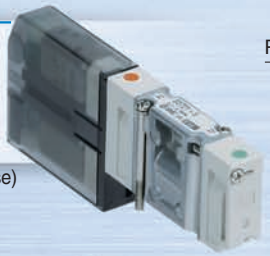


Slim Compact Plug-in Manifold Bar Base

Height

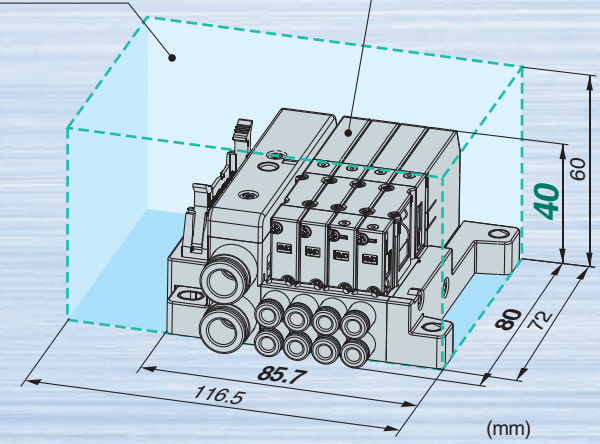
Reduced by 20 mm

(Compared with plug-in manifold stacking base)



Plug-in manifold stacking base

Slim compact plug-in manifold



Footprint

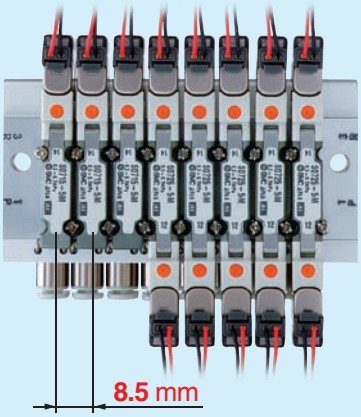
Reduced by 45% (4-station manifold)

2 Types of Manifold Pitch Are Selectable.

(Plug Lead Manifold Bar Base)

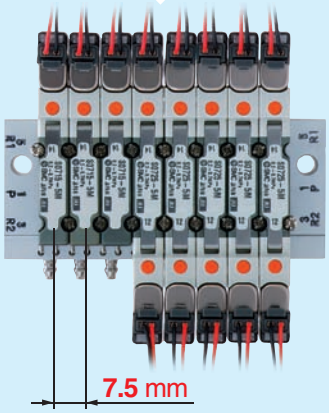
8.5 mm pitch

With one-touch fittings (ø2, ø3.2, ø1/8", ø5/32")



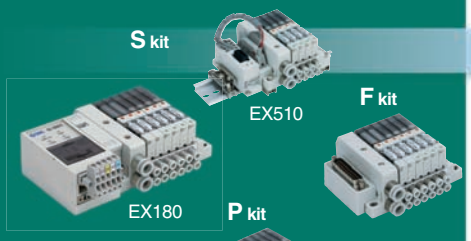
7.5 mm pitch

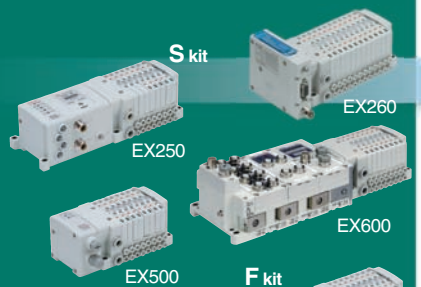
With barb fittings (ø2, ø3.2, ø4)

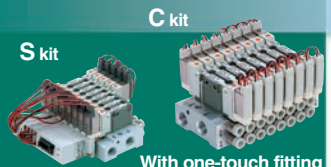


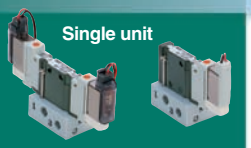
The mounting screw is tightened with the valve.

INDEX









5 Port Solenoid Valve *Series S0700*

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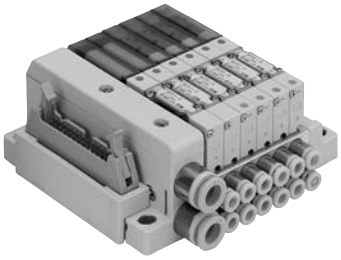
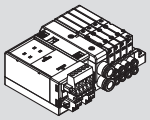
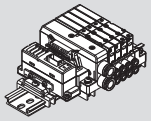
Series ***S0700*** Variations

S kit

Serial Transmission (Fieldbus System)

EX180	EX260	EX250	EX600	EX500	EX510
For Output Serial Transmission System	**For Output Serial Transmission System**	**For Input/Output Serial Transmission System**	**For Input/Output Serial Transmission System**	**Gateway-type Serial Transmission System**	**Gateway-type Serial Transmission System**
Applicable Network · DeviceNet™ · CC-Link	Applicable Network · DeviceNet™ · PROFIBUS DP · CC-Link · EtherCAT · PROFINET	Applicable Network · DeviceNet™ · PROFIBUS DP · CANopen · CC-Link · AS-Interface · EtherNet/IP™	Applicable Network · DeviceNet™ · PROFIBUS DP · CC-Link · EtherNet/IP™ · EtherCAT	Applicable Network · DeviceNet™ · PROFIBUS DP · CC-Link · EtherNet/IP™	Applicable Network · DeviceNet™ · PROFIBUS DP · CC-Link
Slim Compact Plug-in Manifold Bar Base					
					
	—	—	—	—	
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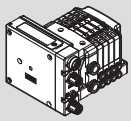
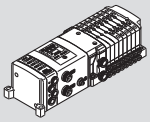
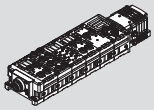
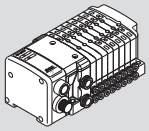
Plug-in Manifold Stacking Base					
					
—					—
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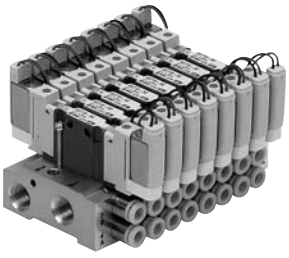
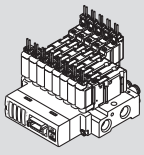
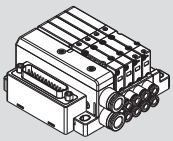
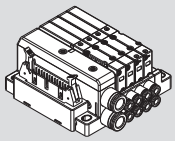
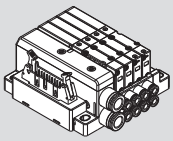
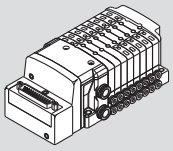
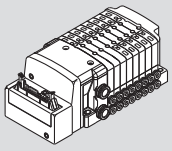
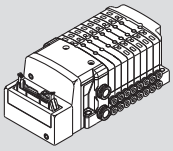
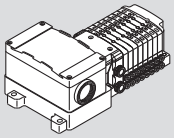
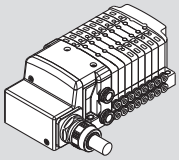
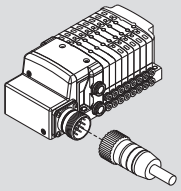
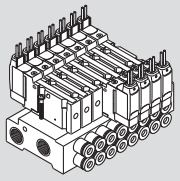
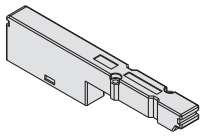
					
—	—	—	—	—	
					Page 83

	F kit D-sub Connector	P kit Flat Ribbon Cable	J kit PC Wiring System Compatible Flat Ribbon Cable	T kit Terminal Block Box	L kit Lead Wire	M kit Circular Connector	C kit Connector
	MIL Standard	MIL Standard · 26 pins, 20 pins	MIL Standard · 20 pins				
	 Page 15	 Page 19	 Page 23	—	—	—	—
	 Page 45	 Page 49	 Page 53	 Page 57	 Page 61	 Page 65	—
	—	—	—	—	—	—	 Page 79

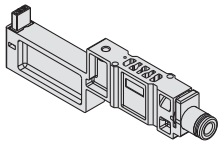
Options

Slim Compact Plug-in Manifold Bar Base / Options

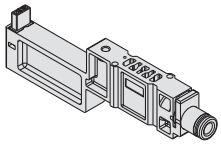
Blanking plate
SS0700-10A-3 Page 26



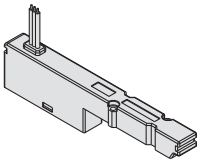
Individual SUP spacer
SS0700-P-3-C□ Page 26



Individual EXH spacer
SS0700-R-3-C□ Page 26

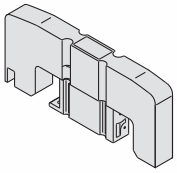


Blanking plate with output
SS0700-1C3-□ Page 26

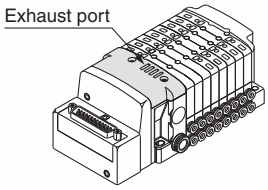


Plug-in Manifold Stacking Base / Options

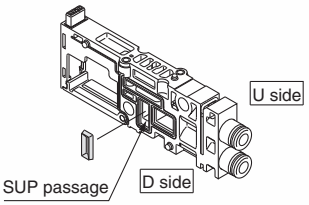
Blanking plate
SS0700-10A-1 Page 69



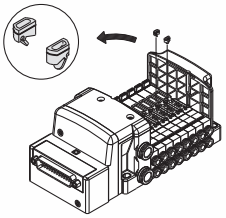
Direct EXH outlet with built-in silencer [-S] Page 69



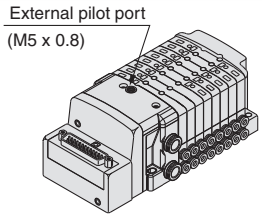
SUP block plate
SS0700-B-P Page 70



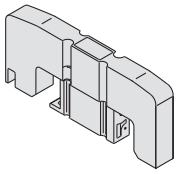
Back pressure check valve [-B]
SS0700-7A-1 Page 70



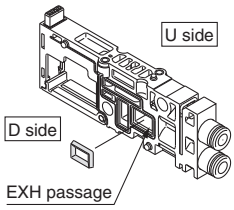
External pilot [-R] Page 69



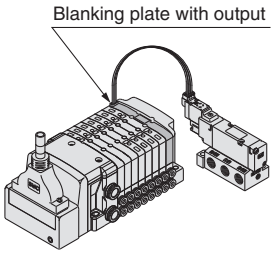
Individual SUP/EXH spacer
SS0700-PR-1 Page 69



EXH block plate
SS0700-B-R Page 70

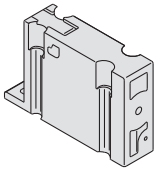


Blanking plate with output
SS0700-1C-□ Page 71

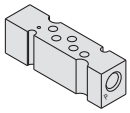


Plug Lead Manifold Bar Base / Options

Blanking plate
SS0700-10A-5 Page 85

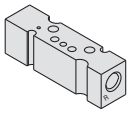


Individual SUP spacer
SS0700-P-5-M5 Page 85



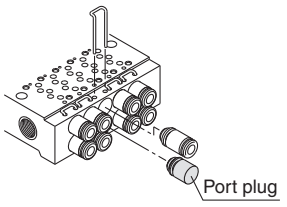
∗ Compatible with 8.5 mm pitch only

Individual EXH spacer
SS0700-R-5-M5 Page 85

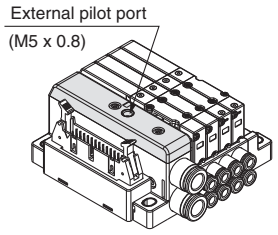


∗ Compatible with 8.5 mm pitch only

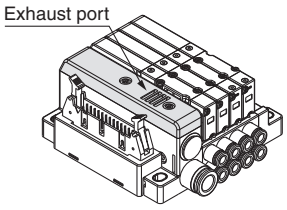
Port plug
VVQ0000-CP Page 85



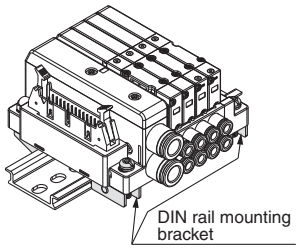
External pilot [-R]
Page 27



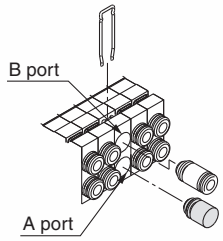
Direct EXH outlet with built-in silencer [-S]
Page 27



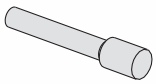
DIN rail mounting bracket
SS0700-57A-3 Page 27



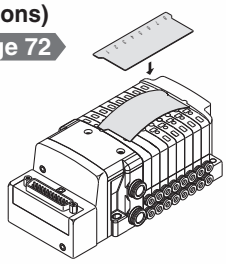
Port plug
VVQ0000-CP Page 71



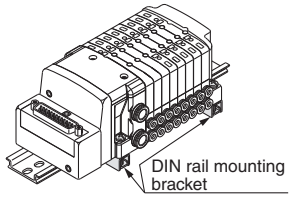
Blanking plug
(For one-touch fitting)
KJP-02
KQ2P-23/04/06 Page 71



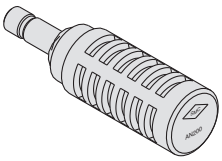
Name plate [-N]
SS0700-N-Station (1 to Max. stations)
Page 72



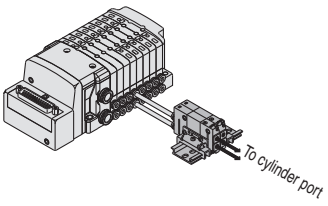
DIN rail mounting bracket
SS0700-57A-□ Page 71



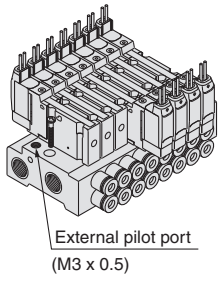
Silencer (For EXH port)
AN200-KM8 Page 72



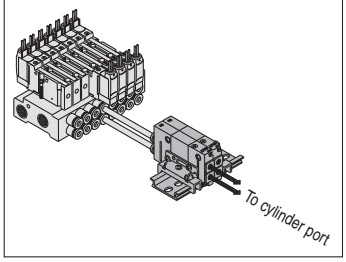
Double check block (Separated)
VQ1000-FPG-□□
Page 73



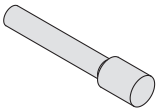
External pilot [-R]
Page 85



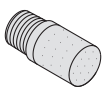
Double check block (Separated)
VQ1000-FPG-□□ Page 86



Blanking plug
(For one-touch fitting)
KJP-02
KQ2P-23/04/06 Page 87



Silencer
(For manifold EXH port)
AN110-01 Page 87



Series S0700
Valve Specifications

Valve Specifications

Model

Series		Type of actuation	Model	Flow-rate characteristics						Response time (msec) Note 2)	Weight (g)
				1→4/2 (P→A/B)			4/2→5/3 (A/B→R1/R2)				
				C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv		
Slim compact Plug-in manifold Bar base	2-position	Single	S0711	0.39	0.39	0.11	0.37	0.39	0.10	18 or less	36
		Double	S0721	0.39	0.39	0.11	0.37	0.39	0.10	10 or less	41
	4-position	Dual 3-port valve	S07B1 (A/C)	0.34	0.34	0.09	0.33	0.33	0.08	18 or less	41
Plug-in manifold Stacking base	2-position	Single	S0710	0.39	0.39	0.11	0.37	0.39	0.10	18 or less	30
		Double	S0720	0.39	0.39	0.11	0.37	0.39	0.10	10 or less	38
	4-position	Dual 3-port valve	S07B0 (A/C)	0.34	0.34	0.09	0.33	0.33	0.08	18 or less	38
Plug lead manifold Bar base	2-position	Single	S0715	0.39	0.39	0.11	0.37	0.39	0.10	12 or less	28
		Double	S0725	0.39	0.39	0.11	0.37	0.39	0.10	10 or less	36
	4-position	Dual 3-port valve	S07B5 (A/C)	0.34	0.34	0.09	0.33	0.33	0.08	12 or less	36

Note 1) Values for cylinder port fitting port size C6
Note 2) Based on JIS B 8375-1993 (Supply pressure: 73 psi (0.5 MPa), with indicator light and surge voltage suppressor, clean air. This will change depending on pressure and air quality.) The value when ON for the double type.

Specifications

Valve specifications	**Valve construction**		Rubber seal		
	Fluid		Air/Inert gas		
	Max. operating pressure		102 psi (0.7 MPa)		
	Min. operating pressure		29 psi (0.2 MPa)		
	Ambient and fluid temperature		14 to 122°F (–10 to 50°C) Note 1)		
	Max. operating cycle		5 Hz		
	Pilot valve exhaust method		**Slim compact Plug-in manifold Bar base**	**Plug-in manifold Stacking base**	**Plug lead manifold Bar base**
			Common exhaust Note 2)		Individual exhaust
	Pilot valve manual override		Push type		
	Lubrication		Not required		
	Impact/Vibration resistance Note 3)		30/100 m/s²		
	Enclosure		IP40		
Electrical specifications	**Coil rated voltage**		24 VDC		
	Allowable voltage fluctuation		±10% of rated voltage		
	Coil insulation type		Class B or equivalent		
	Power consumption (Current)	**24 VDC**	DC 0.35 W (15 mA)		

Note 1) Use dry air to prevent condensation when operating at low temperatures.
Note 2) Valves with the external pilot specifications have a pilot EXH with individual exhaust specifications.
Note 3) Impact resistance: No malfunction occurred when it is tested with a drop tester in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition.
Vibration resistance: No malfunction occurred in a one-sweep test between 8.3 and 2000 Hz. Test was performed at both energized and de-energized states in the axial direction and at the right angles to the main valve and armature.

Manifold Specifications

Manifold Specifications

Model

Base model		Piping specifications: Port size 1(P), 3(R)	Piping specifications: Port size 4(A), 2(B)	Type of connection	Applicable stations (Note 1)	5-station weight (g) (Note 3)	Addition per station (g) (Note 3)
Slim compact Plug-in manifold Bar base	SS0751-□□□□	C6 (ø6) C8 (ø8) N7 (ø1/4") N9 (ø5/16") Option (Direct EXH outlet with built-in silencer)	C2 (ø2) C3 (ø3.2) C4 (ø4) N1 (ø1/8") N3 (ø5/32")	S kit: Serial transmission (EX510)	Max. 16 stations	270 (Note 2)	19 (Note 6)
				S kit: Serial transmission (EX180)	Max. 32 stations	230 (Note 2)	17
				F kit: D-sub connector	Max. 24 stations	185	17
				P kit: Flat ribbon cable	Max. 24 stations	181	17
				J kit: PC wiring compatible flat ribbon cable	Max. 16 stations	181	17
Plug-in manifold Stacking base	SS0750-□□□	C6 (ø6) C8 (ø8) N7 (ø1/4") N9 (ø5/16") Option (Direct EXH outlet with built-in silencer)	C2 (ø2) C3 (ø3.2) C4 (ø4) N1 (ø1/8") N3 (ø5/32")	S kit: Serial transmission (EX500)	Max. 16 stations	260 (Note 2)	20
				S kit: Serial transmission (EX250/260/600)	Max. 24 stations	260 (Note 2)	20
				F kit: D-sub connector	Max. 24 stations	330	20
				P kit: Flat ribbon cable	Max. 24 stations	325	20
				J kit: PC wiring compatible flat ribbon cable	Max. 16 stations	325	20
				T kit: Terminal block box	Max. 20 stations	660	20
				L kit: Lead wire	Max. 24 stations	455 (Note 4)	20
				M kit: Circular connector	Max. 24 stations	390	20
Plug lead manifold Bar base	SS0755-□C□C (Manifold pitch: 8.5)	Rc1/8	M5 thread C2 (ø2) C3 (ø3.2) C4 (ø4) N1 (ø1/8") N3 (ø5/32")	C kit: Connector	Max. 20 stations	115	20
				S kit: Serial transmission (EX510)	Max. 16 stations	115 (Note 2)	20
	SS0755-□V□C (Manifold pitch: 7.5)	M5 thread	M3 (M3 thread) V2 (ø2 barb fitting) V3 (ø3.2 barb fitting) V4 (ø5 barb fitting)	C kit: Connector	Max. 20 stations	75	10
Single unit	S07□5-5□-M5	M5 thread	M5 thread	Connector kit	—	14 (Note 5)	

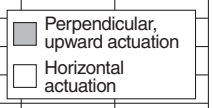
Note 1) Maximum stations in the case of mixed single and double wiring (special wiring specifications)
Note 2) Differs depending on the serial unit type. For details, refer to page 35.
Note 3) Weight excluding valve. Refer to page 5 for valve weight.
Note 4) Weight with lead wire length 0.6 m
Note 5) Weight of sub-plate only. Refer to page 5 for valve weight.
Note 6) Including DIN rail weight

Cylinder Speed Chart

Use as a guide for selection.
Please confirm the actual conditions with SMC Sizing Program.

Base Mounted

Series	Average speed mm/s	Bore size						
		Series CJ2 Pressure 73 psi (0.5 MPa) Load factor 50% Stroke 60 mm			Series CM2 Pressure 73 psi (0.5 MPa) Load factor 50% Stroke 300 mm			
		ø6	ø10	ø16	ø20	ø25	ø32	ø40
S0715-5G-M5	800 700 600 500 400 300 200 100 0							

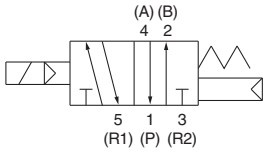
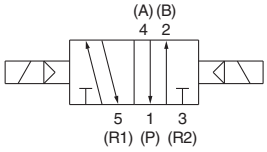
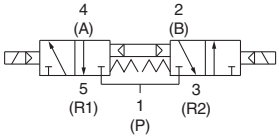
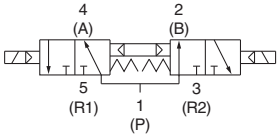
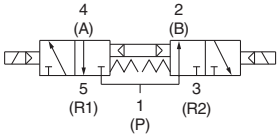


* It is when the cylinder is extending that is meter-out controlled by speed controller which is directly connected with cylinder, and its needle valve with being fully open.
* The average velocity of the cylinder is what the stroke is divided by the total stroke time.
* Load factor: ((Load mass x 9.8)/Theoretical force) x 100%

Conditions

Base mounted		Series CJ2	Series CM2
S0715-5G-M5	Tube bore x Length	ø6 x 1 m	
	Speed controller	AS2002F-06	AS2002F-06
	Silencer	AN120-M5	

Symbol

Model	Type of actuation	JIS symbol
S0710 **S0711** **S0715**	2-position single	
S0720 **S0721** **S0725**	2-position double	
S07A0 **S07A1** **S07A5**	4-position dual 3-port (N.C. + N.C.) [Exhaust center]	
S07B0 **S07B1** **S07B5**	4-position dual 3-port (N.O. + N.O.) [Pressure center]	
S07C0 **S07C1** **S07C5**	4-position dual 3-port (N.C. + N.O.)	

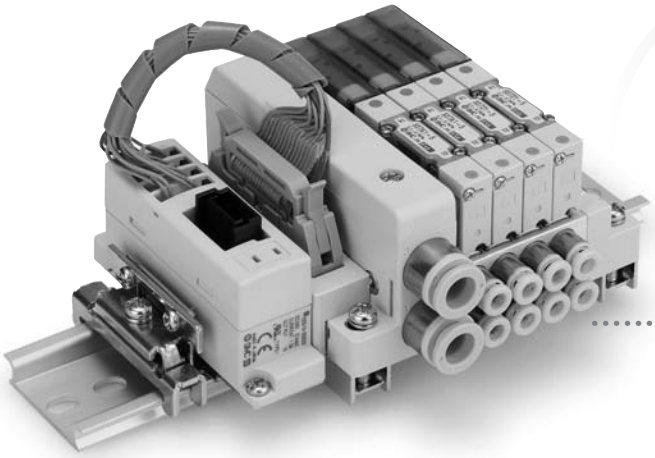
Serial Transmission

S kit

Slim Compact Plug-in Manifold Bar Base

For Output
Serial Transmission System
EX180

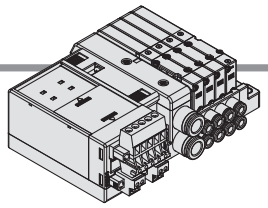
Page 9



Gateway-type
Serial Transmission System
EX510

Page 11

How to Order Manifold



SS0751 – 08 C4 C8 □ □ □ – □

Stations

Symbol	Stations
02	2 station
⋮	⋮
32 Note)	32 stations

Note) The maximum number of stations will be different depending on the wiring specifications.

Cylinder port size

Symbol	Port size	
C2	With ø2 one-touch fitting	Metric
C3	With ø3.2 one-touch fitting	
C4	With ø4 one-touch fitting	
N1	With ø1/8" one-touch fitting	Inch
N3	With ø5/32" one-touch fitting	

P, R port size

Symbol	Port size	
Nil	With ø8 one-touch fitting Note)	Metric
C6	With ø6 one-touch fitting	
C8	With ø8 one-touch fitting	
N7	With ø1/4" one-touch fitting	Inch
N9	With ø5/16" one-touch fitting	

Note) The cylinder port is ø5/16" when measured in inches.

SI unit output polarity

Symbol	Specifications
Nil	Positive common
N	Negative common

Communication connector

Symbol	Specifications
Nil	T-branch type
A	Straight type

Option

Symbol	Specifications
Nil	None
D	With DIN rail (Rail length: Standard)
D0	Without DIN rail (With bracket)
D□	With DIN rail Designated length (□: Station)
K Note 2)	Special wiring specifications (Except double wiring)
R Note 3)	External pilot
S	Built-in silencer

Note 1) When two or more options are specified, indicate them alphabetically.
Example) -KRS
Note 2) Indicate the wiring specifications for mixed single and double wirings.
Note 3) For details, refer to page 27.
* **For manifold optional parts, refer to pages 26 and 27.**
* **For manifold exploded view, refer to page 29.**

Kit type

Kit type	Symbol	Specifications (SI unit model)	Standard station	Max. number of stations for special wiring specifications	Max. number of solenoids
S kit	SD0	Without SI unit	1 to 16 stations	32 stations	32
	SDQ2	DeviceNet™ for 32 points (EX180-SDN3: Positive common (NPN), EX180-SDN5: Negative common (PNP))			
	SDQ3	DeviceNet™ for 16 points (EX180-SDN4: Positive common (NPN), EX180-SDN6: Negative common (PNP))		16 stations	16
	SDV2	CC-Link for 32 points (EX180-SMJ3: Positive common (NPN), EX180-SMJ5: Negative common (PNP))		32 stations	32

Refer to Reduced Wiring Fieldbus System (Serial Transmission) in Electric Products (CAT.E150) for details on the EX180 Integrated-type (For Output) Serial Transmission System.

Note 1) The maximum number of stations is determined by the total number of solenoids.
For mixed single and double wirings, enter "-K" to the order code options.
Note 2) For the S0700 series, SI unit models EX180-SDN1, EX180-SDN2, or EX180-SMJ1 cannot be selected as S kit (SDQ□, SDV2).

Type of actuation	Single	Double, Dual 3-port
Number of solenoids	1	2

How to Order Valves

S07 1 1 □ – 5

Type of actuation

Symbol	Specifications
1	2-position single
2	2-position double
A	4-position dual 3-port (N.C. + N.C.) [Exhaust center]
B	4-position dual 3-port (N.O. + N.O.) [Pressure center]
C	4-position dual 3-port (N.C. + N.O.)

Note) For symbol, refer to page 7.

Base mounted plug-in

Voltage: 24 VDC

Function

Symbol	Specifications
Nil	Standard
R	External pilot Note)

Note) Not compatible with dual 3-port valves.

How to Order Manifold Assembly

Specify the part numbers for valves and options together beneath the manifold base part number.

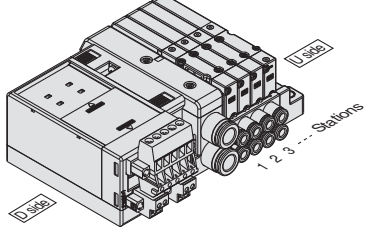
<Example>

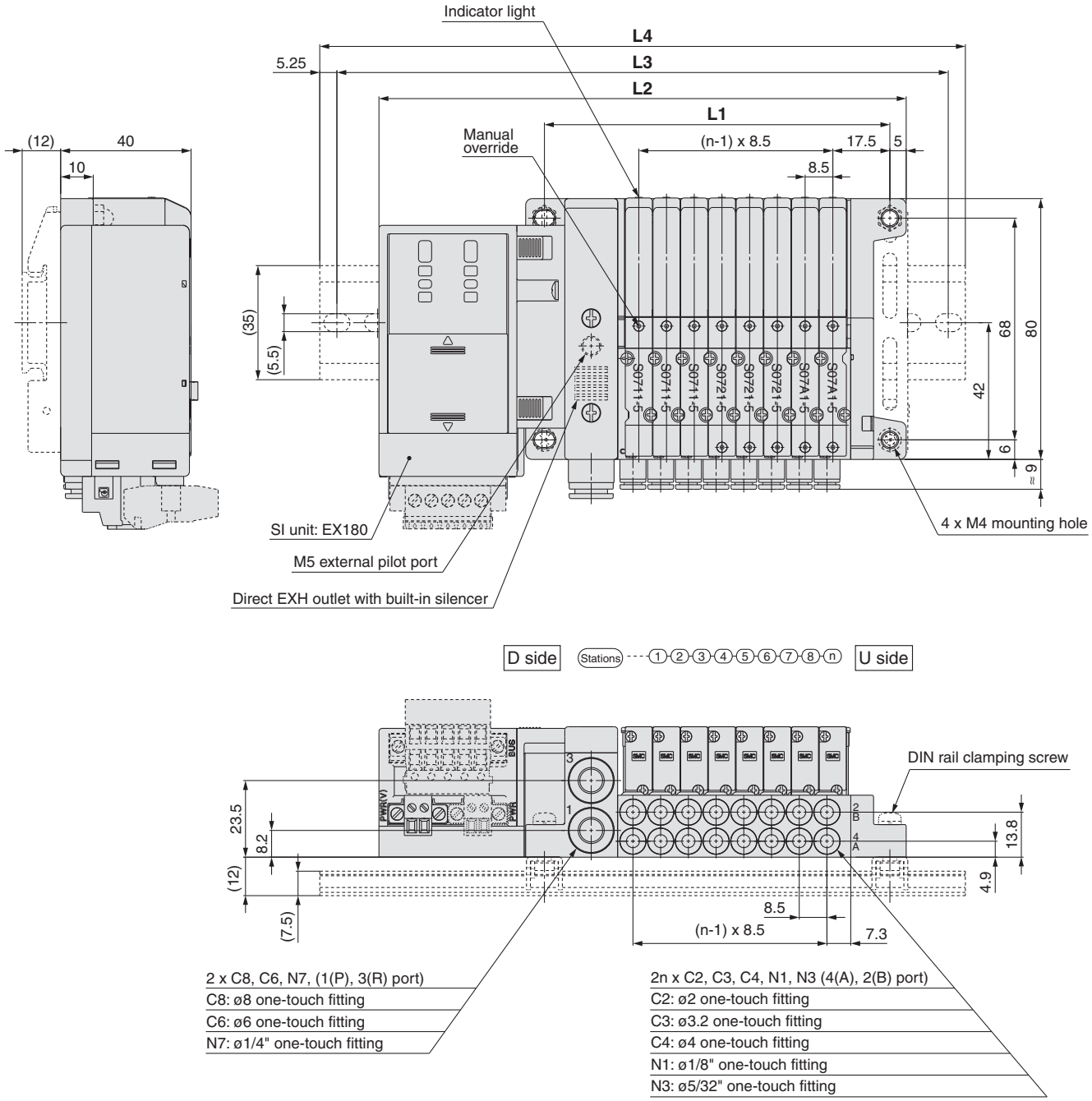
Serial transmission kit

SS0751-08C4C8SDQ2 ··· 1 set – Manifold base part no.
* **S0711-5 ····· 3 sets – Valve part no. (Stations 1 to 3)**
* **S0721-5 ····· 2 sets – Valve part no. (Stations 4 to 5)**
* **S07A1-5 ····· 2 sets – Valve part no. (Stations 6 to 7)**
* **SS0700-10A-3 ····· 1 sets – Blanking plate part no. (Station 8)**

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

Write sequentially from the 1st station on the D side. When part nos. written collectively are complicated, specify on the manifold specification sheet.





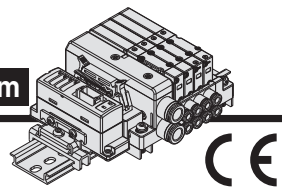
∗ Dotted line indicates DIN rail mounting bracket (-D).

Dimensions

Formula L1 = 8.5n + 38, L2 = 8.5n + 93.7 n: Station (Maximum 32 stations)

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
L1	55	63.5	72	80.5	89	97.5	106	114.5	123	131.5	140	148.5	157	165.5	174	182.5	191
L2	110.7	119.2	127.7	136.2	144.7	153.2	161.7	170.2	178.7	187.2	195.7	204.2	212.7	221.2	229.7	238.2	246.7
L3	137.5	150	150	162.5	175	175	187.5	200	200	212.5	225	225	237.5	250	250	262.5	275
L4	148	160.5	160.5	173	185.5	185.5	198	210.5	210.5	223	235.5	235.5	248	260.5	260.5	273	285.5

L \ n	19	20	21	22	23	24	25	26	27	28	29	30	31	32
L1	199.5	208	216.5	225	233.5	242	250.5	259	267.5	276	284.5	293	301.5	310
L2	255.2	263.7	272.2	280.7	289.2	297.7	306.2	314.7	323.2	331.7	340.2	348.7	357.2	365.7
L3	275	287.5	300	312.5	312.5	325	337.5	337.5	350	362.5	362.5	375	387.5	387.5
L4	285.5	298	310.5	323	323	335.5	348	348	360.5	373	373	385.5	398	398



How to Order Manifold

SS0751 – 08 C4 C8 SB □ – □

Stations

Symbol	Stations
01	1 station
⋮	⋮
16 Note)	16 stations

Note) The maximum number of stations will be different depending on the wiring specifications.

Cylinder port size

Symbol	Port size	
C2	With ø2 one-touch fitting	Metric
C3	With ø3.2 one-touch fitting	
C4	With ø4 one-touch fitting	
N1	With ø1/8" one-touch fitting	Inch
N3	With ø5/32" one-touch fitting	

Standard station	Max. number of stations for special wiring specifications	Max. number of solenoids
1 to 8 stations	16 stations	16

Type of actuation	Single	Double, Dual 3-port
Number of solenoids	1	2

P, R port size

Symbol	Port size	
Nil	With ø8 one-touch fitting Note)	Metric
C6	With ø6 one-touch fitting	
C8	With ø8 one-touch fitting	
N7	With ø1/4" one-touch fitting	Inch
N9	With ø5/16" one-touch fitting	

Note) The cylinder port is ø5/16" when measured in inches.

S kit
EX510 serial wiring

Note) For SI unit part number, refer to page 30.

Option

Symbol	Specifications
Nil	None
K Note 2)	Special wiring specifications (Except double wiring)
R Note 3)	External pilot
S	Built-in silencer

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

Note 2) Indicate the wiring specifications for mixed single and double wirings.

Note 3) For details, refer to page 27.

∗ **For manifold optional parts, refer to pages 26 and 27.**

∗ **For manifold exploded view, refer to page 29.**

SI unit output polarity

Symbol	Specifications
Nil	Positive common
N	Negative common

Refer to Reduced Wiring Fieldbus System (Serial Transmission) in Electric Products (CAT.E150) for details on the EX510 Gateway-type Serial Transmission System.

How to Order Valves

S07 □ 1 □ – 5

Type of actuation

Symbol	Specifications
1	2-position single
2	2-position double
A	4-position dual 3-port (N.C. + N.C.) [Exhaust center]
B	4-position dual 3-port (N.O. + N.O.) [Pressure center]
C	4-position dual 3-port (N.C. + N.O.)

Note) For symbol, refer to page 7.

Base mounted plug-in

Function

Symbol	Specifications
Nil	Standard
R	External pilot Note)

Note) Not compatible with dual 3-port valves.

Voltage: 24 VDC

How to Order Manifold Assembly

Specify the part numbers for valves and options together beneath the manifold base part number.

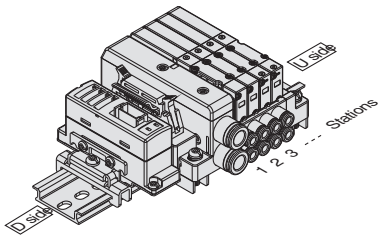
<Example>

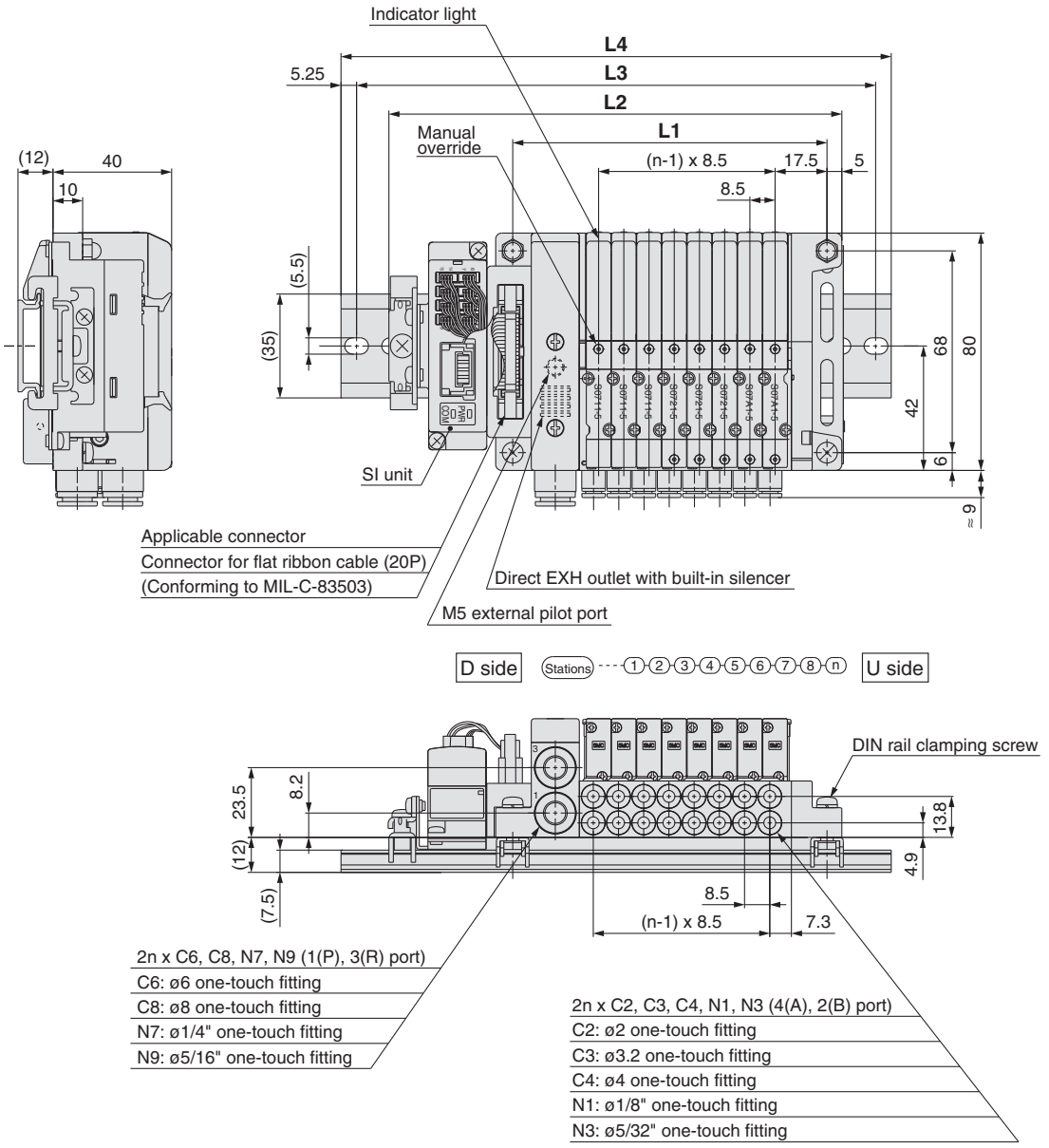
Serial transmission kit

SS0751-08C4C8SB ···1 set – Manifold base part no.
∗ S0711-5 ····· 3 sets – Valve part no. (Stations 1 to 3)
∗ S0721-5 ····· 2 sets – Valve part no. (Stations 4 to 5)
∗ S07A1-5 ····· 2 sets – Valve part no. (Stations 6 to 7)
∗ SS0700-10A-3 ····· 1 sets – Blanking plate part no. (Station 8)

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

Write sequentially from the 1st station on the D side.
When part nos. written collectively are complicated, specify on the manifold specification sheet.





Dimensions

Formula L1 = 8.5n + 38, L2 = 8.5n + 84.7 n: Station (Maximum 16 stations)

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	55	63.5	72	80.5	89	97.5	106	114.5	123	131.5	140	148.5	157	165.5	174
L2	101.7	110.2	118.7	127.2	135.7	144.2	152.7	161.2	169.7	178.2	186.7	195.2	203.7	212.2	220.7
L3	125	137.5	150	150	162.5	175	175	187.5	200	200	212.5	225	225	237.5	250
L4	135.5	148	160.5	160.5	173	185.5	185.5	198	210.5	210.5	223	235.5	235.5	248	260.5

D-sub Connector

F kit

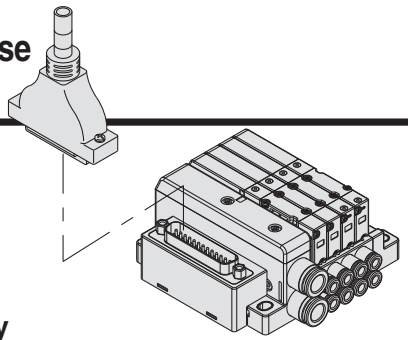
Slim Compact Plug-in Manifold Bar Base

MIL Standard

- 25 pins
- Cable length: 1.5 m, 3 m, 5 m

Page 15

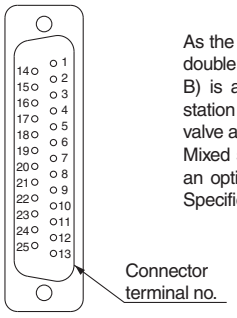
F Series S0700 Slim Compact Plug-in Manifold Bar Base kit (D-sub Connector)



- **The D-sub connector reduces installation labor for electrical connections.**
- **Using the D-sub connector (25P), conforming to MIL standard permits the use of connectors put on the market and gives a wide interchangeability.**

Electrical Wiring Specifications

D-sub connector



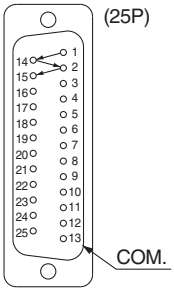
As the standard electrical wiring specifications, double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station for 12 stations or less, regardless of valve and option types.
Mixed single and double wiring is available as an option. For details, refer to "Special Wiring Specifications" (Option) below.

D-sub connector assembly wire color (AXT100-DS25- 015/030/050)

	Terminal no.	Polarity		Lead wire color	Dot marking
Station 1	SOL.A 1	(–)	(+)	Black	None
	SOL.B 14	(–)	(+)	Yellow	Black
Station 2	SOL.A 2	(–)	(+)	Brown	None
	SOL.B 15	(–)	(+)	Pink	Black
Station 3	SOL.A 3	(–)	(+)	Red	None
	SOL.B 16	(–)	(+)	Blue	White
Station 4	SOL.A 4	(–)	(+)	Orange	None
	SOL.B 17	(–)	(+)	Purple	None
Station 5	SOL.A 5	(–)	(+)	Yellow	None
	SOL.B 18	(–)	(+)	Gray	None
Station 6	SOL.A 6	(–)	(+)	Pink	None
	SOL.B 19	(–)	(+)	Orange	Black
Station 7	SOL.A 7	(–)	(+)	Blue	None
	SOL.B 20	(–)	(+)	Red	White
Station 8	SOL.A 8	(–)	(+)	Purple	White
	SOL.B 21	(–)	(+)	Brown	White
Station 9	SOL.A 9	(–)	(+)	Gray	Black
	SOL.B 22	(–)	(+)	Pink	Red
Station 10	SOL.A 10	(–)	(+)	White	Black
	SOL.B 23	(–)	(+)	Gray	Red
Station 11	SOL.A 11	(–)	(+)	White	Red
	SOL.B 24	(–)	(+)	Black	White
Station 12	SOL.A 12	(–)	(+)	Yellow	Red
	SOL.B 25	(–)	(+)	White	None
	COM. 13	(+)	(–)	Orange	Red
		Positive COM	Negative COM Note)		

Note) Mounting valve has no polarity. It can also be used as a negative common.

Special Wiring Specifications (Option) [-K]



Mixed single and double wiring are available as an option. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 24.

1. How to Order valves

Indicate an option symbol, -K, for the manifold part number and be sure to specify the mounting position and number of stations of the single and double wiring on the manifold specification sheet.

2. Wiring specifications

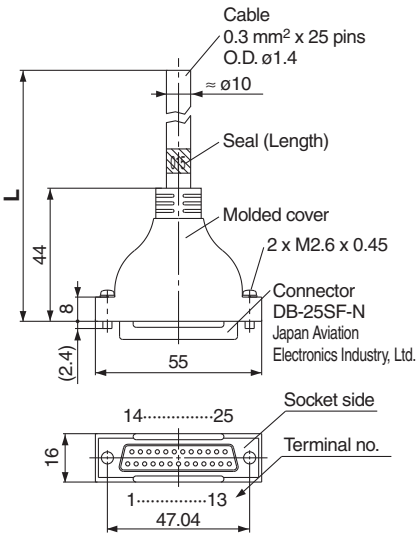
Connector terminal numbers are connected from solenoid station 1 on the A side in the order indicated by the arrows without skipping any terminal numbers.

Cable Assembly

AXT100-DS25- 015/030/050

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

D-sub connector cable assembly



Wire Color by Terminal No.

Terminal no.	Lead wire color	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	Gray	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	Gray	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 0.3 mm² x 25 cores
3 m	AXT100-DS25-030	
5 m	AXT100-DS25-050	

∗ For other commercial connectors, use a 25-pin type with female connector conforming to MIL-C-24308.
∗ Cannot be used for movable wiring.

Electrical Characteristics

Item	Property
Conductor resistance Ω/km, 20°C	65 or less
Voltage limit V, 1 min, AC	1000
Insulation resistance MΩ/km, 20°C	5 or more

Connector manufacturers' example

- Fujitsu Limited
- Japan Aviation Electronics Industry, Ltd.
- J.S.T. Mfg. Co., Ltd.
- Hirose Electric Co., Ltd.

Note) The minimum bending inner radius of D-sub connector cable is 20 mm.

How to Order Manifold

SS0751 – 08 C4 C8 FD1 – □

Stations

Symbol	Stations
01	1 station
⋮	⋮
24 Note)	24 stations

Note) The maximum number of stations will be different depending on the wiring specifications.

Cylinder port size

Symbol	Port size	
C2	With ø2 one-touch fitting	Metric
C3	With ø3.2 one-touch fitting	
C4	With ø4 one-touch fitting	
N1	With ø1/8" one-touch fitting	Inch
N3	With ø5/32" one-touch fitting	

P, R port size

Symbol	Port size	
Nil	With ø8 one-touch fitting Note)	Metric
C6	With ø6 one-touch fitting	
C8	With ø8 one-touch fitting	
N7	With ø1/4" one-touch fitting	Inch
N9	With ø5/16" one-touch fitting	

Note) The cylinder port is ø5/16" when measured in inches.

Option

Symbol	Specifications
Nil	None
D	With DIN rail (Rail length: Standard)
D0	Without DIN rail (With bracket)
D□ Note 2)	With DIN rail Designated length (□: Station)
K Note 3)	Special wiring specifications (Except double wiring)
R Note 4)	External pilot
S	Built-in silencer

Note 1) When two or more options are specified, indicate them alphabetically. Example) -DKN
Note 2) The available number of stations is larger than the number of manifold stations.
Note 3) Indicate the wiring specifications for mixed single and double wirings.
Note 4) For details, refer to page 27.
* **For manifold optional parts, refer to pages 26 to 27.**
* **For manifold exploded view, refer to page 29.**

Kit type/Cable length

Kit type	Symbol	Specifications	Standard station	Max. number of stations for special wiring specifications	Max. number of solenoids
F kit	**FD0**	D-sub connector (25P), without cable	1 to 12 stations	24 stations	24
	FD1	D-sub connector (25P), with 1.5 m cable			
	FD2	D-sub connector (25P), with 3.0 m cable			
	FD3	D-sub connector (25P), with 5.0 m cable			

Note) The maximum number of stations is determined by the total number of solenoids.
For mixed single and double wirings, enter "-K" to the order code options.

Type of actuation	Single	Double, Dual 3-port
Number of solenoids	1	2

How to Order Valves

S07 1 1 □ – 5

Type of actuation

Symbol	Specifications
1	2-position single
2	2-position double
A	4-position dual 3-port (N.C. + N.C.) [Exhaust center]
B	4-position dual 3-port (N.O. + N.O.) [Pressure center]
C	4-position dual 3-port (N.C. + N.O.)

Note) For symbol, refer to page 7.

Base mounted plug-in

Function

Symbol	Specifications
Nil	Standard
R	External pilot Note)

Note) Not compatible with dual 3-port valves.

Voltage

Symbol	Specifications
5	24 VDC
6	12 VDC

How to Order Manifold Assembly

Specify the part numbers for valves and options together beneath the manifold base part number.

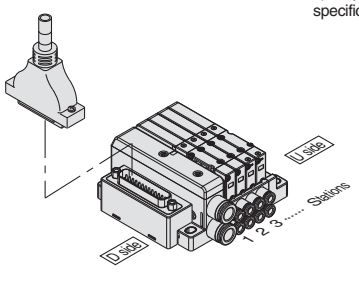
<Example>

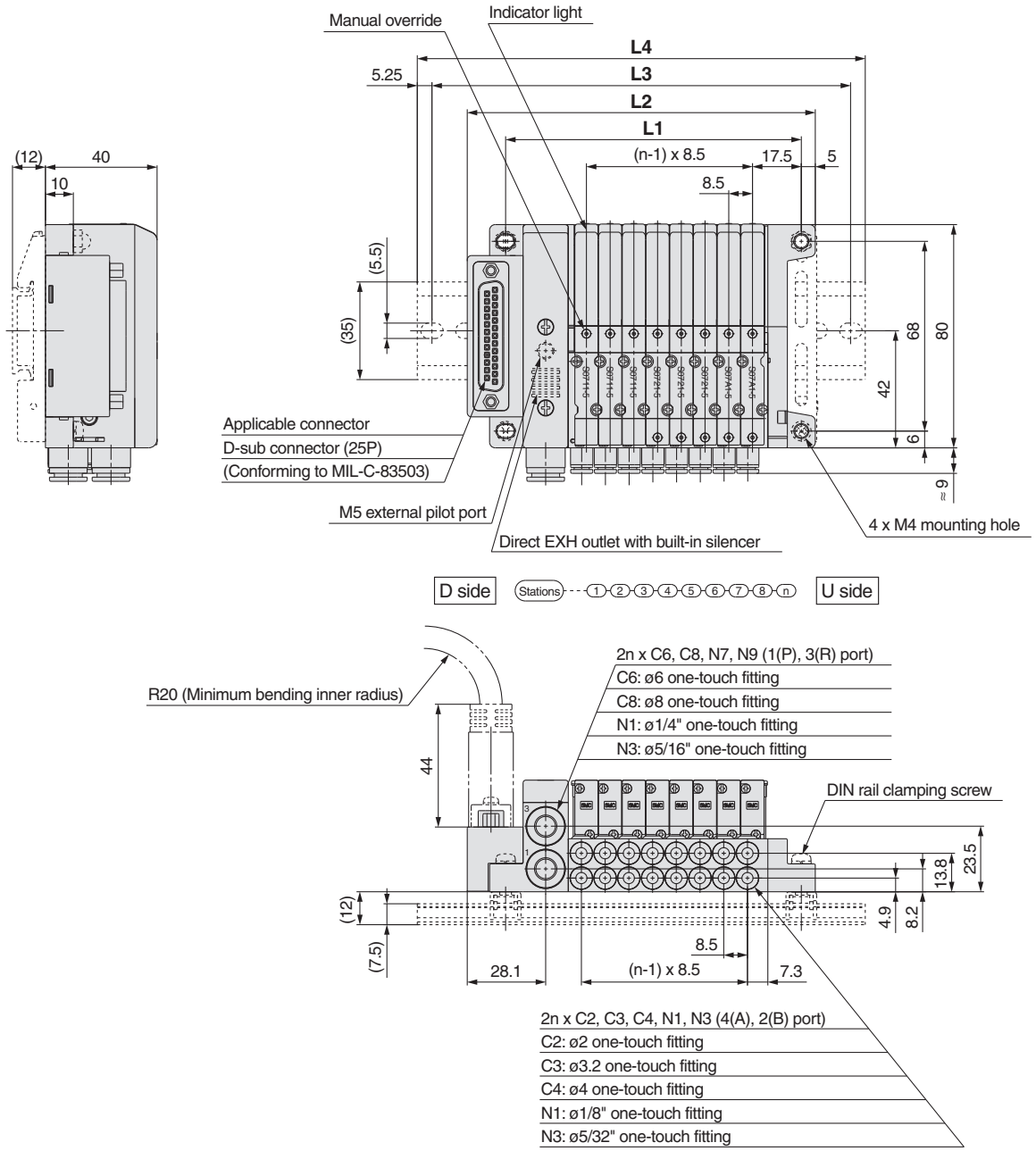
D-sub connector kit

SS0751-08C4C8FD1··· 1 set – Manifold base part no.
* **S0711-5····· 3 sets – Valve part no. (Stations 1 to 3)**
* **S0721-5····· 2 sets – Valve part no. (Stations 4 to 5)**
* **S07A1-5····· 2 sets – Valve part no. (Stations 6 to 7)**
* **SS0700-10A-3 ····· 1 set – Blanking plate part no. (Station 8)**

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

Write sequentially from the 1st station on the D side. When part nos. written collectively are complicated, specify on the manifold specification sheet.





Dimensions

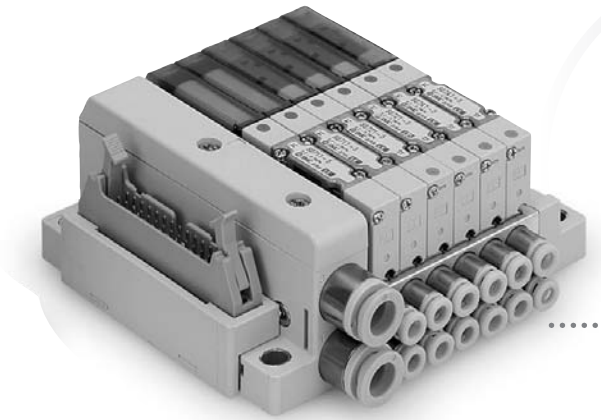
Formula L1 = 8.5n + 38, L2 = 8.5n + 56.7 n: Station (Maximum 24 stations)

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	55	63.5	72	80.5	89	97.5	106	114.5	123	131.5	140	148.5	157	165.5	174	182.5	191	199.5	208	216.5	225	233.5	242
L2	73.7	82.2	90.7	99.2	107.7	116.2	124.7	133.2	141.7	150.2	158.7	167.2	175.7	184.2	192.7	201.2	209.7	218.2	226.7	235.2	243.7	252.2	260.7
L3	100	112.5	112.5	125	137.5	137.5	150	162.5	162.5	175	187.5	187.5	200	212.5	212.5	225	237.5	237.5	250	262.5	275	275	287.5
L4	110.5	123	123	135.5	148	148	160.5	173	173	185.5	198	198	210.5	223	223	235.5	248	248	260.5	273	285.5	285.5	298

Flat Ribbon Cable

P kit

Slim Compact
Plug-in Manifold
Bar Base



MIL Standard

- 26 pins, 20 pins
- Cable length:
  1.5 m, 3 m, 5 m

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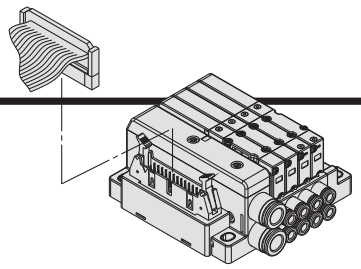
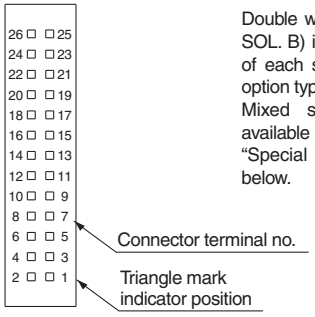
P Series S0700 Slim Compact Plug-in Manifold Bar Base kit (Flat Ribbon Cable)



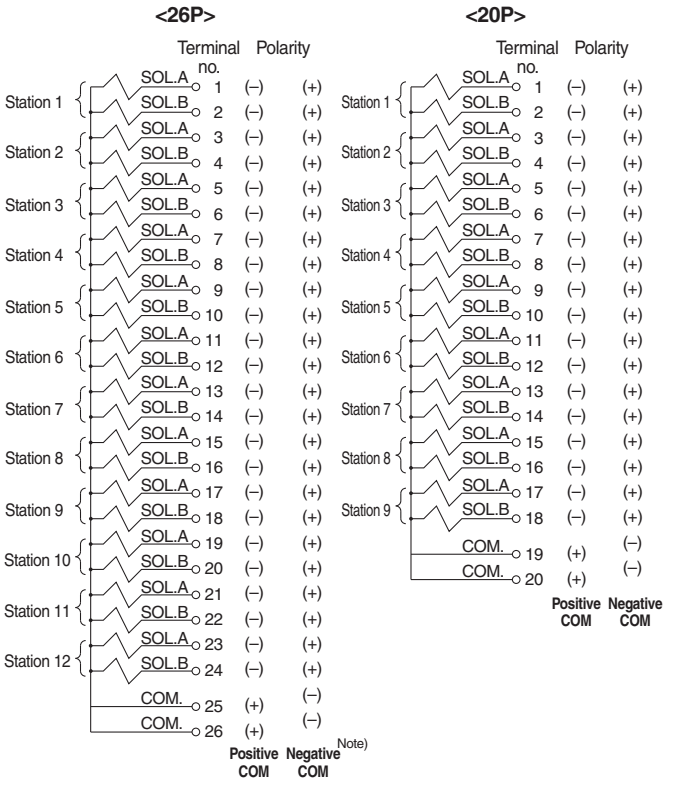
- **Flat ribbon cable connector reduces installation labor for electrical connection.**
- **Using the connector for flat ribbon cable (26P, 20P) conforming to MIL standard permits the use of connectors put on the market and gives a wide interchangeability.**

Electrical Wiring Specifications

Flat ribbon cable connector



Double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station, regardless of valve and option types.
Mixed single and double wiring is available as an option. For details, refer to "Special Wiring Specifications" (Option) below.

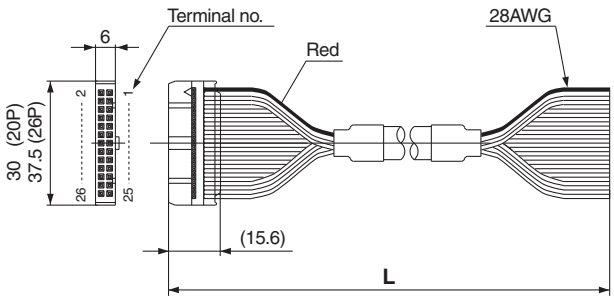


Note) Mounting valve has no polarity. It can also be used as a negative common.

Cable Assembly

AXT100-FC $\begin{matrix}20\\26\end{matrix}$ - $\begin{matrix}1\\2\\3\end{matrix}$

(Type 26P flat ribbon cable connector assemblies can be ordered with manifolds. Refer to "How to Order Manifold.")



Flat Ribbon Cable Connector Assembly (Option)

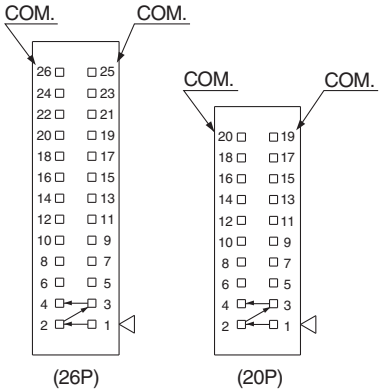
Cable length (**L**)	Assembly part no.	
	26P	20P
1.5 m	AXT100-FC26-1	AXT100-FC20-1
3 m	AXT100-FC26-2	AXT100-FC20-2
5 m	AXT100-FC26-3	AXT100-FC20-3

∗ For other commercial connectors, use a 20- or 26-pin type with strain relief conforming to MIL-C-83503.
∗ Cannot be used for movable wiring.

Connector manufacturers' example

- Hirose Electric Co., Ltd.
- Sumitomo 3M Limited
- Fujitsu Limited
- Japan Aviation Electronics Industry, Ltd.
- J.S.T. Mfg. Co., Ltd.
- Oki Electric Cable Co., Ltd.

Special Wiring Specifications (Option) [-K]



Mixed single and double wiring are available as an option. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 24 for 26P, 18 for 20P.

1. How to Order valves
Indicate an option symbol, -K, for the manifold part number and be sure to specify the mounting position and number of stations of the single and double wiring on the manifold specification sheet.

2. Wiring specifications
Connector terminal numbers are connected from solenoid station 1 on the A side in the order indicated by the arrows without skipping any terminal numbers.

How to Order Manifold

SS0751 – 08 C4 C8 PD1 – □

Stations

Symbol	Stations
01	1 station
⋮	⋮
24	24 stations

Note) The maximum number of stations will be different depending on the wiring specifications.

Cylinder port size

Symbol	Port size	
C2	With ø2 one-touch fitting	Metric
C3	With ø3.2 one-touch fitting	
C4	With ø4 one-touch fitting	
N1	With ø1/8" one-touch fitting	Inch
N3	With ø5/32" one-touch fitting	

P, R port size

Symbol	Port size	
Nil	With ø8 one-touch fitting Note)	Metric
C6	With ø6 one-touch fitting	
C8	With ø8 one-touch fitting	
N7	With ø1/4" one-touch fitting	Inch
N9	With ø5/16" one-touch fitting	

Note) The cylinder port is ø5/16" when measured in inches.

Option

Symbol	Specifications
Nil	None
D	With DIN rail (Rail length: Standard)
D0	Without DIN rail (With bracket)
D□ Note 2)	With DIN rail Designated length (□: Station)
K Note 3)	Special wiring specifications (Except double wiring)
R Note 4)	External pilot
S	Built-in silencer

Note 1) When two or more options are specified, indicate them alphabetically. Example) -DKR
Note 2) The available number of stations is larger than the number of manifold stations.
Note 3) Indicate the wiring specifications for mixed single and double wirings.
Note 4) For details, refer to page 27.
* **For manifold optional parts, refer to pages 26 to 27.**
* **For manifold exploded view, refer to page 29.**

Kit type/Cable length

Kit type	Symbol	Specifications	Standard station	Max. number of stations for special wiring specifications	Max. number of solenoids
P kit	PD0	Flat ribbon cable (26P), without cable	1 to 12 stations	24 stations	24
	PD1	Flat ribbon cable (26P), with 1.5 m cable			
	PD2	Flat ribbon cable (26P), with 3.0 m cable			
	PD3	Flat ribbon cable (26P), with 5.0 m cable			
	PDC	Flat ribbon cable (20P), without cable	1 to 9 stations	18 stations	18

Note) The maximum number of stations is determined by the total number of solenoids.
For mixed single and double wirings, enter "-K" to the order code options.

Type of actuation	Single	Double, Dual 3-port
Number of solenoids	1	2

How to Order Valves

S07 1 1 □ – 5

Type of actuation

Symbol	Specifications
1	2-position single
2	2-position double
A	4-position dual 3-port (N.C. + N.C.) [Exhaust center]
B	4-position dual 3-port (N.O. + N.O.) [Pressure center]
C	4-position dual 3-port (N.C. + N.O.)

Note) For symbol, refer to page 7.

Voltage

Symbol	Specifications
5	24 VDC
6	12 VDC

Function

Symbol	Specifications
Nil	Standard
R	External pilot Note)

Note) Not compatible with dual 3-port valves.

Base mounted plug-in

How to Order Manifold Assembly

Specify the part numbers for valves and options together beneath the manifold base part number.

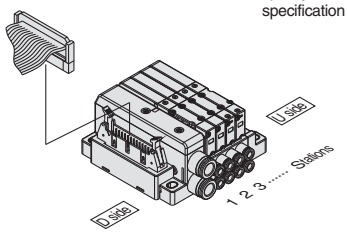
<Example>

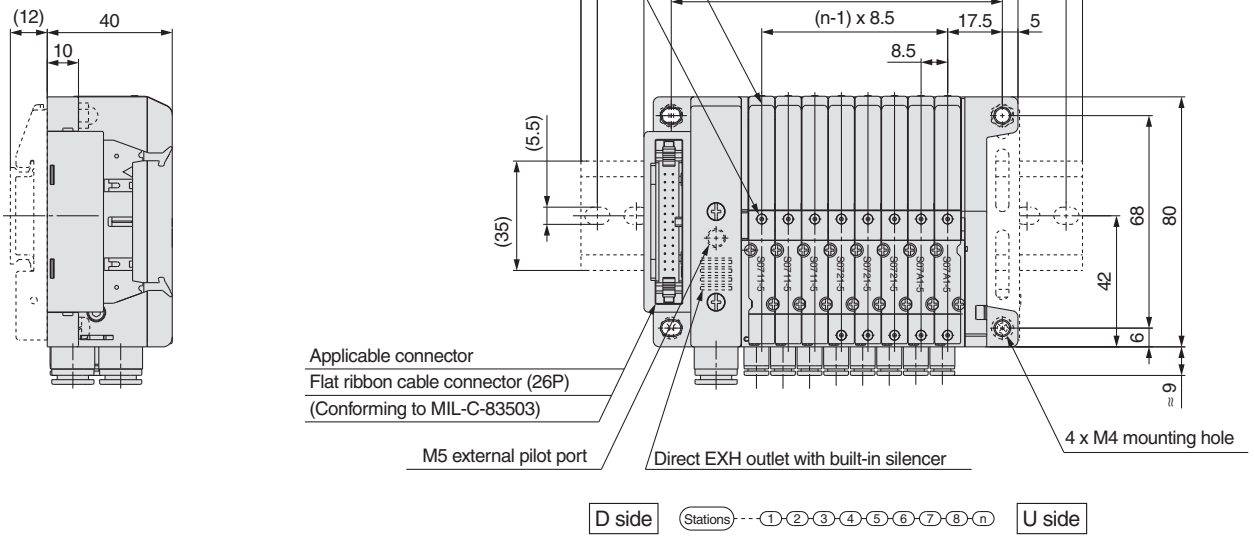
Flat ribbon cable kit

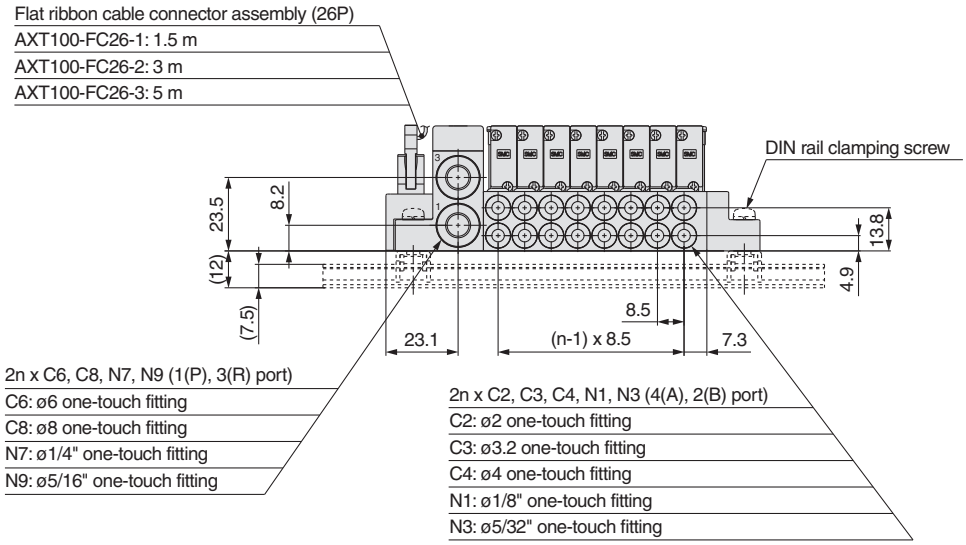
SS0751-08C4C8PD1·····1 set – Manifold base part no.
* **S0711-5·····2 sets – Valve part no. (Stations 1 to 3)**
* **S0721-5·····4 sets – Valve part no. (Stations 4 to 5)**
* **S07A1-5·····1 set – Valve part no. (Stations 6 to 7)**
* **SS0700-10A-3·····1 set – Blanking plate part no. (Station 8)**

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

Write sequentially from the 1st station on the D side. When part nos. written collectively are complicated, specify on the manifold specification sheet.







Dimensions

Formula L1 = 8.5n + 38, L2 = 8.5n + 51.7 n: Station (Maximum 24 stations)

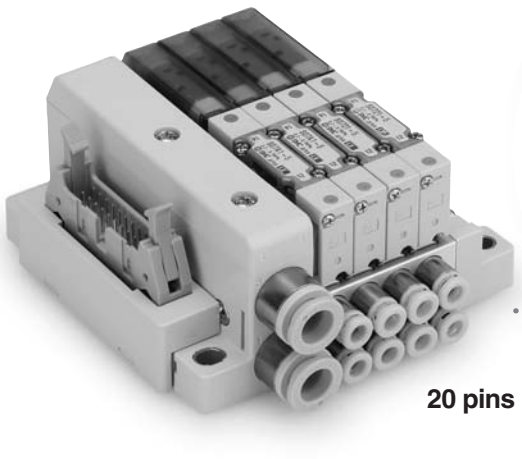
L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	55	63.5	72	80.5	89	97.5	106	114.5	123	131.5	140	148.5	157	165.5	174	182.5	191	199.5	208	216.5	225	233.5	242
L2	68.7	77.2	85.7	94.2	102.7	111.2	119.7	128.2	136.7	145.2	153.7	162.2	170.7	179.2	187.7	196.2	204.7	213.2	221.7	230.2	238.7	247.2	255.7
L3	100	100	112.5	125	137.5	137.5	150	150	162.5	175	175	187.5	200	200	212.5	225	225	237.5	250	250	262.5	275	275
L4	110.5	110.5	123	135.5	148	148	160.5	160.5	173	185.5	185.5	198	210.5	210.5	223	235.5	235.5	248	260.5	260.5	273	285.5	285.5

PC Wiring System Compatible Flat Ribbon Cable

J kit

CE

Slim Compact Plug-in Manifold Bar Base



20 pins

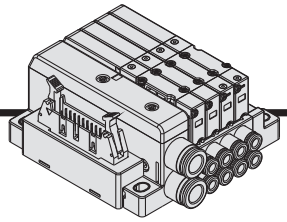
MIL Standard

20 pins

PC wiring system compatible

Page 23

J Series S0700 Slim Compact Plug-in Manifold Bar Base kit (PC Wiring System Compatible Flat Ribbon Cable)

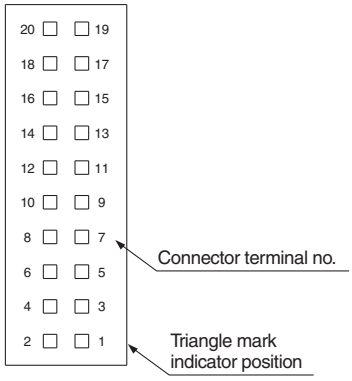


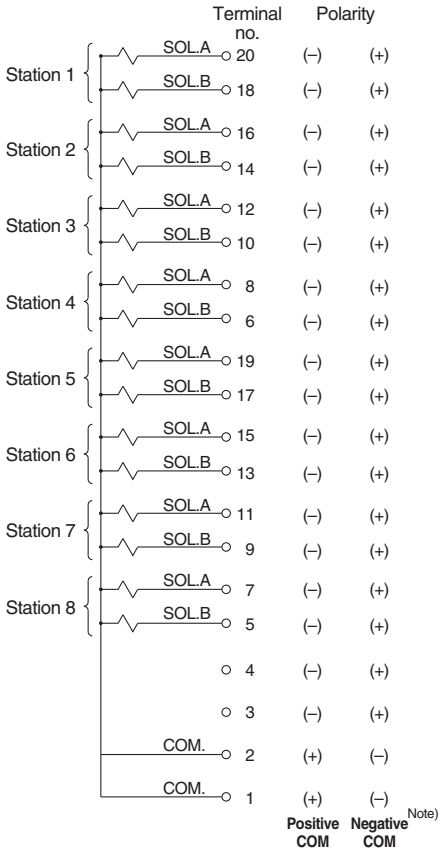
- **Compatible with PC wiring system.**
- **Using connector for flat ribbon cable (20P) conforming to MIL standard permits the use of connectors put on the market and gives a wide interchangeability.**
- **Top or side receptacle position can be selected in accordance with the available mounting space.**

Electrical Wiring Specifications

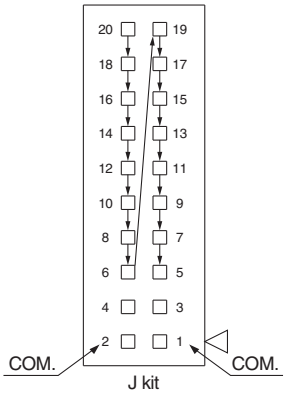
Double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station, regardless of valve and option types.
Mixed single and double wiring is available as an option.
For details, refer to "Special Wiring Specifications" (Option) below.

