

How to Order

Series

1	SV1000
2	SV2000
3	SV3000
4	SV4000

Tie-rod base

Cassette base

SS5V 1 — **W 10S** **A1W** **D** — **05** **U** — [] — [] — []

SS5V 1 — **W 16S** **A1W** **D** — **05** **U** — [] — [] — []

Series

1	SV1000
2	SV2000

Enclosure IP67 specification

SI unit specification

A1W	For remote I/O
A2W	For DeviceNet/PROFIBUS-DP
0	Without SI unit

Valve stations

Symbol	Stations	Note
02	2 stations	Double wiring specification Note 1)
...	...	
08	8 stations	Specified layout (Up to 16 solenoids possible.) Note 2)
02	2 stations	
...	...	
16	16 stations	

P, E port position

U	U side (2 to 10 stations)
D	D side (2 to 10 stations)
B	Both sides (2 to 16 stations)

Supply/Exhaust block assembly specification

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

* When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

Mounting

Nil	Direct mount
D	DIN rail mount (with DIN rail)
D0 Note)	DIN rail mount (without DIN rail)
D3	For 3 stations
...	...
D16	For 16 stations

Note) In case of D0, only DIN rail fittings are attached.

DIN rail length

Nil	Standard length
3	For 3 stations
...	...
16	For 16 stations

Specify a rail longer than the standard length.

Note 1) Double wiring specification: Single, double and 3 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 wiring specifications on a manifold specification sheet. (Note that double and 3 position valves cannot be used where single solenoid wiring has been specified.)

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	ø10 One-touch fitting	SV2000	
C4	ø4 One-touch fitting			
C6	ø6 One-touch fitting			
C8	ø8 One-touch fitting	ø12 One-touch fitting	SV3000	
C6	ø6 One-touch fitting			
C8	ø8 One-touch fitting	ø12 One-touch fitting	SV4000	
C10	ø10 One-touch fitting			
C8	ø8 One-touch fitting			
C10	ø10 One-touch fitting			
C12	ø12 One-touch fitting			
02	Rc 1/4	Rc 3/8		
03	Rc 3/8			
02F	G 1/4	G 3/8		
03F	G 3/8			
M	A, B ports mixed			

A, B port size (inch)

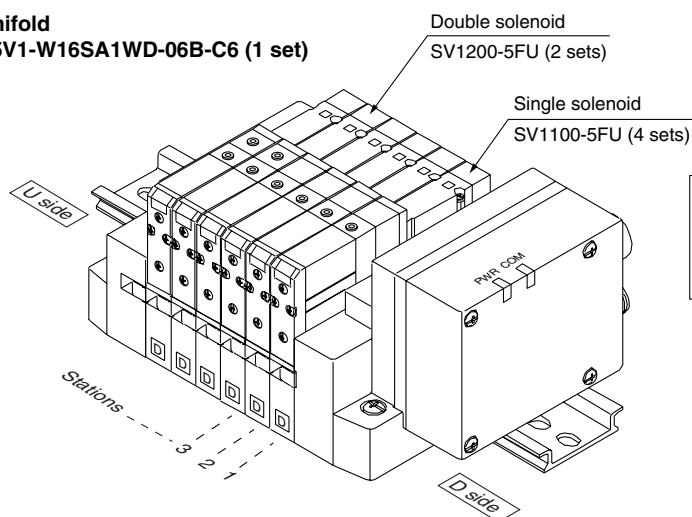
Symbol	A, B port	P, E port	Applicable series
N1	ø1/8" One-touch fitting	ø5/16" One-touch fitting	SV1000
N3	ø5/32" One-touch fitting		
N7	ø1/4" One-touch fitting	ø3/8" One-touch fitting	SV2000
N3	ø5/32" One-touch fitting		
N7	ø1/4" One-touch fitting	ø3/8" One-touch fitting	SV3000
N9	ø5/16" One-touch fitting		
N7	ø1/4" One-touch fitting	ø3/8" One-touch fitting	SV4000
N9	ø5/16" One-touch fitting		
N11	ø3/8" One-touch fitting	ø3/8" One-touch fitting	SV4000
N9	ø5/16" One-touch fitting		
N11	ø3/8" One-touch fitting	NPT 3/8	SV4000
02N	NPT 1/4		
03N	NPT 3/8	NPTF 3/8	SV4000
02T	NPTF 1/4		
03T	NPTF 3/8		
M	A, B ports mixed		

* In case of mixed specification (M), indicate separately on a manifold specification sheet.

How to Order Manifold Assemblies (Order Example)

Example (SV1000)

Manifold
SS5V1-W16SA1WD-06B-C6 (1 set)



SS5V1-W16SA1WD-06B-C6 1 set (manifold part no.)
 * SV1100-5FU 4 sets (single solenoid part no.)
 * SV1200-5FU 2 sets (double solenoid part no.)

How to Order Solenoid Valves

SV 1 1 0 0 — 5 F

Note) Available with manifold block for station additions. Refer to pages 77 and 81.

Series

1	SV1000
2	SV2000
3	SV3000
4	SV4000

Type of actuation

1	2 position single solenoid
2	2 position double solenoid
3	3 position closed center
4	3 position exhaust center
5	3 position pressure center
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 series SV1000 and SV2000 only.

Pilot specification

Nil	Internal pilot
R	External pilot

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

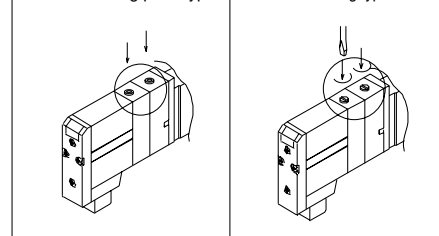
Back pressure check valve

Nil	None
K	Built-in

* Built-in back pressure check valve type is applicable to series SV1000 only.
 * Back pressure check valve is not available for 3 position closed center and 3 position pressure center.
 * Effective area of the built-in back pressure check valve type is reduced approximately 20%.

Manual override

Nil: Non-locking push type D: Slotted locking type



Light/Surge voltage suppressor

U	With light and surge voltage suppressor
R	With surge voltage suppressor

Rated voltage

5	24VDC
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Gateway (GW) Unit



Specifications

Model	EX500-GAB1-X1	EX500-GDN1	EX500-GPR1
Applicable PLC/Communication protocol	Rockwell Automation PLC	DeviceNet Release 2.0	PROFIBUS-DP
Communication speed	57.6Kbit/sec, 115.2Kbit/sec 230.4Kbit/sec	125Kbit/sec, 250Kbit/sec 500Kbit/sec	9.6/19.2/93.75/187.5/500Kbit/sec 1.5/3/6/12Mbit/sec
Rated voltage	24VDC		
Power supply voltage range	Input and control unit power supply: 24VDC ±10% Solenoid valve power supply: 24VDC +10%/–5% (power drop warning at approx. 20V)		
Current consumption	200mA or less		
Number of inputs/outputs	Maximum 64 inputs/64 outputs		
Number of input/output branches	4 branches (16 inputs/16 outputs per branch)		
Branch cable	8 core heavy duty cable		
Branch cable length	5m or less (total extension 10m or less)		
Communication connector	M12 connector (8 pins, socket)		
Power connector	M12 connector (5 pins, plug)		
Ambient operating temperature/humidity	+5°C to +45°C/35% to 85%RH (no condensation)		
Enclosure	IP65		
Applicable standard	UL, CSA, CE		
Weight g	470		

* Communication cables and connectors are sold separately.
Refer to options on page 15.

How to Order

EX500 — G **DN** 1

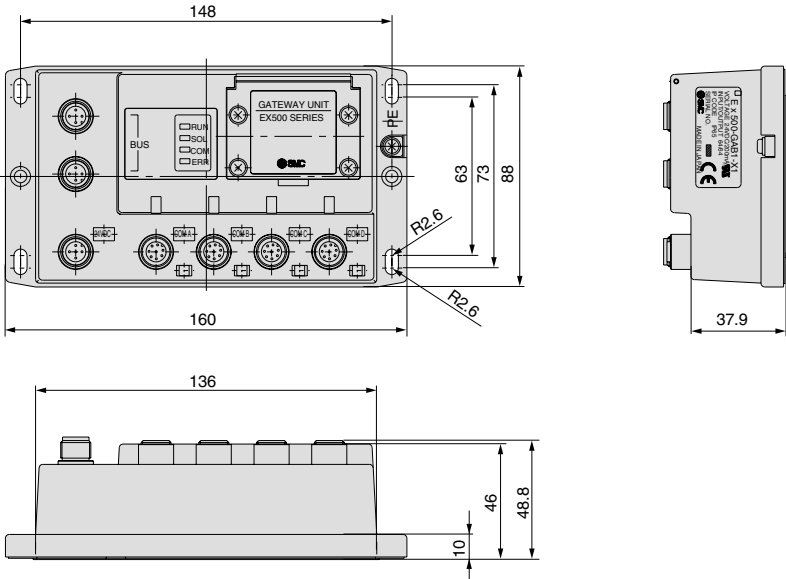
Communication protocol

DN	DeviceNet
PR	PROFIBUS-DP
AB	Remote I/O (RIO)

Applicable GW unit

Nil	DeviceNet PROFIBUS-DP
-X1	Remote I/O (RIO)

Dimensions



How to Order Input Manifolds

How to Order Input Blocks

Input unit
manifold

EEX500—IB1—E 8

Input unit specification

Connector type

E	M8 connector
T	M12 connector
M	M8, M12 mixed

Stations

1	1 station
...	...
8	8 stations

Applicable GW unit

Nil	DeviceNet PROFIBUS-DP
-X1	Remote I/O (RIO)

EX500 — IE 1

Block type

1	M8 connector, PNP specification
2	M8 connector, NPN specification
3	M12 connector, PNP specification
4	M12 connector, NPN specification
5	8 point integrated type, M8 connector, PNP specification
6	8 point integrated type, M8 connector, NPN specification

Applicable GW unit

Nil	DeviceNet PROFIBUS-DP
-X1	Remote I/O (RIO)

Input Unit Specifications

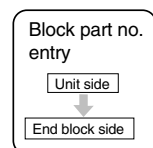
Connection block	Current source type input block (PNP input block) or Current sink type input block (NPN input block)
Communication connector	M12 connector (8 pins, plug)
Number of connection blocks	Maximum 8 blocks
Block supply voltage	24VDC
Block supply current	0.65A maximum
Current consumption	100mA or less (at rated voltage)
Short circuit protection	Operates at 1ATyp. (power supply cut) GW unit reset by turning power OFF and back ON.
Enclosure	IP65
Weight g (lbs) ^{Note)}	100 (Input unit + End block) (.22)

Note) Since the DIN rail weight is not included, confirm the DIN rail length being used on page 13, and add the weight found in the DIN rail dimension table on page 85.

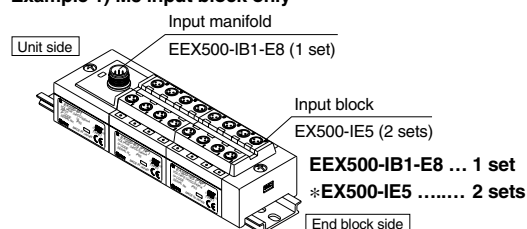
Input Block Specifications

Applicable sensor	Current source type (PNP output) or Current sink type (NPN output)
Sensor connector	M8 connector (3 pins) or, M12 connector (4 pins)
Number of inputs	2 inputs/8 inputs (M8 only)
Rated voltage	24VDC
Indication	Green LED
Insulation	None
Sensor supply current	Maximum 30mA/Sensor
Enclosure	IP65
Weight g	[For M8: 20] [For M12: 40] [8 point integrated type, for M8: 55]

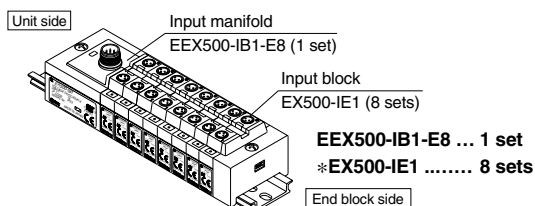
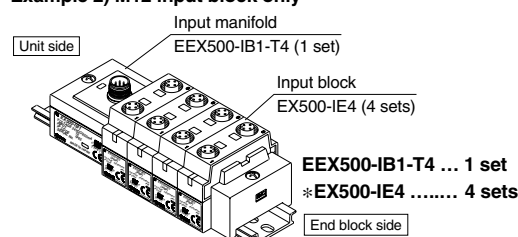
How to Order Input Unit Manifolds [Order Example]



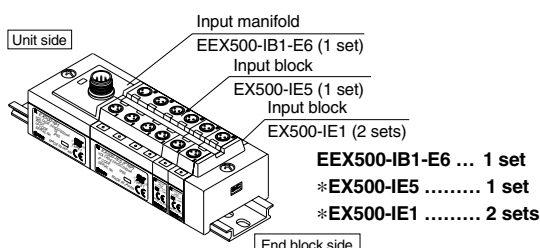
Example 1) M8 input block only



Example 2) M12 input block only



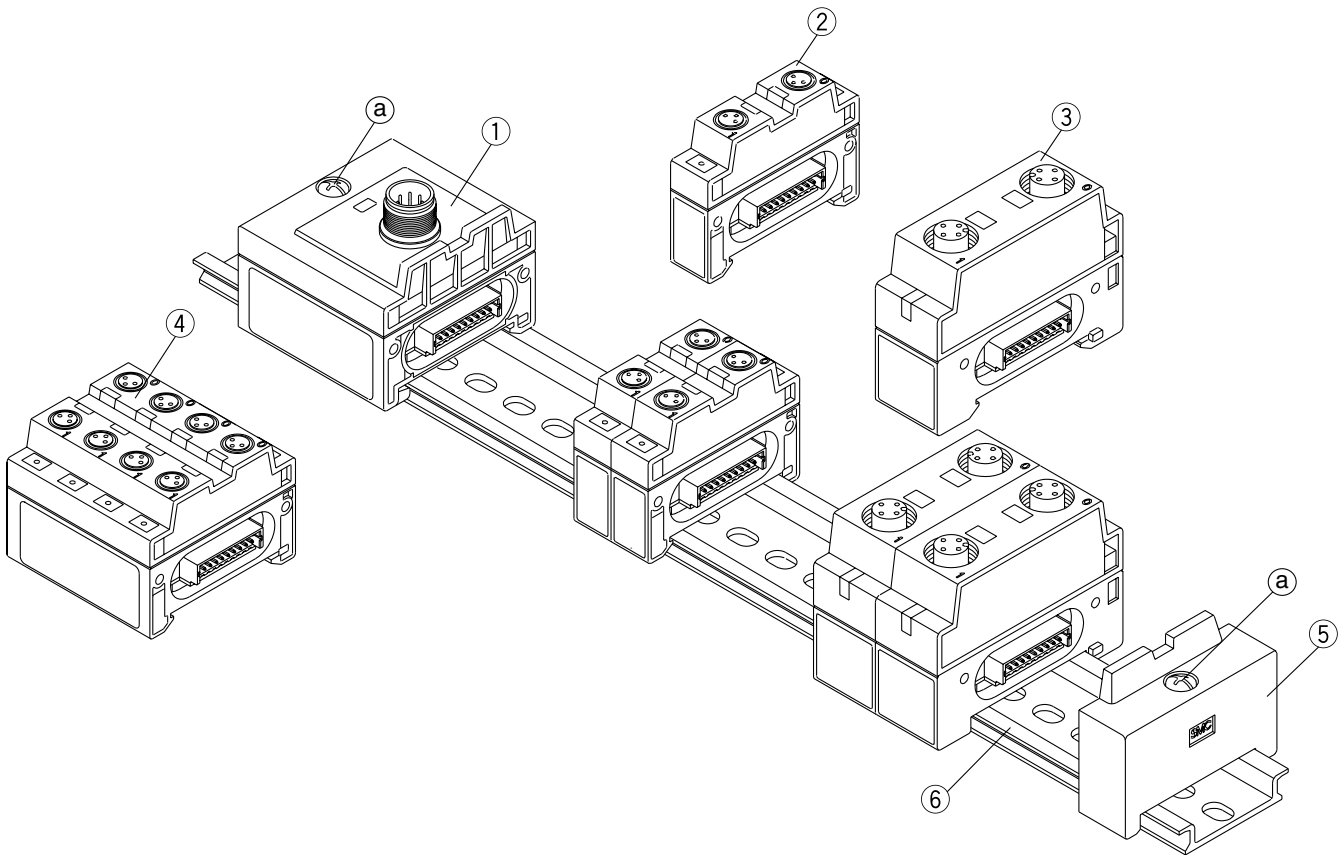
Example 3) M8 and M12 mixed



Note) • Since the 8 point integrated type input block is equivalent to the length of four stations on an M8 input block, pay attention to the number of stations on an input manifold.

• When an input block layout becomes complicated, indicate on an input unit manifold specification sheet.

Input Unit Manifold Exploded View



Parts list

No.	Description	Part no.		Note
		For standard	For RIO	
1	Input unit	EX500-IB1	EX500-IB1-X1	
2	Input block (M8 connector)	EX500-IE□	EX500-IE□-X1	PNP specifications ... □: 1, NPN specifications ... □: 2
3	Input block (M12 connector)	EX500-IE□	EX500-IE□-X1	PNP specifications ... □: 3, NPN specifications ... □: 4
4	8 input block (M8 connector)	EX500-IE□	EX500-IE□-X1	PNP specifications ... □: 5, NPN specifications ... □: 6
5	End block	EX500-EB1		
6	DIN rail	VZ1000-11-1-□		□: Length (Refer to page 85.)

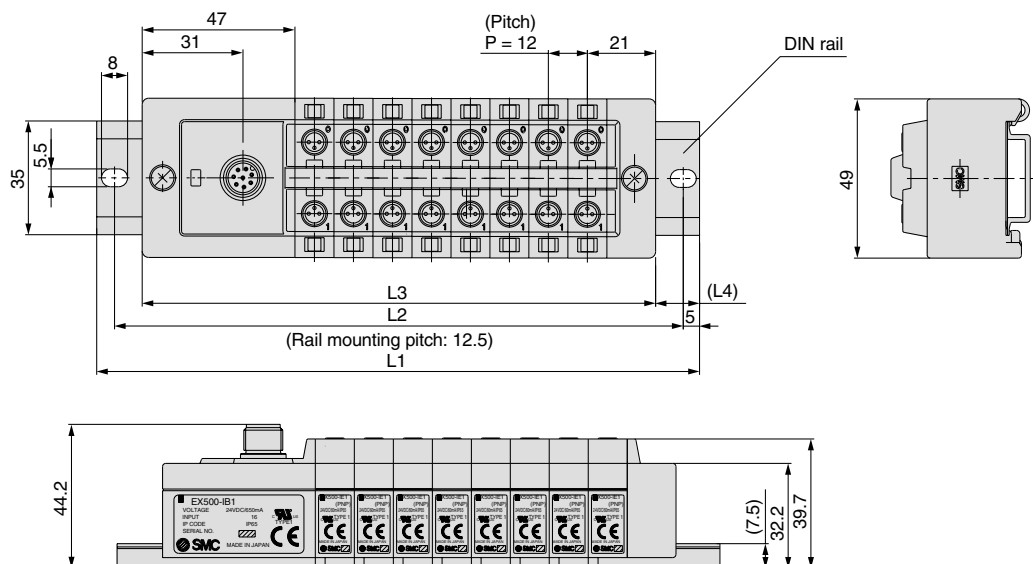
How to add input block stations

- 1 Loosen the screws (a) (2 places) that are holding the end blocks.
- 2 Separate the blocks at the locations where stations are to be added.
- 3 Attach the additional blocks to the DIN rail, and connect the blocks so that they fit together securely.
- 4 While holding the blocks together so that there are no gaps between them, secure them to the DIN rail by tightening the screws (a).
Note: Be sure to tighten the screws with the prescribed tightening torque. (0.6N·m)

Input Unit Manifold Dimensions

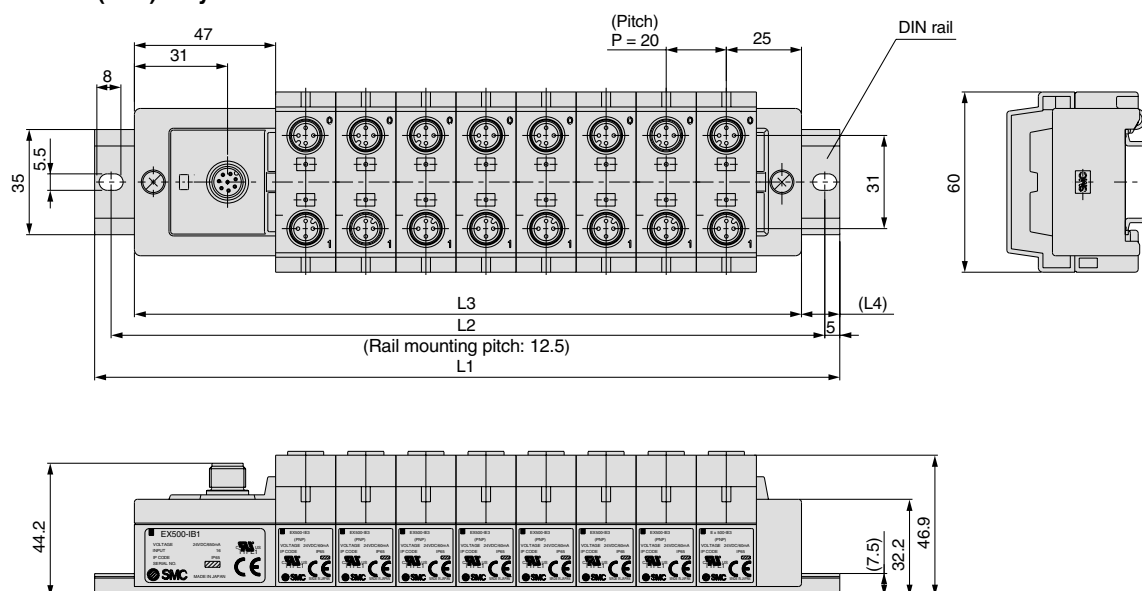
Input block (M8) only

1in = 25.4mm



Stations	1	2	3	4	5	6	7	8
Rail length L1	98	110.5	123	135.5	148	160.5	173	185.5
Mounting pitch L2	87.5	100	112.5	125	137.5	150	162.5	175
Manifold length L3	74	86	98	110	122	134	146	158
L4	12	12	12.5	12.5	13	13	13.5	13.5

Input block (M12) only



Stations	1	2	3	4	5	6	7	8
Rail length L1	110.5	123	148	173	185.5	210.5	223	248
Mounting pitch L2	100	112.5	137.5	162.5	175	200	212.5	237.5
Manifold length L3	82	102	122	142	162	182	202	222
L4	12	12	12.5	12.5	13	13	13.5	13.5



Refer to page 3 for valve specifications.

How to Order SI Unit

EX500 – S001



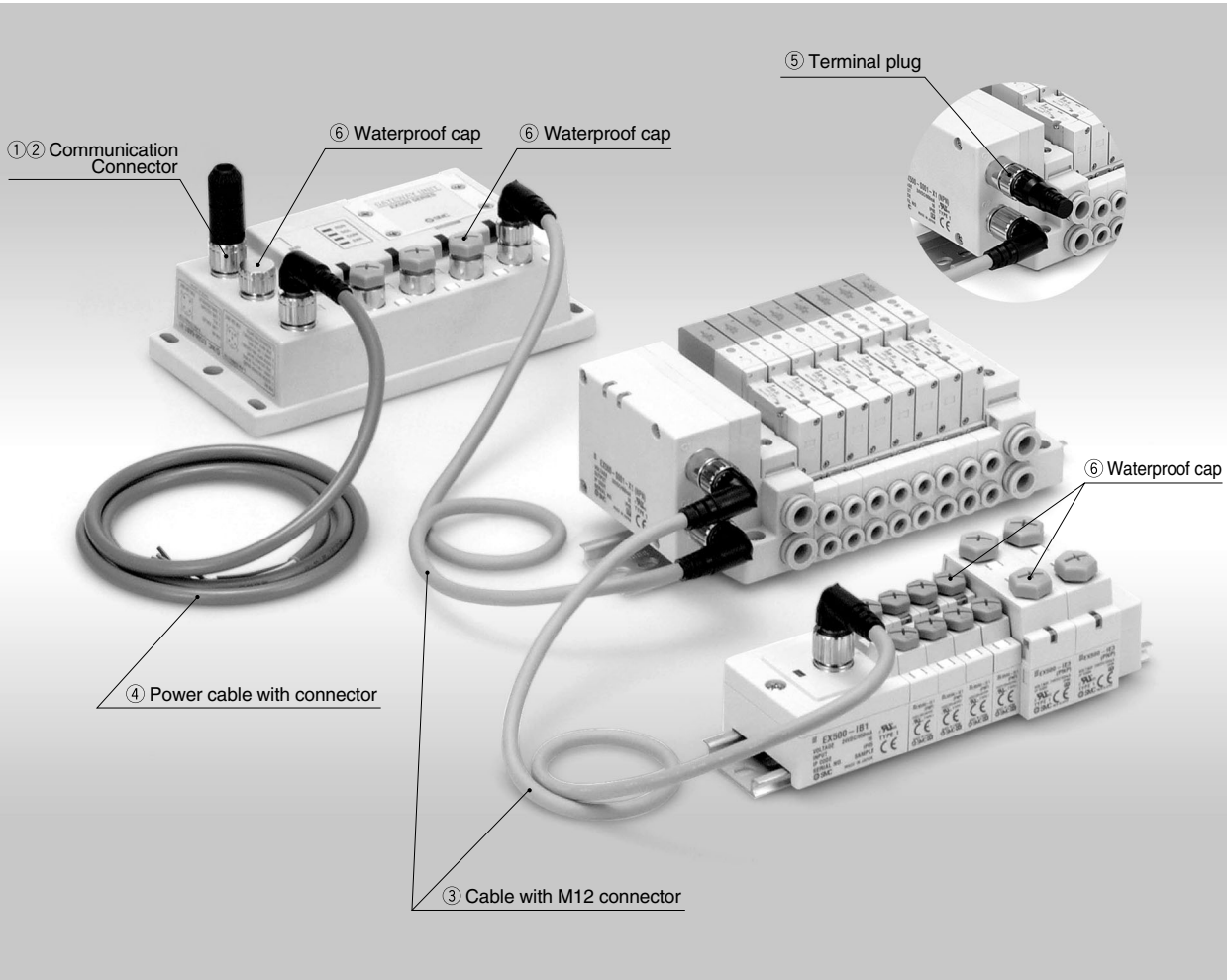
● Applicable GW unit

Nil	DeviceNet PROFIBUS-DP
-X1	Remote I/O (RIO)

Specifications

Connection block	Solenoid valve (single, double) Relay output module (1 output, 2 outputs)
Communication connector	M12 connector (8 pins, plug, socket)
Connection block stations	Double solenoid valve Relay output module (2 points): Maximum 8 stations Single solenoid valve Relay output module (1 point): Maximum 16 stations
Block supply voltage	24VDC
Block supply current	0.65A maximum
Current consumption	100mA or less (at rated voltage)
Weight g (lbs)	115 (.25)

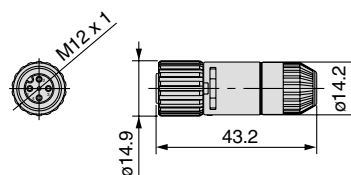
Options



Options

① Communication connector (for RIO type GW unit)

EX500 — AC000 — AB



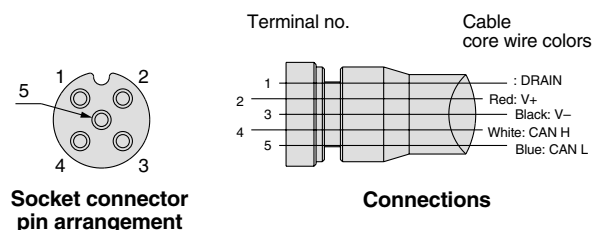
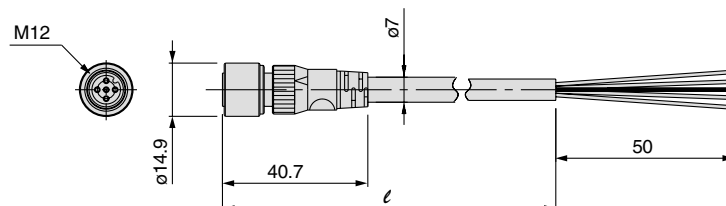
Compatible cable size
ø6 (ø5 to ø6)

② Communication connector cable (for DeviceNet type GW unit)

EX 500 — AC 050 — DN

Cable length (ℓ)

010	1m (3.24ft)
050	5m (17.20ft)



③ Cable with M12 connector

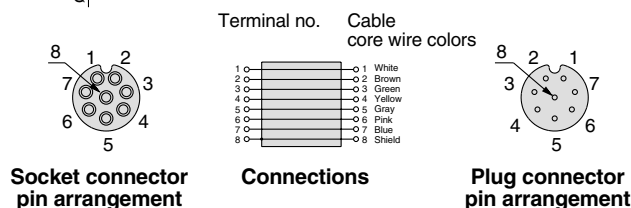
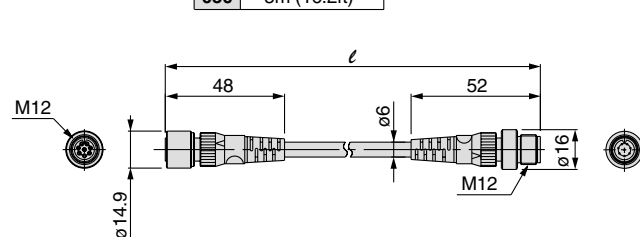
EX500 — AC 030 — SSPS

Cable length (ℓ)

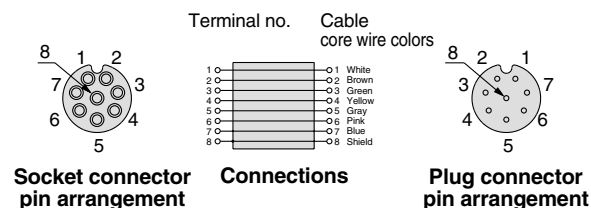
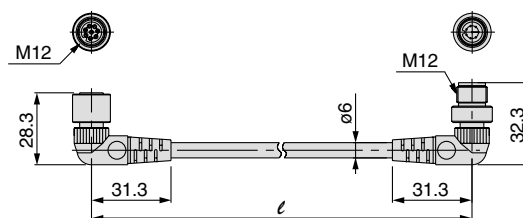
003	0.3m (.97ft)
005	0.5m (1.62ft)
010	1m (3.24ft)
030	3m (9.72ft)
050	5m (16.2ft)

Connector specification

SSPS	Socket side: Straight, Plug side: Straight
SAPA	Socket side: Angle, Plug side: Angle



Straight connector type



Angle connector type

Options

1in = 25.4mm

④ Power cable with connector

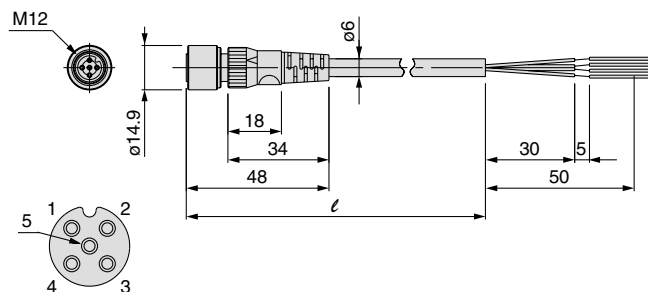
EX500 — AP 050 — S

Cable length (ℓ)

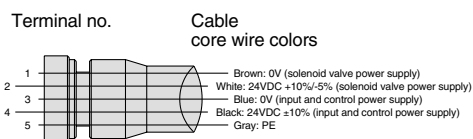
010	1m (3.24ft)
050	5m (16.2ft)

Connector specifications

S	Straight
A	Angle

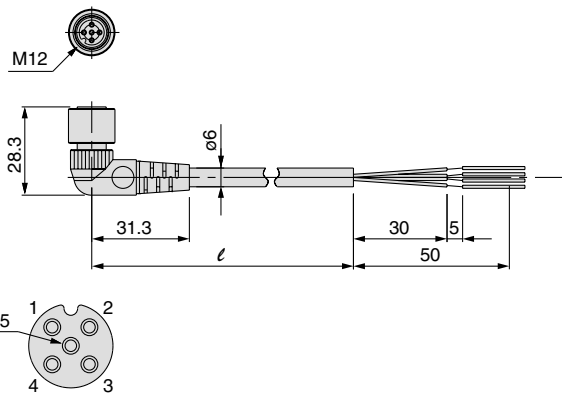


Socket connector pin arrangement

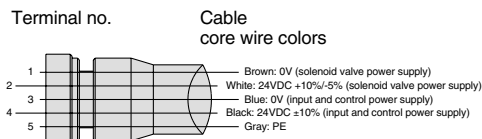


Connections

Straight connector type



Socket connector pin arrangement



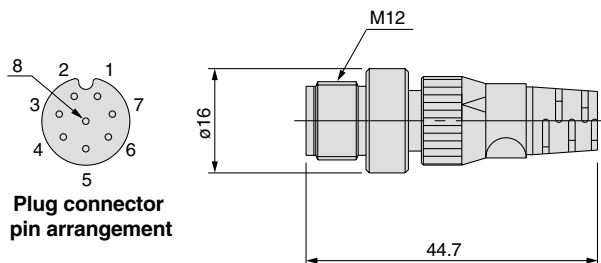
Connections

Angle connector type

⑤ Terminal plug

This is used where an input manifold (input unit/input block) is not being used.
(If a terminal plug is not used, the GW unit's COM LED will not light up.)

EX500 — AC000 — S



Plug connector pin arrangement

⑥ Waterproof cap

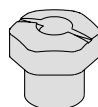
Use this on ports that are not being used for a GW unit or input block.
Use of this waterproof cap maintains the integrity of the IP65 enclosure.
(Included with each input block.)

Note) Tighten the waterproof cap with the prescribed tightening torque. (For M8: 0.05N·m, For M12: 0.1N·m)

EX500 — AW

Connector type

ES	M8 connector (for socket)
TP	M12 connector (for plug)
TS	M12 connector (for socket)



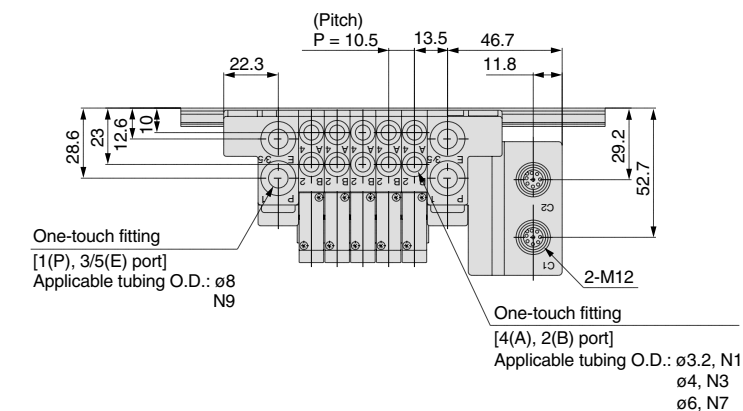
Waterproof cap

Dimensions: Series SV1000 for EX500 Decentralized Serial Wiring

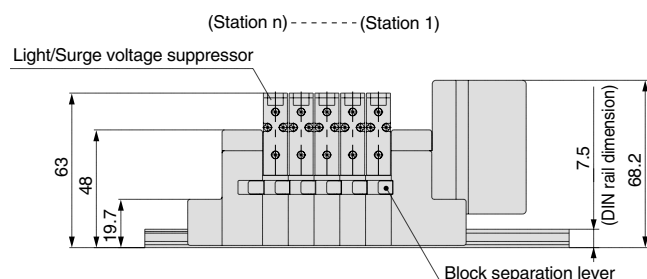
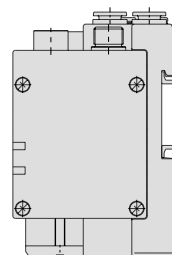
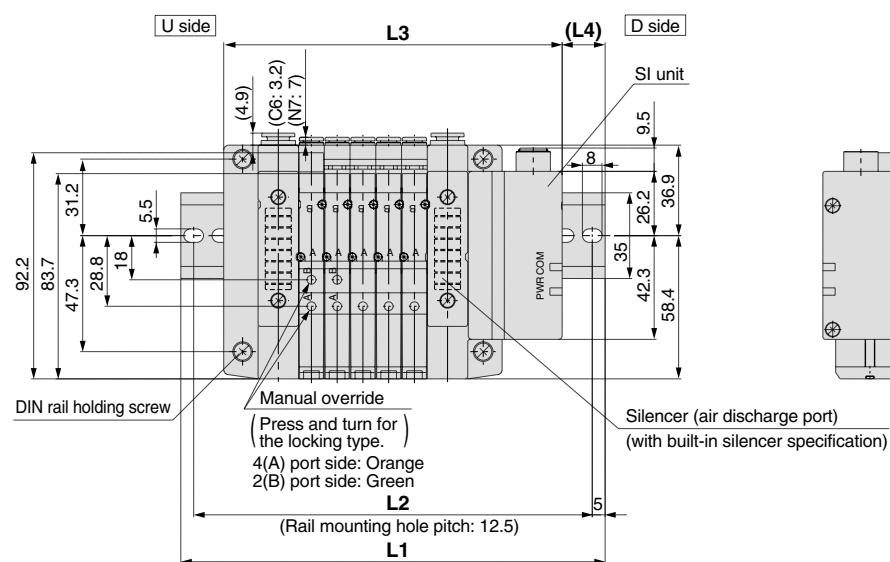
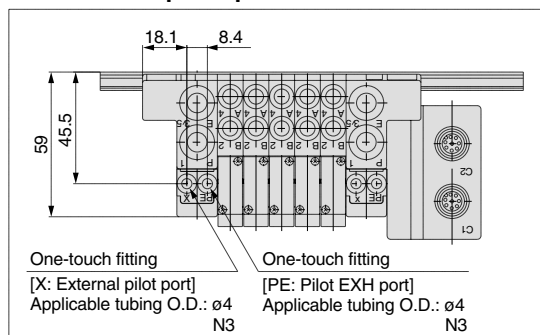
1in = 25.4mm

• Cassette base manifold: **SS5V1-W16SA□WD** - Stations $\begin{matrix} U \\ D \\ B \end{matrix}$ (S, R, RS) - $\begin{matrix} C3, N1 \\ C4, N3 \\ C6, N7 \end{matrix}$

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



With external pilot specification



L dimensions

n: Stations

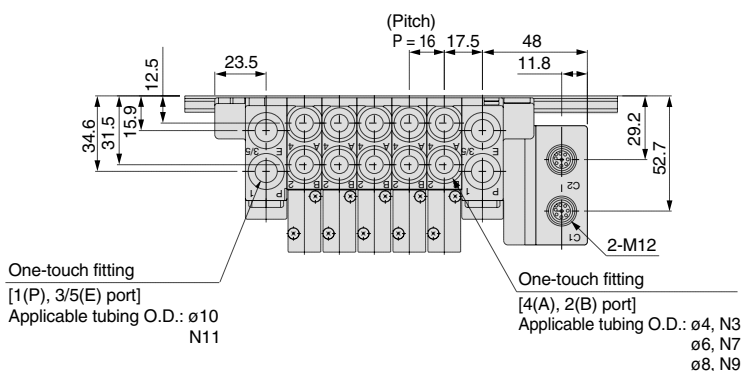
n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	135.5	148	160.5	173	173	185.5	198	210.5	223	235.5	235.5	248	260.5	273	285.5
L2	125	137.5	150	162.5	162.5	175	187.5	200	212.5	225	225	237.5	250	262.5	275
L3	106.5	117	127.5	138	148.5	159	169.5	180	190.5	201	211.5	222	232.5	243	253.5
L4	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5	12	13	14	15	16

Dimensions: Series SV2000 for EX500 Decentralized Serial Wiring

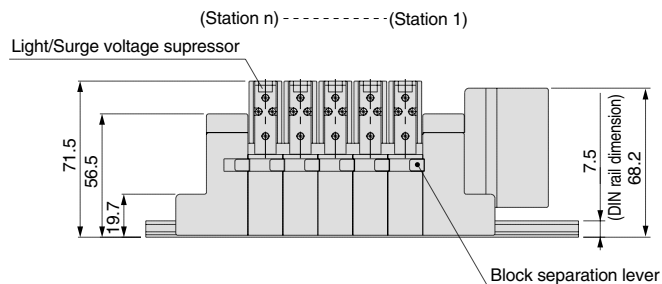
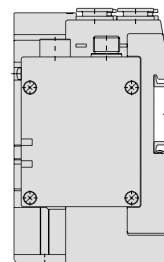
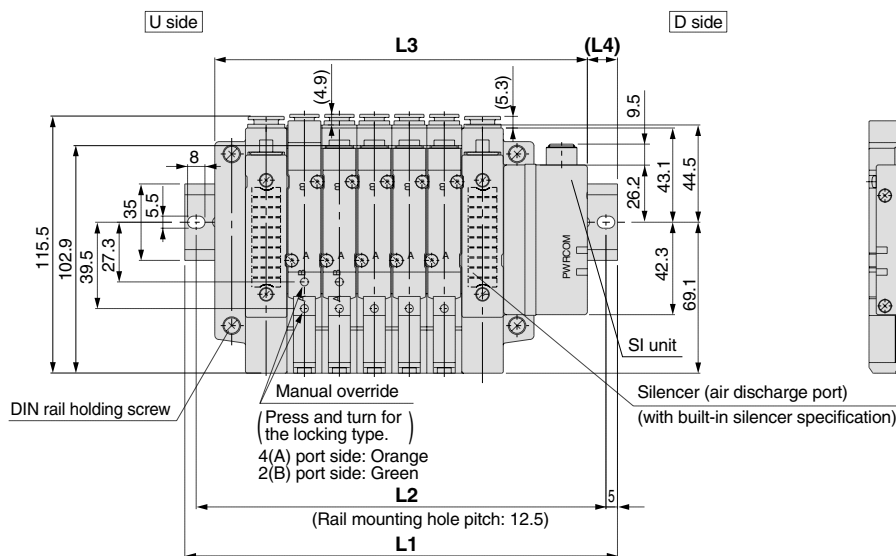
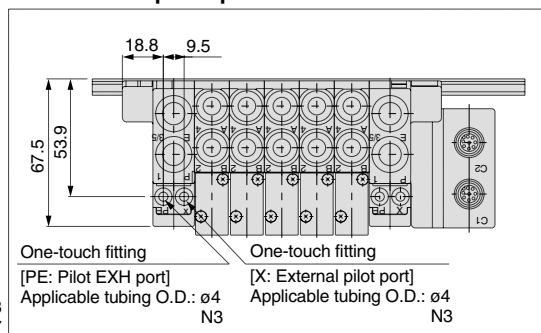
• Cassette base manifold: **SS5V2-W16SA** ☐ **WD** - Stations $\begin{matrix} \text{U} \\ \text{D} \\ \text{B} \end{matrix}$ (**S, R, RS**) - $\begin{matrix} \text{C4, N3} \\ \text{C6, N7} \\ \text{C8, N9} \end{matrix}$

1in = 25.4mm

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



With external pilot specification



L dimensions

n: Stations

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	148	173	185.5	198	210.5	235.5	248	260.5	285.5	298	310.5	323	348	360.5	373
L2	137.5	162.5	175	187.5	200	225	237.5	250	275	287.5	300	312.5	337.5	350	362.5
L3	122.5	138.5	154.5	170.5	186.5	202.5	218.5	234.5	250.5	266.5	282.5	298.5	314.5	330.5	346.5
L4	13	17.5	15.5	14	12	16.5	15	13	17.5	16	14	12.5	17	15	13.5

Dimensions: Series SV1000 for EX500 Decentralized Serial Wiring

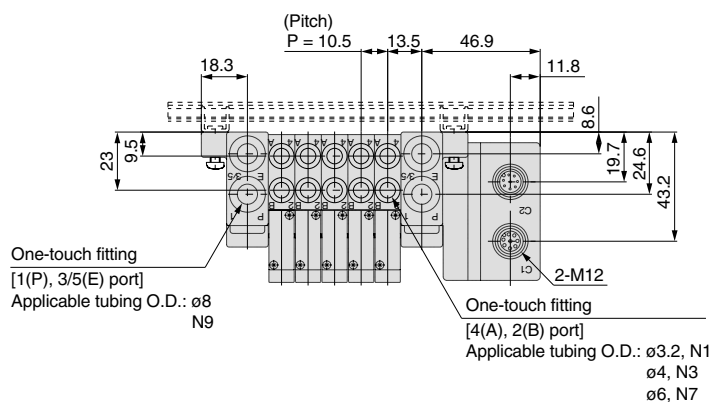
• Tie-rod base manifold: **SS5V1-W10SA** ☐ **WD** - ☐ Stations

U	C3, N1
D	C4, N3
R	C6, N7

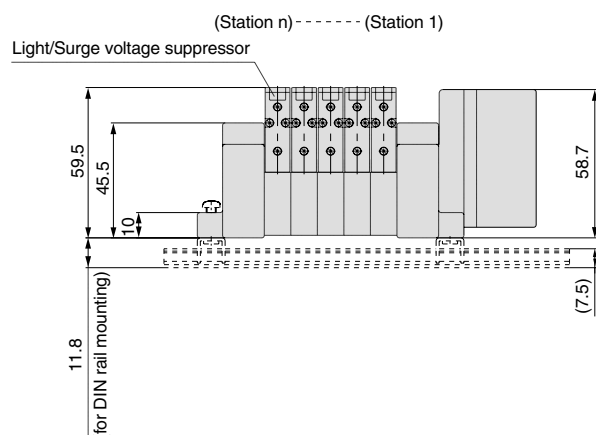
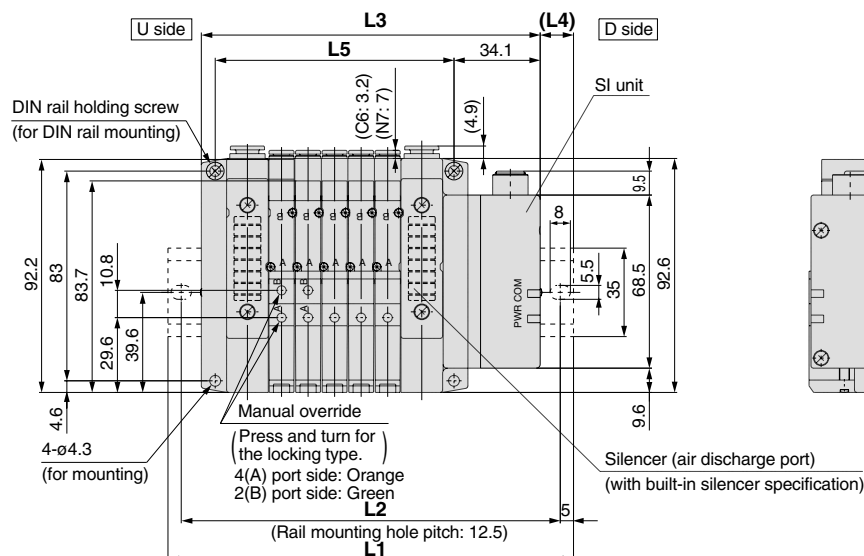
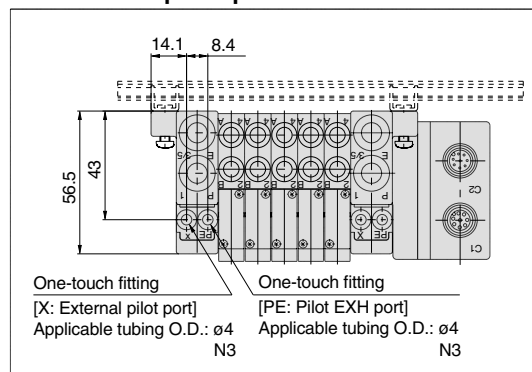
(S, R, RS) (-D)

1in = 25.4mm

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



With external pilot specification



L dimensions

L dimensions															n: Stations	
L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
L1	135.5	148	148	160.5	173	185.5	198	210.5	210.5	223	235.5	248	260.5	273	273	
L2	125	137.5	137.5	150	162.5	175	187.5	200	200	212.5	225	237.5	250	262.5	262.5	
L3	102.6	113.1	123.6	134.1	144.6	155.1	165.6	176.1	186.6	197.1	207.6	218.1	228.6	239.1	249.6	
L4	16.5	17.5	12	13	14	15	16	17	12	13	14	15	16	17	11.5	
L5	63	73.5	84	94.5	105	115.5	126	136.5	147	157.5	168	178.5	189	199.5	210	

Dimensions: Series SV2000 for EX500 Decentralized Serial Wiring

1in = 25.4mm

• Tie-rod base manifold: **SS5V2-W10SA** ☐ **WD** -

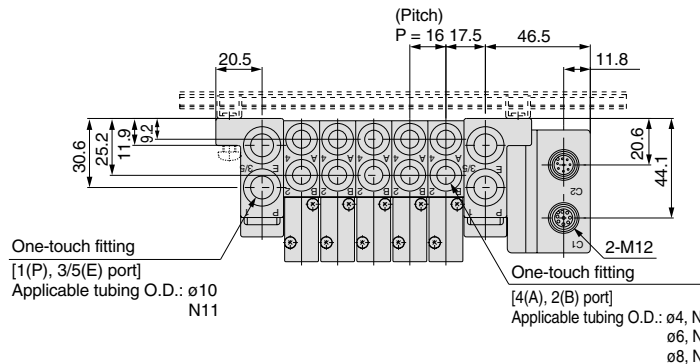
U
D

(S, R, RS) -

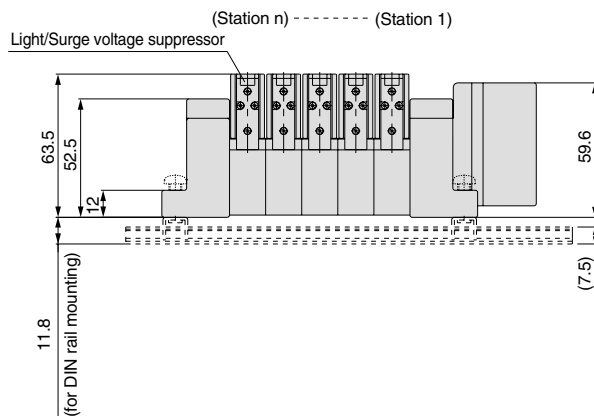
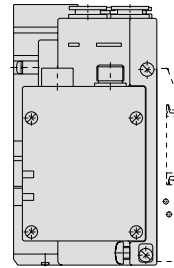
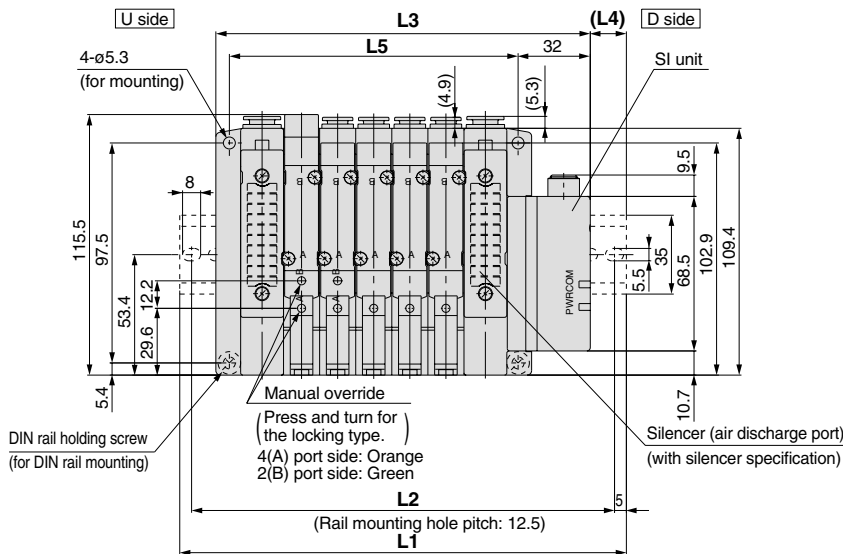
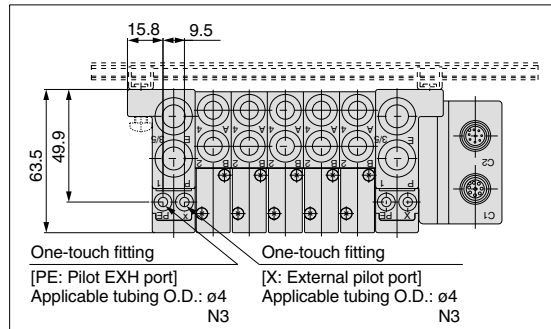
C4, N3
C6, N7
C8, N9

(-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.



With external pilot specification



L dimensions

n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	148	160.5	185.5	198	210.5	223	248	260.5	273	285.5	310.5	323	335.5	360.5	373
L2	137.5	150	175	187.5	200	212.5	237.5	250	262.5	275	300	312.5	325	350	362.5
L3	118	134	150	166	182	198	214	230	246	262	278	294	310	326	342
L4	15	13.5	18	16	14.5	12.5	17	15.5	13.5	12	16.5	14.5	13	17.5	15.5
L5	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304

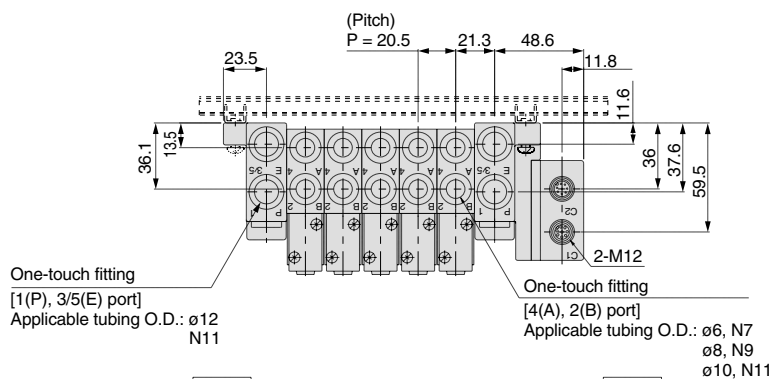
n: Stations

Dimensions: Series SV3000 for EX500 Decentralized Serial Wiring

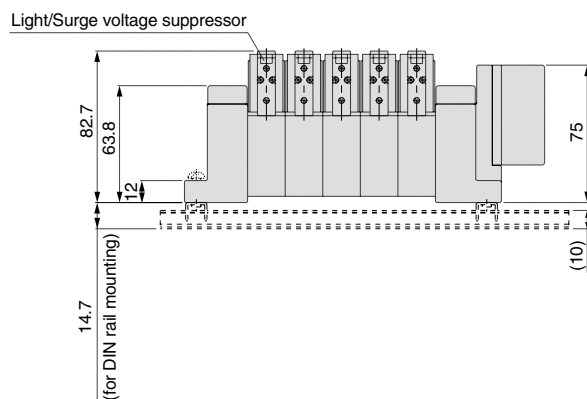
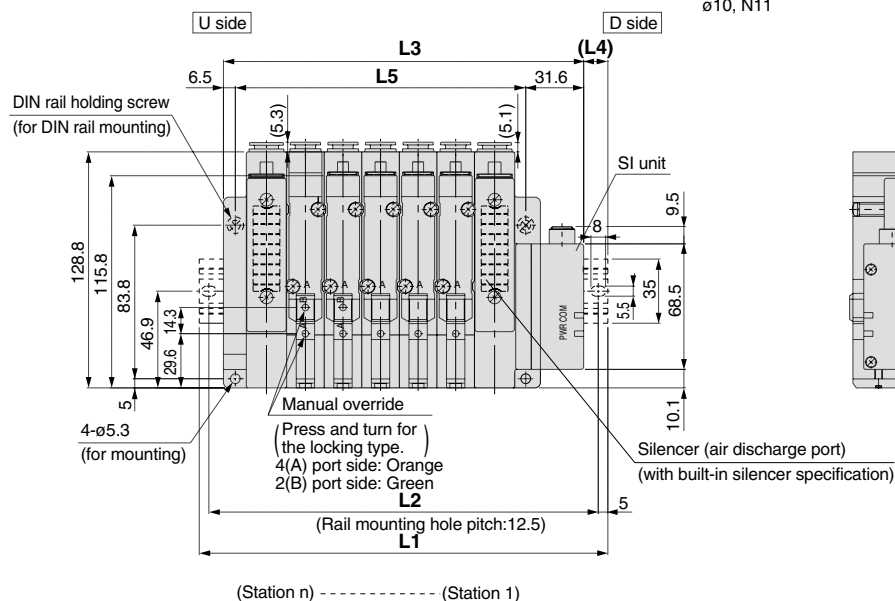
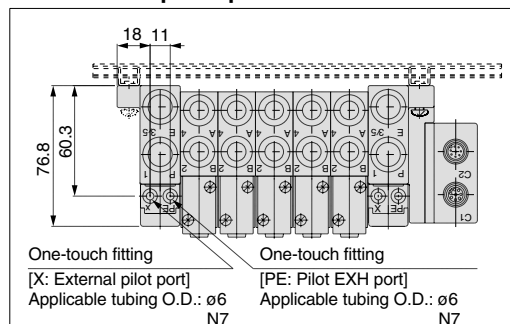
1in = 25.4mm

• Tie-rod base manifold: **SS5V3-W10SA** ☐ **WD** - Stations $\begin{matrix} U \\ D \end{matrix}$ **(S, R, RS)** $\begin{matrix} C6, N7 \\ C8, N9 \\ C10, N11 \end{matrix}$ **(-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.