Flat ribbon cable connector





Special Wiring Specifications (Option) [-K]



J kit
Flat ribbon cable connector (20P)
PC wiring system compatible

Mixed single and double wiring are available as an option. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 16.

1. How to Order valves

Indicate an option symbol, -K, for the manifold part number and be sure to specify the mounting position and number of stations of the single and double wiring on the manifold specification sheet.

2. Wiring specifications

Connector terminal numbers are connected from solenoid station 1 on the A side in the order indicated by the arrows without skipping any terminal numbers.

Note) Mounting valve have no polarity. It can also be used as a negative common.
For details about the PC wiring system, refer to catalog CAT.ES02-20 separately.

How to Order Manifold

SS0751 − 08 C4 C8 JD0 − □

Stations

Symbol	Stations
01	1 station
⋮	⋮
16	16 stations

Note) The maximum number of stations will be different depending on the wiring specifications.

Cylinder port size

Symbol	Port size	
C2	With ø2 one-touch fitting	Metric
C3	With ø3.2 one-touch fitting	
C4	With ø4 one-touch fitting	
N1	With ø1/8" one-touch fitting	Inch
N3	With ø5/32" one-touch fitting	

P, R port size

Symbol	Port size	
Nil	With ø8 one-touch fitting Note)	Metric
C6	With ø6 one-touch fitting	
C8	With ø8 one-touch fitting	
N7	With ø1/4" one-touch fitting	Inch
N9	With ø5/16" one-touch fitting	

Note) The cylinder port is ø5/16" when measured in inches.

Option

Symbol	Specifications
Nil	None
D	With DIN rail (Rail length: Standard)
D0	Without DIN rail (With bracket)
D□ Note 2)	With DIN rail Designated length (□: Station)
K Note 3)	Special wiring specifications (Except double wiring)
R Note 4)	External pilot
S	Built-in silencer

Note 1) When two or more options are specified, indicate them alphabetically. Example) -DKR
Note 2) The available number of stations is larger than the number of manifold stations.
Note 3) Indicate the wiring specifications for mixed single and double wirings.
Note 4) For details, refer to page 27.
∗ **For manifold optional parts, refer to pages 26 to 27.**
∗ **For manifold exploded view, refer to page 29.**

Kit type

Kit type	Symbol	Specifications	Standard station	Max. number of stations for special wiring specifications	Max. number of solenoids
J kit	**JD0**	Flat ribbon cable (20P) PC wiring system compatible Note 1)	1 to 8 stations	16 stations	16

Note 1) Separately order the 20P type cable assembly for the J kit.
Note 2) The maximum number of stations is determined by the total number of solenoids. For mixed single and double wirings, enter "-K" to the order code options.

Type of actuation	Single	Double, Dual 3-port
Number of solenoids	1	2

How to Order Valves

S07 1 1 □ − 5

Type of actuation

Symbol	Specifications
1	2-position single
2	2-position double
A	4-position dual 3-port (N.C. + N.C.) [Exhaust center]
B	4-position dual 3-port (N.O. + N.O.) [Pressure center]
C	4-position dual 3-port (N.C. + N.O.)

Note) For symbol, refer to page 7.

Voltage

Symbol	Specifications
5	24 VDC
6	12 VDC

Function

Symbol	Specifications
Nil	Standard
R	External pilot Note)

Note) Not compatible with dual 3-port valves.

Base mounted plug-in

How to Order Manifold Assembly

Specify the part numbers for valves and options together beneath the manifold base part number.

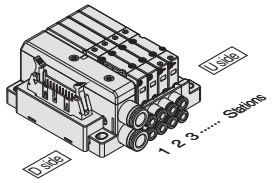
<Example>

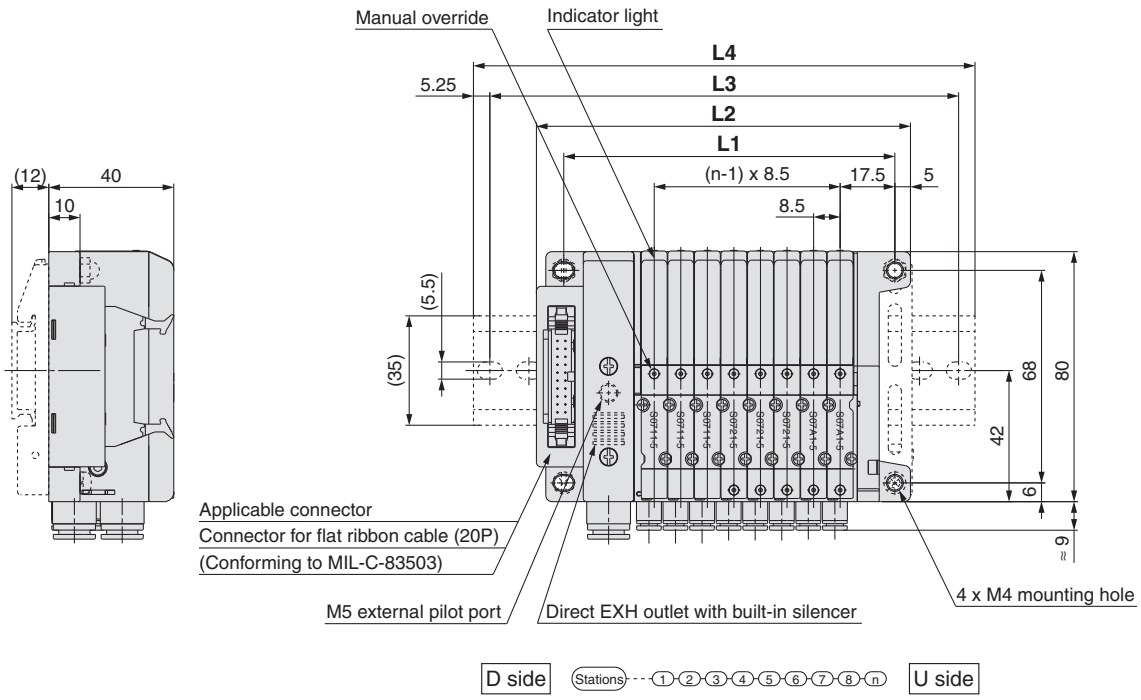
Flat ribbon cable kit

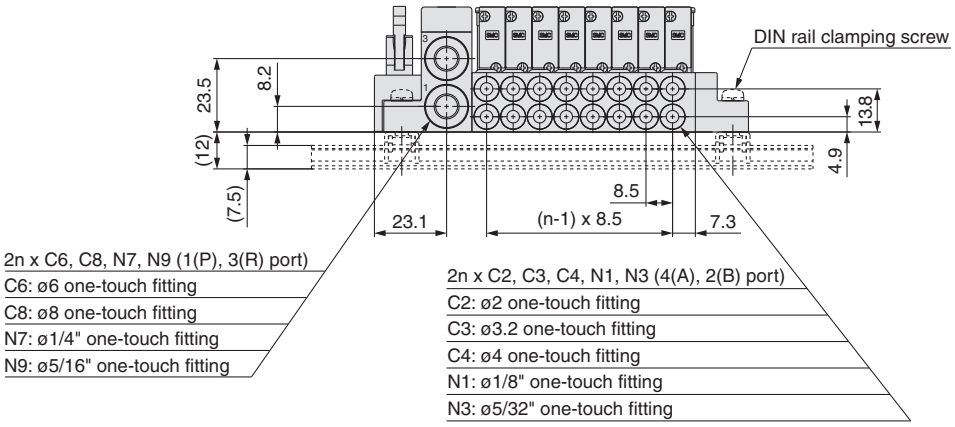
SS0751-08C4C8JD0··· 1 set – Manifold base part no.
∗ **S0711-5····· 3 sets – Valve part no. (Stations 1 to 3)**
∗ **S0721-5····· 2 sets – Valve part no. (Stations 4 to 7)**
∗ **S07A1-5····· 2 sets – Valve part no. (Stations 6 to 7)**
∗ **SS0700-10A-3····· 1 set – Blanking plate part no. (Station 8)**

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

Write sequentially from the 1st station on the D side. When part nos. written collectively are complicated, specify on the manifold specification sheet.







Dimensions

Formula L1 = 8.5n + 38, L2 = 8.5n + 51.7 n: Station (Maximum 16 stations)

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	55	63.5	72	80.5	89	97.5	106	114.5	123	131.5	140	148.5	157	165.5	174
L2	68.7	77.2	85.7	94.2	102.7	111.2	119.7	128.2	136.7	145.2	153.7	162.2	170.7	179.2	187.7
L3	100	100	112.5	125	137.5	137.5	150	150	162.5	175	175	187.5	200	200	212.5
L4	110.5	110.5	123	135.5	148	148	160.5	160.5	173	185.5	185.5	198	210.5	210.5	223

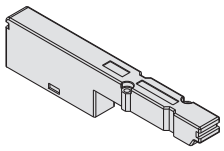
Manifold Optional Parts

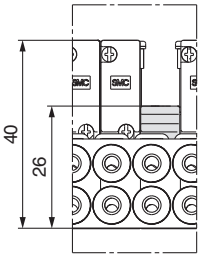
Blanking plate assembly

SS0700-10A-3

It is used by attaching on the manifold block for being prepared for removing a valve for maintenance reasons or planning to mount a spare valve, etc.

Weight: 0.3 oz (8 g)





Individual SUP spacer

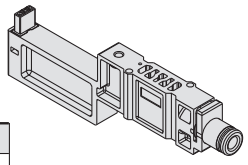
SS0700-P-3-C □

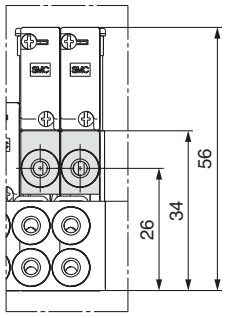
Mounted on the manifold block to make an independent supply port when each solenoid valve uses different operating pressure.

Weight: 0.53 oz (15 g)

Port size

Symbol	Applicable tube
C2	Applicable tube ø2
C3	Applicable tube ø3
C4	Applicable tube ø4
N1	Applicable tube ø1/8"
N3	Applicable tube ø5/32"





Individual EXH spacer

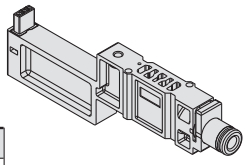
SS0700-R-3-C □

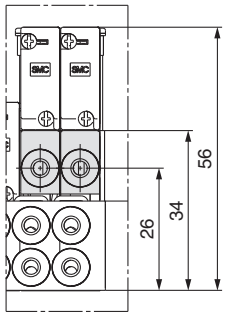
Mounted on the manifold block to make an independent exhaust port when the exhaust from one valve affects valves on other stations in the air circuit.

Weight: 0.53 oz (15 g)

Port size

Symbol	Applicable tube
C2	Applicable tube ø2
C3	Applicable tube ø3
C4	Applicable tube ø4
N1	Applicable tube ø1/8"
N3	Applicable tube ø5/32"





Blanking plate with output

SS0700-1C3-□

Lead wire length (mm)

Nil	600
10	1000
15	1500
20	2000
25	2500
30	3000

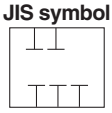
Blanking plate with a connector for individually outputting electricity to drive a single valve or equipment that are not on the manifold base.

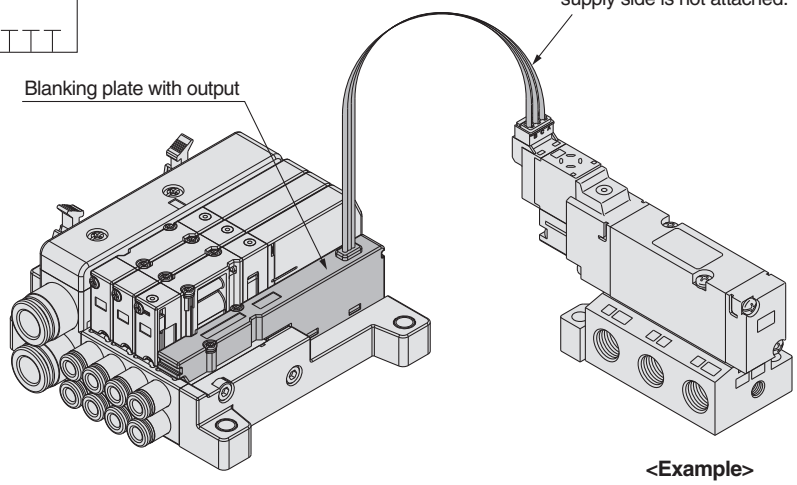
Note 1) Electric current should be 0.5 A or less. (Including the mounted valves) When the current is output from two positions at the same time, the current should be 0.25 A or less.

Note 2) Please consult with SMC for the max. allowable current for serial transmission kit.

Weight: 0.8 oz (23 g)

JIS symbol





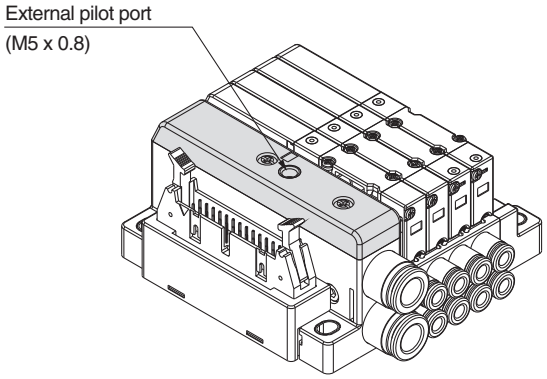
<Example>

External pilot [-R]

This can be used when the air pressure is 14.5 to 29.0 psi (0.1 to 0.2 MPa) lower than the minimum operating pressure of the solenoid valves or used for vacuum specifications.
Add R to the part numbers of manifolds and valves to indicate the external pilot specifications.
An M5 port will be installed on the top side of the manifold's SUP/EXH block.

● How to Order Valves (Example)
● S0710 R -5
External pilot

● How to Order Manifold (Example)
∗ Indicate R for an option.
● SS0750-08C4FD1-R
External pilot

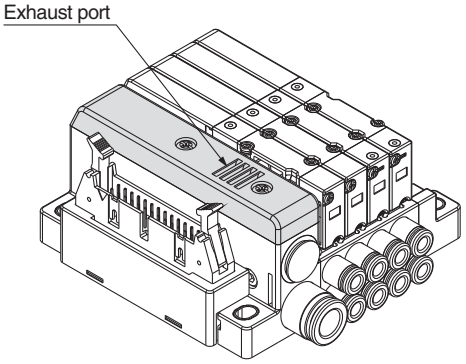


Note 1) Not compatible with dual 3-port valves.
Note 2) When the internal pilot type and external pilot type of valves are mixed up on the manifold, order the manifold suitable for the specifications of the external pilot valve.
Note 3) Valves with the external pilot have a pilot EXH with individual exhaust specifications and EXH can be pressurized. However, the pressure supplied from EXH should be 0.4 MPa or lower.

Direct EXH outlet with built-in silencer [-S]

This is a type with an exhaust port atop the manifold end plate. The built-in silencer exhibits an excellent noise suppression effect. (Noise reduction: 30 dB)

Note) A large quantity of drainage generated in the air source results in exhaust of air together with drainage.
∗ When ordering this option incorporated with a manifold, suffix "-S" to the end of the manifold part number.
∗ For precautions on handling and how to replace elements, refer to "Specific Product Precautions."

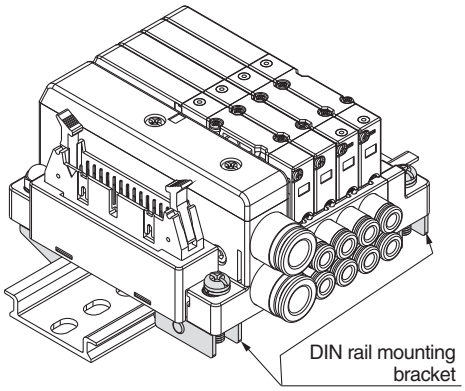


DIN rail mounting bracket

SS0700 – 57A – 3

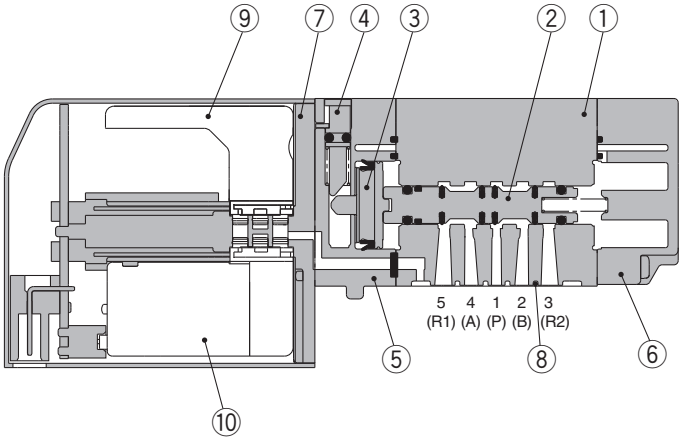
It is used for mounting a manifold on a DIN rail. The DIN rail mounted bracket is fixed to the manifold end plate. (The specification is the same as that for the option "-D".)
1 set of DIN rail mounting bracket is included for 1 manifold (2 or 3 DIN rail mounting brackets (S, T kit)).

∗ When ordering this option incorporated with a manifold, suffix "D" to the end of the manifold part number.

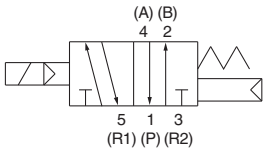


Construction

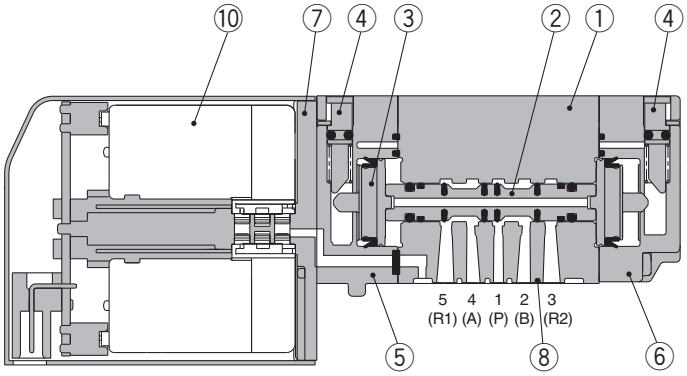
Single: S0711



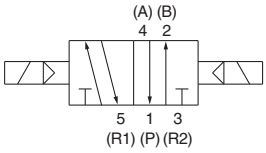
S0711



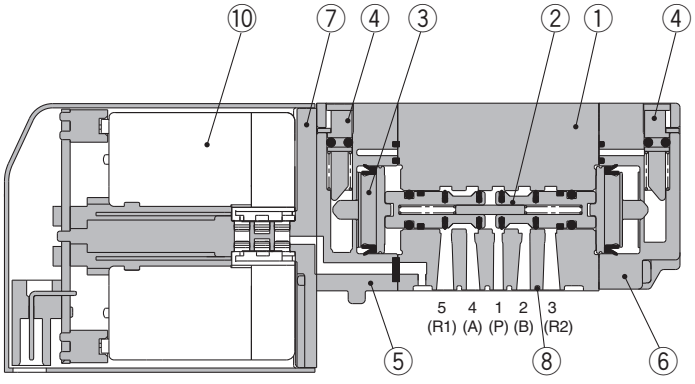
Double: S0721



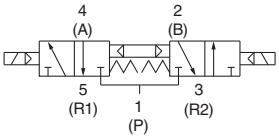
S0721



Dual 3-Port: S07B1 (A / C)

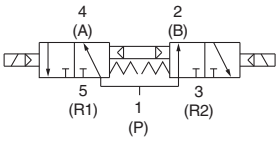


S07A1



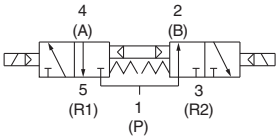
N.C. + N.C.

S07B1



N.O. + N.O.

S07C1



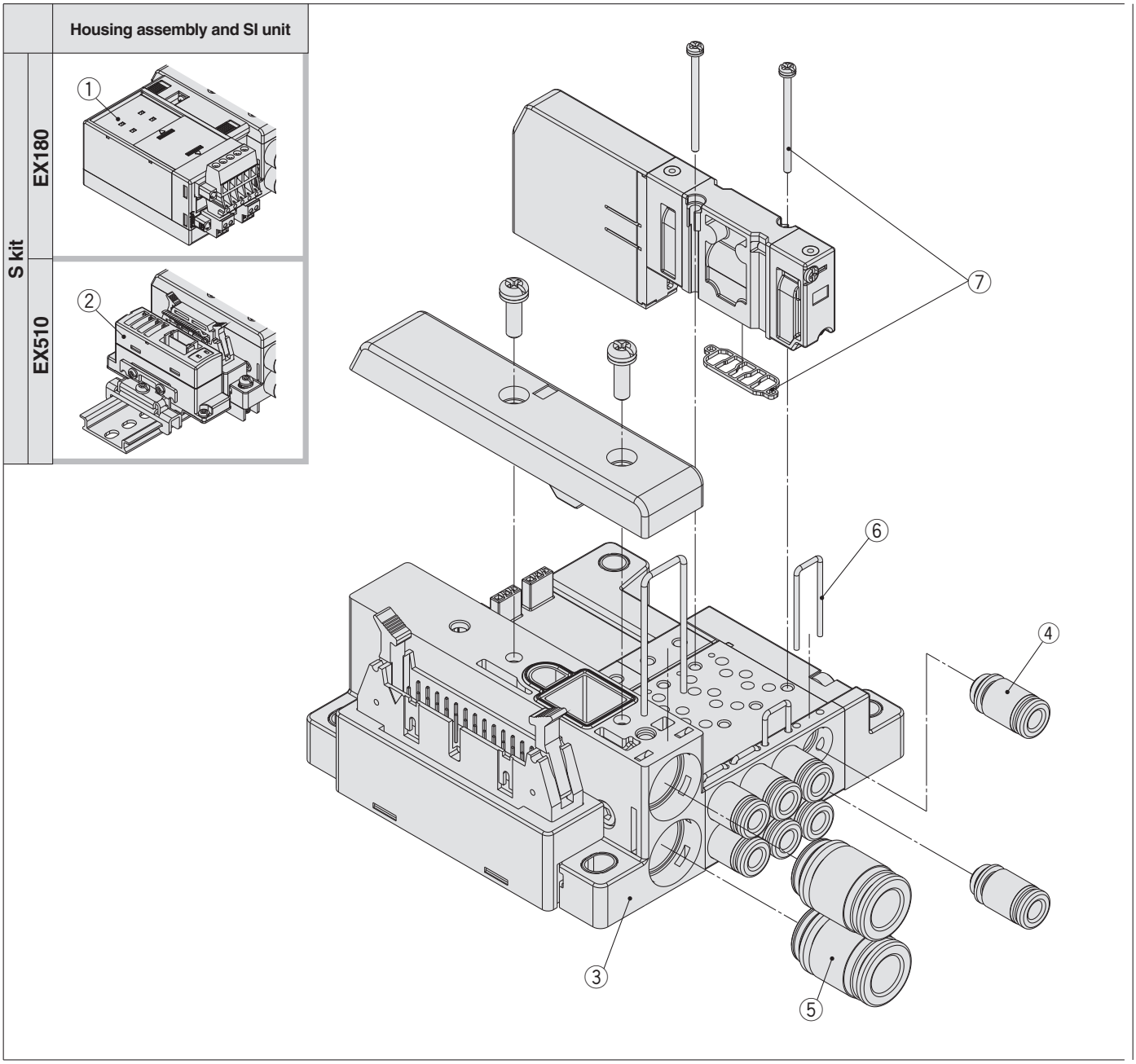
N.C. + N.O.

Component Parts

No.	Description	Material
1	**Body**	Zinc die-casted
2	**Spool**	Aluminum
3	**Piston**	Resin
4	**Manual override**	Resin
5	**Adapter plate**	Resin
6	**End plate**	Resin
7	**Pilot spacer**	Resin
8	**Interface gasket**	HNBR
9	**Plate**	Resin
10	**Pilot valve assembly** Note)	—

Note) Please consult with SMC for pilot valve replacement.

Manifold Exploded View



∗ It is not possible to increase or decrease the number of stations or change the wiring kit on the slim compact plug-in manifold bar base.
To change them, please change the entire base unit.

Manifold Assembly Part No.

No.	Description	Part no.	Note
①	**SI unit**	**EX180-SDN3**	DeviceNet™ 32 outputs NPN (positive common) T-branch type communication connector
		EX180-SDN3A	DeviceNet™ 32 outputs NPN (positive common) Straight type communication connector
		EX180-SDN4	DeviceNet™ 16 outputs NPN (positive common) T-branch type communication connector
		EX180-SDN4A	DeviceNet™ 16 outputs NPN (positive common) Straight type communication connector
		EX180-SMJ3	CC-Link 32 outputs NPN (positive common) T-branch type communication connector
		EX180-SMJ3A	CC-Link 32 outputs NPN (positive common) Straight type communication connector
		EX180-SDN5	DeviceNet™ 32 outputs PNP (negative common) T-branch type communication connector
		EX180-SDN5A	DeviceNet™ 32 outputs PNP (negative common) Straight type communication connector
		EX180-SDN6	DeviceNet™ 16 outputs PNP (negative common) T-branch type communication connector
		EX180-SDN6A	DeviceNet™ 16 outputs PNP (negative common) Straight type communication connector
		EX180-SMJ5	CC-Link 32 outputs PNP (negative common) T-branch type communication connector
		EX180-SMJ5A	CC-Link 32 outputs PNP (negative common) Straight type communication connector
②	**SI unit**	**EX510-S002A**	NPN (Positive common)
		EX510-S102A	PNP (Negative common)
③	**Base unit**	**SS0751-□□□□**	Refer to "How to Order" for each kit.

④ Fitting assembly part number for cylinder port

VVQ0000 −50A−□

Port size

Symbol	Applicable tube
C2	Applicable tube ø2
C3	Applicable tube ø3
C4	Applicable tube ø4
N1	Applicable tube ø1/8"
N3	Applicable tube ø5/32"

Note 1) Purchasing order is available in units of 10 pieces.
Note 2) For one-touch fittings replacement, refer to "Specific Product Precautions 3."

⑤ Fitting assembly part number for P, R port

VVQ1000 −51A−□

Port size

Symbol	Applicable tube
C6	Applicable tube ø6
C8	Applicable tube ø8
N7	Applicable tube ø1/4"
N9	Applicable tube ø5/16"

Note 1) Purchasing order is available in units of 10 pieces.
Note 2) For one-touch fittings replacement, refer to "Specific Product Precautions 3."

No.	Description	Part no.
⑥	**Clip**	**SS0700-80A-5**

Note) 1 set includes 10 pieces.

No.	Description	Part no.
⑦	**Gasket, Screw**	**S0700-GS-3**

Note) Above part number consists of 10 units. Each unit has one gasket and two screws.

Serial Transmission

S kit

Plug-in Manifold Stacking Base

For Output
Serial Transmission
System
EX260

Page 33

For Input/Output
Serial Transmission
System
EX250

Page 35

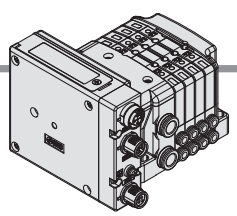
For Input/Output
Serial Transmission
System
EX600

Page 37

Gateway-type
Serial Transmission
System
EX500

Page 41

How to Order Manifold



SS0750 – 08 C4 C8 SNA N – B

❶ ❷ ❸ ❹ ❺ ❻

❶ Stations

In the case of the 32-output SI unit

Symbol	Stations	Note
01	1 station	Double wiring Note 1)
⋮	⋮	
16	16 stations	
01	1 station	Specified layout Note 2) (Available up to 32 solenoids)
⋮	⋮	
24	24 stations	

In the case of the 16-output SI unit

Symbol	Stations	Note
01	1 station	Double wiring Note 1)
⋮	⋮	
08	8 stations	
01	1 station	Specified layout Note 2) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note 1) Double wiring : single, double, 3-position and 4-position solenoid valves can be used on all manifold stations.
Up to 24 stations due to the structure of the manifold. Please note the maximum number of stations is 24 for single wiring, too.
Note 2) Specified layout: Indicate the wiring specifications with the manifold specification sheet.
(Note that double,3-position and 4-position valves cannot be used where single solenoid wiring has been specified.)
Note 3) This also includes the number of blanking plate assembly.

❷ Cylinder port size

Symbol	Port size	
C2	With ø2 one-touch fitting	Metric
C3	With ø3.2 one-touch fitting	
C4	With ø4 one-touch fitting	
CM	Mixed sizes and with port plug Note)	
N1	With ø1/8" one-touch fitting	Inch
N3	With ø5/32" one-touch fitting	
NM	Mixed sizes and with port plug Note)	

Note) Specify "Mixed sizes and with port plug" on the manifold specification sheet.

❸ P, R port size

Symbol	Port size	
Nil	With ø8 one-touch fitting Note)	Metric
C6	With ø6 one-touch fitting	
C8	With ø8 one-touch fitting	
N7	With ø1/4" one-touch fitting	Inch
N9	With ø5/16" one-touch fitting	

Note) The cylinder port is ø5/16" when measured in inches.

❹ Kit type

Symbol	Protocol	Number of outputs	Communication connector
SD0	Without SI unit		
SQA	DeviceNet™	32	M12
SQB		16	
SNA	PROFIBUS DP	32	M12
SNB		16	
SNC		32	D-sub
SND		16	
SVA	CC-Link	32	M12
SVB		16	
SDA	EtherCAT	32	M12
SDB		16	
SFA	PROFINET	32	M12
SFB		16	

Note 1) The maximum number of stations is determined by the total number of solenoids. For mixed single and double wirings, enter "-K" to the order code options.
Note 2) For SI unit part number, refer to page 76.

Type of actuation	Single	Double, Dual 3 port
Number of solenoids	1	2

❺ SI unit output polarity

Nil	Positive common
N	Negative common

❻ Option

Symbol	Specifications
Nil	None
B Note 2)	With back pressure check valve (All stations)
D	With DIN rail (Rail length: Standard)
D0	Without DIN rail (with bracket)
D□ Note 3)	With DIN rail Designated length (□: Station)
K Note 4)	Special wiring specifications (Except double wiring)
N	With name plate
R Note 5)	External pilot
S	Built-in silencer

Note 1) When two or more options are specified, indicate them alphabetically. Example) -BKN
Note 2) When installing a back pressure check valve on the required station, enter the part number and specify the station position on the manifold specification sheet.
Note 3) The available number of stations is larger than the number of manifold stations.
Note 4) Indicate the wiring specifications for mixed single and double wirings.
Note 5) For details, refer to page 69.
* **For manifold optional parts, refer to pages 69 to 73.**
* **For manifold exploded view, refer to page 75.**
* **When the "SD0" (Without SI unit) is specified, "-D", "-D□" cannot be selected.**

Refer to Fieldbus System (CAT.E02-25) for details on the EX260 Integrated-type (For Output) Serial Transmission System.

How to Order Valves

S07 1 0 □ – 5

Type of actuation

Symbol	Specifications
1	2-position single
2	2-position double
A	4-position dual 3-port (N.C. + N.C.) [Exhaust center]
B	4-position dual 3-port (N.O. + N.O.) [Pressure center]
C	4-position dual 3-port (N.C. + N.O.)

Note) For symbol, refer to page 7.

Base mounted plug-in

Function

Symbol	Specifications
Nil	Standard
R	External pilot Note)

Note) Not compatible with dual 3-port valves.

Voltage: 24 VDC

How to Order Manifold Assembly

Specify the part numbers for valves and options together beneath the manifold base part number.

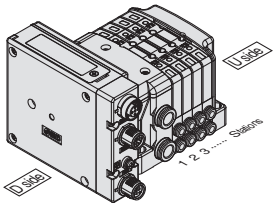
<Example>

Serial transmission kit

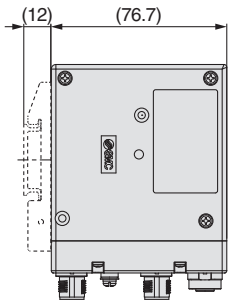
SS0750-04C4SNAN·····1 set – Manifold base part no.
*** S0720-5····· 4 sets – Valve part no. (Stations 1 to 4)**

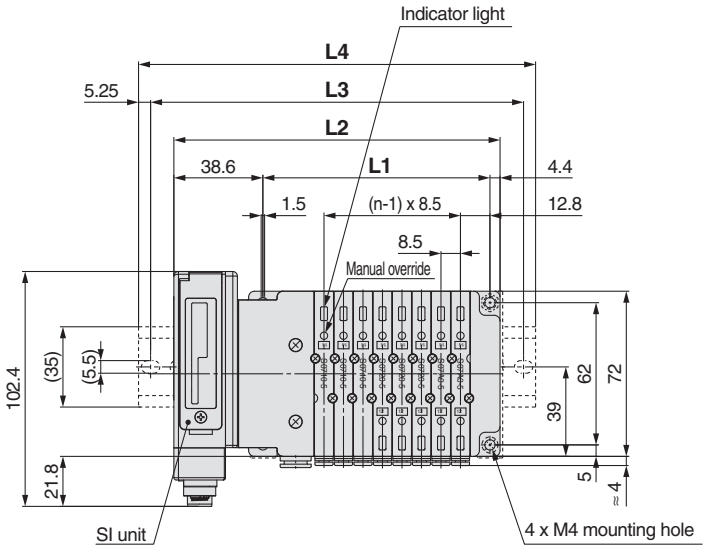
Prefix the asterisk to the part nos. of the solenoid valve, etc.

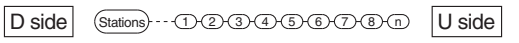
Write sequentially from the 1st station on the D side. When part nos. written collectively are complicated, specify on the manifold specification sheet.

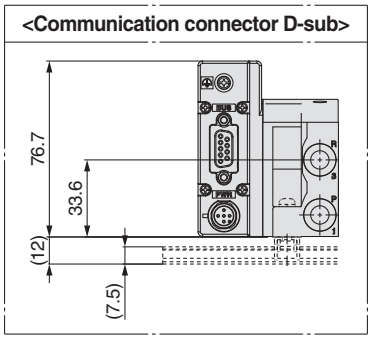


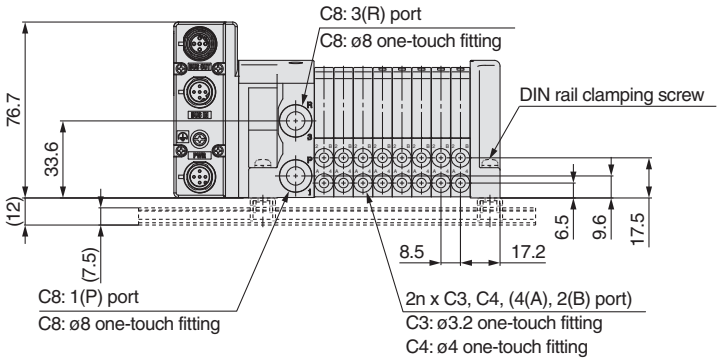
SMC











Dimensions

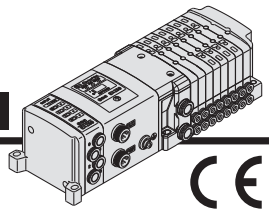
Formula L1 = 8.5n + 31, L2 = 8.5n + 74 n: Station (Maximum 24 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	39.5	48	56.5	65	73.5	82	90.5	99	107.5	116	124.5	133	141.5	150	158.5	167
L2	82.5	91	99.5	108	116.5	125	133.5	142	150.5	159	167.5	176	184.5	193	201.5	210
L3	112.5	112.5	125	137.5	137.5	150	162.5	162.5	175	187.5	187.5	200	212.5	212.5	225	237.5
L4	123	123	135.5	148	148	160.5	173	173	185.5	198	198	210.5	223	223	235.5	248

L \ n	17	18	19	20	21	22	23	24
L1	175.5	184	192.5	201	209.5	218	226.5	235
L2	218.5	227	235.5	244	252.5	261	269.5	278
L3	250	250	262.5	275	275	287.5	300	300
L4	260.5	260.5	273	285.5	285.5	298	310.5	310.5

S Series S0700 Plug-in Manifold Stacking Base kit (Serial Transmission)

EX250 (For Input/Output) Serial Transmission System



How to Order Manifold

SS0750 – 08 C4 C8 SDQ N □ □ □ – B

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Stations

Symbol	Stations
01	1 station
⋮	⋮
24 Note)	24 stations

Note) The maximum number of stations will be different depending on the wiring specifications.

② Cylinder port size

Symbol	Port size	
C2	With ø2 one-touch fitting	Metric
C3	With ø3.2 one-touch fitting	
C4	With ø4 one-touch fitting	
CM	Mixed sizes and with port plug Note)	
N1	With ø1/8" one-touch fitting	Inch
N3	With ø5/32" one-touch fitting	
NM	Mixed sizes and with port plug Note)	

Note) Specify "Mixed sizes and with port plug" on the manifold specification sheet.

③ P, R port size

Symbol	Port size	
Nil	With ø8 one-touch fitting Note)	Metric
C6	With ø6 one-touch fitting	
C8	With ø8 one-touch fitting	
N7	With ø1/4" one-touch fitting	Inch
N9	With ø5/16" one-touch fitting	

Note) The cylinder port is ø5/16" when measured in inches.

④ Kit type

Kit type		Note 2) Symbol	Specifications	Standard station	Max. number of stations for special wiring specifications	Max. number of solenoids
S kit	For I/O serial transmission	**SD0**	Without SI unit	1 to 16 stations	24 Note 3) stations	32
		SDQ	DeviceNet™			
		SDN	PROFIBUS DP			
		SDV	CC-Link			
		SDY	CANopen			
		SDZEN	EtherNet/IP™			
		SDTA	AS-Interface 31 slave, 8 in/8 out, 2 isolated common type	1 to 4 stations	8 stations	8
		SDTB	AS-Interface 31 slave, 4 in/4 out, 2 isolated common type	1 to 2 stations	4 stations	4
		SDTC	AS-Interface 31 slave, 8 in/8 out, 1 common type	1 to 4 stations	8 stations	8
		SDTD	AS-Interface 31 slave, 4 in/4 out, 1 common type	1 to 2 stations	4 stations	4

Note 1) The maximum number of stations is determined by the total number of solenoids. For mixed single and double wirings, enter "-K" to the order code options.
Note 2) For SI unit part number, refer to page 76.
Note 3) Up to 24 stations due to the structure of the manifold. Please note the maximum number of stations is 24 for single wiring, too.

Type of actuation	Single	Double, Dual 3-port
Number of solenoids	1	2

⑤ SI unit output polarity

SI unit common		EX250 DeviceNet™	PROFIBUS DP	CC-Link	AS-Interface	CANopen	EtherNet/IP™
Nil	Positive common	—	—	○	—	—	—
N	Negative common	○	○	—	○	○	○

Note) Without SI unit (SD0), the symbol is nil.

⑥ Input block (for I/O unit only)

Symbol	Specifications
Nil	SI unit/Input block: None (SD0)
0	Input block: None
1	Input block: 1 pc.
⋮	⋮
8	Input block: 8 pcs.

Note) Without SI unit (SD0), the symbol is nil.

⑦ Input block type (for I/O unit only)

Symbol	Specifications
Nil	Input block: None
1	M12 2 inputs
2	M12 4 inputs
3	M8 4 inputs (3 pins)

Note) Without SI unit (SD0), the symbol is nil.

⑧ Input block COM. (for I/O unit only)

Symbol	Specifications
Nil	PNP sensor input (Positive common) or without input block
N	NPN sensor input (Negative common)

Note) Without SI unit (SD0), the symbol is nil.

⑨ Option

Symbol	Specifications
Nil	None
B Note 2)	With back pressure check valve (All stations)
D	With DIN rail (Rail length: Standard)
D0	Without DIN rail (With bracket)
D□ Note 3)	With DIN rail Designated length (□: Station)
K Note 4)	Special wiring specifications (Except double wiring)
N	With name plate
R Note 5)	External pilot
S	Built-in silencer

Note 1) When two or more options are specified, indicate them alphabetically. Example) -BKN
Note 2) When installing a back pressure check valve on the required station, enter the part number and specify the station position on the manifold specification sheet.
Note 3) The available number of stations is larger than the number of manifold stations.
Note 4) Indicate the wiring specifications for mixed single and double wirings.
Note 5) For details, refer to page 69.
∗ **For manifold optional parts, refer to pages 69 to 73.**
∗ **For manifold exploded view, refer to page 75.**

Refer to Reduced Wiring Fieldbus System (Serial Transmission) in Electric Products (CAT.E150) for details on the EX250 Integrated-type (For Input/Output) Serial Transmission System.

How to Order Manifold Assembly

Specify the part numbers for valves and options together beneath the manifold base part number.

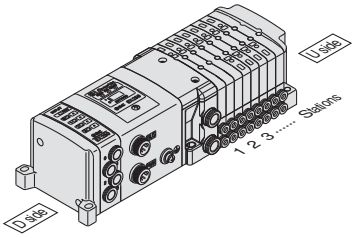
<Example>

Serial transmission kit

SS0750-08C4SDQN13N 1 set – Manifold base part no.
∗ **S0710-5····· 3 sets – Valve part no. (Stations 1 to 3)**
∗ **S0720-5····· 2 sets – Valve part no. (Stations 4 to 5)**
∗ **S07A0-5····· 2 sets – Valve part no. (Stations 6 to 7)**
∗ **SS0700-10A-1····· 1 set – Blanking plate part no. (Station 8)**

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

Write sequentially from the 1st station on the D side. When part nos. written collectively are complicated, specify on the manifold specification sheet.



How to Order Valves

S07 1 0 □ – 5

Type of actuation

Symbol	Specifications
1	2-position single
2	2-position double
A	4-position dual 3-port (N.C. + N.C.) [Exhaust center]
B	4-position dual 3-port (N.O. + N.O.) [Pressure center]
C	4-position dual 3-port (N.C. + N.O.)

Note) For symbol, refer to page 7.

Base mounted plug-in

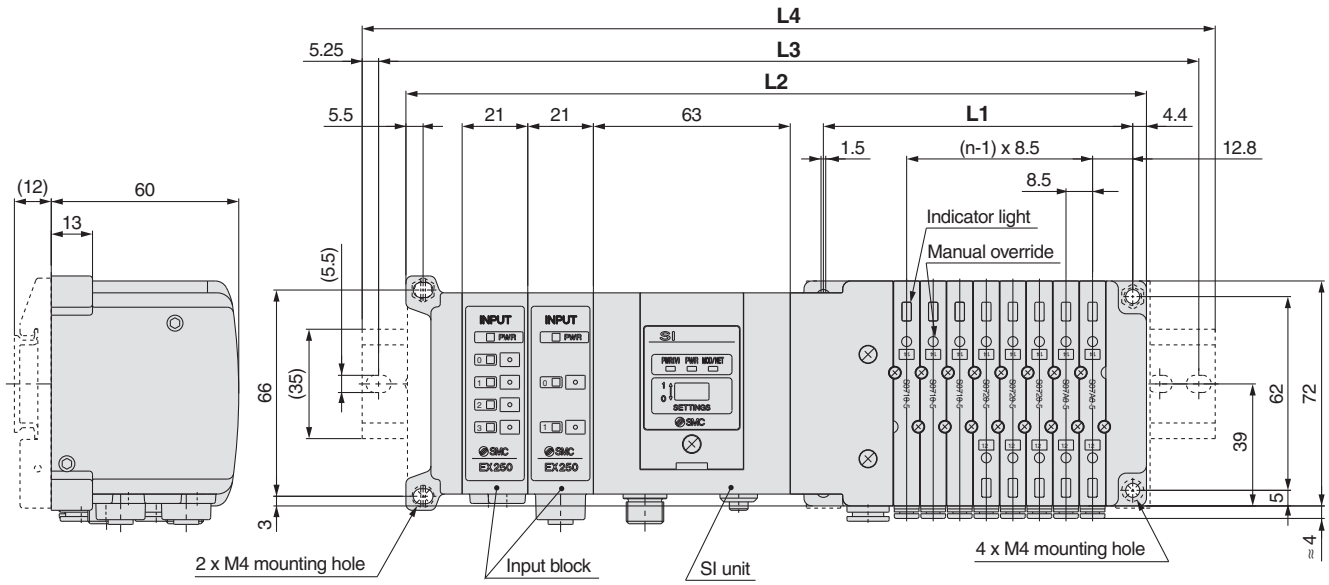
Function

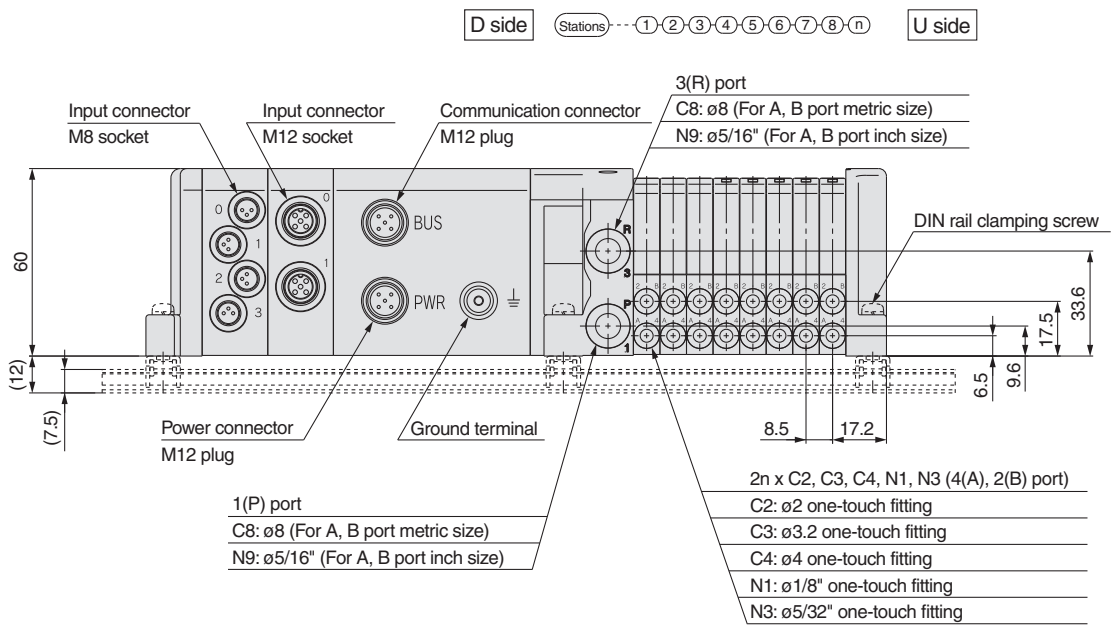
Symbol	Specifications
Nil	Standard
R	External pilot Note)

Note) Not compatible with dual 3-port valves.

Voltage: 24 VDC

SMC

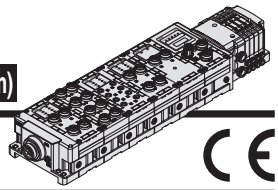




Dimensions Formula L1 = 8.5n + 31, L2 = 8.5n + 169 (In the case of 2 input blocks, 21 mm is added per 1 pc.) n: Station (Maximum 24 stations)

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	48	56.5	65	73.5	82	90.5	99	107.5	116	124.5	133	141.5	150	158.5	167
L2	186	194.5	203	211.5	220	228.5	237	245.5	254	262.5	271	279.5	288	296.5	305
L3	212.5	225	225	237.5	250	250	262.5	275	275	287.5	300	300	312.5	325	325
L4	223	235.5	235.5	248	260.5	260.5	273	285.5	285.5	298	310.5	310.5	323	335.5	335.5

L \ n	17	18	19	20	21	22	23	24
L1	175.5	184	192.5	201	209.5	218	226.5	235
L2	313.5	322	330.5	339	347.5	356	364.5	373
L3	337.5	350	350	362.5	375	387.5	387.5	400
L4	348	360.5	360.5	373	385.5	398	398	410.5



How to Order Manifold

SS0750 – 08 C4 SD6Q 2 N 1 – B

Stations

Symbol	Stations
01	1 station
⋮	⋮
24 Note)	24 stations

Note) Max. number of stations depends on the wiring specifications.

Cylinder port size

Symbol	Port size	
C2	With ø2 one-touch fitting	Metric
C3	With ø3.2 one-touch fitting	
C4	With ø4 one-touch fitting	
CM	Mixed sizes and with port plug Note)	
N1	With ø1/8" one-touch fitting	Inch
N3	With ø5/32" one-touch fitting	
NM	Mixed sizes and with port plug Note)	

Note) Indicate the sizes on the manifold specification sheet in the case of CM and NM.

Kit type

Kit type	Symbol	Specifications	Standard station	Max. number of stations for special wiring specifications	Max. number of solenoids
S kit	**SD60**	Without SI unit	1 to 16 stations	24 stations Note 3)	32
	SD6Q	DeviceNet™			
	SD6N	PROFIBUS DP			
	SD6V	CC-Link			
	SD6ZE	EtherNet/IP™			
	SD6D	EtherCAT			

Note 1) Max. station number depends on the number of solenoid valve.
Add the option symbol "-K" when the combination of single wiring and double wiring is specified.
• When "Without SI unit" is specified, valve plate to connect the manifold and SI unit is not mounted. Refer to page 94 for mounting method.
• I/O unit cannot be chosen without SI unit.
Note 2) For SI unit part number, refer to page 76.
Note 3) Up to 24 stations due to the structure of the manifold. Please note the maximum number of stations is 24 for single wiring, too.

Type of actuation	Single	Double, Dual 3-port
Number of solenoid valves	1	2

End plate type

Nil	No end plate
2	Power supply with M12 connector (Max. supplied current 2 A)
3	Power supply with 7/8 inch connector (Max. supplied current 8 A)

Note) Without SI Unit, the symbol is nil.

Option

Symbol	Specifications
Nil	None
B Note 2)	With back pressure check valve (All sta.)
D	With DIN rail (Rail length: Standard)
D0	With DIN rail bracket (Without rail)
D□ Note 3)	With DIN rail length specified (□: Sta.)
K Note 4)	Special wiring specifications (Except double wiring)
N	With name plate
R	External pilot
S	Built-in silencer

Note 1) When two or more symbols are specified, indicate them alphabetically. Example) -BKN
Note 2) When back pressure check valve is used only for specified station, specify back pressure check valve part number, and specify station number to which the valve is mounted on the manifold specification sheet.
Note 3) Specified station number shall be longer than manifold station number.
Note 4) When single wiring and double wiring are mixed, specify wiring type of each station with the manifold specification sheet.
Note 5) When "Without SI unit (SD60)" is specified, "With DIN rail (D)" cannot be selected.

I/O unit station number

Nil	None
1	1 station
⋮	⋮
9	9 stations

Note 1) Without SI unit, the symbol is nil.
Note 2) SI unit is not included in I/O unit station number.
Note 3) When I/O unit is selected, it is shipped separately, and assembled by customer. Refer to the attached operation manual for mounting method.

SI unit output polarity

Nil	Positive common
N	Negative common

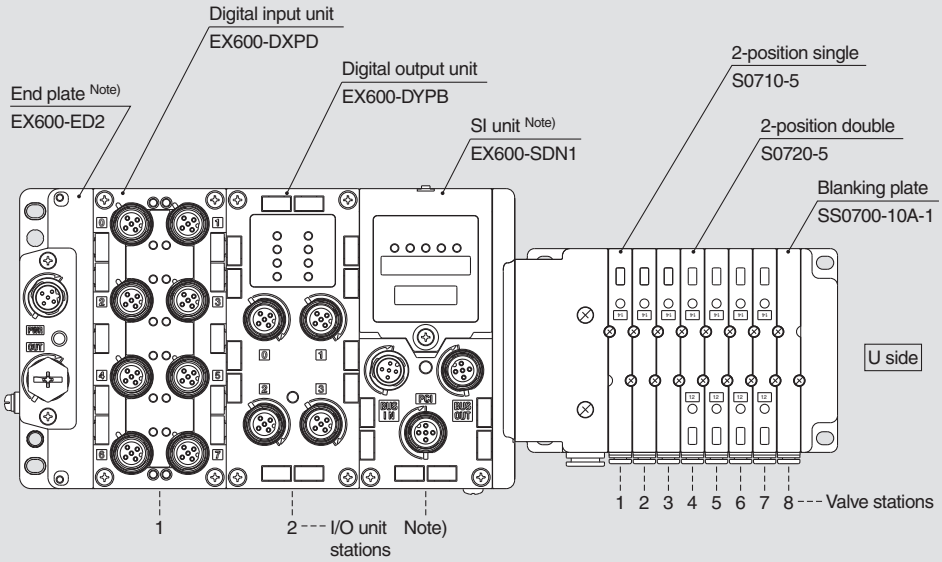
Note) Without SI unit the symbol is nil.

Refer to Fieldbus System (For Input/Output) catalog CAT.E02-24 for details on the EX600 Integrated-type (For I/O) Serial Transmission System.

How to Order Manifold Assembly (Example)

Example

Serial transmission kit



For the I/O unit part numbr mounted, refer to CAT.E02-24 catalog.

- Digital input unit
- Digital output unit
- Digital I/O unit
- Analog input unit
- Analog output unit
- Analog I/O unit

Serial transmission kit

* SS0750-08C4SD6Q2N2	1 set	Manifold base part number
* S0710-5	3 sets	Valve part number (Stations 1 to 3)
* S0720-5	4 sets	Valve part number (Stations 4 to 7)
* SS0700-10A-1	1 set	Blanking plate number (Station 8)
* EX600-DXPD	1 set	I/O unit part number (Station 1)
* EX600-DYPB	1 set	I/O unit part number (Station 2)

→ The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.

Enter in order starting from the first station on the D side. If arrangement becomes complicated, specify on a manifold specification sheet.

Enter in order starting from the first station on the D side.

Note) Do not enter the SI unit part number and the end plate part number together.

How to Order Valves

S07 1 0 □ – 5

Type of actuation

1	2-position single	A	4-position dual 3-port valve (N.C. + N.C.) [Exhaust center]
2	2-position double	B	4-position dual 3-port valve (N.O. + N.O.) [Pressure center]
		C	4-position dual 3-port valve (N.C. + N.O.)

Coil voltage

5	24 VDC

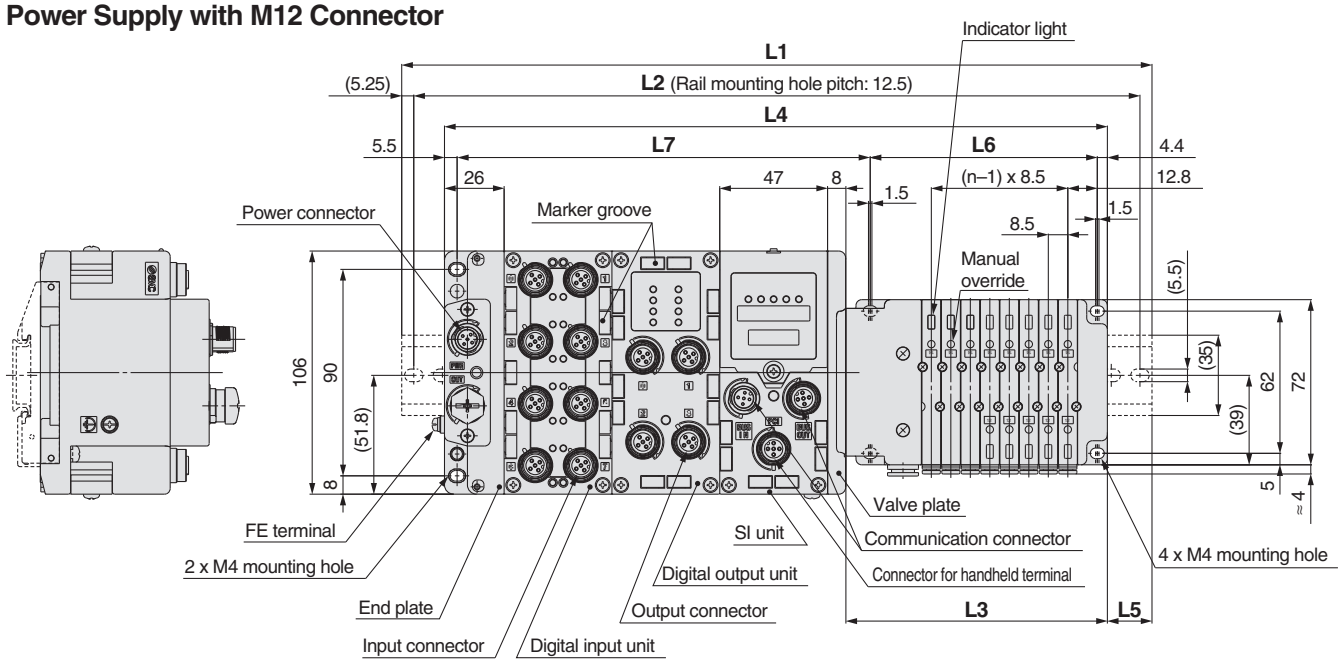
Function

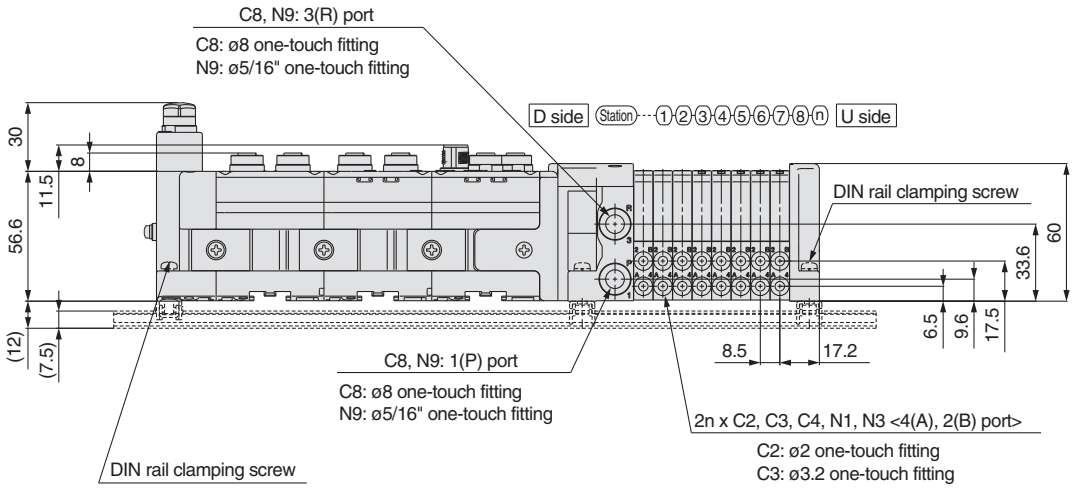
Symbol	Specifications
Nil	Standard
R	External pilot Note)

Note) Not compatible with dual 3-port valves.

Base mounted plug-in

Power Supply with M12 Connector



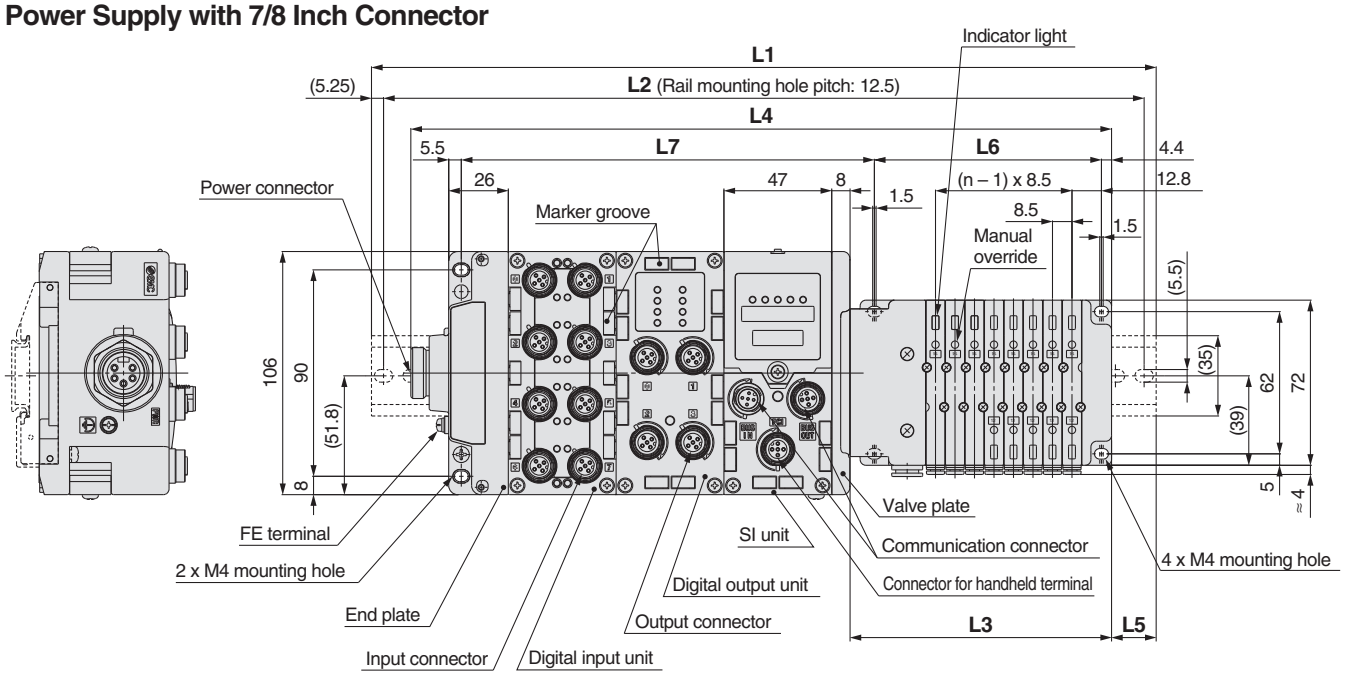


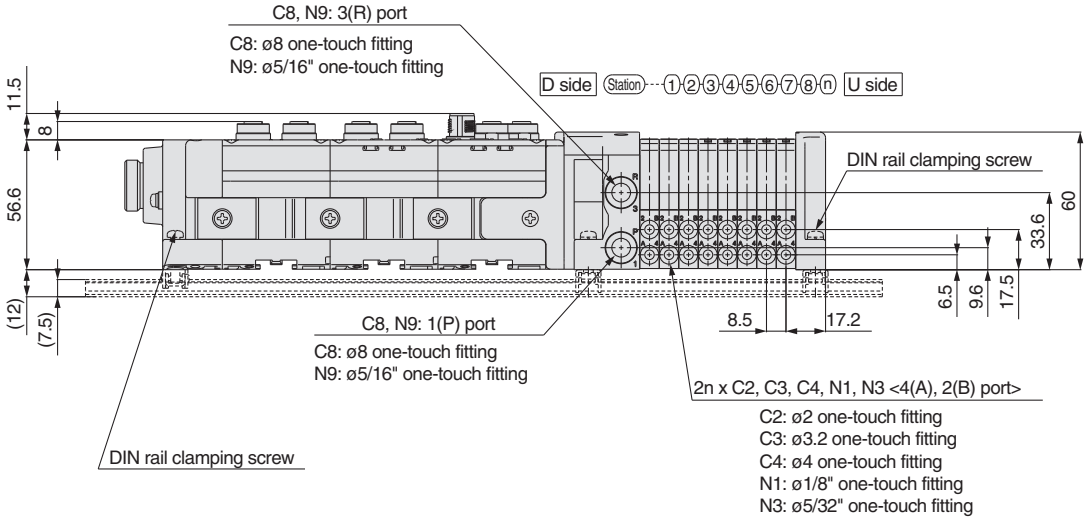
L2 = L1 – 10.5
L3 = 8.5 x n1 + 46
L4 = L3 + 81 + 47 x n2
L5 = (L1 – L4)/2
L6 = 8.5 x n1 + 31
L7 = 47 x n2 + 86.1

L1: DIN Rail Overall Length

I/O unit stations (n2) \ Valve stations (n1)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
0	173	185.5	185.5	198	210.5	210.5	223	235.5	235.5	248	260.5	260.5	273	285.5	285.5	298	310.5	310.5	323	335.5	335.5	348	360.5	373
1	223	223	235.5	248	248	260.5	273	273	285.5	298	298	310.5	323	323	335.5	348	360.5	360.5	373	385.5	385.5	398	410.5	410.5
2	260.5	273	285.5	285.5	298	310.5	310.5	323	335.5	348	348	360.5	373	373	385.5	398	398	410.5	423	423	435.5	448	448	460.5
3	310.5	323	335.5	335.5	348	360.5	360.5	373	385.5	385.5	398	410.5	410.5	423	435.5	435.5	448	460.5	460.5	473	485.5	485.5	498	510.5
4	360.5	373	373	385.5	398	398	410.5	423	423	435.5	448	448	460.5	473	473	485.5	498	498	510.5	523	535.5	535.5	548	560.5
5	410.5	410.5	423	435.5	435.5	448	460.5	460.5	473	485.5	485.5	498	510.5	523	523	535.5	548	548	560.5	573	573	585.5	598	598
6	448	460.5	473	473	485.5	498	510.5	510.5	523	535.5	535.5	548	560.5	560.5	573	585.5	585.5	598	610.5	610.5	623	635.5	635.5	648
7	498	510.5	523	523	535.5	548	548	560.5	573	573	585.5	598	598	610.5	623	623	635.5	648	648	660.5	673	673	685.5	698
8	548	560.5	560.5	573	585.5	585.5	598	610.5	610.5	623	635.5	635.5	648	660.5	660.5	673	685.5	698	698	710.5	723	723	735.5	748
9	598	598	610.5	623	623	635.5	648	648	660.5	673	685.5	685.5	698	710.5	710.5	723	735.5	735.5	748	760.5	760.5	773	785.5	785.5

Power Supply with 7/8 Inch Connector





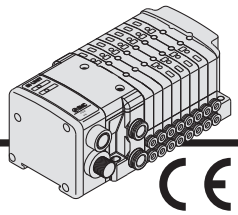
L2 = L1 – 10.5
L3 = 8.5 x n1 + 46
L4 = L3 + 97.5 + 47 x n2
L5 = (L1 – L4)/2
L6 = 8.5 x n1 + 31
L7 = 47 x n2 + 86.1

L1: DIN Rail Overall Length

I/O unit stations (n2) \ Valve stations (n1)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
0	185.5	198	210.5	210.5	223	235.5	235.5	248	260.5	260.5	273	285.5	285.5	298	310.5	310.5	323	335.5	335.5	348	360.5	360.5	373	385.5
1	235.5	248	248	260.5	273	273	285.5	298	298	310.5	323	323	335.5	348	348	360.5	373	385.5	385.5	398	410.5	410.5	423	435.5
2	285.5	285.5	298	310.5	310.5	323	335.5	335.5	348	360.5	373	373	385.5	398	398	410.5	423	423	435.5	448	448	460.5	473	473
3	323	335.5	348	360.5	360.5	373	385.5	385.5	398	410.5	410.5	423	435.5	435.5	448	460.5	460.5	473	485.5	485.5	498	510.5	510.5	523
4	373	385.5	398	398	410.5	423	423	435.5	448	448	460.5	473	473	485.5	498	498	510.5	523	523	535.5	548	560.5	560.5	573
5	423	435.5	435.5	448	460.5	460.5	473	485.5	485.5	498	510.5	510.5	523	535.5	548	548	560.5	573	573	585.5	598	598	610.5	623
6	473	473	485.5	498	498	510.5	523	535.5	535.5	548	560.5	560.5	573	585.5	585.5	598	610.5	610.5	623	635.5	635.5	648	660.5	660.5
7	523	523	535.5	548	548	560.5	573	573	585.5	598	598	610.5	623	623	635.5	648	648	660.5	673	673	685.5	698	698	710.5
8	560.5	573	585.5	585.5	598	610.5	610.5	623	635.5	635.5	648	660.5	660.5	673	685.5	685.5	698	710.5	723	723	735.5	748	748	760.5
9	610.5	623	623	635.5	648	648	660.5	673	673	685.5	698	710.5	710.5	723	735.5	735.5	748	760.5	760.5	773	785.5	785.5	798	810.5

S Series S0700 Plug-in Manifold Stacking Base kit (Serial Transmission)

EX500 Gateway-type Serial Transmission System



How to Order Manifold

SS0750 − 08 C4 C8 SDA2 □ − B

① ② ③ ④ ⑤ ⑥

① Stations

Symbol	Stations
01	1 station
⋮	⋮
16 Note)	16 stations

Note) The maximum number of stations will be different depending on the wiring specifications.

② Cylinder port size

Symbol	Port size	
C2	With ø2 one-touch fitting	Metric
C3	With ø3.2 one-touch fitting	
C4	With ø4 one-touch fitting	
CM	Mixed sizes and with port plug Note)	
N1	With ø1/8" one-touch fitting	Inch
N3	With ø5/32" one-touch fitting	
NM	Mixed sizes and with port plug Note)	

Note) Specify "Mixed sizes and with port plug" on the manifold specification sheet.

③ P, R port size

Symbol	Port size	
Nil	With ø8 one-touch fitting Note)	Metric
C6	With ø6 one-touch fitting	
C8	With ø8 one-touch fitting	
N7	With ø1/4" one-touch fitting	Inch
N9	With ø5/16" one-touch fitting	

Note) The cylinder port is ø5/16" when measured in inches.

④ Kit type

Kit type		Symbol	Specifications	Standard station	Max. number of stations for special wiring specifications	Max. number of solenoids
S kit	Gateway-type serial transmission	**SD0**	Without SI unit	1 to 8 stations	16 stations	16
		SDA2	DeviceNet™, PROFIBUS DP, CC-Link, EtherNet/IP™			

Note 1) The maximum number of stations is determined by the total number of solenoids. For mixed single and double wirings, enter "-K" to the order code options.
Note 2) For SI unit part number, refer to page 76.

Type of actuation	Single	Double, Dual 3 port
Number of solenoids	1	2

⑤ SI unit output polarity

SI unit output polarity		EX500			
		DeviceNet™	PROFIBUS DP	CC-Link	EtherNet/IP™
Nil	Positive common	○	○	○	○
N	Negative common	○	○	○	○

Note) Without SI unit (SD0), the symbol is nil.

⑥ Option

Symbol	Specifications
Nil	None
B Note 2)	With back pressure check valve (All stations)
D	With DIN rail (Rail length: Standard)
D0	Without DIN rail (with bracket)
D□ Note 3)	With DIN rail Designated length (□: Station)
K Note 4)	Special wiring specifications (Except double wiring)
N	With name plate
R Note 5)	External pilot
S	Built-in silencer

Note 1) When two or more options are specified, indicate them alphabetically. Example) -BKN
Note 2) When installing a back pressure check valve on the required station, enter the part number and specify the station position on the manifold specification sheet.
Note 3) The available number of stations is larger than the number of manifold stations.
Note 4) Indicate the wiring specifications for mixed single and double wirings.
Note 5) For details, refer to page 69.

∗ **For manifold optional parts, refer to pages 69 to 73.**
∗ **For manifold exploded view, refer to page 75.**

Refer to Reduced Wiring Fieldbus System (Serial Transmission) in Electric Products (CAT.E150) for details on the EX500 Gateway-type Serial Transmission System.

How to Order Valves

S07 1 0 □ − 5

Type of actuation

Symbol	Specifications
1	2-position single
2	2-position double
A	4-position dual 3-port (N.C. + N.C.) [Exhaust center]
B	4-position dual 3-port (N.O. + N.O.) [Pressure center]
C	4-position dual 3-port (N.C. + N.O.)

Note) For symbol, refer to page 7.

Base mounted plug-in

Function

Symbol	Specifications
Nil	Standard
R	External pilot Note)

Note) Not compatible with dual 3-port valves.

Voltage: 24 VDC

How to Order Manifold Assembly

Specify the part numbers for valves and options together beneath the manifold base part number.