With external pilot specification



L dimensions

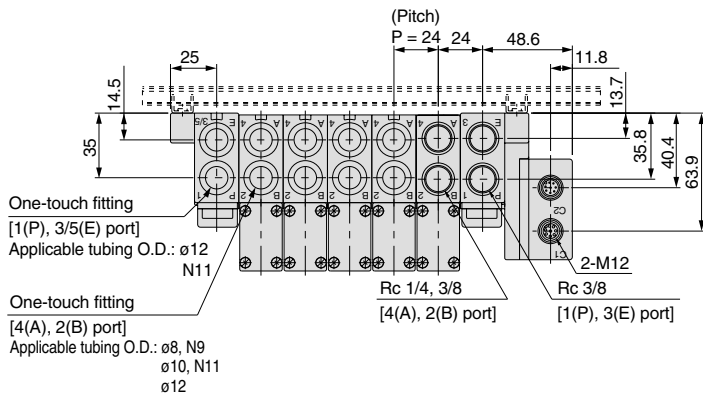
n: Stations

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	160.5	185.5	210.5	223	248	273	285.5	310.5	323	348	373	385.5	410.5	435.5	448
L2	150	175	200	212.5	237.5	262.5	275	300	312.5	337.5	362.5	375	400	425	437.5
L3	135.1	155.6	176.1	196.6	217.1	237.6	258.1	278.6	299.1	319.6	340.1	360.6	381.1	401.6	422.1
L4	12.5	15	17	13	15.5	17.5	13.5	16	12	14	16.5	12.5	14.5	17	13
L5	97	117.5	138	158.5	179	199.5	220	240.5	261	281.5	302	322.5	343	363.5	384

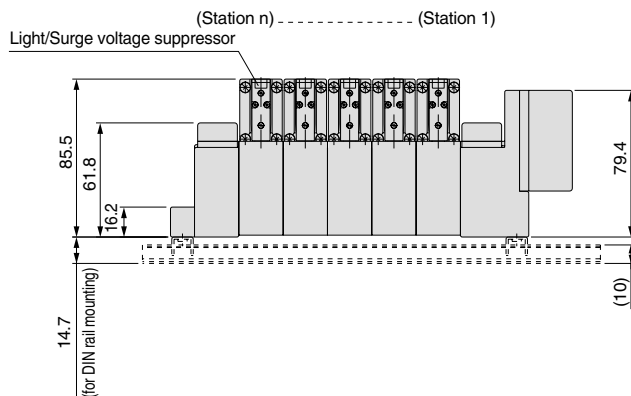
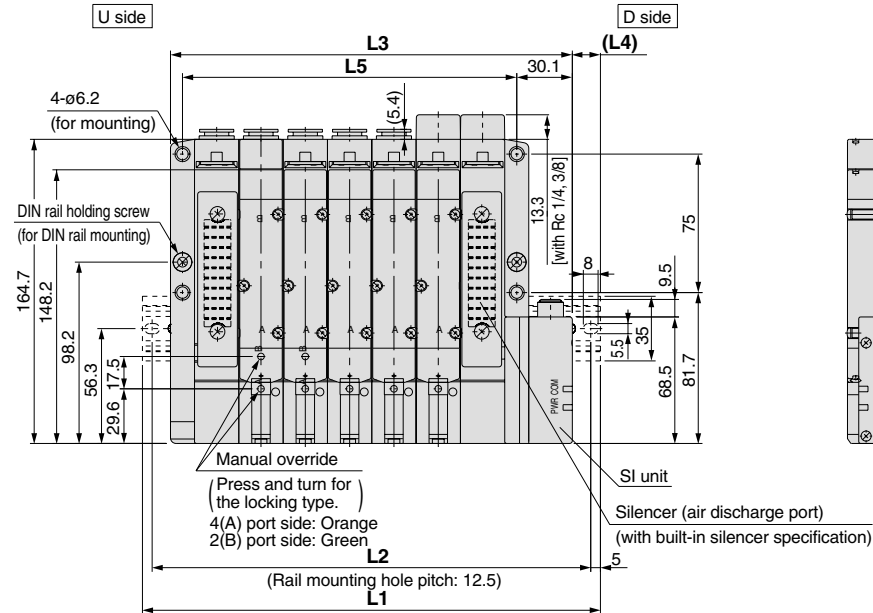
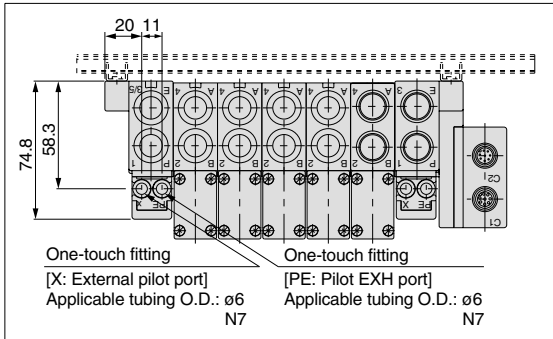
Dimensions: Series SV4000 for EX500 Decentralized Serial Wiring

• Tie-rod base manifold: **SS5V4-W10SA** ☐ **WD** - Stations $\frac{U}{D}$ **(S, R, RS)** $\frac{02, C8, N9}{03, C10, N11}$ **(-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.



With external pilot specification



L dimensions

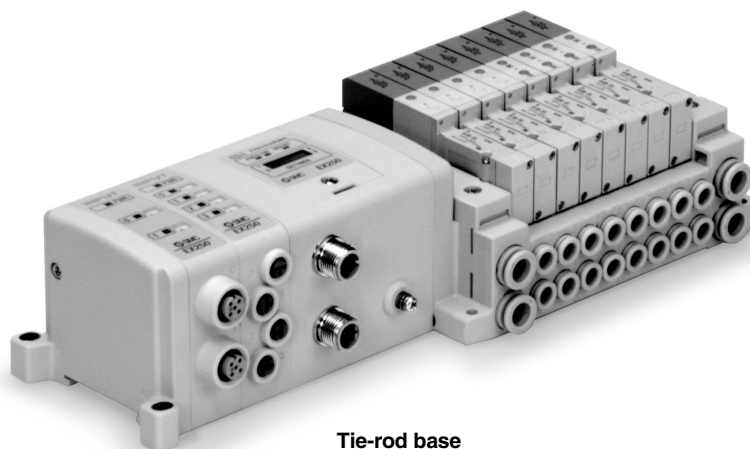
n: Stations

L	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	173	198	223	248	273	298	323	348	373	385.5	410.5	435.5	460.5	485.5	510.5
L2	162.5	187.5	212.5	237.5	262.5	287.5	312.5	337.5	362.5	375	400	425	450	475	500
L3	145.6	169.6	193.6	217.6	241.6	265.6	289.6	313.6	337.6	361.6	385.6	409.6	433.6	457.6	481.6
L4	13.5	14	14.5	15	15.5	16	16.5	17	17.5	12	12.5	13	13.5	14	14.5
L5	109	133	157	181	205	229	253	277	301	325	349	373	397	421	445

Serial Wiring with Input/Output Unit

Series EX250

IP67 protection



Tie-rod base

Applicable series	Tie-rod base manifold SV1000/SV2000/SV3000
	• Number of inputs/outputs: 32 each

How to Order

• Tie-rod base

SS5V 1 — W10S1 QW [] [] [] D — 05 U [] [] []

Series

1	SV1000
2	SV2000
3	SV3000

Enclosure IP67 specification

SI unit specification

QW	For DeviceNet
NW	For PROFIBUS-DP
0	Without SI unit

- Input blocks cannot be mounted without SI unit.
- When the DIN rail is included without an SI unit, the DIN rail length will accommodate an SI unit and one input block.

Input block stations

Nil	None
1	1 station
⋮	⋮
8	8 stations

Note) Without SI unit, the symbol is nil.

Input block type

Nil	Without input block
1	M12: 2 inputs
2	M12: 4 inputs
3	M8: 4 inputs (3 pins)

Note) Without SI unit, the symbol is nil.

Input block common specification

Nil	+COM
N	-COM

Valve stations

Symbol	Stations	Note
02	2 stations	Double wiring specification Note 1)
⋮	⋮	
16	16 stations	
02	2 stations	Specified layout (Up to 32 solenoids possible.) Note 2)
⋮	⋮	
20	20 stations	

Note 1) Double wiring specification: Single, double and 3 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 wiring specifications on a manifold specification sheet.
(Note that double and 3 position valves cannot be used where single solenoid wiring has been specified.)

P, E port position

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

Supply/Exhaust block assembly specification

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

* When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

• Mounting

Nil	Direct mount
D	DIN rail mount (with DIN rail)
Note) D0	DIN rail mount (without DIN rail)
D3	For 3 stations
⋮	⋮
D20	For 20 stations

Note) In case of D0, only DIN rail fittings are attached.

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		

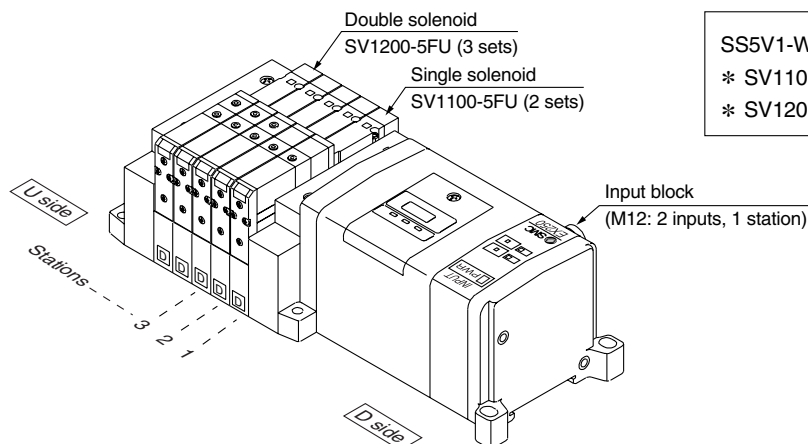
* In case of mixed specification (M), indicate separately on a manifold specification sheet.

How to Order Manifold Assemblies (Order Example)

Example (SV1000)

Manifold

SS5V1-W10S1QW11ND-05B-C6 (1 set)



SS5V1-W10S1QW11ND-05B-C6 1 set (manifold part no.)

* SV1100-5FU 2 sets (single solenoid part no.)

* SV1200-5FU 3 sets (double solenoid part no.)

How to Order Solenoid Valves

SV 1 1 00 — 5 F

Note) Available with manifold block for station additions. Refer to page 81.

Series

1	SV1000
2	SV2000
3	SV3000

Type of actuation

1	2 position single solenoid
2	2 position double solenoid
3	3 position closed center
4	3 position exhaust center
5	3 position pressure center
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 series SV1000 and SV2000 only.

Pilot specification

Nil	Internal pilot
R	External pilot

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

Back pressure check valve

Nil	None
K	Built-in

* Built-in back pressure check valve type is applicable to series SV1000 only.

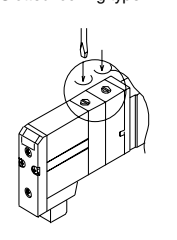
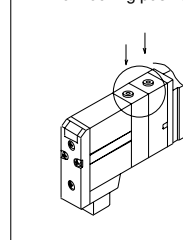
* Back pressure check valve is not available for 3 position closed center and 3 position pressure center.

* Effective area of the built-in back pressure check valve type is reduced approximately 20%.

Manual override

Nil: Non-locking push type

D: Slotted locking type



Light/Surge voltage suppressor

U	With light and surge voltage suppressor
R	With surge voltage suppressor

Rated voltage

5	24VDC
---	-------

Series EX250 Serial Wiring with Input/Output Unit

SV1000/2000/3000

Applicable network: DeviceNet

The serial transmission system reduces connection work, while also minimizing wiring and saving space.

DeviceNet compatible SI unit

As a DeviceNet slave unit, it is capable of solenoid valve ON/OFF control up to a maximum of 32 points. In addition, by connecting an input block a maximum of 32 sensor signal inputs are possible.

Input block

This is an expansion block which connects to an SI unit to perform sensor input from auto switches, etc. Two or four sensor inputs can be accommodated by one input block, and the common can be matched to the sensor by an NPN/PNP switch.

Input connectors are available in both M8 and M12 types.

Connector detail

- Input connector: M12 ... 5 pins (socket)

Cable side connector example: OMRON Corporation XS2G
2 input block (EX250-IE1)

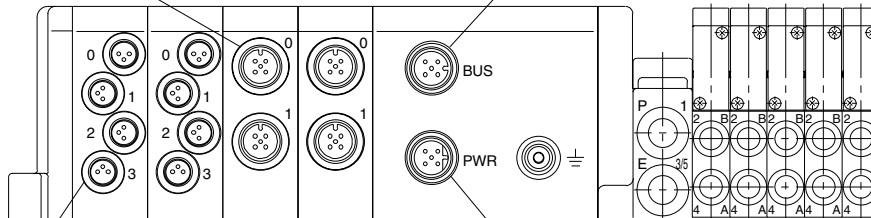
No.	Description	Function
1	SW+	Sensor power supply +
2	N.C (SIGNAL)	Open*
3	SW-	Sensor power supply -
4	SIGNAL	Sensor input signal
5	E	Sensor ground

* In the case of a 4 input block (EX250-IE2), this is the sensor input signal.

- Communication connector: M12 ... 5 pins (plug) (for DeviceNet only)

Example of corresponding cable assemblies with connector:
OMRON Corporation: DCA1-5CN05F1
Karl Lumberg GmbH & Co. KG RKT5-56

No.	Description	Function
1	Drain	Drain/Shield
2	V+	Circuit power supply +
3	V-	Circuit power supply -
4	CAN_H	Signal H
5	CAN_L	Signal L



- Input connector: M8 ... 3 pins (socket)

Cable side connector example: Franz Binder GesmbH
718, 768 series

No.	Description	Function
1	24V	Sensor power supply +
3	0V	Sensor power supply -
4	IN	Sensor input signal

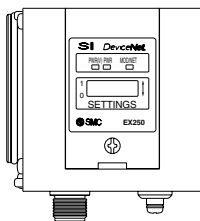
- Power connector: M12 ... 5 pins (plug)

(boss configuration differs from communication connector)
Example of corresponding cable assemblies with connector:
Hans Turck FmbH & Co. KG WAKW4. 5T-2

No.	Description	Function
1	SV24V	For solenoid valve +24V
2	SV0V	For solenoid valve 0V
3	SW24V	For input block +24V
4	SW0V	For input block 0V
5	E	Ground

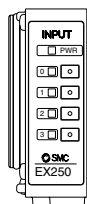
Indicator unit (LED) descriptions and functions

SI unit



Description	Function
PWR(V)	ON when solenoid valve power supply is turned ON
PWR	ON when DeviceNet circuit power supply input is turned ON
MOD/NET	OFF: Power supply off, on line, or when checking duplication of MAC_ID
	Green blinking: Waiting for connection (on line)
	Green ON: Connection established (on line)
	Red blinking: Connection time out (minor communication abnormality occurs)
	Red ON: MAC_ID duplication error, or BUSOFF error (major communication abnormality occurs)

Input block



Description	Function
PWR	ON when sensor power is turned ON
0 to 3	ON when each sensor input goes ON

Weights

Description	Weight g
SI unit	225
Input block	85
End plate assembly	30

* Refer to page 78 for parts composition.

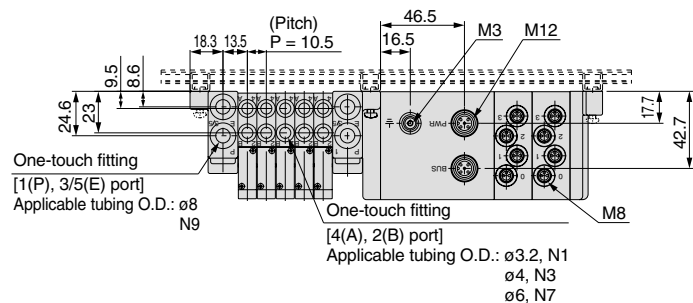
Dimensions: Series SV1000 for EX250 Serial Wiring with Input/Output Unit

1in = 25.4mm

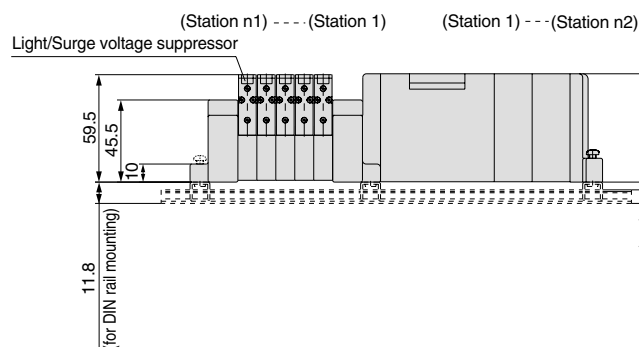
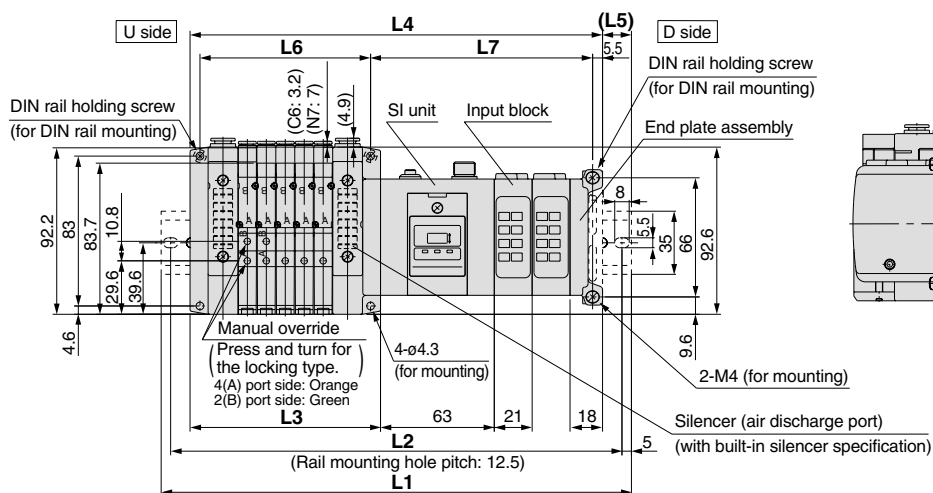
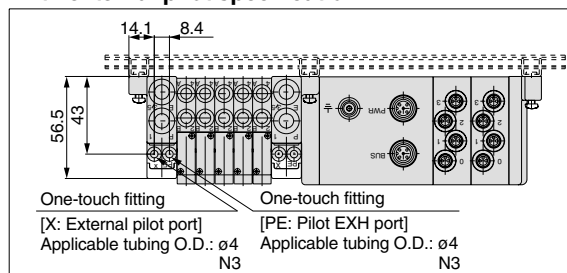
• Tie-rod base manifold: **SS5V1-W10S1** ☐ ☐ ☐ ☐ **D** - Stations $\begin{matrix} U \\ D \end{matrix}$ (S, R, RS) - $\begin{matrix} C3, N1 \\ C4, N3 \\ C6, N7 \end{matrix}$ (-D)

- 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.

(With 2 input blocks)



With external pilot specification



n1 = Valve stations
n2 = Input block stations

$$\begin{aligned} L2 &= L1 - 10.5 \\ L3 &= 10.5 \times n1 + 53 \\ L4 &= L3 + 81 + 21 \times n2 \\ L5 &= (L1 - L4)/2 \\ L6 &= 10.5 \times n1 + 42 \\ L7 &= 21 \times n2 + 81 \end{aligned}$$

L1: DIN rail overall length

(mm)

Valve stations Input block Stations (n2)	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
0	185.5	198	210.5	210.5	223	235.5	248	260.5	273	273	285.5	298	310.5	323	335.5	348	348	360.5	373
1	210.5	210.5	223	235.5	248	260.5	273	273	285.5	298	310.5	323	335.5	348	348	360.5	373	385.5	398
2	223	235.5	248	260.5	273	273	285.5	298	310.5	323	335.5	348	348	360.5	373	385.5	398	410.5	410.5
3	248	260.5	273	273	285.5	298	310.5	323	335.5	348	348	360.5	373	385.5	398	410.5	410.5	423	435.5
4	273	273	285.5	298	310.5	323	335.5	348	348	360.5	373	385.5	398	410.5	410.5	423	435.5	448	460.5
5	285.5	298	310.5	323	335.5	348	348	360.5	373	385.5	398	410.5	410.5	423	435.5	448	460.5	473	473
6	310.5	323	335.5	348	348	360.5	373	385.5	398	410.5	410.5	423	435.5	448	460.5	473	473	485.5	498
7	335.5	348	348	360.5	373	385.5	398	410.5	410.5	423	435.5	448	460.5	473	473	485.5	498	510.5	523
8	348	360.5	373	385.5	398	410.5	410.5	423	435.5	448	460.5	473	473	485.5	498	510.5	523	535.5	535.5

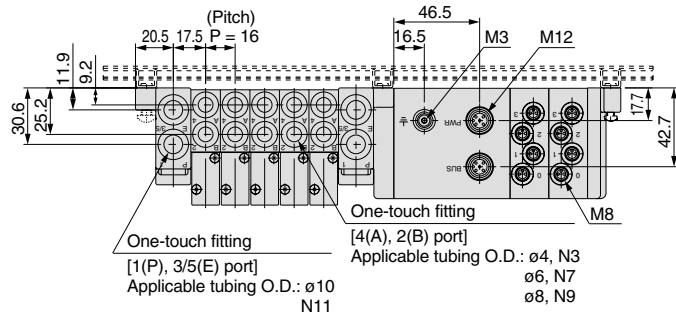
Dimensions: Series SV2000 for EX250 Serial Wiring with Input/Output Unit

• Tie-rod base manifold: **SS5V2-W10S1** ☐ ☐ ☐ ☐ **D** - Stations $\begin{matrix} U \\ D \\ B \end{matrix}$ (**S, R, RS**) $\begin{matrix} C4, N3 \\ C6, N7 \\ C8, N9 \end{matrix}$ (**-D**)

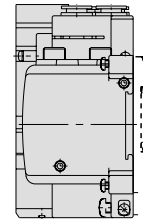
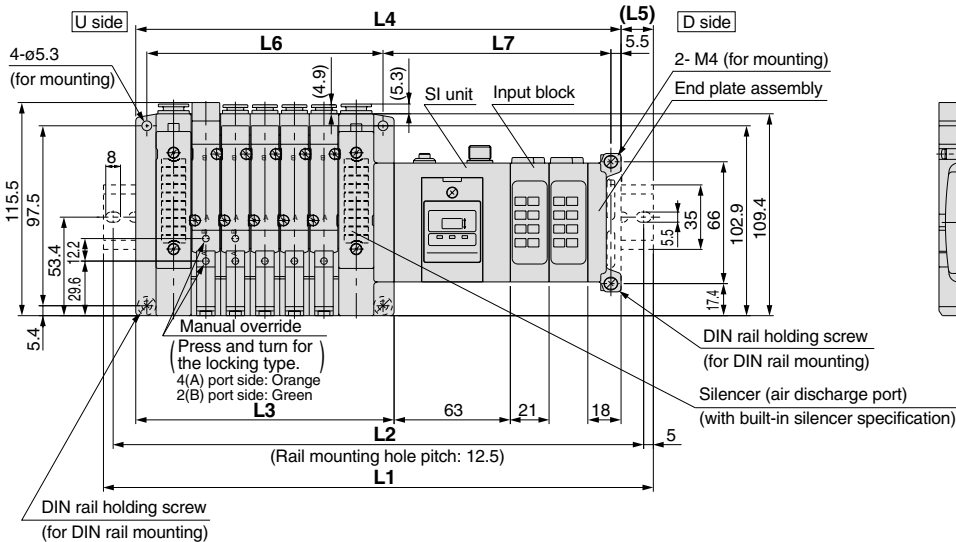
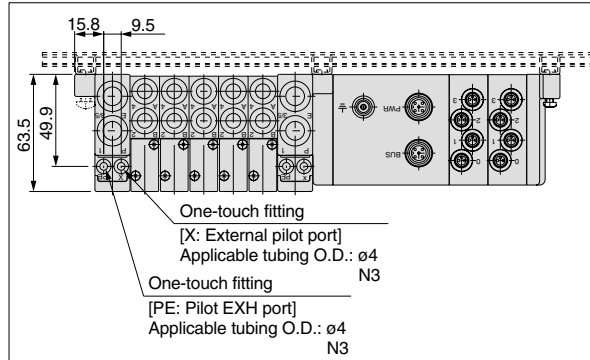
1in = 25.4mm

(With 2 input blocks)

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



With external pilot specification



(Station n1) ----- (Station 1) (Station 1) --- (Station n2)

Light/Surge voltage suppressor

n1 = Valve stations
n2 = Input block stations

$$\begin{aligned} L2 &= L1 - 10.5 \\ L3 &= 16 \times n1 + 60 \\ L4 &= L3 + 81 + 21 \times n2 \\ L5 &= (L1 - L4)/2 \\ L6 &= 16 \times n1 + 48 \\ L7 &= 21 \times n2 + 81.5 \end{aligned}$$

L1: DIN rail overall length

(mm)

Valve stations (n1)	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
0	198	223	235.5	248	260.5	285.5	298	310.5	335.5	348	360.5	373	398	410.5	423	448	460.5	473	485.5
1	223	235.5	260.5	273	285.5	298	323	335.5	348	373	385.5	398	410.5	435.5	448	460.5	485.5	498	510.5
2	248	260.5	273	298	310.5	323	335.5	360.5	373	385.5	410.5	423	435.5	448	473	485.5	498	510.5	535.5
3	260.5	285.5	298	310.5	335.5	348	360.5	373	398	410.5	423	435.5	460.5	473	485.5	510.5	523	535.5	548
4	285.5	298	323	335.5	348	360.5	385.5	398	410.5	435.5	448	460.5	473	498	510.5	523	548	560.5	573
5	310.5	323	335.5	360.5	373	385.5	398	423	435.5	448	473	485.5	498	510.5	535.5	548	560.5	585.5	598
6	323	348	360.5	373	398	410.5	423	435.5	460.5	473	485.5	510.5	523	535.5	548	573	585.5	598	610.5
7	348	360.5	385.5	398	410.5	435.5	448	460.5	473	498	510.5	523	535.5	560.5	573	585.5	610.5	623	635.5
8	373	385.5	398	423	435.5	448	460.5	485.5	498	510.5	535.5	548	560.5	573	598	610.5	623	648	660.5

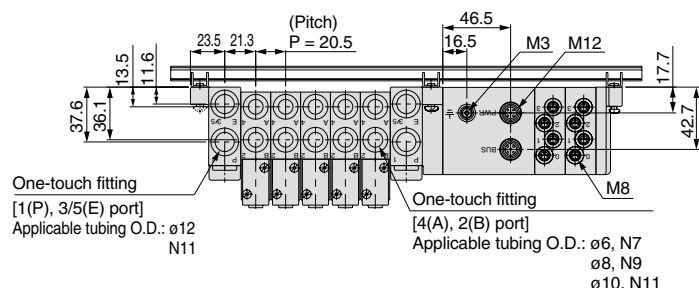
Dimensions: Series SV3000 for EX250 Serial Wiring with Input/Output Unit

• Tie-rod base manifold: **SS5V3-W10S1** ☐ ☐ ☐ ☐ **D** - Stations $\frac{U}{D}$ (S, R, RS) $\frac{C6, N7}{C8, N9}$ $\frac{C10, N11}{C10, N11}$ (-D)

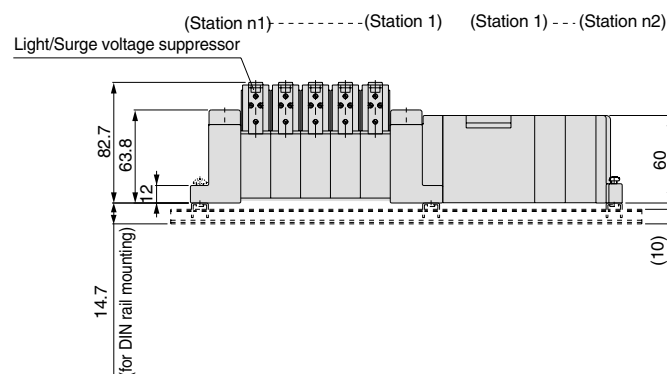
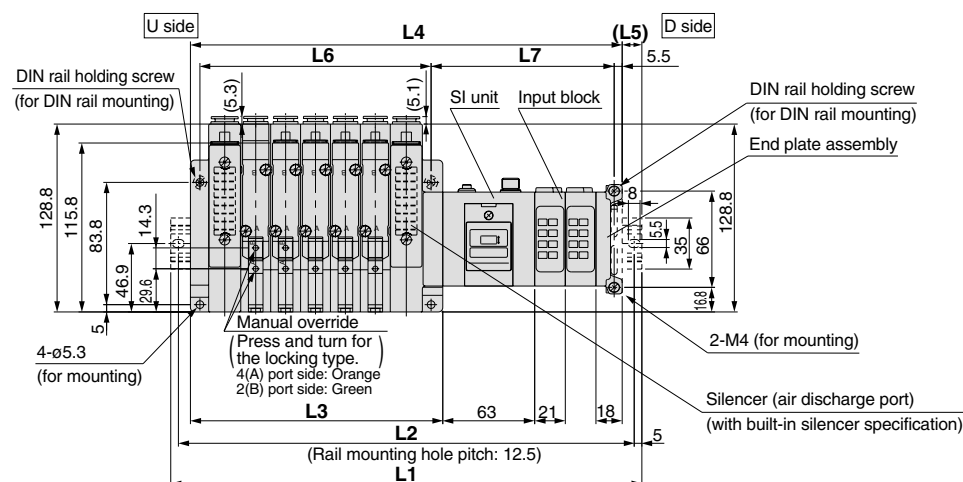
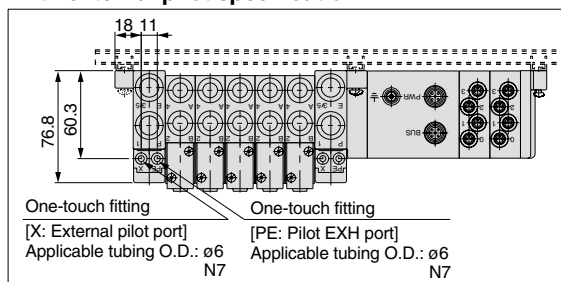
1in = 25.4mm

(With 2 input blocks)

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



With external pilot specification



n1 = Valve stations
n2 = Input block stations

$$\begin{aligned} L2 &= L1 - 10.5 \\ L3 &= 20.5 \times n1 + 70.5 \\ L4 &= L3 + 81 + 21 \times n2 \\ L5 &= (L1 - L4)/2 \\ L6 &= 20.5 \times n1 + 56 \\ L7 &= 21 \times n2 + 83.5 \end{aligned}$$

L1: DIN rail overall length

(mm)

Valve stations (n1) Input block stations (n2)	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
0	223	248	260.5	285.5	298	323	348	360.5	385.5	410.5	423	448	473	485.5	510.5	535.5	548	573	585.5
1	248	260.5	285.5	310.5	323	348	360.5	385.5	410.5	423	448	473	485.5	510.5	535.5	548	573	585.5	610.5
2	260.5	285.5	310.5	323	348	360.5	385.5	410.5	423	448	473	485.5	510.5	535.5	548	573	598	610.5	635.5
3	285.5	310.5	323	348	373	385.5	410.5	423	448	473	485.5	510.5	535.5	548	573	598	610.5	635.5	648
4	310.5	323	348	373	385.5	410.5	423	448	473	485.5	510.5	535.5	548	573	598	610.5	635.5	660.5	673
5	323	348	373	385.5	410.5	435.5	448	473	485.5	510.5	535.5	548	573	598	610.5	635.5	660.5	673	698
6	348	373	385.5	410.5	435.5	448	473	485.5	510.5	535.5	548	573	598	610.5	635.5	660.5	673	698	723
7	373	385.5	410.5	435.5	448	473	498	510.5	535.5	548	573	598	610.5	635.5	660.5	673	698	723	735.5
8	385.5	410.5	435.5	448	473	498	510.5	535.5	548	573	598	610.5	635.5	660.5	673	698	723	735.5	760.5

EX250 Serial Wiring with Input/Output Unit

Series SV



Refer to the SMC website for detailed information on models that meet world standards.