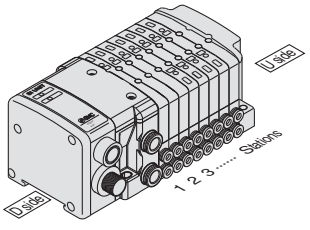
<Example>

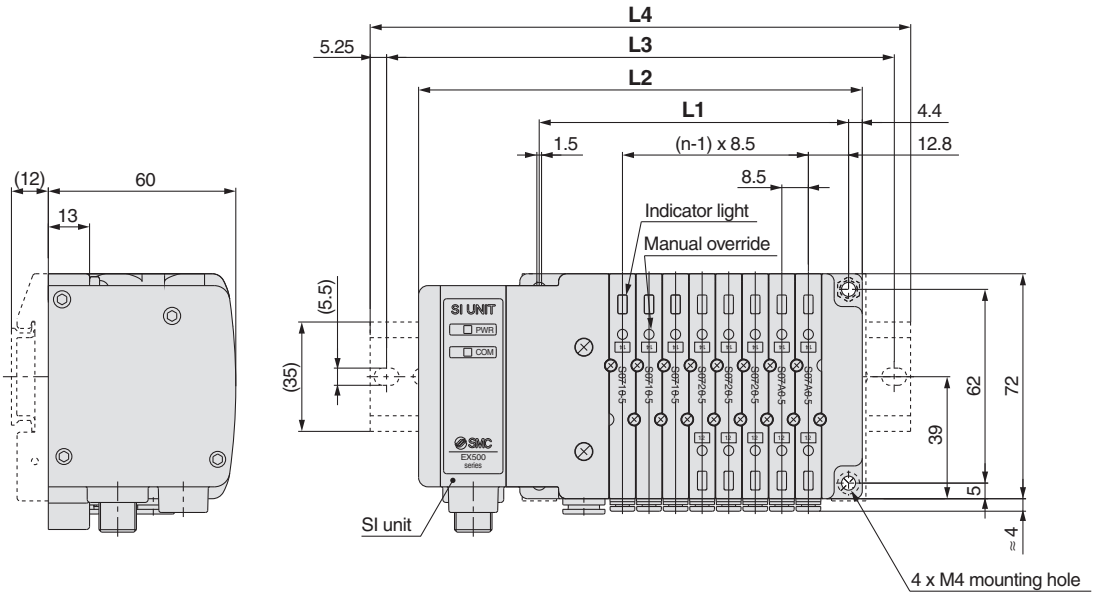
Serial transmission kit

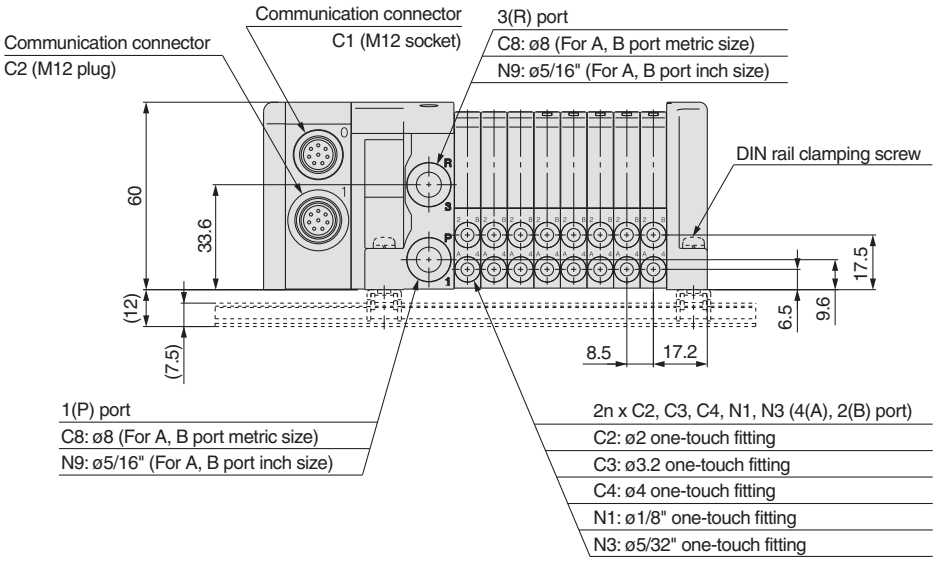
SS0750-08C4SDA2···1 set – Manifold base part no.
∗ S0710-5·····3 sets – Valve part no. (Stations 1 to 3)
∗ S0720-5·····2 sets – Valve part no. (Stations 4 to 5)
∗ S07A0-5·····2 sets – Valve part no. (Stations 6 to 7)
∗ SS0700-10A-1·····1 set – Blanking plate part no. (Station 8)

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

Write sequentially from the 1st station on the D side. When part nos. written collectively are complicated, specify on the manifold specification sheet.







Dimensions

Formula L1 = 8.5n + 31, L2 = 8.5n + 74 n: Station (Maximum 16 stations)

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	48	56.5	65	73.5	82	90.5	99	107.5	116	124.5	133	141.5	150	158.5	167
L2	91	99.5	108	116.5	125	133.5	142	150.5	159	167.5	176	184.5	193	201.5	210
L3	112.5	125	137.5	137.5	150	162.5	162.5	175	187.5	187.5	200	212.5	212.5	225	237.5
L4	123	135.5	148	148	160.5	173	173	185.5	198	198	210.5	223	223	235.5	248

D-sub Connector

F kit

Plug-in Manifold Stacking Base

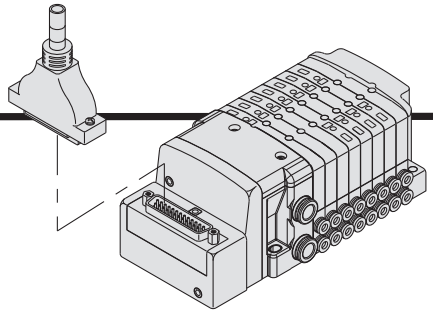
MIL Standard

- 25 pins
- Cable length: 1.5 m, 3 m, 5 m

Connector mounting direction: top or side selectable

Page 45

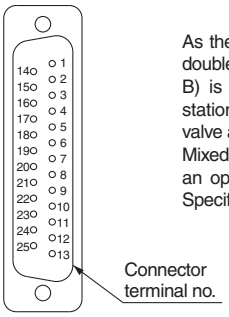
F Series S0700 Plug-in Manifold Stacking Base kit (D-sub Connector)



- **The D-sub connector reduces installation labor for electrical connections.**
- **Using the D-sub connector (25P), conforming to MIL standard permits the use of connectors put on the market and gives a wide interchangeability.**
- **Top or side receptacle position can be selected in accordance with the available mounting space.**

Electrical Wiring Specifications

D-sub connector



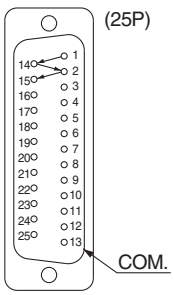
As the standard electrical wiring specifications, double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station for 12 stations or less, regardless of valve and option types.
Mixed single and double wiring is available as an option. For details, refer to "Special Wiring Specifications" (Option) below.

D-sub connector assembly
wire color (AXT100-DS25- 015/030/050)

		Terminal no.	Polarity		Lead wire color	Dot marking
Station 1	SOL.A	1	(–)	(+)	Black	None
	SOL.B	14	(–)	(+)	Yellow	Black
Station 2	SOL.A	2	(–)	(+)	Brown	None
	SOL.B	15	(–)	(+)	Pink	Black
Station 3	SOL.A	3	(–)	(+)	Red	None
	SOL.B	16	(–)	(+)	Blue	White
Station 4	SOL.A	4	(–)	(+)	Orange	None
	SOL.B	17	(–)	(+)	Purple	None
Station 5	SOL.A	5	(–)	(+)	Yellow	None
	SOL.B	18	(–)	(+)	Gray	None
Station 6	SOL.A	6	(–)	(+)	Pink	None
	SOL.B	19	(–)	(+)	Orange	Black
Station 7	SOL.A	7	(–)	(+)	Blue	None
	SOL.B	20	(–)	(+)	Red	White
Station 8	SOL.A	8	(–)	(+)	Purple	White
	SOL.B	21	(–)	(+)	Brown	White
Station 9	SOL.A	9	(–)	(+)	Gray	Black
	SOL.B	22	(–)	(+)	Pink	Red
Station 10	SOL.A	10	(–)	(+)	White	Black
	SOL.B	23	(–)	(+)	Gray	Red
Station 11	SOL.A	11	(–)	(+)	White	Red
	SOL.B	24	(–)	(+)	Black	White
Station 12	SOL.A	12	(–)	(+)	Yellow	Red
	SOL.B	25	(–)	(+)	White	None
	COM.	13	(+) Positive COM	(–) Negative COM Note)	Orange	Red

Note) Mounting valve has no polarity. It can also be used as a negative common.

Special Wiring Specifications (Option) [-K]



Mixed single and double wiring are available as an option. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 24.

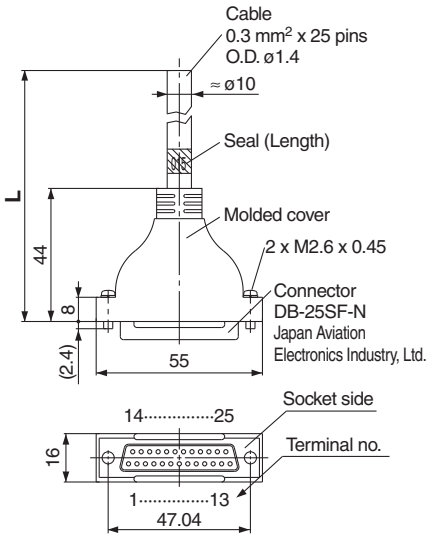
1. How to Order valves
Indicate an option symbol, -K, for the manifold part number and be sure to specify the mounting position and number of stations of the single and double wiring on the manifold specification sheet.

2. Wiring specifications
Connector terminal numbers are connected from solenoid station 1 on the A side in the order indicated by the arrows without skipping any terminal numbers.

Cable Assembly

AXT100-DS25- 015/030/050

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



D-sub connector cable assembly
Wire Color by Terminal No.

Terminal no.	Lead wire color	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	Gray	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	Gray	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 0.3 mm² x 25 cores
3 m	AXT100-DS25-030	
5 m	AXT100-DS25-050	

∗ For other commercial connectors, use a 25-pin type with female connector conforming to MIL-C-24308.
∗ Cannot be used for movable wiring.

Electrical Characteristics

Item	Property
Conductor resistance Ω/km, 20°C	65 or less
Voltage limit V, 1 min, AC	1000
Insulation resistance MΩ/km, 20°C	5 or more

Connector manufacturers' example

- Fujitsu Limited
- Japan Aviation Electronics Industry, Ltd.
- J.S.T. Mfg. Co., Ltd.
- Hirose Electric Co., Ltd.

Note) The minimum bending inner radius of D-sub connector cable is 20 mm.

How to Order Manifold

SS0750 – 08 C4 C8 FD1 – B

Stations

Symbol	Stations
02	2 stations
⋮	⋮
24 Note)	24 stations

Note) The maximum number of stations will be different depending on the wiring specifications.

Cylinder port size

Symbol	Port size	
C2	With ø2 one-touch fitting	Metric
C3	With ø3.2 one-touch fitting	
C4	With ø4 one-touch fitting	
CM	Mixed sizes and with port plug Note)	
N1	With ø1/8" one-touch fitting	Inch
N3	With ø5/32" one-touch fitting	
NM	Mixed sizes and with port plug Note)	

Note) Indicate the sizes on the manifold specification sheet in the case of CM and NM.

P, R port size

Symbol	Port size	
Nil	With ø8 one-touch fitting Note)	Metric
C6	With ø6 one-touch fitting	
C8	With ø8 one-touch fitting	
N7	With ø1/4" one-touch fitting	Inch
N9	With ø5/16" one-touch fitting	

Note) The cylinder port is ø5/16" when measured in inches.

Option

Symbol	Specifications
Nil	None
B Note 2)	With back pressure check valve (All sta.)
D	With DIN rail (Rail length: Standard)
D0	Without DIN rail (With bracket)
D□ Note 3)	With DIN rail Designated length (□: Station)
K Note 4)	Special wiring specifications (Except double wiring)
N	With name plate
R Note 5)	External pilot
S	Built-in silencer

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

Note 2) When installing a back pressure check valve on the required station, enter the part number and specify the station position on the manifold specification sheet.

Note 3) The available number of stations is larger than the number of manifold stations.

Note 4) Indicate the wiring specifications for mixed single and double wirings.

Note 5) For details, refer to page 69.

* **For manifold optional parts, refer to pages 69 to 73.**
* **For manifold exploded view, refer to page 75.**

Kit type/Cable length

Kit type	Symbol	Specifications	Standard station	Max. number of stations for special wiring specifications	Max. number of solenoids
F kit	**FD0**	D-sub connector (25P), without cable	1 to 12 stations	24 stations	24
	FD1	D-sub connector (25P), with 1.5 m cable			
	FD2	D-sub connector (25P), with 3.0 m cable			
	FD3	D-sub connector (25P), with 5.0 m cable			

Note) The maximum number of stations is determined by the total number of solenoids. For mixed single and double wirings, enter "-K" to the order code options.

Type of actuation	Single	Double, Dual 3-port
Number of solenoids	1	2

How to Order Manifold Assembly

Specify the part numbers for valves and options together beneath the manifold base part number.

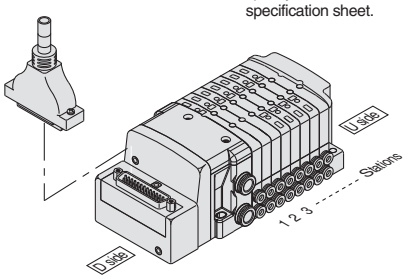
<Example>

D-sub connector kit

SS0750-08C4FD1··· 1 set – Manifold base part no.
* **S0710-5····· 3 sets – Valve part no. (Stations 1 to 3)**
* **S0720-5····· 2 sets – Valve part no. (Stations 4 to 5)**
* **S07A0-5·····2 sets – Valve part no. (Stations 6 to 7)**
* **SS0700-10A-1·····1 set – Blanking plate part no. (Station 8)**

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

Write sequentially from the 1st station on the D side. When part nos. written collectively are complicated, specify on the manifold specification sheet.



How to Order Valves

S07 1 0 □ – 5

Type of actuation

Symbol	Specifications
1	2-position single
2	2-position double
A	4-position dual 3-port (N.C. + N.C.) [Exhaust center]
B	4-position dual 3-port (N.O. + N.O.) [Pressure center]
C	4-position dual 3-port (N.C. + N.O.)

Note) For symbol, refer to page 7.

Base mounted plug-in

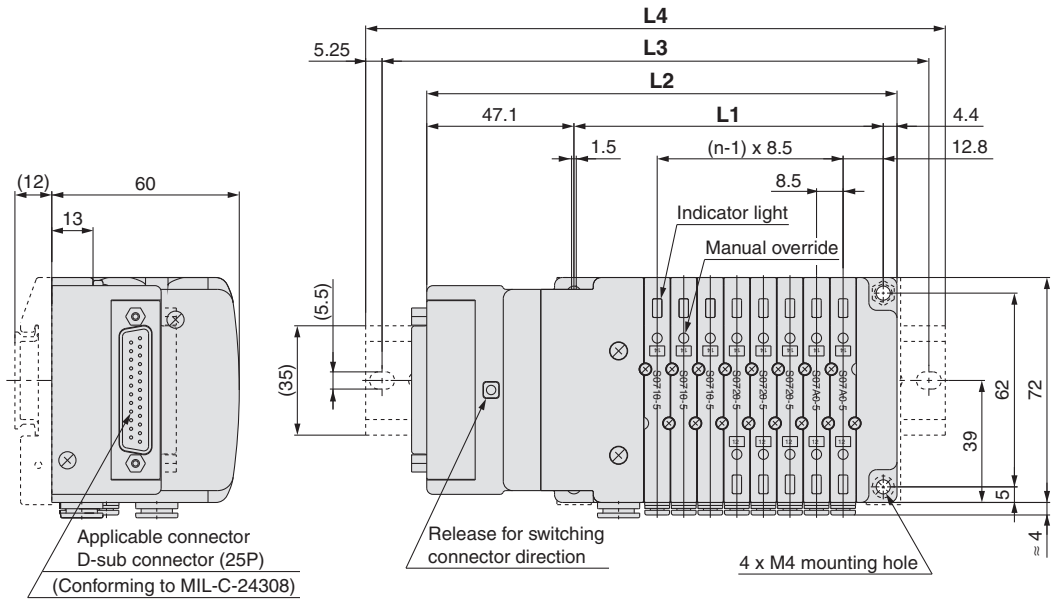
Voltage

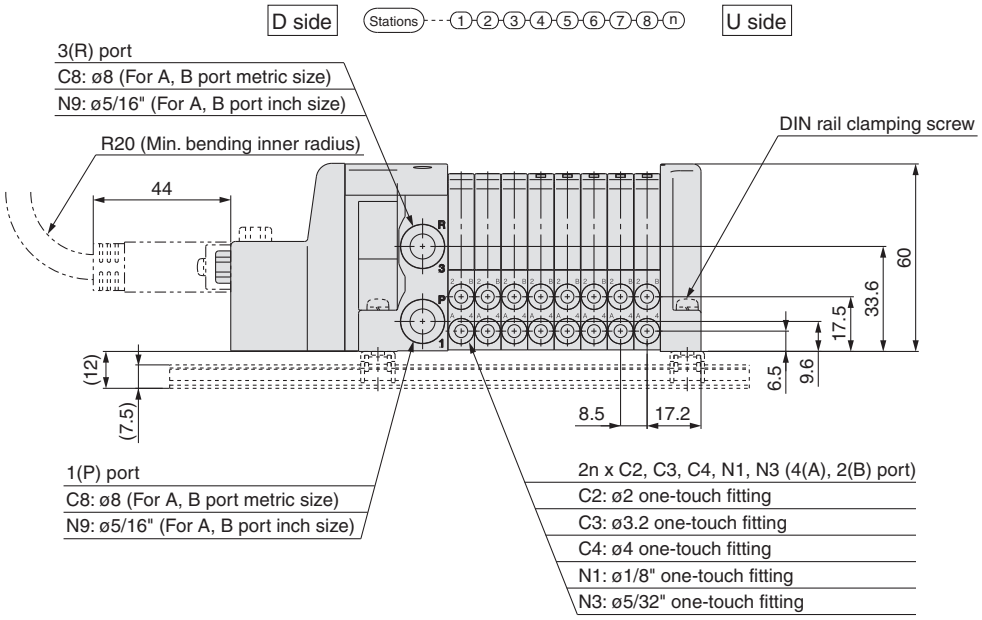
Symbol	Specifications
5	24 VDC
6	12 VDC

Function

Symbol	Specifications
Nil	Standard
R	External pilot Note)

Note) Not compatible with dual 3-port valves.





Dimensions

Formula L1 = 8.5n + 31, L2 = 8.5n + 82.5 n: Station (Maximum 24 stations)

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	48	56.5	65	73.5	82	90.5	99	107.5	116	124.5	133	141.5	150	158.5	167	175.5	184	192.5	201	209.5	218	226.5	235
L2	99.5	108	116.5	125	133.5	142	150.5	159	167.5	176	184.5	193	201.5	210	218.5	227	235.5	244	252.5	261	269.5	278	286.5
L3	125	137.5	137.5	150	162.5	162.5	175	187.5	187.5	200	212.5	212.5	225	237.5	250	250	262.5	275	275	287.5	300	300	312.5
L4	135.5	148	148	160.5	173	173	185.5	198	198	210.5	223	223	235.5	248	260.5	260.5	273	285.5	285.5	298	310.5	310.5	323

Flat Ribbon Cable

P kit

Plug-in Manifold Stacking Base

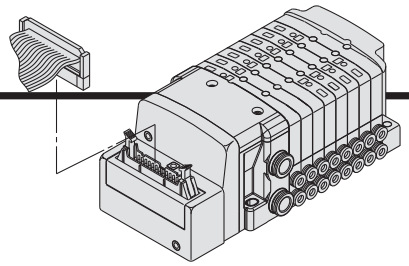
MIL Standard

- 26 pins, 20 pins
- Cable length
  1.5 m, 3 m, 5 m

Connector mounting direction: top or side selectable

Page 49

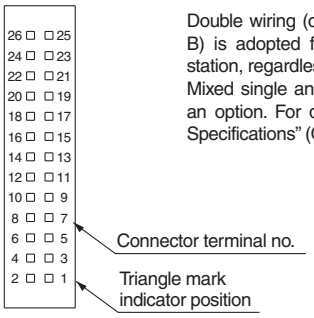
P Series S0700 Plug-in Manifold Stacking Base kit (Flat Ribbon Cable)



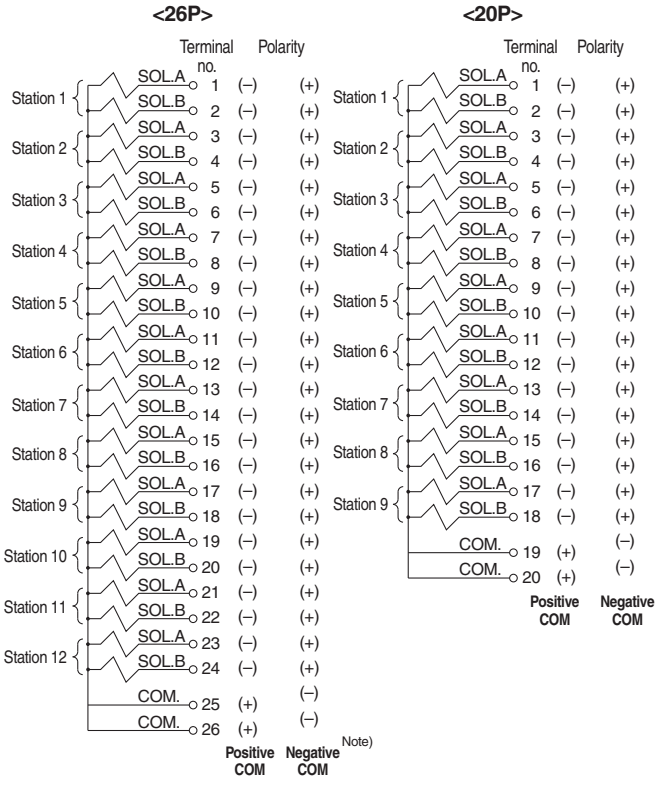
- **Flat ribbon cable connector reduces installation labor for electrical connection.**
- **Using the connector for flat ribbon cable (26P, 20P) conforming to MIL standard permits the use of connectors put on the market and gives a wide interchangeability.**
- **Top or side receptacle position can be selected in accordance with the available mounting space.**

Electrical Wiring Specifications

Flat ribbon cable connector



Double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station, regardless of valve and option types.
Mixed single and double wiring is available as an option. For details, refer to "Special Wiring Specifications" (Option) below.

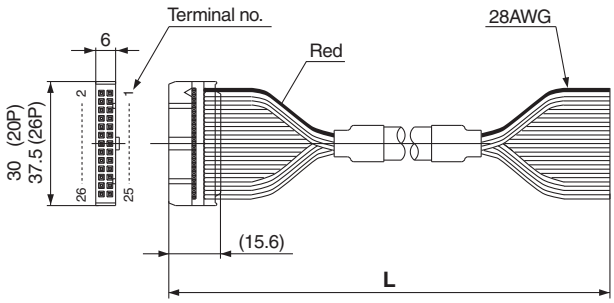


Note) Mounting valve has no polarity. It can also be used as a negative common.

Cable Assembly

AXT100-FC $\begin{matrix}20\\26\end{matrix}$**-** $\begin{matrix}1\\2\\3\end{matrix}$

(Type 26P flat ribbon cable connector assemblies can be ordered with manifolds. Refer to "How to Order Manifold.")



Flat Ribbon Cable Connector Assembly (Option)

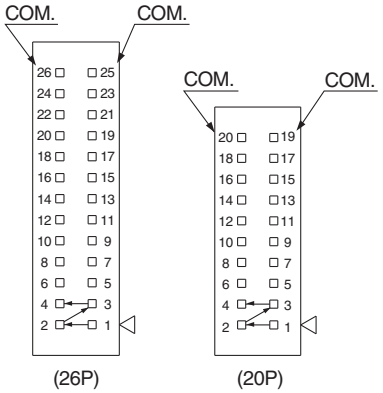
Cable length (**L**)	Assembly part no.	
	26P	20P
1.5 m	AXT100-FC26-1	AXT100-FC20-1
3 m	AXT100-FC26-2	AXT100-FC20-2
5 m	AXT100-FC26-3	AXT100-FC20-3

∗ For other commercial connectors, use a 20- or 26-pin type with strain relief conforming to MIL-C-83503.
∗ Cannot be used for movable wiring.

Connector manufacturers' example

- Hirose Electric Co., Ltd.
- Sumitomo 3M Limited
- Fujitsu Limited
- Japan Aviation Electronics Industry, Ltd.
- J.S.T. Mfg. Co., Ltd.
- Oki Electric Cable Co., Ltd.

Special Wiring Specifications (Option) [-K]



Mixed single and double wiring are available as an option. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 24 for 26P, 18 for 20P.

1. How to Order valves

Indicate an option symbol, -K, for the manifold part number and be sure to specify the mounting position and number of stations of the single and double wiring on the manifold specification sheet.

2. Wiring specifications

Connector terminal numbers are connected from solenoid station 1 on the A side in the order indicated by the arrows without skipping any terminal numbers.

How to Order Manifold

SS0750 – 08 C4 C8 PD1 – B

Stations

Symbol	Stations
02	2 stations
⋮	⋮
24	24 stations

Note) The maximum number of stations will be different depending on the wiring specifications.

Cylinder port size

Symbol	Port size	
C2	With ø2 one-touch fitting	Metric
C3	With ø3.2 one-touch fitting	
C4	With ø4 one-touch fitting	
CM	Mixed sizes and with port plug Note)	
N1	With ø1/8" one-touch fitting	Inch
N3	With ø5/32" one-touch fitting	
NM	Mixed sizes and with port plug Note)	

Note) Indicate the sizes on the manifold specification sheet in the case of CM and NM.

P, R port size

Symbol	Port size	
Nil	With ø8 one-touch fitting Note)	Metric
C6	With ø6 one-touch fitting	
C8	With ø8 one-touch fitting	
N7	With ø1/4" one-touch fitting	Inch
N9	With ø5/16" one-touch fitting	

Note) The cylinder port is ø5/16" when measured in inches.

Option

Symbol	Specifications
Nil	None
B Note 2)	With back pressure check valve (All sta.)
D	With DIN rail (Rail length: Standard)
D0	Without DIN rail (With bracket)
D□ Note 3)	With DIN rail Designated length (□: Station)
K Note 4)	Special wiring specifications (Except double wiring)
N	With name plate
R Note 5)	External pilot
S	Built-in silencer

Note 1) When two or more options are specified, indicate them alphabetically. Example) -BKN
Note 2) When installing a back pressure check valve on the required station, enter the part number and specify the station position on the manifold specification sheet.
Note 3) The available number of stations is larger than the number of manifold stations.
Note 4) Indicate the wiring specifications for mixed single and double wirings.
Note 5) For details, refer to page 69.
∗ **For manifold optional parts, refer to pages 69 to 73.**
∗ **For manifold exploded view, refer to page 75.**

Kit type/Cable length

Kit type	Symbol	Specifications	Standard station	Max. number of stations for special wiring specifications	Max. number of solenoids
P kit	**PD0**	Flat ribbon cable (26P), without cable	1 to 12 stations	24 stations	24
	PD1	Flat ribbon cable (26P), with 1.5 m cable			
	PD2	Flat ribbon cable (26P), with 3.0 m cable			
	PD3	Flat ribbon cable (26P), with 5.0 m cable			
	PDC	Flat ribbon cable (20P), without cable	1 to 9 stations	18 stations	18

Note) The maximum number of stations is determined by the total number of solenoids. For mixed single and double wirings, enter "-K" to the order code options.

Type of actuation	Single	Double, Dual 3-port
Number of solenoids	1	2

How to Order Valves

S07 1 0 □ – 5

Type of actuation

Symbol	Specifications
1	2-position single
2	2-position double
A	4-position dual 3-port (N.C. + N.C.) [Exhaust center]
B	4-position dual 3-port (N.O. + N.O.) [Pressure center]
C	4-position dual 3-port (N.C. + N.O.)

Note) For symbol, refer to page 7.

Voltage

Symbol	Specifications
5	24 VDC
6	12 VDC

Function

Symbol	Specifications
Nil	Standard
R	External pilot Note)

Note) Not compatible with dual 3-port valves.

Base mounted plug-in

How to Order Manifold Assembly

Specify the part numbers for valves and options together beneath the manifold base part number.

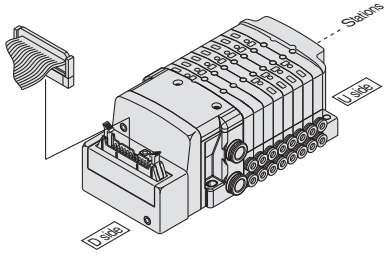
<Example>

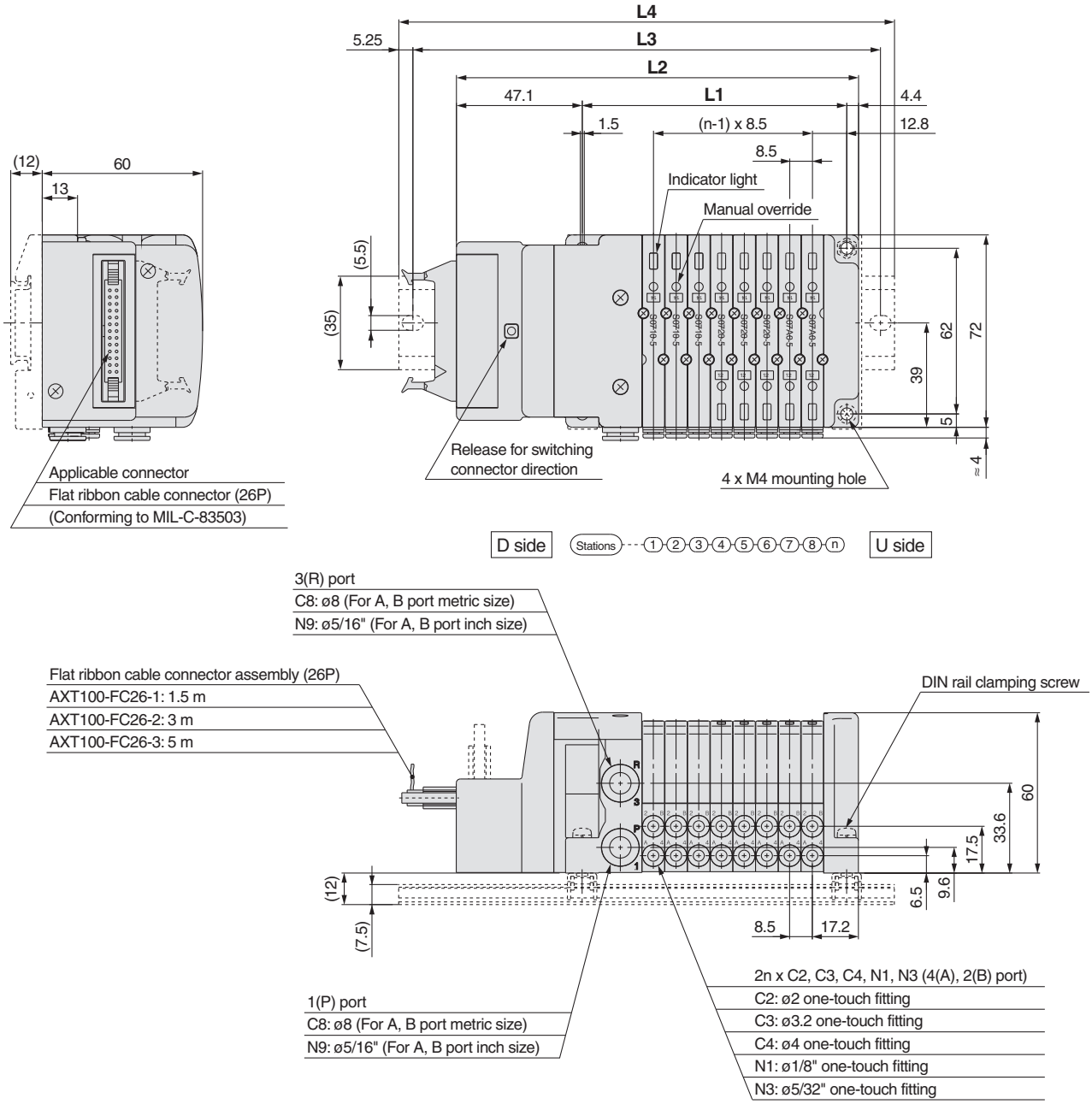
Flat ribbon cable kit

SS0750-08C4PD1·····1 set – Manifold base part no.
∗ S0710-5·····2 sets – Valve part no. (Stations 1 to 3)
∗ S0720-5·····4 sets – Valve part no. (Stations 4 to 5)
∗ S07A0-5·····1 set – Valve part no. (Stations 6 to 7)
∗ SS0700-10A-1·····1 set – Blanking plate part no. (Station 8)

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

Write sequentially from the 1st station on the D side. When part nos. written collectively are complicated, specify on the manifold specification sheet.





Dimensions

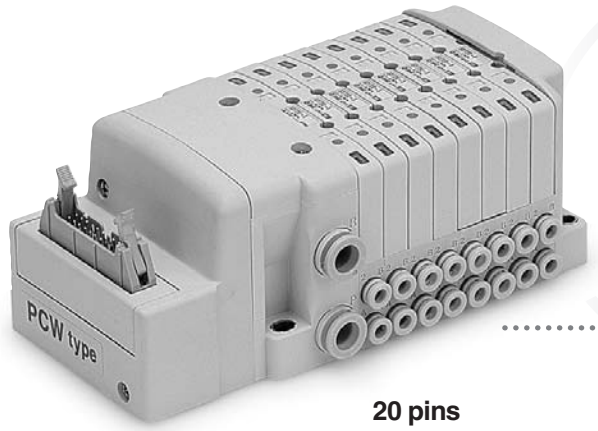
Formula L1 = 8.5n + 31, L2 = 8.5n + 82.5 n: Station (Maximum 24 stations)

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	48	56.5	65	73.5	82	90.5	99	107.5	116	124.5	133	141.5	150	158.5	167	175.5	184	192.5	201	209.5	218	226.5	235
L2	99.5	108	116.5	125	133.5	142	150.5	159	167.5	176	184.5	193	201.5	210	218.5	227	235.5	244	252.5	261	269.5	278	286.5
L3	125	137.5	137.5	150	162.5	162.5	175	187.5	187.5	200	212.5	212.5	225	237.5	250	250	262.5	275	275	287.5	300	300	312.5
L4	135.5	148	148	160.5	173	173	185.5	198	198	210.5	223	223	235.5	248	260.5	260.5	273	285.5	285.5	298	310.5	310.5	323

PC Wiring System Compatible Flat Ribbon Cable

J kit

Plug-in Manifold Stacking Base



20 pins

MIL Standard

20 pins

PC wiring system compatible

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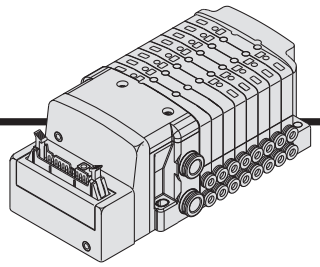
J Series S0700 Plug-in Manifold Stacking Base kit (PC Wiring System Compatible Flat Ribbon Cable)

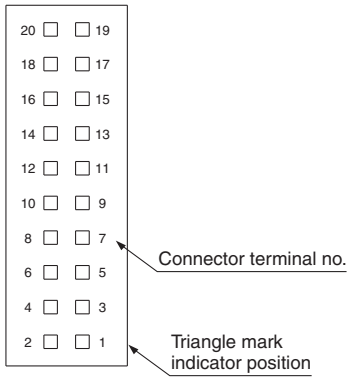


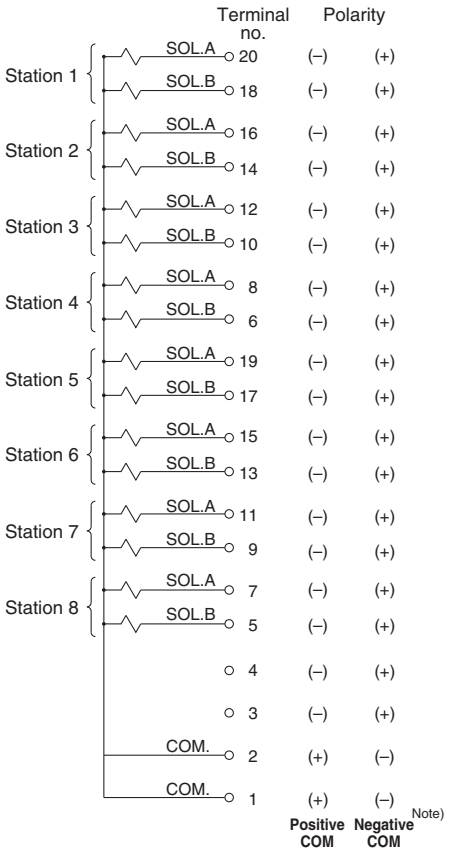
- **Compatible with PC wiring system.**
- **Using connector for flat ribbon cable (20P) conforming to MIL standard permits the use of connectors put on the market and gives a wide interchangeability.**
- **Top or side receptacle position can be selected in accordance with the available mounting space.**

Electrical Wiring Specifications

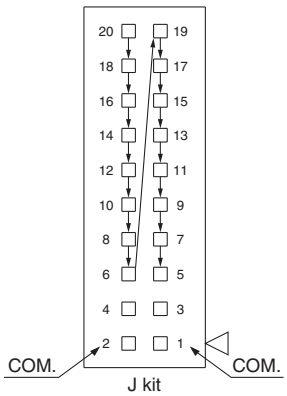
Double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station, regardless of valve and option types.
Mixed single and double wiring is available as an option.
For details, refer to "Special Wiring Specifications" (Option) below.

Flat ribbon cable connector





Special Wiring Specifications (Option) [-K]



J kit
Flat ribbon cable connector (20P)
PC wiring system compatible

Mixed single and double wiring are available as an option. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 16.

1. How to Order valves
Indicate an option symbol, -K, for the manifold part number and be sure to specify the mounting position and number of stations of the single and double wiring on the manifold specification sheet.

2. Wiring specifications
Connector terminal numbers are connected from solenoid station 1 on the A side in the order indicated by the arrows without skipping any terminal numbers.

Note) Mounting valve has no polarity. It can also be used as a negative common.
For details about the PC wiring system, refer to catalog CAT.ES02-20 separately.

How to Order Manifold

SS0750 – 08 C4 C8 JD0 – B

Stations

Symbol	Stations
02	2 stations
⋮	⋮
16	16 stations

Note) The maximum number of stations will be different depending on the wiring specifications.

Cylinder port size

Symbol	Port size	
C2	With ø2 one-touch fitting	Metric
C3	With ø3.2 one-touch fitting	
C4	With ø4 one-touch fitting	
CM	Mixed sizes and with port plug Note)	
N1	With ø1/8" one-touch fitting	Inch
N3	With ø5/32" one-touch fitting	
NM	Mixed sizes and with port plug Note)	

Note) Indicate the sizes on the manifold specification sheet in the case of CM and NM.

P, R port size

Symbol	Port size	
Nil	With ø8 one-touch fitting Note)	Metric
C6	With ø6 one-touch fitting	
C8	With ø8 one-touch fitting	
N7	With ø1/4" one-touch fitting	Inch
N9	With ø5/16" one-touch fitting	

Note) The cylinder port is ø5/16" when measured in inches.

Option

Symbol	Specifications
Nil	None
B Note 2)	With back pressure check valve (All sta.)
D	With DIN rail (Rail length: Standard)
D0	Without DIN rail (With bracket)
D□ Note 3)	With DIN rail Designated length (□: Station)
K Note 4)	Special wiring specifications (Except double wiring)
N	With name plate
R Note 5)	External pilot
S	Built-in silencer

Note 1) When two or more options are specified, indicate them alphabetically. Example) -BKN
Note 2) When installing a back pressure check valve on the required station, enter the part number and specify the station position on the manifold specification sheet.
Note 3) The available number of stations is larger than the number of manifold stations.
Note 4) Indicate the wiring specifications for mixed single and double wirings.
Note 5) For details, refer to page 69.
∗ **For manifold optional parts, refer to pages 69 to 73.**
∗ **For manifold exploded view, refer to page 75.**

Kit type

Kit type	Symbol	Specifications	Standard station	Max. number of stations for special wiring specifications	Max. number of solenoids
J kit	**JD0**	Flat ribbon cable (20P) PC wiring system compatible Note 1)	1 to 8 stations	16 stations	16

Note 1) For 20P type table assembly of J kit, order it separately.
Note 2) The maximum number of stations is determined by the total number of solenoids. For mixed single and double wirings, enter "-K" to the order code options.

Type of actuation	Single	Double, Dual 3-port
Number of solenoids	1	2

How to Order Valves

S07 1 0 □ – 5

Type of actuation

Symbol	Specifications
1	2-position single
2	2-position double
A	4-position dual 3-port (N.C. + N.C.) [Exhaust center]
B	4-position dual 3-port (N.O. + N.O.) [Pressure center]
C	4-position dual 3-port (N.C. + N.O.)

Note) For symbol, refer to page 7.

Voltage

Symbol	Specifications
5	24 VDC
6	12 VDC

Function

Symbol	Specifications
Nil	Standard
R	External pilot Note)

Note) Not compatible with dual 3-port valves.

Base mounted plug-in

How to Order Manifold Assembly

Specify the part numbers for valves and options together beneath the manifold base part number.

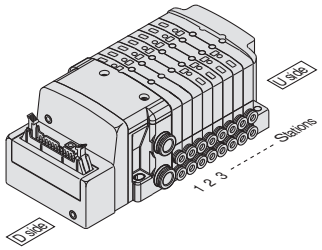
<Example>

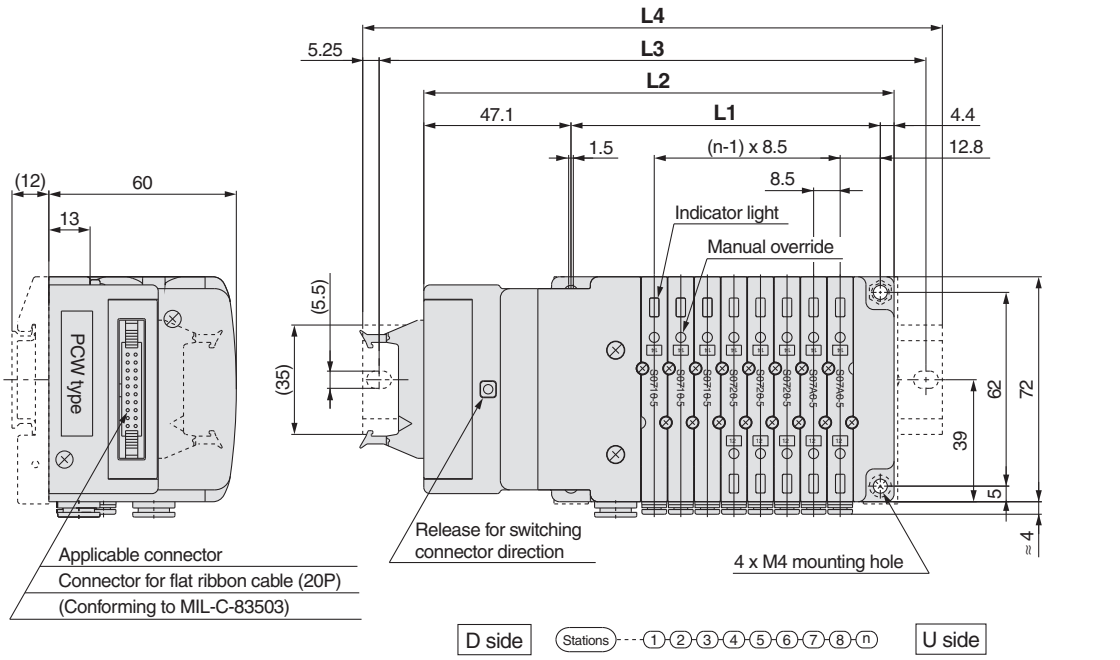
Flat ribbon cable kit

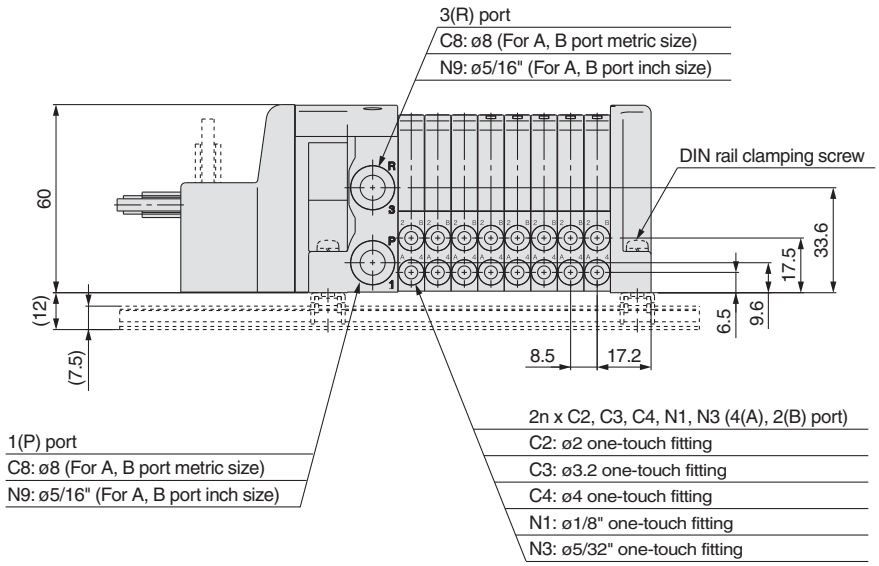
SS0750-08C4JD0 ··· 1 set – Manifold base part no.
∗ S0710-5····· 3 sets – Valve part no. (Stations 1 to 3)
∗ S0720-5····· 2 sets – Valve part no. (Stations 4 to 5)
∗ S07A0-5····· 2 sets – Valve part no. (Stations 6 to 7)
∗ SS0700-10A-1····· 1 set – Blanking plate part no. (Station 8)

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

Write sequentially from the 1st station on the D side. When part nos. written collectively are complicated, specify on the manifold specification sheet.







Dimensions

Formula L1 = 8.5n + 31, L2 = 8.5n + 82.5 n: Station (Maximum 16 stations)

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	48	56.5	65	73.5	82	90.5	99	107.5	116	124.5	133	141.5	150	158.5	167
L2	99.5	108	116.5	125	133.5	142	150.5	159	167.5	176	184.5	193	201.5	210	218.5
L3	125	137.5	137.5	150	162.5	162.5	175	187.5	187.5	200	212.5	212.5	225	237.5	250
L4	135.5	148	148	160.5	173	173	185.5	198	198	210.5	223	223	235.5	248	260.5

Terminal Block Box

T kit

Plug-in Manifold Stacking Base

With Terminal Block Box

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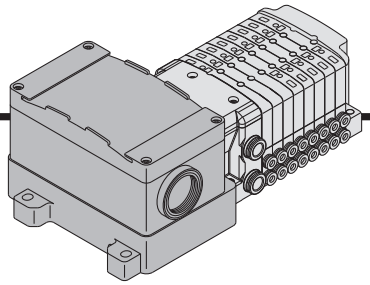
T Series S0700 Plug-in Manifold Stacking Base kit (Terminal Block Box)

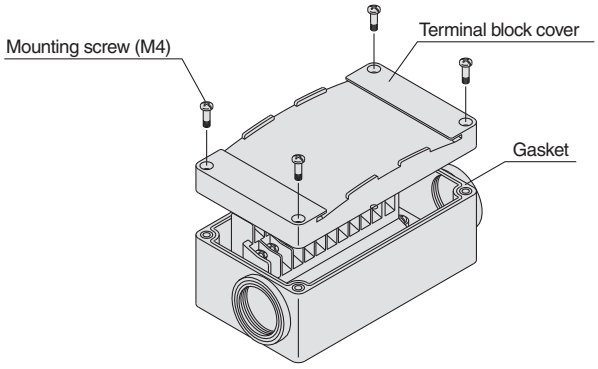


● **This kit has a small terminal box inside a junction box. The electrical entry port (G3/4) permits connection of conduit fittings.**

Terminal Block Connection

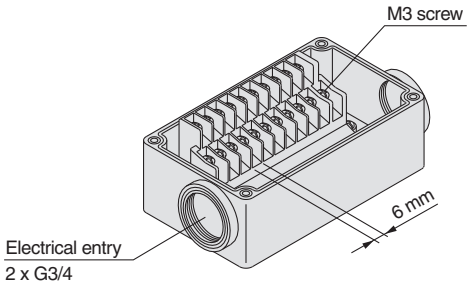
Step 1. How to remove terminal block cover

Loosen the 4 mounting screws (M4) and open the terminal block cover.



Step 2. The diagram below shows the terminal block wiring schematic. All stations are provided with double solenoid wiring.

Connect each wire to the power supply side, according to the markings provided inside the terminal block.



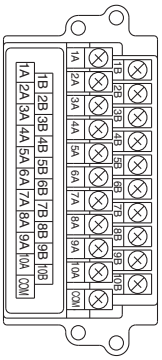
Step 3. How to replace terminal block cover

Securely tighten the screws with the torque shown in the table below, after confirming that the gasket is installed correctly.

Proper tightening torque lbf·ft (N·m)
0.52 to 0.89 (0.7 to 1.2)

• Applicable crimped terminal: 1.25-3S,1.25Y-3,1.25Y-3N,1.25Y-3.5

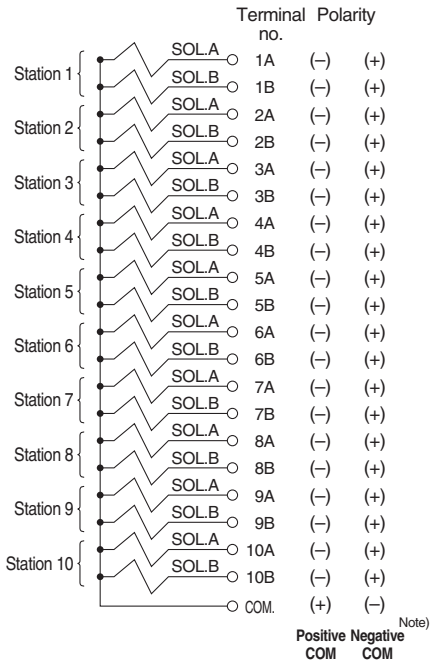
Electrical Wiring Specifications



Double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station, regardless of valve and option types. Mixed single and double wiring is available as an option.

Note) Mounting valve has no polarity. It can also be used as a negative common.

Standard wiring



Special Wiring Specifications (Option) [-K]

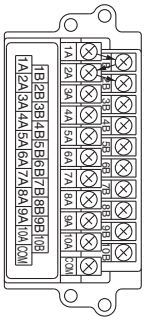
Mixed single and double wiring are available as an option. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 20.

1. How to Order valves

Indicate an option symbol, -K, for the manifold part number and be sure to specify the mounting position and number of stations of the single and double wiring on the manifold specification sheet.

2. Wiring specifications

Connector terminal numbers are connected from solenoid station 1 on the A side in the order indicated by the arrows without skipping any terminal numbers.



How to Order Manifold

SS0750 – 08 C4 C8 TD0 – B
① ② ③ ④ ⑤

① Stations

Symbol	Stations
01	1 station
⋮	⋮
20 Note)	20 stations

Note) The maximum number of stations will be different depending on the wiring specifications.

② Cylinder port size

Symbol	Port size	
C2	With ø2 one-touch fitting	Metric
C3	With ø3.2 one-touch fitting	
C4	With ø4 one-touch fitting	
CM	Mixed sizes and with port plug Note)	
N1	With ø1/8" one-touch fitting	Inch
N3	With ø5/32" one-touch fitting	
NM	Mixed sizes and with port plug Note)	

Note) Specify "Mixed sizes and with port plug" on the manifold specification sheet.

③ P, R port size

Symbol	Port size	
Nil	With ø8 one-touch fitting Note)	Metric
C6	With ø6 one-touch fitting	
C8	With ø8 one-touch fitting	
N7	With ø1/4" one-touch fitting	Inch
N9	With ø5/16" one-touch fitting	

Note) The cylinder port is ø5/16" when measured in inches.

④ Kit type

Kit type	Symbol	Specifications	Standard station	Max. number of stations for special wiring specifications	Max. number of solenoids
T kit	**TD0**	Terminal block	1 to 10 stations	20 stations	20

Note) The maximum number of stations is determined by the total number of solenoids. For mixed single and double wirings, enter "-K" to the order code options.

Type of actuation	Single	Double, Dual 3-port
Number of solenoids	1	2

⑤ Option

Symbol	Specifications
Nil	None
B Note 2)	With back pressure check valve (All stations)
D	With DIN rail (Rail length: Standard)
D0	Without DIN rail (With bracket)
D□ Note 3)	With DIN rail Designated length (□: Station)
K Note 4)	Special wiring specifications (Except double wiring)
N	With name plate
R Note 5)	External pilot
S	Built-in silencer

Note 1) When two or more options are specified, indicate them alphabetically. Example) -BKN
Note 2) When installing a back pressure check valve on the required station, enter the part number and specify the station position on the manifold specification sheet.
Note 3) The available number of stations is larger than the number of manifold stations.
Note 4) Indicate the wiring specifications for mixed single and double wirings.
Note 5) For details, refer to page 69.
* **For manifold optional parts, refer to pages 69 to 73.**
* **For manifold exploded view, refer to page 75.**

How to Order Valves

S07 1 0 □ – 5

Type of actuation

Symbol	Specifications
1	2-position single
2	2-position double
A	4-position dual 3-port (N.C. + N.C.) [Exhaust center]
B	4-position dual 3-port (N.O. + N.O.) [Pressure center]
C	4-position dual 3-port (N.C. + N.O.)

Note) For symbol, refer to page 7.

Base mounted plug-in

Function

Symbol	Specifications
Nil	Standard
R	External pilot Note)

Note) Not compatible with dual 3-port valves.

Voltage

Symbol	Specifications
5	24 VDC
6	12 VDC

How to Order Manifold Assembly

Specify the part numbers for valves and options together beneath the manifold base part number.

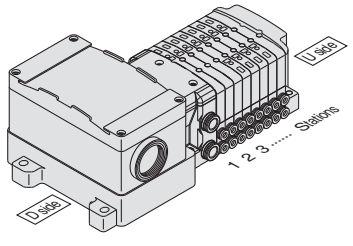
<Example>

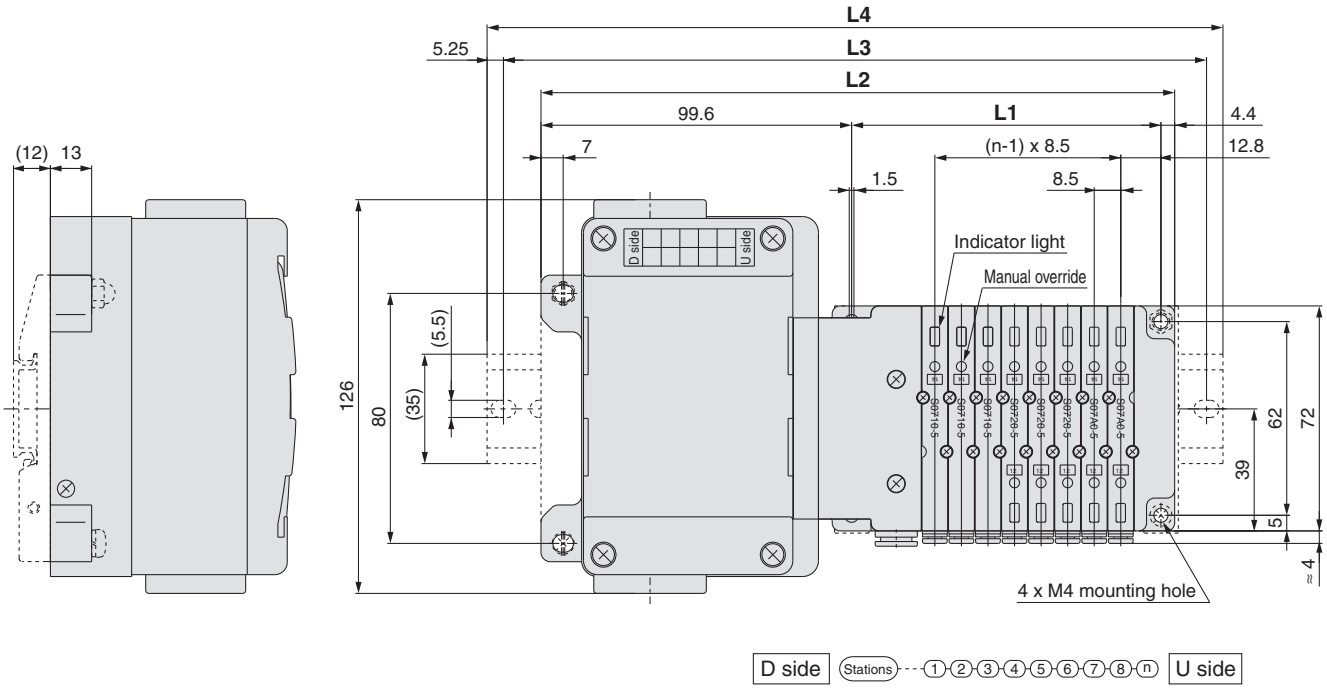
Terminal block box kit

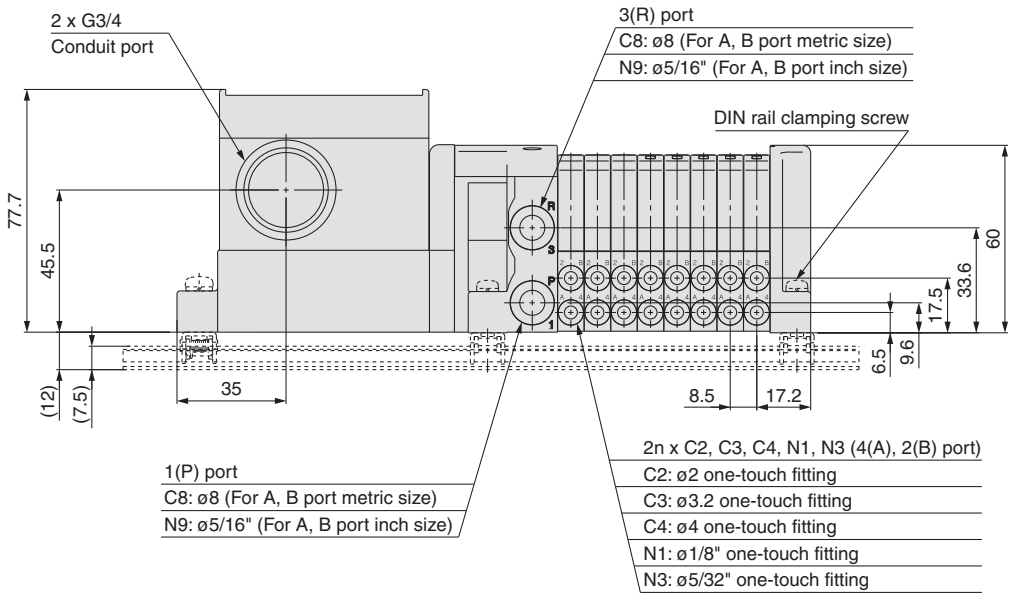
SS0750-08C4TD0 ···1 set – Manifold base part no.
* **S0710-5····· 3 sets – Valve part no. (Stations 1 to 3)**
* **S0720-5····· 2 sets – Valve part no. (Stations 4 to 5)**
* **S07A0-5····· 2 sets – Valve part no. (Stations 6 to 7)**
* **SS0700-10A-1····· 1 set – Blanking plate part no. (Station 8)**

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

Write sequentially from the 1st station on the D side. When part nos. written collectively are complicated, specify on the manifold specification sheet.







Dimensions

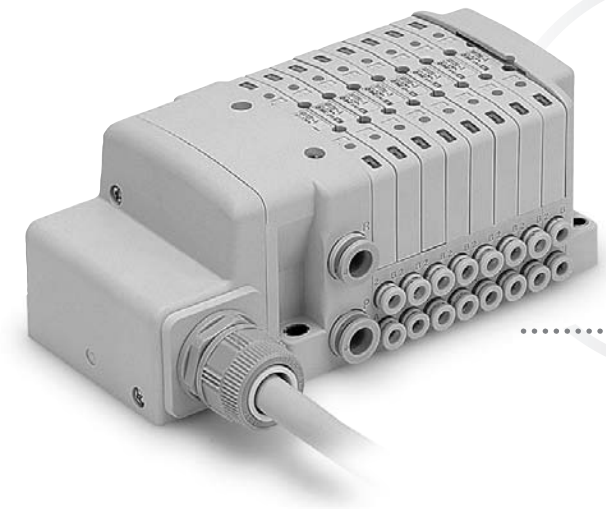
Formula L1 = 8.5n + 31, L2 = 8.5n + 135 n: Station (Maximum 20 stations)

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	48	56.5	65	73.5	82	90.5	99	107.5	116	124.5	133	141.5	150	158.5	167	175.5	184	192.5	201
L2	152	160.5	169	177.5	186	194.5	203	211.5	220	228.5	237	245.5	254	262.5	271	279.5	288	296.5	305
L3	175	187.5	200	200	212.5	225	225	237.5	250	250	262.5	275	275	287.5	300	300	312.5	325	325
L4	185.5	198	210.5	210.5	223	235.5	235.5	248	260.5	260.5	273	285.5	285.5	298	310.5	310.5	323	335.5	335.5

Lead Wire

L kit

Plug-in Manifold Stacking Base



Lead Wire Direct Entry Type

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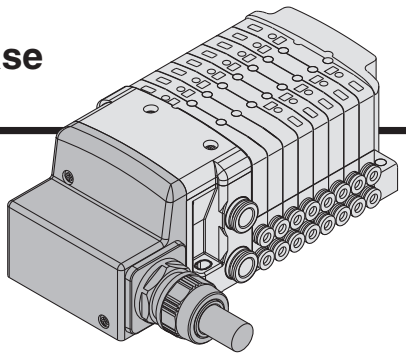
L Series S0700 Plug-in Manifold Stacking Base kit (Lead Wire)

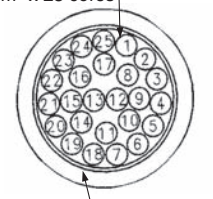


●Direct electrical entry type

Electrical Wiring Specifications

Lead wire specifications

Lead wire
0.3 mm² x 25 cores



Sheath
Color: White

As the standard electrical wiring specifications, double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station for 12 stations or less, regardless of valve and option types.
Mixed single and double wiring is available as an option. For details, refer to "Special Wiring Specifications" (Option) below.

		Terminal no.	Polarity		Lead wire color	Dot marking
Station 1	SOL.A	1	(–)	(+)	Black	None
	SOL.B	14	(–)	(+)	Yellow	Black
Station 2	SOL.A	2	(–)	(+)	Brown	None
	SOL.B	15	(–)	(+)	Pink	Black
Station 3	SOL.A	3	(–)	(+)	Red	None
	SOL.B	16	(–)	(+)	Blue	White
Station 4	SOL.A	4	(–)	(+)	Orange	None
	SOL.B	17	(–)	(+)	Purple	None
Station 5	SOL.A	5	(–)	(+)	Yellow	None
	SOL.B	18	(–)	(+)	Gray	None
Station 6	SOL.A	6	(–)	(+)	Pink	None
	SOL.B	19	(–)	(+)	Orange	Black
Station 7	SOL.A	7	(–)	(+)	Blue	None
	SOL.B	20	(–)	(+)	Red	White
Station 8	SOL.A	8	(–)	(+)	Purple	White
	SOL.B	21	(–)	(+)	Brown	White
Station 9	SOL.A	9	(–)	(+)	Gray	Black
	SOL.B	22	(–)	(+)	Pink	Red
Station 10	SOL.A	10	(–)	(+)	White	Black
	SOL.B	23	(–)	(+)	Gray	Red
Station 11	SOL.A	11	(–)	(+)	White	Red
	SOL.B	24	(–)	(+)	Black	White
Station 12	SOL.A	12	(–)	(+)	Yellow	Red
	SOL.B	25	(–)	(+)	White	None
	COM.	13	(+)	(–) Note)	Orange	Red
			Positive COM	Negative COM		

Note) Mounting valve has no polarity. It can also be used as a negative common.

Lead wire length

SS0750 – 08 C4 LD [0]

Lead wire length

0	0.6 m
1	1.5 m
2	3.0 m

Electrical Characteristics

Item	Property
Conductor resistance Ω/km, 68°F (20°C)	65 or less
Voltage limit V, 1 min, AC	1000
Insulation resistance MΩ/km, 68°F (20°C)	5 or more

Note) Cannot be used for movable wiring. The minimum bending inner radius of cable is 20 mm.

Special Wiring Specifications (Option) [-K]

Mixed single and double wiring are available as an option. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 24.

1. How to Order valves

Indicate an option symbol, -K, for the manifold part number and be sure to specify the mounting position and number of stations of the single and double wiring on the manifold specification sheet.

2. Wiring specifications

Connector terminal numbers are connected from solenoid station 1 on the A side in the order indicated by the arrows without skipping any terminal numbers.

How to Order Manifold

SS0750 – 08 C4 C8 LD0 – B

Stations

Symbol	Stations
02	2 stations
⋮	⋮
24	24 stations

Note) The maximum number of stations will be different depending on the wiring specifications.

Cylinder port size

Symbol	Port size	
C2	With ø2 one-touch fitting	Metric
C3	With ø3.2 one-touch fitting	
C4	With ø4 one-touch fitting	
CM	Mixed sizes and with port plug Note)	
N1	With ø1/8" one-touch fitting	Inch
N3	With ø5/32" one-touch fitting	
NM	Mixed sizes and with port plug Note)	

Note) Specify "Mixed sizes and with port plug" on the manifold specification sheet.

P, R port size

Symbol	Port size	
Nil	With ø8 one-touch fitting Note)	Metric
C6	With ø6 one-touch fitting	
C8	With ø8 one-touch fitting	
N7	With ø1/4" one-touch fitting	Inch
N9	With ø5/16" one-touch fitting	

Note) The cylinder port is ø5/16" when measured in inches.

Option

Symbol	Specifications
Nil	None
B Note 2)	With back pressure check valve (All stations)
D	With DIN rail (Rail length: Standard)
D0	Without DIN rail (With bracket)
D□ Note 3)	With DIN rail Designated length (□: Station)
K Note 4)	Special wiring specifications (Except double wiring)
N	With name plate
R Note 5)	External pilot
S	Built-in silencer

Note 1) When two or more options are specified, indicate them alphabetically. Example) -BKN
Note 2) When installing a back pressure check valve on the required station, enter the part number and specify the station position on the manifold specification sheet.
Note 3) The available number of stations is larger than the number of manifold stations.
Note 4) Indicate the wiring specifications for mixed single and double wirings.
Note 5) For details, refer to page 69.
∗ **For manifold optional parts, refer to pages 69 to 73.**
∗ **For manifold exploded view, refer to page 75.**

Kit type/Cable length

Kit type	Symbol	Specifications	Standard station	Max. number of stations for special wiring specifications	Max. number of solenoids
L kit	**LD0**	Lead wire, with 0.6 m cable	1 to 12 stations	24 stations	24
	LD1	Lead wire, with 1.5 m cable			
	LD2	Lead wire, with 3.0 m cable			

Note) The maximum number of stations is determined by the total number of solenoids. For mixed single and double wirings, enter "-K" to the order code options.

Type of actuation	Single	Double, Dual 3-port
Number of solenoids	1	2

How to Order Valves

S07 1 0 □ – 5

Type of actuation

Symbol	Specifications
1	2-position single
2	2-position double
A	4-position dual 3-port (N.C. + N.C.) [Exhaust center]
B	4-position dual 3-port (N.O. + N.O.) [Pressure center]
C	4-position dual 3-port (N.C. + N.O.)

Note) For symbol, refer to page 7.

Voltage

Symbol	Specifications
5	24 VDC
6	12 VDC

Function

Symbol	Specifications
Nil	Standard
R	External pilot Note)

Note) Not compatible with dual 3-port valves.

Base mounted plug-in

How to Order Manifold Assembly

Specify the part numbers for valves and options together beneath the manifold base part number.

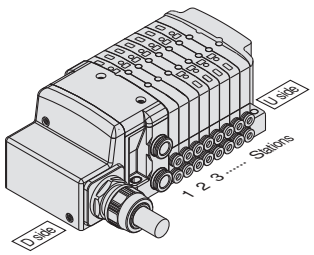
<Example>

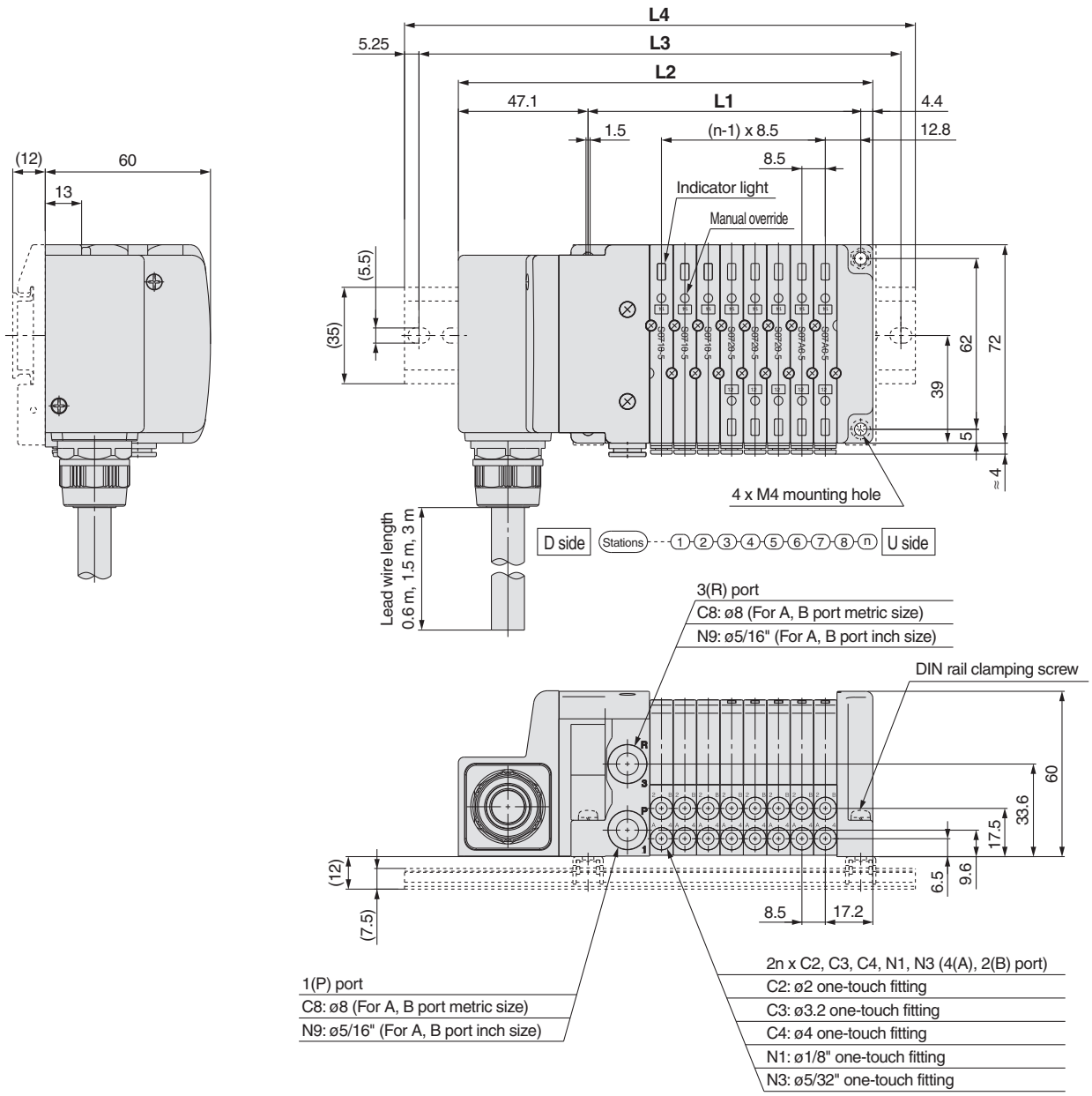
Lead wire kit

SS0750-08C4LD0 ··· 1 set – Manifold base part no.
*** S0710-5····· 3 sets – Valve part no. (Stations 1 to 3)**
*** S0720-5····· 2 sets – Valve part no. (Stations 4 to 5)**
*** S07A0-5····· 2 sets – Valve part no. (Stations 6 to 7)**
*** SS0700-10A-1····· 1 set – Blanking plate part no. (Station 8)**

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

Write sequentially from the 1st station on the D side. When part nos. written collectively are complicated, specify on the manifold specification sheet.





Dimensions

Formula L1 = 8.5n + 31, L2 = 8.5n + 82.5 n: Station (Maximum 24 stations)

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	48	56.5	65	73.5	82	90.5	99	107.5	116	124.5	133	141.5	150	158.5	167	175.5	184	192.5	201	209.5	218	226.5	235
L2	99.5	108	116.5	125	133.5	142	150.5	159	167.5	176	184.5	193	201.5	210	218.5	227	235.5	244	252.5	261	269.5	278	286.5
L3	125	137.5	137.5	150	162.5	162.5	175	187.5	187.5	200	212.5	212.5	225	237.5	250	250	262.5	275	275	287.5	300	300	312.5
L4	135.5	148	148	160.5	173	173	185.5	198	198	210.5	223	223	235.5	248	260.5	260.5	273	285.5	285.5	298	310.5	310.5	323

Circular Connector

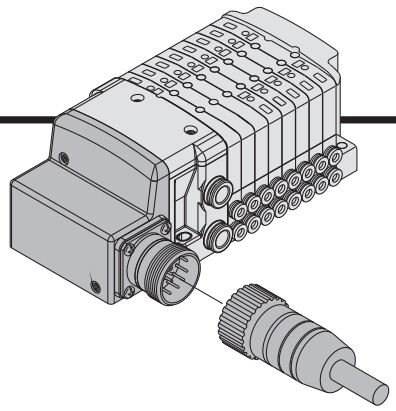
M kit

Plug-in Manifold Stacking Base

Circular Connector 26 Pins

Page 65

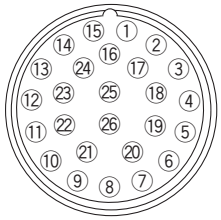
M Series S0700 Plug-in Manifold Stacking Base kit (Circular Connector)



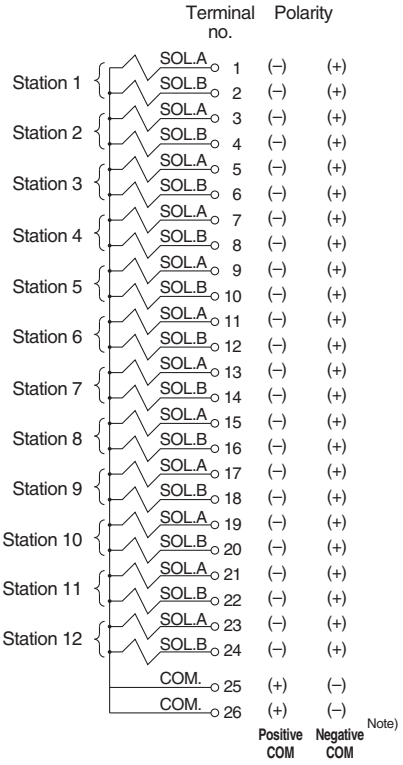
●Simplification and labor savings for wiring work can be achieved by using a circular connector for the electrical connection.