How to Order

● Tie-rod base

SS5V 1 — **W10S1** **QW** **D** — **05** **U**

Series

1	SV1000
2	SV2000
3	SV3000

Enclosure IP67

SI unit

QW	DeviceNet
NW	PROFIBUS-DP
VW	CC-Link
TAW	AS-i, 8 in/8 out, 31 slave modes, 2 power supply systems
TBW	AS-i, 4 in/4 out, 31 slave modes, 2 power supply systems
TCW	AS-i, 8 in/8 out, 31 slave modes, 1 power supply system
TDW	AS-i, 4 in/4 out, 31 slave modes, 1 power supply system
0	Without SI unit

- Input blocks cannot be mounted without SI unit.
- When the DIN rail is included without SI unit, the DIN rail length will accommodate one SI unit and one input block.

Note) There is a limit on the current supplied from an SI unit of the TCW or TCD specification to an input block or valve. For details, refer to page 15.

Input block stations

Nil	None
1	1 station
⋮	⋮
8	8 stations

Note 1) Without SI unit, the symbol is nil. When an AS-i compatible SI unit is used, there is a limit on the maximum number of stations. For details, please refer to page XXX.

Input block type

Nil	Without input block
1	M12: 2 inputs
2	M12: 4 inputs
3	M8: 4 inputs (3 pins)

Note 1) Without SI unit, the symbol is nil.

Input block common specification

Nil	+COM
N	-COM

Valve stations

Symbol	Stations	Note
02	2 stations	Note 1) Double wiring specifications
⋮	⋮	
16	16 stations	Note 2) Specified layout Note 3) (Up to 32 solenoids possible.)
02	2 stations	
⋮	⋮	
20	20 stations	

Note 1) Double wiring specification: 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 wiring specifications on a manifold specification sheet. (Note that double, 3 position and 4 position valves cannot be used where single solenoid wiring has been specified.)

Note 3) When an AS-i compatible SI unit is used, the maximum numbers of solenoids are as follows: TAW, TCW: Maximum 8 solenoids TBW, TDW: Maximum 4 solenoids

P, E port position

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

Supply/Exhaust block assembly specification

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

Note) When the built-in silencer type is used, keep the air outlet from direct contact with water.

A, B port size (metric)

A, B port size (inch)

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	ø10 One-touch fitting	SV2000
C4	ø4 One-touch fitting		
C6	ø6 One-touch fitting	ø12 One-touch fitting	SV3000
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		

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	ø3/8" One-touch fitting	SV2000
N3	ø5/32" One-touch fitting		
N7	ø1/4" One-touch fitting	ø3/8" One-touch fitting	SV3000
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 case of mixed specification (M), indicate separately on a manifold specification sheet.

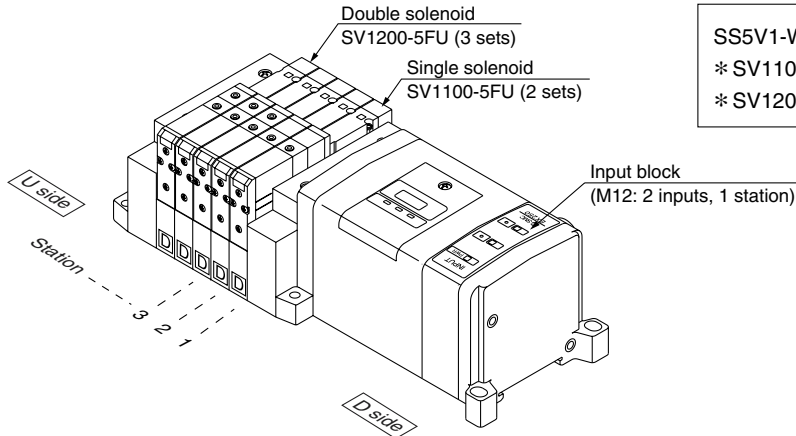
* The port size of X and PE ports of the external pilot specification (R, RS) is ø4 (metric) or ø5/32" (inch) for Series SV1000 and 2000, and ø6 (metric) or ø1/4" (inch) for Series SV3000.

How to Order Valve Manifold Assembly (Example)

Example (SV1000)

Manifold

SS5V1-W10S1QW11ND-05B-C6 (1 set)



SS5V1-W10S1QW11ND-05B-C6 1 set (manifold part no.)
 * SV1100-5FU 2 sets (single solenoid part no.)
 * SV1200-5FU 3 sets (double solenoid part no.)

How to Order Solenoid Valves

SV **1** **1** 00 — **5** F

Series

1	SV1000
2	SV2000
3	SV3000

Type of actuation

1	2 position single solenoid
2	2 position double solenoid
3	3 position closed center
4	3 position exhaust center
5	3 position pressure center
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 series SV1000 and SV2000 only.

Pilot specification

Nil	Internal pilot
R	External pilot

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

Back pressure check valve

Nil	None
K	Built-in

* Built-in back pressure check valve type is applicable to series SV1000 only.

* Back pressure check valve is not available for 3 position closed center and 3 position pressure center.

Note)

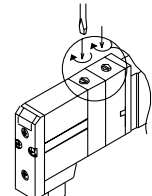
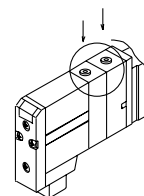


Note) Available with manifold block for station addition. Refer to page 81 of SV catalog (ES11-81A).

Manual override indicator

Nil: Non-locking push type

D: Slotted locking type



Light and surge voltage suppressor

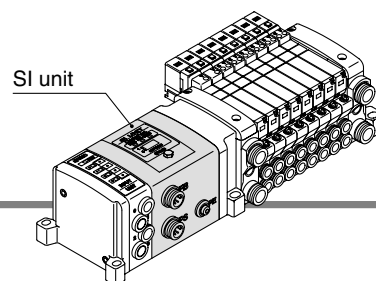
U	With light and surge voltage suppressor
R	With surge voltage suppressor

Rated voltage

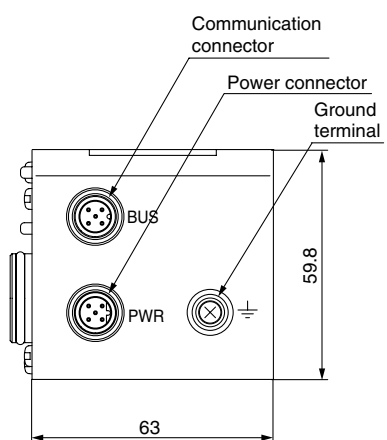
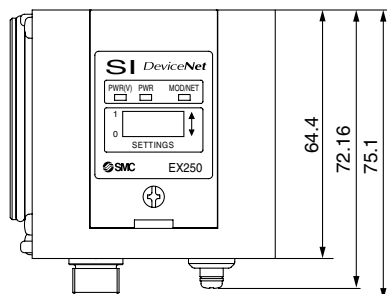
5	24 VDC
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- For solenoid valve specifications and dimensions, please refer to SV catalog (ES11-81).
- Please refer to page 14 for single SI unit dimensions.
- Please refer to the technical instruction manual.

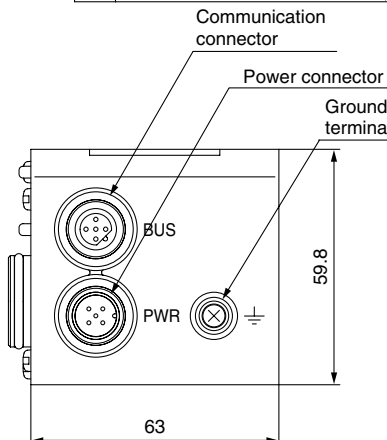
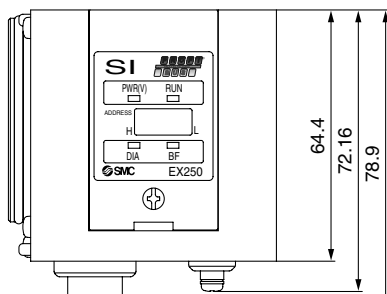
Serial Unit (SI Unit) Dimensions/EX250



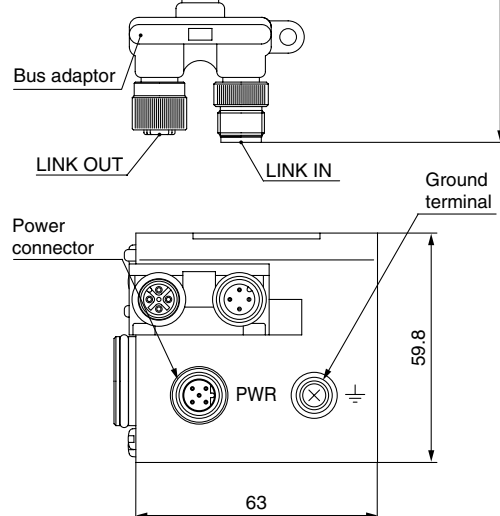
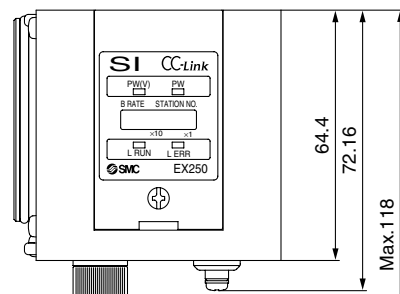
DeviceNet



PROFIBUS-DP

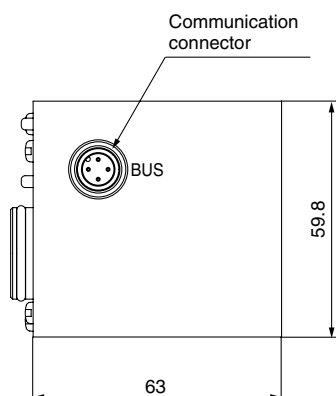
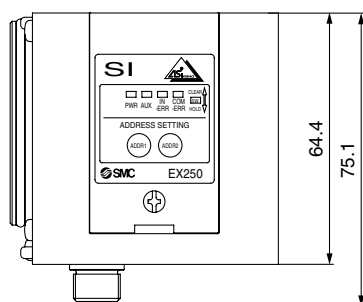


CC-Link

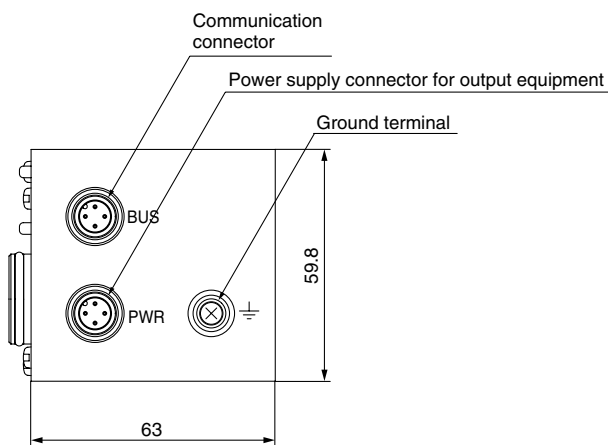
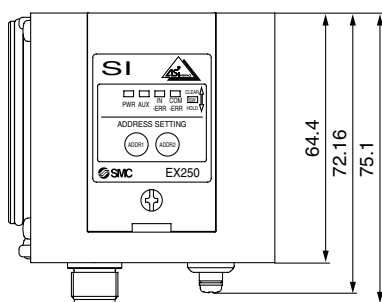


AS-i

1 power supply system



2 power supply system



⚠ Specific Product Precautions

Be sure to read before handling. Please consult SMC for applications outside the specifications.

When one AS-i power supply system is used

⚠ Caution

		TCW	SDTC	TDW	SDTD
Power supply voltage		Supplied from AS-i circuit, 26.5 to 31.6 VDC ^{Note 1)}			
Current consumption ^{Note 2)}		Max. 100 mA		Max.65 mA	
Input/output specification	Number of inputs	8		4	
	Number of outputs	8		4	
	Valve supply voltage	24 VDC ± 10%			
	Possible supply current ^{Note 3)}	Max. 240 mA		Max. 120 mA	

Note 1) For communication power supply, use a power supply dedicated to AS-i. For details, please refer to instruction manuals provided by the respective manufacturers.
 Note 2) Current consumption of SI unit internal power supply
 Note 3) The AS-i circuit provides current to the internal parts of the SI unit and all connected equipment.
 Since there is a limit on the possible supply current to all connected equipment, select the equipment connected to the input block, such as sensors and valves, to stay within the possible supply current.

Example) When SDTD type is used

Valve: VQC1100NY – 5 (low wattage type of 0.5 W) × 4 pcs.

$$0.5 \text{ [W]} \div 24 \text{ [V]} \times 4 \text{ [pcs.]} = 84 \text{ [mA]} \text{ (4 outputs simultaneously ON)}$$

The maximum possible supply current of SDTD is 120 mA. Therefore, the possible supply current to the sensor connected to the input block is

$$120 \text{ [mA]} - 84 \text{ [mA]} = 36 \text{ [mA]}.$$

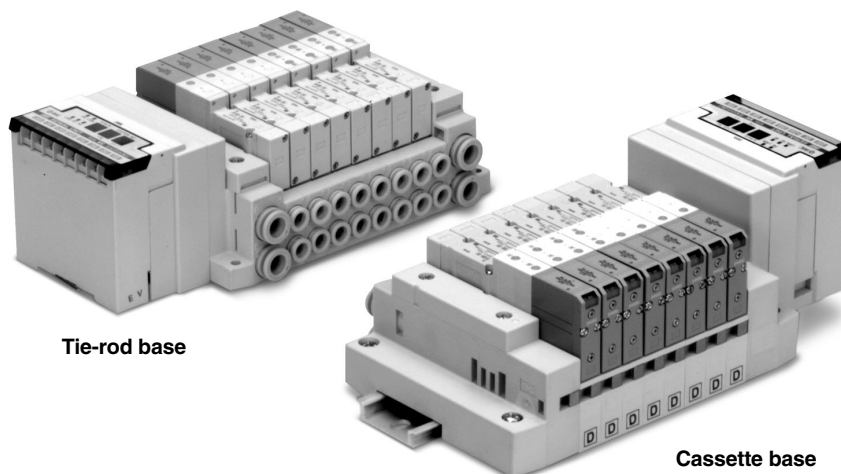
Use of low wattage type valves by minimizing the maximum number of simultaneous outputs, and low current consumption sensors (2 wire sensor, etc.) connected to the input block is recommended.

Maximum number of AS-i compatible input blocks

SI unit specification			Input block type		Maximum number of input blocks
SV	TAW	AS-i, 8 in/8 out, 31 slave modes, 2 power supply systems	1	M12: 2 inputs	4 stations
			2	M12: 4 inputs	2 stations
			3	M8: 4 inputs	2 stations
	TBW	AS-i, 4 in/4 out, 31 slave modes, 2 power supply systems	1	M12: 2 inputs	2 stations
			2	M12: 4 inputs	1 station
			3	M8: 4 inputs	1 station
	TCW	AS-i, 8 in/8 out, 31 slave modes, 1 power supply system	1	M12: 2 inputs	4 stations
			2	M12: 4 inputs	2 stations
			3	M8: 4 inputs	2 stations
	TDW	AS-i, 4 in/4 out, 31 slave modes, 1 power supply system	1	M12: 2 inputs	2 stations
			2	M12: 4 inputs	1 station
			3	M8: 4 inputs	1 station
VQC	SDTA	AS-i, 8 in/8 out, 31 slave modes, 2 power supply systems	1	M12: 2 inputs	4 stations
			2	M12: 4 inputs	2 stations
			3	M8: 4 inputs	2 stations
	SDTB	AS-i, 4 in/4 out, 31 slave modes, 2 power supply systems	1	M12: 2 inputs	2 stations
			2	M12: 4 inputs	1 station
			3	M8: 4 inputs	1 station
	SDTC	AS-i, 8 in/8 out, 31 slave modes, 1 power supply system	1	M12: 2 inputs	4 stations
			2	M12: 4 inputs	2 stations
			3	M8: 4 inputs	2 stations
	SDTD	AS-i, 4 in/4 out, 31 slave modes, 1 power supply system	1	M12: 2 inputs	2 stations
			2	M12: 4 inputs	1 station
			3	M8: 4 inputs	1 station

Dedicated Output Serial Wiring

Series EX120



Applicable series	Cassette base manifold SV1000/SV2000
	Tie-rod base manifold SV1000/SV2000/SV3000/SV4000
	• Number of outputs: 16

How to Order

Mounting

Nil	Direct mount
D	DIN rail mount (with DIN rail)
D0 (Note)	DIN rail mount (without DIN rail)
D3	For 3 stations
⋮	⋮
D16	For 16 stations

Note) In case of D0, only DIN rail fittings are attached.

Series

1	SV1000
2	SV2000
3	SV3000
4	SV4000

• Tie-rod base

SS5V 1 — 10S3 A D — 05 U

• Cassette base

SS5V 1 — 16S3 A D — 05 U

Series

1	SV1000
2	SV2000

SI unit specification

Symbol	Specification
0	Without SI unit
A*	General purpose type: Series EX300
B	Mitsubishi Electric Corporation: MELSECNET/MINI-S3 Data Link System
C	OMRON Corporation: SYSBUS Wire System
D	SHARP Corporation: Satellite I/O Link System
E	Matsushita Electric Works: MEWNET-F System
F1	NKE Corporation: Uni-wire System (16 outputs)
G	Rockwell Automation: Remote I/O (RIO) System
H	NKE Corporation: Uni-wire H System
J1	SUNX Corporation: S-LINK System (16 outputs)
J2	SUNX Corporation: S-LINK System (8 outputs)
K	Fuji Electric Co., Ltd.: T Link Mini System
Q	DeviceNet, OMRON Corporation: CompoBus/D
R1	OMRON Corporation: CompoBus/S (16 outputs)
R2	OMRON Corporation: CompoBus/S (8 outputs)
U	JEMANET (JPCN-1)
V	Mitsubishi Electric Corporation: CC-Link

* For the general purpose type, a transmission unit is required on the CPU side.

Valve stations

Symbol	Stations	Note
02	2 stations	Note 1) Double wiring specification
⋮	⋮	
08	8 stations	Note 2) Specified layout (Up to 16 solenoids possible.)
02	2 stations	
⋮	⋮	
16	16 stations	

• Since J2 and R2 type SI units have 8 outputs, note that up to 8 solenoids can be accommodated.

• This also includes the number of blanking plate assemblies.

Note 1) Double wiring specification: Single, double and 3 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 wiring specifications on a manifold specification sheet. (Note that double and 3 position valves cannot be used where single solenoid wiring has been specified.)

P, E port position

U	U side (2 to 10 stations)
D	D side (2 to 10 stations)
B	Both sides (2 to 16 stations)

DIN rail length

Nil	Standard length
3	For 3 stations
⋮	⋮
16	For 16 stations

Supply/Exhaust block assembly specification

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

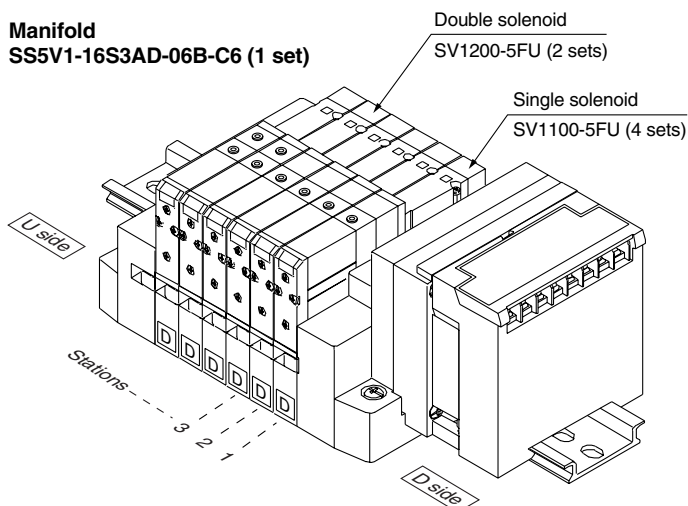
SI unit part numbers

Symbol	Specification	For SS5V□-□□S3	Symbol	Specification	For SS5V□-□□S3
A*	General purpose: Series EX300	EX320-S001	H	NKE Corporation: Uni-wire H System	EX120-SUH1
B	Mitsubishi Electric Corporation: MELSECNET/MINI-S3 Data Link System	EX120-SMB1	J1	SUNX Corporation: S-LINK System (16 outputs)	EX120-SSL1
C	OMRON Corporation: SYSBUS Wire System	EX120-STA1	J2	SUNX Corporation: S-LINK System (8 outputs)	EX120-SSL2
D	SHARP Corporation: Satellite I/O Link System	EX120-SSH1	K	Fuji Electric Co., Ltd.: T Link Mini System	EX120-SFU1
E	Matsushita Electric Works: MEWNET-F System	EX120-SPA1	Q	DeviceNet, OMRON Corporation: CompoBus/D	EX120-SDN1
F1	NKE Corporation: Uni-wire System (16 outputs)	EX120-SUW1	R1	OMRON Corporation: CompoBus/S (16 outputs)	EX120-SCS1
G	Rockwell Automation: Remote I/O (RIO) System	EX120-SAB1	R2	OMRON Corporation: CompoBus/S (8 outputs)	EX120-SCS2
			U	JEMANET (JPCN-1)	EX120-SJN1
			V	Mitsubishi Electric Corporation: CC-Link	EX120-SMJ1

* Refer to pages 34 through 36 for terminal LED descriptions and cable wiring, etc., for each SI unit.

How to Order Manifold Assemblies (Order Example)

Example (SV1000)

Manifold
SS5V1-16S3AD-06B-C6 (1 set)

SS5V1-16S3AD-06B-C6 1 set (manifold part no.)

* SV1100-5FU 4 sets (single solenoid part no.)

* SV1200-5FU 2 sets (double solenoid part no.)

How to Order Solenoid Valves

SV 1 1 0 0 — 5 F

Series

1	SV1000
2	SV2000
3	SV3000
4	SV4000

Type of actuation

1	2 position single solenoid
2	2 position double solenoid
3	3 position closed center
4	3 position exhaust center
5	3 position pressure center
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 series SV1000 and SV2000 only.

Pilot specification

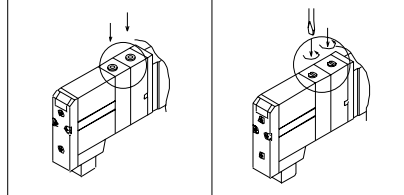
Nil	Internal pilot
R	External pilot

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

Note) Available with manifold block for station additions. Refer to pages 77 and 81.

Manual override

Nil: Non-locking push type D: Slotted locking type



Rated voltage

5	24VDC
---	-------

Back pressure check valve

Nil	None
K	Built-in

Light/Surge voltage suppressor

U	With light and surge voltage suppressor
R	With surge voltage suppressor

* Built-in back pressure check valve type is applicable to series SV1000 only.

* Back pressure check valve is not available for 3 position closed center and 3 position pressure center.

* Effective area of the built-in back pressure check valve type is reduced approximately 20%.

A, B port size (metric)

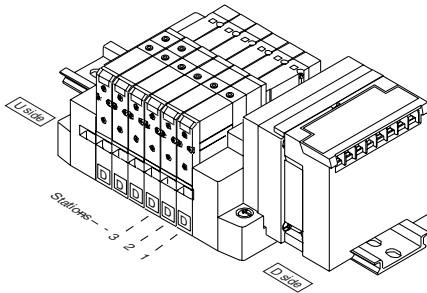
Symbol	A, B port	P, E port	Applicable series
C3	ø3.2 One-touch fitting	ø8 One-touch fitting	SV1000
C4	ø4 One-touch fitting		
C6	ø6 One-touch fitting		
C4	ø4 One-touch fitting	ø10 One-touch fitting	SV2000
C6	ø6 One-touch fitting		
C8	ø8 One-touch fitting		
C6	ø6 One-touch fitting	ø12 One-touch fitting	SV3000
C8	ø8 One-touch fitting		
C10	ø10 One-touch fitting		
C8	ø8 One-touch fitting	ø12 One-touch fitting	SV4000
C10	ø10 One-touch fitting		
C12	ø12 One-touch fitting		
02	Rc 1/4	Rc 3/8	
03	Rc 3/8		
02F	G 1/4	G 3/8	
03F	G 3/8		
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		
N9	ø5/16" One-touch fitting	ø3/8" One-touch fitting	SV4000
N11	ø3/8" One-touch fitting		
02N	NPT 1/4		
03N	NPT 3/8	NPT 3/8	
02T	NPTF 1/4		
03T	NPTF 3/8		
M	A, B ports mixed	NPTF 3/8	

* In case of mixed specification (M), indicate separately on a manifold specification sheet.

- The serial transmission system reduces wiring work, while minimizing wiring and saving space.
- Maximum 16 stations (For 9 stations or more, indicate on a manifold specification sheet.)



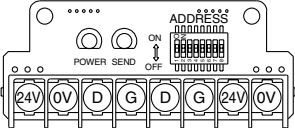
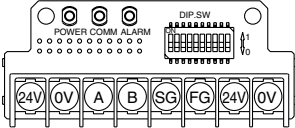
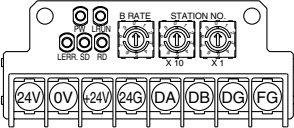
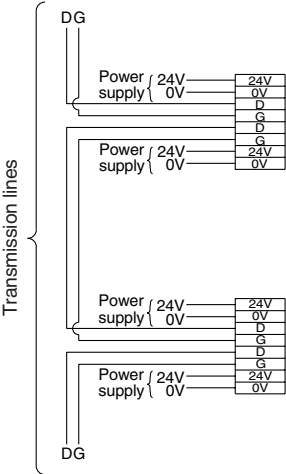
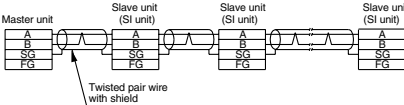
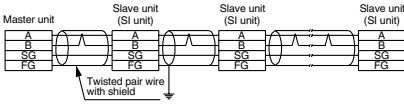
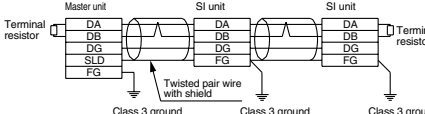
- Stations are counted from the D side.
- A maximum of 16 solenoids is possible (16 stations with single solenoids).

Item	Specification
External power supply	24VDC $\pm 10\%$
Current consumption (Inside unit)	0.1A A, B, D, E, F1, G, J1, J2, K, R1, R2, H, U, V
	0.3A C, Q

	Type A Series EX300	Type B Mitsubishi Electric Corporation MELSECNET/mini-S3 Data Link System																		
Terminal block LED description	<table><tr><th>LED name</th><th>Description</th></tr><tr><td>TRD</td><td>ON for data reception</td></tr><tr><td>RUN/ERR</td><td>Blinks for normal data reception, ON for abnormal</td></tr></table>	LED name	Description	TRD	ON for data reception	RUN/ERR	Blinks for normal data reception, ON for abnormal	<table><tr><th>LED name</th><th>Description</th></tr><tr><td>POWER</td><td>ON for power supply Input</td></tr><tr><td>RUN</td><td>ON for normal data traffic with master unit</td></tr><tr><td>RD</td><td>ON during data reception</td></tr><tr><td>SD</td><td>ON during data transmission</td></tr><tr><td>ERR</td><td>ON for data reception error, OFF when normal</td></tr></table>	LED name	Description	POWER	ON for power supply Input	RUN	ON for normal data traffic with master unit	RD	ON during data reception	SD	ON during data transmission	ERR	ON for data reception error, OFF when normal
LED name	Description																			
TRD	ON for data reception																			
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LED name	Description																			
POWER	ON for power supply Input																			
RUN	ON for normal data traffic with master unit																			
RD	ON during data reception																			
SD	ON during data transmission																			
ERR	ON for data reception error, OFF when normal																			
Note	• Connection to T unit PLC manufacturer's I/O card enables serial transmission. EX300-TMB1 ... for Mitsubishi Electric Corporation EX300-TTA1 ... for OMRON Corporation EX300-TFU1 ... for Fuji Electric Co., Ltd. EX300-T001 ... General purpose * Each T unit has 32 control points. • 16 outputs	• MELSECNET/mini-S3 Data Link System Master unit: AJ71PT32-S3 AJ71T32-S3 A1SJ71PT32-S3 • 16 outputs, occupying two stations																		
Cable wiring	* Ground either the reception side or the transmission side of the shielding wire shield.	* Ground either the reception side or the transmission side of the shielding wire shield.																		

	Type C OMRON Corporation SYSBUS Wire System	Type D SHARP Corporation Satellite I/O Link System	Type E Matsushita Electric Works MEWNET-F System																								
Terminal block LED description	<table><thead><tr><th>LED name</th><th>Description</th></tr></thead><tbody><tr><td>RUN</td><td>ON when transmission is normal and PLC is in operation mode</td></tr><tr><td>T/R ERR</td><td>Blinks when transmission is normal ON when transmission is abnormal</td></tr></tbody></table>	LED name	Description	RUN	ON when transmission is normal and PLC is in operation mode	T/R ERR	Blinks when transmission is normal ON when transmission is abnormal	<table><thead><tr><th>LED name</th><th>Description</th></tr></thead><tbody><tr><td>POWER</td><td>ON when power supply is ON</td></tr><tr><td>RUN</td><td>ON when power is ON and slave unit operates normally</td></tr><tr><td>ERR</td><td>ON for abnormal slave unit switch setting, abnormal communication, master unit PLC stopped and defective slave unit</td></tr><tr><td>R.SET HOLD</td><td>ON for master unit control input</td></tr></tbody></table>	LED name	Description	POWER	ON when power supply is ON	RUN	ON when power is ON and slave unit operates normally	ERR	ON for abnormal slave unit switch setting, abnormal communication, master unit PLC stopped and defective slave unit	R.SET HOLD	ON for master unit control input	<table><thead><tr><th>LED name</th><th>Description</th></tr></thead><tbody><tr><td>POWER</td><td>ON when power supply is ON</td></tr><tr><td>COMM.</td><td>Blinks during data transmission/reception</td></tr><tr><td>ALARM</td><td>ON for unit abnormality, blinks for station no. setting error</td></tr></tbody></table>	LED name	Description	POWER	ON when power supply is ON	COMM.	Blinks during data transmission/reception	ALARM	ON for unit abnormality, blinks for station no. setting error
LED name	Description																										
RUN	ON when transmission is normal and PLC is in operation mode																										
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LED name	Description																										
POWER	ON when power supply is ON																										
COMM.	Blinks during data transmission/reception																										
ALARM	ON for unit abnormality, blinks for station no. setting error																										
Note	• SYSBUS Wire System Master unit: Type C500-RM201 Type C200H-RM201 • 16 outputs	• Satellite I/O Link System Master unit: ZW-31LM JW-31LM, JW-31LMH JW-23LM, JW-23LMH • 16 outputs	• MEWNET-F System Master unit: AFP3740, AFP3742 AFP5740, AFP5742 • 16 outputs																								
Cable wiring		a) 2 wire type Wiring does not include signal ground line (SG). b) 3 wire type Wiring does not include signal ground line (SG).																									

	Type F1 NKE Corporation Uni-wire System <table><tr><th>LED name</th><th>Description</th></tr><tr><td>POWER</td><td>ON for power supply input (ON when normal, flickers when voltage drops)</td></tr><tr><td>SEND</td><td>Transmission indication: Blinks when normal, OFF or ON when abnormal</td></tr></table> • Uni-wire System Send unit: SD-120 • 16 outputs	LED name	Description	POWER	ON for power supply input (ON when normal, flickers when voltage drops)	SEND	Transmission indication: Blinks when normal, OFF or ON when abnormal	Type G Remote I/O (RIO) System <table><tr><th>LED name</th><th>Description</th></tr><tr><td>POWER</td><td>ON when power supply is ON</td></tr><tr><td>COM</td><td>ON when communication is normal Blinks when communication is initialized OFF for abnormal communication</td></tr><tr><td>ERROR</td><td>ON for abnormal communication</td></tr></table> • Remote I/O (RIO) System • 16 outputs	LED name	Description	POWER	ON when power supply is ON	COM	ON when communication is normal Blinks when communication is initialized OFF for abnormal communication	ERROR	ON for abnormal communication	Type J1, J2 SUNX Corporation S-LINK System <table><tr><th>LED name</th><th>Description</th></tr><tr><td>POWER</td><td>ON for power supply input</td></tr><tr><td>SEND</td><td>Transmission indication: Blinks when normal, Blinks slowly when abnormal</td></tr></table> • S-LINK System S-LINK controller: SL-CU1A • 16 outputs (type J1) 8 outputs (type J2) a) T type branch multi-drop wiring (S-LINK System) b) Crossover wiring (Sensor Link System) The example above uses a dedicated S-LINK flat ribbon cable SL-RCM*00.	LED name	Description	POWER	ON for power supply input	SEND	Transmission indication: Blinks when normal, Blinks slowly when abnormal
LED name	Description																						
POWER	ON for power supply input (ON when normal, flickers when voltage drops)																						
SEND	Transmission indication: Blinks when normal, OFF or ON when abnormal																						
LED name	Description																						
POWER	ON when power supply is ON																						
COM	ON when communication is normal Blinks when communication is initialized OFF for abnormal communication																						
ERROR	ON for abnormal communication																						
LED name	Description																						
POWER	ON for power supply input																						
SEND	Transmission indication: Blinks when normal, Blinks slowly when abnormal																						
	Type K Fuji Electric Co. Ltd. T Link Mini System <table><tr><th>LED name</th><th>Description</th></tr><tr><td>POWER</td><td>ON for power supply input</td></tr><tr><td>ALM</td><td>ON for abnormal transmission or processor side power supply cut</td></tr></table> • T Link Mini System Master unit: FTM100B Converter: FRC100A-G02 Repeater: FRC200A-C10 • 16 outputs	LED name	Description	POWER	ON for power supply input	ALM	ON for abnormal transmission or processor side power supply cut	Type Q DeviceNet <table><tr><th>LED name</th><th>Description</th></tr><tr><td>PWR</td><td>Green light ON for DeviceNet circuit power input OFF When this unit is off line or circuit power is OFF</td></tr><tr><td>MOD/NET</td><td>Green blinks When waiting for connection (on line) Green ON When connection is established (on line) Red blinks When connection time out occurs (recoverable communication abnormality) Red ON For MAC ID duplication error, or BUSOFF error (major communication abnormality)</td></tr></table> • DeviceNet • OMRON Corporation CompoBus/D System Master unit: Type C200HW-DRM21-V1 Type CS1W-DRM21 • 16 outputs	LED name	Description	PWR	Green light ON for DeviceNet circuit power input OFF When this unit is off line or circuit power is OFF	MOD/NET	Green blinks When waiting for connection (on line) Green ON When connection is established (on line) Red blinks When connection time out occurs (recoverable communication abnormality) Red ON For MAC ID duplication error, or BUSOFF error (major communication abnormality)	Type R1, R2 OMRON Corporation CompoBus/S <table><tr><th>LED name</th><th>Description</th></tr><tr><td>PWR</td><td>ON when communication power is supplied, OFF when power is OFF</td></tr><tr><td>COMM</td><td>ON for normal communication, OFF for abnormal communication or waiting</td></tr><tr><td>ERR</td><td>ON for abnormal communication, OFF for normal communication or waiting</td></tr></table> • CompoBus/S System Master unit: Type C200HW-SRM21-V1 Type CQM1-SRM21-V1 • 16 outputs (type SR1) 8 outputs (type SR2)	LED name	Description	PWR	ON when communication power is supplied, OFF when power is OFF	COMM	ON for normal communication, OFF for abnormal communication or waiting	ERR	ON for abnormal communication, OFF for normal communication or waiting
LED name	Description																						
POWER	ON for power supply input																						
ALM	ON for abnormal transmission or processor side power supply cut																						
LED name	Description																						
PWR	Green light ON for DeviceNet circuit power input OFF When this unit is off line or circuit power is OFF																						
MOD/NET	Green blinks When waiting for connection (on line) Green ON When connection is established (on line) Red blinks When connection time out occurs (recoverable communication abnormality) Red ON For MAC ID duplication error, or BUSOFF error (major communication abnormality)																						
LED name	Description																						
PWR	ON when communication power is supplied, OFF when power is OFF																						
COMM	ON for normal communication, OFF for abnormal communication or waiting																						
ERR	ON for abnormal communication, OFF for normal communication or waiting																						
	Type F1 NKE Corporation Uni-wire System Connect the shielding wire to the SD terminal. If the shielding wire is not connected to the SD terminal, normal transmission will be impossible even for short distances. Furthermore, do not ground the shielding wire (SD).	Type G Remote I/O (RIO) System	Type J1, J2 SUNX Corporation S-LINK System																				

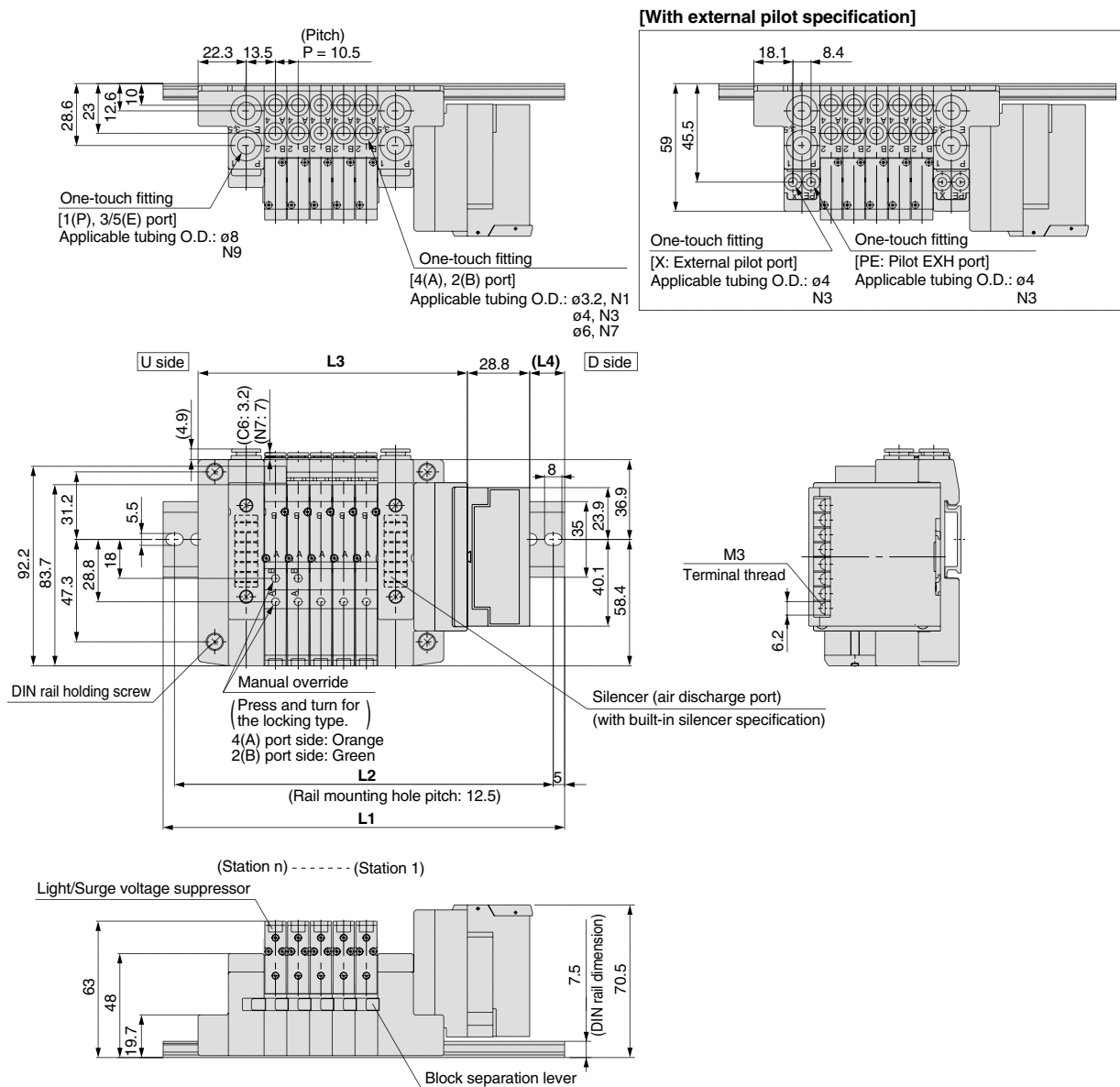
	Type H NKE Corporation Uni-wire H System	Type U JEMANET (JPCN-1)	Type V Mitsubishi Electric Corporation CC-Link																										
Terminal block LED description	 <table><thead><tr><th>LED name</th><th>Description</th></tr></thead><tbody><tr><td>POWER</td><td>ON for power supply input (ON when normal, flickers when voltage drops)</td></tr><tr><td>SEND</td><td>Transmission indication: Blinks when normal, OFF or ON when abnormal</td></tr></tbody></table>	LED name	Description	POWER	ON for power supply input (ON when normal, flickers when voltage drops)	SEND	Transmission indication: Blinks when normal, OFF or ON when abnormal	 <table><thead><tr><th>LED name</th><th>Description</th></tr></thead><tbody><tr><td>POWER</td><td>ON for SI unit power supply input</td></tr><tr><td>COMM</td><td>ON for normal communication</td></tr><tr><td>ALARM</td><td>ON for abnormal communication</td></tr></tbody></table>	LED name	Description	POWER	ON for SI unit power supply input	COMM	ON for normal communication	ALARM	ON for abnormal communication	 <table><thead><tr><th>LED name</th><th>Description</th></tr></thead><tbody><tr><td>PW</td><td>ON when communication power is supplied, OFF when power is OFF</td></tr><tr><td>L RUN</td><td>ON when normal data is being received</td></tr><tr><td>SD</td><td>ON when data is transmitted</td></tr><tr><td>RD</td><td>ON when data is received</td></tr><tr><td>L ERR.</td><td>ON for transmission error/wrong setting, Blinks when station or transmission speed setting changes during operation</td></tr></tbody></table>	LED name	Description	PW	ON when communication power is supplied, OFF when power is OFF	L RUN	ON when normal data is being received	SD	ON when data is transmitted	RD	ON when data is received	L ERR.	ON for transmission error/wrong setting, Blinks when station or transmission speed setting changes during operation
LED name	Description																												
POWER	ON for power supply input (ON when normal, flickers when voltage drops)																												
SEND	Transmission indication: Blinks when normal, OFF or ON when abnormal																												
LED name	Description																												
POWER	ON for SI unit power supply input																												
COMM	ON for normal communication																												
ALARM	ON for abnormal communication																												
LED name	Description																												
PW	ON when communication power is supplied, OFF when power is OFF																												
L RUN	ON when normal data is being received																												
SD	ON when data is transmitted																												
RD	ON when data is received																												
L ERR.	ON for transmission error/wrong setting, Blinks when station or transmission speed setting changes during operation																												
Note	• Uni-wire H System Send unit: SD-H2 • 16 outputs	• JEMANET (JPCN-1) (Reference) AJ71J92-S3 (Mitsubishi Electric Corporation) A1SJ71J92-S3 (Mitsubishi Electric Corporation) Type C200HW-JRM21 (OMRON Corporation) NJ-JPCN-1 (Fuji Electric Co., Ltd.) NP1L-JP1 (Fuji Electric Co., Ltd.) • 16 outputs	• CC-Link System Master unit: AJ61BT11 A1SJ61BT11 AJ61QBT11 A1SJ61QBT11 • 16 outputs																										
Cable wiring		a) 2 wire type  b) 3 wire type 																											

Dimensions: Series SV1000 for EX120 Dedicated Output Serial Wiring

• Cassette base manifold: **SS5V1-16S3** $\square$ **D** - Stations $\begin{matrix} \text{U} \\ \text{D} \\ \text{B} \end{matrix}$ (**S, R, RS**) - $\begin{matrix} \text{C3, N1} \\ \text{C4, N3} \\ \text{C6, N7} \end{matrix}$

1in = 25.4mm

- 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 dimensions (mm)

n: Stations

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	148	160.5	173	185.5	198	198	210.5	223	235.5	248	260.5	260.5	273	285.5	298
L2	137.5	150	162.5	175	187.5	187.5	200	212.5	225	237.5	250	250	262.5	275	287.5
L3	92.9	103.4	113.9	124.4	134.9	145.4	155.9	166.4	176.9	187.4	197.9	208.4	218.9	229.4	239.9
L4	13	14	15	16	17	12	13	14	15	16	17	11.5	12.5	13.5	14.5

Note) The width of type E (Matsushita Electric Works) and type G (Rockwell Automation) SI units is $\square 24.3\text{mm}$ greater.
Contact SMC for details.

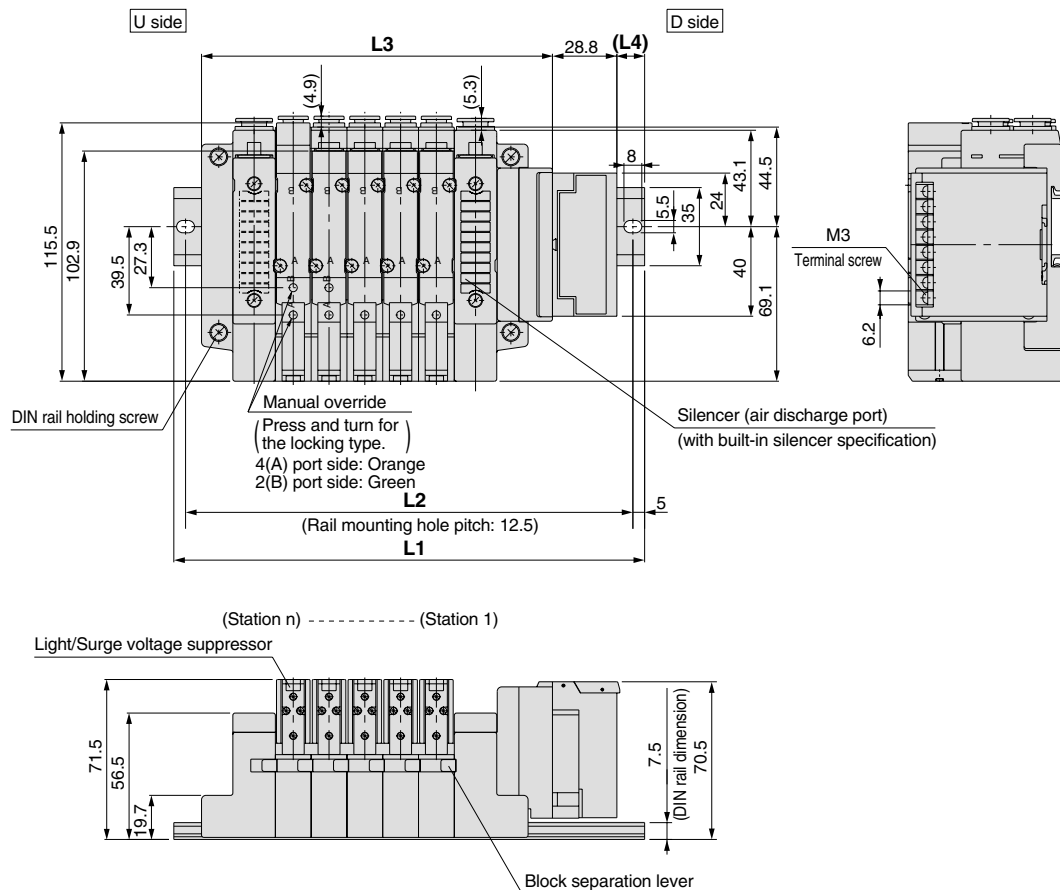
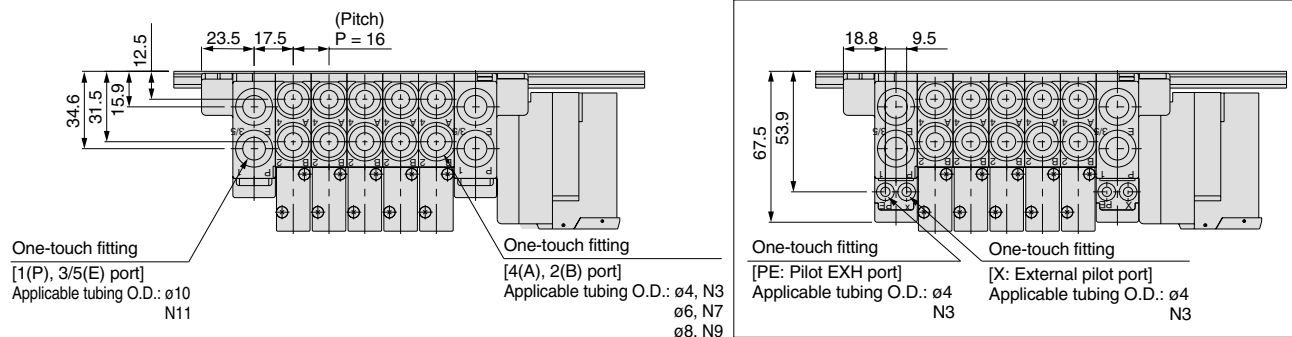
Dimensions: Series SV2000 for EX120 Dedicated Output Serial Wiring

• Cassette base manifold: **SS5V2-16S3** **D** - Stations **U** **D** **B** (S, R, RS) - **C4, N3**
 C6, N7
 C8, N9

1in = 25.4mm

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

With external pilot specification



L dimensions (mm)

n: Stations

L	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	173	185.5	198	210.5	235.5	248	260.5	273	298	310.5	323	348	360.5	373	385.5
L2	162.5	175	187.5	200	225	237.5	250	262.5	287.5	300	312.5	337.5	350	362.5	375
L3	108.9	124.9	140.9	156.9	172.9	188.9	204.9	220.9	236.9	252.9	268.9	284.9	300.9	316.9	332.9
L4	17.5	16	14	12.5	17	15	13.5	11.5	16	14.5	12.5	17	15.5	13.5	12

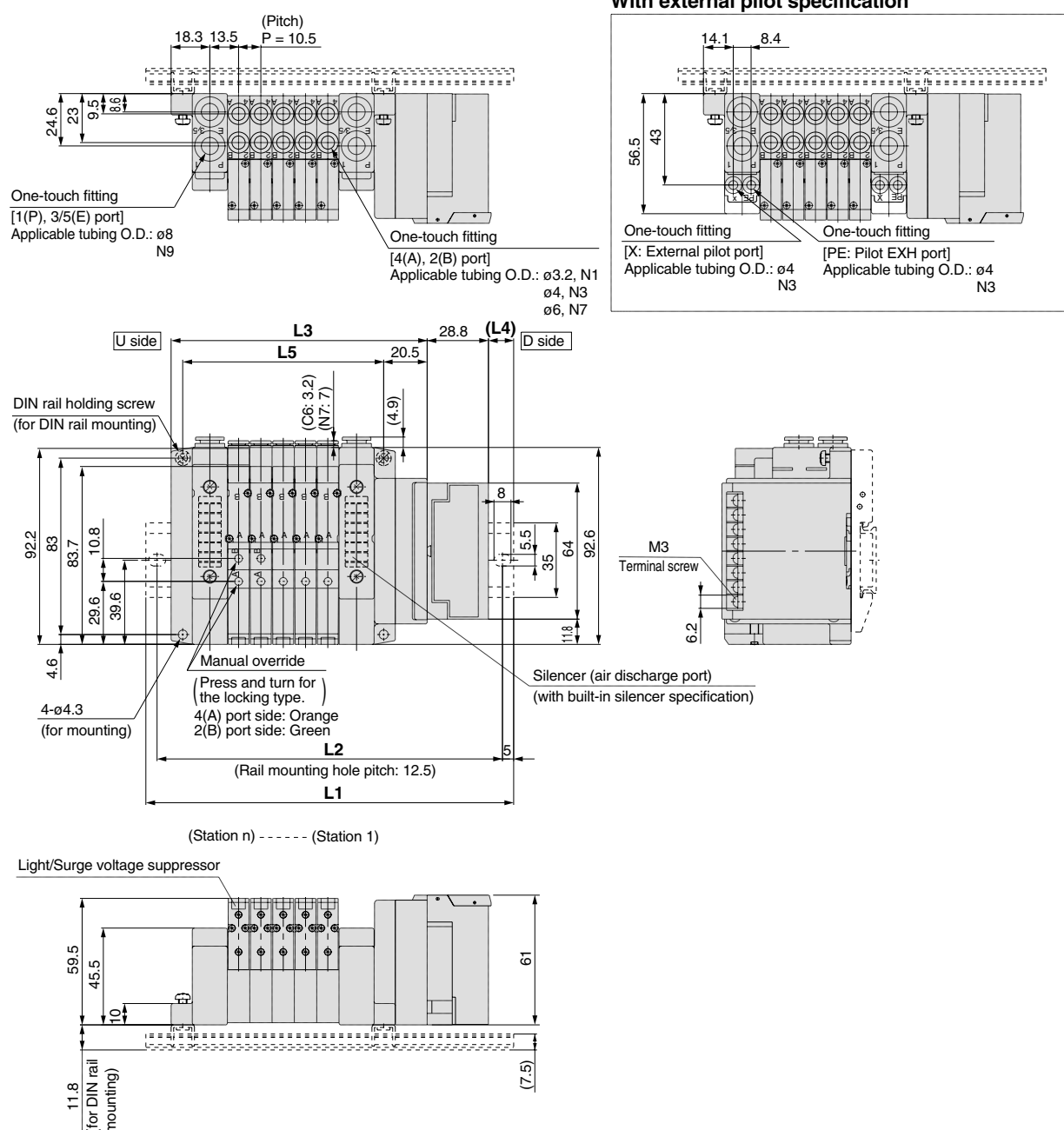
Note) The width of type E (Matsushita Electric Works) and type G (Rockwell Automation) SI units is 24.3mm greater.
Contact SMC for details.