Electrical Wiring Specifications

Circular connector



Double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station, regardless of valve and option types.
Mixed single and double wiring is available as an option. For details, refer to "Special Wiring Specifications" (Option) below.



Note) Mounting valve has no polarity. It can also be used as a negative common.

Special Wiring Specifications (Option) [-K]

Mixed single and double wiring are available as an option. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 24.

1. How to Order valves

Indicate an option symbol, -K, for the manifold part number and be sure to specify the mounting position and number of stations of the single and double wiring on the manifold specification sheet.

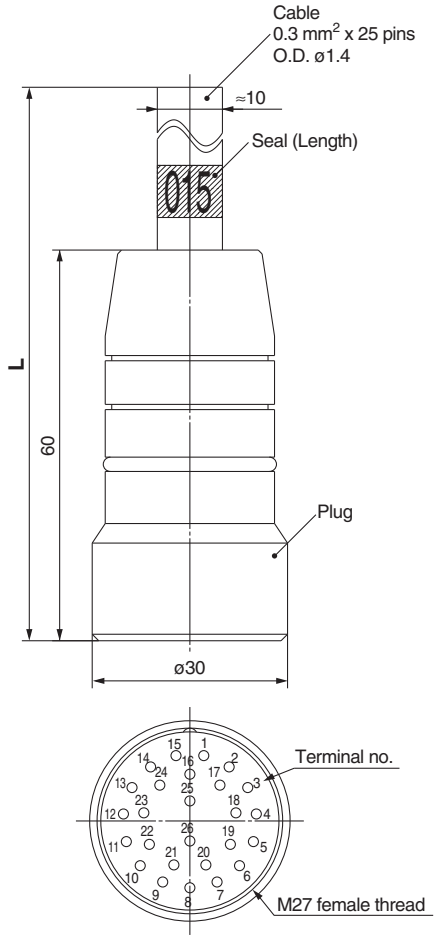
2. Wiring specifications

Connector terminal numbers are connected from solenoid station 1 on the A side in the order indicated by the arrows without skipping any terminal numbers.

Cable Assembly

AXT100-MC26- 015 / 030 / 050

(Circular connector assembly (26P type) can be included in a specific manifold model number. Refer to "How to Order Manifold.")



Circular Connector Cable Assembly (Option)

Cable length (**L**)	Assembly part no.
	26P
1.5 m	AXT100-MC26-015
3 m	AXT100-MC26-030
5 m	AXT100-MC26-050

∗ Cannot be used for movable wiring.

How to Order Manifold

SS0750 – 08 C4 C8 MD1 – B
① ② ③ ④ ⑤

① Stations

Symbol	Stations
02	2 stations
⋮	⋮
24 Note)	24 stations

Note) The maximum number of stations will be different depending on the wiring specifications.

② Cylinder port size

Symbol	Port size	
C2	With ø2 one-touch fitting	Metric
C3	With ø3.2 one-touch fitting	
C4	With ø4 one-touch fitting	
CM	Mixed sizes and with port plug Note)	
N1	With ø1/8" one-touch fitting	Inch
N3	With ø5/32" one-touch fitting	
NM	Mixed sizes and with port plug Note)	

Note) Specify "Mixed sizes and with port plug" on the manifold specification sheet.

③ P, R port size

Symbol	Port size	
Nil	With ø8 one-touch fitting Note)	Metric
C6	With ø6 one-touch fitting	
C8	With ø8 one-touch fitting	
N7	With ø1/4" one-touch fitting	Inch
N9	With ø5/16" one-touch fitting	

Note) The cylinder port is ø5/16" when measured in inches.

④ Kit type/Cable length

Kit type	Symbol	Specifications	Standard station	Max. number of stations for special wiring specifications	Max. number of solenoids
M kit	**MD0**	Circular connector (26P), without cable	1 to 12 stations	24 stations	24
	MD1	Circular connector (26P), with 1.5 m cable			
	MD2	Circular connector (26P), with 3.0 m cable			
	MD3	Circular connector (26P), with 5.0 m cable			

Note) The maximum number of stations is determined by the total number of solenoids.
For mixed single and double wirings, enter "-K" to the order code options.

Type of actuation	Single	Double, Dual 3-port
Number of solenoids	1	2

⑤ Option

Symbol	Specifications
Nil	None
B Note 2)	With back pressure check valve (All stations)
D	With DIN rail (Rail length: Standard)
D0	Without DIN rail (With bracket)
D□ Note 3)	With DIN rail Designated length (□: Station)
K Note 4)	Special wiring specifications (Except double wiring)
N	With name plate
R Note 5)	External pilot
S	Built-in silencer

Note 1) When two or more options are specified, indicate them alphabetically.
Example) -BKN
Note 2) When installing a back pressure check valve on the required station, enter the part number and specify the station position on the manifold specification sheet.
Note 3) The available number of stations is larger than the number of manifold stations.
Note 4) Indicate the wiring specifications for mixed single and double wirings.
Note 5) For details, refer to page 69.
∗ **For manifold optional parts, refer to pages 69 to 73.**
∗ **For manifold exploded view, refer to page 75.**

How to Order Valves

S07 1 0 □ – 5

Type of actuation

Symbol	Specifications
1	2-position single
2	2-position double
A	4-position dual 3-port (N.C. + N.C.) [Exhaust center]
B	4-position dual 3-port (N.O. + N.O.) [Pressure center]
C	4-position dual 3-port (N.C. + N.O.)

Note) For symbol, refer to page 7.

Base mounted plug-in

Voltage

Symbol	Specifications
5	24 VDC
6	12 VDC

Function

Symbol	Specifications
Nil	Standard
R	External pilot Note)

Note) Not compatible with dual 3-port valves.

How to Order Manifold Assembly

Specify the part numbers for valves and options together beneath the manifold base part number.

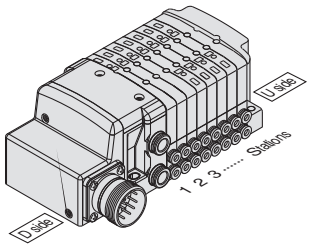
<Example>

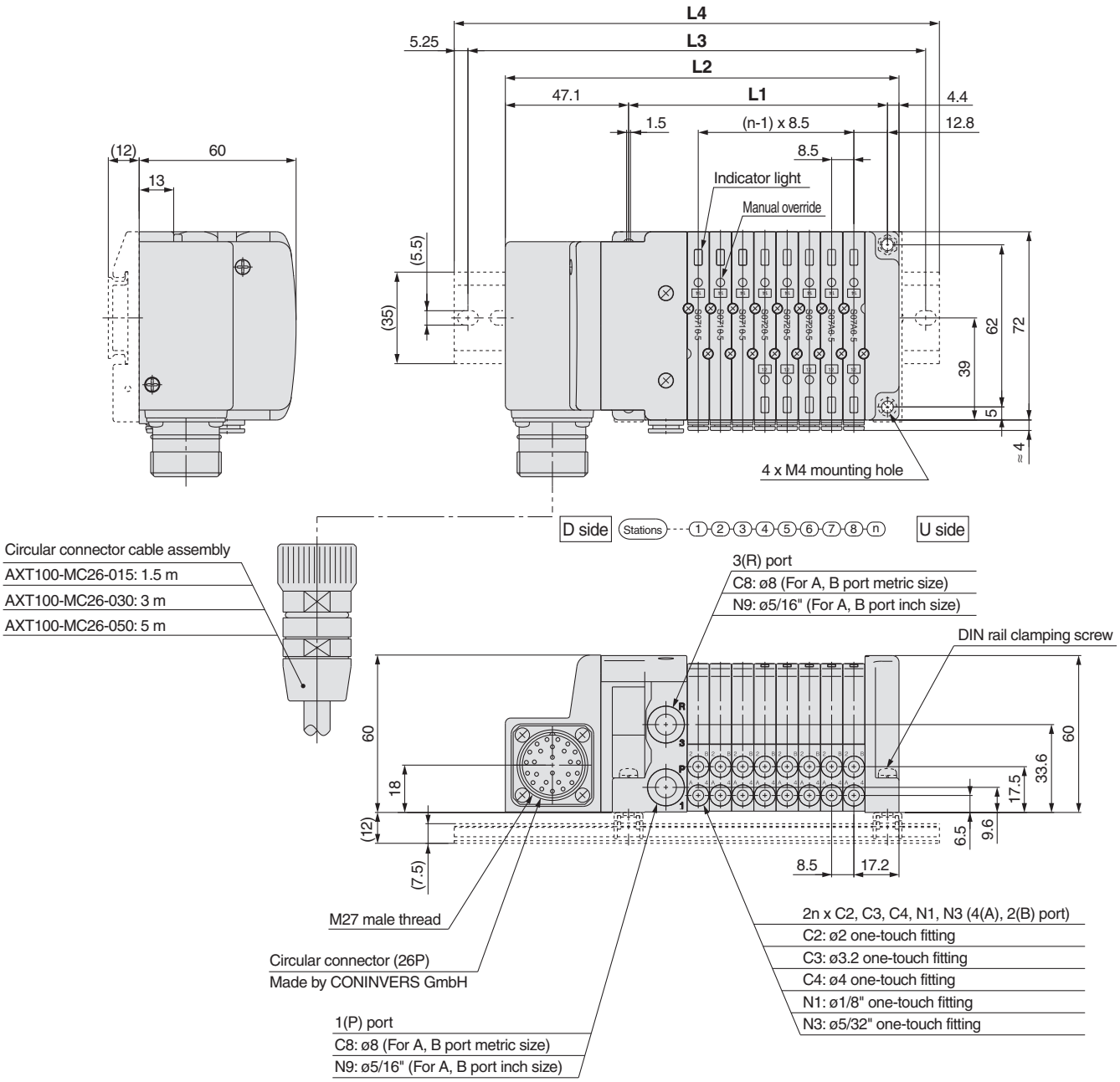
Circular connector kit

SS0750-08C4MD1···1 set – Manifold base part no.
∗ **S0710-5····· 3 sets – Valve part no. (Stations 1 to 3)**
∗ **S0720-5····· 2 sets – Valve part no. (Stations 4 to 5)**
∗ **S07A0-5····· 2 sets – Valve part no. (Stations 6 to 7)**
∗ **SS0700-10A-1····· 1 set – Blanking plate part no. (Station 8)**

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

Write sequentially from the 1st station on the D side.
When part nos. written collectively are complicated, specify on the manifold specification sheet.





Dimensions

Formula L1 = 8.5n + 31, L2 = 8.5n + 82.5 n: Station (Maximum 24 stations)

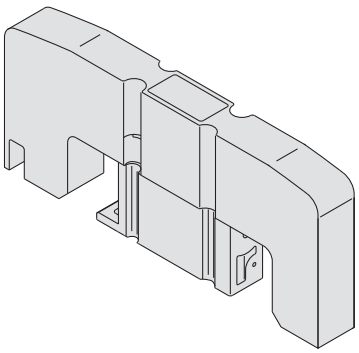
L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	48	56.5	65	73.5	82	90.5	99	107.5	116	124.5	133	141.5	150	158.5	167	175.5	184	192.5	201	209.5	218	226.5	235
L2	99.5	108	116.5	125	133.5	142	150.5	159	167.5	176	184.5	193	201.5	210	218.5	227	235.5	244	252.5	261	269.5	278	286.5
L3	125	137.5	137.5	150	162.5	162.5	175	187.5	187.5	200	212.5	212.5	225	237.5	250	250	262.5	275	275	287.5	300	300	312.5
L4	135.5	148	148	160.5	173	173	185.5	198	198	210.5	223	223	235.5	248	260.5	260.5	273	285.5	285.5	298	310.5	310.5	323

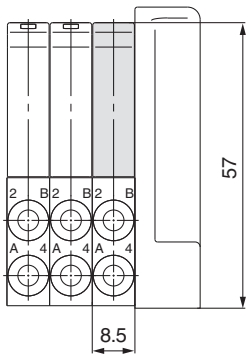
Blanking plate

SS0700-10A-1

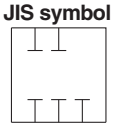
It is used by attaching on the manifold block for being prepared for removing a valve for maintenance reasons or planning to mount a spare valve, etc.

Weight: 0.88 oz (25 g)





JIS symbol

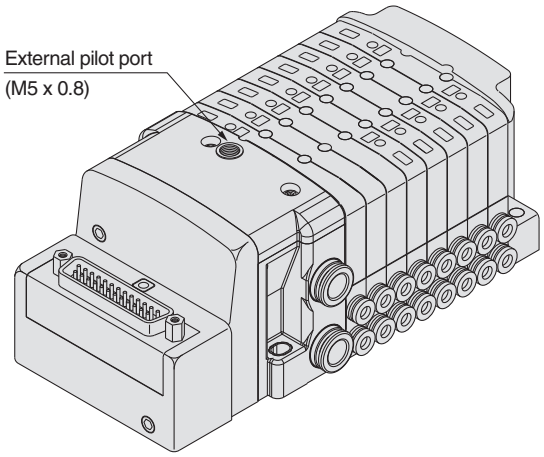


External pilot [-R]

This can be used when the air pressure is 0.1 to 0.2 MPa lower than the minimum operating pressure of the solenoid valves or used for vacuum specifications.
Add R to the part numbers of manifolds and valves to indicate the external pilot specifications. An M5 port will be installed on the top side of the manifold's SUP/EXH block.

● How to Order Valves (Example)
S0710 R -5
• External pilot

● How to Order Manifold (Example)
∗ Indicate R for an option.
SS0750-08C4FD1-R
• External pilot

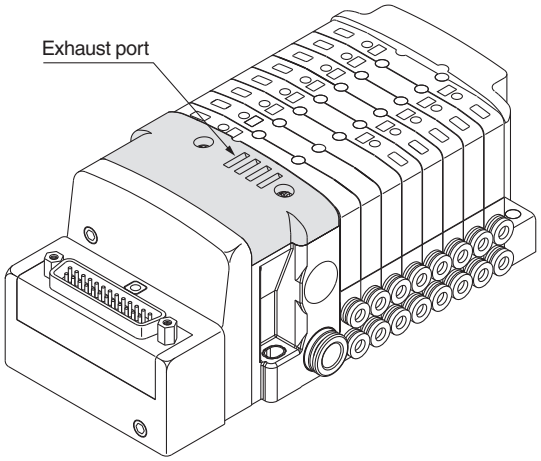


Note 1) Not compatible with dual 3-port valves.
Note 2) When the internal pilot type and external pilot type of valves are mixed up on the manifold, order the manifold suitable for the specifications of the external pilot valve.
Note 3) Valves with the external pilot have a pilot EXH with individual exhaust specifications and EXH can be pressurized.
However, the pressure supplied from EXH should be 58 psi (0.4 MPa) or lower.

Direct EXH outlet with built-in silencer [-S]

This is a type with an exhaust port atop the manifold end plate. The built-in silencer exhibits an excellent noise suppression effect. (Noise reduction: 30 dB)

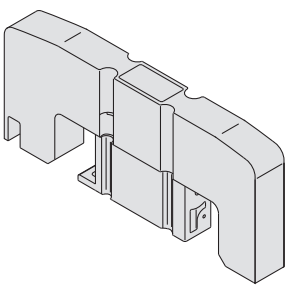
Note) A large quantity of drainage generated in the air source results in exhaust of air together with drainage.
∗ When ordering this option incorporated with a manifold, suffix "-S" to the end of the manifold part number.
∗ For precautions on handling and how to replace elements, refer to "Specific Product Precautions."

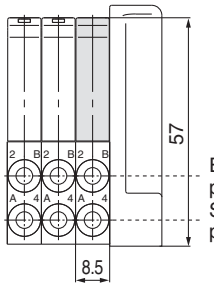


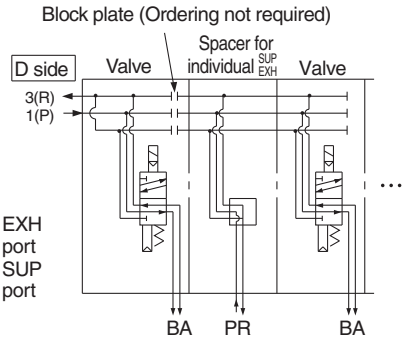
Individual SUP/EXH spacer

SS0700-PR-1

If this spacer is installed instead of a valve, it is possible to add SUP and EXH ports. In this condition, the A port should be an SUP port and the B port an EXH port.
∗ Specify the spacer mounting position and SUP/EXH passage shut off positions on the manifold specification sheet.
∗ The spacer comes with a SUP block plate and an EXH block plate.
∗ Electrical wiring is also connected to the spacer mounting position.







SUP block plate

SS0700-B-P

When different pressures, high and low, are supplied to one manifold, a SUP block plate is inserted between the stations under different pressures.

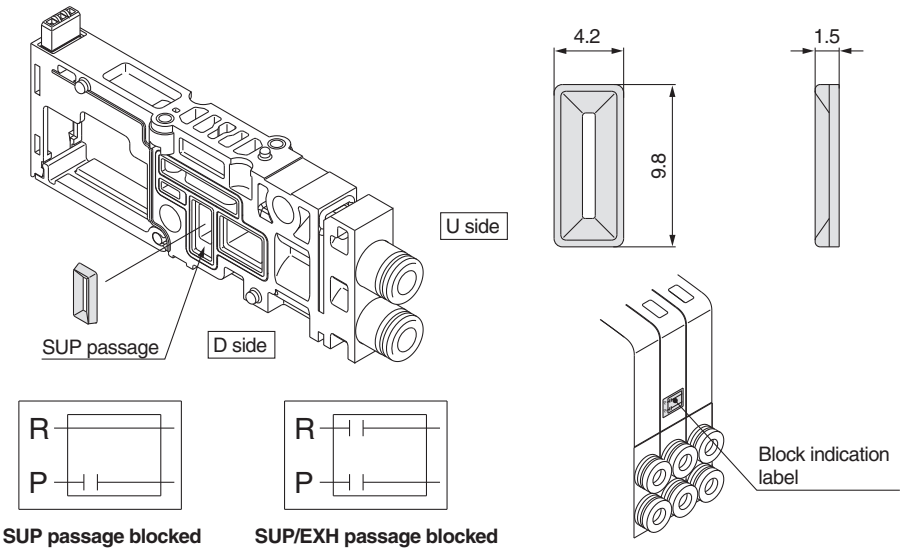
* Specify the number of stations on the manifold specification sheet.

<Block indication label>

When using block plates for SUP passage, indication label for confirmation of the blocking position from outside is attached. (One label of each)

* When ordering a block plate for SUP incorporated with the manifold, a block indication label is attached to the manifold.

Weight: 0.3 g



SUP passage blocked **SUP/EXH passage blocked**

EXH block plate

SS0700-B-R

When valve exhaust affects the other stations on the circuit, insert EXH block plate in between stations to separate valve exhaust.

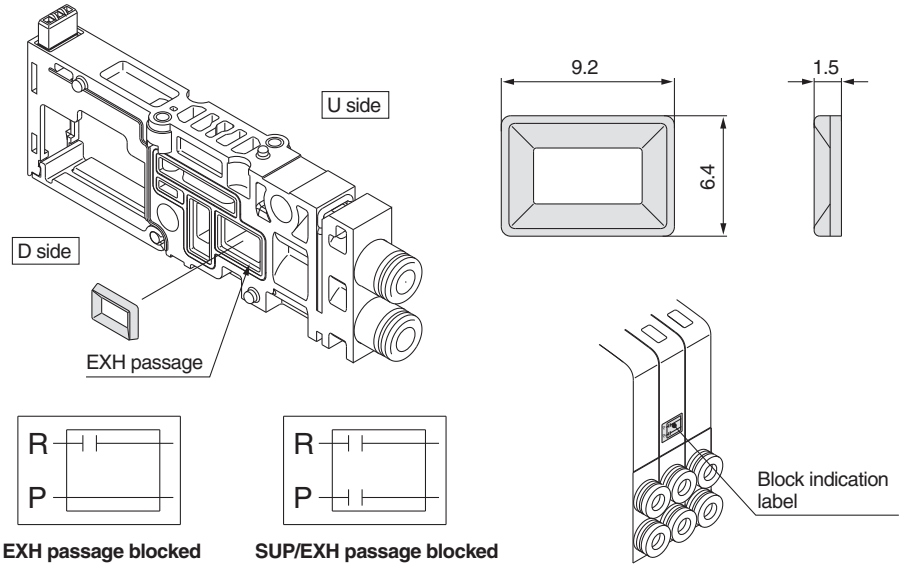
* Specify the number of stations on the manifold specification sheet.

<Block indication label>

When using block plates for EXH passage, indication label for confirmation of the blocking position from outside is attached. (One label of each)

* When ordering a block plate for EXH incorporated with the manifold, a block indication label is attached to the manifold.

Weight: 0.3 g



EXH passage blocked **SUP/EXH passage blocked**

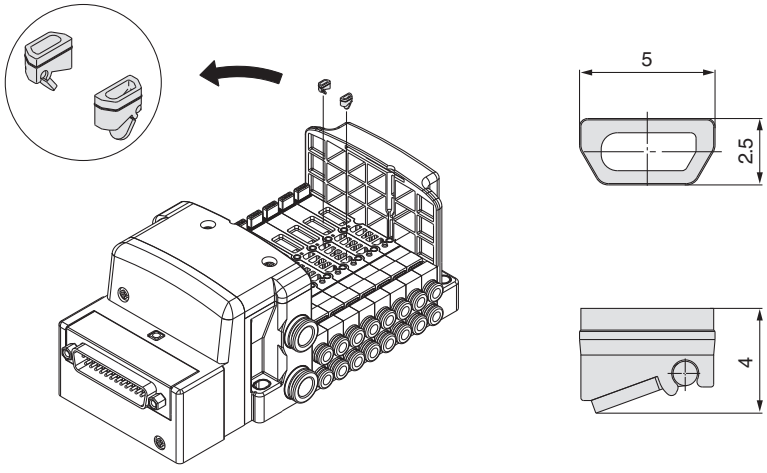
Back pressure check valve [-B]

SS0700-7A-1

It prevents cylinder malfunction caused by other valve exhaust. Insert it into R (EXH) port on the manifold side of a valve which is affected. It is effective when a single action cylinder is used or an exhaust center type solenoid valve is used.

* When a check valve for back pressure prevention is desired, and is to be installed only in certain manifold stations, clearly write the part number and specify the number of stations on the manifold specification sheet.
* When ordering this option incorporated with a manifold, suffix "-B" to the end of the manifold part number.

Weight: 0.1 g



⚠ Precautions

1. The back pressure check valve assembly is assembly parts with a check valve structure. However, as slight air leakage is allowed for the back pressure, take care the exhaust air will not be restricted at the exhaust port.
2. When a back pressure check valve is mounted, the effective area of the valve will decrease by about 20%.

Blanking plate with output

SS0700-1C-□

Lead wire length (mm)

Nil	600
10	1000
15	1500
20	2000
25	2500
30	3000

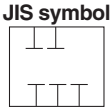
Blanking plate with a connector for individually outputting electricity to drive a single valve or equipment that are not on the manifold base.

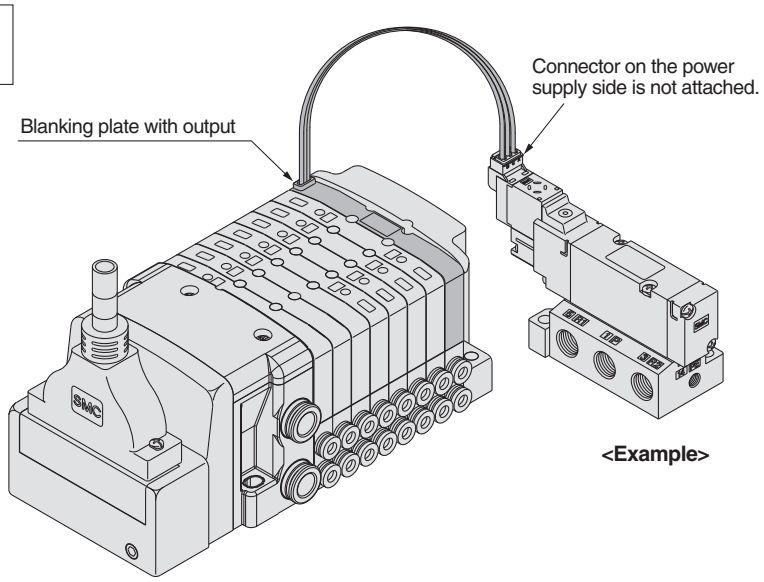
Note 1) Electric current should be 0.5 A or less. (Including the mounted valves) When the current is output from two positions at the same time, the current should be 0.25 A or less.

Note 2) Please consult with SMC for the max. allowable current for serial transmission kit.

Weight: 34 g

JIS symbol





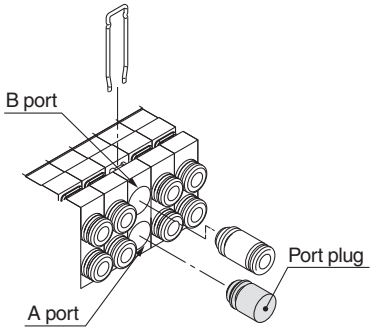
<Example>

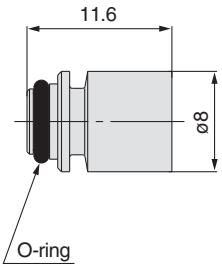
Port plug

VVQ0000-CP

The plug is used to block the cylinder port when using a 5-port valve as a 3-port valve.

* When ordering a plug incorporated with a manifold, indicate "CM" for the port size in the manifold part number, as well as, the mounting position and number of stations and cylinder port mounting positions, A and B on the manifold specification sheet.





DIN rail mounting bracket
For S(EX260/600/500, EX250), F, P, J, T, L, M kit

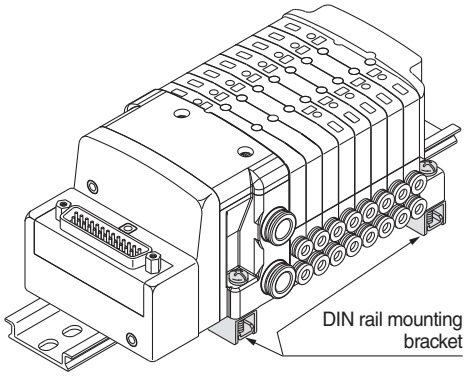
SS0700-57A-□

Symbol	Specifications
Nil	S(EX260/600/500), F, P, J, L, M kit
S	S(EX250) kit
T	T kit

It is used for mounting a manifold on a DIN rail. The DIN rail mounted bracket is fixed to the manifold end plate. (The specification is the same as that for the option "-D".)

1 set of DIN rail mounting bracket is included for 1 manifold (2 or 3 DIN rail mounting brackets (S, T kit)).

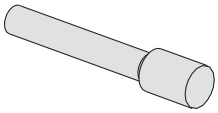
* When ordering this option incorporated with a manifold, suffix "D" to the end of the manifold part number.



Blanking plug (For one-touch fittings)

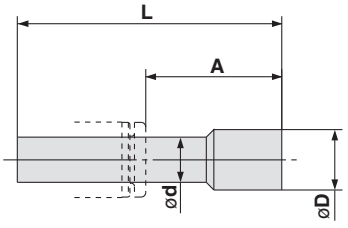
KJP-02

KQ2P- 23
04
06



It is inserted into an unused cylinder port and SUP/EXH ports.

Purchasing order is available in units of 10 pieces.



Dimensions (mm)

Applicable fitting size ø**d**	Model	**A**	**L**	**D**	Weight: g
2	**KJP-02**	8.2	17	3	0.1
3.2	**KQ2P-23**	16	31.5	3.2	1
4	**KQ2P-04**	16	32	6	1
6	**KQ2P-06**	18	35	8	1

Applicable to DIN rail mounting

Each manifold can be mounted on a DIN rail.
Order it by indicating a manifold mounting symbol for DIN rail mounting [-D].
Standard DIN rail which is approx. 30 mm longer than the manifold with the specified number of stations is attached.
The following options are also available.

● DIN rail length longer than the standard (for stations to be added later, etc.)

In the manifold part number, specify -D for the manifold mounting symbol and add the number of required stations after the symbol.

Example) **SS0750–08C4FD0–D09K**

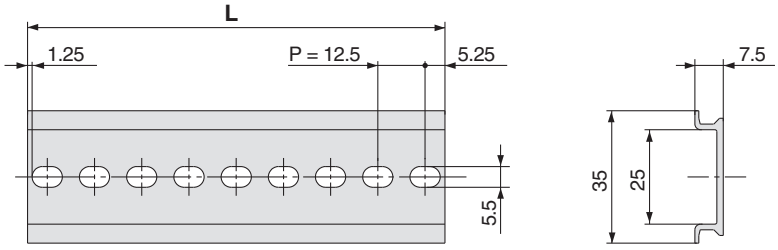
- 8-station manifold
- Optional symbol (alphabetically)
- DIN rail for 9 stations

● How to Order DIN rail only

DIN rail part number

AXT100– DR– n□

Note) For n, enter a number from the No. line in the table below.
For L dimension, refer to the dimensions of each kit.



L Dimension

L = 12.5 x n + 10.5

No.	1	2	3	4	5	6	7	8	9	10
L dimension	23	35.5	48	60.5	73	85.5	98	110.5	123	135.5

No.	11	12	13	14	15	16	17	18	19	20
L dimension	148	160.5	173	185.5	198	210.5	223	235.5	248	260.5

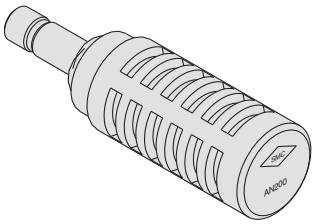
No.	21	22	23	24	25	26	27	28	29	30
L dimension	273	285.5	298	310.5	323	335.5	348	360.5	373	385.5

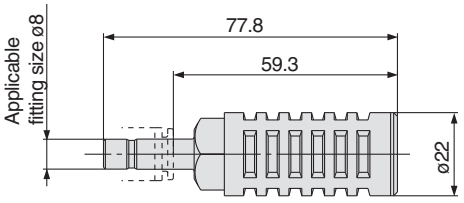
No.	31	32	33	34	35	36	37	38	39	40
L dimension	398	410.5	423	435.5	448	460.5	473	485.5	498	510.5

Silencer (For EXH port)

This silencer is to be inserted into the EXH port (one-touch fitting) of the common exhaust type.

AN200-KM8





Specifications

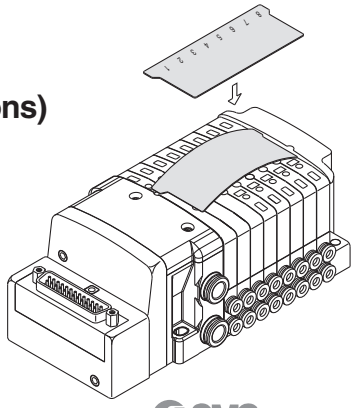
Model	Effective area (mm²) (Cv factor)	Noise reduction (dB)
AN200-KM8	20 (1.1)	30

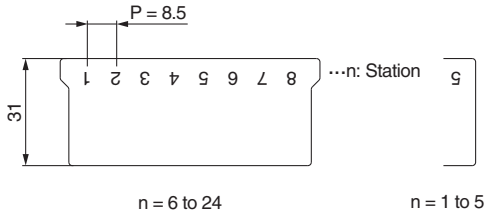
Name plate [-N]

SS0700-N-Station (1 to max. stations)

It is a transparent resin plate for placing a label that indicates solenoid valve function, etc.
Insert it into the groove on the side of the end plate and bend it as shown in the figure.

∗ When ordering this option incorporated with a manifold, suffix "-N" to the end of the manifold part number.





Series S0700 Plug-in Manifold Stacking Base
Manifold Optional Parts

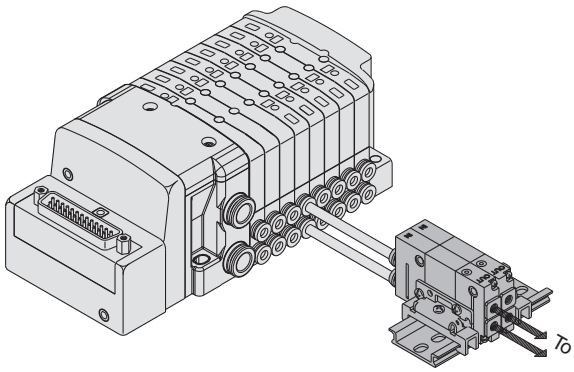
Double check block (Separated)

VQ1000-FPG-□□

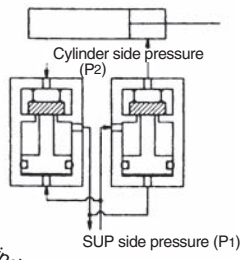
It is used on the outlet side piping to keep the cylinder in the intermediate position for long periods of time. Combining the double check block with a built-in pilot type double check valve and a 2-position single/double solenoid valve will permit this block to be used for preventing the dropping at the cylinder stroke end when the SUP residual pressure is released.

Specifications

Max. operating pressure	116 psi (0.8 MPa)
Min. operating pressure	22 psi (0.15 MPa)
Ambient and fluid temperature	23 to 122°F (–5 to 50°C)
Flow-rate characteristics: C	0.60 dm³/(s·bar)
Max. operating frequency	180 c.p.m



<Check Valve Working Principle>

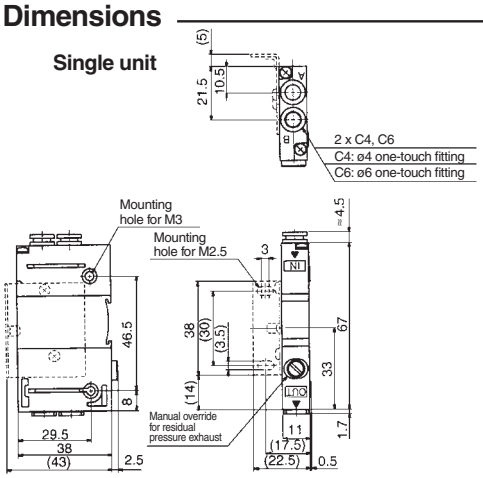


Note) Based on JIS B 8375-1981
(Supply pressure: 73 psi (0.5 MPa))

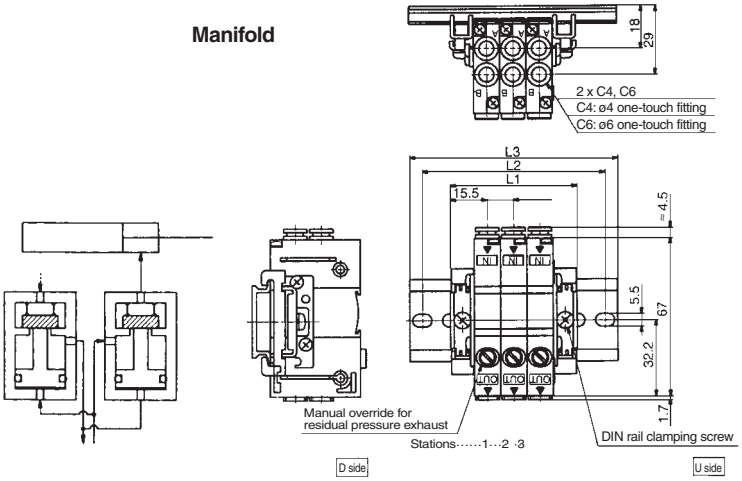
VVQ1000-FPG-02 1 set
∗ VQ1000-FPG-C6M5-D 2 pcs.

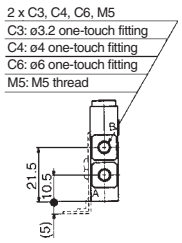
Dimensions

Single unit



Manifold

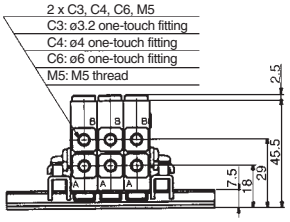




Dimensions Formula L1 = 11n + 20 n: Station (Max. 24 stations)

n	1	2	3	4	5	6	7	8	9	10	11	12
L1	31	42	53	64	75	86	97	108	119	130	141	152
L2	50	62.5	75	87.5	100	112.5	125	125	137.5	150	162.5	175
L3	60.5	73	85.5	98	110.5	123	135.5	135.5	148	160.5	173	185.5

n	13	14	15	16	17	18	19	20	21	22	23	24
L1	163	174	185	196	207	218	229	240	251	262	273	284
L2	187.5	187.5	200	212.5	225	237.5	250	250	262.5	275	287.5	300
L3	198	198	210.5	223	235.5	248	260.5	260.5	273	285.5	298	310.5



How to Order

Single unit, double check block

VQ1000 – FPG – C4 M5 – F

IN side port size

C4	ø4 one-touch fitting
C6	ø6 one-touch fitting

OUT side port size

M5	M5 thread
C3	ø3.2 one-touch fitting
C4	ø4 one-touch fitting
C6	ø6 one-touch fitting

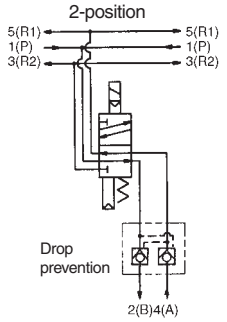
Option

Nil	None
F	With bracket
D	DIN rail mounting (For manifold)
N	With name plate

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

<Example>

2-position



Manifold (DIN rail mounting)

VVQ1000 – FPG – 06

Stations

01	1 station
⋮	⋮
16	16 stations

When ordering a double check block, order the DIN rail mounting [-D]

<Example>

VVQ1000-FPG-06···6-station manifold

∗ VQ1000-FPG-C4M5-D: 3 sets
∗ VQ1000-FPG-C6M5-D: 3 sets
} Double check block

Bracket Assembly

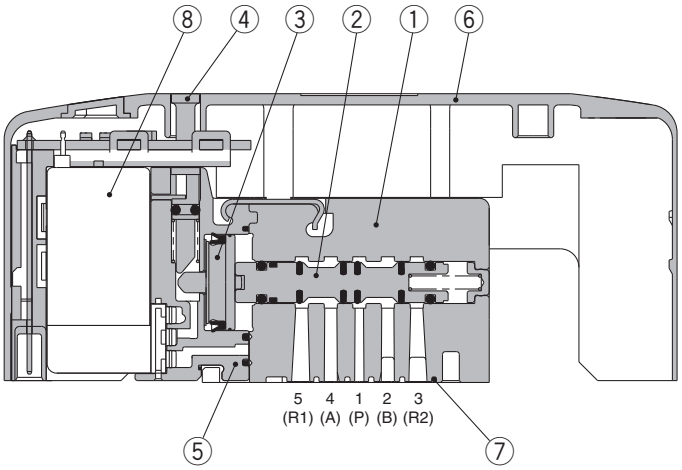
Part no.	Tightening torque
VQ1000-FPG-FB	0.16 to 0.18 lbf·ft (0.22 to 0.25 N·m)

⚠ Caution

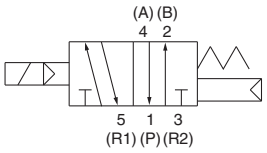
- Air leakage from the pipe between the valve and cylinder or from the fittings will prevent the cylinder from stopping for long periods of time. Check the leakage using neutral household detergent, such as dish washing soap.
  Also, check the cylinder's tube gasket, piston seal and rod seal for air leakage.
- Since one-touch fittings allow slight air leakage, screw piping (with M5 thread) is recommended when stopping the cylinder in the middle for long periods of time.
- M5 fitting assembly is attached, not incorporated into the double check block. After screwing in the M5 fittings, mount the assembly on the double check block. {Tightening torque: 0.6 to 0.8 lbf·ft (0.8 to 1.2 N·m)}
- If the exhaust of the double check block is restricted too much, the cylinder may not operate properly and may not stop intermediately.
- Set the cylinder load so that the cylinder pressure will be within two times that of the supply pressure.
- Air leakage from the pipe between the valve and cylinder or from the fittings will prevent the cylinder from stopping for long periods of time. Check the leakage using neutral household detergent, such as dish washing soap.
  Also, check the cylinder's tube gasket, piston seal and rod seal for air leakage.

Construction

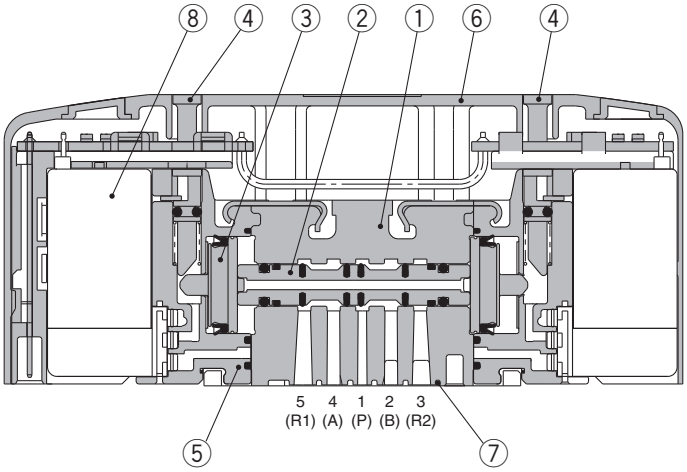
Single: S0710



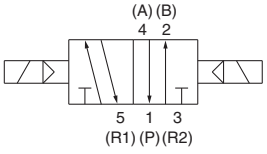
S0710



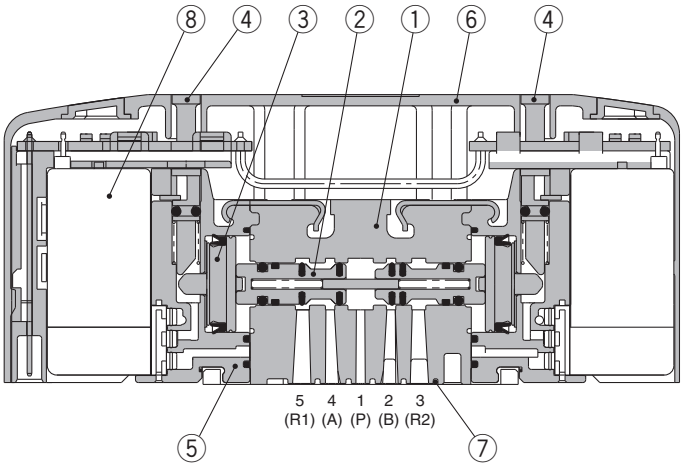
Double: S0720



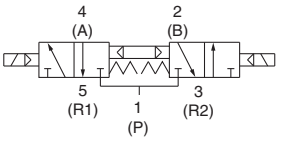
S0720



Dual 3-Port: S07A0 / S07B0 / S07C0

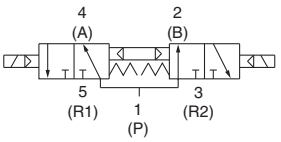


S07A0



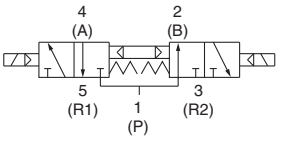
N.C. + N.C.

S07B0



N.O. + N.O.

S07C0



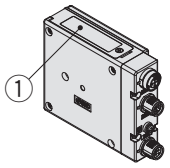
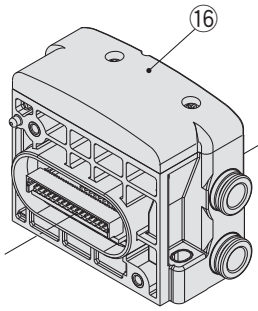
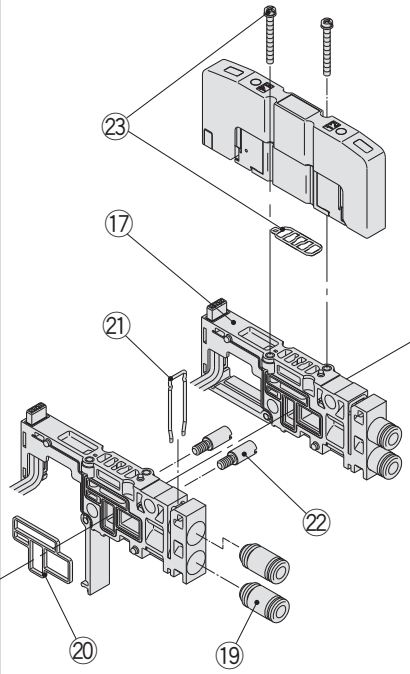
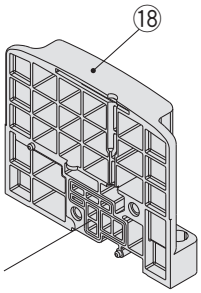
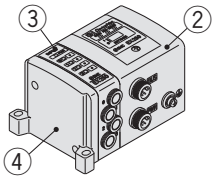
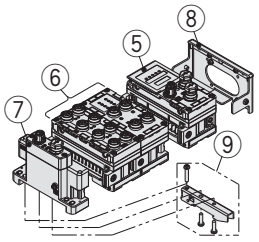
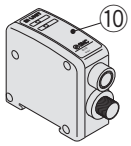
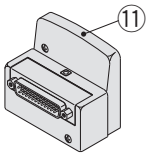
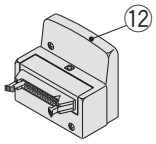
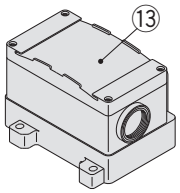
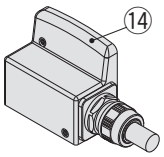
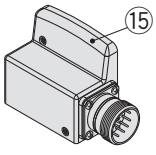
N.C. + N.O.

Component Parts

No.	Description	Material
1	**Body**	Zinc die-casted
2	**Spool**	Aluminum
3	**Piston**	Resin
4	**Manual override**	Resin
5	**Adapter plate**	Resin
6	**Cover**	Resin
7	**Interface gasket**	HNBR
8	**Pilot valve assembly** Note)	—

Note) Please consult with SMC for pilot valve replacement.

Series S0700 Plug-in Manifold
Manifold Exploded View

		Housing assembly and SI unit	D-side end plate assembly	Manifold block assembly	U-side end plate assembly
S kit	EX260				
	EX250				
	EX600				
	EX500				
F kit					
P/J kit					
T kit					
L kit					
M kit					

Manifold Assembly Part No.

<Housing Assembly and SI Unit, Input Block>

No.	Description	Part no.	Note
①	**EX260 SI unit**	**EX260-SDN1**	DeviceNet™ M12 connector, 32 outputs, Negative common (PNP)
		EX260-SDN2	DeviceNet™ M12 connector, 32 outputs, Positive common (NPN)
		EX260-SDN3	DeviceNet™ M12 connector, 16 outputs, Negative common (PNP)
		EX260-SDN4	DeviceNet™ M12 connector, 16 outputs, Positive common (NPN)
		EX260-SPR1	PROFIBUS DP M12 connector, 32 outputs, Negative common (PNP)
		EX260-SPR2	PROFIBUS DP M12 connector, 32 outputs, Positive common (NPN)
		EX260-SPR3	PROFIBUS DP M12 connector, 16 outputs, Negative common (PNP)
		EX260-SPR4	PROFIBUS DP M12 connector, 16 outputs, Positive common (NPN)
		EX260-SPR5	PROFIBUS DP D-sub connector, 32 outputs, Negative common (PNP)
		EX260-SPR6	PROFIBUS DP D-sub connector, 32 outputs, Positive common (NPN)
		EX260-SPR7	PROFIBUS DP D-sub connector, 16 outputs, Negative common (PNP)
		EX260-SPR8	PROFIBUS DP D-sub connector, 16 outputs, Positive common (NPN)
		EX260-SMJ1	CC-Link M12 connector, 32 outputs, Negative common (PNP)
		EX260-SMJ2	CC-Link M12 connector, 32 outputs, Positive common (NPN)
		EX260-SMJ3	CC-Link M12 connector, 16 outputs, Negative common (PNP)
		EX260-SMJ4	CC-Link M12 connector, 16 outputs, Positive common (NPN)
		EX260-SEC1	EtherCAT M12 connector, 32 outputs, Negative common (PNP)
		EX260-SEC2	EtherCAT M12 connector, 32 outputs, Positive common (NPN)
		EX260-SEC3	EtherCAT M12 connector 16 outputs, Negative common (PNP)
		EX260-SEC4	EtherCAT M12 connector, 16 outputs, Positive common (NPN)
		EX260-SPN1	PROFINET M12 connector, 32 outputs, Negative common (PNP)
		EX260-SPN2	PROFINET M12 connector, 32 outputs, Positive common (NPN)
		EX260-SPN3	PROFINET M12 connector, 16 outputs, Negative common (PNP)
		EX260-SPN4	PROFINET M12 connector, 16 outputs, Positive common (NPN)
②	**EX250 SI unit**	**EX250-SDN1**	DeviceNet™ Negative common (PNP)
		EX250-SPR1	PROFIBUS DP Negative common (PNP)
		EX250-SMJ2	CC-Link Positive common (NPN)
		EX250-SAS3	AS-Interface 31 slave, 8 in/8 out, 2 isolated common type, Negative common (PNP)
		EX250-SAS5	AS-Interface 31 slave, 4 in/4 out, 2 isolated common type, Negative common (PNP)
		EX250-SAS7	AS-Interface 31 slave, 8 in/8 out, 1 common type, Negative common (PNP)
		EX250-SAS9	AS-Interface 31 slave, 4 in/4 out, 1 common type, Negative common (PNP)
		EX250-SCA1A	CANopen Negative common (PNP)
		EX250-SEN1	EtherNet/IP™ Negative common (PNP)
③	**EX250 input block**	**EX250-IE1**	M12 2 inputs
		EX250-IE2	M12 4 inputs
		EX250-IE3	M8 4 inputs
④	**EX250 end plate assembly**	**EX250-EA1**	Direct mounting
		EX250-EA2	DIN rail mounting
⑤	**EX600 SI unit**	**EX600-SDN1A**	DeviceNet™ Negative common (PNP)
		EX600-SDN2A	DeviceNet™ Positive common (NPN)
		EX600-SMJ1	CC-Link Negative common (PNP)
		EX600-SMJ2	CC-Link Positive common (NPN)
		EX600-SPR1A	PROFIBUS DP Negative common (PNP)
		EX600-SPR2A	PROFIBUS DP Positive common (NPN)
		EX600-SEN1	EtherNet/IP™ Negative common (PNP)
		EX600-SEN2	EtherNet/IP™ Positive common (NPN)
		EX600-SEC1	EtherCAT Negative common (PNP)
		EX600-SEC2	EtherCAT Positive common (NPN)
⑥	**EX600 digital input unit**	**EX600-DXNB**	NPN input, M12 connector, 5 pins (4 pcs.), 8 inputs
		EX600-DXPB	PNP input, M12 connector, 5 pins (4 pcs.), 8 inputs
		EX600-DXNC	NPN input, M8 connector, 3 pins (8 pcs.), 8 inputs
		EX600-DXNC1	NPN input, M8 connector, 3 pins (8 pcs.), 8 inputs, with open circuit detection
		EX600-DXPC	PNP input, M8 connector, 3 pins (8 pcs.), 8 inputs
		EX600-DXPC1	PNP input, M8 connector, 3 pins (8 pcs.), 8 inputs, with open circuit detection
		EX600-DXND	NPN input, M12 connector, 5 pins (8 pcs.), 16 inputs
		EX600-DXPD	PNP input, M12 connector, 5 pins (8 pcs.), 16 inputs
		EX600-DXNE	NPN input, D-sub connector, 25 pins, 16 inputs
		EX600-DXPE	PNP input, D-sub connector, 25 pins, 16 inputs
		EX600-DXNF	NPN input, Spring type terminal block, 32 pins, 16 inputs
		EX600-DXPF	PNP input, Spring type terminal block, 32 pins, 16 inputs
	EX600 digital output unit	**EX600-DYNB**	NPN output, M12 connector, 5 pins (4 pcs.), 8 outputs
		EX600-DYPB	PNP output, M12 connector, 5 pins (4 pcs.), 8 outputs
		EX600-DYNE	NPN output, D-sub connector, 25 pins,16 outputs
		EX600-DYPE	PNP output, D-sub connector, 25 pins, 16 outputs
		EX600-DYNF	NPN output, Spring type terminal block, 32 pins, 16 outputs
		EX600-DYPE	PNP output, Spring type terminal block, 32 pins, 16 outputs
	EX600 digital I/O unit	**EX600-DMNE**	NPN input/output, D-sub connector, 25 pins, 8 inputs/outputs
		EX600-DMPE	PNP input/output, D-sub connector, 25 pins, 8 inputs/outputs
		EX600-DMNF	NPN input/output, Spring type terminal block, 32 pins, 8 inputs/outputs
		EX600-DMPF	PNP input/output, Spring type terminal block, 32 pins, 8 inputs/outputs
	EX600 analog input unit	**EX600-AXA**	M12 connector, 5 pins (2 pcs.), 2-channel input
	EX600 analog output unit	**EX600-AYA**	M12 connector, 5 pins (2 pcs.), 2-channel output
	EX600 analog I/O unit	**EX600-AMB**	M12 connector, 5 pins (4 pcs.), 2-channel input/output
⑦	**EX600 end plate**	**EX600-ED2**	M12 connector, 5 pins, Max. supplied current 2 A
		EX600-ED2-2	M12 connector, 5 pins, Max. supplied current 2 A, with DIN rail mounting bracket
		EX600-ED3	7/8 inch connector, 5 pins, Max. supplied current 8 A
		EX600-ED3-2	7/8 inch connector, 5 pins, Max. supplied current 8 A, with DIN rail mounting bracket
⑧	**EX600 valve plate**	**EX600-ZMV1**	Enclosed parts: Round head screw (M4 x 6) 2 pcs, Round head screw (M3 x 8) 4 pcs.
⑨	**EX600 bracket for end plate**	**EX600-ZMA2**	This bracket is used for the end plate of DIN rail mounting.
⑩	**EX500 SI unit**	**EX500-Q001**	EX500 Positive common (NPN)
		EX500-Q101	EX500 Negative common (PNP)
⑪	**D-sub connector housing assembly**	**VVQC1000-F25-1**	F kit, 25 pins
⑫	**Flat ribbon cable housing assembly**	**VVQC1000-P26-1**	P kit, 26 pins
		VVQC1000-P20-1	P kit, 20 pins
	Flat ribbon cable housing assembly **Flat ribbon cable PC wiring system compatible**	**VVQC1000-J20-1**	J kit, 20 pins
⑬	**Terminal block box housing assembly**	**VVQC1000-T0-1**	T kit
⑭	**Lead wire housing assembly**	**VVQC1000-L25-0-1**	L kit, Lead wire length 0.6 m
		VVQC1000-L25-1-1	L kit, Lead wire length 1.5 m
		VVQC1000-L25-2-1	L kit, Lead wire length 3.0 m
⑮	**Circular connector housing assembly**	**VVQC1000-M26-1**	M kit, 26 pins

Manifold Assembly Part No.

⑯D-side end plate assembly part no.

SS0700 − 3A − 1 − C8 − □

Port size

Symbol	Port size
C8	With ø8 one-touch fitting
N9	With ø5/16" one-touch fitting

Option

Symbol	Specifications
Nil	Common EXH
R	External pilot
S	Direct EXH outlet with built-in silencer

Note) When both options are specified, indicate as "-RS".

⑰Manifold block assembly

Tie-rod (2 pcs.) and lead wire assembly for extensions are attached.

SS0700 − 1A − PD 05 − C3 − □

Wiring specifications

Symbol	Specifications
PD	Double wiring
PS	Single wiring
P0	None

Stations

Symbol	Stations
02	2 stations
⋮	⋮
24	24 stations

Port size

Symbol	Port size
C2	With ø2 one-touch fitting
C3	With ø3.2 one-touch fitting
C4	With ø4 one-touch fitting
N1	With ø1/8" one-touch fitting
N3	With ø5/32" one-touch fitting
C0	Without one-touch fitting

Option

Symbol	Specifications
Nil	None
B	With back pressure check valve

⑱U-side end plate assembly part no.

SS0700 − 2A − 2

⑲Fitting assembly part no.

VVQ0000 − 50A − □

Port size

Symbol	Applicable tube
C2	Applicable tube ø2
C3	Applicable tube ø3
C4	Applicable tube ø4
N1	Applicable tube ø1/8"
N3	Applicable tube ø5/32"

Note 1) Purchasing order is available in units of 10 pieces.
Note 2) For one-touch fittings replacement, refer to "Specific Product Precautions."

<Replacement Parts for Manifold Block>

Replacement Parts

No.	Description	Part no.	Qty.
⑳	Gasket	SS0700-80A-2	10 Note 1)
㉑	Clip	SS0700-80A-4	10 Note 1)
㉒	Tie-rod assembly	SS0700-TR-□	2 Note 2)

Note 1) 1 set includes 10 pieces.
Note 2) 1 set includes 2 pieces. Please order when eliminating manifold stations. When adding stations, tie-rods are attached to the manifold block assembly. Therefore, it is not necessary to order.
□: Stations 02 to 24

<Replacement Parts for Valve>

Replacement Parts

No.	Description	Part no.	Qty.
㉓	Gasket, Screw	S0700-GS-5	10

Note) Above part number consists of 10 units. Each unit has one gasket and two screws.

How to Add Manifold Stations (Plug-in Type / Lead Wire Connection Type)

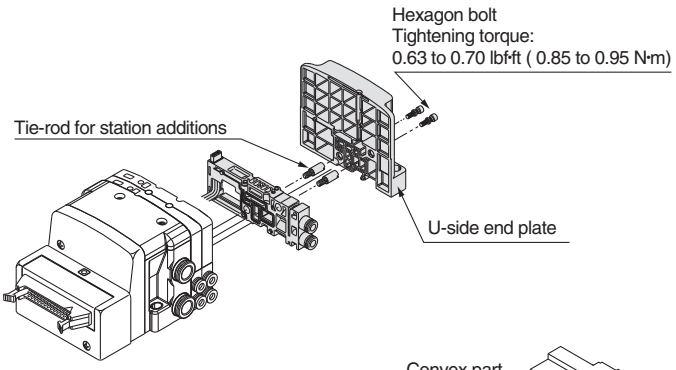
What to order

• Manifold block assembly (Refer to the above ⑰.)

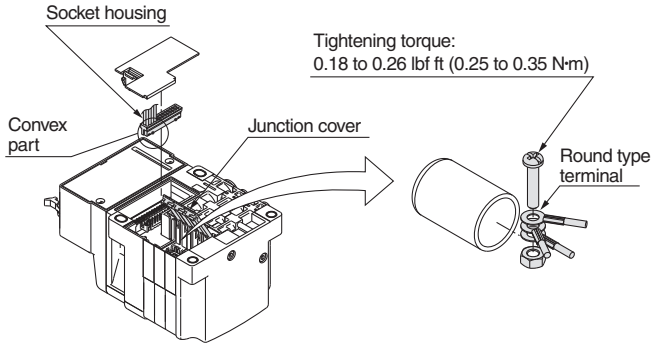
Steps for adding stations

① Loosen hexagon bolts from the end plate at the U-side and remove the end plate.

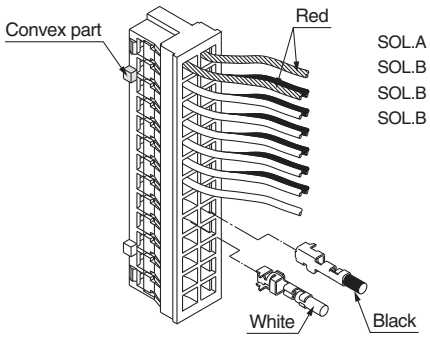
② Connect the tie rod for increasing the station number, open the junction cover, mount the manifold block assembly and U-side end plate and tighten them by hexagon bolts.
(Tightening torque: 0.63 to 0.70 lbf·ft (0.85 to 0.95 N·m))

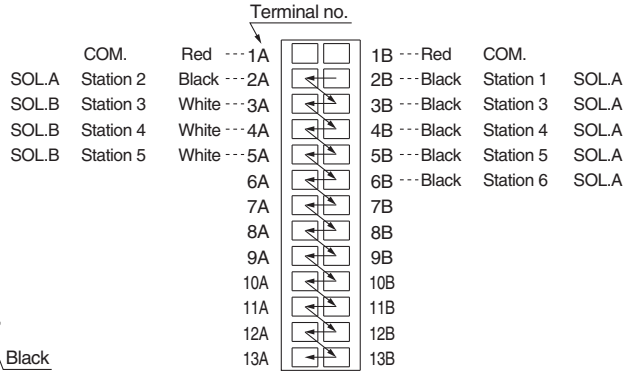


③ Connect the round type terminal of red lead wire to the common terminal inside the junction cover.



④ Take out the socket housing and connect the black and white lead wires.
The connection layout is common to all kits.

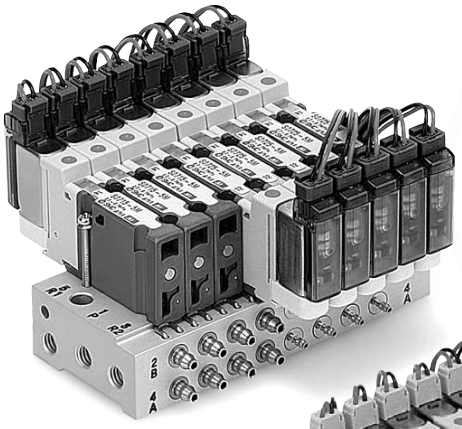




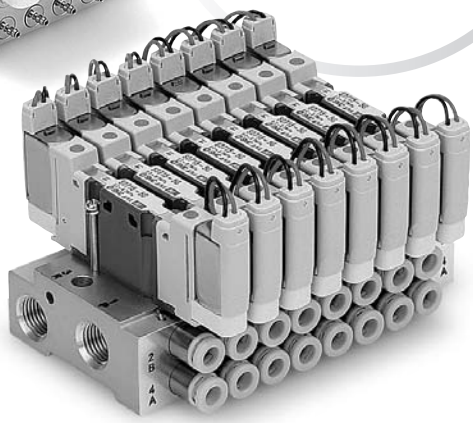
Connector

C kit

Plug-in Manifold Bar Base



With barb fittings

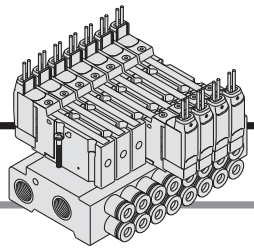


With one-touch fittings

Individual Connector

Page 79

Series S0700 Plug Lead Manifold Bar Base kit (Connector)



How to Order Manifold

SS0755 – 08 C4 ☐ C – ☐

Plug lead

Stations

Symbol	Stations
02	2 stations
⋮	⋮
20	20 stations

Option

Symbol	Specifications
Nil	None
R Note)	External pilot

Note) For details, refer to page 85.
∗ **For manifold optional parts, refer to pages 85 to 87.**

Cylinder port size

Symbol	Port size		Manifold pitch
M5	M5 thread	Metric	8.5
C2	With ø2 one-touch fitting		
C3	With ø3.2 one-touch fitting		
C4	With ø4 one-touch fitting		
CM	Mixed sizes and with port plug Note)		
N1	With ø1/8" one-touch fitting	Inch	
N3	With ø5/32" one-touch fitting		
NM	Mixed sizes and with port plug Note)		
M3	M3 thread	Metric	7.5
V2	With ø2 barb fitting		
V3	With ø3.2 barb fitting		
V4	With ø4 barb fitting		
VM	Mixed sizes and with port plug Note)		

Note) Specify "Mixed sizes and with port plug" on the manifold specification sheet.

Connector kit

P, R port thread type

Symbol	Manifold pitch	
	8.5	7.5
Nil	Rc (PT)	M5
F	G (PF)	
N	NPT	
T	NPTF	

How to Order Valves

S07 1 5 ☐ – 5 G

Type of actuation

Symbol	Specifications
1	2-position single
2	2-position double
A	4-position dual 3-port (N.C. + N.C.) [exhaust center]
B	4-position dual 3-port (N.O. + N.O.) [pressure center]
C	4-position dual 3-port (N.C. + N.O.)

Note) For symbol, refer to page 7.

Base mounted plug lead

Function

Symbol	Specifications
Nil	Standard
R	External pilot Note)

Note) Not compatible with dual 3-port valves.

Voltage

Symbol	Specifications
5	24 VDC
6	12 VDC

Electrical entry

Symbol	Specifications
G	Grommet
M	Plug connector, with lead wire (Light/surge voltage suppressor)
MO	Plug connector, without lead wire (Light/surge voltage suppressor)

How to Order Manifold Assembly

Specify the part numbers for valves and options together beneath the manifold base part number.

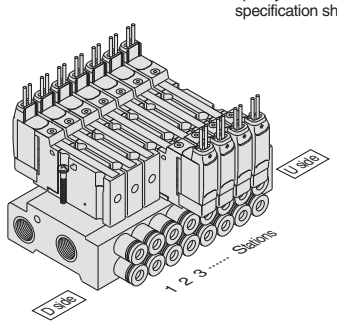
<Example>

Connector kit

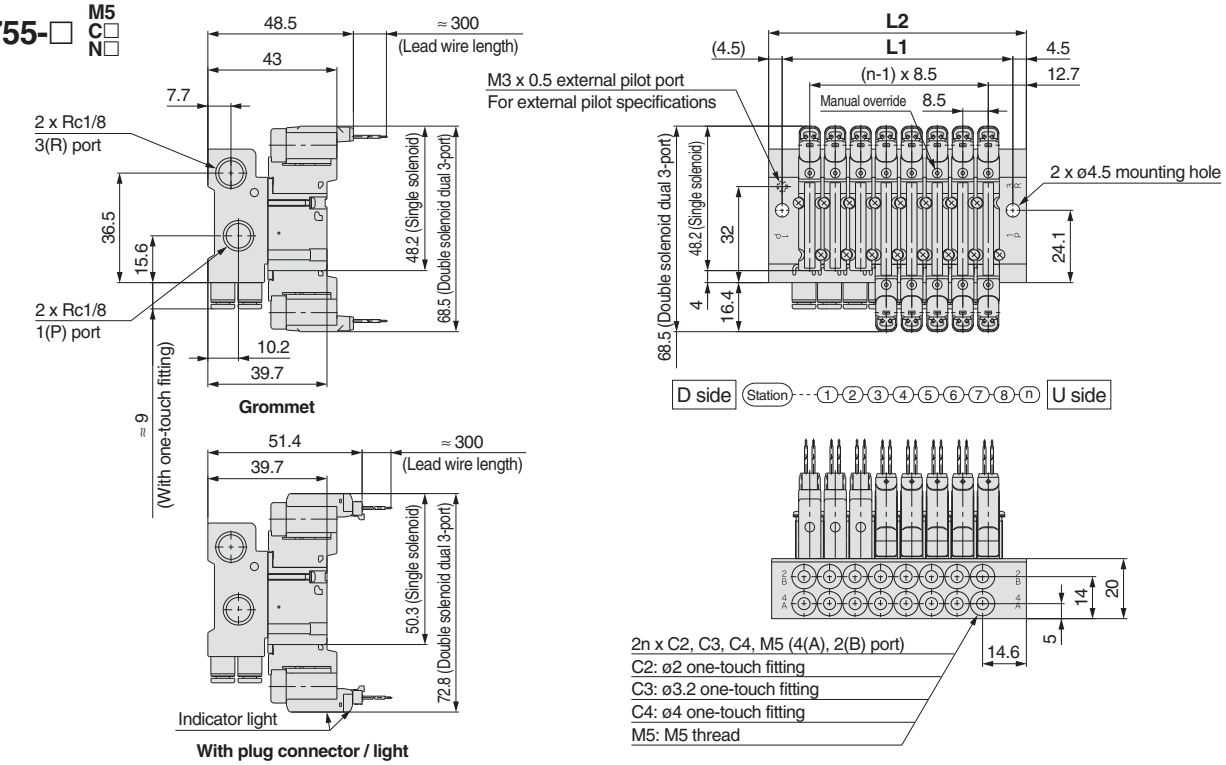
SS0755-07C4..... 1 set – Manifold base part no.
∗ S0715-5G..... 3 sets – Valve part no. (Stations 1 to 3)
∗ S0725-5G..... 2 sets – Valve part no. (Stations 4 to 5)
∗ S07A5-5G..... 2 sets – Valve part no. (Stations 6 to 7)

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

Write sequentially from the 1st station on the D side. When part nos. written collectively are complicated, specify on the manifold specification sheet.



SS0755-☐ M5 C☐ N☐

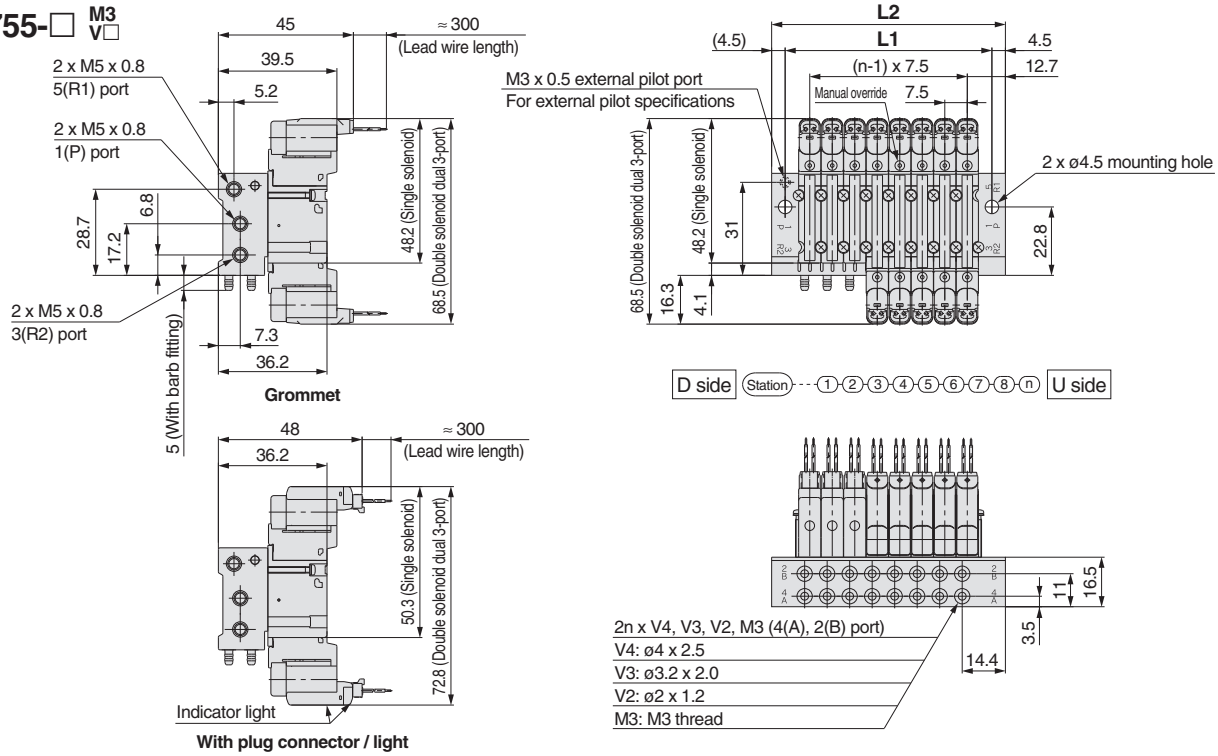


Dimensions

Formula L1 = 8.5n + 8.9, L2 = 8.5n + 17.9 n: Station (Maximum 20 stations)

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	25.9	34.4	42.9	51.4	59.9	68.4	76.9	85.4	93.9	102.4	110.9	119.4	127.9	136.4	144.9	153.4	161.9	170.4	178.9
L2	34.9	43.4	51.9	60.4	68.9	77.4	85.9	94.4	102.9	111.4	119.9	128.4	136.9	145.4	153.9	162.4	170.9	179.4	187.9

SS0755-☐ M3 V☐



Dimensions

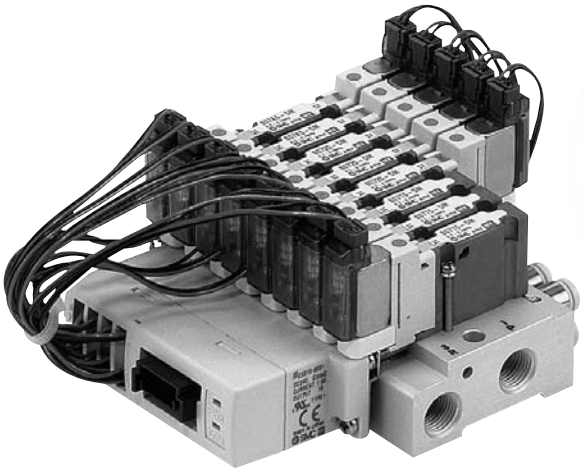
Formula L1 = 7.5n + 8.9, L2 = 7.5n + 17.9 n: Station (Maximum 20 stations)

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	23.9	31.4	38.9	46.4	53.9	61.4	68.9	76.4	83.9	91.4	98.9	106.4	113.9	121.4	128.9	136.4	143.9	151.4	158.9
L2	32.9	40.4	47.9	55.4	62.9	70.4	77.9	85.4	92.9	100.4	107.9	115.4	122.9	130.4	137.9	145.4	152.9	160.4	167.9

Serial Transmission

S kit

Plug Lead Manifold Bar Base



Gateway-type
Serial Transmission
System

EX510

Connect all wiring
using connectors.

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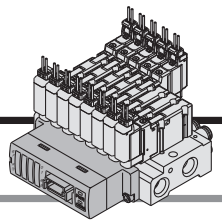


How to Order Manifold

SS0755 − SA □ 08 C4 □ − □

S kit
EX510 serial wiring
Note) For SI unit part number, refer to page 91.

SI unit output polarity

Nil	Positive common
N	Negative common

Option

Symbol	Specifications
Nil	None
K Note 2)	Special wiring specifications (Except double wiring)
R Note 3)	External pilot

Note 1) When two or more options are specified, indicate them alphabetically. Example) -KR
Note 2) Indicate the wiring specifications for mixed single and double wirings.
Note 3) For details, refer to page 85.
∗ **For manifold optional parts, refer to pages 85 to 87.**

Stations

Symbol	Stations
02	2 stations
⋮	⋮
16	16 stations

Note) The maximum number of stations is determined by the total number of solenoids. For mixed single and double wirings, enter "-K" to the order code options.