Dimensions: Series SV1000 for EX120 Dedicated Output Serial Wiring

1in = 25.4mm

• Tie-rod base manifold: **SS5V1-10S3□D - Stations** $\begin{matrix} \text{U} \\ \text{D} \\ \text{B} \end{matrix}$ (S, R, RS) - $\begin{matrix} \text{C3, N1} \\ \text{C4, N3} \\ \text{C6, N7} \end{matrix}$ (-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 dimensions (mm)

n: Stations

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	148	160.5	173	173	185.5	198	210.5	223	235.5	235.5	248	260.5	273	285.5	298
L2	137.5	150	162.5	162.5	175	187.5	200	212.5	225	225	237.5	250	262.5	275	287.5
L3	89	99.5	110	120.5	131	141.5	152	162.5	173	183.5	194	204.5	215	225.5	236
L4	15	16	17	12	13	14	15	16	17	11.5	12.5	13.5	14.5	15.5	16.5
L5	63	73.5	84	94.5	105	115.5	126	136.5	147	157.5	168	178.5	189	199.5	210

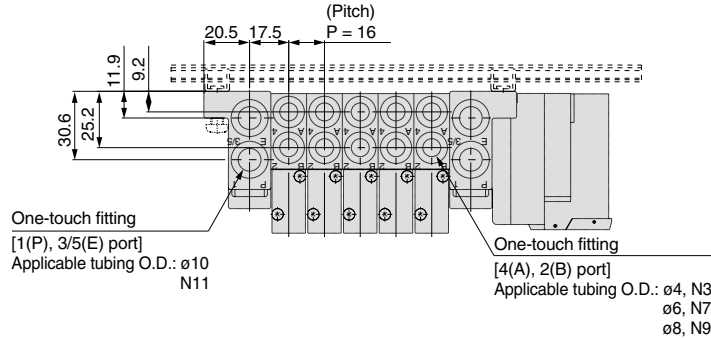
Note) The width of type E (Matsushita Electric Works) and type G (Rockwell Automation) SI units is 24.3mm greater.
Contact SMC for details.

Dimensions: Series SV2000 for EX120 Dedicated Output Serial Wiring

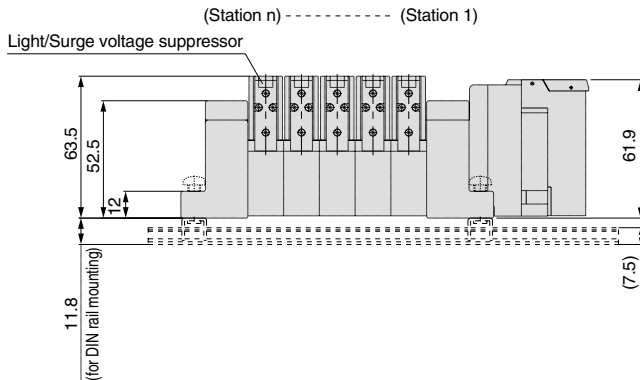
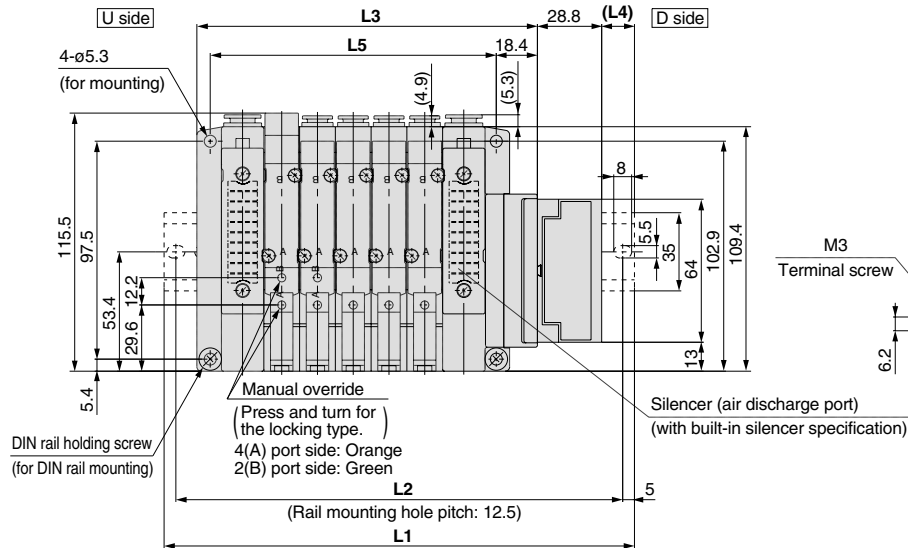
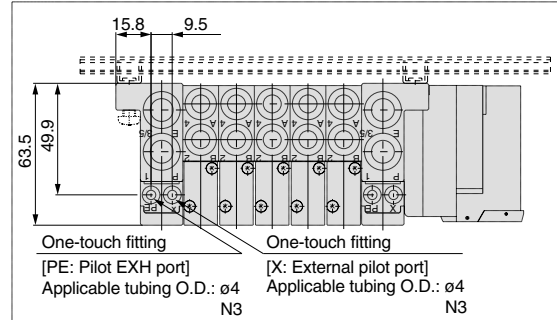
1in = 25.4mm

• Tie-rod base manifold: **SS5V2-10S3□D** - Stations $\frac{U}{D}$ **(S, R, RS)** - $\frac{C4, N3}{C6, N7}$ **(-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.



With external pilot specification



L dimensions (mm)

n: Stations

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	160.5	173	198	210.5	223	248	260.5	273	285.5	310.5	323	335.5	360.5	373	385.5
L2	150	162.5	187.5	200	212.5	237.5	250	262.5	275	300	312.5	325	350	362.5	375
L3	104.4	120.4	136.4	152.4	168.4	184.4	200.4	216.4	232.4	248.4	264.4	280.4	296.4	312.4	328.4
L4	13.5	12	16.5	14.5	13	17.5	15.5	14	12	16.5	15	13	17.5	16	14
L5	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304

Note) The width of type E (Matsushita Electric Works) and type G (Rockwell Automation) SI units is 24.3mm greater.
Contact SMC for details.

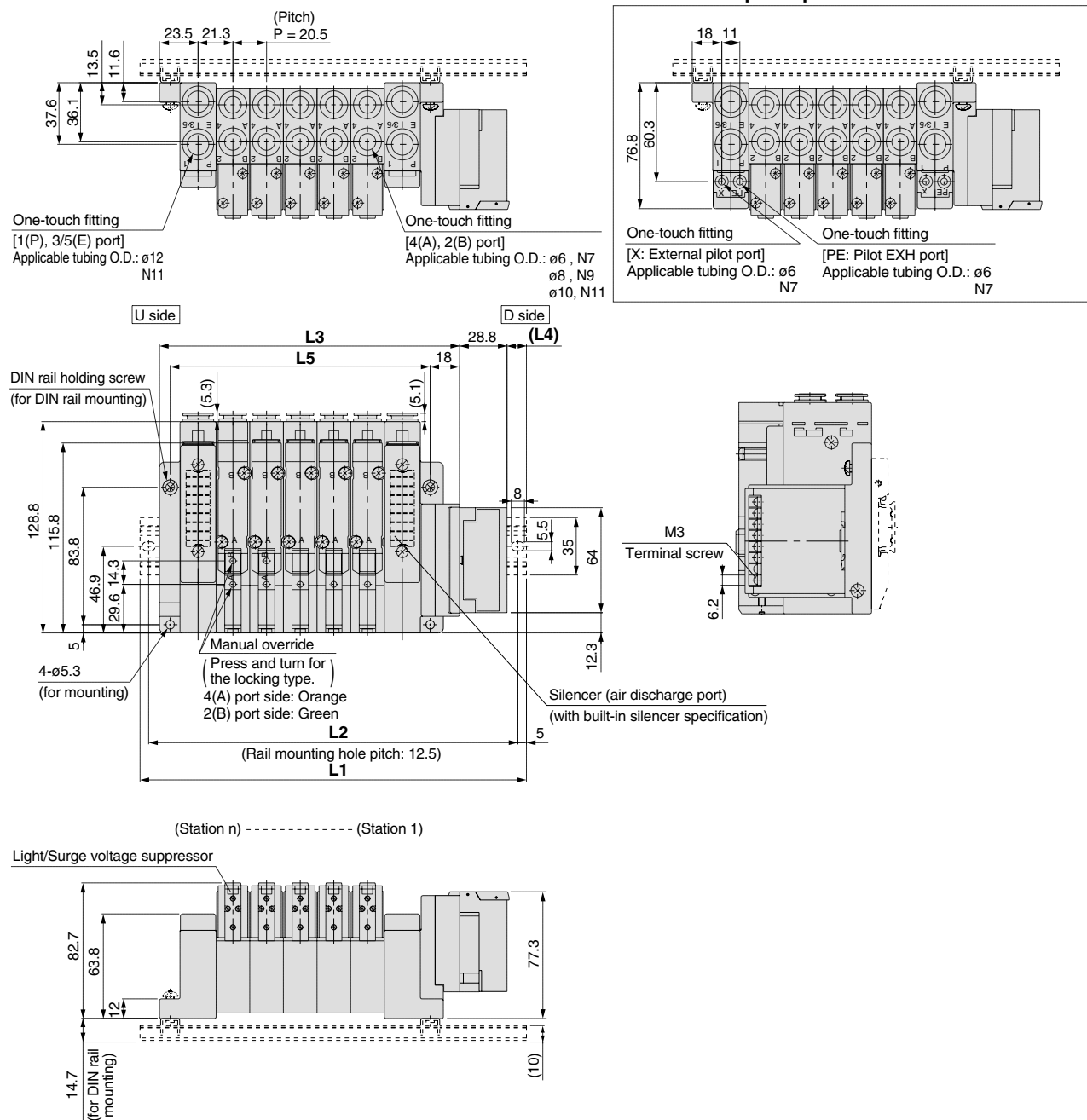
Dimensions: Series SV3000 for EX120 Dedicated Output Serial Wiring

• Tie-rod base manifold: **SS5V3-10S3□D** - Stations $\frac{U}{D}$ (S, R, RS) - C6, N7 (-D)
C8, N9
C10, N11

1in = 25.4mm

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

With external pilot specification



L dimensions (mm)

n: Stations

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	185.5	198	223	235.5	260.5	285.5	298	323	348	360.5	385.5	410.5	423	448	460.5
L2	175	187.5	212.5	225	250	275	287.5	312.5	337.5	350	375	400	412.5	437.5	450
L3	121.5	142	162.5	183	203.5	224	244.5	265	285.5	306	326.5	347	367.5	388	408.5
L4	17.5	13.5	16	12	14	16.5	12.5	14.5	17	13	15	17.5	13.5	15.5	11.5
L5	97	117.5	138	158.5	179	199.5	220	240.5	261	281.5	302	322.5	343	363.5	384

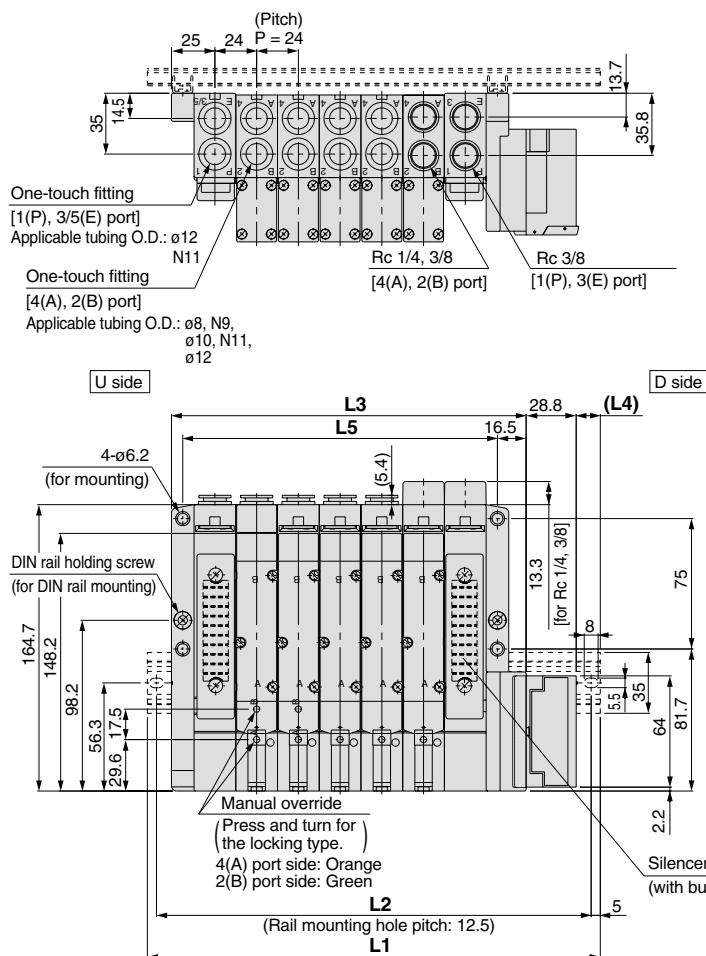
Note) The width of type E (Matsushita Electric Works) and type G (Rockwell Automation) SI units is 24.3mm greater.
Contact SMC for details.

Dimensions: Series SV4000 for EX120 Dedicated Output Serial Wiring

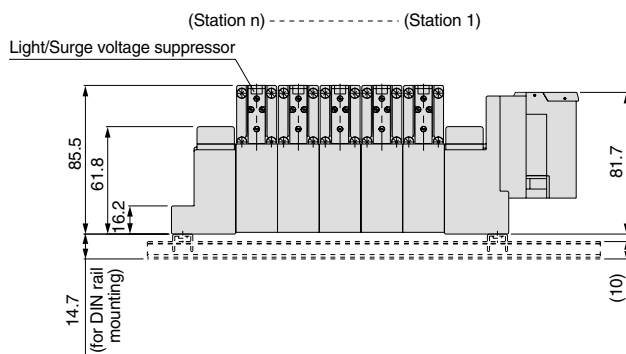
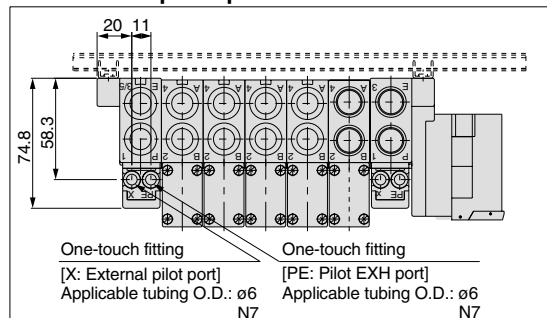
1in = 25.4mm

• Tie-rod base manifold: **SS5V4-10S3** **D** - Stations $\begin{matrix} \text{U} \\ \text{D} \\ \text{B} \end{matrix}$ (**S, R, RS**) - $\begin{matrix} 02, \text{C8}, \text{N9}, \\ 03, \text{C10}, \text{N11} \end{matrix}$ (**-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.



With external pilot specification



L dimensions (mm)

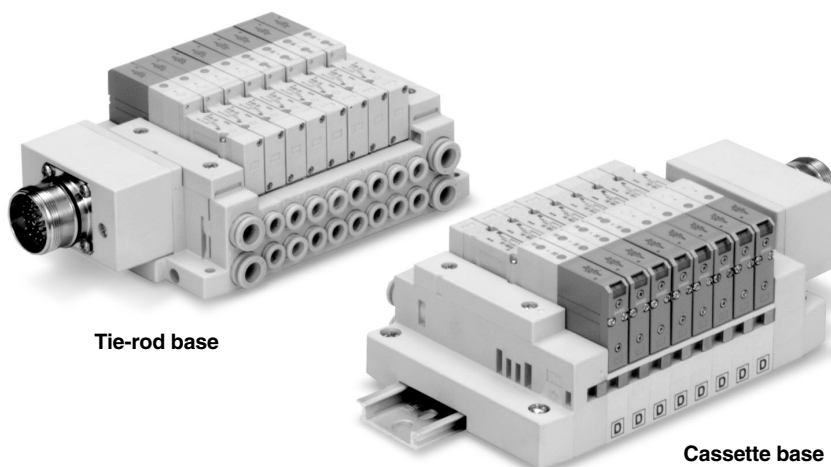
n: Stations

n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	185.5	210.5	235.5	260.5	285.5	310.5	335.5	360.5	385.5	410.5	435.5	448	473	498	523
L2	175	200	225	250	275	300	325	350	375	400	425	437.5	462.5	487.5	512.5
L3	132	156	180	204	228	252	276	300	324	348	372	396	420	444	468
L4	12.5	13	13.5	14	14.5	15	15.5	16	16.5	17	17.5	11.5	12	12.5	13
L5	109	133	157	181	205	229	253	277	301	325	349	373	397	421	445

Note) The width of type E (Matsushita Electric Works) and type G (Rockwell Automation) SI units is 24.3mm greater.
Contact SMC for details.

Circular Connector

IP67 protection



Tie-rod base

Cassette base

Applicable series	Cassette base manifold SV1000/SV2000
	Tie-rod base manifold SV1000/SV2000/SV3000/SV4000
	• Number of connectors: 26 pins

How to Order

• Tie-rod base

• Cassette base

Series

1	SV1000
2	SV2000
3	SV3000
4	SV4000

Valve stations

Symbol	Stations	Note
02	2 stations	Double wiring specification Note 1)
:	:	
12	12 stations	Specified layout (Up to 24 solenoids possible.) Note 2)
02	2 stations	
:	:	
20	20 stations	

Mounting

Nil	Direct mount
D	DIN rail mount (with DIN rail)
D0 ^{Note)}	DIN rail mount (without DIN rail)
D3	For 3 stations
:	:
D20	For 20 stations

Note 1) Double wiring specification: Single, double and 3 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 wiring specifications on a manifold specification sheet. (Note that double and 3 position valves cannot be used where single solenoid wiring has been specified.)

Note) In case of D0, only DIN rail fittings are attached.

DIN rail length

Nil	Standard length
3	For 3 stations
:	:
20	For 20 stations

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	ø10 One-touch fitting	SV2000	
C4	ø4 One-touch fitting			
C6	ø6 One-touch fitting	ø12 One-touch fitting	SV3000	
C8	ø8 One-touch fitting			
C6	ø6 One-touch fitting	ø12 One-touch fitting	SV4000	
C8	ø8 One-touch fitting			
C10	ø10 One-touch fitting	One-touch fitting		
C12	ø12 One-touch fitting			
02	Rc 1/4	Rc 3/8		
03	Rc 3/8			
02F	G 1/4	G 3/8		
03F	G 3/8			
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	ø3/8" One-touch fitting	SV2000	
N3	ø5/32" 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	ø3/8" One-touch fitting	SV4000	
N9	ø5/16" One-touch fitting			
N11	ø3/8" One-touch fitting	NPT 3/8		
02N	NPT 1/4			
03N	NPT 3/8	NPTF 3/8		
02T	NPTF 1/4			
03T	NPTF 3/8			
M	A, B ports mixed			

Enclosure IP67 specification

Valve stations

Series SV1000

Symbol	Stations	Note
02	2 stations	Double wiring specification Note 1)
:	:	
09	9 stations	Specified layout (Up to 18 solenoids possible.) Note 2)
02	2 stations	
:	:	
18	18 stations	

Note 1) Double wiring specification: Single, double and 3 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 wiring specifications on a manifold specification sheet. (Note that double and 3 position valves cannot be used where single solenoid wiring has been specified.)

Series SV2000

Symbol	Stations	Note
02	2 stations	Double wiring specification Note 1)
:	:	
12	12 stations	Specified layout (Up to 24 solenoids possible.) Note 2)
02	2 stations	
:	:	
20	20 stations	

P, E port position

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

Supply/Exhaust block assembly specification

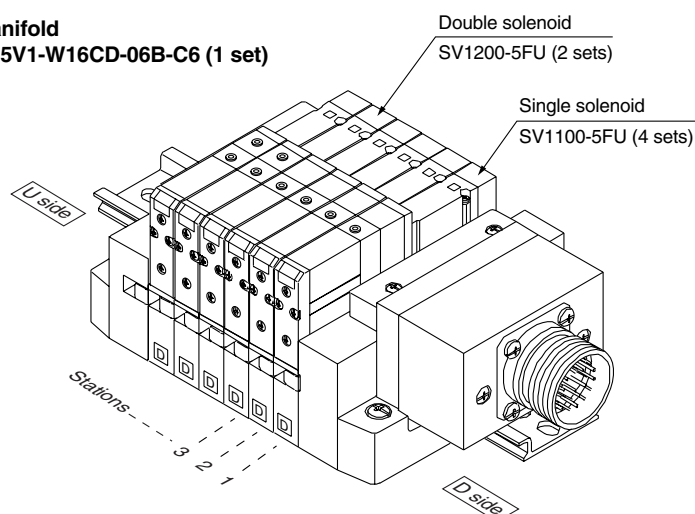
Nil	Internal pilot specification
S*	Internal pilot/Built-in silencer
R	External pilot specification
RS*	External pilot/Built-in silencer

* When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

How to Order Manifold Assemblies (Order Example)

Example (SV1000)

Manifold
SS5V1-W16CD-06B-C6 (1 set)



SS5V1-W16CD-06B-C6 1 set (manifold part no.)
 * SV1100-5FU 4 sets (single solenoid part no.)
 * SV1200-5FU 2 sets (double solenoid part no.)

How to Order Solenoid Valves

SV 1 1 00 — 5 F

(Note) Available with manifold block for station additions. Refer to pages 77 and 81.

Series

1	SV1000
2	SV2000
3	SV3000
4	SV4000

Type of actuation

1	2 position single solenoid
2	2 position double solenoid
3	3 position closed center
4	3 position exhaust center
5	3 position pressure center
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 series SV1000 and SV2000 only.

Pilot specification

Nil	Internal pilot
R	External pilot

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

Back pressure check valve

Nil	None
K	Built-in

* Built-in back pressure check valve type is applicable to series SV1000 only.

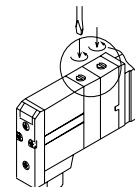
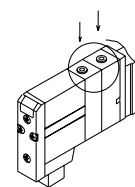
* Back pressure check valve is not available for 3 position closed center and 3 position pressure center.

* Effective area of the built-in back pressure check valve type is reduced approximately 20%.

Manual override

Nil: Non-locking push type

D: Slotted locking type



Light/Surge voltage suppressor

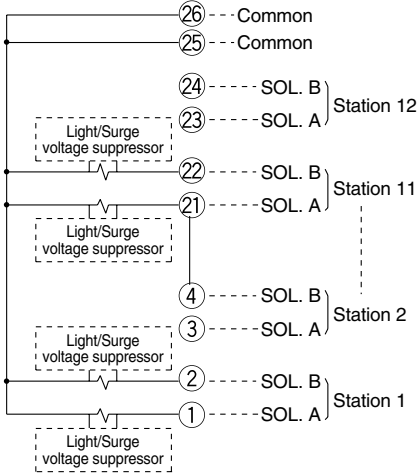
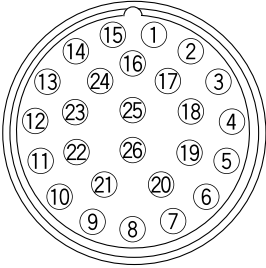
U	With light and surge voltage suppressor
R	With surge voltage suppressor

Rated voltage

5	24VDC
6	12VDC

Manifold Electrical Wiring

10C/16C Circular Connector Type (26 pins)



- This circuit has double wiring specifications for up to 12 stations. Since the usable number of solenoids differs depending on the manifold type, refer to the table below. In the case of single solenoids, connect to SOL. A. Furthermore, when wiring is specified on a manifold specification sheet, connections are made without skipping any connectors, and signals A for single and A, B for double are in order 1→2→3→4, etc.
- Stations are counted starting from station 1 on the D side (connector side).
- Since solenoid valves do not have polarity, either the +COM or –COM can be used.