Standard station	Max. number of stations for special wiring specifications	Max. number of solenoids
1 to 8 stations	16 stations	16

Type of actuation	Single	Double, Dual 3-port
Number of solenoids	1	2

Refer to Reduced Wiring Fieldbus System (Serial Transmission) in Electric Products (CAT.E150) for details on the EX510 Gateway-type Serial Transmission System.

P, R port thread type

Symbol	Manifold pitch
	8.5
Nil	Rc (PT)
F	G (PF)
N	NPT
T	NPTF

Cylinder port size

Symbol	Port size	
M5	M5 thread	Metric
C2	With ø2 one-touch fitting	
C3	With ø3.2 one-touch fitting	
C4	With ø4 one-touch fitting	
CM	Mixed sizes and with port plug Note)	
N1	With ø1/8" one-touch fitting	Inch
N3	With ø5/32" one-touch fitting	
NM	Mixed sizes and with port plug Note)	

Note) Specify "Mixed sizes and with port plug" on the manifold specification sheet.

How to Order Valves

S07 1 5 □ − 5 MO

Type of actuation

Symbol	Specifications
1	2-position single
2	2-position double
A	4-position dual 3-port (N.C. + N.C.) [Exhaust center]
B	4-position dual 3-port (N.O. + N.O.) [Pressure center]
C	4-position dual 3-port (N.C. + N.O.)

Note) For symbol, refer to page 7.

Base mounted plug lead

Function

Symbol	Specifications
Nil	Standard
R	External pilot Note)

Note) Not compatible with dual 3-port valves.

Voltage: 24 VDC

Electrical entry
M-type plug connector, without lead wire
(Light/surge voltage suppressor)

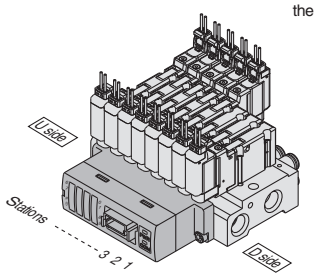
How to Order Manifold Assembly

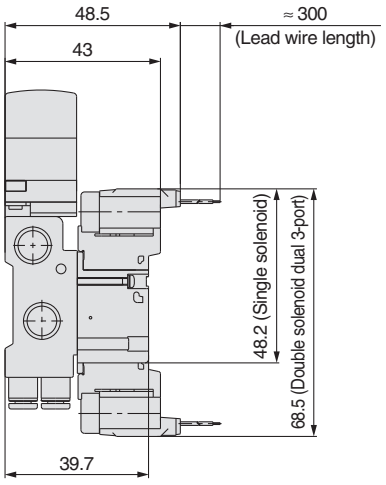
Specify the part numbers for valves and options together beneath the manifold base part number.

<Example>
Serial transmission kit
SS0755-SA08C4····1 set – Manifold base part no.
∗ **S0715-5MO ·····3 sets – Valve part no. (Stations 1 to 3)**
∗ **S0725-5MO ·····3 sets – Valve part no. (Stations 4 to 6)**
∗ **S07A5-5MO ·····2 sets – Valve part no. (Stations 7 to 8)**

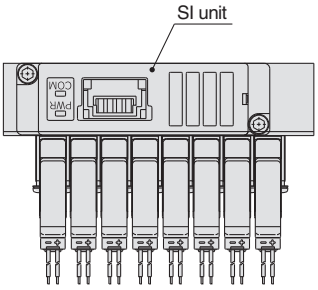
Prefix the asterisk to the part nos. of the solenoid valve, etc.

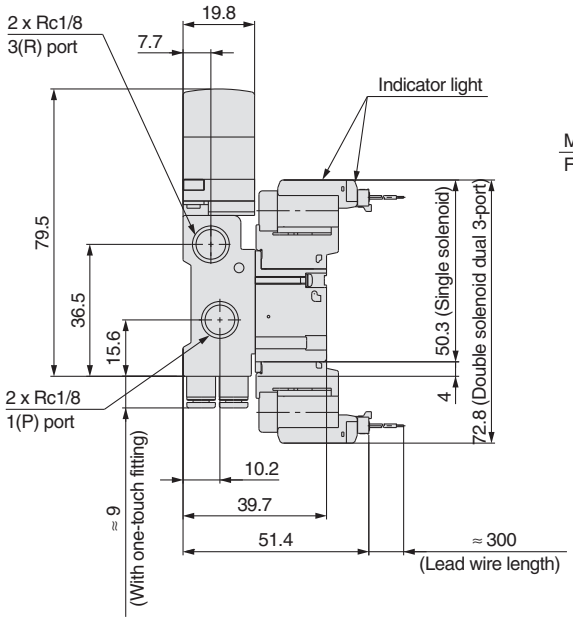
Write sequentially from the 1st station on the D side.
When part nos. written collectively are complicated, specify on the manifold specification sheet.
The connector assembly lead wire length used for EX510 manifold varies depending on the number of stations.
Therefore, solenoid valves (including a blanking plate) and connector assembly are assembled when shipped as a standard specification. Please specify the mounting solenoid valve when ordering.



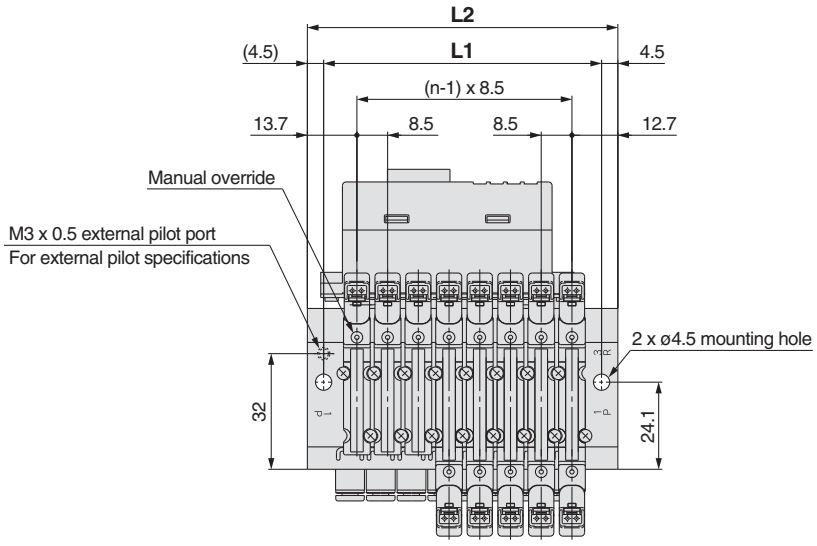


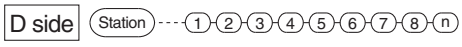
Grommet

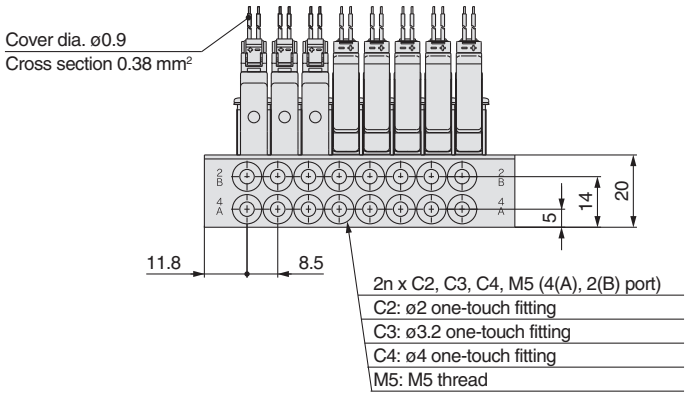




With plug connector / light







Dimensions

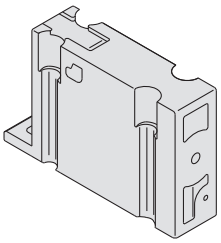
L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	68.4	68.4	68.4	68.4	68.4	68.4	76.9	85.4	93.9	102.4	110.9	119.4	127.9	136.4	144.9
L2	77.4	77.4	77.4	77.4	77.4	77.4	85.9	94.4	102.9	111.4	119.9	128.4	136.9	145.4	153.9

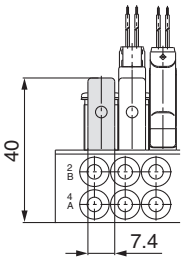
Blanking plate assembly

SS0700-10A-5

It is used by attaching on the manifold block for being prepared for removing a valve for maintenance reasons or planning to mount a spare valve, etc.

Weight: 0.75 oz (21 g)





Individual SUP spacer

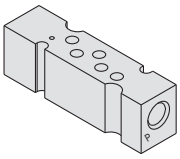
SS0700-P-5-M5

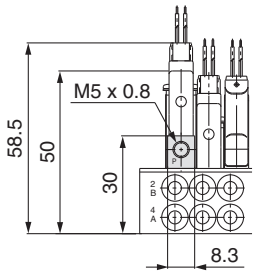
Port size

M5	M5 thread

Mounted on the manifold block to make an independent supply port when each solenoid valve uses different operating pressure.

Weight: 0.25 oz (7 g)
∗ Compatible with 8.5 mm pitch manifold only.





Individual EXH spacer

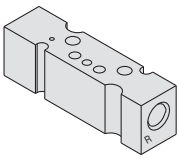
SS0700-R-5-M5

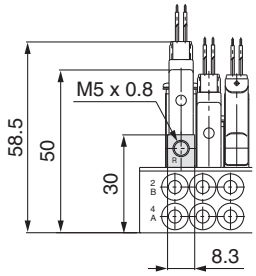
Port size

M5	M5 thread

Mounted on the manifold block to make an independent exhaust port when the exhaust from one valve affects valves on other stations in the air circuit.

Weight: 0.25 oz (7 g)
∗ Compatible with 8.5 mm pitch manifold only.

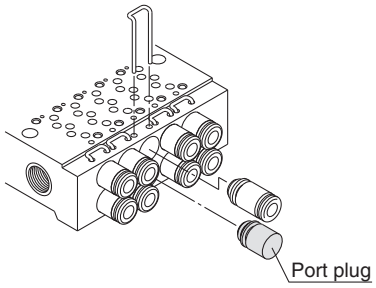


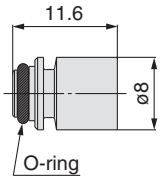


Port plug

VVQ0000-CP

The plug is used to block the cylinder port when using a 5-port valve as a 3-port valve.
∗ When ordering a plug incorporated with a manifold, indicate “CM” for the port size in the manifold no., as well as, the mounting position and number of stations and cylinder port mounting positions, A and B, on the manifold specification sheet.



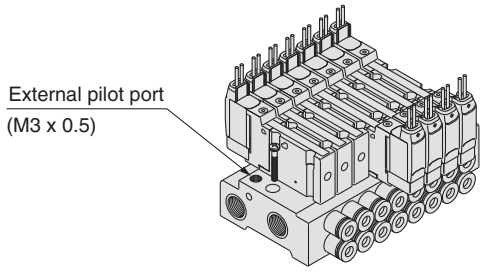


External pilot [-R]

This can be used when the air pressure is 14.5 to 29 psi (0.1 to 0.2 MPa) lower than the minimum operating pressure of the solenoid valves or used for vacuum specifications.
Add R to the part numbers of manifolds and valves to indicate the external pilot specifications.
An M5 port will be installed on the top side of the manifold’s SUP/EXH block.

● How to Order Valves (Example)
S0715 R -5G
External pilot

● How to Order Manifold (Example)
∗ Indicate -R for an option.
SS0755-08C4C-R
External pilot

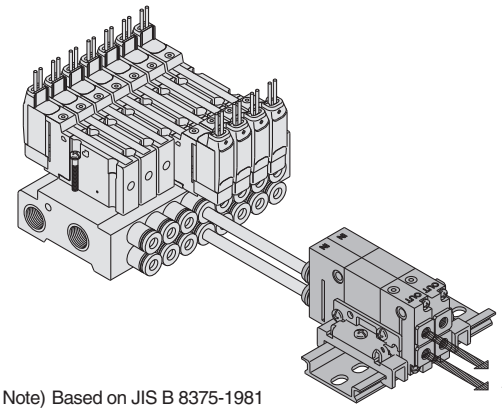


Note 1) The dual 3-port valve is not available.
Note 2) When the internal pilot type and external pilot type of valves are mixed up on the manifold, order the manifold suitable for the specifications of the external pilot valve.
Note 3) Valves with the external pilot have a pilot EXH with individual exhaust specifications and EXH can be pressurized.
However, the pressure supplied from EXH should be 58 psi (0.4 MPa) or lower.

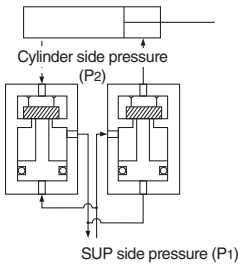
Double check block (Separated)

VQ1000-FPG-□□

It is used on the outlet side piping to keep the cylinder in the intermediate position for long periods of time. Combining the double check block with a built-in pilot type double check valve and a 2-position single/double solenoid valve will permit this block to be used for preventing the dropping at the cylinder stroke end when the SUP residual pressure is released.



<Check Valve Working Principle>



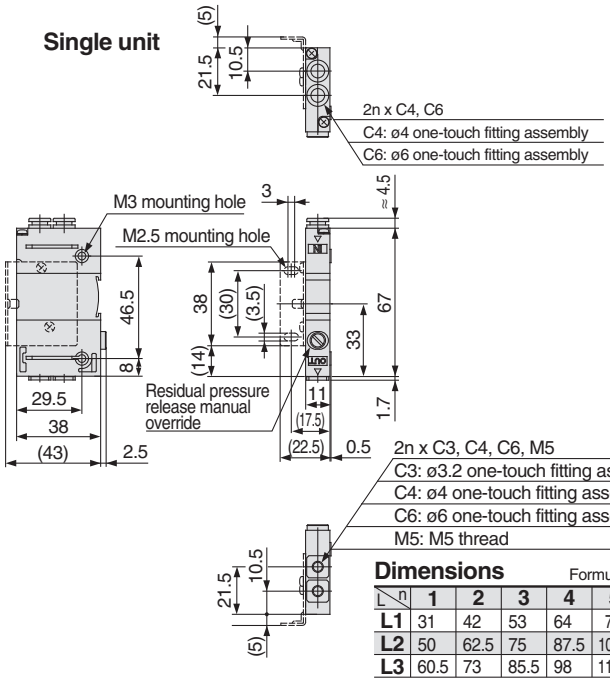
Specifications

Max. operating pressure	116 psi (0.8 MPa)
Min. operating pressure	22 psi (0.15 MPa)
Ambient and fluid temperature	23 to 122°F (–5 to 50°C)
Flow-rate characteristics: C	0.60 dm³/ (s·bar)
Max. operating frequency	180 c.p.m

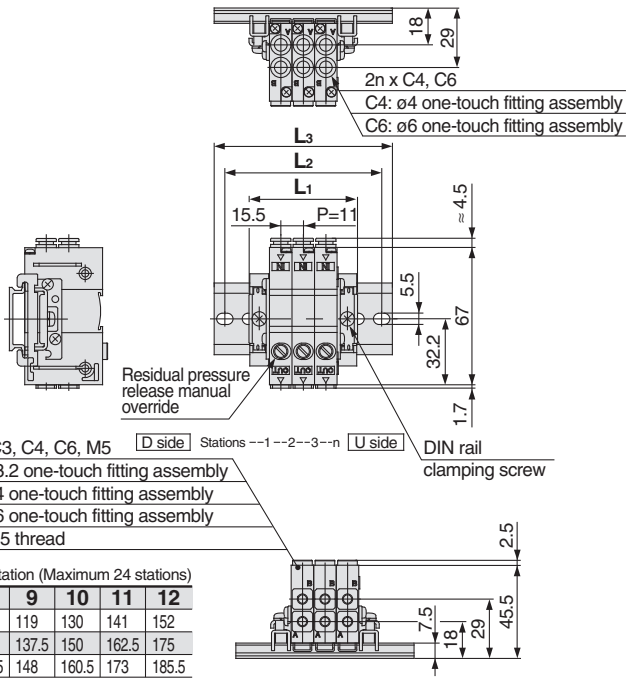
Note) Based on JIS B 8375-1981
(Supply pressure: 73 psi (0.5 MPa))

Dimensions

Single unit



Manifold



Dimensions Formula L1 = 11n + 20 n: Station (Maximum 24 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12
L1	31	42	53	64	75	86	97	108	119	130	141	152
L2	50	62.5	75	87.5	100	112.5	125	125	137.5	150	162.5	175
L3	60.5	73	85.5	98	110.5	123	135.5	135.5	148	160.5	173	185.5

L \ n	13	14	15	16	17	18	19	20	21	22	23	24
L1	163	174	185	196	207	218	229	240	251	262	273	284
L2	187.5	187.5	200	212.5	225	237.5	250	250	262.5	275	287.5	300
L3	198	198	210.5	223	235.5	248	260.5	260.5	273	285.5	298	310.5

How to Order

Single unit, double check block

VQ1000-FPG – C4 M5 – F

IN side port size

C4	ø4 one-touch fitting
C6	ø6 one-touch fitting

OUT side port size

M5	M5 thread
C3	ø3.2 one-touch fitting
C4	ø4 one-touch fitting
C6	ø6 one-touch fitting

Option

Nil	None
D	DIN rail mounting (For manifold)
F	With bracket
N	With name plate

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

Manifold (DIN rail mounting)

VVQ1000-FPG – 06

When ordering a double check block, order the DIN rail mounting [-D].

Stations

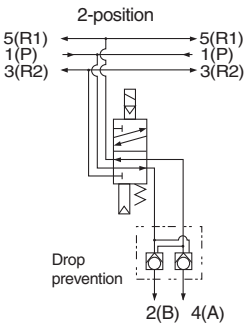
01	1 station
⋮	⋮
16	16 stations

<Example>
VVQ1000-FPG-06 ··· 6-station manifold
* VQ1000-FPG-C4M5-D, 3 sets
* VQ1000-FPG-C6M5-D, 3 sets
Double check block

⚠Caution

- Air leakage from the pipe between the valve and cylinder or from the fittings will prevent the cylinder from stopping for long periods of time. Check the leakage using neutral household detergent, such as dish washing soap.
  Also, check the cylinder's tube gasket, piston seal and rod seal for air leakage.
- Since one-touch fittings allow slight air leakage, screw piping (with M5 thread) is recommended when stopping the cylinder in the middle for long periods of time.
- M5 fitting assembly is attached, not incorporated into the double check block. After screwing in the M5 fittings, mount the assembly on the double check block. {Tightening torque: 0.59 to 0.89 lbf·ft (0.8 to 1.2 N·m)}
- If the exhaust of the double check block is restricted too much, the cylinder may not operate properly and may not stop intermediately.

<Example>



Bracket Assembly

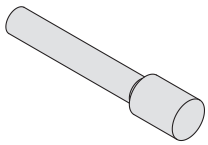
Part no.	Tightening torque
VQ1000-FPG-FB	0.16 to 0.18 lbf·ft (0.22 to 0.25 N·m)

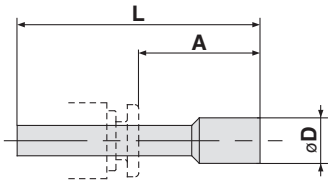
Note) This torque is used to mount the bracket on the double check block.

Blanking plug (For one-touch fittings)

KJP-02

23
KQ2P-04
06





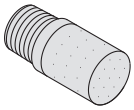
Dimensions (mm)

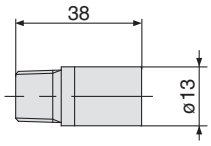
Applicable fitting size ø**d**	Model	**A**	**L**	**D**	Weight (g)
2	**KJP-02**	8.2	17	3	0.1
3.2	**KQ2P-23**	16	31.5	3.2	1
4	**KQ2P-04**	16	32	6	1
6	**KQ2P-06**	18	35	8	1

Silencer (For manifold EXH port)

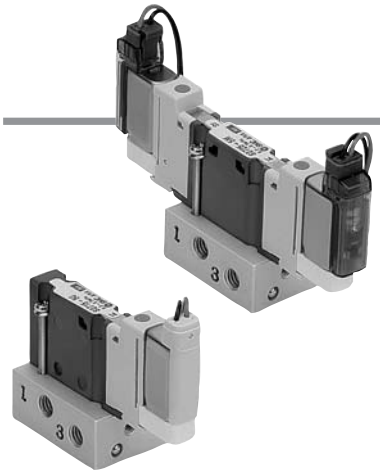
AN110-01

Silencer is installed in the EXH port.





5 Port Solenoid Valve/Base Mounted Plug Lead
Series S0700
Single Unit



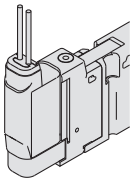
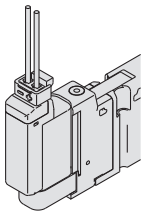
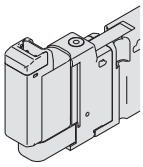
How to Order Valves

S07 [1] [5] [ ] – [5] [G] – [M5]

With/Without sub-plate

Symbol	Specifications
Nil	Without sub-plate
M5	With sub-plate

Electrical entry

Symbol	Specifications	Configuration
G	Grommet	
M	M-type plug connector, with lead wire (With light/surge voltage suppressor)	
MO	M-type plug connector, without lead wire (With light/surge voltage suppressor)	

Type of actuation

Symbol	Specifications
1	2-position single
2	2-position double
A	4-position dual 3-port (N.C. + N.C.) [Exhaust center]
B	4-position dual 3-port (N.O. + N.O.) [Pressure center]
C	4-position dual 3-port (N.C. + N.O.)

Note) For symbol, refer to page 7.

Plug lead

Function

Symbol	Specifications
Nil	Standard
R	External pilot Note)

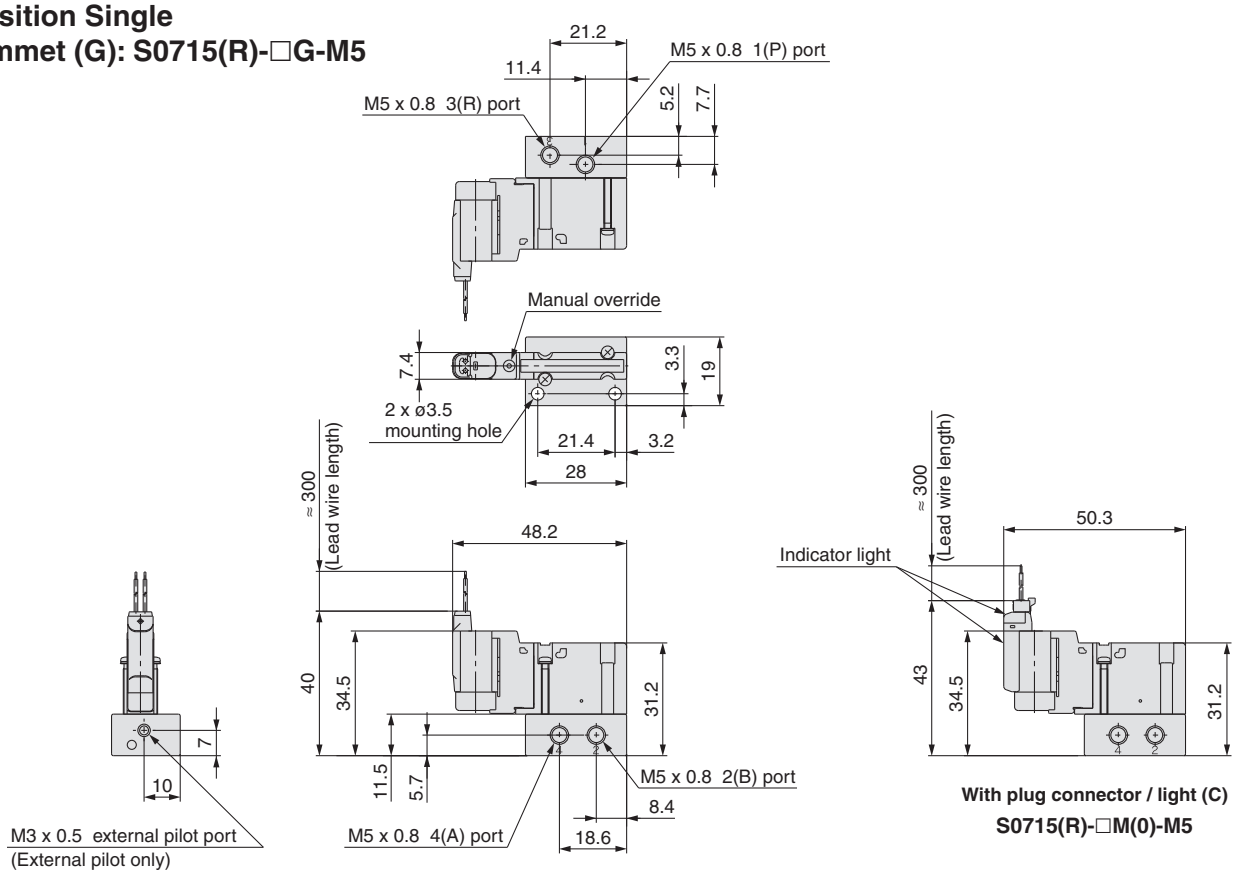
Note) Not compatible with dual 3-port valves.

Voltage

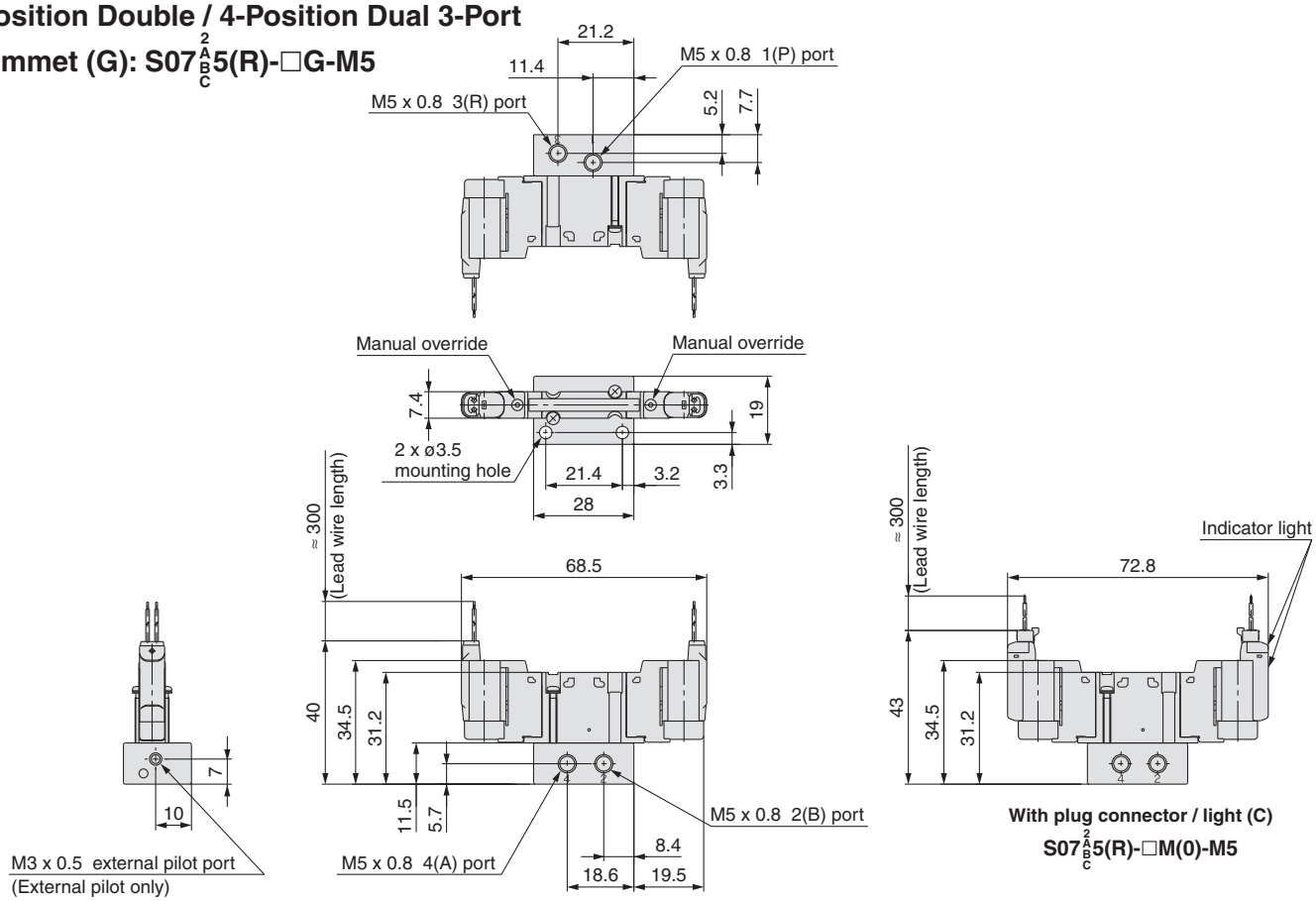
Symbol	Specifications
5	24 VDC
6	12 VDC

Dimensions

2-Position Single
Grommet (G): S0715(R)-□G-M5

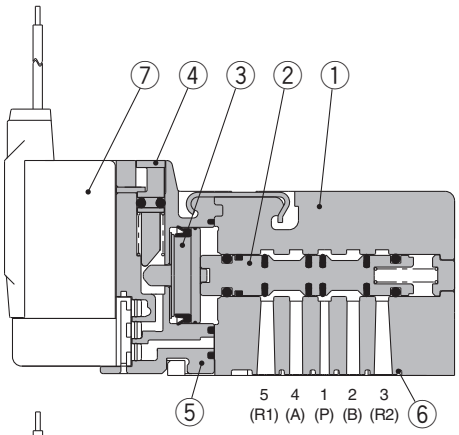


2-Position Double / 4-Position Dual 3-Port
Grommet (G): S07$^{2}_{B}$5(R)-□G-M5

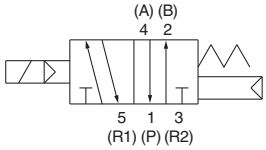


Construction: Main Parts/Replacement Parts

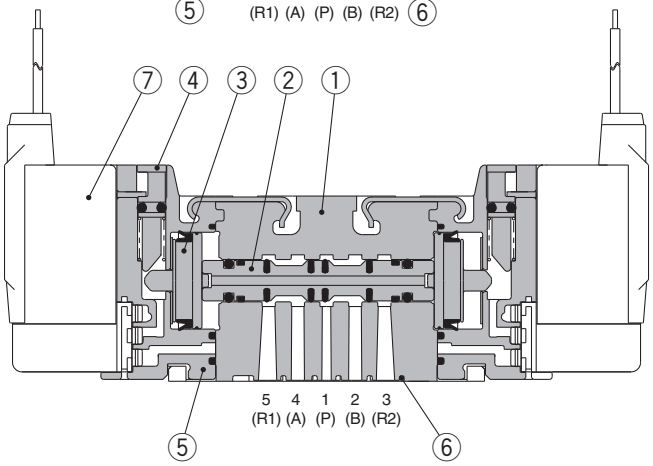
2-Position Single



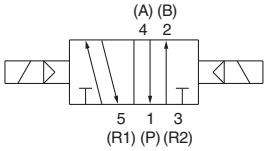
S0715



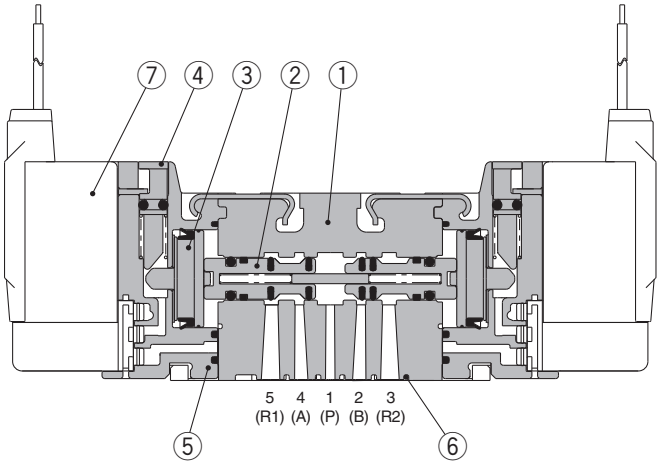
2-Position Double



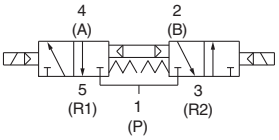
S0725



4-Position Dual 3-Port Valve

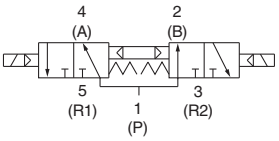


S07A5



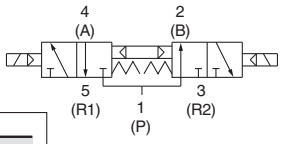
N.C. + N.C.

S07B5



N.O. + N.O.

S07C5



N.C. + N.O.

<Pilot Valve Assembly Part No.>

S070P – 5 B G –1

Voltage

Symbol	Specifications
5	24 VDC
6	12 VDC

Accessory

Symbol	Specifications
Nil	None
–1	Stopper plate is included.

Electrical entry

Symbol	Specifications
G	Grommet
C	Plug connector, with lead wire (With light/surge voltage suppressor)
CO	Plug connector, without lead wire (With light/surge voltage suppressor)

Note) For pilot valve assembly replacement, refer to "Specific Product Precautions 4."

Component Parts

No.	Description	Material
1	**Body**	Zinc die-casted
2	**Spool**	Aluminum
3	**Piston**	Resin
4	**Manual override**	Resin
5	**Adapter plate**	Resin
6	**Interface gasket**	HNBR

Replacement Parts

No.	Description	Material
7	**Pilot valve assembly**	—

Note) For pilot valve assembly replacement, refer to "Specific Product Precautions 4."

Series S0700
Plug Lead
Replacement Parts

<One-touch Fitting Assembly (For Cylinder Port)>

Manifold pitch	Port size	Part no.
8.5	ø2 one-touch fitting	**VVQ0000-50A-C2**
	ø3.2 one-touch fitting	**VVQ0000-50A-C3**
	ø4 one-touch fitting	**VVQ0000-50A-C4**
	ø1/8" one-touch fitting	**VVQ0000-50A-N1**
	ø5/32" one-touch fitting	**VVQ0000-50A-N3**
7.5	ø2 barb fitting	**SS070-50A-20**
	ø3.2 barb fitting	**SS070-50A-32**
	ø4 barb fitting	**SS070-50A-40**

Note) Purchasing order is available in units of 10 pieces.

<Plug Connector Assembly>

S070 − 14A − □

Lead wire length

Symbol	Length
Nil	150 mm
3	300 mm
6	600 mm
10	1000 mm

Note) Standard wire length of valve with plug connector is 300 mm. When ordering a lead wire length of 600 mm or longer, list the part numbers for the valve without connector and the connector assembly.

<Gasket, Screw Assembly>

Part no.
S0700-GS-5

Note) Above part number consists of 10 units. Each unit has one gasket and two screws.

<Sub-plate>

Part no.
S0700-S-M5

<SI Unit (Series EX510)>

EX510 − S 0 01

Output specifications

0	NPN output (Positive common)
1	PNP output (Negative common)

<Pilot Valve Assembly>

S070P − 5 B G –1

Voltage

Symbol	Specifications
5	24 VDC
6	12 VDC

Accessory

Symbol	Specifications
Nil	None
–1	Stopper plate is included.

Electrical entry

Symbol	Specifications
G	Grommet
C	Plug connector, with lead wire (With light/surge voltage suppressor)
CO	Plug connector, without lead wire (With light/surge voltage suppressor)

Note) For pilot valve assembly replacement, refer to “Specific Product Precautions 4.”

Specific Product Precautions 1

Be sure to read before handling. Refer to back cover for Safety Instructions, "Handling Precautions for SMC Products" (M-E03-3) for 3/4/5 Port Solenoid Valve Precautions.

Manual Override

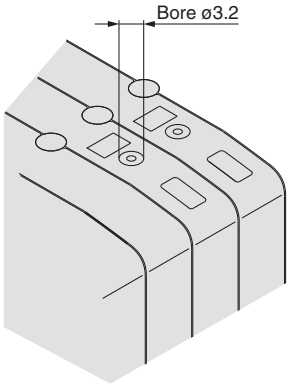
⚠ Warning

The manual override is used for switching the main valve.

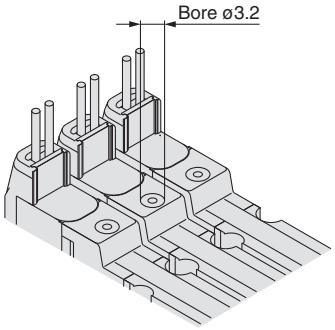
Push type (Tool required)

Push down on the manual override button with a small screwdriver until it stops.

Plug-in



Plug lead

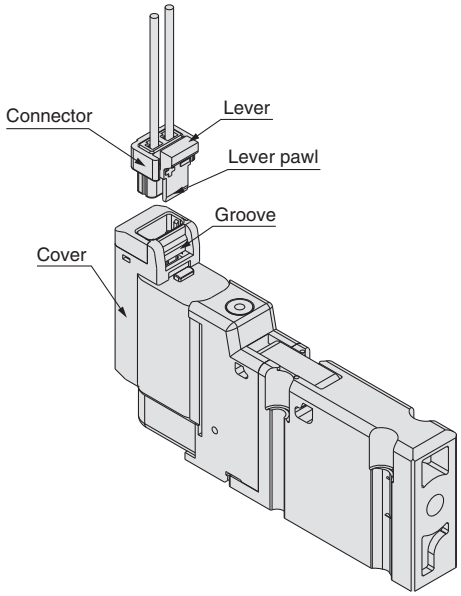


How to Attach/Detach Plug Connector

<Plug lead type only>

To attach a connector, hold the lever and connector unit between your fingers and insert straight onto the pins of the solenoid valve so that the lever's pawl is pushed into the groove and locks.

To detach a connector, remove the pawl from the groove by pushing the lever downward with your thumb, and pull the connector straight out.



Note) In order not to damage the connector and cover, do not pull the lead wire excessively (with a force of 2.25 lbf (10 N) or more).

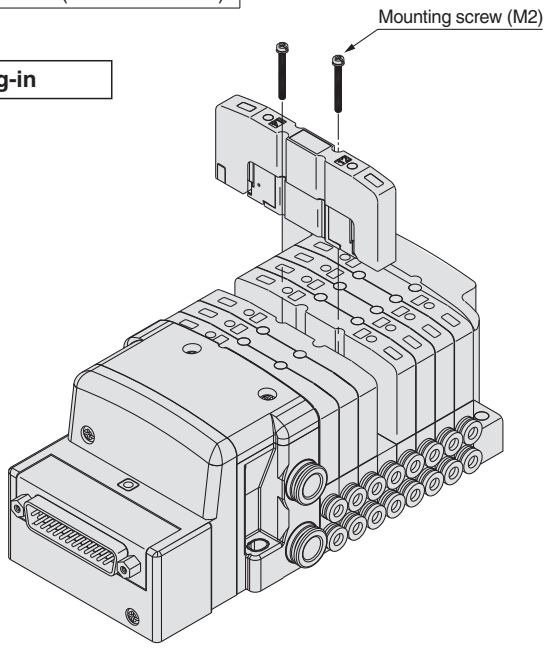
How to Mount Valve

⚠ Caution

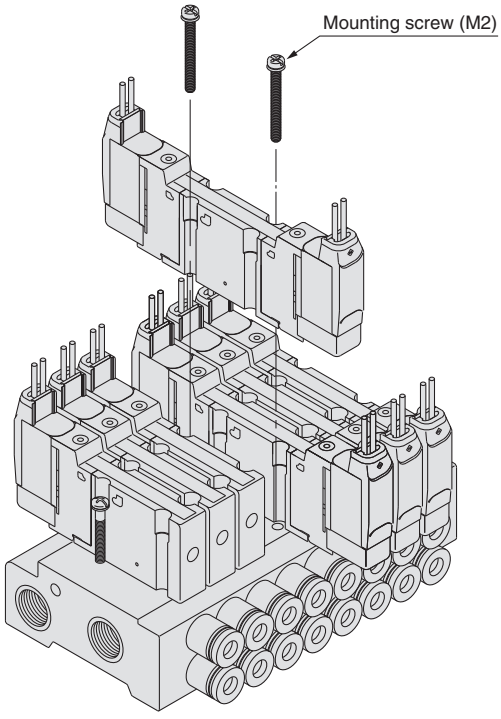
Tighten the bolts firmly to stop the gasket from coming away from the valve using the appropriate torque as shown on the following table.

Proper tightening torque
0.13 to 0.17 lbf·ft (0.17 to 0.23N·m)

Plug-in



Plug lead



Series S0700
Specific Product Precautions 2

Be sure to read before handling. Refer to back cover for Safety Instructions, "Handling Precautions for SMC Products" (M-E03-3) for 3/4/5 Port Solenoid Valve Precautions.

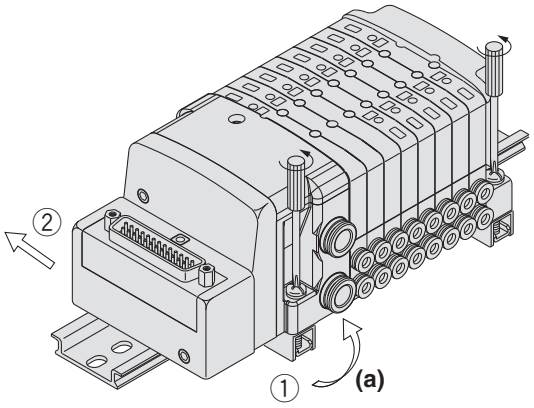
How to Mount/Remove DIN Rail

⚠ Caution

Plug-in

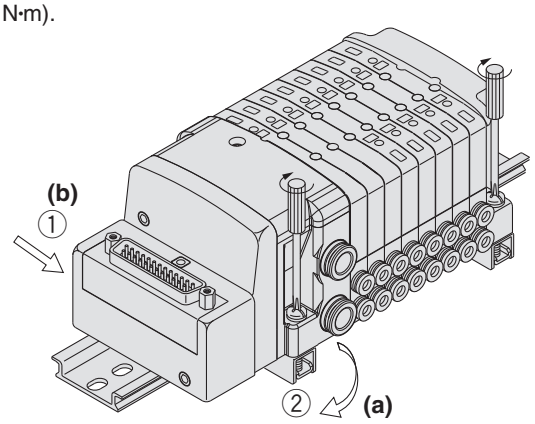
Removal

1) Loosen the clamping screw of the end plate on both sides.
2) Lift side (a) of the manifold base and slide the end plate in the direction of ② shown in the figure to remove.



Mounting

1) Hook side (b) of the manifold base on the DIN rail.
2) Press down side (a) and mount the end plate on the DIN rail. Tighten the clamping screw on side (a) of the end plate. The proper tightening torque for screws is 0.30 to 0.44 lbf·ft (0.4 to 0.6 N·m).

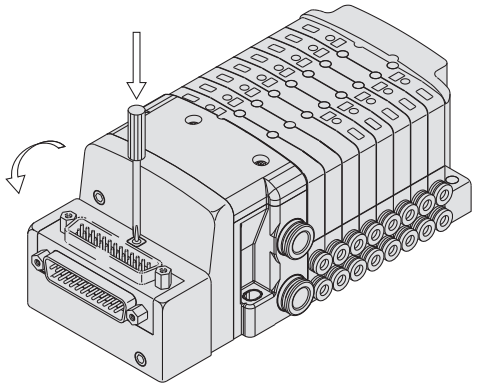


How to Change Connector Entry Direction

⚠ Caution

<Plug-in manifold stacking base>

The connector entry direction can be changed from the top to the side by simply pressing the manual release button.
It is not necessary to use the manual release button when switching from the side to the top.



Built-in Silencer Element

⚠ Caution

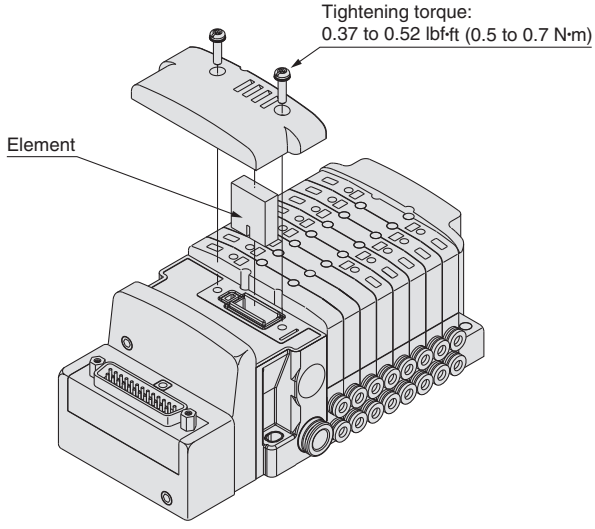
<Plug-in type only>

A silencer element is incorporated in the end plate on both sides of the base. A dirty and choked element may reduce cylinder speed or cause a malfunction. Clean or replace the dirty element.

Element Part No.

Type	Element part no.
Slim compact plug-in manifold bar base SS0751	SS0700-83A
Plug-in manifold stacking base SS0750	SS0700-82A

∗ Above part number is for a set of ten elements.



Remove the cover from the side of the end plate and remove the old element with a flat blade screwdriver, etc.

Specific Product Precautions 3

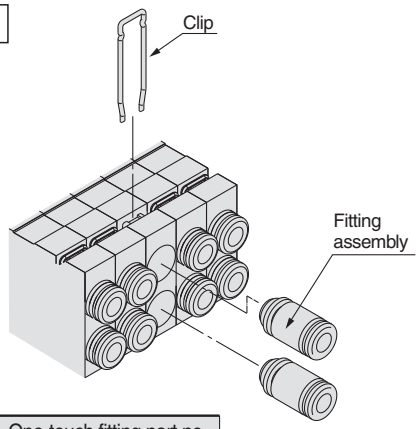
Be sure to read before handling. Refer to back cover for Safety Instructions, "Handling Precautions for SMC Products" (M-E03-3) for 3/4/5 Port Solenoid Valve Precautions.

How to Replace Cylinder Port Fittings

⚠ Warning

The cylinder port fittings are a cassette for easy replacement. The fittings are blocked by a clip inserted from the top of the valve.
Remove the clip with a flat blade screwdriver to remove fittings. For replacement, insert the fitting assembly until it strikes against the inside wall and then re-insert the clip to the specified position.

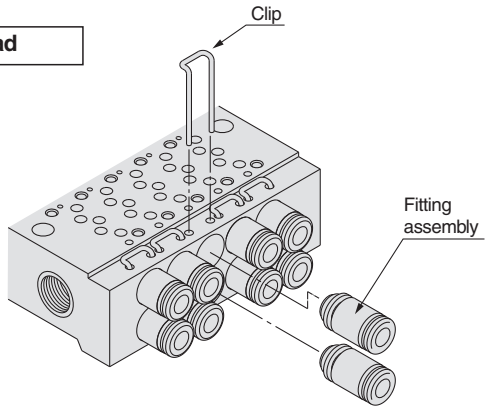
Plug-in



Applicable tube O.D.	One-touch fitting part no.
Applicable tube ø2	VVQ0000-50A-C2
Applicable tube ø3.2	VVQ0000-50A-C3
Applicable tube ø4	VVQ0000-50A-C4
Applicable tube ø1/8"	VVQ0000-50A-N1
Applicable tube ø5/32"	VVQ0000-50A-N3

∗ Part number is for one fitting assembly.
∗ Please order it in units of 10 pieces.

Plug lead



	Applicable tube O.D.	Fitting part no.
8.5 mm pitch (One-touch fitting)	Applicable tube ø2	VVQ0000-50A-C2
	Applicable tube ø3.2	VVQ0000-50A-C3
	Applicable tube ø4	VVQ0000-50A-C4
	Applicable tube ø1/8"	VVQ0000-50A-N1
	Applicable tube ø5/32"	VVQ0000-50A-N3
7.5 mm pitch (Barb fitting)	Barb fitting ø2	SS070-50A-20
	Barb fitting ø3.2	SS070-50A-32
	Barb fitting ø4	SS070-50A-40

∗ Part number is for one fitting assembly.
Please order it in units of 10 pieces.

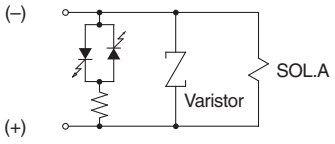
Internal Wiring Specifications

⚠ Caution

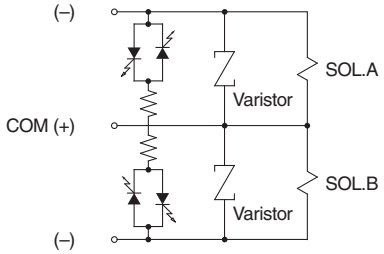
Light/surge voltage suppressor

No polarity by adopting non-polar light.

Plug-in Single/All plug lead types



Plug-in Double, Dual 3-port

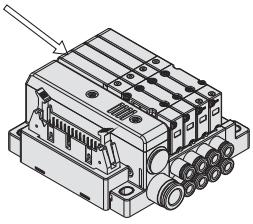


Note) Coil surge voltage generated when OFF is about –60 V. Please contact SMC separately for further suppression of the coil surge voltage.

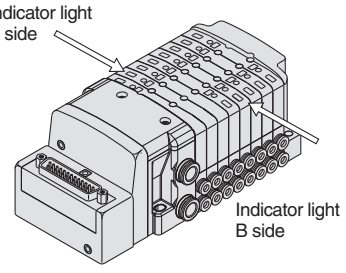
Plug-in

Slim type plug-in manifold

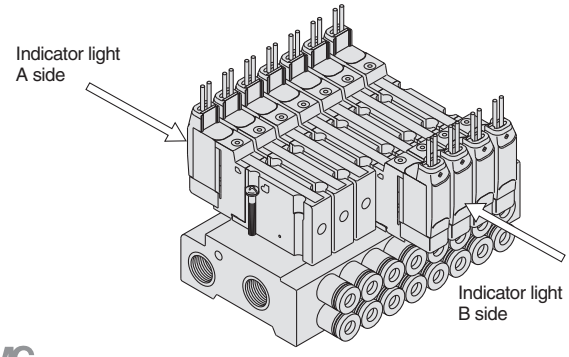
A: Orange
B: Green



Plug-in manifold



Plug lead manifold



Series S0700
Specific Product Precautions 4

Be sure to read before handling. Refer to back cover for Safety Instructions, "Handling Precautions for SMC Products" (M-E03-3) for 3/4/5 Port Solenoid Valve Precautions.

Surge Voltage Intrusion

⚠ Caution

The surge voltage created when the power supply is cut off could apply to the de-energized load equipment through the output circuit. In cases where the energized load equipment has a larger capacity (power consumption) and is connected to the same power supply as the product, the surge voltage could malfunction and/or damage the internal circuit element of the product and the internal device of the output equipment. To avoid this situation, place a diode which can suppress the surge voltage between the COM lines of the load equipment and output equipment.

How to Replace Pilot Valve

⚠ Caution

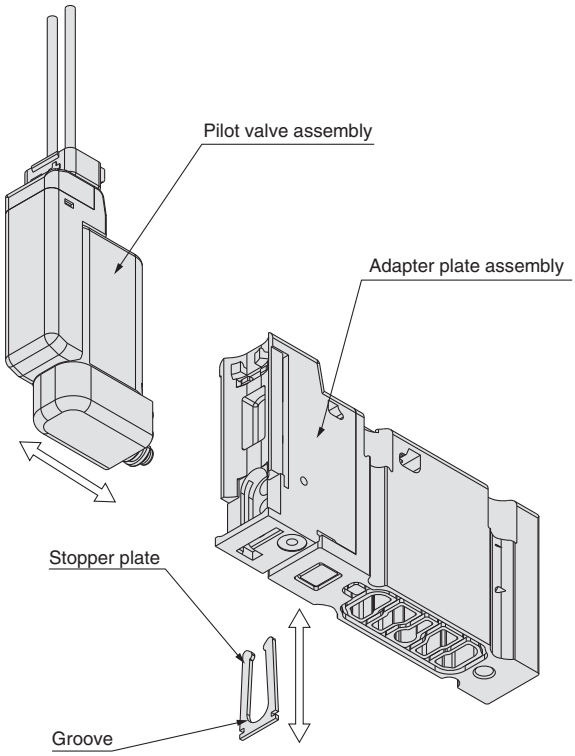
<Plug lead>

Removal

1) Remove the stopper plate from the adapter plate assembly by using a flat blade screwdriver on the concave of the stopper plate.
2) Take off the pilot valve in horizontal direction.

Mounting

1) Mount the pilot valve on the adapter plate assembly.
2) Insert the stopper plate into the adapter plate so that the stopper plate will not protrude from the end of the adapter plate.

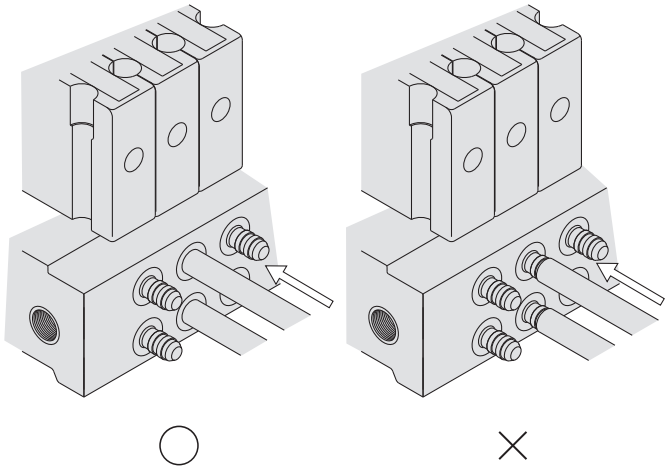


How to Connect Tubing

⚠ Caution

<Plug lead/Barb fittings>

1) Perpendicularly cut the tube to the necessary length by using an SMC tube cutter TK-1, 2 or 3.
2) Firmly insert the tube into the barb fitting. Insufficient insertion of the tube could cause the air leakage and/or disconnection of the tube.
3) When inserting the tube into the barb fitting, move the tube in parallel to the axis of the barb fitting to avoid any excessive side load to the fitting.



4) Pay attention not to apply any excessive side load to the barb fitting when removing it from the tube. When using a tube cutter or something similar, be careful not to damage or crack the fitting.
5) Do not apply any excessive load such as tensile, compressive or bending force to the tube once connected.

Series S0700
Specific Product Precautions 5

Be sure to read before handling. Refer to back cover for Safety Instructions, "Handling Precautions for SMC Products" (M-E03-3) for 3/4/5 Port Solenoid Valve Precautions.

Serial EX500/EX250/EX260 Precautions

⚠ Warning

1. These products are intended for use in general factory automation equipment.

Avoid using these products in machinery/equipment which affects human safety, and in cases where malfunction or failure can result in extensive damage.

2. Do not use in an explosive atmosphere, environment with inflammable gases, or corrosive atmosphere. This can cause injury or fire, etc.

3. Work such as transporting, installing, piping, wiring, operation, control and maintenance should be performed by personnel with specialized knowledge. There is a danger of electrocution, injury or fire, etc.

4. Install an external emergency stop circuit that can promptly stop operation and shut off the power supply.

5. Do not remodel these products, as there is a danger of injury and damage.

⚠ Caution

1. Read the operation manual carefully, strictly observe the precautions and operate within the range of the specifications.

2. Do not drop these products or submit them to strong impacts. This can cause damage, failure or malfunction, etc.

3. In locations with poor electrical conditions, take steps to ensure a steady flow of the rated power supply. Use of a voltage outside of the specifications can cause malfunction, damage to the unit, electrocution or fire, etc.

4. Do not touch connector terminals or internal substrates when current is being supplied. There is a danger of malfunction, damage to the unit or electrocution if connector terminals or internal substrates are touched when current is being supplied.

Be sure that the power supply is OFF when adding or removing manifold valves or input blocks, etc., or when connecting or disconnecting connectors.

5. Operate at an ambient temperature that is within the specifications. Even when the ambient temperature range is within the specifications, do not use in locations where there are rapid temperature changes.

6. Keep wire scraps and other extraneous material from getting inside these products. This can cause fire, failure or malfunction, etc.

7. This product is not constructed to withstand water or oil penetration. Therefore it should be fitted with a protective cover when used in environments where it could be exposed to water or oil splash.

8. Observe the proper tightening torque.

There is a possibility of damaging threads if tightening exceeds the tightening torque range.

9. Adjustment/Operation

DIP switches and rotary switches should be set with a small watchmakers' screwdriver.

⚠ Caution

10. Provide adequate protection when operating in locations such as the following:

- Where noise is generated by static electricity, etc.
- Where there is a strong electric field
- Where there is a danger of exposure to radiation
- When in close proximity to power supply lines

11. When these products are installed in equipment, provide adequate protection against noise by using noise filters, etc.

12. Since these products are components that are used after installation in other equipment, the customer should confirm conformity to EMC directives for the finished product.

13. Do not remove the name plate.

14. Perform periodic inspections and confirm normal operation. It may otherwise be impossible to guarantee safety due to unexpected malfunction or erroneous operation.

15. For the EX260-SPN□, the side of the SI unit may become hot.

It may cause burns.

Safety Instructions on Power Supply

⚠ Caution

1. Operation is possible with a single power supply or a separate power supply. However, be sure to provide two wiring systems (one for solenoid valves, and one for input and control units).

2. When applicable to UL, use a Class 2 power supply unit conforming to UL1310 for direct current power supply.

Series S0700
Specific Product Precautions 6

Be sure to read before handling. Refer to back cover for Safety Instructions, "Handling Precautions for SMC Products" (M-E03-3) for 3/4/5 Port Solenoid Valve Precautions.

Serial EX500/EX250/EX260 Precautions

Safety Instructions on Cable

⚠ Caution

1.Be careful of miswiring. This can cause malfunction, damage and fire in the unit.

2.Do not connect cables during energizing.

This could damage or cause malfunction to the SI unit.

3. To prevent noise and surge in signal lines, keep all wiring separate from power lines and high voltage lines. Otherwise, this can cause malfunction.

4. Check wiring insulation, as defective insulation can cause damage to the unit due to excessive voltage or current.

5. Do not bend or pull cables repeatedly, and do not place heavy objects on them or allow them to be pinched. This can cause broken lines.

Serial EX510 Precautions

Design/Selection

⚠ Warning

1. Use within the allowable voltage range.

Using beyond the allowable voltage range is likely to cause the units and connecting devices to be damaged or to malfunction.

2. Do not use beyond the specification range.

Using beyond the specification range is likely to cause a fire, malfunction, or breakdown in the units and connecting devices. Check the specifications before handling.

3.Establish a backup system beforehand, which employs fail-safe concepts such as multiple equipment and devices to prevent breakage or malfunction of this product.

4. Provide an external emergency stop circuit that will immediately stop an operation and cut off the power supply.

5. When using for an interlock circuit:

- Provide a double interlock which is operated by another system (such mechanical protection function).
- Perform an inspection to check that it is working properly because it can cause possible injuries.

⚠ Caution

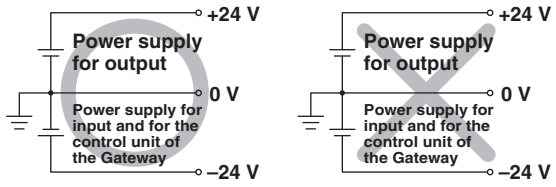
1. Keep the surrounding space free for maintenace.

When designing a system, take into consideration the amount of free space needed for performing maintenance.

2. When applicable to UL, use a Class 2 power supply unit conforming to UL1310 for direct current power supply.

3. This product is one of the components to be equipped into a final equipment. Confirm the adaptability to the EMC directive as the whole equipment by customers themselves.

4.The power supply for the Gateway unit should be 0 V as the standard for both power supply for outputs as well as inputs and for the control unit of the Gateway.



Series S0700
Specific Product Precautions 7

Be sure to read before handling. Refer to back cover for Safety Instructions, "Handling Precautions for SMC Products" (M-E03-3) for 3/4/5 Port Solenoid Valve Precautions.

Serial EX510 Precautions

Mounting

⚠ Caution

1. Do not drop, bump, or apply excessive impact.

Otherwise, the unit can become damaged, malfunction, or fail to function.

2. Hold the body while handling this product.

Otherwise, the unit can become damaged, malfunction, or fail to function.

3. Observe the tightening torque range.

Tightening outside of the allowable torque range will likely damage the product.

4.Do not install a unit in a place where it can be used as a scaffold.

Applying any excessive load such as stepping on the unit by mistake or placing a foot on it, will cause it to break.

Wiring

⚠ Warning

1. Avoid miswiring.

If miswired, there is a probability of damaging units or connecting devices.

2. Do not wire while energizing the product.

It is likely to damage the units or connecting devices.

3.Avoid wiring the power line and high pressure line in parallel.

Noise or surge produced by signal line resulting from the power line or high pressure line could cause a malfunction. Wiring of the reduced wiring system and the power line or high pressure line should be separated from each other.

4. Check the wiring insulation.

Inferior insulation (contact with other circuit, insulation between terminals, etc.) will likely cause damage to the units or connecting devices due to excessive voltage or the influx of current.

⚠ Caution

1.Take measures to avoid applying repeated bending force or pulling force to the cable.

Also, pay attention not to place any heavy matter on the cable or clipping. It is likely to cause a broken wire.

2.Check the grounding to maintain the safety of the reduced wiring system and for anti-noise performance.

Grounding should be close to units and keep the grounding distance short.

Operating Environment

⚠ Warning

1. Do not use this product in the presence of dust, particles, water, chemicals, and oil.

Use with such materials is likely to cause a malfunction or breakage.

2. Do not use this product in the presence of a magnetic field.

Use in such an environment is likely to cause a malfunction.

3.Do not use this product in an atmosphere containing an inflammable gas, explosive gas, or corrosive gas.

Use in such an atmosphere is likely to cause a fire, explosion, or corrosion. This wire-reduced system is not explosion-proof.

4.Do not use this product in places where there are cyclic temperature changes.

In case that the cyclic temperature is beyond normal temperature changes, the internal unit is likely to be adversely affected.

5.Do not use this product in places where there is radiated heat around it.

Such a place is likely to cause a malfunction or breakage.

6.Do not use this product near sources that generate a surge which exceeds the benchmark test, even though this product is CE-marked certified.

The internal circuit components are likely to deteriorate or become damaged when there are equipment (solenoid type lifter, high frequency guided furnace, motor, etc.) which generate a large surge around the reduced wiring system. Take measures to prevent an electrical surge and avoid having the wires touch each other.

7. Use the product type that has an integrated surge absorption element when directly driving a load which generates surge voltage by relay or solenoid valves.

8. The reduced wiring system should be installed in places with no vibration or shock.

Such a place is likely to cause a malfunction or breakage.

Series S0700
Specific Product Precautions 8

Be sure to read before handling. Refer to back cover for Safety Instructions, "Handling Precautions for SMC Products" (M-E03-3) for 3/4/5 Port Solenoid Valve Precautions.

Serial EX510 Precautions

Adjustment/Operation

⚠ Warning

1. Do not short-circuit a load.

If a load is short-circuited, excessive current can cause damage to the connected devices. The fuse of the input unit will melt. The output and SI unit will activate its overcurrent protection function. However, they cannot cover all modes, so damage is likely to occur.

2. Do not manipulate or perform settings with wet hands.

Performing such activity will likely cause an electrical shock.

⚠ Caution

1. DIP switches and rotary switches should be set with a small watchmakers' screwdriver.

Maintenance

⚠ Warning

1.Do not disassemble, modify (including circuit board replacement) or repair this product.

Such actions are likely to cause injuries or breakage.

2. Perform periodic inspection.

Confirm that wiring or screws are not loose.
Otherwise, unpredicted malfunction in the system composition devices is likely to occur.

3. When an inspection is performed.

- Turn off the power supply.
- Stop the supplied fluid and discharge the fluid in the piping and confirm the release to the atmosphere before performing an inspection. It is likely to cause injuiries.

⚠ Caution

1.Do not wipe this product with chemicals such as benzine or thinner.

Using such chemicals is likely to cause damage.

Series S0700
Specific Product Precautions 9

Be sure to read before handling. Refer to back cover for Safety Instructions, "Handling Precautions for SMC Products" (M-E03-3) for 3/4/5 Port Solenoid Valve Precautions.

Serial EX600 Precautions

Design/Selection

⚠ Warning

1. Use this product within the specification range.

Using beyond the specified specifications range can cause fire, malfunction, or damage to the system.
Check the specifications when operating.

2. When using for an interlock circuit:

- **Provide a multiple interlock system which is operated by another system (such as mechanical protection function).**
- **Perform an inspection to confirm that it is working properly.**

This may cause possible injury due to malfunction.

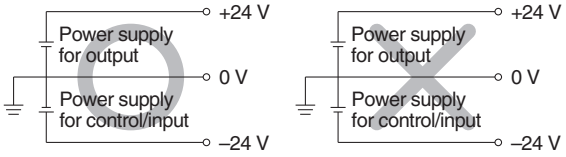
⚠ Caution

1. When applicable to UL, use a Class 2 power supply unit conforming to UL1310 for direct current power supply.

2. Use this product within the specified voltage range.

Using beyond the specified voltage range is likely to cause the units and connecting devices to be damaged or to malfunction.

3. The power supply for the unit should be 0 V as the standard for both power supply for output as well as power supply for control/input.



4. Do not install a unit in a place where it can be used as a foothold.

Applying any excessive load such as stepping on the unit by mistake or placing a foot on it, will cause it to break.

5. Keep the surrounding space free for maintenance.

When designing a system, take into consideration the amount of free space needed for performing maintenance.

6. Do not remove the name plate.

Improper maintenance or incorrect use of instruction manual can cause failure and malfunction. Also, there is a risk of losing conformity with safety standards.

7. Beware of inrush current when the power supply is turned on.

Some connected loads can apply an initial charge current which will trigger the over current protection function, causing the unit to malfunction.

Mounting

⚠ Caution

1. When handling and assembling units:

- **Do not touch the sharp metal parts of the connector or plug.**
- **Do not apply excessive force to the unit when disassembling.**

The connecting portions of the unit are firmly joined with seals.

- **When joining units, take care not to get fingers caught between units.**

Injury can result.

Mounting

⚠ Caution

2. Do not drop, bump, or apply excessive impact.

Otherwise, the unit can become damaged, malfunction, or fail to function.

3. Observe the tightening torque range.

Tightening outside of the allowable torque range will likely damage the product.
IP67 protection class cannot be guaranteed if the screws are not tightened to the specified torque.

4. When lifting a large size manifold solenoid valve unit, take care to avoid causing stress to the valve connection joint.

The connection parts of the unit may be damaged.
Because the unit may be heavy, carrying and installation should be performed by more than one operator to avoid strain or injury.

5. When placing a manifold, mount it on a flat surface.

Torsion in the whole manifold can lead to trouble such as air leakage or defective insulation.

Wiring

⚠ Caution

1. Check the grounding to maintain the safety of the reduced wiring system and for anti-noise performance.

Provide a specific grounding as close to the unit as possible to minimize the distance to grounding.

2. Avoid repeatedly bending or stretching the cable and applying a heavy object or force to it.

Wiring applying repeated bending and tensile stress to the cable can break the circuit.

3. Avoid miswiring.

If miswired, there is a danger of malfunction or damage to the reduced wiring system.

4. Do not wire while energizing the product.

There is a danger of malfunction or damage to the reduced wiring system or input/output equipment.

5. Avoid wiring the power line and high pressure line in parallel.

Noise or surge produced by signal line resulting from the power line or high pressure line could cause malfunction.
Wiring of the reduced wiring system or input/output device and the power line or high pressure line should be separated from each other.

6. Check the wiring insulation.

Defective insulation (contact with other circuits, improper insulation between terminals, etc.) may cause damage to the reduced wiring system or input/output device due to excessive voltage or current.

Series S0700
Specific Product Precautions 10

Be sure to read before handling. Refer to back cover for Safety Instructions, "Handling Precautions for SMC Products" (M-E03-3) for 3/4/5 Port Solenoid Valve Precautions.

Serial EX600 Precautions

Wiring

⚠Caution

7. When a reduced wiring system is installed in machinery/equipment, provide adequate protection against noise by using noise filters, etc.

Noise in signal lines may cause a malfunction.

8. When connecting wires of input/output device or hand-held terminal, prevent water, solvent or oil from entering inside from the connecter section.

This can cause damage, equipment failure or malfunction.

9. Avoid wiring patterns in which excessive stress is applied to the connector.

This may cause malfunction or damage to the unit due to contact failure.

Operating Environment

⚠Warning

1. Do not use in an atmosphere containing an inflammable gas or explosive gas.

Use in such an atmosphere is likely to cause a fire or explosion. This system is not explosion-proof.

⚠Caution

2. Provide adequate protection when operating in locations such as the following.

Failure to do so may cause damage or malfunction.
The effect of countermeasures should be checked in individual equipment and machine.

1) Where noise is generated by static electricity, etc.
2) Where there is a strong electric field
3) Where there is a danger of exposure to radiation
4) When in close proximity to power supply lines

Operating Environment

⚠Caution

3. Do not use in an environment where oil and chemicals are used.

Operating in environments with coolants, cleaning solvents, various oils or chemicals may cause adverse effects (damage, malfunction) to the unit even in a short period of time.

4. Do not use in an environment where the product could be exposed to corrosive gas or liquid.

This may damage the unit and cause it to malfunction.

5. Do not use in locations with sources of surge generation.

Installation of the unit in an area around the equipment (electromagnetic lifters, high frequency induction furnaces, welding machine, motors etc.), which generates the large surge voltage could cause to deteriorate an internal circuitry element of the unit or result in damage. Implement countermeasures against the surge from the generating source, and avoid touching the lines with each other.

6. Use the product type that has an integrated surge absorption element when directly driving a load which generates surge voltage by relay, solenoid valves or lamp.

When a surge generating load is directly driven, the unit may be damaged.

7. The product is CE marked, but not immune to lightning strikes. Take measures against lightning strikes in your system.

8. Keep dust, wire scraps and other extraneous material from getting inside the product.

This may cause a malfunction or damage.

9. Mount the unit in such locations, where no vibration or shock is affected.

This may cause a malfunction or damage.

10. Do not use in places where there are cyclic temperature changes.

In case that the cyclic temperature is beyond normal temperature changes, the internal unit is likely to be adversely effected.

11. Do not use in direct sunlight.

Do not use in direct sunlight. It may cause a malfunction or damage.

12. Use this product within the specified ambient temperature range.

This may cause a malfunction.

13. Do not use in places where there is radiated heat around it.

Such a place is likely to cause a malfunction.

Series S0700
Specific Product Precautions 11

Be sure to read before handling. Refer to back cover for Safety Instructions, "Handling Precautions for SMC Products" (M-E03-3) for 3/4/5 Port Solenoid Valve Precautions.

Serial EX600 Precautions

Adjustment/Operation

⚠ Warning

1. Do not perform operation or setting with wet hands.
There is a risk of electrical shock.

<Handheld Terminal>

2. Do not apply pressure to the LCD.
There is a possibility of the crack of LCD and injuring.

3. The forced input/output function is used to change the signal status forcibly. When operating this function, be sure to check the safety of the surroundings and installation.
Otherwise, injury or equipment damage could result.

4. Incorrect setting of parameters can cause malfunction. Be sure to check the settings before use.
This may cause injury or equipment damage.

⚠ Caution

1. Use a watchmakers' screwdriver with thin blade for the setting of each switch of the SI unit.
When setting the switch, do not touch other unrelated parts.
This may cause parts damage or malfunction due to a short-circuit.

2. Provide adequate setting for the operating conditions.
Failure to do so could result in malfunction.
Refer to the instruction manual for setting of the switches.

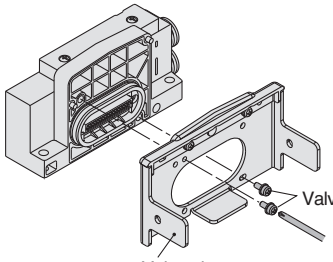
3. For details on programming and address setting, refer to the manual from the PLC manufacturer.
The content of programming related to protocol is designed by the manufacturer of the PLC used.

<Handheld Terminal>

4. Do not press the setting buttons with a sharp pointed object.
This may cause damage or malfunction.

5. Do not apply excessive load and impact to the setting buttons.
This may cause damage, equipment failure or malfunction.

When the order does not include the SI unit, the valve plate to connect the manifold and SI unit is not mounted. Use attached valve fixing screws and mount the valve plate.
(Tightening torque: 0.44 to 0.52 lbf·ft (0.6 to 0.7 N·m)



Screw tightened parts
Series SV: 2 places
Series S0700: 2 places
Series VQC1000: 2 places
Series VQC2000: 3 places
Series VQC4000: 4 places
Series SY: 2 places

Maintenance

⚠ Warning

1. Do not disassemble, modify (including circuit board replacement) or repair this product.
Such actions are likely to cause injuries or breakage.

2. When an inspection is performed,
- **Turn off the power supply.**
- **Stop the air supply, exhaust the residual pressure in piping and verify that the air is released before performing maintenance work.**

Unexpected malfunction of system components and injury can result.

⚠ Caution

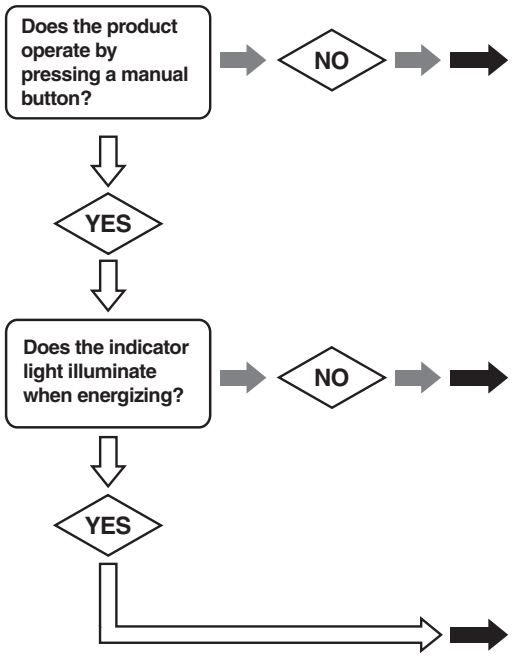
1. When handling and replacing the unit:
- **Do not touch the sharp metal parts of the connector or plug.**
- **Do not apply excessive force to the unit when disassembling.**
  The connecting portions of the unit are firmly joined with seals.
- **When joining units, take care not to get fingers caught between units.**
  Injury can result.

2. Perform periodic inspection.
Unexpected malfunction in the system composition devices is likely to occur due to malfunction of machinery or equipment.

3. After maintenance, make sure to perform an appropriate functionality inspection.
In cases of abnormality such as faulty operation, stop operation. Unexpected malfunction in the system composition devices is likely to occur.

4. Do not use benzene and thinner for cleaning units.
Damage to the surface or erasure of the display can result. Wipe off any stains with a soft cloth.
If the stain is persistent, wipe off with a cloth soaked in a dilute solution of neutral detergent and wrung out tightly, and then finish with a dry cloth.

Troubleshooting

Trouble	In the event of product failure, take remedial measures by checking the following items as detailed below.	Cause	Measures
Operating failure The air supply direction has not been changed.		1) Slide failure or sticking of the main valve Foreign matter from the air source has been caught in the main valve and has caused slide failure and sticking.	• Replace the valve. • Purify the air source. (Refer to Best Pneumatics No. 1.)
		2) Pressure drop The pressure of the air source decreases and fails to reach the minimum operating pressure of the valve, resulting in operating failure.	Adjust the pressure of the valve within the operating pressure range.
		1) Electric system error • Sequencer failure • Incorrect wiring • Open fuse and lead wire disconnection • Voltage drop	Check each item and take applicable measure.
		1) Voltage drop The product may not operate due to a voltage drop even when its indicator light remains illuminated.	Check the voltage and take applicable measure if decreased.
		2) Current leakage The product does not shift from off to on due to the residual voltage.	Check the residual voltage, which shall be 2% or less of rated voltage.
		3) Pilot valve failure • Foreign matter from the air source has entered the inside of the pilot valve and has caused operating failure. • Open coil circuit	• Replace the pilot valve assembly. <Part no. of pilot valve assembly> S070P-$\begin{matrix}5\\6\end{matrix}$$\begin{matrix}G\\B\,C\\CO\end{matrix}$ • Purify the air source. (Refer to Best Pneumatics No. 1.)
Response failure The product operates, but has a time delay.		1) Current leakage The response of the product was delayed due to the residual voltage.	Check the residual voltage, which should be 2% or less of the rated voltage.
		2) Clogging of the filter element of the manifold	• Clean or replace the element.
		3) Foreign matter from the air source has entered the main valve and has caused slide failure and sticking.	• Replace the valve. • Purify the air source. (Refer to Best Pneumatics No. 1.)

Trouble	In the event of product failure, take remedial measures by checking the following items as detailed below.	Cause	Measures
Air leakage	**Check the part where the air is leaking.** **1. Leakage between the valve and base** ➡	1-1) The clamping screw or mounting bolt is loose.	Tighten the clamping screw. Proper tightening torque 0.17 to 0.23 N•m Replace the gasket if it was damaged.
		1-2) The gasket got caught.	Replace the gasket. <Part no. of gasket and spare parts> S0700-GS-5 (10 sets) Plug-in Manifold Stacking Base Plug Lead Manifold Bar Base, Plug Lead Single Unit S0700-GS-3 (10 sets) Slim Compact Plug-in Manifold Bar Base
	2. Air leakage from the one-touch fitting ➡	2-1) The tube did not bottom out. 2-2) The tube had a flaw. 2-3) The tube end was cut uneven.	Check each item and take applicable measures.
		2-4) The packing of the one-touch fitting was damaged.	Replace the one-touch fitting assembly. <Part no. of one-touch fitting assembly> VVQ0000-50A-C2 VVQ0000-50A-C3 VVQ0000-50A-C4 VVQ0000-50A-N1 VVQ0000-50A-N3 SS070-50A-20 SS070-50A-32 SS070-50A-40
	3. Leakage from R port ➡	3-1) The mounting screw is loose.	Tighten the mounting bolt. Proper tightening torque • 0.17 to 0.23 N•m Replace the gasket if it was damaged.
		3-2) Foreign matter from the air source got caught in the main valve and increased the internal leakage.	• Replace the valve. Purify the air source. (Refer to Best Pneumatics No. 1.)

⚠ Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of **"Caution," "Warning"** or **"Danger."** They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)*1), and other safety regulations.

⚠ Caution: **Caution** indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

⚠ Warning: **Warning** indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

⚠ Danger : **Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

*1) ISO 4414: Pneumatic fluid power – General rules relating to systems.
ISO 4413: Hydraulic fluid power – General rules relating to systems.
IEC 60204-1: Safety of machinery – Electrical equipment of machines. (Part 1: General requirements)
ISO 10218-1: Manipulating industrial robots - Safety.
etc.

⚠ Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.
Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.
The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

3. Do not service or attempt to remove product and machinery/equipment until safety is confirmed.
1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

4. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.
1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog.
3. An application which could have negative effects on people, property, or animals requiring special safety analysis.
4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

⚠ Caution

1. The product is provided for use in manufacturing industries.
The product herein described is basically provided for peaceful use in manufacturing industries.
If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary.
If anything is unclear, contact your nearest sales branch.

Limited warranty and Disclaimer/ Compliance Requirements

The product used is subject to the following "Limited warranty and Disclaimer" and "Compliance Requirements."
Read and accept them before using the product.

Limited warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered.*2)
Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.
This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.

***2) Vacuum pads are excluded from this 1 year warranty.**
A vacuum pad is a consumable part, so it is warranted for a year after it is delivered.
Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

Compliance Requirements

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

Revision history

Edition B	* Addition of Slim Compact Plug-in Manifold Bar Base, 5 Port Solenoid Valve Series S0700.	
	* Number of pages from 84 to 112.	NR
Edition C	* 5 Port Solenoid Valve Series S0700 EX180 (For Output) for Serial Transmission System is added. EX260 (For Output) for Serial Transmission System is added. EtherNet/IP™ and EtherCAT are added as supported network types for EX600 (For Input/Output) for Serial Transmission System.	QO

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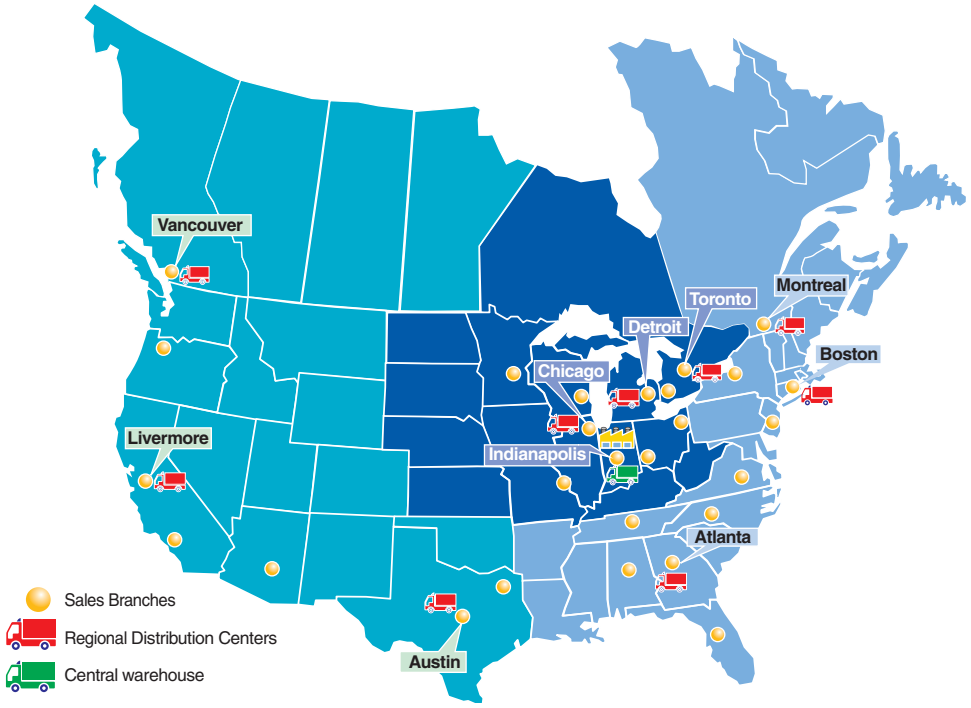

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QQ-PC-5M

Fieldbus System

(Output device for driving 5 port solenoid valves)

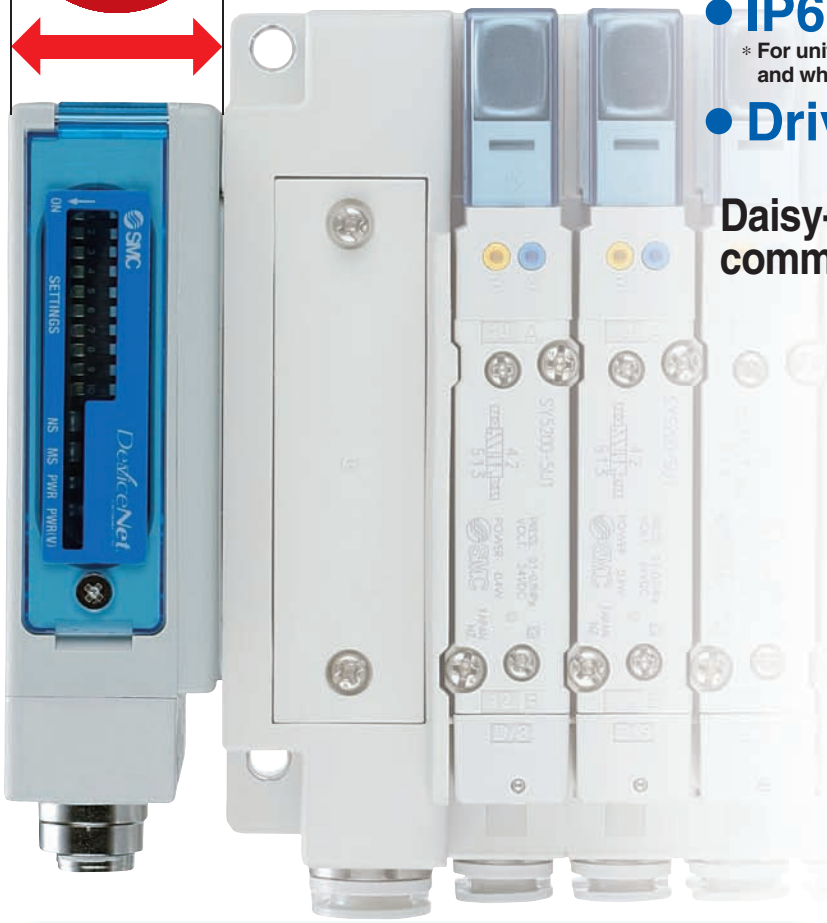
New

CE cULus RoHS

Compact
28 mm
(Actual size)

Space-saving Installation

EtherNet/IP™ added !

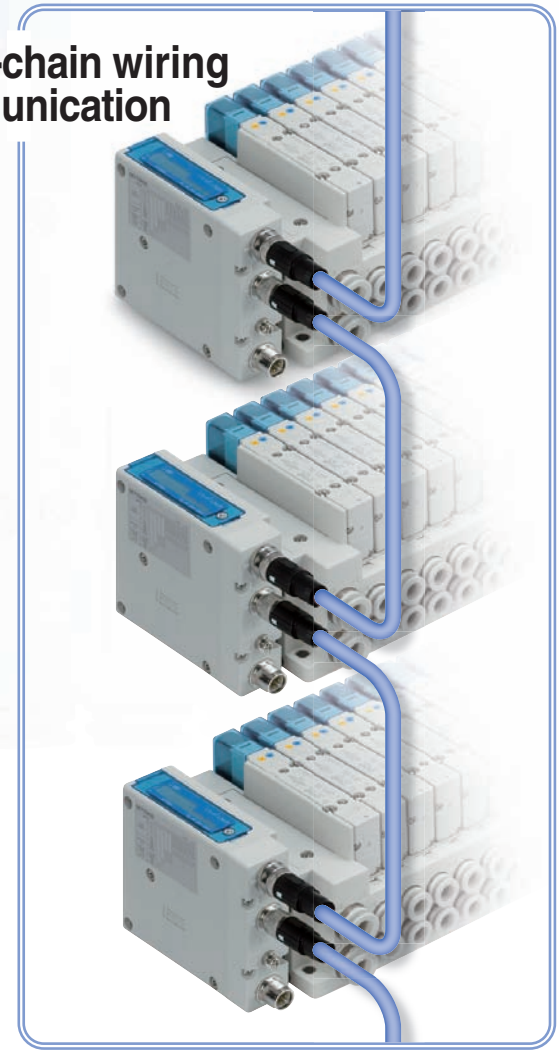


- **IP67***

  * For units with D-sub connector, and when connected to S0700 manifolds, it is IP40.

- **Drives up to 32 solenoids**

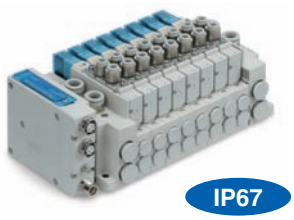
Daisy-chain wiring communication



Applicable Fieldbus protocols

PROFIBUS® DeviceNet™ CC-Link

PROFINET® New EtherNet/IP™ EtherCAT®

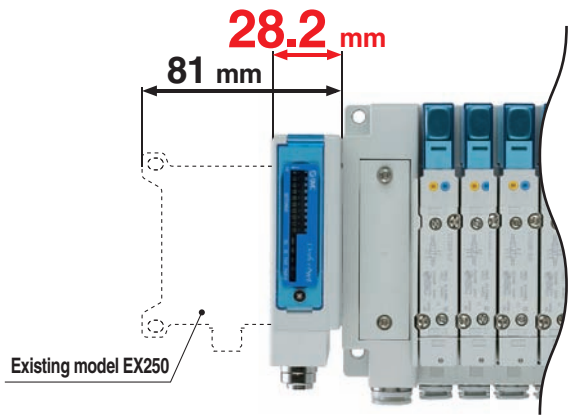
Top ported valve	Bottom ported valve	Side ported valve Mixed valve sizes manifold	7 mm width valve
			
IP67	IP67	IP67	IP40

Series EX260

SMC

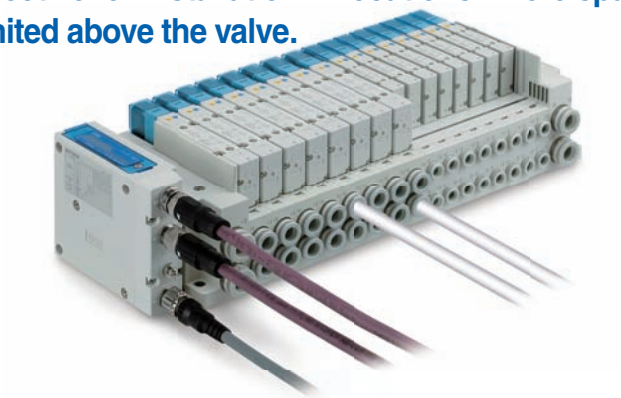
CAT.NAS02-25B

Manifold length is shortened by the small fieldbus output module (SI unit).

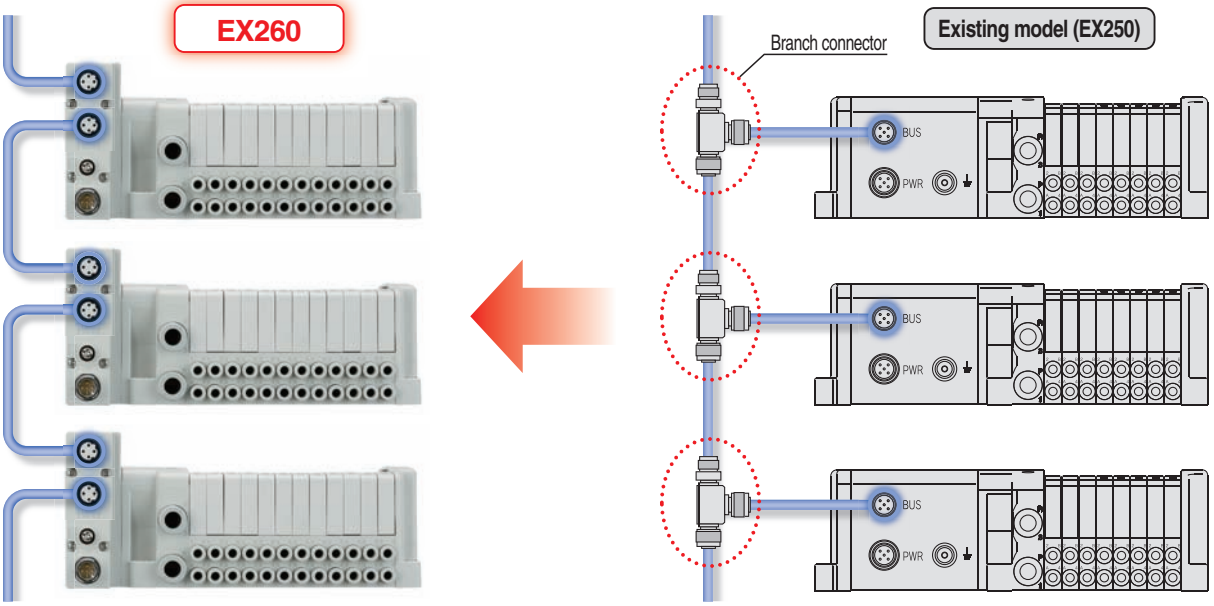


Wiring and piping from the same direction is possible. (for side ported)

Effective for installation in locations where space is limited above the valve.

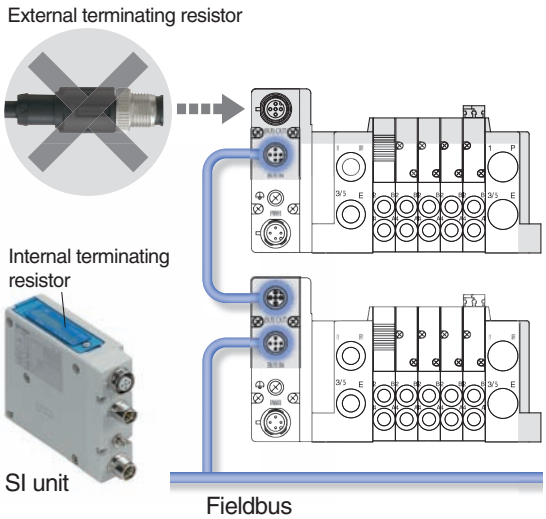


External branch connector is not necessary. Daisy-chain wiring is possible. Reduced wiring space



External terminating resistor is not necessary. (Only available for M12 PROFIBUS DP, CC-Link communication connectors)

ON/OFF switching is possible with an internal terminating resistor. External terminating resistor is not necessary.



Product Specification Variations

	PROFIBUS DP	DeviceNet	CC-Link	PROFINET	EtherNet/IP	EtherCAT
Number of outputs	16 32	16 32	16 32	16 32	16 32	16 32
Output polarity	PNP NPN	PNP NPN	PNP NPN	PNP NPN	PNP NPN	PNP NPN
Communication connector	M12 D-sub	M12	M12	M12	M12	M12

■ Communication connector examples

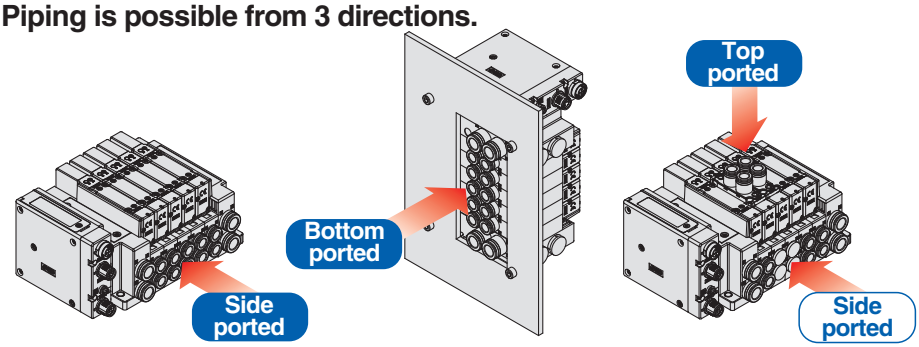
M12 communication connector
(PROFIBUS DP)

D-sub communication connector
(PROFIBUS DP)

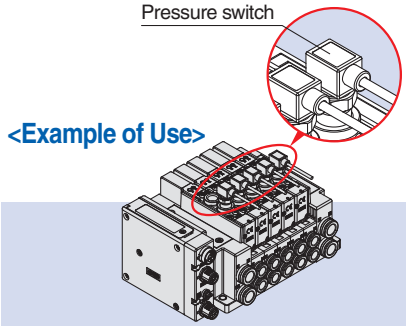
Series SY3000/5000

Valve piping direction variations

■ **Piping is possible from 3 directions.**

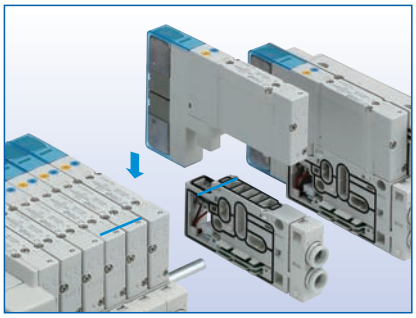


Mixed mounting of top ported and side ported is possible.



By mounting top ported valves on side ported and bottom ported type manifolds, it is possible to detect the output of the A/B port with a pressure switch.

Valves can be freely connected up to 24 stations.



■ **It is possible to connect only the number of valves required, from 1 to 24 stations, to suit the application. (Maximum number of solenoids connected: 32)**

Mixed valve sizes manifold

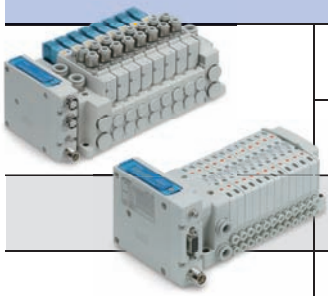
■ **Valves of different sizes, SY3000 and SY5000, can be mounted on the same manifold.**

Series S0700

7 mm width valves can be connected.

■ **It is possible to connect only the number of 7 mm width valves required, from 1 to 24 stations. (Maximum number of solenoids connected: 32)**

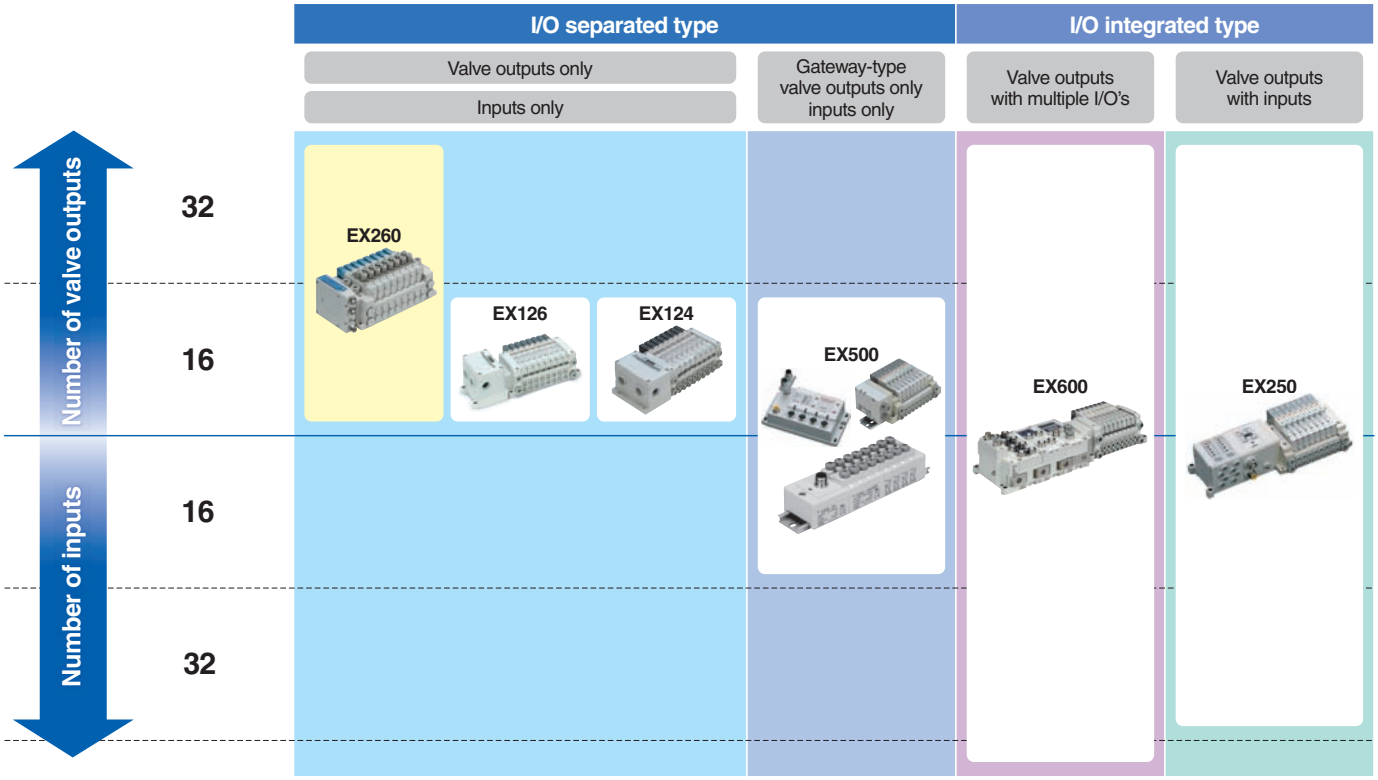
● Applicable Valve Series

Series		Flow-rate characteristics (4/2→5/3) C [dm³/(s·bar)]	Flow-rate characteristics (4/2→5/3) b	Maximum number of solenoids	Power consumption (W)	Enclosure	Standards	Page
	SY3000	1.6	0.19	32	0.35 (standard) 0.1 (with power-saving circuit)	IP67	CE	page 7
	SY5000	3.6	0.17					
	S0700	0.37	0.39	32	0.35	IP40	CE	page 38
	SV1000	1.1	0.35	32	0.6	IP67	CE cULus	page 24
	SV2000	2.4	0.18					
	SV3000	4.3	0.21					
	VQC1000	1.0	0.30	24	0.4 (standard)	IP67	CE	page 29
	VQC2000	3.2	0.30					
	VQC4000	7.3	0.38		1.0 (standard)			

Note) For units with D-sub communication connector, it is IP40.

Fieldbus System Variations

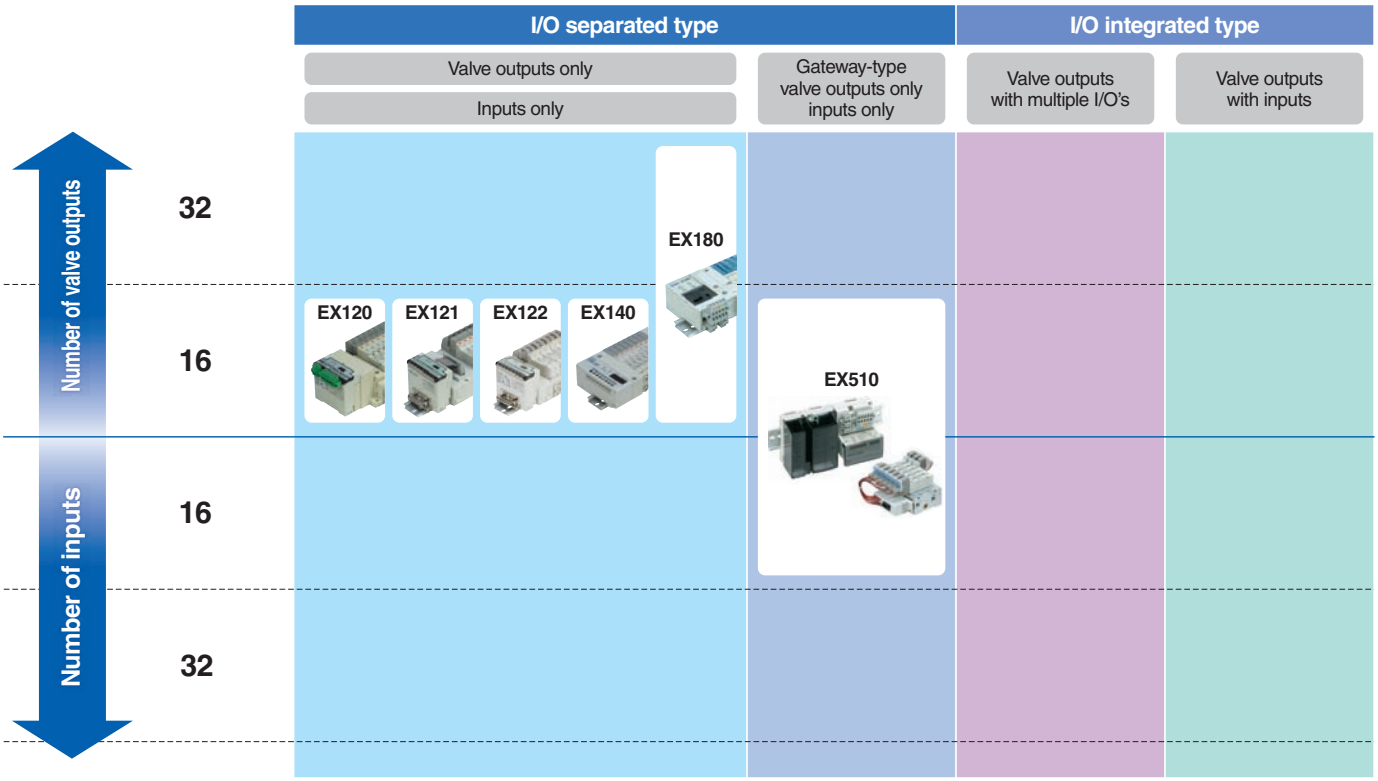
IP67/65 specification models



Number of valve outputs	16			32	16 (total 64)	32	32
Number of inputs	None				16 (total 64)	144	32
SI unit series	EX260	EX126	EX124	EX260	EX500	EX600	EX250
Open network: PROFINET	●			●			
Open network: EtherCAT	●			●		●	
Open network: EtherNet/IP™	●			●	●	●	●
Open network: PROFIBUS DP	●			●	●	●	●
Open network: DeviceNet™	●		●	●	●	●	●
Open network: CC-Link	●	●	●	●	●	●	●
Open network: AS-Interface							●
Open network: CANopen							●
Open network: CompoNet™							
Applicable valve series: SY (Plug-in connector connecting base) 3000	●	●		●	●	●	●
Applicable valve series: SY (Plug-in connector connecting base) 5000	●	●		●	●	●	●
Applicable valve series: S0700 (Stacking base) 0700	●			●	●	●	●
Applicable valve series: SV 1000	●	●		●	●	●	●
Applicable valve series: SV 2000	●	●		●	●	●	●
Applicable valve series: SV 3000	●	●		●	●	●	●
Applicable valve series: SV 4000					●		
Applicable valve series: VQC 1000	●	●		●	●	●	●
Applicable valve series: VQC 2000	●	●		●	●	●	●
Applicable valve series: VQC 4000	●	●		●	●	●	●
Applicable valve series: VQ 1000							
Applicable valve series: VQ 2000			●				
Applicable valve series: VQ 4000			●				
Applicable valve series: VQ 5000			●				

Fieldbus System Variations

IP20 specification models



Number of valve outputs		16				32	16 (total 64)
Number of inputs		None					16 (total 64)
SI unit series		EX120	EX121	EX122	EX140	EX180	EX510
Open network	PROFINET						
	EtherCAT						
	EtherNet/IP™						
	PROFIBUS DP						●
	DeviceNet™	●	●	●	●	●	●
	CC-Link	●	●	●	●	●	●
	AS-Interface						
	CANopen						
	CompoNet™	●	●	●			
Applicable valve series	SY (Plug-in connector connecting base) 3000	●					
	SY (Plug-in connector connecting base) 5000	●					
	SJ 2000					●	●
	SJ 3000					●	●
	SY (Plug-in metal base) 3000						●
	SY (Plug-in metal base) 5000						●
	S0700 (Bar stock) 0700					●	●
	SY (Bar stock) 3000						●
	SY (Bar stock) 5000						●
	SY (Bar stock) 7000						●
	SY (Stacking base) 3000		●	●			●
	SY (Stacking base) 5000		●	●			●
	SY (Stacking base) 7000						●
	SV 1000	●					
	SV 2000	●					
	SV 3000	●					
	SV 4000	●					
	VQ 1000	●					●
	VQ 2000	●					●
	VQ 4000						
	VQ 5000						
	SQ 1000				●		●
	SQ 2000				●		●
	SZ 3000				●		●
	VQZ 1000						●
	VQZ 2000						●
	VQZ 3000						●
	SYJ 3000						●
	SYJ 5000						●
	SYJ 7000						●

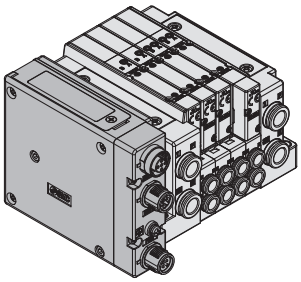
SI Unit Integrated-type/For Output

Series EX260

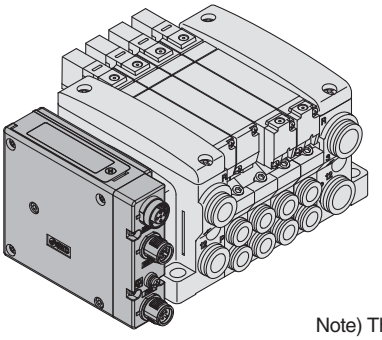
Note)

Compact design	Compact design for space saving
Number of outputs	Each 32/16 digital output type available in the series
Output polarity	Each negative common (PNP) / positive common (NPN) type available in the series
Enclosure	IP67 (For units with D-sub connector, and when connected with S0700 manifolds, it is IP40.)
Internal terminating resistor	ON/OFF switching is possible with an internal terminating resistor for communication. (Only for units compatible with M12 PROFIBUS DP, CC-Link communication connectors)

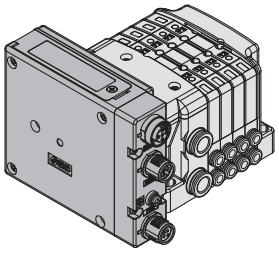
SY3000/5000



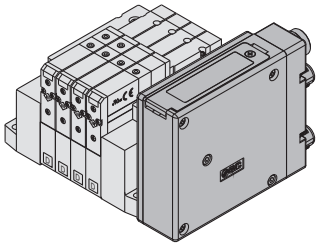
VQC1000/2000/4000



S0700



SV1000/2000/3000



Note) The SY3000/5000, VQC1000/2000/4000, and S0700 are not yet UL-compatible.

How to Order SI Units

EX260 – S PR1

● Communication protocol

Symbol	Protocol	Number of outputs	SI unit output polarity	Communication connector	Manifold symbol
DN1	DeviceNet™	32	Source/PNP (Negative common)	M12	QAN
DN2			Sink/NPN (Positive common)		QA
DN3		16	Source/PNP (Negative common)		QBN
DN4			Sink/NPN (Positive common)		QB
PR1	PROFIBUS DP	32	Source/PNP (Negative common)	M12	NAN
PR2			Sink/NPN (Positive common)		NA
PR3		16	Source/PNP (Negative common)		NBN
PR4			Sink/NPN (Positive common)		NB
PR5		32	Source/PNP (Negative common)	D-sub Note)	NCN
PR6			Sink/NPN (Positive common)		NC
PR7		16	Source/PNP (Negative common)		NDN
PR8			Sink/NPN (Positive common)		ND
MJ1	CC-Link	32	Source/PNP (Negative common)	M12	VAN
MJ2			Sink/NPN (Positive common)		VA
MJ3		16	Source/PNP (Negative common)		VBN
MJ4			Sink/NPN (Positive common)		VB
EC1	EtherCAT	32	Source/PNP (Negative common)	M12	DAN
EC2			Sink/NPN (Positive common)		DA
EC3		16	Source/PNP (Negative common)		DBN
EC4			Sink/NPN (Positive common)		DB
PN1	PROFINET	32	Source/PNP (Negative common)	M12	FAN
PN2			Sink/NPN (Positive common)		FA
PN3		16	Source/PNP (Negative common)		FBN
PN4			Sink/NPN (Positive common)		FB
EN1	EtherNet/IP™	32	Source/PNP (Negative common)	M12	EAN
EN2			Sink/NPN (Positive common)		EA
EN3		16	Source/PNP (Negative common)		EBN
EN4			Sink/NPN (Positive common)		EB

Note) Enclosure is IP40 when the communication connector is D-sub.

SI Unit Specifications

Model		EX260-SPR1/3	EX260-SPR2/4	EX260-SPR5/7	EX260-SPR6/8	EX260-SDN1/3	EX260-SDN2/4	EX260-SMJ1/3	EX260-SMJ2/4
Applicable system	Protocol	PROFIBUS DP				DeviceNet™		CC-Link	
	Version Note 1)	DP-V0				Volume 1(Edition 3.5) Volume 3(Edition 1.5)		Ver.1.10	
	Configuration file Note 3)	GSD file				EDS file		—	
I/O occupation area (Inputs/Outputs)		SPR1: 0/32 SPR3: 0/16	SPR2: 0/32 SPR4: 0/16	SPR5: 0/32 SPR7: 0/16	SPR6: 0/32 SPR8: 0/16	SDN1: 0/32 SDN3: 0/16	SDN2: 0/32 SDN4: 0/16	SMJ1: 32/32 SMJ3: 32/32 (1 station, remote I/O stations)	SMJ2: 32/32 SMJ4: 32/32 (1 station, remote I/O stations)
Communication speed		9.6 k/19.2 k/45.45 k/93.75 k/ 187.5 k/500 k/1.5 M/3 M/6 M/12 Mbps				125 k/250 k/500 kbps		156 k/625 k/ 2.5 M/5 M/10 Mbps	
Power supply for control	Power supply voltage	21.6 to 26.4 VDC				—		21.6 to 26.4 VDC	
	Internal current consumption	100 mA or less				—		100 mA or less	
Power supply for output	Power supply voltage	—		22.8 to 26.4 VDC					
Power supply for communication	Power supply voltage	—				11 to 25 VDC		—	
	Internal current consumption					100 mA or less		—	
Communication connector specification		M12		D-sub		M12			
Terminating resistor switch		Built-in		None				Built-in	
Output	Output type	Source/PNP (Negative common)	Sink/NPN (Positive common)	Source/PNP (Negative common)	Sink/NPN (Positive common)	Source/PNP (Negative common)	Sink/NPN (Positive common)	Source/PNP (Negative common)	Sink/NPN (Positive common)
	Number of outputs	SPR1: 32 points SPR3: 16 points	SPR2: 32 points SPR4: 16 points	SPR5: 32 points SPR7: 16 points	SPR6: 32 points SPR8: 16 points	SDN1: 32 points SDN3: 16 points	SDN2: 32 points SDN4: 16 points	SMJ1: 32 points SMJ3: 16 points	SMJ2: 32 points SMJ4: 16 points
	Load	Solenoid valve with protective circuit for surge voltage of 24 VDC/1.5 W or less (SMC)							
	Supplied voltage	24 VDC							
	Supplied current	SPR1: Max. 2.0 A SPR3: Max. 1.0 A	SPR2: Max. 2.0 A SPR4: Max. 1.0 A	SPR5: Max. 2.0 A SPR7: Max. 1.0 A	SPR6: Max. 2.0 A SPR8: Max. 1.0 A	SDN1: Max. 2.0 A SDN3: Max. 1.0 A	SDN2: Max. 2.0 A SDN4: Max. 1.0 A	SMJ1: Max. 2.0 A SMJ3: Max. 1.0 A	SMJ2: Max. 2.0 A SMJ4: Max. 1.0 A
Environmental resistance	Enclosure	IP67		IP40		IP67			
	Operating temperature range	14 to 122°F (–10 to 50°C)							
	Operating humidity range	35 to 85%RH (No condensation)							
	Withstand voltage	500 VAC for 1 minute between terminals and housing							
	Insulation resistance	10 MΩ or more (500 VDC measured via megohmmeter) between terminals and housing							
Standards		CE marking, UL (CSA) compatible							
Weight		0.44 lbs (200 g)							
Accessories	Mounting screw	2 pcs.							
	Seal cap (for M12 connector socket)	EX9-AWTS (1 pc.)		—		EX9-AWTS (1 pc.)			

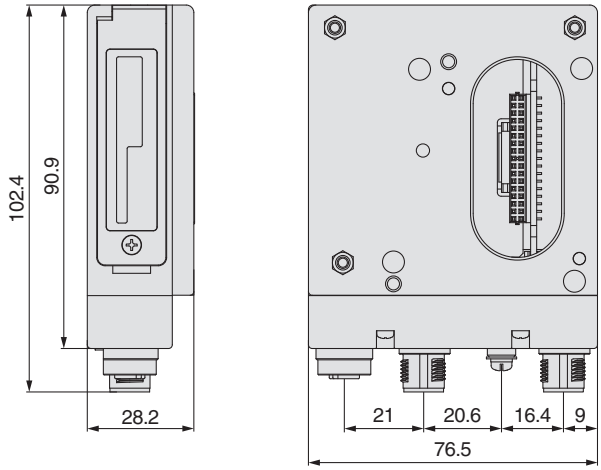
Model		EX260-SEC1/3	EX260-SEC2/4	EX260-SPN1/3	EX260-SPN2/4	EX260-SEN1/3	EX260-SEN2/4
Applicable system	Protocol	EtherCAT Note 2)		PROFINET Note 2)		EtherNet/IP™ Note 2)	
	Version Note 1)	Conformance Test Record V.1.1		PROFINET Specification Version 2.2		Volume 1(Edition 3.8) Volume 2(Edition 1.9)	
	Configuration file Note 3)	XML file		GSD file		EDS file	
I/O occupation area (Inputs/Outputs)		SEC1: 0/32 SEC3: 0/16	SEC2: 0/32 SEC4: 0/16	SPN1: 0/32 SPN3: 0/16	SPN2: 0/32 SPN4: 0/16	SEN1: 16/32 SEN3: 16/16	SEN2: 16/32 SEN4: 16/16
Communication speed		100 Mbps Note 2)				10 M/100 Mbps Note 2)	
Power supply for control	Power supply voltage	21.6 to 26.4 VDC					
	Internal current consumption	100 mA or less					
Power supply for output	Power supply voltage	22.8 to 26.4 VDC					
Power supply for communication	Power supply voltage	—					
	Internal current consumption	—					
Communication connector specification		M12					
Terminating resistor switch		None					
Output	Output type	Source/PNP (Negative common)	Sink/NPN (Positive common)	Source/PNP (Negative common)	Sink/NPN (Positive common)	Source/PNP (Negative common)	Sink/NPN (Positive common)
	Number of outputs	SEC1: 32 points SEC3: 16 points	SEC2: 32 points SEC4: 16 points	SPN1: 32 points SPN3: 16 points	SPN2: 32 points SPN4: 16 points	SEN1: 32 points SEN3: 16 points	SEN2: 32 points SEN4: 16 points
	Load	Solenoid valve with protective circuit for surge voltage of 24 VDC/1.5 W or less (SMC)		Solenoid valve with protective circuit for surge voltage of 24 VDC/1.0 W or less (SMC)		Solenoid valve with protective circuit for surge voltage of 24 VDC/1.5 W or less (SMC)	
	Supplied voltage	24 VDC					
	Supplied voltage	SEC1: Max. 2.0 A SEC3: Max. 1.0 A	SEC2: Max. 2.0 A SEC4: Max. 1.0 A	SPN1: Max. 2.0 A SPN3: Max. 1.0 A	SPN2: Max. 2.0 A SPN4: Max. 1.0 A	SEN1: Max. 2.0 A SEN3: Max. 1.0 A	SEN2: Max. 2.0 A SEN4: Max. 1.0 A
Environmental resistance	Enclosure	IP67					
	Operating temperature range	14 to 12°F (–10 to 50°C)					
	Operating humidity range	35 to 85%RH (No condensation)					
	Withstand voltage	500 VAC for 1 minute between terminals and housing					
	Insulation resistance	10 MΩ or more (500 VDC measured via megohmmeter) between terminals and housing					
Standards		CE marking, UL (CSA) compatible					
Weight		0.44 lbs (200 g)					
Accessories	Mounting screw	2 pcs.					
	Seal cap (for M12 connector socket)	EX9-AWTS (1 pc.)					

Note 1) Please note that the version is subject to change.
Note 2) Use a CAT5 or higher transmission cable for EtherCAT, PROFINET, EtherNet/IP™.
Note 3) Each file can be downloaded from the SMC website, http://www.smcworld.com

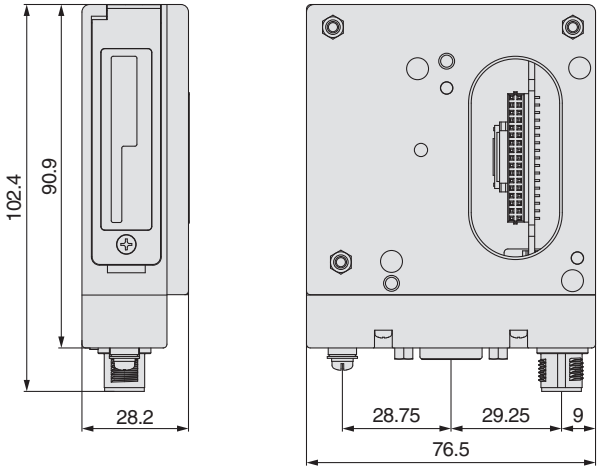
SI Unit Dimensions

(mm)

M12 communication connector type

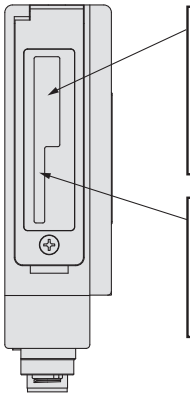


D-sub communication connector type



Functions of SI Unit Parts

<LED indication and setting switch>

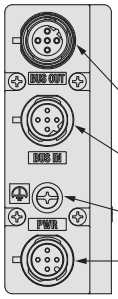


<Setting switch>
- **Address switch**
- **Communication speed switch**
- **Terminating resistor switch**
- **Others**

<LED indication>
- **Communication state**
- **Unit power supply state**
- **Valve power supply state**

Note) The setting switch varies depending on the model.
Refer to the operation manual for details.
Please download it via the SMC website, http://www.smcworld.com

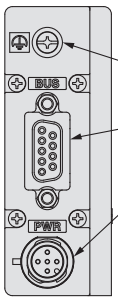
<Connector>
M12 communication connector type



Part no.	EX260-SPR1/-SPR2 -SPR3/-SPR4	EX260-SDN□	EX260-SMJ□	EX260-SEC□ EX260-SPN□ EX260-SEN□
Communication protocol	**PROFIBUS DP**	**DeviceNet™**	**CC-Link**	**EtherCAT PROFINET EtherNet/IP™**
Communication connector (M12) BUS OUT	5 pins, socket, B code	5 pins, socket, A code	5 pins, socket, A code	4 pins, socket, D code
Communication connector (M12) BUS IN	5 pins, plug, B code	5 pins, plug, A code	4 pins, plug, A code	4 pins, socket, D code
Ground terminal	M3			
Power connector (M12)	5 pins, plug, A code	4 pins, plug, A code	5 pins, plug, B code	5 pins[Note1], 4 pins[Note2], plug, A code

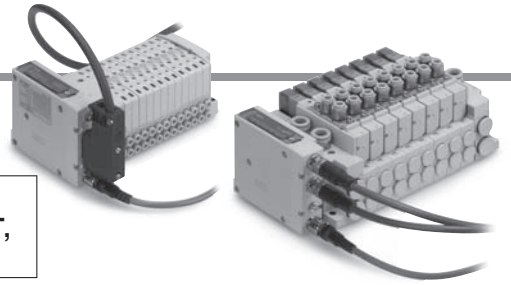
Note 1) For EtherCAT, PROFINET
Note 2) For EtherNet/IP™

D-sub communication connector type



Part no.	EX260-SPR5/-SPR6/-SPR7/-SPR8
Communication protocol	**PROFIBUS DP**
Ground terminal	M3
Communication connector (D-sub) BUS IN/OUT	9 pins, socket
Power connector (M12)	5 pins, plug, A code

Accessories



① Communication cable with connector

For SI units compatible with PROFIBUS DP, DeviceNet™, CC-Link

For SI units compatible with EtherCAT, PROFINET, EtherNet/IP™

Refer to the catalog (CAT. NAS100-73) for details.

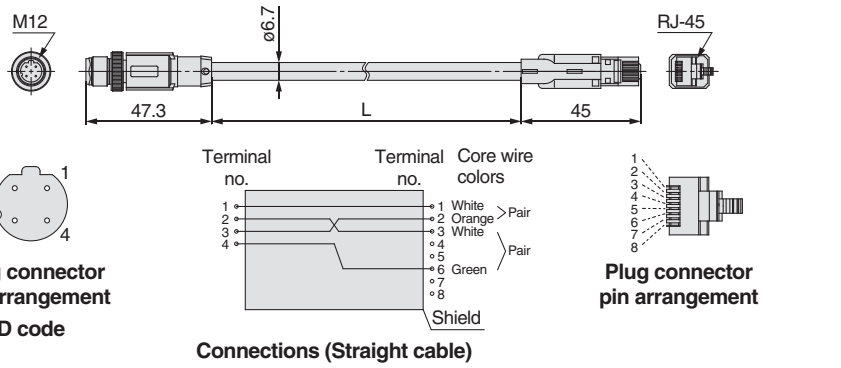
EX9 – AC 020 EN – PSRJ

Cable length (L)

010	1000 [mm]
020	2000 [mm]
030	3000 [mm]
050	5000 [mm]
100	10000 [mm]

Connector specification

PSRJ	M12 plug (straight) ⇔ RJ-45 connector

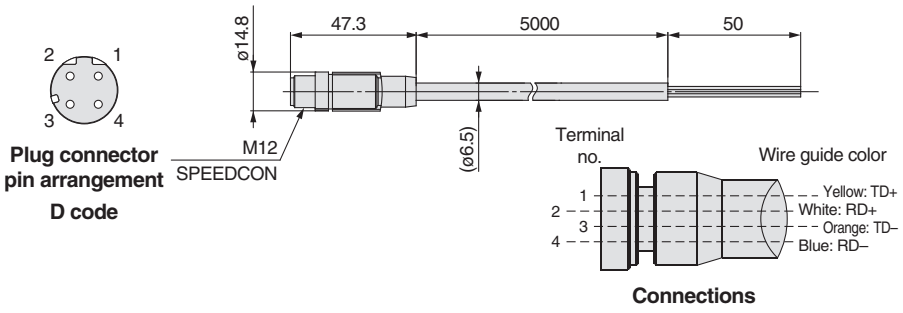


For SI units compatible with EtherCAT, PROFINET, EtherNet/IP™

PCA – 1446566

Cable length

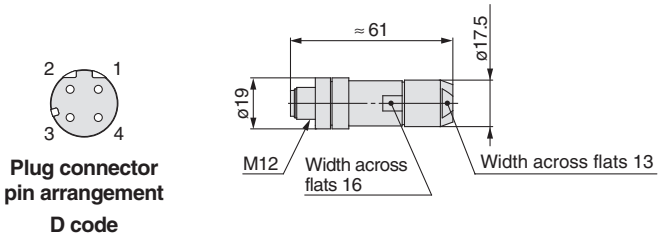
1446566	5000 [mm]



For SI units compatible with EtherCAT, PROFINET, EtherNet/IP™

Fieldwireable connector

PCA – 1446553



Accessories

② Power cable with connector (for SI units)

For SI units compatible with PROFIBUS DP, DeviceNet™, EtherCAT, PROFINET, EtherNet/IP™

EX500 − AP 050 − S

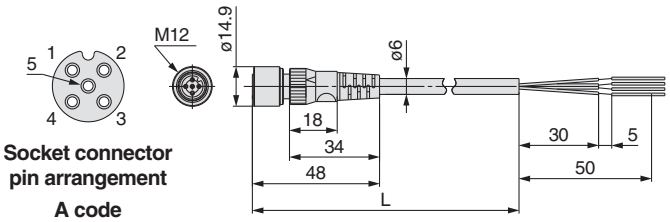
Cable length (L)

010	1000 [mm]
050	5000 [mm]

Connector specification

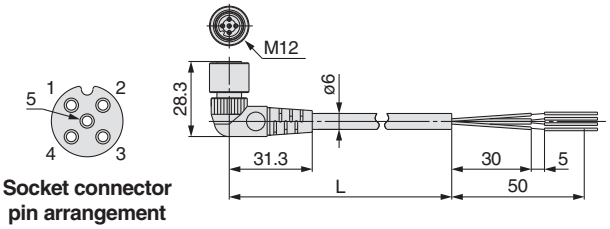
S	Straight
A	Angle

Straight connector type



Socket connector pin arrangement
A code

Angle connector type



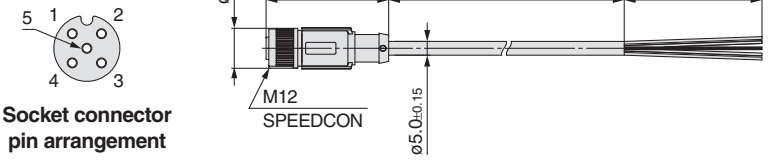
Socket connector pin arrangement
A code

SPEEDCON

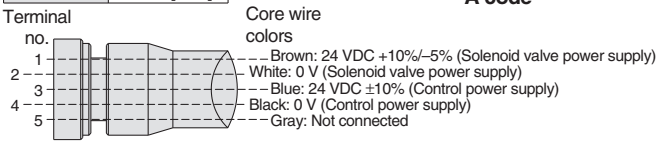
PCA− 1401804

Cable length (L)

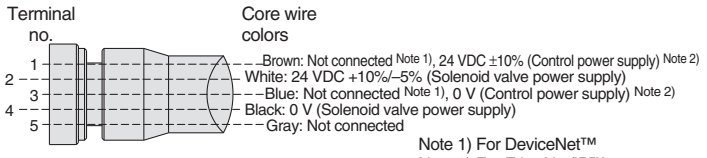
1401804	1500 [mm]
1401805	3000 [mm]
1401806	5000 [mm]



Socket connector pin arrangement
A code



Connections (PROFIBUS DP/EtherCAT)



Connections (DeviceNet™, EtherNet/IP™)

Note 1) For DeviceNet™
Note 2) For EtherNet/IP™

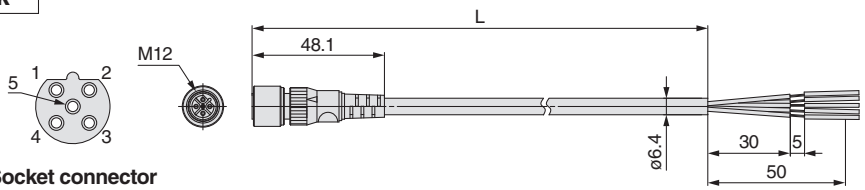
For SI units compatible with CC-Link

Straight connector type

EX9 − AC 050 − 1

Cable length (L)

010	1000 [mm]
030	3000 [mm]
050	5000 [mm]



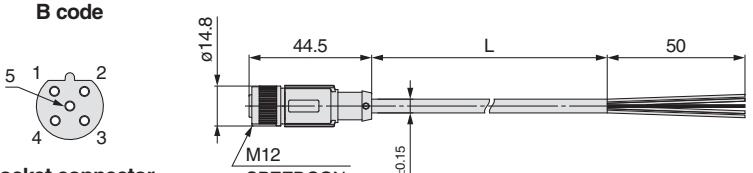
Socket connector pin arrangement
B code

SPEEDCON

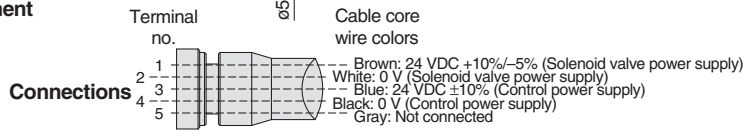
PCA− 1401807

Cable length (L)

1401807	1500 [mm]
1401808	3000 [mm]
1401809	5000 [mm]



Socket connector pin arrangement
B code



Connections

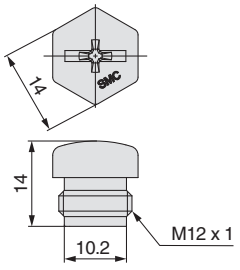
③ Seal cap: For M12 connector socket

Use this on ports that are not being used for communication connector (M12 connector socket).
Use of this seal cap maintains the integrity of the IP67 enclosure.
Note) Tighten the seal cap with the prescribed tightening torque. (For M12: 0.07 lbf·ft (0.1 N·m)

EX9 − AW TS

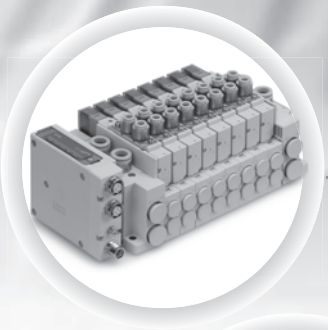
Connector type

TS	For M12 connector socket (10 pcs.)



For M12 connector socket

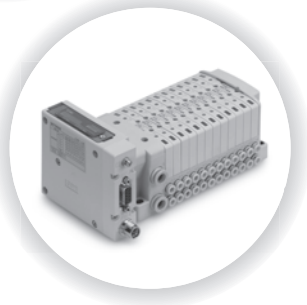
Manifold Solenoid Valves for *Series EX260* Integrated-type (For Output) Serial Transmission System



Series ***SY3000/5000*** **Page 7**

Series ***SV1000/2000/3000*** **Page 24**

Series ***VQC1000/2000/4000*** **Page 29**



Series ***S0700*** **Page 38**

Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base: For EX260 Integrated-type (For Output) Serial Transmission System

Series SY3000/5000

CE RoHS

How to Order Manifold

Refer to page 11 for Type 11/Bottom ported dimensions.

SS5Y **3** – **10** **S** **NA** **N** – **05** **U** **[ ]** – **C6** **[ ]**

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾

❶ Series

3	SY3000
5	SY5000

❷ Type

10	Side ported
11	Bottom ported*

* The SY5000 manifold base is used for the bottom ported of the SY3000. When ordering, refer to Plug-in Mixed Type Manifold (from page 17).

❸ SI unit specifications

Symbol	Protocol	Number of outputs	Communication connector
0	Without SI unit		
QA	DeviceNet™	32	M12
QB		16	
NA	PROFIBUS DP	32	M12
NB		16	
NC		32	D-sub Note)
ND		16	
VA	CC-Link	32	M12
VB		16	
DA	EtherCAT	32	M12
DB		16	
FA	PROFINET	32	M12
FB		16	
EA	EtherNet/IP™	32	M12
EB		16	

Note) IP40 for the D-sub applicable communication connector specification.
For SI unit part number, refer to page 1.
DIN rail and SI unit output polarity "N" cannot be selected for the product without SI unit.

❹ SI unit output polarity

Nil	Positive common
N	Negative common

Note 1) Ensure a match with the common specifications of the valve to be used.
Note 2) Without SI unit, the symbol is nil.

❺ Valve stations

In the case of the 32-output SI unit

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
16	16 stations	
02	2 stations	Specified layout Note 2) (Available up to 32 solenoids)
⋮	⋮	
24	24 stations	

In the case of the 16-output SI unit

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
08	8 stations	
02	2 stations	Specified layout Note 2) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations.
Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.
Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet.
(Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)
Note 3) Includes the number of blanking plate assemblies.
Note 4) For the model without the SI unit (S0), note the maximum number of solenoids of the SI unit that will be mounted. If the layout is specified, indicate it on the manifold specification sheet.

❻ P, E port entry

U	U side (2 to 10 stations)
D	D side (2 to 10 stations)
B	Both sides (2 to 24 stations)

❼ SUP/EXH block assembly

Nil	Internal pilot
S	Internal pilot, Built-in silencer
R	External pilot

* 3/5(E) port is plugged for the built-in silencer type.
* When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

❾ Mounting and Option

Symbol	Mounting	Option
Nil	Direct mounting	None
AA		Name plate (With station number)
BA		Name plate (Without station number)
D□	DIN rail mounting	Without name plate
A□		Name plate (With station number)
B□		Name plate (Without station number)

Note 1) Enter the number of stations inside □. (Refer to "DIN Rail Option" below.)
Note 2) Only direct mounting is available for Type 11 (Bottom ported).

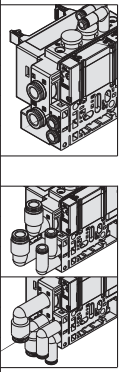
DIN Rail Option

Nil	Direct mounting	
0	Without DIN rail (with bracket)	
3	For 3 stations	Specify a longer rail than the total length of specified stations.
⋮	⋮	
24	For 24 stations	

* When it is necessary to mount a DIN rail without an SI unit, select D0 and order DIN rail length separately, referring to L3 in the dimensions. Refer to the SY3000/5000 series catalog (CAT. NAS11-103) for part numbers of DIN rail.

❽ A, B port size (Metric)

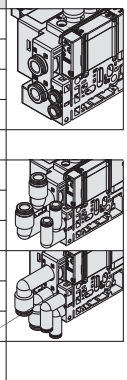
Symbol		A, B port	Type 10/ Side ported SY3000	Type 10/ Side ported SY5000	Type 11/ Bottom ported SY5000
C2	Straight	ø2 One-touch fitting	●	—	—
C3		ø3.2 One-touch fitting	●	—	—
C4		ø4 One-touch fitting	●	—	●
C6		ø6 One-touch fitting	●	●	●
C8		ø8 One-touch fitting	—	●	●
CM*		Straight port, mixed sizes	●	●	●
L4	Elbow Upward	ø4 One-touch fitting	●	●	—
L6		ø6 One-touch fitting	●	●	—
L8		ø8 One-touch fitting	—	●	—
B4	Elbow Downward	ø4 One-touch fitting	●	●	—
B6		ø6 One-touch fitting	●	●	—
B8		ø8 One-touch fitting	—	●	—
LM*		Elbow port, mixed sizes (Including upward and downward piping)	●	●	—
P, E port size (One-touch fittings)			ø8	ø10	ø10



Note) To avoid interference with the body or piping, select downward elbow port when mounting the optional spacer assembly (Refer to the SY3000/ 5000 series catalog (CAT. NAS11-103)).

A, B port size (Inch)

Symbol		A, B port	Type 10/ Side ported SY3000	Type 10/ Side ported SY5000	Type 11/ Bottom ported SY5000
N1	Straight	ø1/8" One-touch fitting	●	—	—
N3		ø5/32" One-touch fitting	●	●	●
N7		ø1/4" One-touch fitting	●	●	●
N9		ø5/16" One-touch fitting	—	●	●
CM*		Straight port, mixed sizes	●	●	●
LN3	Elbow Upward	ø5/32" One-touch fitting	●	—	—
LN7		ø1/4" One-touch fitting	●	●	—
LN9		ø5/16" One-touch fitting	—	●	—
BN3	Elbow Downward	ø5/32" One-touch fitting	●	—	—
BN7		ø1/4" One-touch fitting	●	●	—
BN9		ø5/16" One-touch fitting	—	●	—
LM*		Elbow port, mixed sizes (Including upward and downward piping)	●	●	—
P, E port size (One-touch fittings)			ø5/16"	ø3/8"	ø3/8"

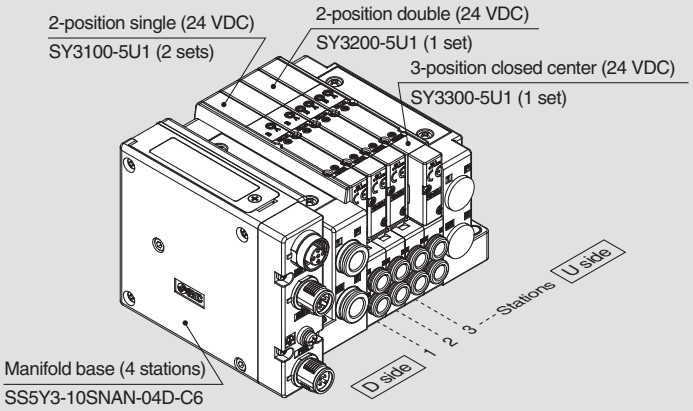


* Indicate the sizes on the manifold specification sheet in the case of "CM", "LM".
* The direction of P, E port fittings is the same as for A, B port. If selecting "LM", indicate it on the manifold specification sheet for the P, E port fitting direction.

SMC

How to Order Manifold Assembly

Example (SS5Y3-10SNAN-□)



SS5Y3-10SNAN-04D-C6 ···1 set (Type 10 4-station manifold base part no.)
∗SY3100-5U1 ·····2 sets (2-position single part no.)
∗SY3200-5U1 ·····1 set (2-position double part no.)
∗SY3300-5U1 ·····1 set (3-position closed center part no.)
∗The asterisk denotes the symbol for assembly.
∗Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

Note) When mixing top ported configurations, select from page 13. Specify on a manifold specification sheet if plugs are required on the A and B port on the manifold.

How to Order Valves (With two mounting screws)

Refer to the SY3000/5000 series catalog (CAT.NAS11-103) for details on valve specifications.

SY 3 1 0 0 □ □ □ □ – 5 □ □ 1 – □
❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫

● **Base mounted**

❶ Series

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed center
4	3-position exhaust center
5	3-position pressure center
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.)

∗ Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

Nil	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

Nil	None
H	Built-in

∗ Only rubber seal type.
Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to the SY3000/5000 series catalog (CAT.NAS11-103) for details. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.
∗ The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

Nil	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K∗	High pressure type (1.0 MPa)

∗ Only metal seal type is available for the high pressure type.

❼ Coil type

Nil	Standard
T	With power saving circuit (Continuous duty type)

∗ Be sure to select the power saving circuit type when a valve is continuously energized for long periods of time.
∗ Note the specified energizing time when power saving circuit is selected.

❽ Rated voltage

5	24 VDC

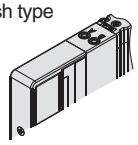
❾ Light/surge voltage suppressor and common specification

R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

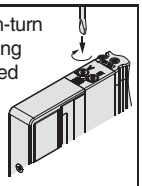
∗ Only "Z" and "NZ" types are available for the product with power saving circuit. Select a valve from R, U, S or Z when the SI unit output polarity is Nil (Positive common). Select a valve from R, U, NS or NZ when the SI unit output polarity is N (Negative common).

❿ Manual override

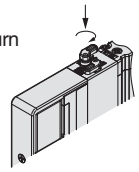
Nil: Non-locking push type



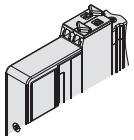
D: Push-turn locking slotted type



E: Push-turn locking manual type



F: Slide locking type



⓫ Type of mounting screw

Nil	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

∗ For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
∗ When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service. Refer to the SY3000/5000 series catalog (CAT.NAS11-103) for part numbers of the base gasket and mounting screw.
∗ "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or double check spacer assembly with residual pressure release valve.

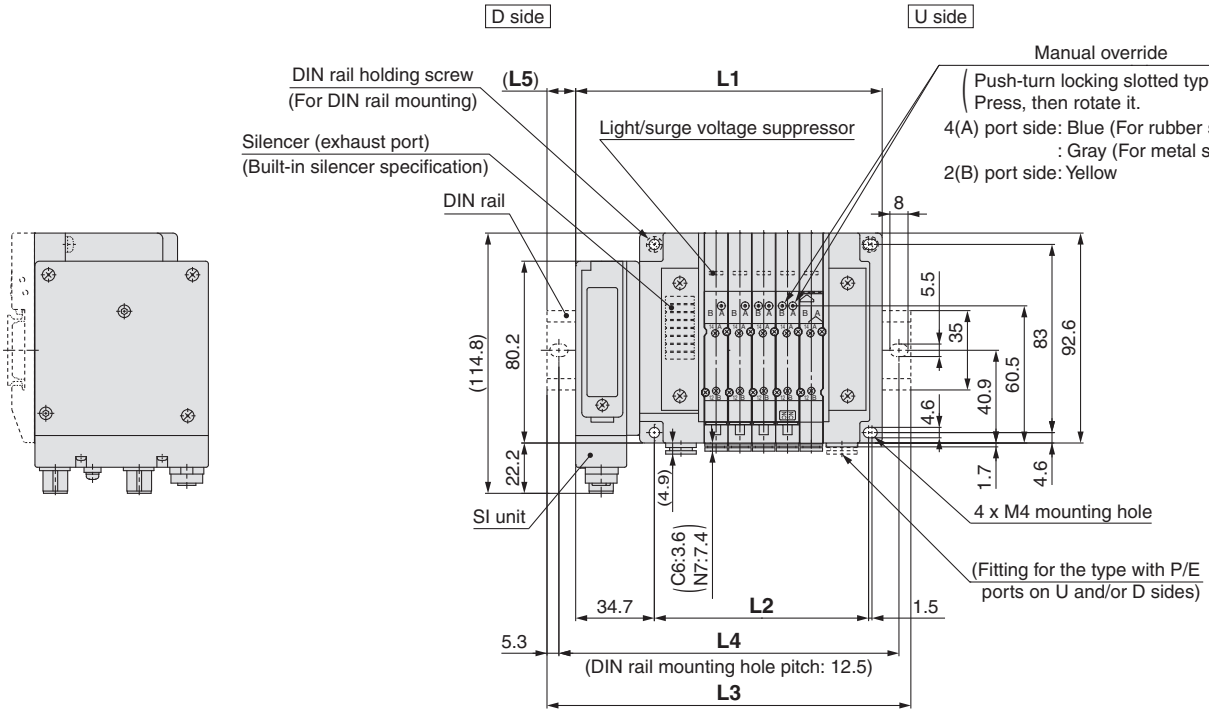
Refer to the SMC website or the SY3000/5000 series catalog (CAT.NAS11-103) for details on solenoid valve specifications, Common Precautions and Specific Product Precautions.

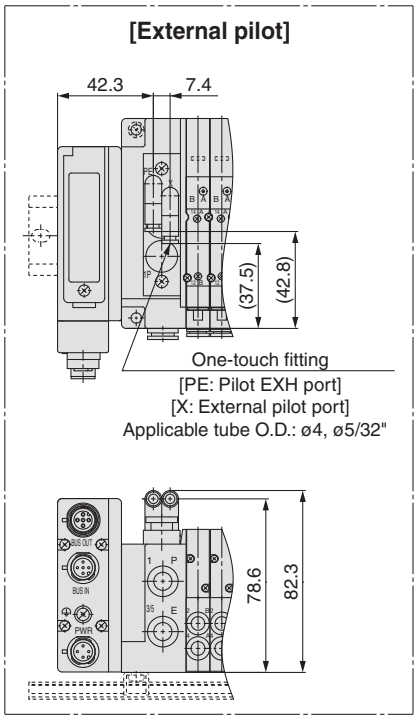
⚠ Protective class class Ⅲ(Mark: ⏚)

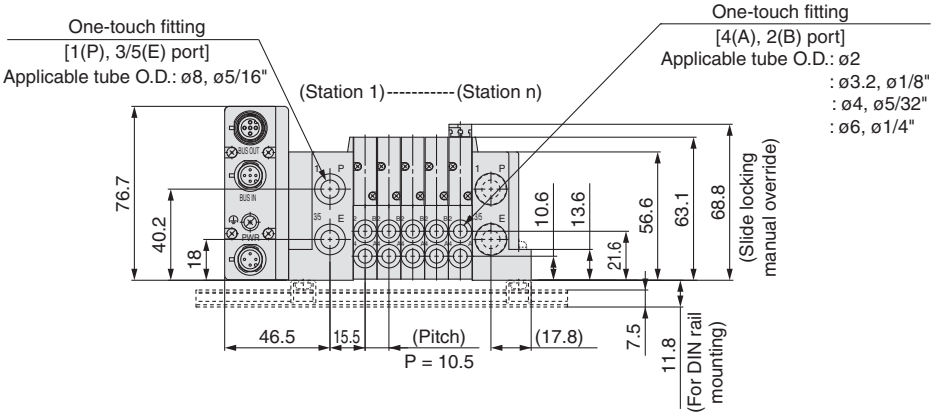
Dimensions: Type 10/For EX260/Series SY3000

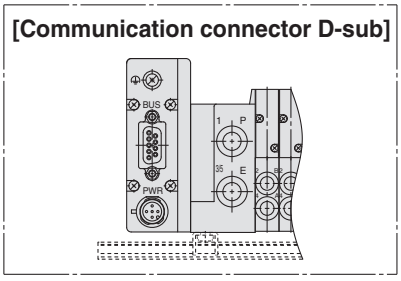
(mm)

SS5Y3-10S□□- Stations U/D/B (S, R) - C2/C3, N1/C4, N3/C6, N7 (D)









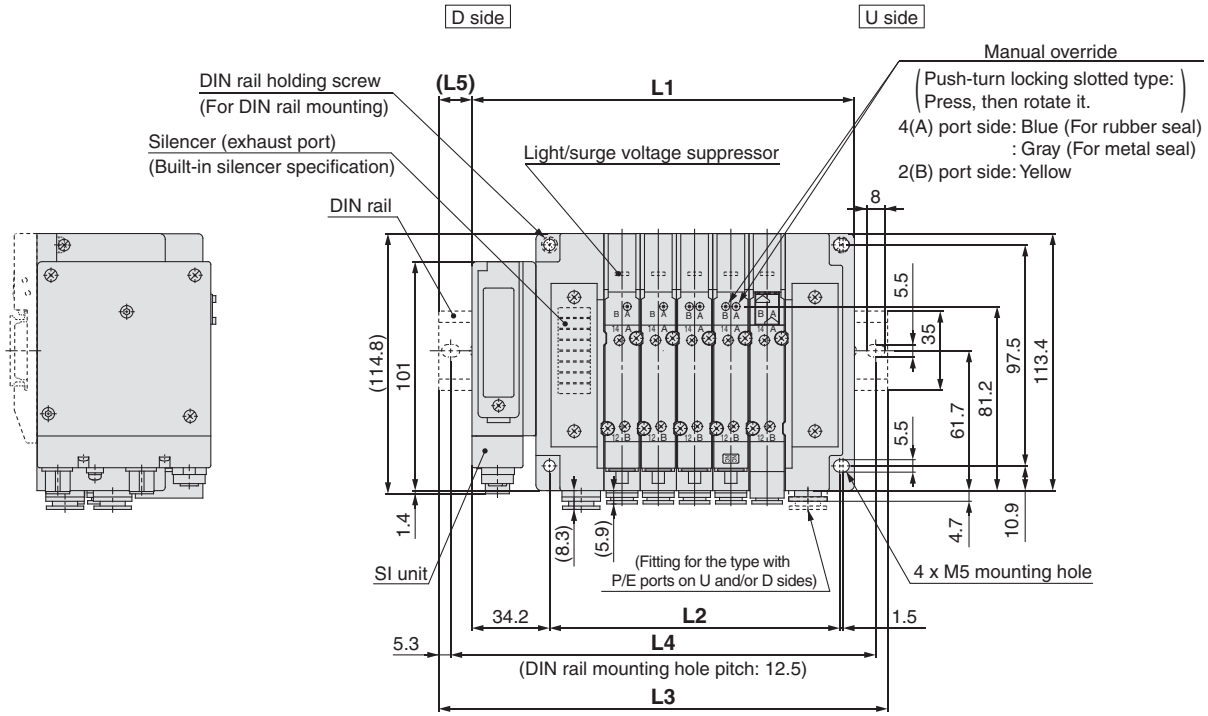
Note) These figures show the “SS5Y3-10SQA-05D-C6”.