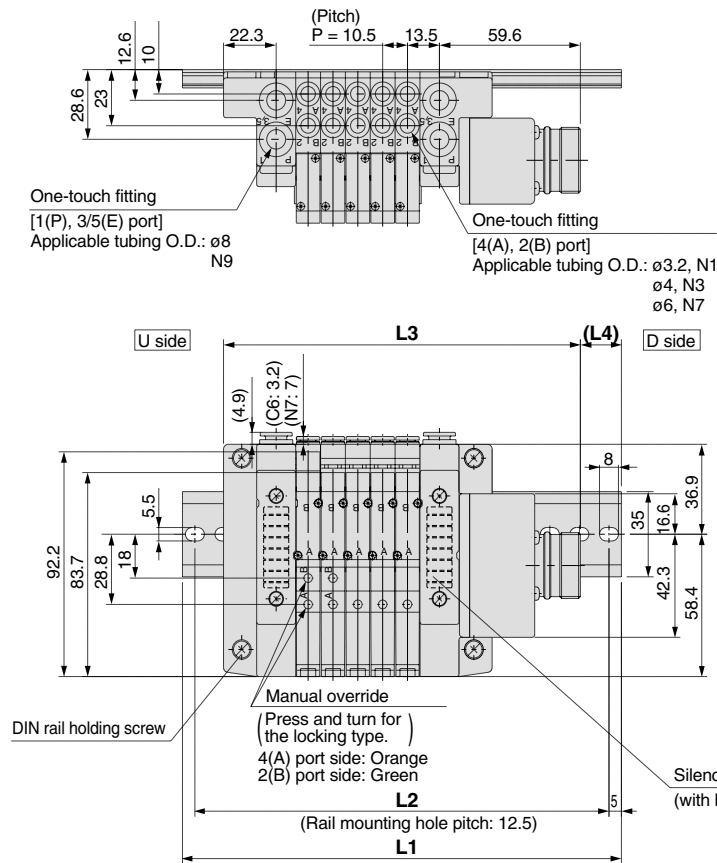
Usable number of solenoids

Model		Maximum number of solenoids
Tie-rod base type 10	SV1000 to SV4000	24
Cassette base type 16	SV1000	18
	SV2000	24

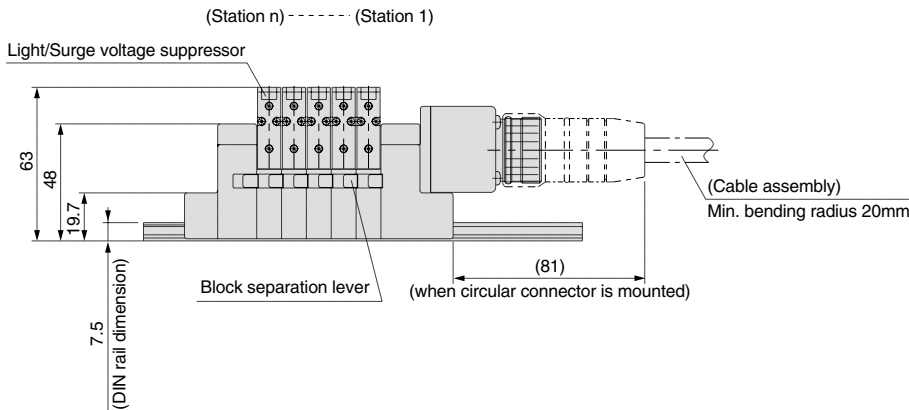
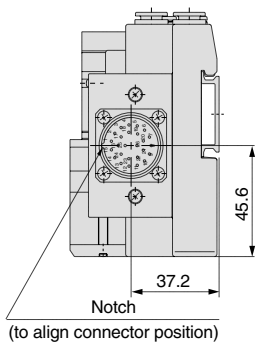
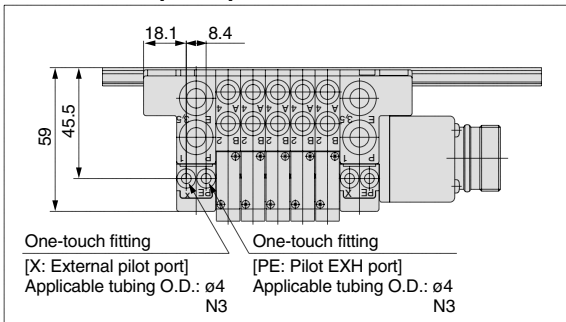
Dimensions: Series SV1000 for Circular Connector

• Cassette base manifold: **SS5V1-W16CD** - Stations $\begin{matrix} U \\ D \\ B \end{matrix}$ (S, R, RS) - $\begin{matrix} C3, N1 \\ C4, N3 \\ C6, N7 \end{matrix}$ 1in = 25.4mm

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



With external pilot specification



L dimensions (mm)

n: Stations

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

Dimensions: Series SV2000 for Circular Connector

• Cassette base manifold: **SS5V2-W16CD-**

Stations
U D B

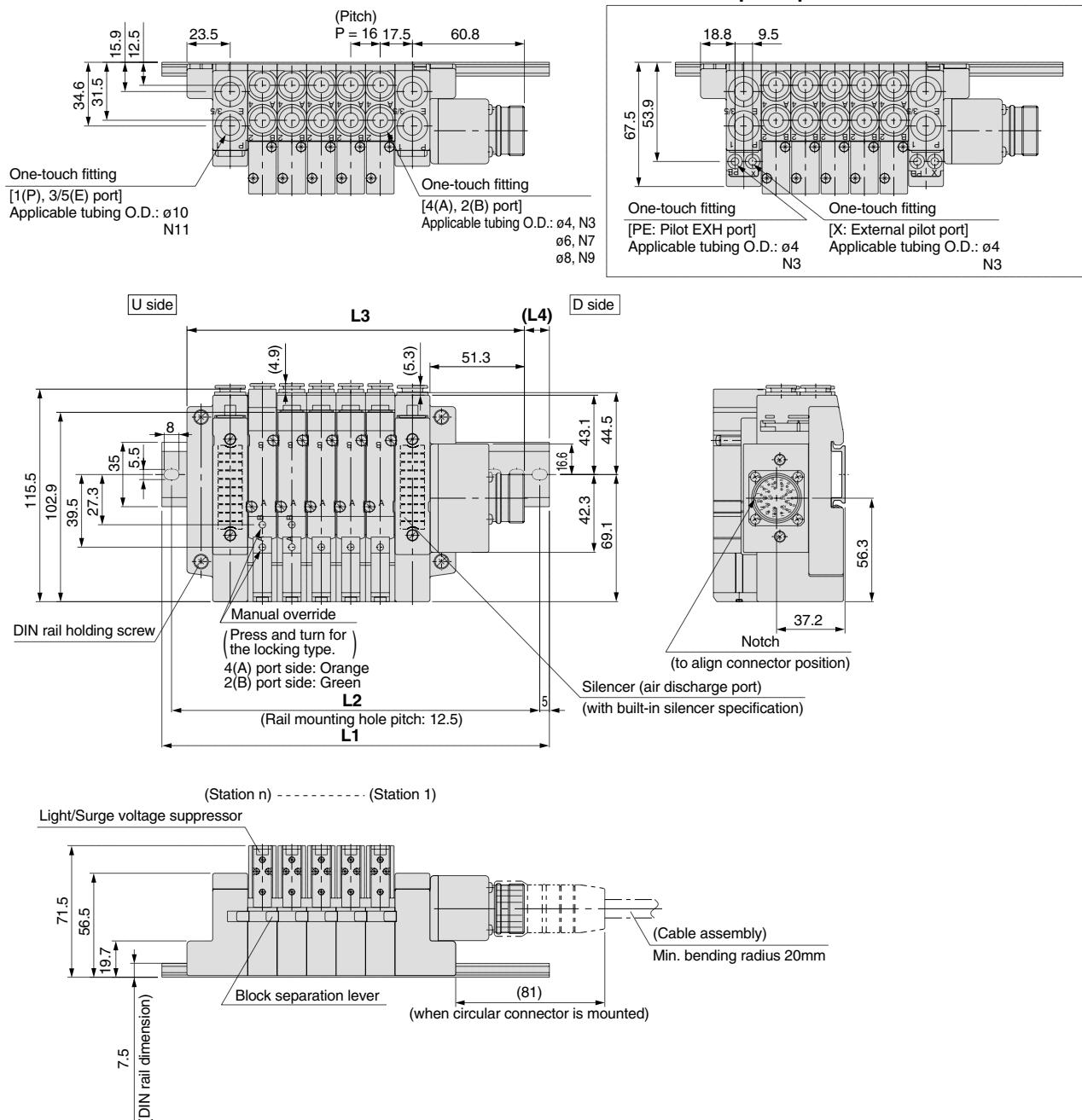
 (S, R, RS) -

C4, N3
C6, N7
C8, N9

1in = 25.4mm

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

With external pilot specification



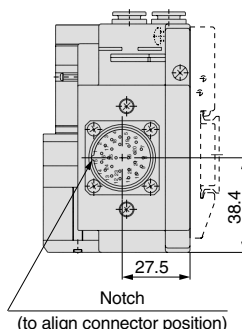
L dimensions (mm)

n: Stations

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

1in = 25.4mm

- 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.

 49

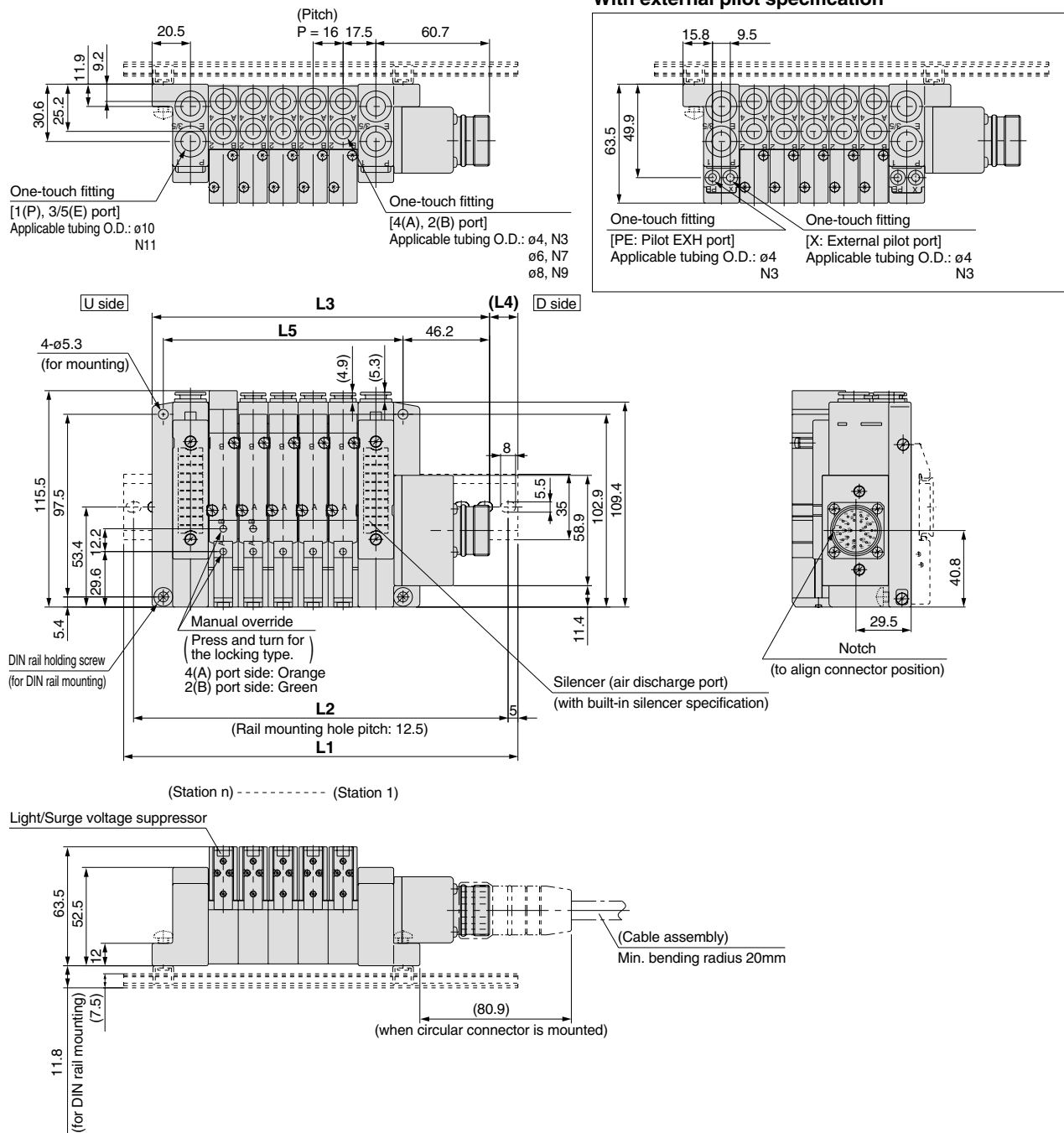
Dimensions: Series SV2000 for Circular Connector

1in = 25.4mm

• Tie-rod base manifold: **SS5V2-W10CD** - Stations $\begin{matrix} U \\ D \end{matrix}$ **(S, R, RS) - $\begin{matrix} C4, N3 \\ C6, N7 \\ C8, N9 \end{matrix}$ (-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.

With external pilot specification



L dimensions (mm)

n: Stations

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

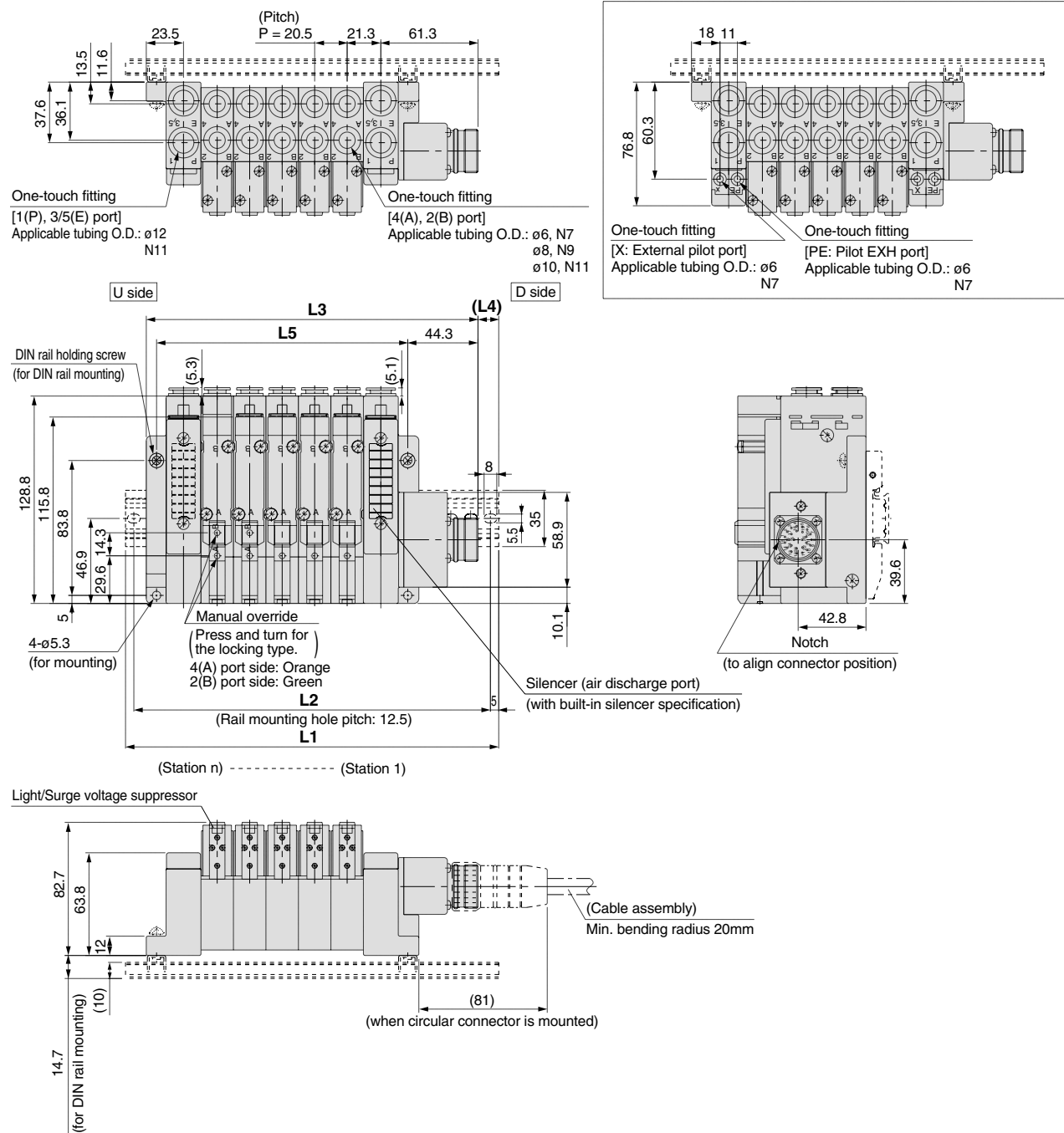
Dimensions: Series SV3000 for Circular Connector

1in = 25.4mm

• Tie-rod base manifold: **SS5V3-W10CD** - Stations $\begin{matrix} U \\ D \end{matrix}$ **(S, R, RS)** - $\begin{matrix} C6, N7 \\ C8, N9 \\ C10, N11 \end{matrix}$ **(-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.

With external pilot specification



L dimensions (mm)

n : Stations

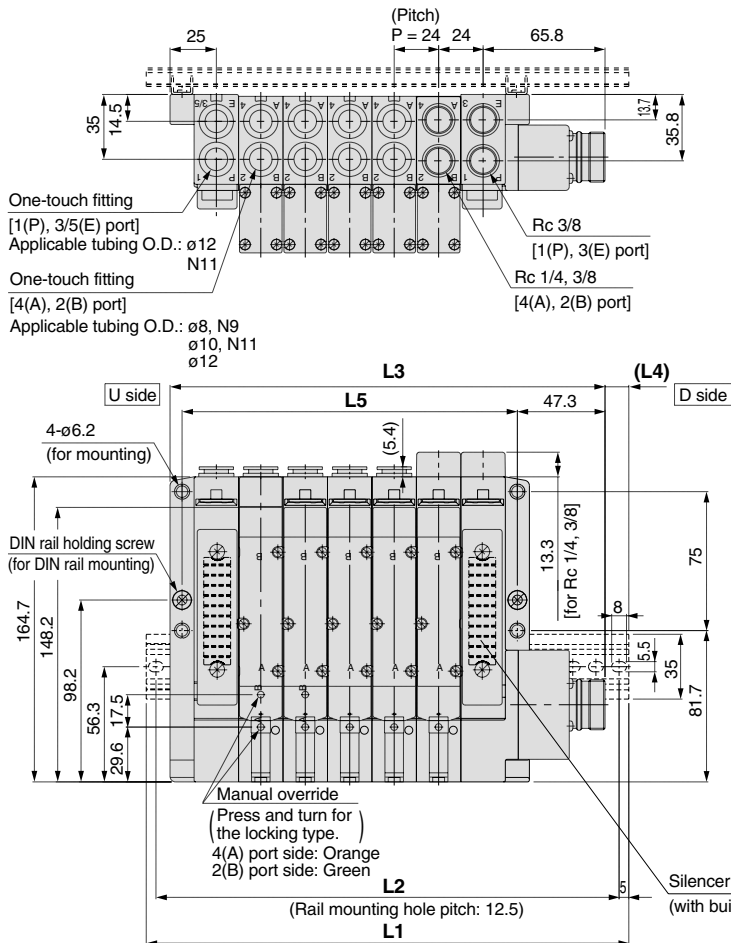
n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	173	198	223	235.5	260.5	285.5	298	323	335.5	360.5	385.5	398	423	448	460.5	485.5	510.5	523	548
L2	162.5	187.5	212.5	225	250	275	287.5	312.5	325	350	375	387.5	412.5	437.5	450	475	500	512.5	537.5
L3	147.8	168.3	188.8	209.3	229.8	250.3	270.8	291.3	311.8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

Dimensions: Series SV4000 for Circular Connector

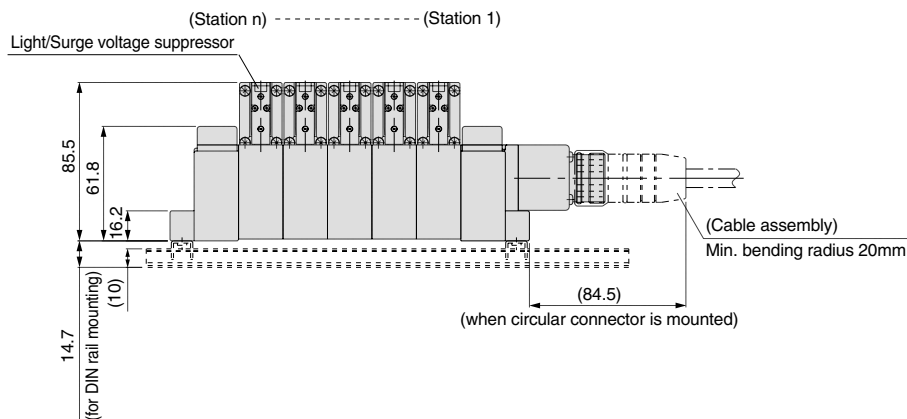
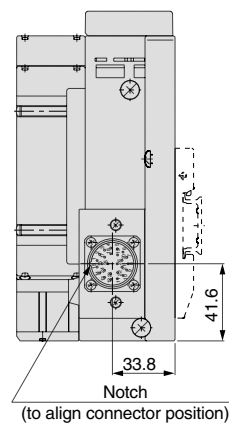
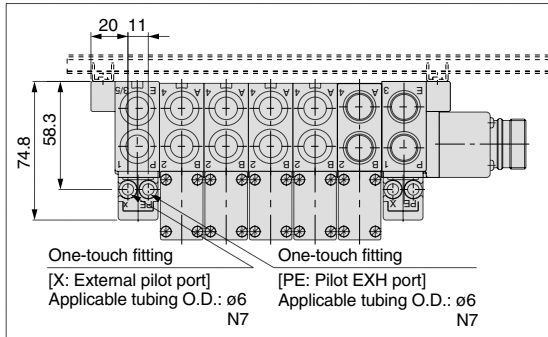
• Tie-rod base manifold: **SS5V4-W10CD** - Stations $\begin{matrix} U \\ D \\ B \end{matrix}$ (**S, R, RS**) - $\begin{matrix} 02, C8, N9, \\ 03, C10, N11, \\ C12, \end{matrix}$ (**-D**)

1in = 25.4mm

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



With external pilot specification

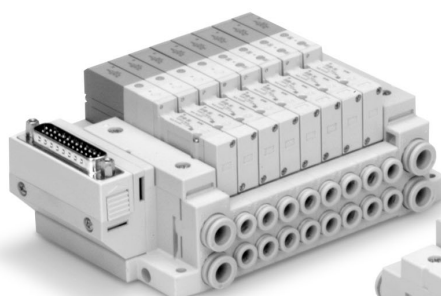


L dimensions (mm)

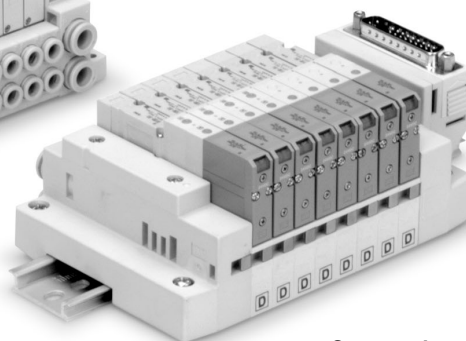
n: Stations

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

D-sub Connector



Tie-rod base



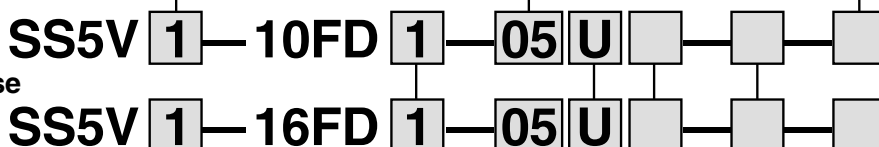
Cassette base

Applicable series	Cassette base manifold SV1000/SV2000
	Tie-rod base manifold SV1000/SV2000/SV3000/SV4000
	• Number of connectors: 25 pins • MIL-C-24308 • Conforms to JIS-X-5101

How to Order

• Tie-rod base

• Cassette base



• Series

1	SV1000
2	SV2000
3	SV3000
4	SV4000

• Valve stations

Symbol	Stations	Note
02	2 stations	Double wiring specification
11	11 stations	
02	2 stations	Specified layout (Up to 23 solenoids possible.)
20	20 stations	

Note 1) Double wiring specification: Single, double and 3 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 wiring specifications on a manifold specification sheet. (Note that double and 3 position valves cannot be used where single solenoid wiring has been specified.)

• Mounting

Nil	Direct mount
D	DIN rail mount (with DIN rail)
Note) D0	DIN rail mount (without DIN rail)
D3	For 3 stations
:	:
D20	For 20 stations

Note) In case of D0, only DIN rail fittings are attached.

Valve stations

Series SV1000

Symbol	Stations	Note
02	2 stations	Double wiring specification
:	:	
09	9 stations	Specified layout (Up to 18 solenoids possible.)
02	2 stations	
:	:	Specified layout (Up to 18 solenoids possible.)
18	18 stations	

Note 1) Double wiring specification: Single, double and 3 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 wiring specifications on a manifold specification sheet. (Note that double and 3 position valves cannot be used where single solenoid wiring has been specified.)

P, E port position

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

Pilot specification

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

• DIN rail length

Nil	Standard length
3	For 3 stations
:	:
20	For 20 stations

Series SV2000

Symbol	Stations	Note
02	2 stations	Double wiring specification
:	:	
11	11 stations	Specified layout (Up to 23 solenoids possible.)
02	2 stations	
:	:	Specified layout (Up to 23 solenoids possible.)
20	20 stations	

• 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	ø10 One-touch fitting	SV2000
C4	ø4 One-touch fitting		
C6	ø6 One-touch fitting	ø12 One-touch fitting	SV3000
C8	ø8 One-touch fitting		
C6	ø6 One-touch fitting	ø12 One-touch fitting	SV4000
C8	ø8 One-touch fitting		
C10	ø10 One-touch fitting	ø12 One-touch fitting	SV4000
C8	ø8 One-touch fitting		
C12	ø12 One-touch fitting	Rc 3/8	SV4000
02	Rc 1/4		
03	Rc 3/8	G 3/8	SV4000
02F	G 1/4		
03F	G 3/8	G 3/8	SV4000
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	ø3/8" One-touch fitting	SV2000
N3	ø5/32" One-touch fitting		
N7	ø1/4" One-touch fitting	ø3/8" One-touch fitting	SV3000
N9	ø5/16" One-touch fitting		
N7	ø1/4" One-touch fitting	ø3/8" One-touch fitting	SV4000
N9	ø5/16" One-touch fitting		
N11	ø3/8" One-touch fitting	ø3/8" One-touch fitting	SV4000
N9	ø5/16" One-touch fitting		
N11	ø3/8" One-touch fitting	NPT 3/8	SV4000
02N	NPT 1/4		
03N	NPT 3/8	NPTF 3/8	SV4000
02T	NPTF 1/4		
03T	NPTF 3/8	NPTF 3/8	SV4000
M	A, B ports mixed		

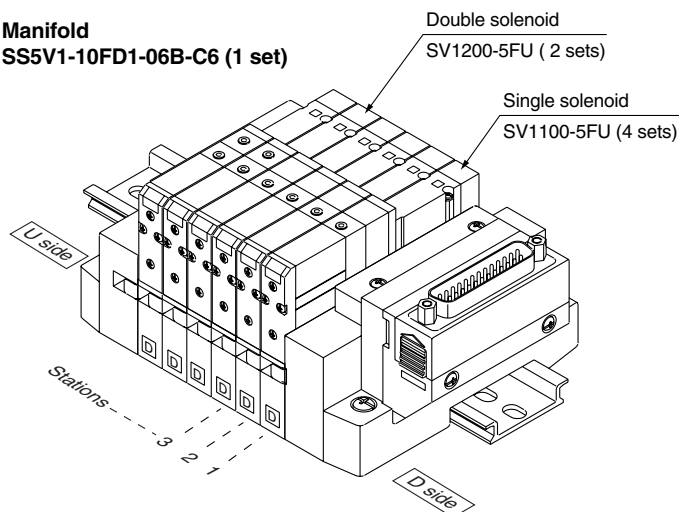
* In case of mixed specification (M), indicate separately on a manifold specification sheet.

How to Order Manifold Assemblies (Order Example)

Example (SV1000)

Manifold

SS5V1-10FD1-06B-C6 (1 set)



SS5V1-10FD1-06B-C6 1 set (manifold part no.)

* SV1100-5FU 4 sets (single solenoid part no.)

* SV1200-5FU 2 sets (double solenoid part no.)

How to Order Solenoid Valves

SV 1 1 0 0 — 5 F

Series

1	SV1000
2	SV2000
3	SV3000
4	SV4000

Type of actuation

1	2 position single solenoid
2	2 position double solenoid
3	3 position closed center
4	3 position exhaust center
5	3 position pressure center
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 series SV1000 and SV2000 only.

Pilot specification

Nil	Internal pilot
R	External pilot

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

Rated voltage

5	24VDC
6	12VDC

Back pressure check valve

Nil	None
K	Built-in

* Built-in back pressure check valve type is applicable to series SV1000 only.

* Back pressure check valve is not available for 3 position closed center and 3 position pressure center.

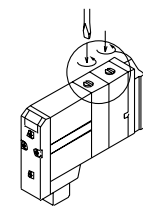
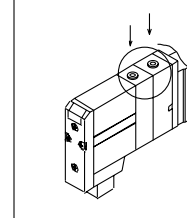
* Effective area of the built-in back pressure check valve type is reduced approximately 20%.

Note) Available with manifold block for station additions. Refer to pages 77 and 81.