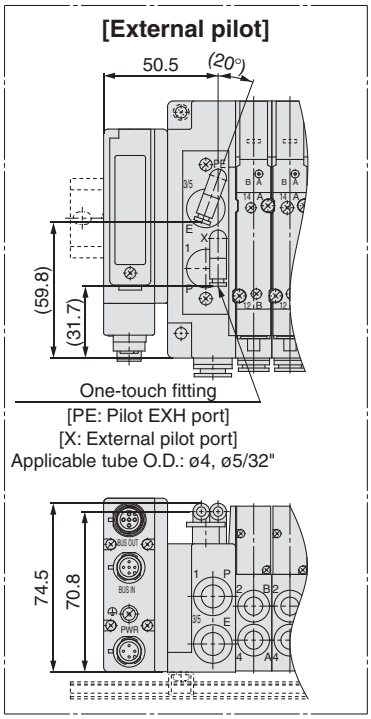
n: stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	103.7	114.2	124.7	135.2	145.7	156.2	166.7	177.2	187.7	198.2	208.7	219.2	229.7	240.2	250.7	261.2	271.7	282.2	292.7	303.2	313.7	324.2	334.7
L2	63	73.5	84	94.5	105	115.5	126	136.5	147	157.5	168	178.5	189	199.5	210	220.5	231	241.5	252	262.5	273	283.5	294
L3	135.5	148	148	160.5	173	185.5	198	210.5	223	223	235.5	248	260.5	273	285.5	285.5	298	310.5	323	335.5	348	348	360.5
L4	125	137.5	137.5	150	162.5	175	187.5	200	212.5	212.5	225	237.5	250	262.5	275	275	287.5	300	312.5	325	337.5	337.5	350
L5	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	16	17	12	13

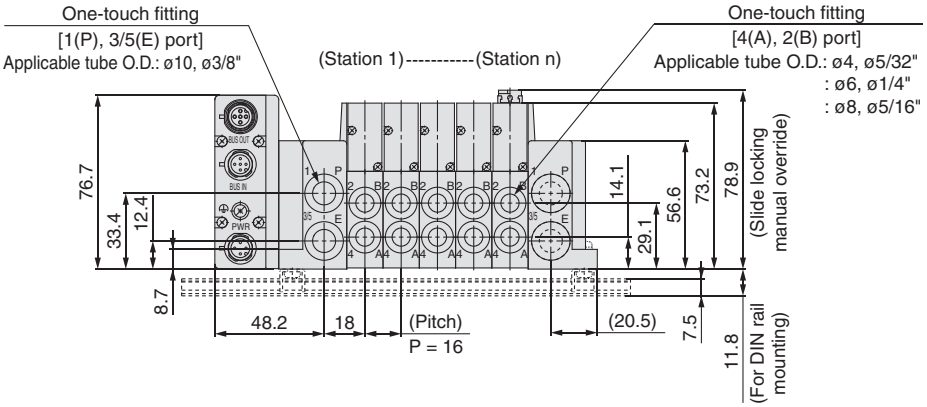
Dimensions: Type 10/For EX260/Series SY5000

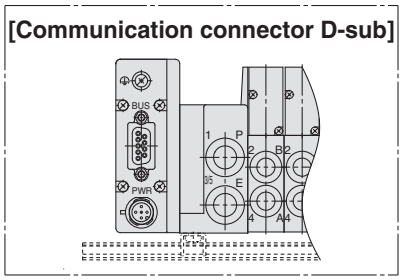
(mm)

SS5Y5-10S□□-Stations U/D/B (S, R) - C4, N3 / C6, N7 / C8, N9 (D)









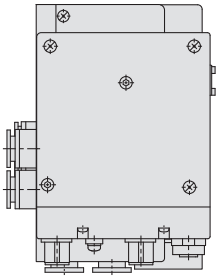
Note) These figures show the "SS5Y5-10SQA-05D-C8".

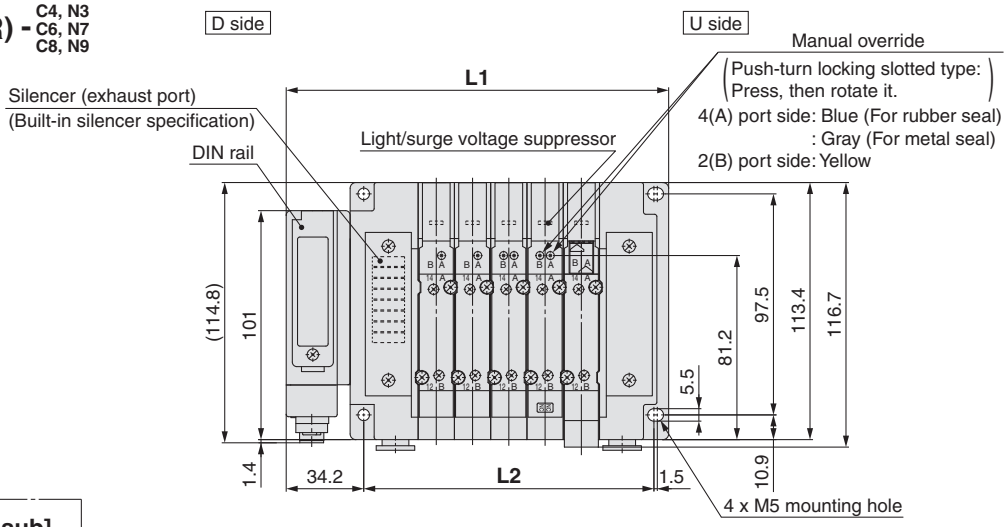
n: Station	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	120.7	136.7	152.7	168.7	184.7	200.7	216.7	232.7	248.7	264.7	280.7	296.7	312.7	328.7	344.7	360.7	376.7	392.7	408.7	424.7	440.7	456.7	472.7
L2	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304	320	336	352	368	384	400	416	432
L3	148	160.5	185.5	198	210.5	235.5	248	260.5	273	298	310.5	323	348	360.5	373	385.5	410.5	423	435.5	448	473	485.5	498
L4	137.5	150	175	187.5	200	225	237.5	250	262.5	287.5	300	312.5	337.5	350	362.5	375	400	412.5	425	437.5	462.5	475	487.5
L5	13.5	12	16.5	14.5	13	17.5	15.5	14	12	16.5	15	13	17.5	16	14	12.5	17	15	13.5	11.5	16	14.5	12.5

Dimensions: Type 11/For EX260/Series SY5000

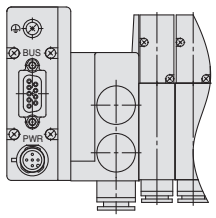
(mm)

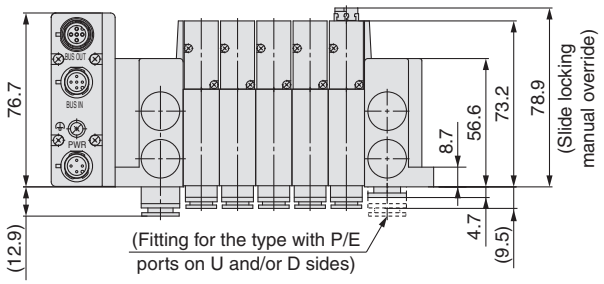
SS5Y5-11S□□-Stations U/D/B (S, R) - C4, N3 / C6, N7 / C8, N9



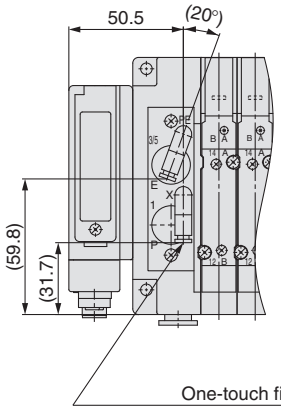


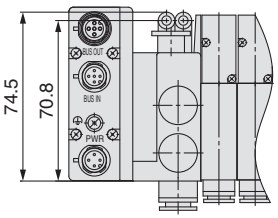
[Communication connector D-sub]

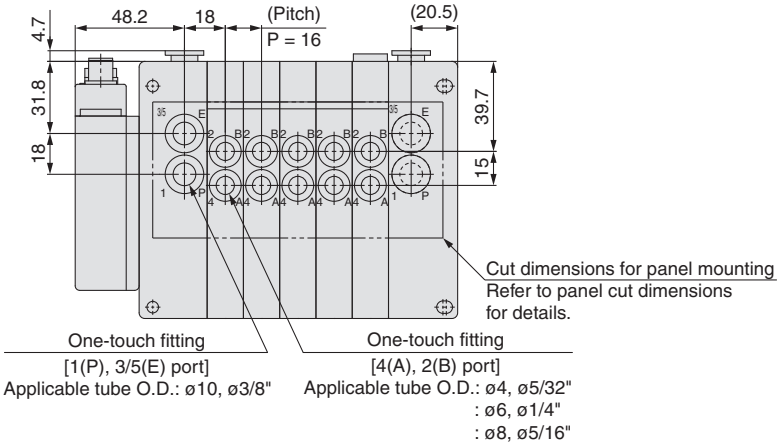




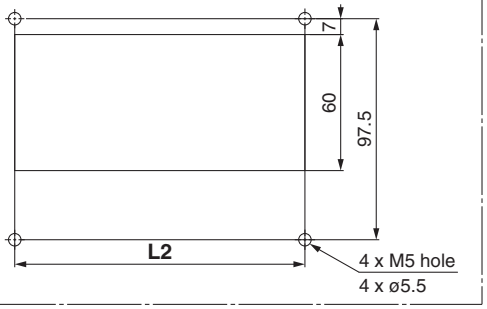
[External pilot]







Panel cut dimensions



Note) These figures show the "SS5Y5-11SQA-05D-C8".

n: Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	120.7	136.7	152.7	168.7	184.7	200.7	216.7	232.7	248.7	264.7	280.7	296.7	312.7	328.7	344.7	360.7	376.7	392.7	408.7	424.7	440.7	456.7	472.7
L2	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304	320	336	352	368	384	400	416	432

Type 12
Top Ported

Plug-in Connector Connecting Base: For EX260 Integrated-type (For Output) Serial Transmission System

Series SY3000/5000

CE RoHS

How to Order Manifold

Refer to pages 15, 16 for Type 12/Top ported dimensions.

SS5Y 3 – 12S NA N – 05 U □ – □ □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽

❶ Series

3	SY3000
5	SY5000

❷ SI unit specifications

Symbol	Protocol	Number of outputs	Communication connector
0	Without SI unit		
QA	DeviceNet™	32	M12
QB		16	
NA	PROFIBUS DP	32	M12
NB		16	
NC		32	D-sub Note)
ND		16	
VA	CC-Link	32	M12
VB		16	
DA	EtherCAT	32	M12
DB		16	
FA	PROFINET	32	M12
FB		16	
EA	EtherNet/IP™	32	M12
EB		16	

Note) IP40 for the D-sub applicable communication connector specification.
For SI unit part number, refer to page 1.
DIN rail and SI unit output polarity "N" cannot be selected for the product without SI unit.

❸ SI unit output polarity

Nil	Positive common
N	Negative common

Note 1) Ensure a match with the common specifications of the valve to be used.
Note 2) Without SI unit, the symbol is nil.

❹ Valve stations

In the case of the 32-output SI unit

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
16	16 stations	
02	2 stations	Specified layout Note 2) (Available up to 32 solenoids)
⋮	⋮	
24	24 stations	

In the case of the 16-output SI unit

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
08	8 stations	
02	2 stations	Specified layout Note 2) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations.
Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.
Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet.
(Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)
Note 3) Includes the number of blanking plate assemblies.
Note 4) For the model without the SI unit (S0), note the maximum number of solenoids of the SI unit that will be mounted. If the layout is specified, indicate it on the manifold specification sheet.

❺ P, E port entry

U Note)	U side (2 to 10 stations)
D Note)	D side (2 to 10 stations)
B	Both sides (2 to 24 stations)

Note) ❻ For type "S", supply/exhaust block assembly with built-in silencer, choose U or D for P port entry.

❻ SUP/EXH block assembly

Nil	Internal pilot
S	Internal pilot, Built-in silencer
R	External pilot

∗ For built-in silencer type, P and E ports are available on U and D sides. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of P, E port entry. (Example: When the P, E port entry is D side, the silencer exhaust port is U side.)
∗ When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

❼ P, E port size (One-touch fittings)

Symbol	SY3000	SY5000
Nil	ø8	ø10
N	ø5/16"	ø3/8"

∗ For N, sizes are in inches.

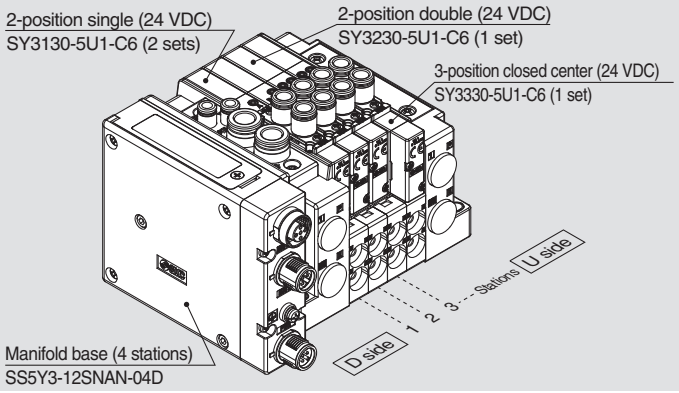
❽ Mounting

Nil	Direct mounting	
D	DIN rail mounting (With DIN rail)	
D0	DIN rail mounting (Without DIN rail)	
D3	For 3 stations	Specify a longer rail than the standard length.
⋮	⋮	
D24	For 24 stations	

∗ When it is necessary to mount a DIN rail without an SI unit, select D0 and order DIN rail length separately, referring to L3 in the dimensions. Refer to the SY3000/5000 series catalog (CAT.NAS11-103) for part numbers of DIN rail.

How to Order Manifold Assembly

Example (SS5Y3-12SNAN-□)



SS5Y3-12SNAN-04D ····· **1 set (Type 12 4-station manifold base part no.)**
***SY3130-5U1-C6** ····· **2 sets (2-position single part no.)**
***SY3230-5U1-C6** ····· **1 set (2-position double part no.)**
***SY3330-5U1-C6** ····· **1 set (3-position closed center part no.)**
*** The asterisk denotes the symbol for assembly.**
*** Prefix it to the part nos. of the valve, etc.**

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on a manifold specification sheet.

How to Order Valves (With two mounting screws)

Refer to the SY3000/5000 series catalog (CAT.NAS11-103) for details on valve specifications.

SY 3 1 3 0 ❶ ❷ ❸ ❹ ❺ ❻ ❼ – 5 ❽ ❾ ❿ 1 – C6 ⓫ ⓬ – ⓭

• Top ported

❶ Series

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed center
4	3-position exhaust center
5	3-position pressure center
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.)

* Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

Nil	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

Nil	None
H	Built-in

* Only rubber seal type.
  Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to the SY3000/5000 series catalog (CAT. NAS11-103) for details. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.
* The built-in valve type back pressure check valve is not available for the 3-position type.

Refer to the SMC website or the SY3000/5000 series catalog (CAT.NAS11-103) for details on solenoid valve specifications, Common Precautions and Specific Product Precautions.

❻ Pilot valve option

Nil	Standard (101 psi (0.7 MPa))
B	Quick response type (101 psi (0.7 MPa))
K*	High pressure type (145psi (1.0 MPa))

* Only metal seal type is available for the high pressure type.

❼ Coil type

Nil	Standard
T	With power saving circuit (Continuous duty type)

* Be sure to select the power saving circuit type when a valve is continuously energized for long periods of time.
* Note the specified energizing time when power saving circuit is selected.

❽ Rated voltage

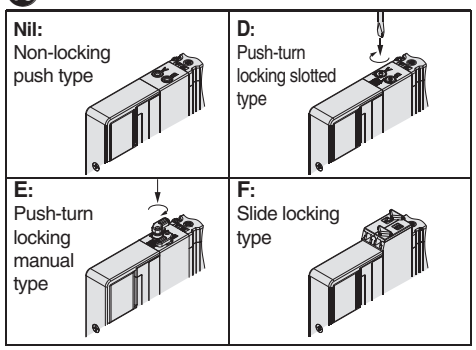
5	24 VDC

❾ Light/surge voltage suppressor and common specification

R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

* Only "Z" and "NZ" types are available for the product with power saving circuit. Select a valve from R, U, S or Z when the SI unit output polarity is Nil (Positive common). Select a valve from R, U, NS or NZ when the SI unit output polarity is N (Negative common).

❿ Manual override



⓫ A, B port size

Thread piping

Symbol	Port size	Applicable series
M5	M5 x 0.8	SY3000
01	1/8	SY5000

One-touch fitting (Metric)

Symbol	A and B port	SY3000	SY5000
C2	ø2 One-touch fitting	●	—
C3	ø3.2 One-touch fitting	●	—
C4	ø4 One-touch fitting	●	●
C6	ø6 One-touch fitting	●	●
C8	ø8 One-touch fitting	—	●

One-touch fitting (Inch)

Symbol	A and B port	SY3000	SY5000
N1	ø1/8" One-touch fitting	●	—
N3	ø5/32" One-touch fitting	●	●
N7	ø1/4" One-touch fitting	●	●
N9	ø5/16" One-touch fitting	—	●

⓬ Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

* Only Nil is available for M5.

⓭ Type of mounting screw

Nil	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw(Falling-out-prevention type)
H	Hexagon socket head cap screw(Falling-out-prevention type)

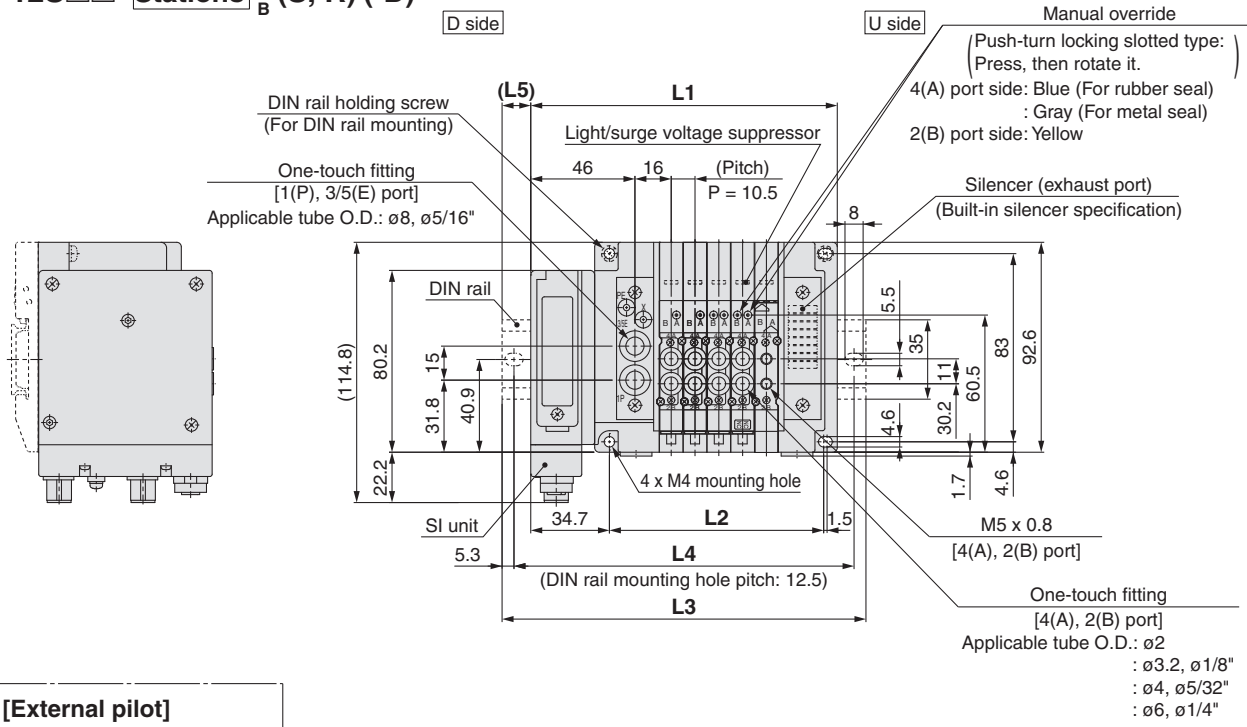
* For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
* When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service. Refer to the SY3000/5000 series catalog (CAT.NAS11-103) for part numbers of the base gasket and mounting screw.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly.

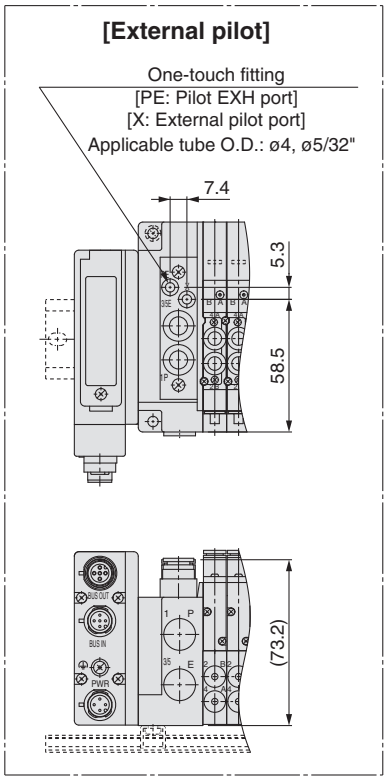
⚠ Protective class class Ⅲ(Mark: ⧼Ⅲ⧽)

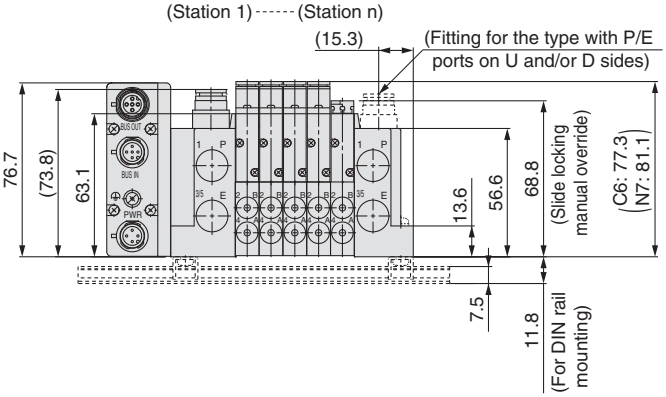
Dimensions: Type 12/For EX260/Series SY3000

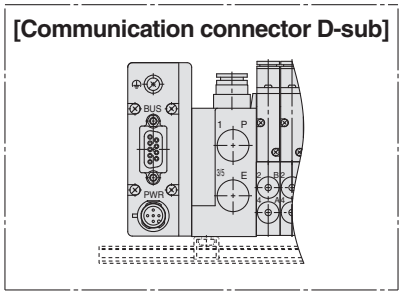
(mm)

SS5Y3-12S□□- Stations U/D/B (S, R) (-D)









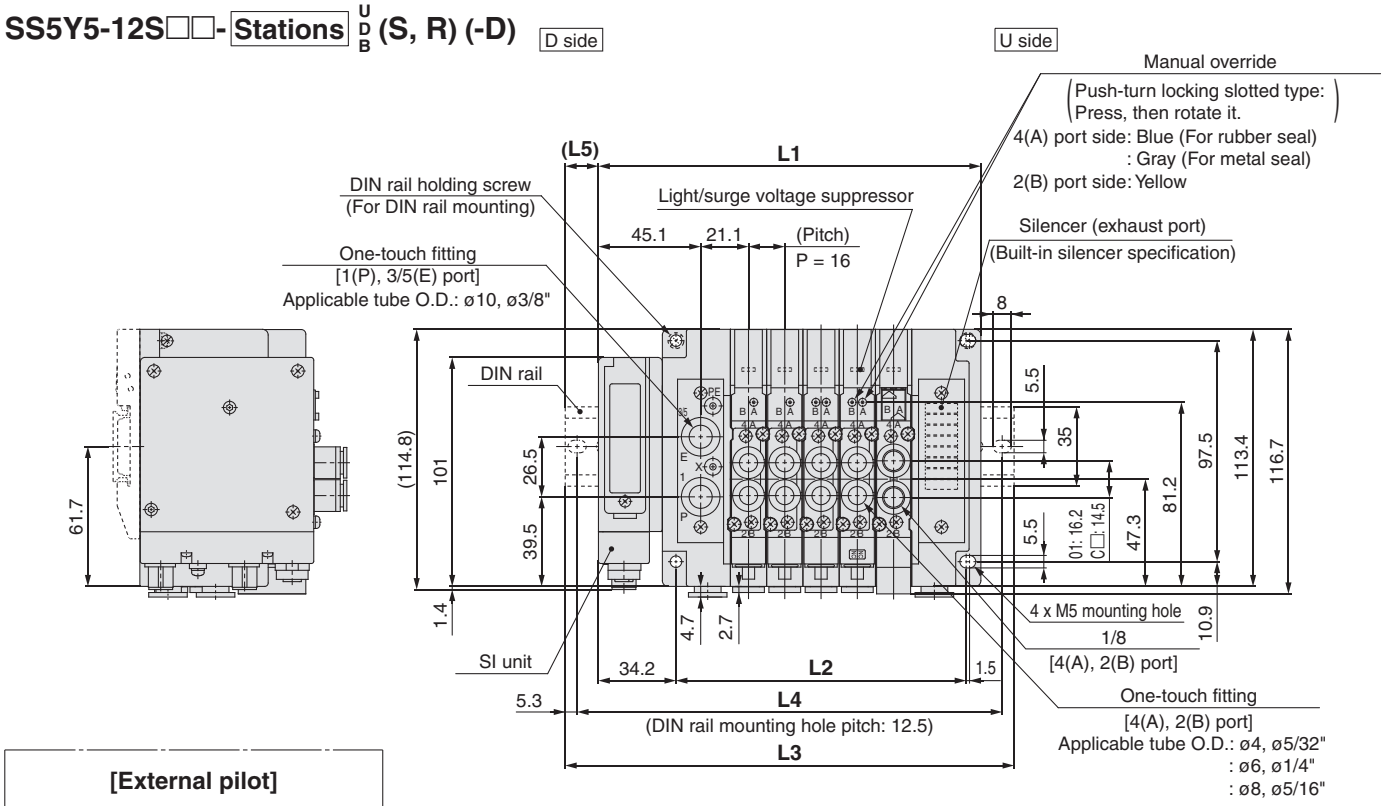
Note 1) These figures show the "SS5Y3-12SQA-05D".
Note 2) For built-in silencer type, a silencer is mounted on the opposite side of U or D side with P or E port.

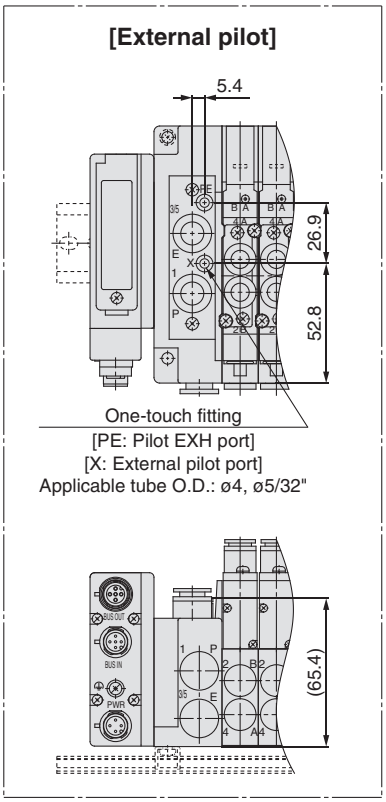
n:Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	103.7	114.2	124.7	135.2	145.7	156.2	166.7	177.2	187.7	198.2	208.7	219.2	229.7	240.2	250.7	261.2	271.7	282.2	292.7	303.2	313.7	324.2	334.7
L2	63	73.5	84	94.5	105	115.5	126	136.5	147	157.5	168	178.5	189	199.5	210	220.5	231	241.5	252	262.5	273	283.5	294
L3	135.5	148	148	160.5	173	185.5	198	210.5	223	223	235.5	248	260.5	273	285.5	285.5	298	310.5	323	335.5	348	348	360.5
L4	125	137.5	137.5	150	162.5	175	187.5	200	212.5	212.5	225	237.5	250	262.5	275	275	287.5	300	312.5	325	337.5	337.5	350
L5	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	16	17	12	13

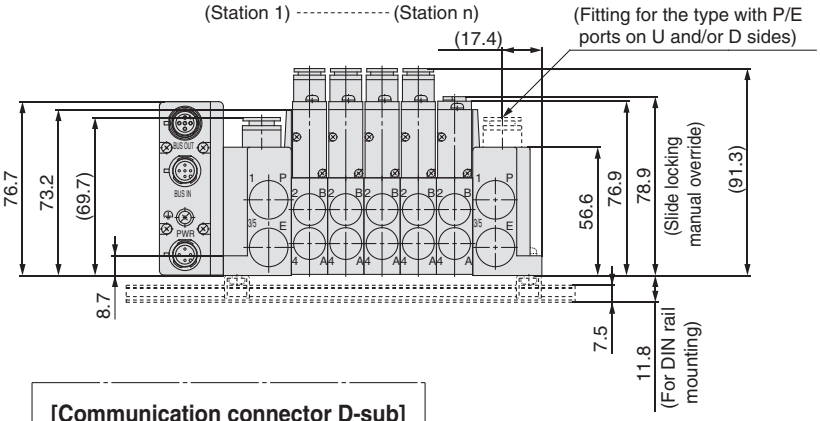
Dimensions: Type 12/For EX260/Series SY5000

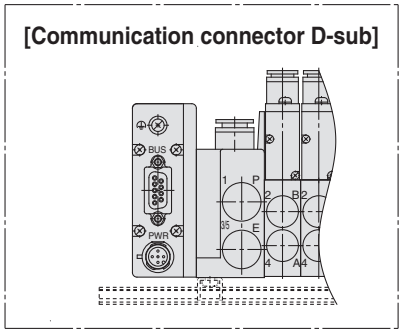
(mm)

SS5Y5-12S□□-Stations $\frac{U}{D}_{B}$ (S, R) (-D)









Note 1) These figures show the "SS5Y5-12SQA-05D".
Note 2) For built-in silencer type, a silencer is mounted on the opposite side of U or D side with P or E port.

n:Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	120.7	136.7	152.7	168.7	184.7	200.7	216.7	232.7	248.7	264.7	280.7	296.7	312.7	328.7	344.7	360.7	376.7	392.7	408.7	424.7	440.7	456.7	472.7
L2	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304	320	336	352	368	384	400	416	432
L3	148	160.5	185.5	198	210.5	235.5	248	260.5	273	298	310.5	323	348	360.5	373	385.5	410.5	423	435.5	448	473	485.5	498
L4	137.5	150	175	187.5	200	225	237.5	250	262.5	287.5	300	312.5	337.5	350	362.5	375	400	412.5	425	437.5	462.5	475	487.5
L5	13.5	12	16.5	14.5	13	17.5	15.5	14	12	16.5	15	13	17.5	16	14	12.5	17	15	13.5	11.5	16	14.5	12.5

Type 10
Side Ported

Type 11
Bottom Ported

Plug-in Connector Connecting Base: Plug-in Mixed Mounting Type Manifold For EX260 Integrated-type (For Output) Serial Transmission System

Series SY3000/5000

CE RoHS

SY3000 can be mounted onto SY5000 size manifold.

How to Order Manifold

Refer to page 20 for Type 11/ Bottom ported dimensions.

SS5Y5 − M 10 S NA N − 05 U □ − C 8 6 □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿

Mixed Mounting Type

It is possible to mount SY3000 size valves on all stations. In this case, there is no need to fill in part ❽ in the order code. However, the manifold block width should be 12.5 mm.

❶ Type

10	Side ported
11	Bottom ported

❷ SI unit specifications

Symbol	Protocol	Number of outputs	Communication connector
0	Without SI unit		
QA	DeviceNet™	32	M12
QB		16	
NA	PROFIBUS DP	32	M12
NB		16	
NC		32	D-sub Note)
ND		16	
VA	CC-Link	32	M12
VB		16	
DA	EtherCAT	32	M12
DB		16	
FA	PROFINET	32	M12
FB		16	
EA	EtherNet/IP™	32	M12
EB		16	

Note) IP40 for the D-sub applicable communication connector specification. For SI unit part number, refer to page 1. DIN rail and SI unit output polarity "N" cannot be selected for the product without SI unit.

❸ SI unit output polarity

Nil	Positive common
N	Negative common

Note 1) Ensure a match with the common specifications of the valve to be used.
Note 2) Without SI unit, the symbol is nil.

❹ Valve stations

In the case of the 32-output SI unit

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
16	16 stations	
02	2 stations	Specified layout Note 2) (Available up to 32 solenoids)
⋮	⋮	
24	24 stations	

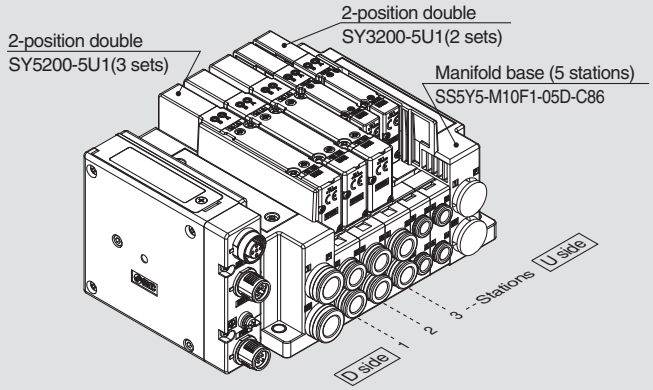
In the case of the 16-output SI unit

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
08	8 stations	
02	2 stations	Specified layout Note 2) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations.
Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.
Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet.
(Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)
Note 3) Includes the number of blanking plate assemblies.
Note 4) For the model without the SI unit (S0), note the maximum number of solenoids of the SI unit that will be mounted. If the layout is specified, indicate it on the manifold specification sheet.

How to Order Manifold Assembly

Example (SS5Y5-M10SNAN-□)



SS5Y5-M10F1-05D-C86 ···1 set (Type 10 5-station manifold base part no.)
∗**SY5200-5U1** ·····3 sets (2-position double part no.)
∗**SY3200-5U1** ·····2 sets (2-position double part no.)
→∗The asterisk denotes the symbol for assembly.
∗Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above.
If the arrangement becomes complicated, then indicate on the manifold specification sheet.

Note) When mounting top ported valves, select from page 21. In this case, use caution as there is also output on the A and B port on base side.
Specify on a manifold specification sheet if plugs are required on the A and B port on base side.

❺ P, E port entry

U	U side (2 to 10 stations)
D	D side (2 to 10 stations)
B	Both sides (2 to 24 stations)

❻ SUP/EXH block assembly

Nil	Internal pilot
S	Internal pilot, Built-in silencer
R	External pilot

∗ 3/5(E) port is plugged for the built-in silencer type.
∗ When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

Refer to the page on the right for ❼, ❽, ❾

❿ Mounting and Option

Symbol	Mounting	Option
Nil	Direct mounting	None
AA		Name plate (With station number)
BA		Name plate (Without station number)
D□	DIN rail mounting	Without name plate
A□		Name plate (With station number)
B□		Name plate (Without station number)

Note 1) Enter the number of stations inside □.
(Refer to "DIN Rail Option" below.)
Note 2) Only direct mounting is available for Type 11 (Bottom ported).

DIN Rail Option

Nil	Standard length	
0	Without DIN rail (with bracket)	
3	For 3 stations	Specify a longer rail than the total length of specified stations. [The SY5000 valve is now at a mountable length (manifold block length of 16 mm).]
⋮	⋮	
24	For 24 stations	

∗ When it is necessary to mount a DIN rail without an SI unit, select D0 and calculate DIN rail length, referring to L3 in the dimensions on page 19.

❼ Fitting type

Symbol	A, B port
C	Metric size: Straight one-touch fitting
L	Metric size: Elbow one-touch fitting for upward Note)
B	Metric size: Elbow one-touch fitting for downward Note)
N	Inch size: Straight one-touch fitting
LN	Inch size: Elbow one-touch fitting for upward Note)
BN	Inch size: Elbow one-touch fitting for downward Note)
CM*	Straight port, mixed sizes
LM*	Elbow port, mixed sizes (Including upward and downward piping) Note)

Note) To avoid interference with the body or piping, select downward elbow port when mounting the optional spacer assembly.

∗ Indicate the sizes on the manifold specification sheet in the case of "CM", "LM".

∗ The direction of P, E port fittings is the same as for A,B port.
If selecting "LM", indicate it on the manifold specification sheet for the P, E port fitting direction.

∗ Elbow fittings: ø2, ø3.2 and ø1.8" are not available for the SY3000 series. ø2, ø3.2, ø1.8" and ø5/32" are not available for the SY5000 series.

❽ SY5000: A, B port size

(Metric)

Symbol	Port size
4	ø4 One-touch fitting
6	ø6 One-touch fitting
8	ø8 One-touch fitting
Nil	For all stations of SY3000

(Inch)

Symbol	Port size
3	ø5/32" One-touch fitting
7	ø1/4" One-touch fitting
9	ø5/16" One-touch fitting
Nil	For all stations of SY3000

∗ No symbol needs to be specified when fitting type "CM", "LM" is selected.

❾ SY3000: A, B port size

(Metric)

Symbol	Port size
2	ø2 One-touch fitting
3	ø3.2 One-touch fitting
4	ø4 One-touch fitting
6	ø6 One-touch fitting

(Inch)

Symbol	Port size
1	ø1/8" One-touch fitting
3	ø5/32" One-touch fitting
7	ø1/4" One-touch fitting

∗ No symbol needs to be specified when fitting type "CM", "LM" is selected.

How to Order Valves (With two mounting screws)

Refer to the SY3000/5000 series catalog (CAT.NAS11-103) for details on valve specifications.

SY [3][1][0][0][ ][ ][ ][ ] – [5][ ][ ] **1** – [ ]

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫

❸ Base mounted

❶ Series

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed center
4	3-position exhaust center
5	3-position pressure center
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.)

∗ Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

Nil	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

Nil	None
H	Built-in

∗ Only rubber seal type.
Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to the SY3000/5000 series catalog (CAT.NAS11-103) for details. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

∗ The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

Nil	Standard (101 psi (0.7 MPa))
B	Quick response type (101 psi (0.7 MPa))
K*	High pressure type (145 psi (1.0 MPa))

∗ Only metal seal type is available for the high pressure type.

❼ Coil type

Nil	Standard
T	With power saving circuit (Continuous duty type)

∗ Be sure to select the power saving circuit type when a valve is continuously energized for long periods of time.

∗ Note the specified energizing time when power saving circuit is selected.

❽ Rated voltage

5	24 VDC

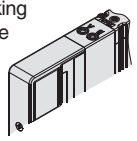
❾ Light/surge voltage suppressor and common specification

Nil	Without light/surge voltage suppressor (Non-polar)
R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

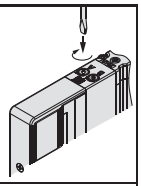
∗ Only "Z" and "NZ" types are available for the product with power saving circuit. Select a valve from R, U, S or Z when the SI unit output polarity is Nil (Positive common).
Select a valve from R, U, NS or NZ when the SI unit output polarity is N (Negative common).

❿ Manual override

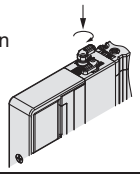
Nil: Non-locking push type



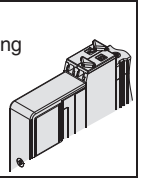
D: Push-turn locking slotted type



E: Push-turn locking manual type



F: Slide locking type



⓫ Type of mounting screw

Nil	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

∗ For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.

∗ When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
Refer to the SY3000/5000 series catalog (CAT.NAS11-103) for part numbers of the base gasket and mounting screw.

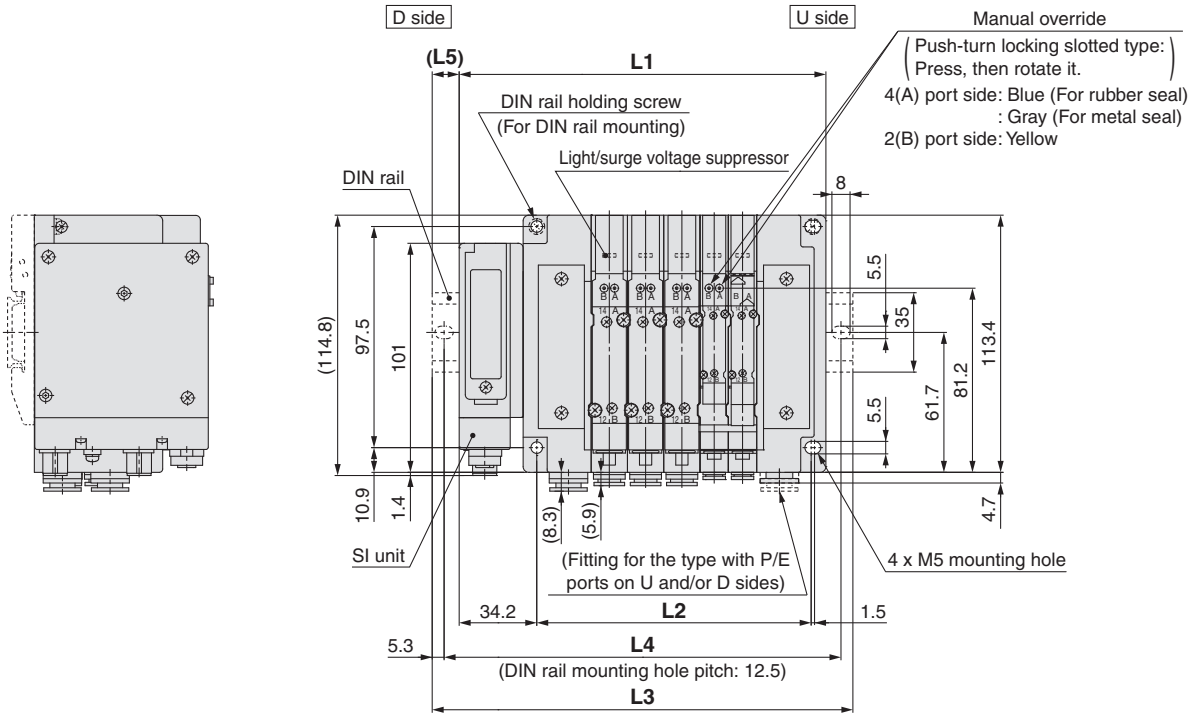
∗ "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or double check spacer assembly with residual pressure release valve.

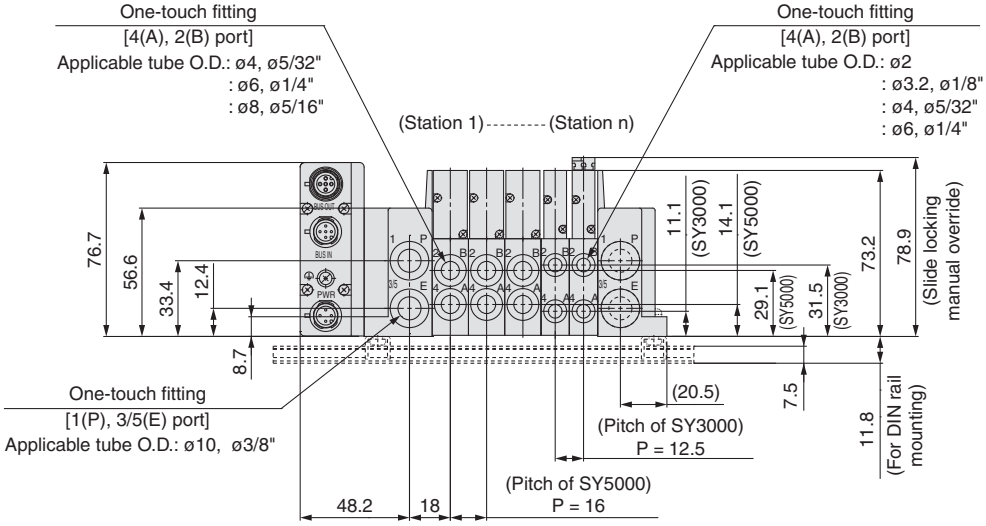
Refer to the SMC website or the SY3000/5000 series catalog (CAT.NAS11-103) for details on solenoid valve specifications, Common Precautions and Specific Product Precautions.

Dimensions: Type 10/For EX260/Mixed Mounting Type

(mm)

SS5Y5-M10S□□-Stations U/D/B (-D)





Note 1) These figures show the "SS5Y5-M10SQA-05D-C86".
Note 2) Refer to page 10 for dimensions of D-sub communication connector, external pilot and built-in silencer.

EX260 Serial transmission Calculation of dimensions

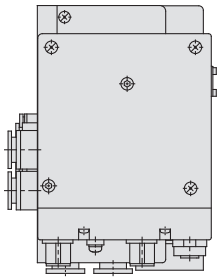
L1 = 12.5 x n1 + 16 x n2 + 88.7
L2 = 12.5 x n1 + 16 x n2 + 48
M = L1/12.5 + 1 Remove all numbers after the decimal
L3 = 12.5 x M + 23
L4 = L3 – 10.5
L5 = (L3 – L1)/2

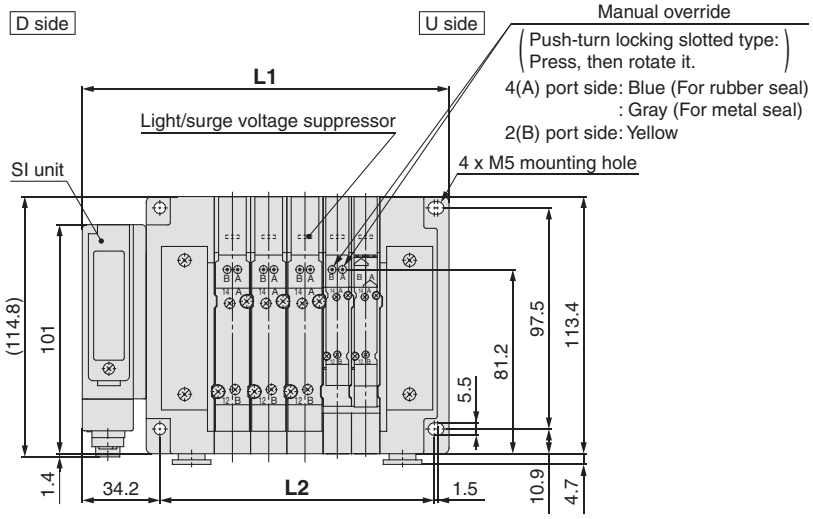
n1: SY3000 Valve stations
n2: SY5000 Valve stations

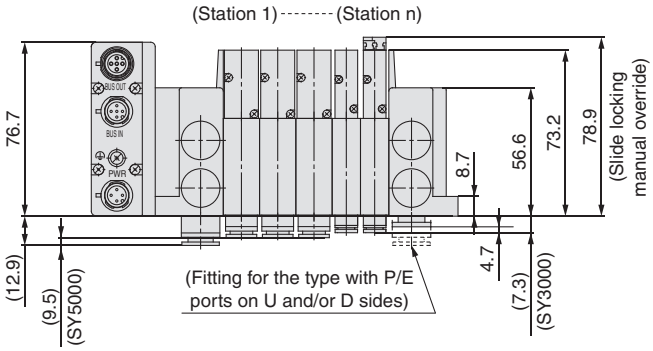
Dimensions: Type 11/For EX260/Mixed Mounting Type

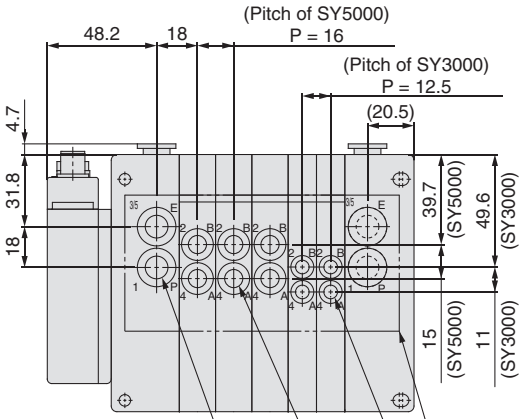
(mm)

SS5Y5-M11S□□- **Stations** U D B

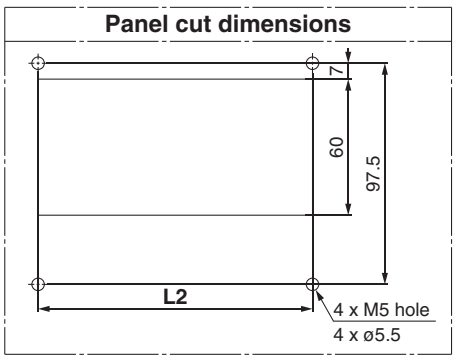








Panel cut dimensions



One-touch fitting
[1(P), 3/5(E) port]
Applicable tube O.D.: ø10, ø3/8"

Cut dimensions for panel mounting
Refer to panel cut dimensions for details.

One-touch fitting
[4(A), 2(B) port]
Applicable tube O.D.: ø4, ø5/32"
: ø6, ø1/4"
: ø8, ø5/16"

One-touch fitting
[4(A), 2(B) port]
Applicable tube O.D.: ø2
: ø3.2, ø1/8"
: ø4, ø5/32"
: ø6, ø1/4"

Note 1) These figures show the "SS5Y5-M11SQA-05D-C86".
Note 2) Refer to page 11 for dimensions of D-sub communication connector, external pilot and built-in silencer.

EX260 Serial transmission Calculation of dimensions

L1 = 12.5 x n1 + 16 x n2 + 88.7
L2 = 12.5 x n1 + 16 x n2 + 48

n1: SY3000 Valve stations
n2: SY5000 Valve stations

Type 12
Top Ported

Plug-in Connector Connecting Base: Plug-in Mixed MountingType Manifold For EX260 Integrated-type (For Output) Serial Transmission System

Series SY3000/5000

CE RoHS

SY3000 can be mounted onto SY5000 size manifold.

How to Order Manifold

Refer to page 23 for Type 12/ Top ported dimensions.

SS5Y5 − M 12S NA N − 05 U □ − □ □

❶ ❷ ❸ ❹ ❺ ❻ ❼

Mixed Mounting Type

It is possible to mount SY3000 size valves on all stations. However, the manifold block width should be 12.5 mm.

❶ SI unit specifications

Symbol	Protocol	Number of outputs	Communication connector
0	Without SI unit		
QA	DeviceNet™	32	M12
QB		16	
NA	PROFIBUS DP	32	M12
NB		16	
NC		32	D-sub Note)
ND		16	
VA	CC-Link	32	M12
VB		16	
DA	EtherCAT	32	M12
DB		16	
FA	PROFINET	32	M12
FB		16	
EA	EtherNet/IP™	32	M12
EB		16	

Note) IP40 for the D-sub applicable communication connector specification.
For SI unit part number, refer to page 1.
DIN rail and SI unit output polarity "N" cannot be selected for the product without SI unit.

❷ SI unit output polarity

Nil	Positive common
N	Negative common

Note 1) Ensure a match with the common specifications of the valve to be used.
Note 2) Without SI unit, the symbol is nil.

❸ Valve stations

In the case of the 32-output SI unit

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
16	16 stations	
02	2 stations	Specified layout Note 2) (Available up to 32 solenoids)
⋮	⋮	
24	24 stations	

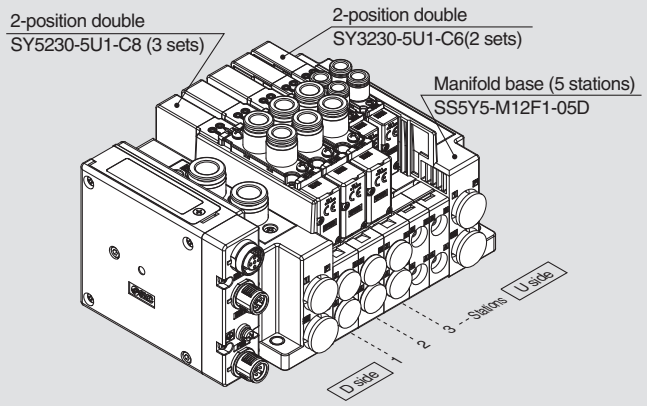
In the case of the 16-output SI unit

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
08	8 stations	
02	2 stations	Specified layout Note 2) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations.
Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.
Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet.
(Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)
Note 3) Includes the number of blanking plate assemblies.
Note 4) For the model without the SI unit (S0), note the maximum number of solenoids of the SI unit that will be mounted. If the layout is specified, indicate it on the manifold specification sheet.

How to Order Manifold Assembly

Example (SS5Y5-M12SNAN-□)



SS5Y5-M12F1-05D·····1 set (Type M12 5-station manifold base part no.)
∗ SY5230-5U1-C8·····3 sets (2-position double part no.)
∗ SY3230-5U1-C6·····2 sets (2-position double part no.)
∗ The asterisk denotes the symbol for assembly.
∗ Prefix it to the part nos. of the valve, etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold part number, state the valves to be mounted in order from the 1st station as shown in the figure above.
  If the arrangement becomes complicated, specify on a manifold specification sheet.

❹ P, E port entry

U Note)	U side (2 to 10 stations)
D Note)	D side (2 to 10 stations)
B	Both sides (2 to 24 stations)

Note) For type "S", supply/exhaust block assembly with built-in silencer, choose U or D for P port entry.

❺ SUP/EXH block assembly

Nil	Internal pilot
S	Internal pilot, Built-in silencer
R	External pilot

∗ For built-in silencer type, P and E ports are available on U and D sides. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of P, E port entry. (Example: When the P, E port entry is D side, the silencer exhaust port is U side.)
∗ When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

❻ P, E port size (One-touch fittings)

Nil	ø10
N	ø3/8"

∗ For N, sizes are in inches.

❼ Mounting

Nil	Direct mounting	
D	DIN rail mounting (With DIN rail)	
D0	DIN rail mounting (Without DIN rail)	
D3	For 3 stations	Specify a longer rail than the standard length. [The SY5000 valve is now at a mountable length (manifold block length of 16 mm).]
⋮	⋮	
D24	For 24 stations	

∗ When it is necessary to mount a DIN rail without an SI unit, select D0 and order DIN rail length separately, referring to L3 in the dimensions. Refer to the SY3000/5000 series catalog (CAT.NAS11-103) for part numbers of DIN rail.

SMC

How to Order Valves (With two mounting screws)

Refer to the SY3000/5000 series catalog (CAT.NAS11-103) for details on valve specifications.

SY [3][1][3][0][ ][ ][ ][ ] – [5][ ][ ] 1 – [C6][ ] – [ ]

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫ ⓬ ⓭

❸ Top ported

❶ Series

3	SY3000
5	SY5000

❷ Type of actuation

1	2-position single
2	2-position double
3	3-position closed center
4	3-position exhaust center
5	3-position pressure center
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.)

* Only rubber seal type is available for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

Nil	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

Nil	None
H	Built-in

* Only rubber seal type.
  Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to the SY3000/5000 series catalog (CAT.NAS11-103) for details. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.
* The built-in valve type back pressure check valve is not available for the 3-position type.

❻ Pilot valve option

Nil	Standard (101 psi (0.7 MPa))
B	Quick response type (101 psi (0.7 MPa))
K*	High pressure type (145 psi (1.0 MPa))

* Only metal seal type is available for the high pressure type.

❼ Coil type

Nil	Standard
T	With power saving circuit (Continuous duty type)

* Be sure to select the power saving circuit type when a valve is continuously energized for long periods of time.
* Note the specified energizing time when power saving circuit is selected.

❽ Rated voltage

5	24 VDC

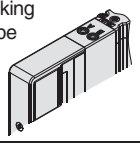
❾ Light/surge voltage suppressor and common specification

Nil	Without light/surge voltage suppressor (Non-polar)
R	With surge voltage suppressor (Non-polar)
U	With light/surge voltage suppressor (Non-polar)
S	With surge voltage suppressor (Positive common)
Z	With light/surge voltage suppressor (Positive common)
NS	With surge voltage suppressor (Negative common)
NZ	With light/surge voltage suppressor (Negative common)

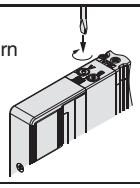
* Only "Z" and "NZ" types are available for the product with power saving circuit. Select a valve from R, U, S or Z when the SI unit output polarity is Nil (Positive common). Select a valve from R, U, NS or NZ when the SI unit output polarity is N (Negative common).

❿ Manual override

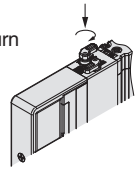
Nil: Non-locking push type



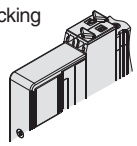
D: Push-turn locking slotted type



E: Push-turn locking manual type



F: Slide locking type



⓫ A, B port size

Thread piping

Symbol	Port size	Applicable series
M5	M5 x 0.8	SY3000
01	1/8	SY5000

One-touch fitting (Metric)

Symbol	A and B port	SY3000	SY5000
C2	ø2 One-touch fitting	●	—
C3	ø3.2 One-touch fitting	●	—
C4	ø4 One-touch fitting	●	●
C6	ø6 One-touch fitting	●	●
C8	ø8 One-touch fitting	—	●

One-touch fitting (Inch)

Symbol	A and B port	SY3000	SY5000
N1	ø1/8" One-touch fitting	●	—
N3	ø5/32" One-touch fitting	●	●
N7	ø1/4" One-touch fitting	●	●
N9	ø5/16" One-touch fitting	—	●

⓬ Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

* Only Nil is available for M5.

⓭ Type of mounting screw

Nil	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type)
H	Hexagon socket head cap screw (Falling-out-prevention type)

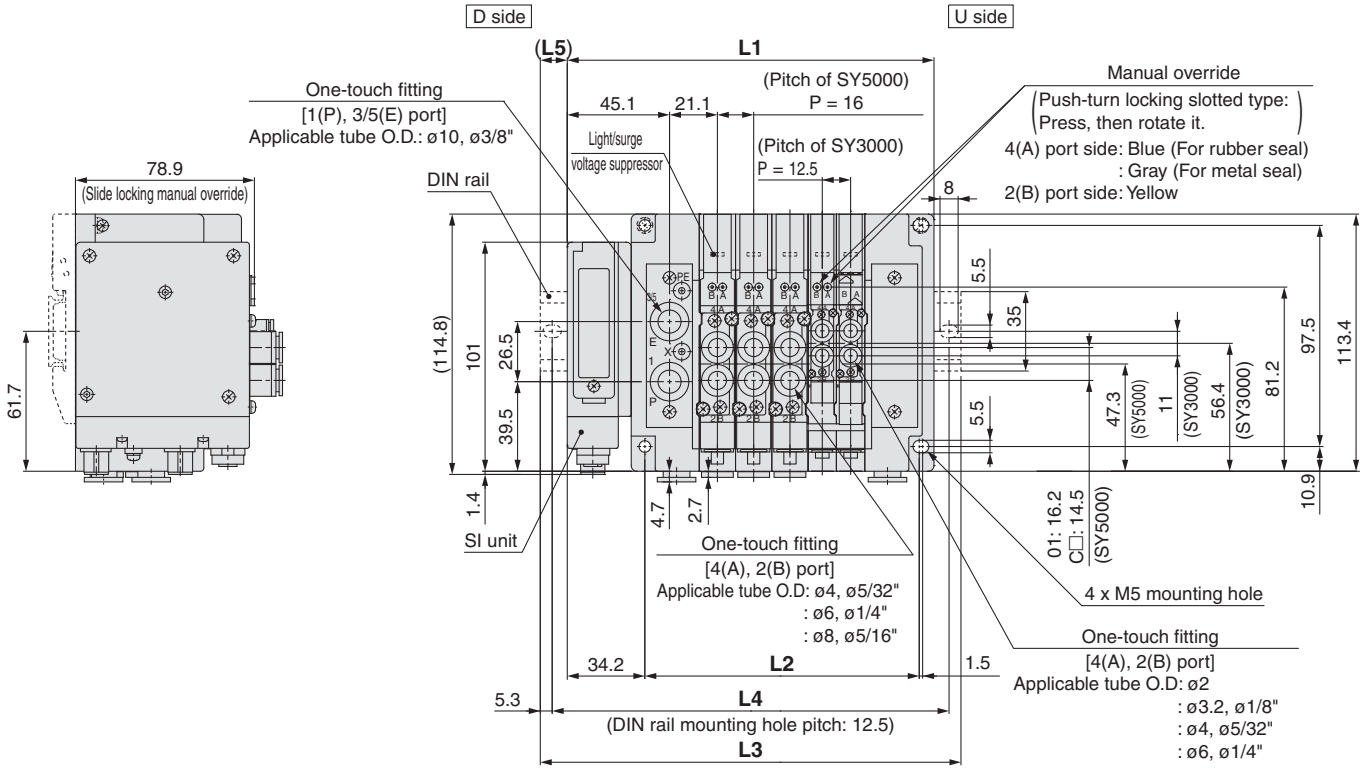
* For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
* When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service. Refer to the SY3000/5000 series catalog (CAT.NAS11-103) for part numbers of base gasket and mounting screw.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly.

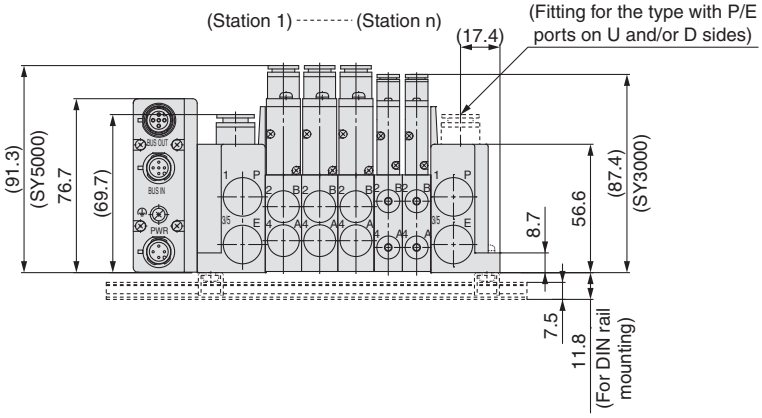
Refer to the SMC website or the SY3000/5000 series catalog (CAT.NAS11-103) for details on solenoid valve specifications, Common Precautions and Specific Product Precautions.

Dimensions: Type 12/Mixed Mounting Type

(mm)

SS5Y5-M12S□□- Stations U/D/B(-D)





Note 1) These figures show the "SS5Y5-M12SQA-05D".
Note 2) Refer to page 16 for dimensions of D-sub communication connector, external pilot and built-in silencer.

EX260 Serial transmission Calculation of dimensions

L1 = 12.5 x n1 + 16 x n2 + 88.7
L2 = 12.5 x n1 + 16 x n2 + 48
M = L1/12.5 + 1 Remove all numbers after the decimal.
L3 = 12.5 x M + 23
L4 = L3 – 10.5
L5 = (L3 – L1)/2

n1: SY3000 Valve stations
n2: SY5000 Valve stations

Tie-rod Base:
For EX260 Integrated-type (For Output)
Serial Transmission System
Series SV

How to Order Manifold

SS5V 1 – W 10S1 NA N D – 05 U □ – □ – □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽

❷ Enclosure
IP67

∗Refer to Note 1) of the ❷ SI unit specifications.

❶ Series

1	SV1000
2	SV2000
3	SV3000

❷ SI unit specifications

Symbol	Protocol	Number of outputs	Communication connector
0	Without SI unit		
QA	DeviceNet™	32	M12
QB		16	
NA	PROFIBUS DP	32	M12
NB		16	
NC		32	D-sub Note 1)
ND		16	
VA	CC-Link	32	M12
VB		16	
DA	EtherCAT	32	M12
DB		16	
FA	PROFINET	32	M12
FB		16	
EA	EtherNet/IP™	32	M12
EB		16	

- DIN rail cannot be selected for the product without SI unit.

Note 1) IP40 for the D-sub applicable communication connector specification. (The manifold part number is "SS5V□-10S1NC/ND□D".)

Note 2) For SI unit part number, refer to page 1.

❸ SI unit output polarity

Nil	Positive common
N	Negative common

Note) Without SI unit, the symbol is nil.

❹ Valve stations

In the case of the 32-output SI unit

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
16	16 stations	
02	2 stations	Specified layout Note 2) (Available up to 32 solenoids)
⋮	⋮	
20	20 stations	

In the case of the 16-output SI unit

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
08	8 stations	
02	2 stations	Specified layout Note 2) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note 1) Double wiring: single, double, 3-position and 4-position solenoid valves can be used on all manifold stations.
Use of a single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet.
(Note that double, 3-position and 4- position valves cannot be used where single solenoid wiring has been specified.)

Note 3) Includes the number of blanking plate assemblies.

❺ P, E port entry

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

❻ SUP/EXH block assembly

Nil	Internal pilot
S Note)	Internal pilot, Built-in silencer
R	External pilot
RS Note)	External pilot, Built-in silencer

Note) When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

❽ Mounting

Nil	Direct mounting	
D	DIN rail mounting (With DIN rail)	
D0	DIN rail mounting (Without DIN rail)	
D3	For 3 stations	When a longer DIN rail is desired than the specified stations. (Specify a longer rail than the standard length.)
⋮	⋮	
D20	For 20 stations	

❼ A, B port size (Metric)

Symbol	A, B port	P, E port	Applicable series
C3	ø3.2 One-touch fitting	ø8 One-touch fitting	SV1000
C4	ø4 One-touch fitting		
C6	ø6 One-touch fitting		
C4	ø4 One-touch fitting	ø10 One-touch fitting	SV2000
C6	ø6 One-touch fitting		
C8	ø8 One-touch fitting		
C6	ø6 One-touch fitting	ø12 One-touch fitting	SV3000
C8	ø8 One-touch fitting		
C10	ø10 One-touch fitting		
M	A, B ports mixed		

A, B port size (Inch)

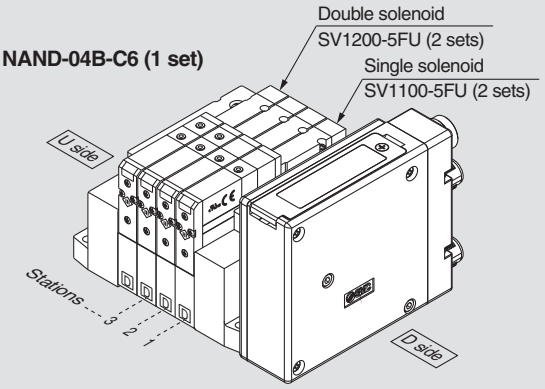
Symbol	A, B port	P, E port	Applicable series
N1	ø1/8" One-touch fitting	ø5/16" One-touch fitting	SV1000
N3	ø5/32" One-touch fitting		
N7	ø1/4" One-touch fitting		
N3	ø5/32" One-touch fitting	ø3/8" One-touch fitting	SV2000
N7	ø1/4" One-touch fitting		
N9	ø5/16" One-touch fitting		
N7	ø1/4" One-touch fitting	ø3/8" One-touch fitting	SV3000
N9	ø5/16" One-touch fitting		
N11	ø3/8" One-touch fitting		
M	A, B ports mixed		

∗ In the case of mixed specifications (M), indicate separately on the manifold specification sheet.
∗ The X and PE port size of External pilot type (R, RS) are ø4 (mm) or ø5/32" (inch) for the SV1000/2000 series, and ø6 (mm) or ø1/4" (inch) for the SV3000 series.

How to Order Manifold Assembly

Example (SV1000)

Manifold
SS5V1-W10S1NAND-04B-C6 (1 set)



SS5V1-W10S1NAND-04B-C6·····1 set (Manifold part no.)
∗SV1100-5FU·····2 sets (Single solenoid part no.)
∗SV1200-5FU·····2 sets (Double solenoid part no.)

How to Order Valves

SV 1 1 0 0 ❸ ❹ – 5 F ❻ ❼ – ❺ – ❽
Note)

❶ Series

1	SV1000
2	SV2000
3	SV3000

❷ Type of actuation

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

∗ 4-position dual 3-port valves are applicable to the SV1000/2000 series only.

❸ Pilot type

Nil	Internal pilot
R	External pilot

∗ External pilot specification is not available for 4-position dual 3-port valves.

❹ Back pressure check valve

Nil	None
K	Built-in

∗ Built-in back pressure check valve type is applicable to the SV1000 series only.
∗ Back pressure check valve is not available for 3-position valve.
Note) Refer to Specific Product Precautions 2 in Best Pneumatics No. 1.

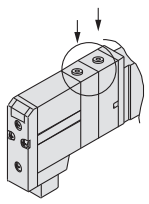
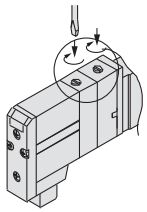
❺ Rated voltage

5	24 VDC

❻ Light/surge voltage suppressor

U	With light/surge voltage suppressor
R	With surge voltage suppressor

❼ Manual override

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

Note) Available with manifold block for station additions. Refer to Best Pneumatics No. 1.

❽ Made to Order

Nil	—
X90	Main valve fluororubber (Refer to page 448 in Best Pneumatics No. 1.)

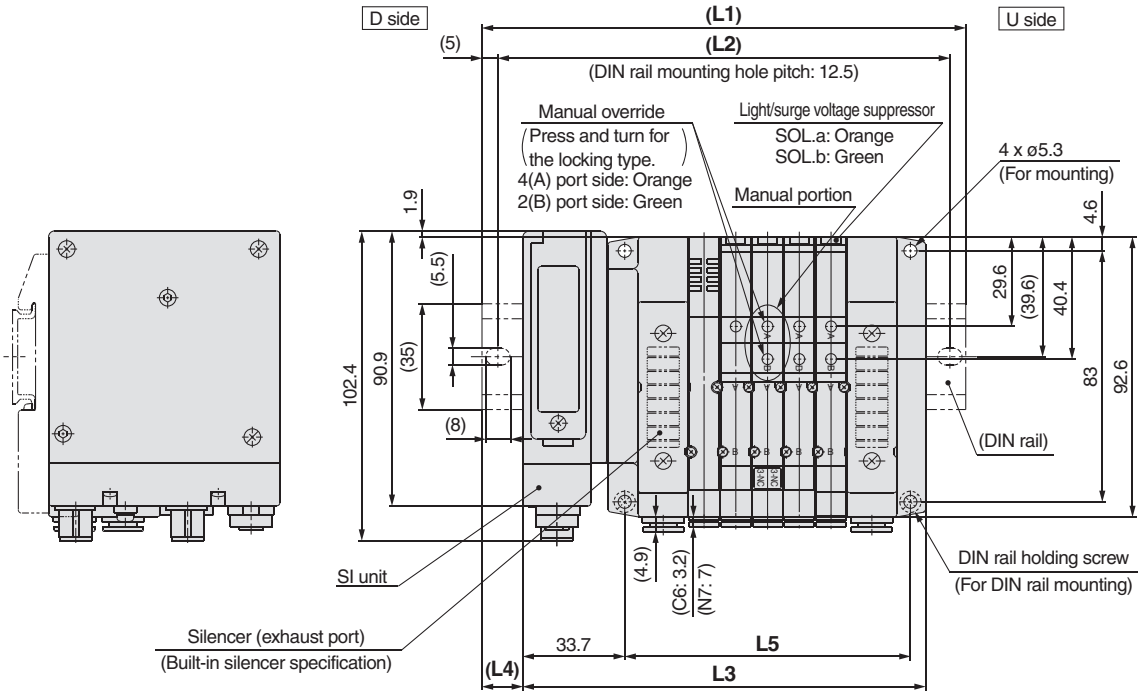
Refer to the SMC website or the SV series in Best Pneumatics No.1 for details on solenoid valve specifications, Common Precautions and Specific Product Precautions.

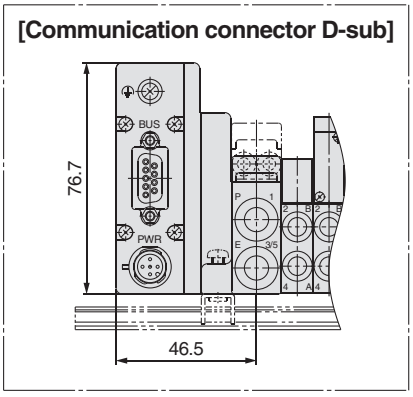
Dimensions: For EX260 Integrated-type (For Output) Serial Transmission System/Series SV1000

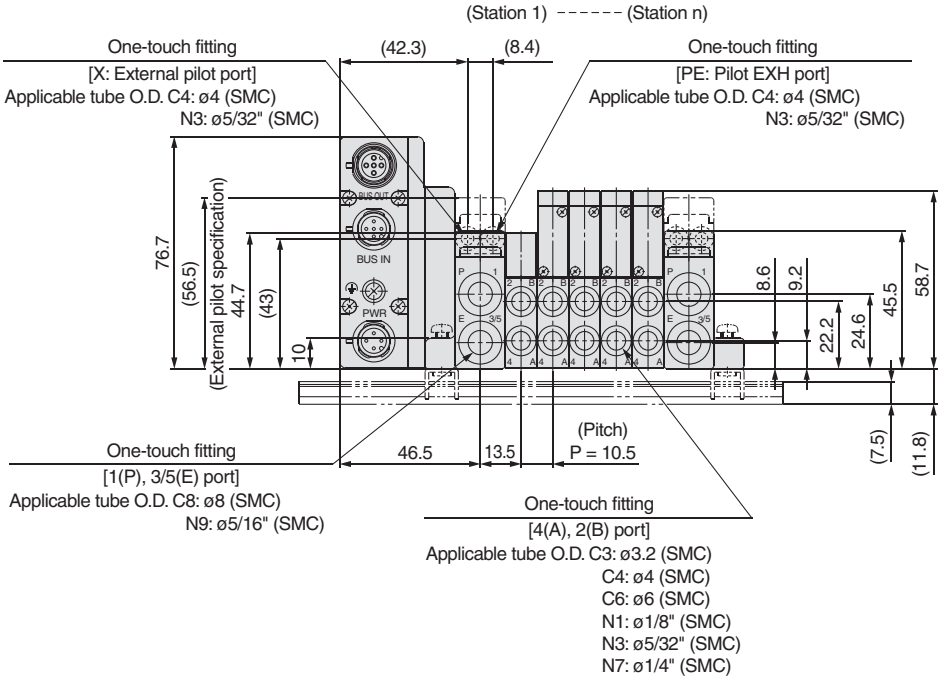
(mm)

● Tie-rod base manifold: SS5V1-W10S1□□D- Stations U/D/B (S, R, RS)- C3, N1 / C4, N3 / C6, N7 (-D)

- 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: DIN Rail Overall Length

n: Stations

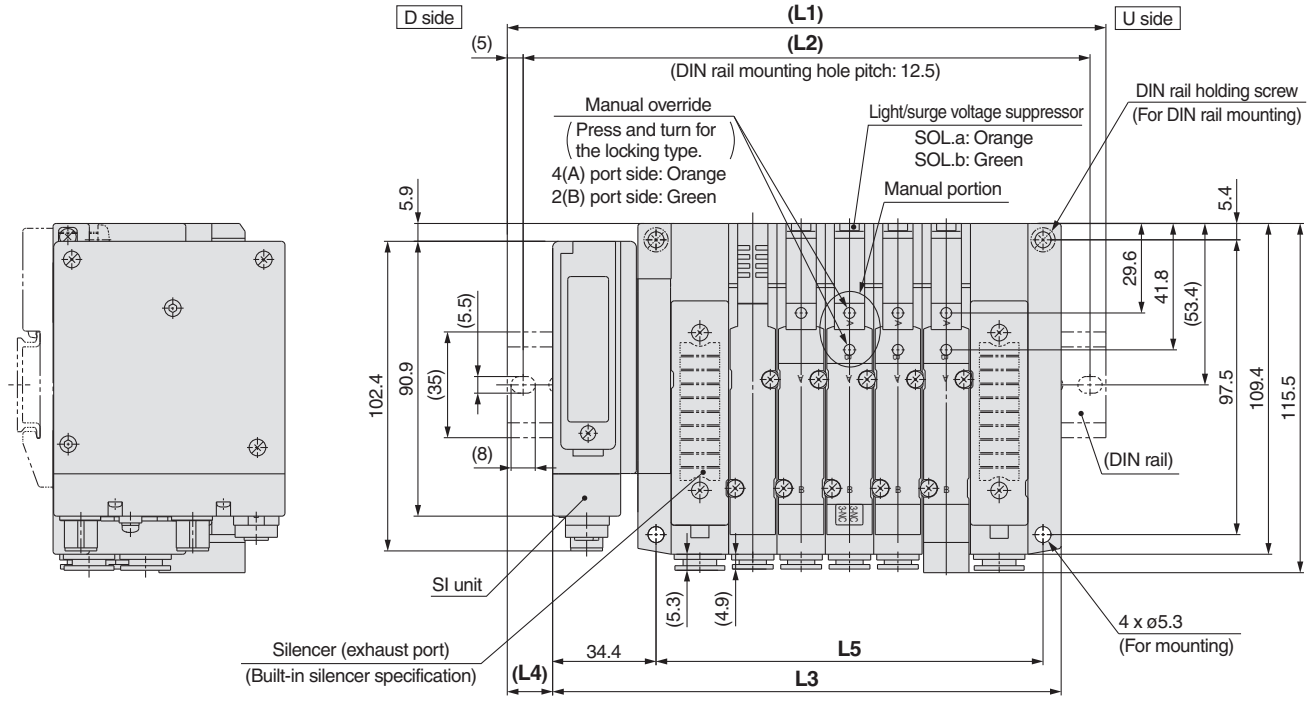
L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	135.5	148	148	160.5	173	185.5	198	210.5	210.5	223	235.5	248	260.5	273	273	285.5	298	310.5	323
L2	125	137.5	137.5	150	162.5	175	187.5	200	200	212.5	225	237.5	250	262.5	262.5	275	287.5	300	312.5
L3	102.2	112.7	123.2	133.7	144.2	154.7	165.2	175.7	186.2	196.7	207.2	217.7	228.2	238.7	249.2	259.7	270.2	280.7	291.2
L4	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5	12	13	14	15	16	17	12	13	14	15	16
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

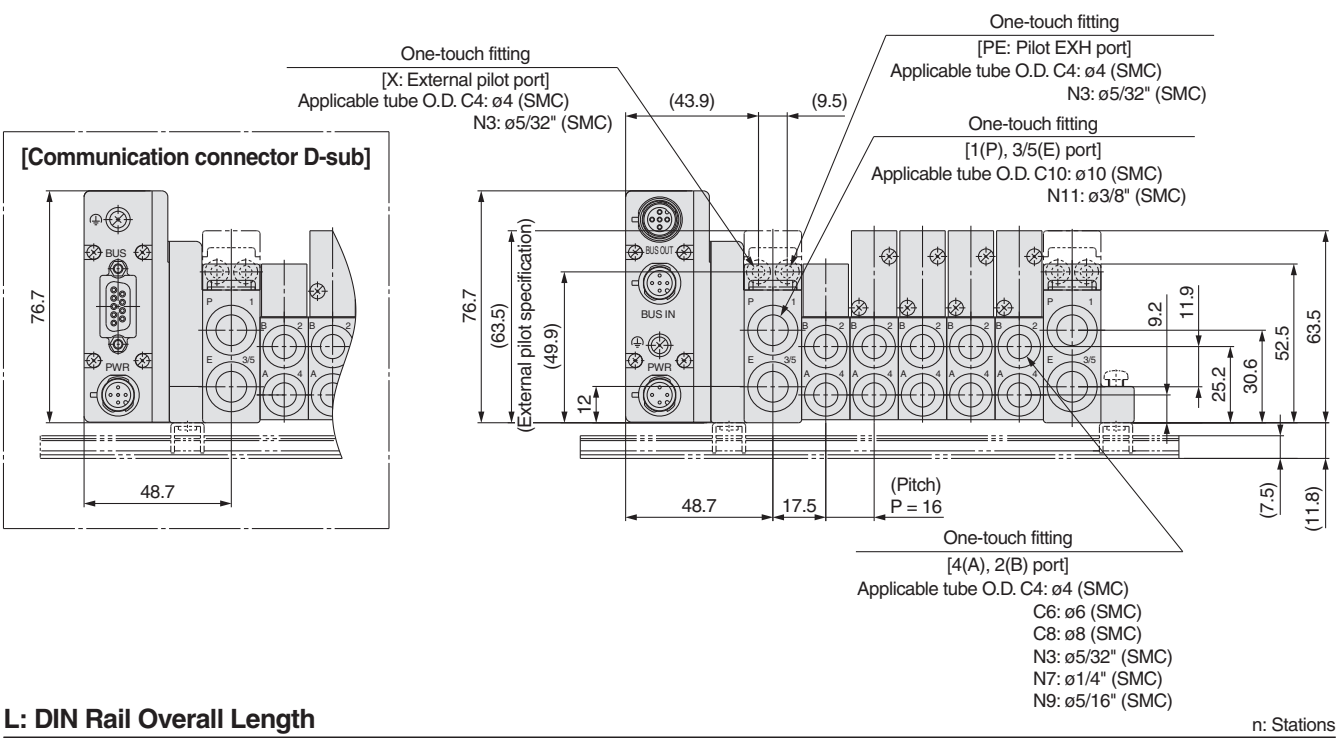
Dimensions: For EX260 Integrated-type (For Output) Serial Transmission System/Series SV2000

(mm)

● Tie-rod base manifold: SS5V2-W10S1□□D-[Stations] [U/D/B] (S, R, RS)- [C4, N3 / C6, N7 / C8, N9] (-D)

- 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: DIN Rail Overall Length

n: Stations

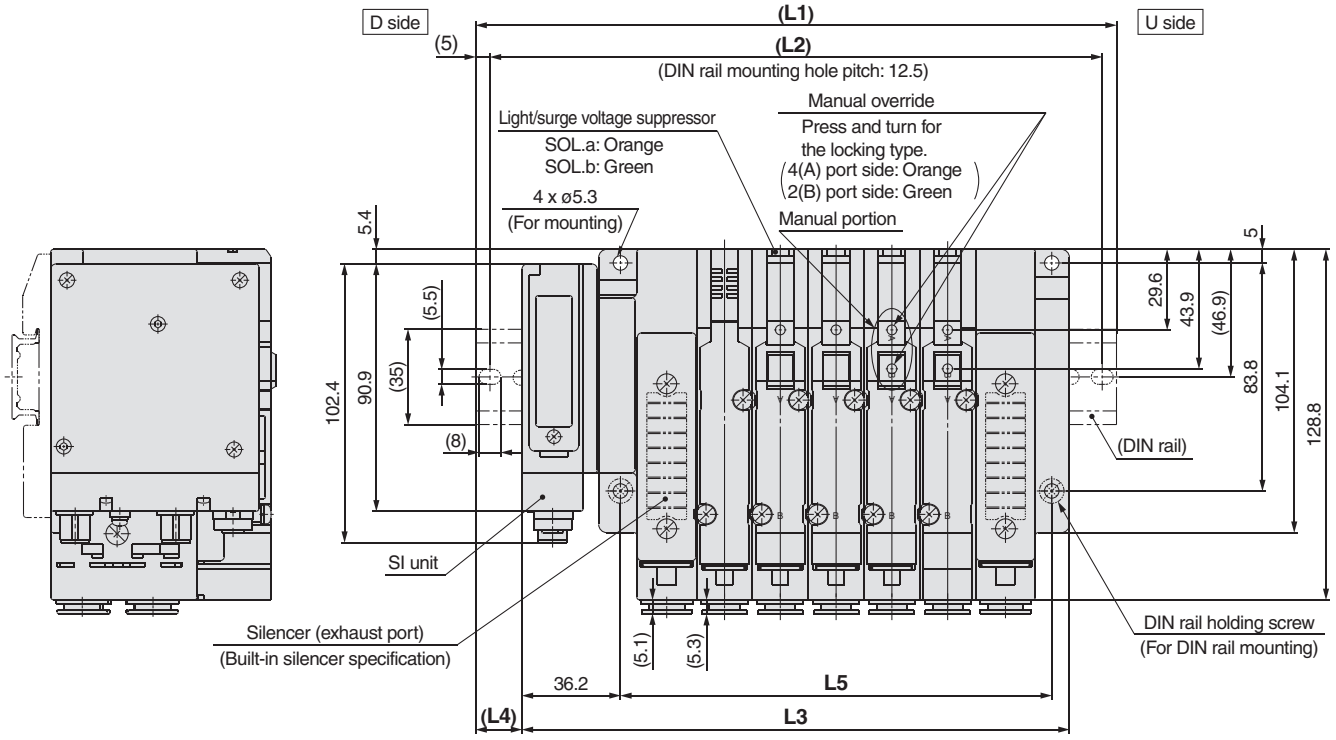
L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	148	160.5	185.5	198	210.5	235.5	248	260.5	273	298	310.5	323	335.5	360.5	373	385.5	410.5	423	435.5
L2	137.5	150	175	187.5	200	225	237.5	250	262.5	287.5	300	312.5	325	350	362.5	375	400	412.5	425
L3	120.2	136.2	152.2	168.2	184.2	200.2	216.2	232.2	248.2	264.2	280.2	296.2	312.2	328.2	344.2	360.2	376.2	392.2	408.2
L4	14	12	16.5	15	13	17.5	16	14	12.5	17	15	13.5	11.5	16	14.5	12.5	17	15.5	13.5
L5	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304	320	336	352	368

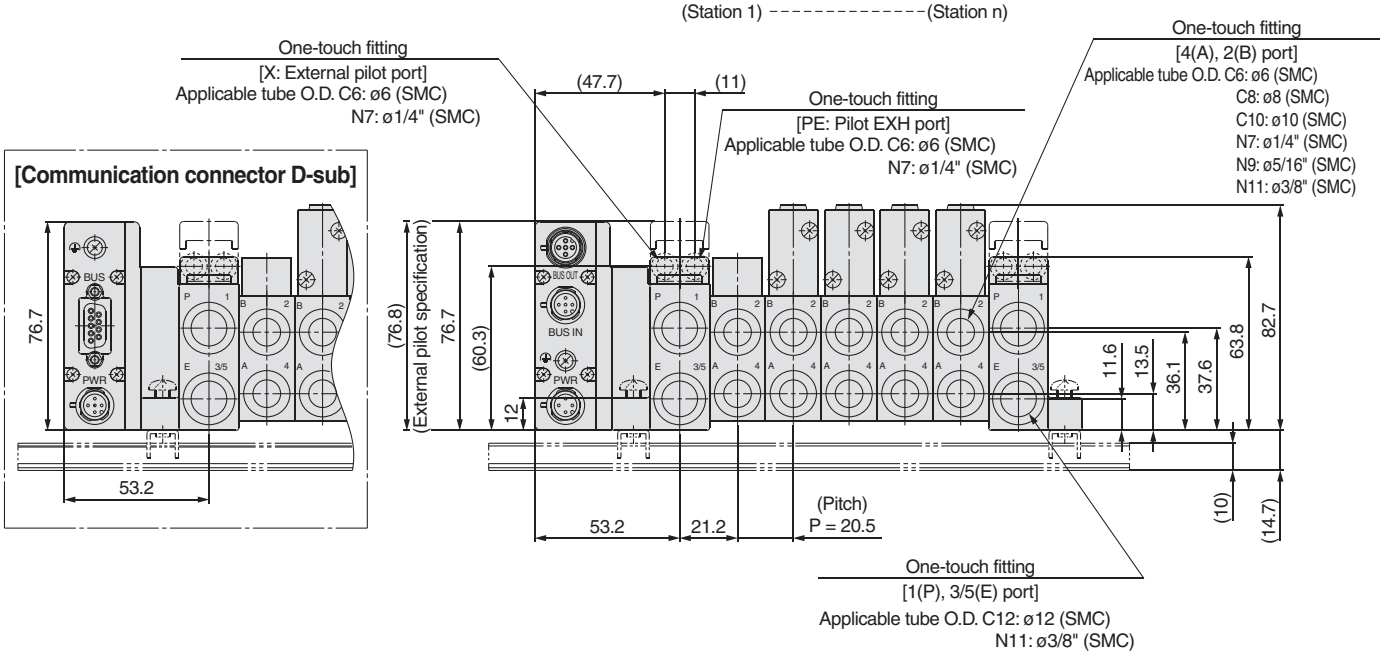
Dimensions: For EX260 Integrated-type (For Output) Serial Transmission System/Series SV3000

(mm)

● Tie-rod base manifold: SS5V3-W10S1□□D-Stations U/D/B (S, R, RS)- C6, N7 / C8, N9 / C10, N11 (-D)

- 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: DIN Rail Overall Length

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	185.5	210.5	235.5	248	273	298	310.5	335.5	348	373	398	410.5	435.5	460.5	473	498	523	535.5
L2	162.5	175	200	225	237.5	262.5	287.5	300	325	337.5	362.5	387.5	400	425	450	462.5	487.5	512.5	525
L3	139.7	160.2	180.7	201.2	221.7	242.2	262.7	283.2	303.7	324.2	344.7	365.2	385.7	406.2	426.7	447.2	467.7	488.2	508.7
L4	16.5	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
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

Base Mounted

Plug-in Unit: For EX260 Integrated-type (For Output) Serial Transmission System

Series VQC1000

RoHS

How to Order Manifold

VV5QC 1 1 – 08 C6 SNA N – B ····· S Kit

❶ ❷ ❸ ❹ ❺ ❻ ❼

❶ Series

1	VQC1000

❷ Manifold model

1	Plug-in unit

❸ Stations

In the case of the 32-output SI unit

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
12	12 stations	
02	2 stations	Specified layout Note 2) (Available up to 24 solenoids)
⋮	⋮	
24	24 stations	

In the case of the 16-output SI unit

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
08	8 stations	
02	2 stations	Specified layout Note 2) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note 1) Double wiring: single, double, 3-position and 4-position solenoid valves can be used on all manifold stations.
Use of a single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.
Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet.
(Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)
Note 3) Includes the number of blanking plate assemblies.

❹ Cylinder port size

C3	With ø3.2 One-touch fitting
C4	With ø4 One-touch fitting
C6	With ø6 One-touch fitting
M5	M5 thread
CM	Mixed sizes and with port plug
L3	Top ported elbow with ø3.2 One-touch fitting
L4	Top ported elbow with ø4 One-touch fitting
L6	Top ported elbow with ø6 One-touch fitting
L5	M5 thread
B3	Bottom ported elbow with ø3.2 One-touch fitting
B4	Bottom ported elbow with ø4 One-touch fitting
B6	Bottom ported elbow with ø6 One-touch fitting
B5	M5 thread
LM	Elbow port, mixed sizes
MM Note2)	Mixed size for different types of piping, option installed

Note 1) Indicate the sizes on the manifold specification sheet in the case of "CM", "LM".
Note 2) When selecting the mixed size for different types of piping or dual flow fitting assembly, enter "MM" and give instructions in the manifold specification sheet.
Note 3) Symbols for inch sizes are as follows:
- N1: ø1/8"
- N3: ø5/32"
- N7: ø1/4"
- NM: Mixed

The top ported elbow is LN□ and the bottom ported elbow is BN□.

❻ SI unit output polarity

Nil	Positive common
N	Negative common

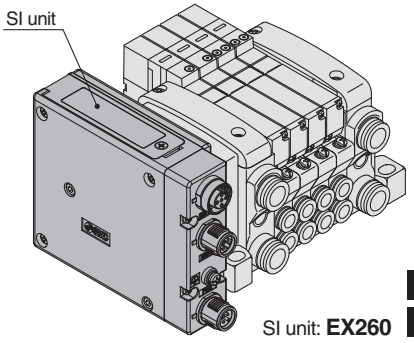
❼ Option

Nil	None
B	With back pressure check valve (All stations) Note 2)
D	With DIN rail (Rail length: Standard)
D□	With DIN rail (Rail length: Special) Note 3)
K	Special wiring spec. (Except double wiring) Note 4)
N	With name plate
R	External pilot Note 5)
S	Built-in silencer, Direct exhaust Note 6)

Note 1) When two or more symbols are specified, indicate them alphabetically.
Example: -BRS
Note 2) When the back pressure check valve is desired, and is to be installed only in certain manifold stations, specify the mounting position on the manifold specification sheet.
Note 3) For special DIN rail length, indicate "D□".
(Enter the number of stations inside □.)
Example: -D08
In this case, stations will be mounted on a DIN rail for 8 stations regardless of the actual number of manifold stations.
The specified number of stations must be larger than the number of stations on the manifold.
Indicate "-D0" for the option without DIN rail.
Note 4) Specify wiring type of each station on the manifold specification sheet.
Note 5) For external pilot option, "-R", indicate the external pilot specification "R" for the applicable valves as well.
Note 6) Built-in silencer type does not satisfy IP67.
Note 7) When the "SD0" (Without SI unit) is specified, "-D", "-D□" cannot be selected.

❺ Kit type

S **Kit (Serial transmission kit (for Output))**



SI unit: **EX260**

IP40 specification
IP67 specification

Symbol	Protocol	Number of outputs	Communication connector
SD0	Without SI unit		
SQA	DeviceNet™	32	M12
SQB		16	
SNA	PROFIBUS DP	32	M12
SNB		16	
SNC		32	D-sub Note 1)
SND		16	
SVA	CC-Link	32	M12
SVB		16	
SDA	EtherCAT	32	M12
SDB		16	
SFA	PROFINET	32	M12
SFB		16	
SEA	EtherNet/IP™	32	M12
SEB		16	

Note 1) D-sub S kit: IP40 specification (IP67 specification for all other S kits)
Note 2) For SI unit part number, refer to page 1.

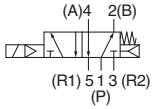
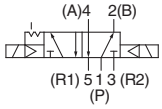
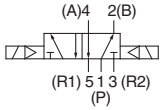
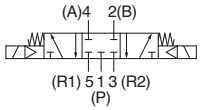
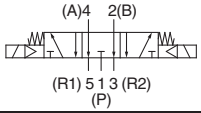
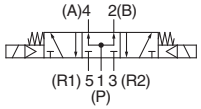
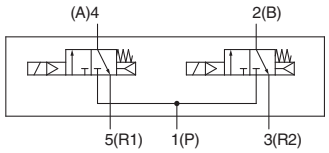
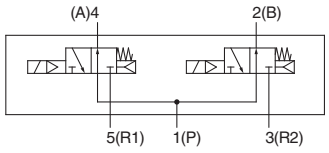
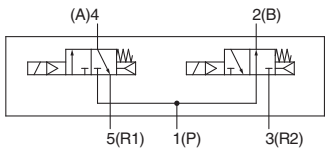
SMC

How to Order Valves

VQC 1 1 0 0 □ – 5 □ □ 1

Series VQC1000 ❶ ❷ ❸ ❹ ❺ ❻

❶ Type of actuation

1	2-position single 
2	2-position double (Metal) 
	2-position double (Rubber) 
3	3-position closed center 
4	3-position exhaust center 
5	3-position pressure center 
A Note)	4-position dual 3-port valve (A) 
B Note)	4-position dual 3-port valve (B) 
C Note)	4-position dual 3-port valve (C) 

Note) Only rubber seal type

❷ Seal type

0	Metal seal
1	Rubber seal

❸ Function

Nil	Standard (0.4 W)
B	Quick response type (0.95 W)
K Note 2)	High pressure type (145 psi (1.0 MPa), 0.95 W)
N Note 3)	Negative common
R Note 4)	External pilot

Note 1) When two or more symbols are specified, indicate them alphabetically. However, combination of "B" and "K" is not possible.
Note 2) Only metal seal type
Note 3) When negative common is specified for SI unit, select and mount the valve of negative common.
Note 4) Not applicable for dual 3-port valves

❹ Coil voltage

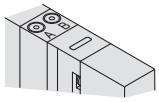
5	24 VDC

❺ Light/surge voltage suppressor

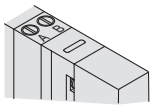
Nil	Yes

❻ Manual override

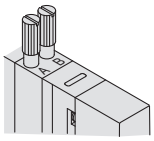
Nil: Non-locking push type (Tool required)



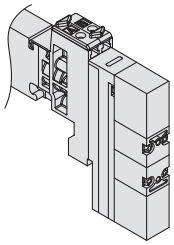
B: Locking type (Tool required)



C: Locking type (Manual)



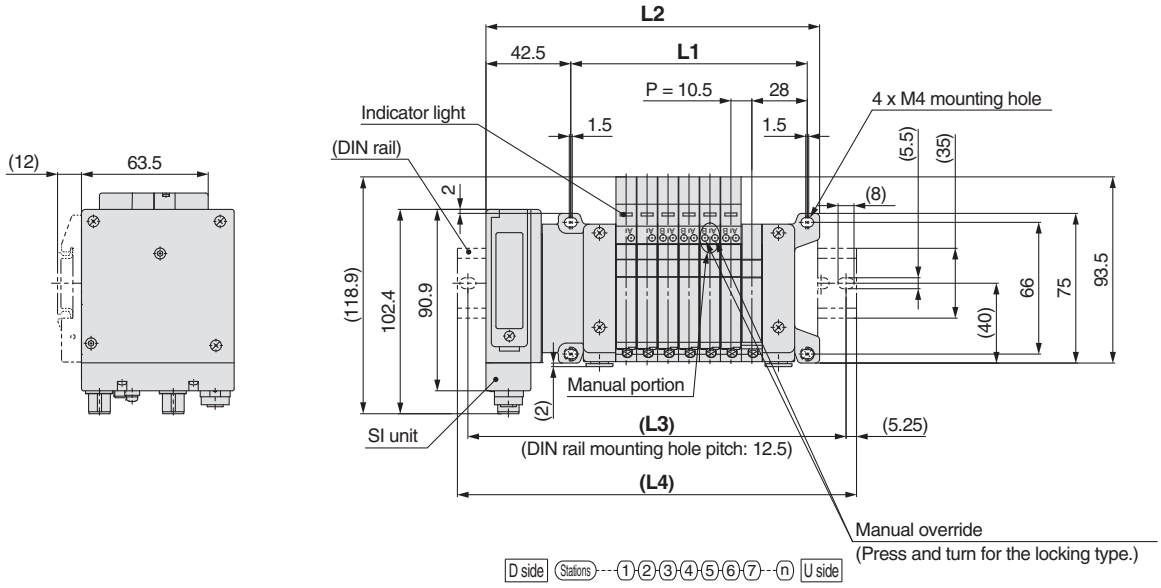
D: Slide locking type (Manual)

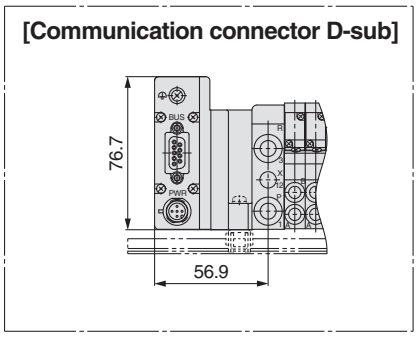


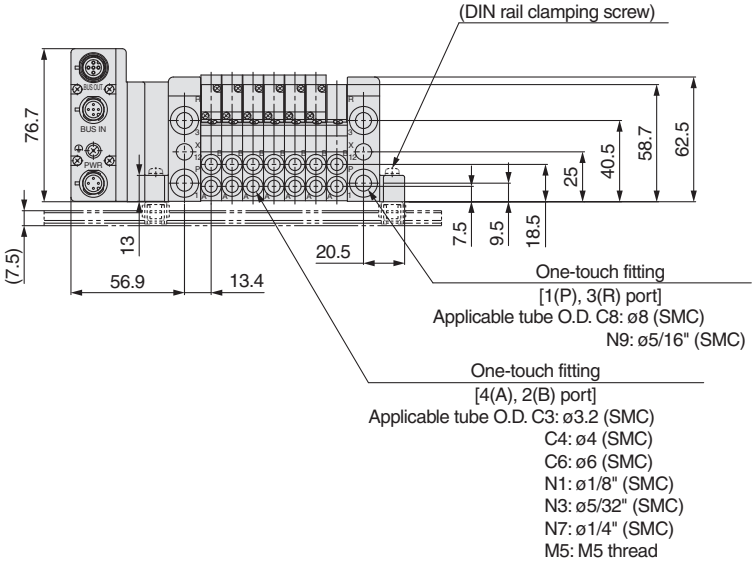
Refer to the SMC website or the VQC1000/2000 series catalog (CAT.NAS11-101) for details on solenoid valve specifications, Common Precautions and Specific Product Precautions.

(mm)

VV5QC11
S Kit (Serial transmission kit: EX260)







n: Stations (Maximum 24 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	55.5	66	76.5	87	97.5	108	118.5	129	139.5	150	160.5	171	181.5	192	202.5	213	223.5	234	244.5	255	265.5	276	286.5	297
L2	104.2	114.7	125.2	135.7	146.2	156.7	167.2	177.7	188.2	198.7	209.2	219.7	230.2	240.7	251.2	261.7	272.2	282.7	293.2	303.7	314.2	324.7	335.2	345.7
L3	127	139.5	152	164.5	177	177	189.5	202	214.5	227	239.5	239.5	252	264.5	277	289.5	302	314.5	314.5	327	339.5	352	364.5	377
L4	137.5	150	162.5	175	187.5	187.5	200	212.5	225	237.5	250	250	262.5	275	287.5	300	312.5	325	325	337.5	350	362.5	375	387.5

Plug-in Unit: For EX260 Integrated-type (For Output) Serial Transmission System

Series VQC2000

RoHS

How to Order Manifold

VV5QC 2 1 – 08 C6 SNA N – B ····· S Kit

❶ ❷ ❸ ❹ ❺ ❻ ❼

❶ Series

2	VQC2000

❷ Manifold model

1	Plug-in unit

❸ Stations

In the case of the 32-output SI unit

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
12	12 stations	
02	2 stations	Specified layout Note 2) (Available up to 24 solenoids)
⋮	⋮	
24	24 stations	

In the case of the 16-output SI unit

Symbol	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
08	8 stations	
02	2 stations	Specified layout Note 2) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note 1) Double wiring: single, double, 3-position and 4-position solenoid valves can be used on all manifold stations.
Use of a single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.
Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet.
(Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)
Note 3) Includes the number of blanking plate assemblies.

❹ Cylinder port size

C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
C8	ø8 One-touch fitting
CM	Mixed sizes and with port plug
L4	Top ported elbow with ø4 One-touch fitting
L6	Top ported elbow with ø6 One-touch fitting
L8	Top ported elbow with ø8 One-touch fitting
B4	Bottom ported elbow with ø4 One-touch fitting
B6	Bottom ported elbow with ø6 One-touch fitting
B8	Bottom ported elbow with ø8 One-touch fitting
LM	Elbow port, mixed sizes
MM Note 2)	Mixed size for different types of piping, option installed

Note 1) Indicate the sizes on the manifold specification sheet in the case of "CM", "LM".
Note 2) When selecting the mixed size for different types of piping or dual flow fitting assembly, enter "MM" and give instructions in the manifold specification sheet.
Note 3) Symbols for inch sizes are as follows:
- N3: ø5/32"
- N7: ø1/4"
- N9: ø5/16"
- NM: Mixed

The top ported elbow is LN□ and the bottom ported elbow is BN□.

❻ SI unit output polarity

Nil	Positive common
N	Negative common

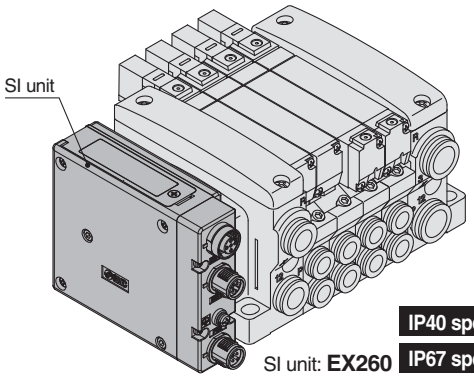
❼ Option

Nil	None
B	With back pressure check valve (All stations) Note 2)
D	With DIN rail (Rail length: Standard)
D□	With DIN rail (Rail length: Special) Note 3)
K	Special wiring spec. (Except double wiring) Note 4)
N	With name plate
R	External pilot Note 5)
S	Built-in silencer, Direct exhaust Note 6)
T	P and R ports included on both sides of the U side Note 7)

Note 1) When two or more symbols are specified, indicate them alphabetically.
Example: -BRS
Note 2) When the back pressure check valve is desired, and is to be installed only in certain manifold stations, specify the mounting position on the manifold specification sheet.
Note 3) For special DIN rail length, indicate "D□".
(Enter the number of stations inside □.)
Example: -D08
In this case, stations will be mounted on a DIN rail for 8 stations regardless of the actual number of manifold stations.
The specified number of stations must be larger than the number of stations on the manifold.
Indicate "-D0" for the option without DIN rail.
Note 4) Specify wiring type of each station on the manifold specification sheet.
Note 5) For external pilot option, "-R", indicate the external pilot specification "R" for the applicable valves as well.
Note 6) Built-in silencer type does not satisfy IP67.
Note 7) 2 ports for SUP and EXH are included on both sides of U side (cylinder port and coil side) with ø12 One-touch fittings.
Note 8) When the "SD0" (Without SI unit) is specified, "-D", "-D□" cannot be selected.

❺ Kit type

S Kit (Serial transmission kit (for Output))



Symbol	Protocol	Number of outputs	Communication connector
SD0	Without SI unit		
SQA	DeviceNet™	32	M12
SQB		16	
SNA	PROFIBUS DP	32	M12
SNB		16	
SNC		32	D-sub Note 1)
SND		16	
SVA	CC-Link	32	M12
SVB		16	
SDA	EtherCAT	32	M12
SDB		16	
SFA	PROFINET	32	M12
SFB		16	
SEA	EtherNet/IP™	32	M12
SEB		16	

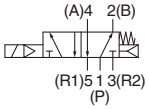
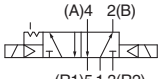
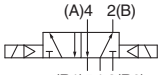
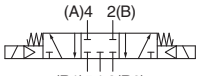
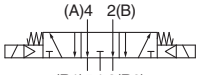
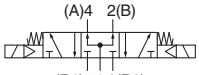
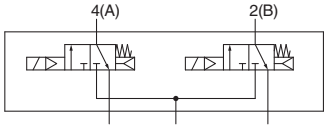
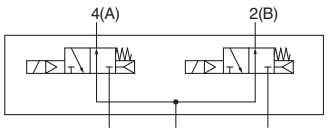
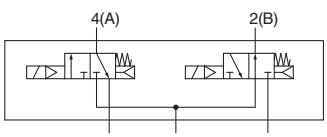
Note 1) D-sub S kit: IP40 specification (IP67 specification for all other S kits)
Note 2) For SI unit part number, refer to page 1.

How to Order Valves

VQC 2 1 0 0 □ – 5 □ □ 1

Series VQC2000 ❶ ❷ ❸ ❹ ❺ ❻

❶ Type of actuation

1	2-position single 
2	2-position double (Metal) 
	2-position double (Rubber) 
3	3-position closed center 
4	3-position exhaust center 
5	3-position pressure center 
A Note)	4-position dual 3-port valve (A) 
B Note)	4-position dual 3-port valve (B) 
C Note)	4-position dual 3-port valve (C) 

Note) Only rubber seal type

❷ Seal type

0	Metal seal
1	Rubber seal

❸ Function

Nil	Standard (0.4 W)
B	Quick response type (0.95 W)
K Note 2)	High pressure type (145 psi (1.0 MPa), 0.95 W)
N Note 3)	Negative common
R Note 4)	External pilot

Note 1) When two or more symbols are specified, indicate them alphabetically. However, combination of "B" and "K" is not possible.
Note 2) Only metal seal type
Note 3) When negative common is specified for SI unit, select and mount the valve of negative common.
Note 4) Not applicable for dual 3-port valves

❹ Coil voltage

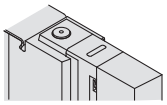
5	24 VDC

❺ Light/surge voltage suppressor

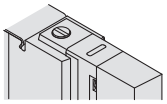
Nil	Yes

❻ Manual override

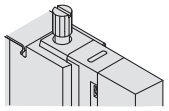
Nil: Non-locking push type (Tool required)



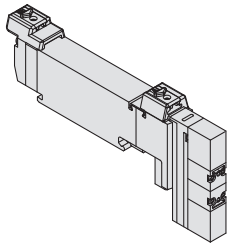
B: Locking type (Tool required)



C: Locking type (Manual)



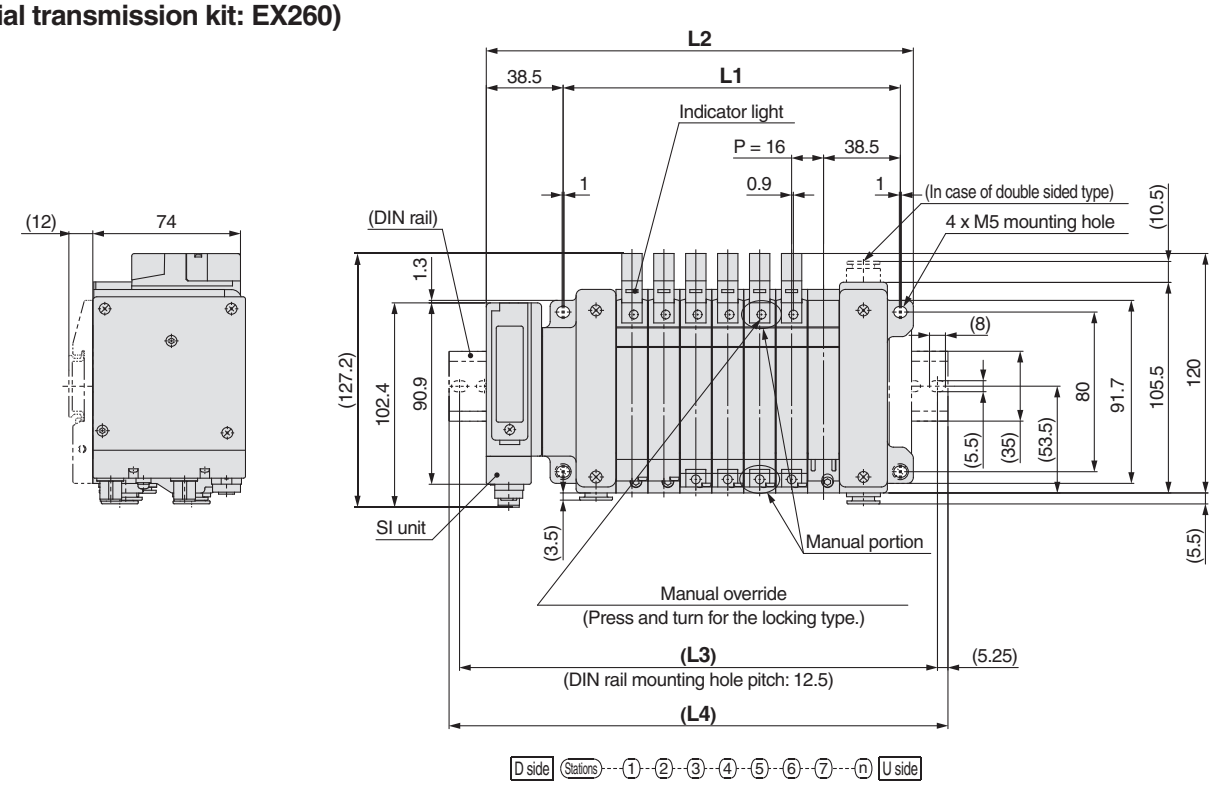
D: Slide locking type (Manual)

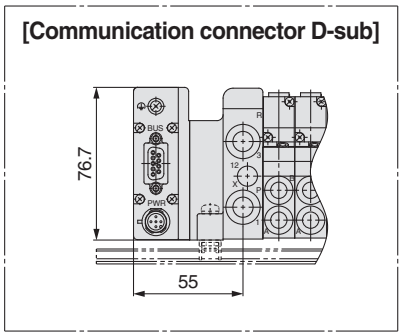


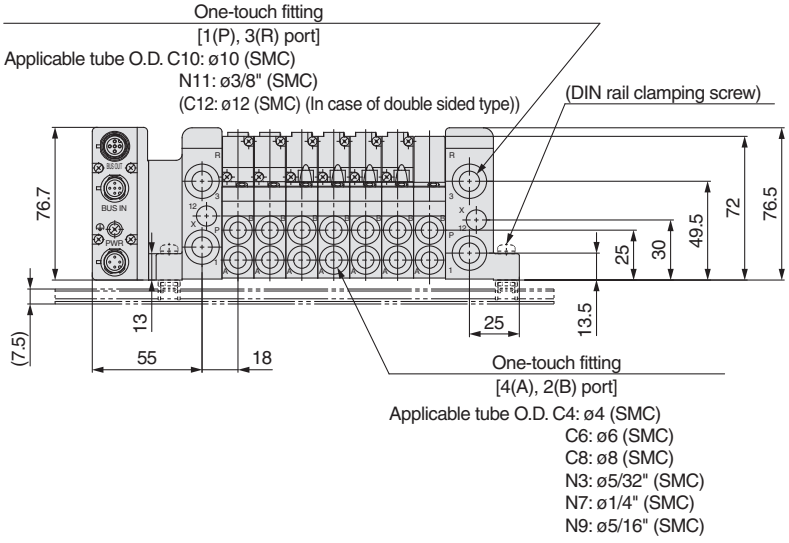
Refer to the SMC website or the VQC1000/2000 series catalog (CAT.NAS11-101) for details on solenoid valve specifications, Common Precautions and Specific Product Precautions.

(mm)

VV5QC21
S Kit (Serial transmission kit: EX260)







n: Stations (Maximum 24 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	73	89	105	121	137	153	169	185	201	217	233	249	265	281	297	313	329	345	361	377	393	409	425	441
L2	118	134	150	166	182	198	214	230	246	262	278	294	310	326	342	358	374	390	406	422	438	454	470	486
L3	139.5	164.5	177	189.5	202	227	239.5	252	277	289.5	302	314.5	339.5	352	364.5	389.5	402	414.5	427	452	464.5	477	489.5	514.5
L4	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	462.5	475	487.5	500	525

Base Mounted

Plug-in Unit: For EX260 Integrated-type (For Output) Serial Transmission System

Series VQC4000

RoHS

How to Order Manifold

VV5QC 4 1 – 16 03 ☐ SNA N – ☐ ····· S Kit

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽

❶ Series

4	VQC4000

❷ Manifold model

1	Plug-in unit

❹ Cylinder port size

C8	With ø8 One-touch fitting
C10	With ø10 One-touch fitting
C12	With ø12 One-touch fitting
02	Rc1/4
03	Rc3/8
B	Bottom ported Rc1/4
CM	Mixed

Note 1) Indicate the sizes on the manifold specification sheet in the case of "CM".
Note 2) Symbols for inch sizes are as follows:
<In the case of One-touch fittings>
- N7: ø1/4"
- N9: ø5/16"
- N11: ø3/8"
- NM: Mixed

❺ Thread type

Nil	Rc
F	G
T	NPT/NPTF

❸ Stations

In the case of the 32-output SI unit

Symbol	Stations	Note
01	1 station	Double wiring Note 1)
⋮	⋮	
12	12 stations	
01	1 station	Specified layout Note 2) (Available up to 24 solenoids)
⋮	⋮	
16	16 stations	

In the case of the 16-output SI unit

Symbol	Stations	Note
01	1 station	Double wiring Note 1)
⋮	⋮	
08	8 stations	
01	1 station	Specified layout Note 2) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note 1) Double wiring: single, double, 3-position and 4-position solenoid valves can be used on all manifold stations.
Use of a single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.
Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet.
(Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)
Note 3) Includes the number of blanking plate assemblies.

❼ SI unit output polarity

Nil	Positive common
N	Negative common

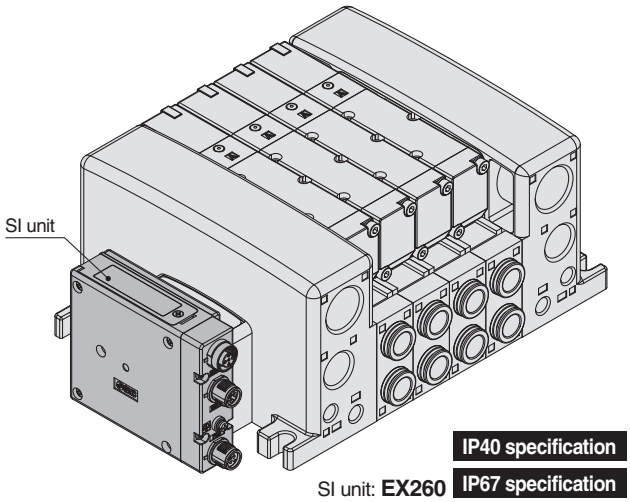
❽ Option

Nil	None
S	Built-in silencer, Direct exhaust Note 1)
K	Special wiring spec. (Except double wiring) Note 2)

Note 1) Built-in silencer type does not satisfy IP67.
Note 2) Specify wiring type of each station on the manifold specification sheet.

❻ Kit type

S **Kit (Serial transmission kit (for Output))**



IP40 specification
SI unit: **EX260** IP67 specification

Symbol	Protocol	Number of outputs	Communication connector
SD0A	Without SI unit		
SQA	DeviceNet™	32	M12
SQB		16	
SNA	PROFIBUS DP	32	M12
SNB		16	
SNC		32	D-sub Note 1)
SND		16	
SVA	CC-Link	32	M12
SVB		16	
SDA	EtherCAT	32	M12
SDB		16	
SFA	PROFINET	32	M12
SFB		16	
SEA	EtherNet/IP™	32	M12
SEB		16	

Note 1) D-sub S kit: IP40 specification (IP67 specification for all other S kits)
Note 2) For SI unit part number, refer to page 1.

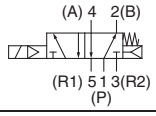
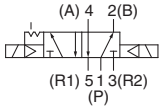
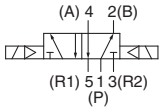
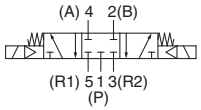
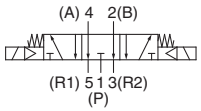
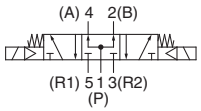
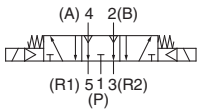
SMC

How to Order Valves

VQC 4 1 0 0 □ – 5 □ □

Series VQC4000 ❶ ❷ ❸ ❹ ❺ ❻

❶ Type of actuation

1	2-position single 
2	2-position double (Metal) 
	2-position double (Rubber) 
3	3-position closed center 
4	3-position exhaust center 
5	3-position pressure center 
6	3-position double check 

❷ Seal type

0	Metal seal
1	Rubber seal

❸ Function

Nil	Standard (1 W)
R	External pilot
Y Note 2)	Low wattage type (0.5 W)

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

Note 2) Select "Y" when a valve is continuously energized for long periods of time.

❹ Coil voltage

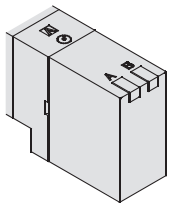
5	24 VDC

❺ Light/surge voltage suppressor

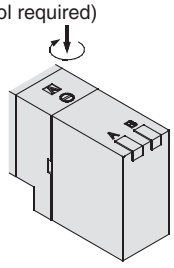
Nil	Yes
E	Without light, with surge voltage suppressor

❻ Manual override

Nil: Non-locking push type (Tool required)



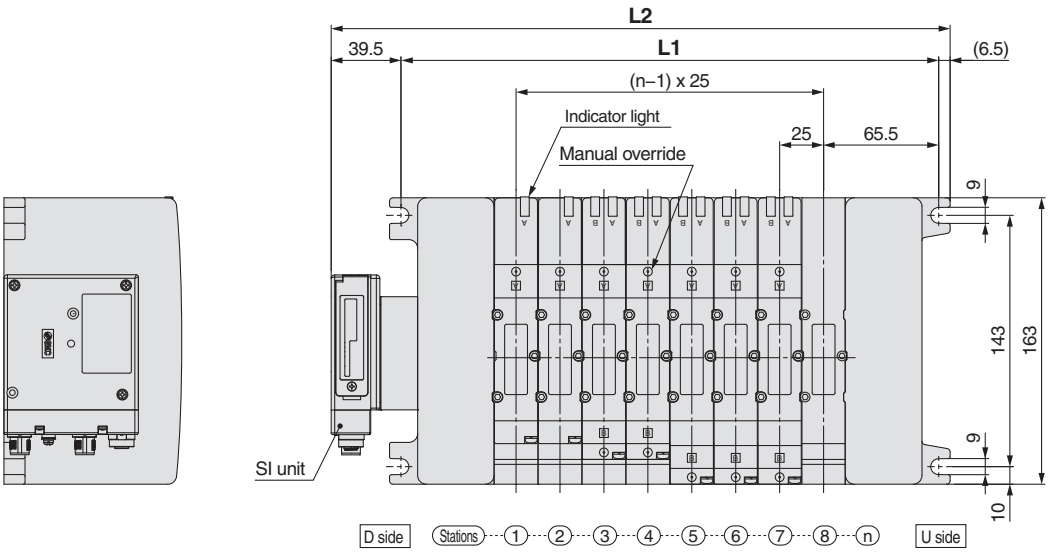
B: Locking type (Tool required)

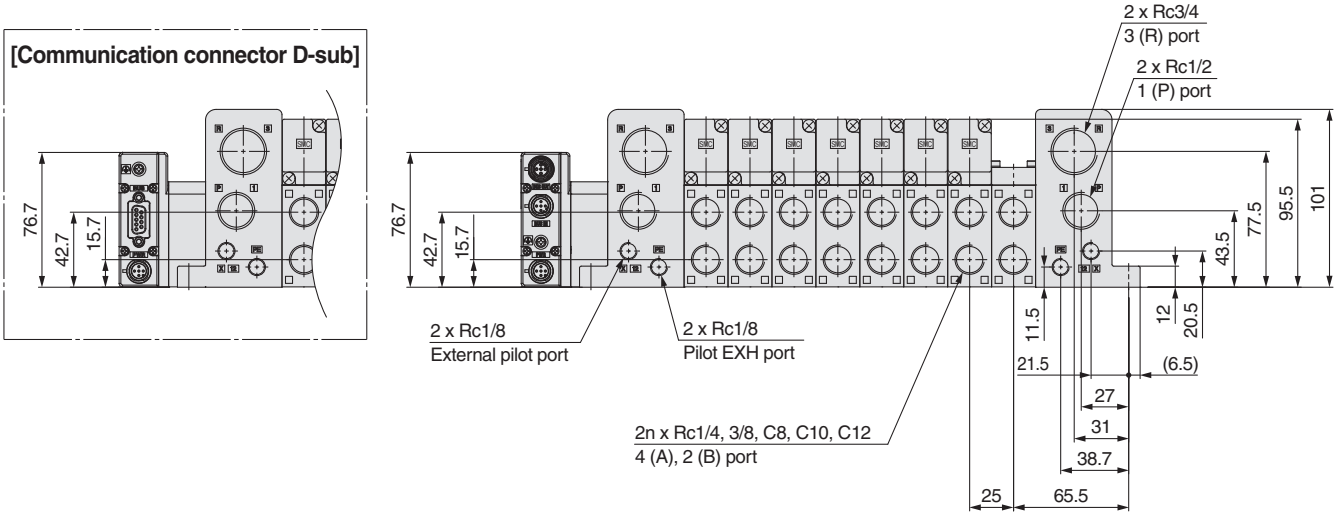


Refer to the SMC website or the VQC4000 series in Best Pneumatics No.1 for details on solenoid valve specifications, Common Precautions and Specific Product Precautions.

(mm)

VV5QC41
S Kit (Serial transmission kit: EX260)





n: Stations (Maximum 16 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	131	156	181	206	231	256	281	306	331	356	381	406	431	456	481	506
L2	177	202	227	252	277	302	327	352	377	402	427	452	477	502	527	552

Plug-in Manifold Stacking Base S Kit (Serial Transmission): For EX260 Integrated-type (For Output) Serial Transmission System

Series S0700

CE RoHS

How to Order Manifold

SS0750 − 08 C4 C8 SNA N − B

❶ ❷ ❸ ❹ ❺ ❻

❶ Stations

In the case of the 32-output SI unit

Symbol	Stations	Note
01	1 station	Double wiring Note 1)
⋮	⋮	
16	16 stations	
01	1 station	Specified layout Note 2) (Available up to 32 solenoids)
⋮	⋮	
24	24 stations	

In the case of the 16-output SI unit

Symbol	Stations	Note
01	1 station	Double wiring Note 1)
⋮	⋮	
08	8 stations	
01	1 station	Specified layout Note 2) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note 1) Double wiring: single, double, 3-position and 4-position solenoid valves can be used on all manifold stations.
Use of a single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.
Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet.
(Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)
Note 3) Includes the number of blanking plate assemblies.

❷ Cylinder port size

Symbol	Port size	
C2	With ø2 One-touch fitting	Metric
C3	With ø3.2 One-touch fitting	
C4	With ø4 One-touch fitting	
CM	Mixed sizes and with port plug Note)	
N1	With ø1/8" One-touch fitting	Inch
N3	With ø5/32" One-touch fitting	
NM	Mixed sizes and with port plug Note)	

Note) Indicate the sizes on the manifold specification sheet in the case of "CM", "NM".

❸ P, R port size

Symbol	Port size	
Nil	With ø8 One-touch fitting Note)	Metric
C6	With ø6 One-touch fitting	
C8	With ø8 One-touch fitting	
N7	With ø1/4" One-touch fitting	Inch
N9	With ø5/16" One-touch fitting	

Note) The cylinder port is ø5/16" when measured in inches.

❹ Kit type

Symbol	Protocol	Number of outputs	Communication connector
SD0	Without SI unit		
SQA	DeviceNet™	32	M12
SQB		16	
SNA	PROFIBUS DP	32	M12
SNB		16	
SNC		32	D-sub Note 1)
SND		16	
SVA	CC-Link	32	M12
SVB		16	
SDA	EtherCAT	32	M12
SDB		16	
SFA	PROFINET	32	M12
SFB		16	
SEA	EtherNet/IP™	32	M12
SEB		16	

Note 1) The maximum number of stations is determined by the total number of solenoids.
For mixed single and double wirings, enter "-K" to the order code options.
Note 2) For SI unit part number, refer to page 1.

Type of actuation	Single	Double, Dual 3-port
Number of solenoids	1	2

❺ SI unit output polarity

Nil	Positive common
N	Negative common

❻ Option

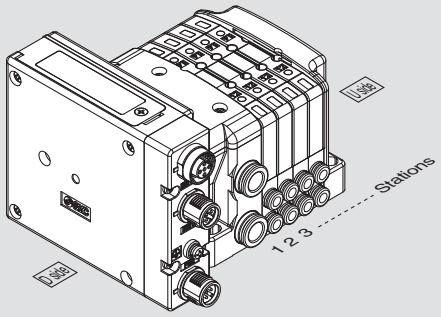
Symbol	Option
Nil	None
B Note 2)	With back pressure check valve (All stations)
D	With DIN rail (Rail length: Standard)
D0	Without DIN rail (With bracket)
D□ Note 3)	With DIN rail (Rail length specified, □: Stations)
K Note 4)	Special wiring specifications (Except double wiring)
N	With name plate
R Note 5)	External pilot
S	Built-in silencer

Note 1) When two or more options are specified, indicate them alphabetically.
Example) -BKN
Note 2) When the back pressure check valve is desired, and is to be installed only in certain manifold stations, specify the mounting position on the manifold specification sheet.
Note 3) The available number of stations is larger than the number of manifold stations.
Note 4) Indicate the wiring specifications for mixed single and double wirings.
Note 5) Refer to the S0700 series catalog (CAT.NAS11-88) for details.

* **Refer to the S0700 series catalog (CAT.NAS11-88) for manifold optional parts.**
* **Refer to the S0700 series catalog (CAT.NAS11-88) for manifold exploded view.**
* **When the "SD0" (Without SI unit) is specified, "-D", "-D□" cannot be selected.**

How to Order Manifold Assembly

Example (Serial transmission kit)



SS0750-04C4SNAN ···1 set – Manifold base part no.
∗S0720-5····· 4 sets – Valve part no. (Stations 1 to 4)
∗ Prefix the asterisk to the part nos. of the solenoid valve, etc.
Write sequentially from the 1st station on the D side.
When part nos. written collectively are complicated, specified on the manifold specification sheet.

• Specify the part numbers for valves and options together beneath the manifold base part number.

How to Order Valves

S07 1 0 □ – 5

Type of actuation

Symbol	Port size
1	2-position single
2	2-position double
A	4-position dual 3-port (N.C. + N.C.) [Exhaust center]
B	4-position dual 3-port (N.O. + N.O.) [Pressure center]
C	4-position dual 3-port (N.C. + N.O.)

Note) Refer to the S0700 series catalog (CAT.NAS11-88) for symbol.

Base mounted plug-in

Function

Symbol	Specification
Nil	Standard
R	External pilot Note)

Note) Not applicable for dual 3-port valves

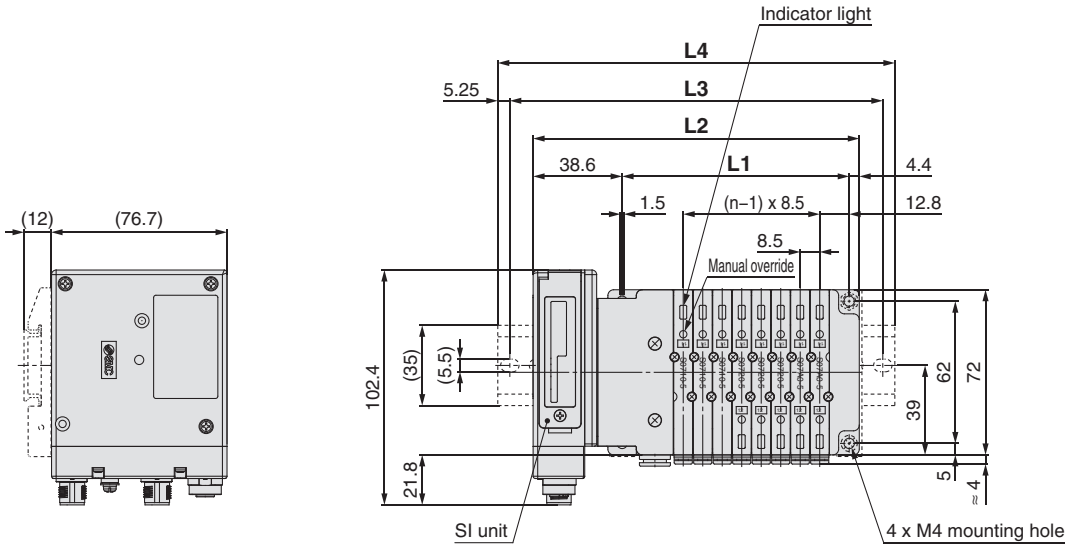
Voltage: 24 VDC

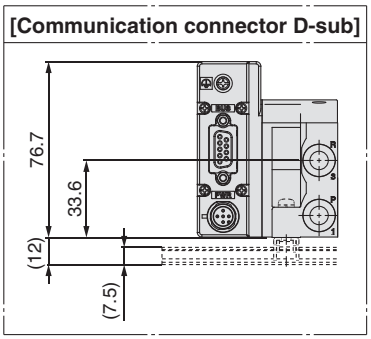
Refer to the SMC website or the S0700 series catalog (CAT.NAS11-88) for details on solenoid valve specifications, Common Precautions and Specific Product Precautions.

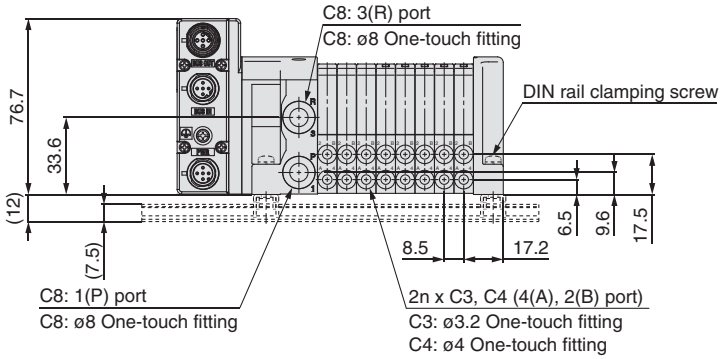
Dimensions

(mm)

SS0750
S Kit (Serial transmission kit: EX260)







Dimensions

Formula L1 = 8.5n + 31, L2 = 8.5n + 74 n: Station (Maximun 16 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	39.5	48	56.5	65	73.5	82	90.5	99	107.5	116	124.5	133	141.5	150	158.5	167
L2	82.5	91	99.5	108	116.5	125	133.5	142	150.5	159	167.5	176	184.5	193	201.5	210
L3	112.5	112.5	125	137.5	137.5	150	162.5	162.5	175	187.5	187.5	200	212.5	212.5	225	237.5
L4	123	123	135.5	148	148	160.5	173	173	185.5	198	198	210.5	223	223	235.5	248

Series EX260
Specific Product Precautions 1

Be sure to read before handling. Refer to back cover for Safety Instructions, "Handling Precautions for SMC Products" (M-E03-3) and "Operation Manual" for 3/4/5 Port Solenoid Valve Precautions. The Operation Manual can be downloaded from the SMC website, http://www.smcworld.com

Design/Selection

⚠Warning

1. Use this product within the specification range.

Using beyond the specified specifications range can cause fire, malfunction, or damage to the system.

Check the specifications before operation.

2. When using for an interlock circuit:

- **Provide a multiple interlock system which is operated by another system (such as mechanical protection function).**
- **Perform an inspection to confirm that it is working properly.**

This may cause possible injury due to malfunction.

⚠Caution

1. When applicable to UL, use a Class 2 power supply unit conforming to UL1310 for direct current power supply.

2. Use this product within the specified voltage range.

Using beyond the specified voltage range is likely to cause the units and connecting devices to be damaged or to malfunction.

3. Do not install a unit in a place where it can be used as a foothold.

Applying any excessive load such as stepping on the unit by mistake or placing a foot on it, will cause it to break.

4. Keep the surrounding space free for maintenance.

When designing a system, take into consideration the amount of free space needed for performing maintenance.

5. Do not remove the name plate.

Improper maintenance or incorrect use of operation manual can cause failure and malfunction. Also, there is a risk of losing conformity with safety standards.

Mounting

⚠Caution

1. When handling and assembling units:

- **Do not apply excessive force to the unit when disassembling.**

  The connecting portions of the unit are firmly joined with seals.
- **When joining units, take care not to get fingers caught between units.**

  Injury can result.

2. Do not drop, bump, or apply excessive impact.

Otherwise, the unit can become damaged, malfunction, or fail to function.

3. Observe the tightening torque range.

Tightening outside of the allowable torque range will likely damage the screw.

IP67 cannot be guaranteed if the screws are not tightened to the specified torque.

Mounting

⚠Caution

4. When lifting a large size manifold solenoid valve unit, take care to avoid causing stress to the valve connection joint.

The connection parts of the unit may be damaged. Because the unit may be heavy, carrying and installation should be performed by more than one operator to avoid strain or injury.

5. When placing a manifold, mount it on a flat surface.

Torsion in the whole manifold can lead to trouble such as air leakage or defective insulation.

Wiring

⚠Caution

1. Check the grounding to maintain the safety of the reduced wiring system and for anti-noise performance.

Provide a specific grounding as close to the unit as possible to minimize the distance to grounding.

2. Avoid repeatedly bending or stretching the cable and applying a heavy object or force to it.

Wiring applying repeated bending and tensile stress to the cable can break the circuit.

3. Avoid miswiring.

If miswired, there is a danger of malfunction or damage to the reduced wiring system.

4. Do not wire while energizing the product.

There is a danger of malfunction or damage to the reduced wiring system or output device.

5. Avoid wiring the power line and high pressure line in parallel.

Noise or surge produced by signal line resulting from the power line or high pressure line could cause malfunction.Wiring of the reduced wiring system or output device and the power line or high pressure line should be separated from each other.

6. Check the wiring insulation.

Defective insulation (contact with other circuits, improper insulation between terminals, etc.) may cause damage to the reduced wiring system or output device due to excessive voltage and current.

7. When a reduced wiring system is installed in machinery/equipment, provide adequate protection against noise by using noise filters, etc.

Noise in signal lines may cause malfunction.

Series EX260
Specific Product Precautions 2

Be sure to read before handling. Refer to back cover for Safety Instructions, "Handling Precautions for SMC Products" (M-E03-3) and "Operation Manual" for 3/4/5 Port Solenoid Valve Precautions. The Operation Manual can be downloaded from the SMC website, http://www.smcworld.com

Wiring

⚠Caution

8. When connecting wires of output device, prevent water, solvent or oil from entering inside the connector section.

This can cause damage, equipment failure or malfunction.

9. Avoid wiring patterns in which excessive stress is applied to the connector.

This may cause malfunction or damage to the unit due to contact failure.

10. Select connectors that are ø16 or less if mounting manifolds directly using fieldwireable connectors for SI unit power supply wiring.

Using large diameter connectors causes interference with the mounting surface.

The following cables with connectors are recommended.

■ For EX260-SPR□/-SDN□/-SEC□/-SPN□/-SEN□

<Cable with connector>

- EX500-AP□□□-□
- PCA-1401804/-1401805/-1401806

■ For EX260-SMJ□

<Cable with connector>

- EX9-AC□□□-1
- PCA-1401807/-1401808/-1401809

Operating Environment

⚠Warning

1.Do not use in an atmosphere containing an inflammable gas or explosive gas.

Use in such an atmosphere is likely to cause a fire or explosion. This system is not explosion-proof.

⚠Caution

1. Select the proper type of enclosure according to the environment of operation.

IP67 is achieved when the following conditions are met.

1) Provide appropriate wiring between all units using electrical wiring cables, communication connectors and cables with M12 connectors.

2) Suitable mounting of each unit and manifold valve.

3) Be sure to mount a seal cap on any unused connectors.

If using in an environment that is exposed to water splashes, please take measures such as using a cover.

When the enclosure is IP40, do not use in an operating environment or atmosphere where it may come in contact with corrosive gas, chemical agents, seawater, water, or water vapor.

When connected to the EX260-SPR5/6/7/8, manifold enclosure is IP40.

Operating Environment

⚠Caution

2. Provide adequate protection when operating in locations such as the following.

Failure to do so may cause damage or malfunction.

The effect of countermeasures should be checked in individual equipment and machine.

1) Where noise is generated by static electricity, etc.

2) Where there is a strong electric field

3) Where there is a danger of exposure to radiation

4) When in close proximity to power lines or high voltage lines

3. Do not use in an environment where oil and chemicals are used.

Operating in environments with coolants, cleaning solvents, various oils or chemicals may cause adverse effects (damage, malfunction) to the unit even in a short period of time.

4. Do not use in an environment where the product could be exposed to corrosive gas or liquid.

This may damage the unit and cause it to malfunction.

5. Do not use in locations with sources of surge generation.

Installation of the unit in an area around the equipment (electromagnetic lifters, high frequency induction furnaces, welding machine, motors, etc.), which generates the large surge voltage could cause to deteriorate an internal circuitry element of the unit or result in damage. Implement countermeasures against the surge from the generating source, and avoid touching the lines with each other.

6. The product is CE marked, but not immune to lightning strikes. Take measures against lightning strikes in your system.

7. Keep dust, wire scraps and other extraneous material from getting inside the product.

This may cause malfunction or damage.

8. Mount the unit in such locations, where no vibration or shock is affected.

This may cause malfunction or damage.

9. Do not use in places where there are cyclic temperature changes.

In case that the cyclic temperature is beyond normal temperature changes, the internal unit is likely to be adversely effec-ted.

10. Do not use in direct sunlight.

Do not use in direct sunlight. It may cause malfunction or damage.

11. Use this product within the specified ambient temperature range.

This may cause malfunction.

12. Do not use in places where there is radiated heat around it.

Such a place is likely to cause malfunction.

Series EX260
Specific Product Precautions 3

Be sure to read before handling. Refer to back cover for Safety Instructions, "Handling Precautions for SMC Products" (M-E03-3) and "Operation Manual" for 3/4/5 Port Solenoid Valve Precautions. The Operation Manual can be downloaded from the SMC website, http://www.smcworld.com

Adjustment/Operation

⚠Warning

1. Do not perform operation or setting with wet hands.

There is a risk of electrical shock.

⚠Caution

1. Use a watchmakers' screwdriver with thin blade for the setting of each switch of the SI unit.
When setting the switch, do not touch other unrelated parts.

This may cause parts damage or malfunction due to a short circuit.

2. Provide adequate setting for the operating conditions.

Failure to do so could result in malfunction.
Refer to the operation manual for setting of the switches.

3. For details on programming and address setting, refer to the manual from the PLC manufacturer.

The content of programming related to protocol is designed by the manufacturer of the PLC used.

4. For the EX260-SPN□, the side of the SI unit may become hot.

It may cause burns.

Maintenance

⚠Warning

1. Do not disassemble, modify (including circuit board replacement) or repair this product.

Such actions are likely to cause injuries or breakage.

2. When an inspection is performed,
- **Turn off the power supply.**
- **Stop the air supply, exhaust the residual pressurein piping and verify that the air is released before performing maintenance work.**

Unexpected malfunction of system components and injury can result.

⚠Caution

1. When handling and replacing the unit:
- **Do not apply excessive force to the unit when disassembling.**

The connecting portions of the unit are firmly joined with seals.
- **When joining units, take care not to get fingers caught between units.**

Injury can result.

2. Perform periodic inspection.

Unexpected malfunction in the system composition devices is likely to occur due to malfunction of machinery or equipment.

3. After maintenance, make sure to perform an appropriate functionality inspection.

In cases of abnormality such as faulty operation, stop operation. Unexpected malfunction in the system composition devices is likely to occur.

4. Do not use benzene and thinner for cleaning units.

Damage to the surface or erasure of the display can result.
Wipe off any stains with a soft cloth.
If the stain is persistent, wipe off with a cloth soaked in a dilute solution of neutral detergent and wrung out tightly, and then finish with a dry cloth.

Other

⚠Caution

1. Refer to the catalog of each series for Common Precautions and Specific Product Precautions on manifold solenoid valves.

⚠ Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of **"Caution," "Warning"** or **"Danger."** They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)*1), and other safety regulations.

⚠ Caution: **Caution** indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

⚠ Warning: **Warning** indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

⚠ Danger : **Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

*1) ISO 4414: Pneumatic fluid power – General rules relating to systems.
ISO 4413: Hydraulic fluid power – General rules relating to systems.
IEC 60204-1: Safety of machinery – Electrical equipment of machines.
(Part 1: General requirements)
ISO 10218-1: Manipulating industrial robots - Safety.
etc.

⚠ Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.
Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.
The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

3. Do not service or attempt to remove product and machinery/ equipment until safety is confirmed.
1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

4. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.
1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog.
3. An application which could have negative effects on people, property, or animals requiring special safety analysis.
4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

⚠ Caution

1. The product is provided for use in manufacturing industries.
The product herein described is basically provided for peaceful use in manufacturing industries.
If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary.
If anything is unclear, contact your nearest sales branch.

Limited warranty and Disclaimer/ Compliance Requirements

The product used is subject to the following "Limited warranty and Disclaimer" and "Compliance Requirements".
Read and accept them before using the product.

Limited warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered.*2)
Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.
This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.

*2) **Vacuum pads are excluded from this 1 year warranty.**
A vacuum pad is a consumable part, so it is warranted for a year after it is delivered.
Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

Compliance Requirements

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

Revision history	
Edition B	● EtherNet/IP™ added to applicable Fieldbus protocols.
	QS

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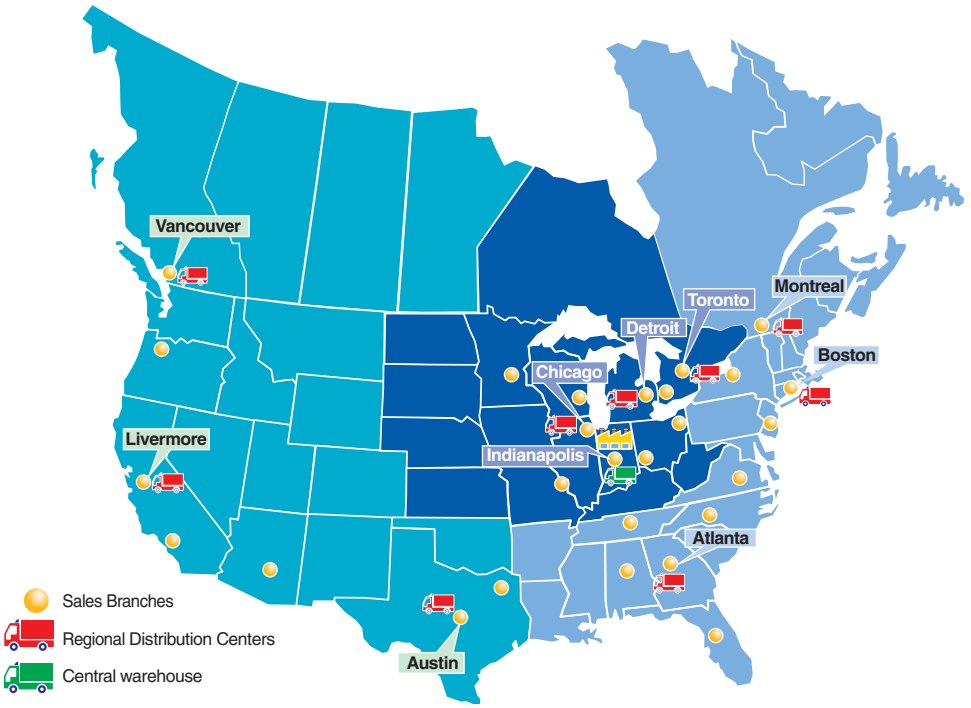

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QT-RRD-5M