Manual override

Nil: Non-locking push type

D: Slotted locking type

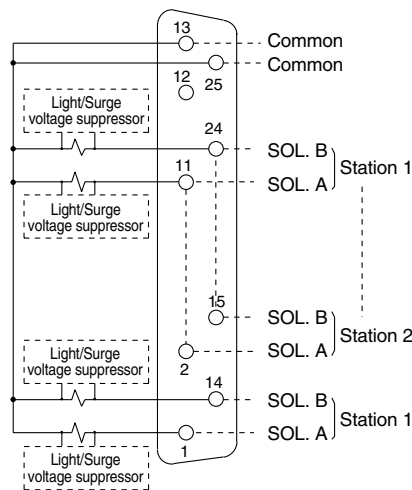


Light/Surge voltage suppressor

U	With light and surge voltage suppressor
R	With surge voltage suppressor

Manifold Electrical Wiring

10F/16F D-sub Connector Type (25 pins)



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

Usable number of solenoids

Model		Maximum number of solenoids
Tie-rod base type 10	SV1000	23
	to SV4000	
Cassette base type 16	SV1000	18
	SV2000	23

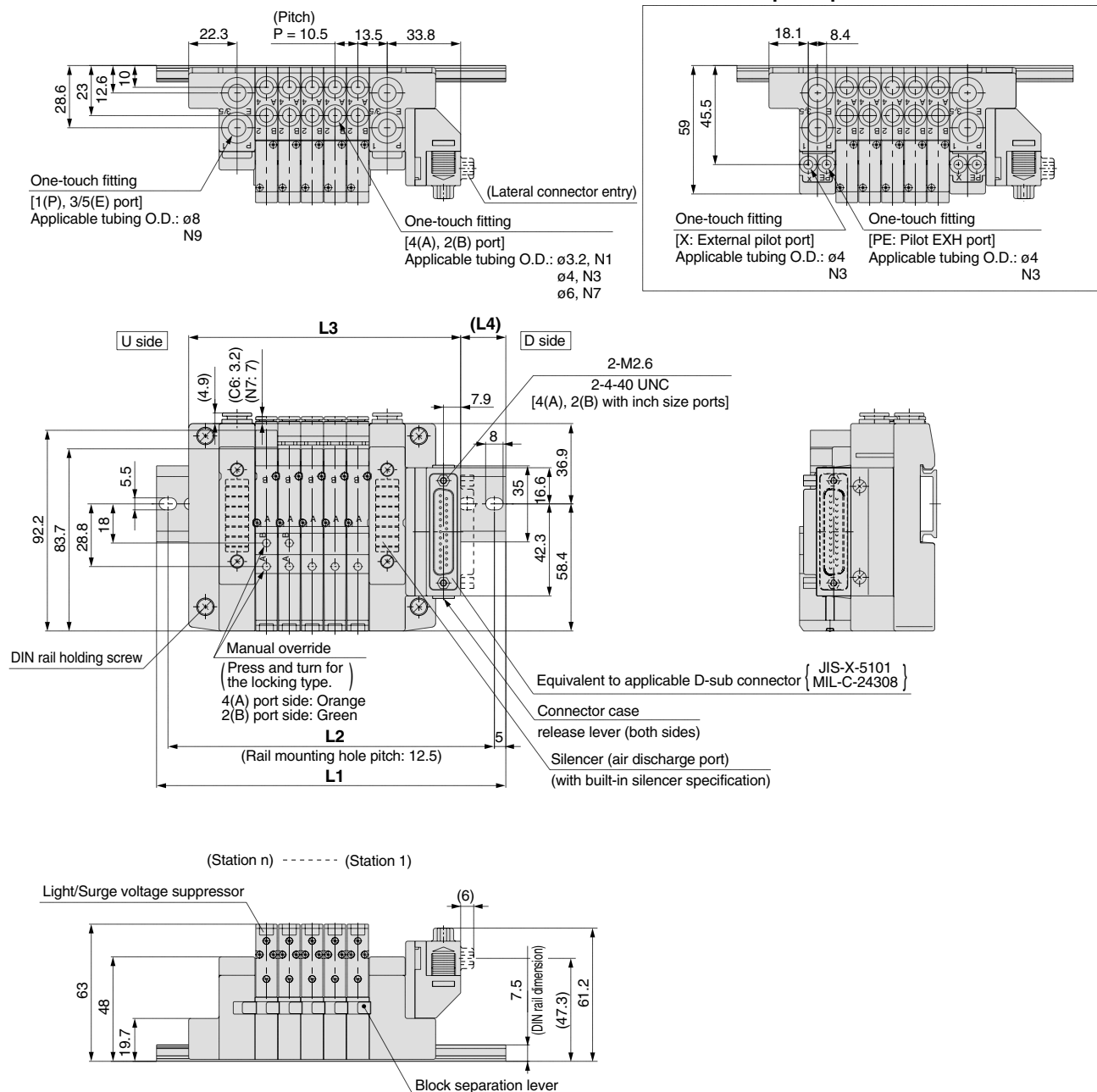
Dimensions: Series SV1000 for D-sub Connector

• Cassette base manifold: **SS5V1-16FD** $\frac{1}{2}$ - Stations $\begin{matrix} U \\ D \\ B \end{matrix}$ (S, R, RS) - $\begin{matrix} C3, N1 \\ C4, N3 \\ C6, N7 \end{matrix}$

1in = 25.4mm

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

With external pilot specification



L dimensions (mm)

n: Stations

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
L1	123	135.5	148	160.5	173	185.5	198	198	210.5	223	235.5	248	260.5	260.5	273	285.5	298
L2	112.5	125	137.5	150	162.5	175	187.5	187.5	200	212.5	225	237.5	250	250	262.5	275	287.5
L3	99.5	110	120.5	131	141.5	152	162.5	173	183.5	194	204.5	215	225.5	236	246.5	257	267.5
L4	12	13	14	15	16	17	18	12.5	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5

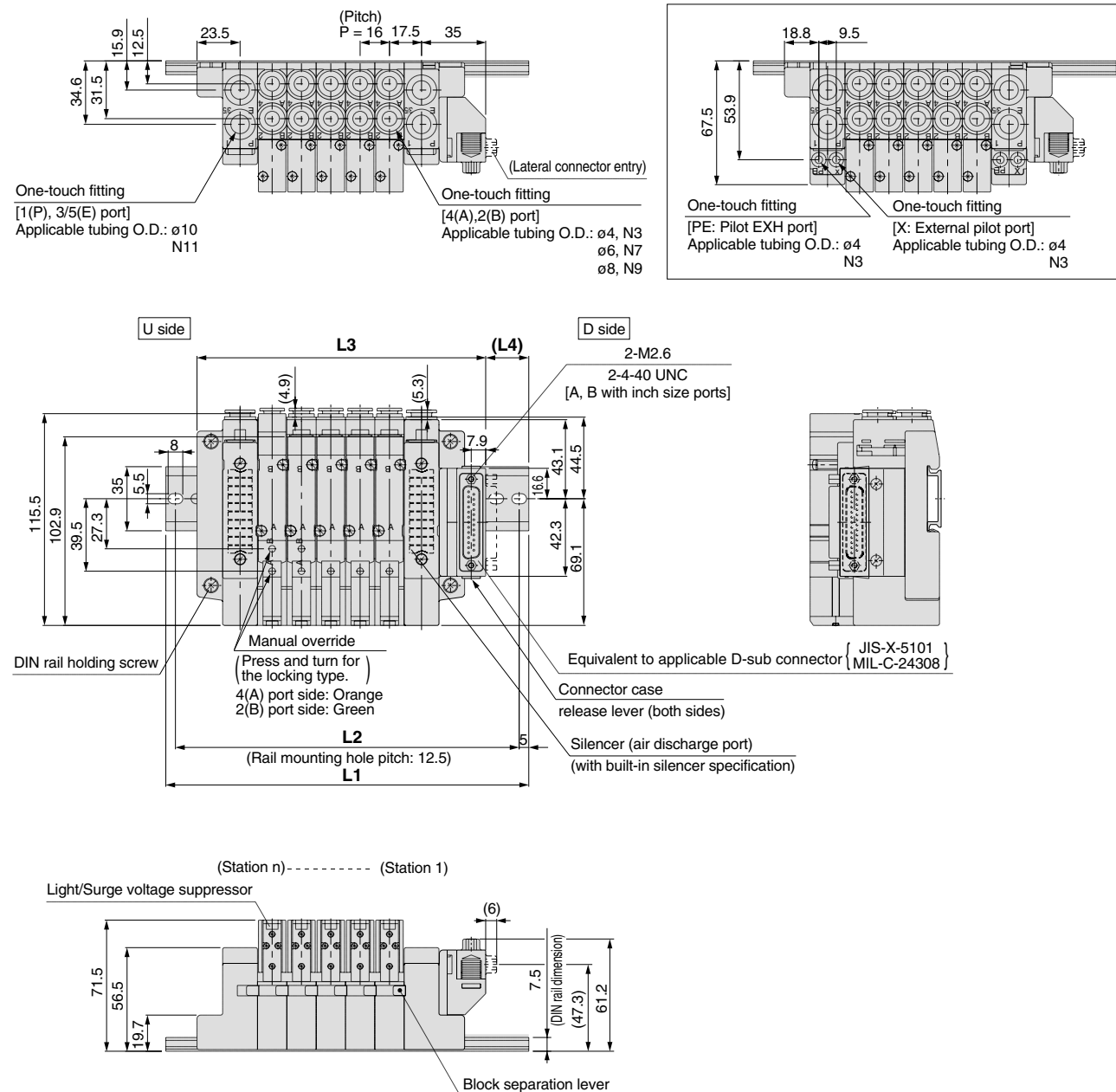
Dimensions: Series SV2000 for D-sub Connector

• Cassette base manifold: **SS5V2-16FD** $\frac{1}{2}$ - Stations $\begin{matrix} U \\ D \\ B \end{matrix}$ (**S, R, RS**) - $\begin{matrix} C4, N3 \\ C6, N7 \\ C8, N9 \end{matrix}$

1in = 25.4mm

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

With external pilot specification



L dimensions (mm)

n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	148	160.5	173	198	210.5	223	235.5	260.5	273	285.5	310.5	323	335.5	348	373	385.5	398	423	435.5
L2	137.5	150	162.5	187.5	200	212.5	225	250	262.5	275	300	312.5	325	337.5	362.5	375	387.5	412.5	425
L3	109.5	125.5	141.5	157.5	173.5	189.5	205.5	221.5	237.5	253.5	269.5	285.5	301.5	317.5	333.5	349.5	365.5	381.5	397.5
L4	22.5	20.5	19	23.5	21.5	20	18	22.5	21	19	23.5	22	20	18.5	23	21	19.5	24	22

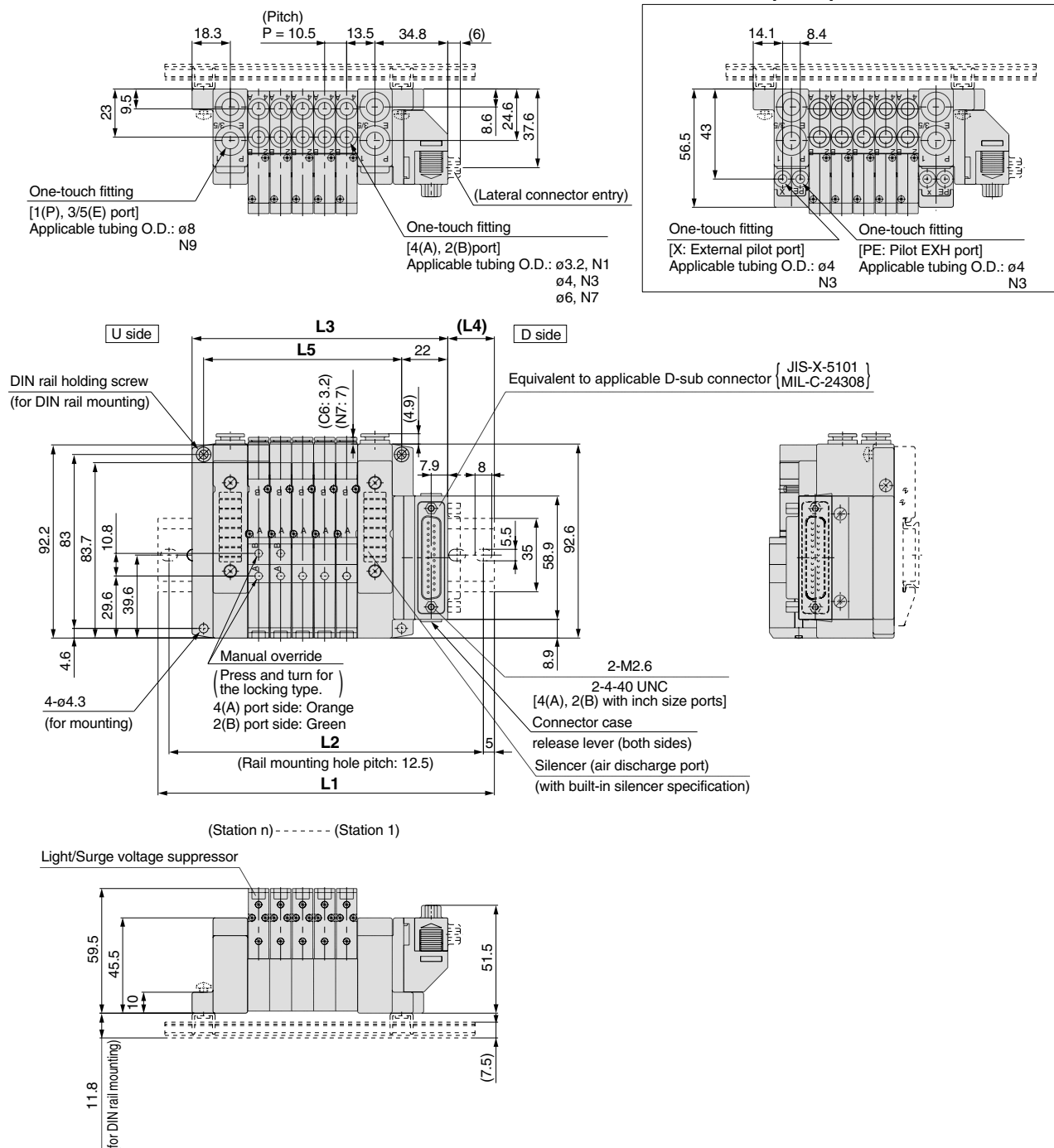
Dimensions: Series SV1000 for D-sub Connector

• Tie-rod base manifold: **SS5V1-10FD₂** - Stations $\frac{U}{D}$ **(S, R, RS) - C3, N1 C4, N3 C6, N7 (-D)**

1in = 25.4mm

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

With external pilot specification



L dimensions (mm)

n: Stations

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	123	135.5	148	160.5	173	173	185.5	198	210.5	223	235.5	235.5	248	260.5	273	285.5	298	310.5	310.5
L2	112.5	125	137.5	150	162.5	162.5	175	187.5	200	212.5	225	225	237.5	250	262.5	275	287.5	300	300
L3	90.5	101	111.5	122	132.5	143	153.5	164	174.5	185	195.5	206	216.5	227	237.5	248	258.5	269	279.5
L4	19.5	20.5	21.5	22.5	23.5	18	19	20	21	22	23	18	19	20	21	22	23	24	18.5
L5	63	73.5	84	94.5	105	115.5	126	136.5	147	157.5	168	178.9	189	199.5	210	220.5	231	241.5	252

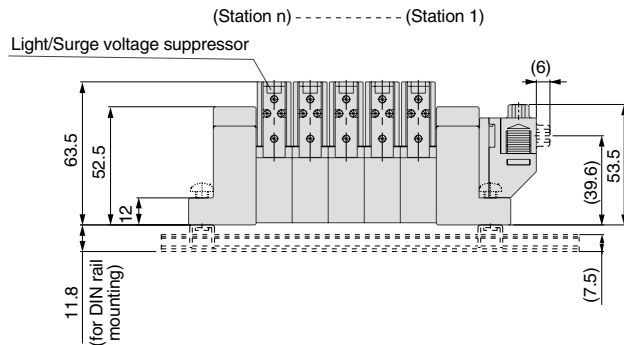
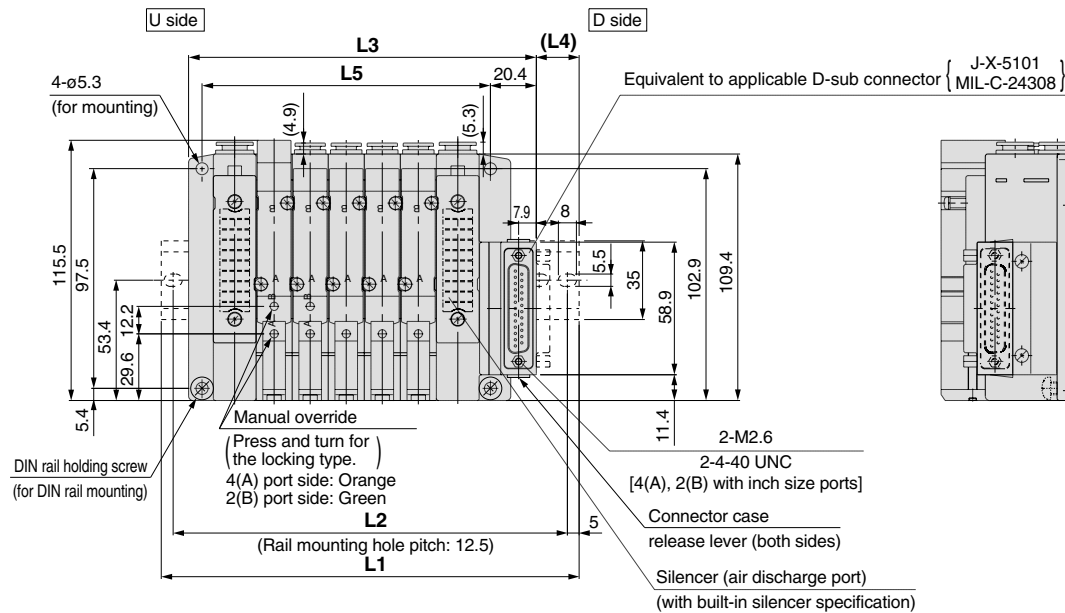
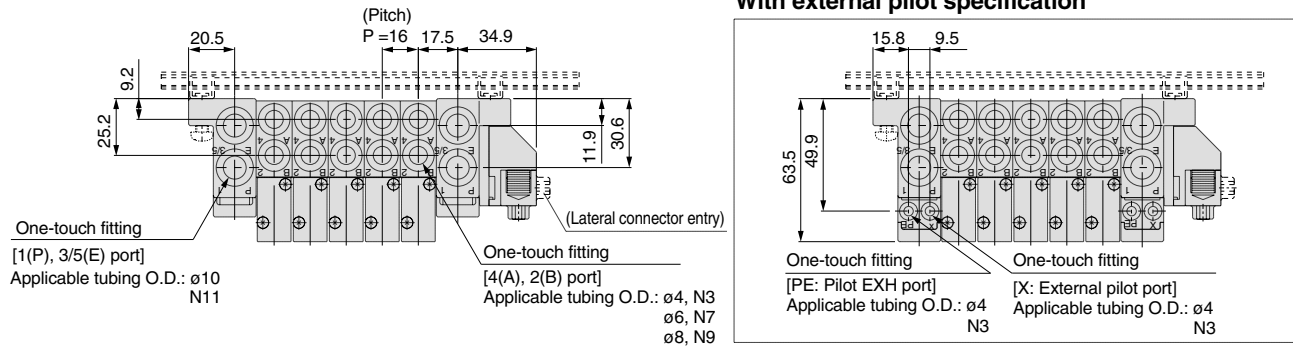
Dimensions: Series SV2000 for D-sub Connector

• Tie-rod base manifold: **SS5V2-10FD** $\frac{1}{2}$ = Stations $\begin{matrix} U \\ D \\ B \end{matrix}$ (S, R, RS) - $\begin{matrix} C4, N3 \\ C6, N7 \\ C8, N9 \end{matrix}$ (-D)

1in = 25.4mm

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

With external pilot specification



L dimensions (mm)

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	160.5	173	185.5	210.5	223	235.5	248	273	285.5	298	323	335.5	348	360.5	385.5	398	410.5	435.5
L2	125	150	162.5	175	200	212.5	225	237.5	262.5	275	287.5	312.5	325	337.5	350	375	387.5	400	425
L3	106.4	122.4	138.4	154.4	170.4	186.4	202.4	218.4	234.4	250.4	266.4	282.4	298.4	314.4	330.4	346.4	362.4	378.4	394.4
L4	18	22	20.5	19	23	21.5	20	18	22.5	21	19	23.5	22	20	18	22.5	21	19	23.5
L5	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304	320	336	352	368

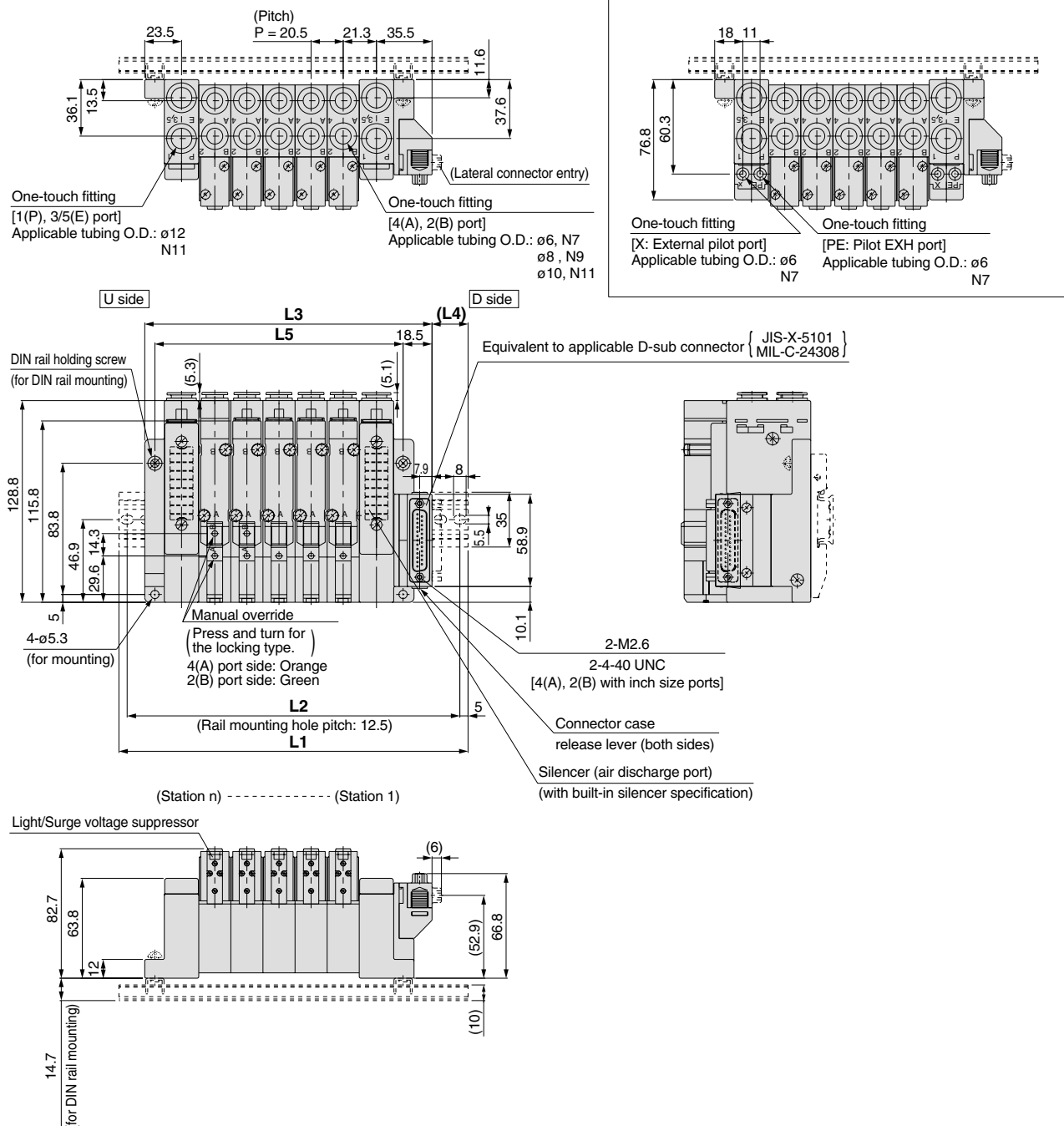
Dimensions/Series SV3000 for D-sub Connector

• Tie-rod base manifold: **SS5V3-10FD** $\frac{1}{2}$ - Stations $\begin{matrix} U \\ D \\ B \end{matrix}$ (S, R, RS) - $\begin{matrix} C6, N7 \\ C8, N9 \\ C10, N11 \end{matrix}$ (-D)

1in = 25.4mm

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

With external pilot specification



L dimensions (mm)

n: Stations

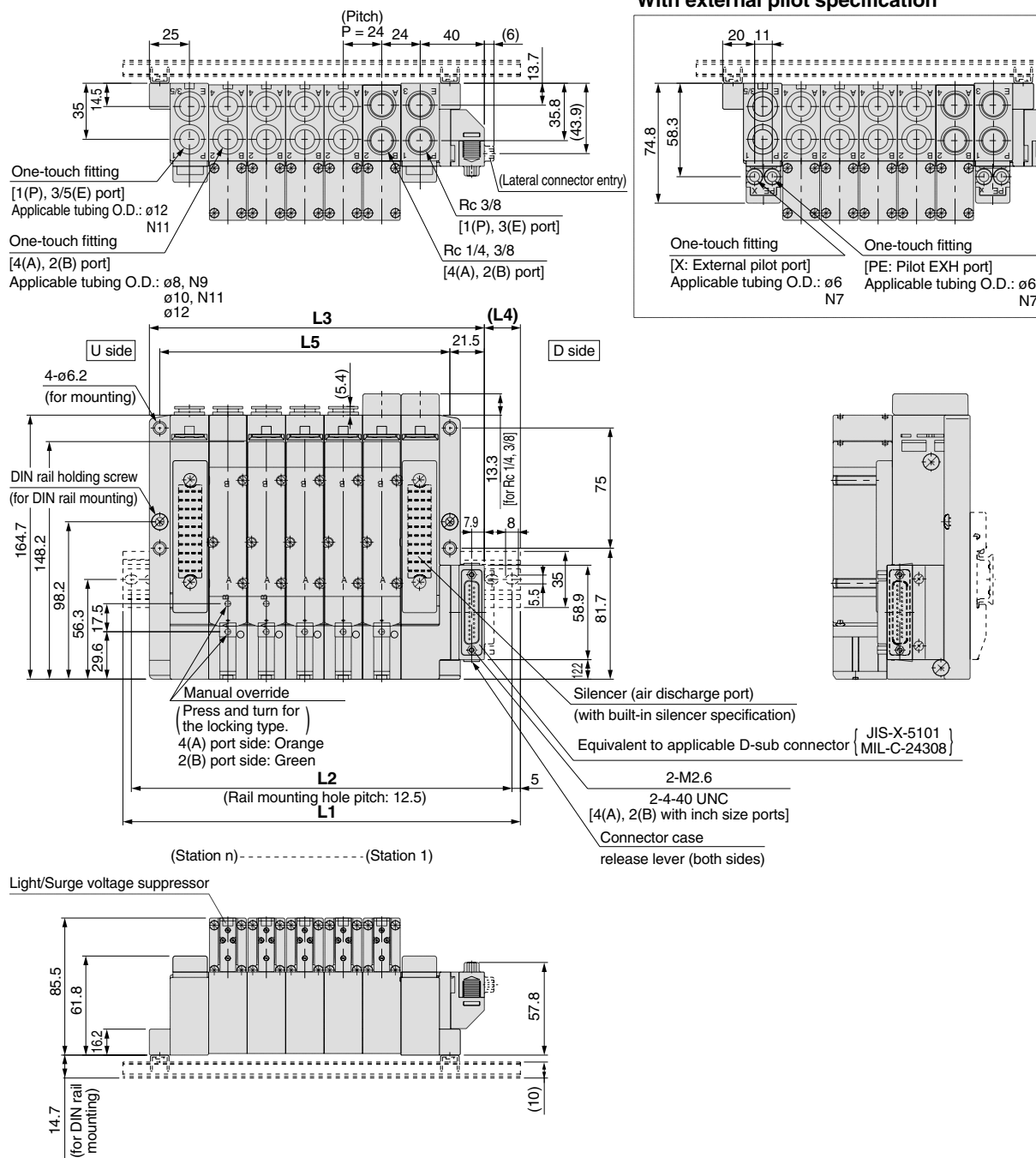
L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1		160.5	173	198	223	235.5	260.5	285.5	298	323	348	360.5	385.5	398	423	448	460.5	485.5	510.5	523
L2		150	162.5	187.5	212.5	225	250	275	287.5	312.5	337.5	350	375	387.5	412.5	437.5	450	475	500	512.5
L3		122	142.5	163	183.5	204	224.5	245	265.5	286	306.5	327	347.5	368	388.5	409	429.5	450	470.5	491
L4		22.5	18.5	20.5	23	19	21	23.5	19.5	21.5	24	20	22	18	20.5	22.5	18.5	21	23	19
L5		97	117.5	138	158.5	179	199.5	220	240.5	261	281.5	302	322.5	343	363.5	384	404.5	425	445.5	466

Dimensions: Series SV4000 for D-sub Connector

• Tie-rod base manifold: **SS5V4-10FD₂** - Stations $\frac{U}{D}$ $\frac{B}{B}$ (S, R, RS) - 02, C⁸, N⁹_{03, C10, N11} (-D)

1in = 25.4mm

- 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.

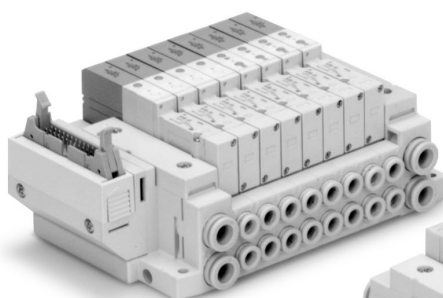


L dimensions (mm)

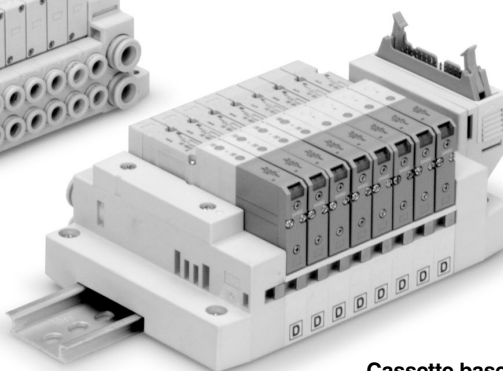
n: Stations

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	173	198	223	248	273	298	310.5	335.5	360.5	385.5	410.5	435.5	460.5	485.5	510.5	535.5	560.5	585.5	610.5
L2	162.5	187.5	212.5	237.5	262.5	287.5	300	325	350	375	400	425	450	475	500	525	550	575	600
L3	137	161	185	209	233	257	281	305	329	353	377	401	425	449	473	497	521	545	569
L4	21	21.5	22	22.5	23	23.5	18	18.5	19	19.5	20	20.5	21	21.5	22	22.5	23	23.5	24
L5	109	133	157	181	205	229	253	277	301	325	349	373	397	421	445	469	493	517	541

Flat Ribbon Cable



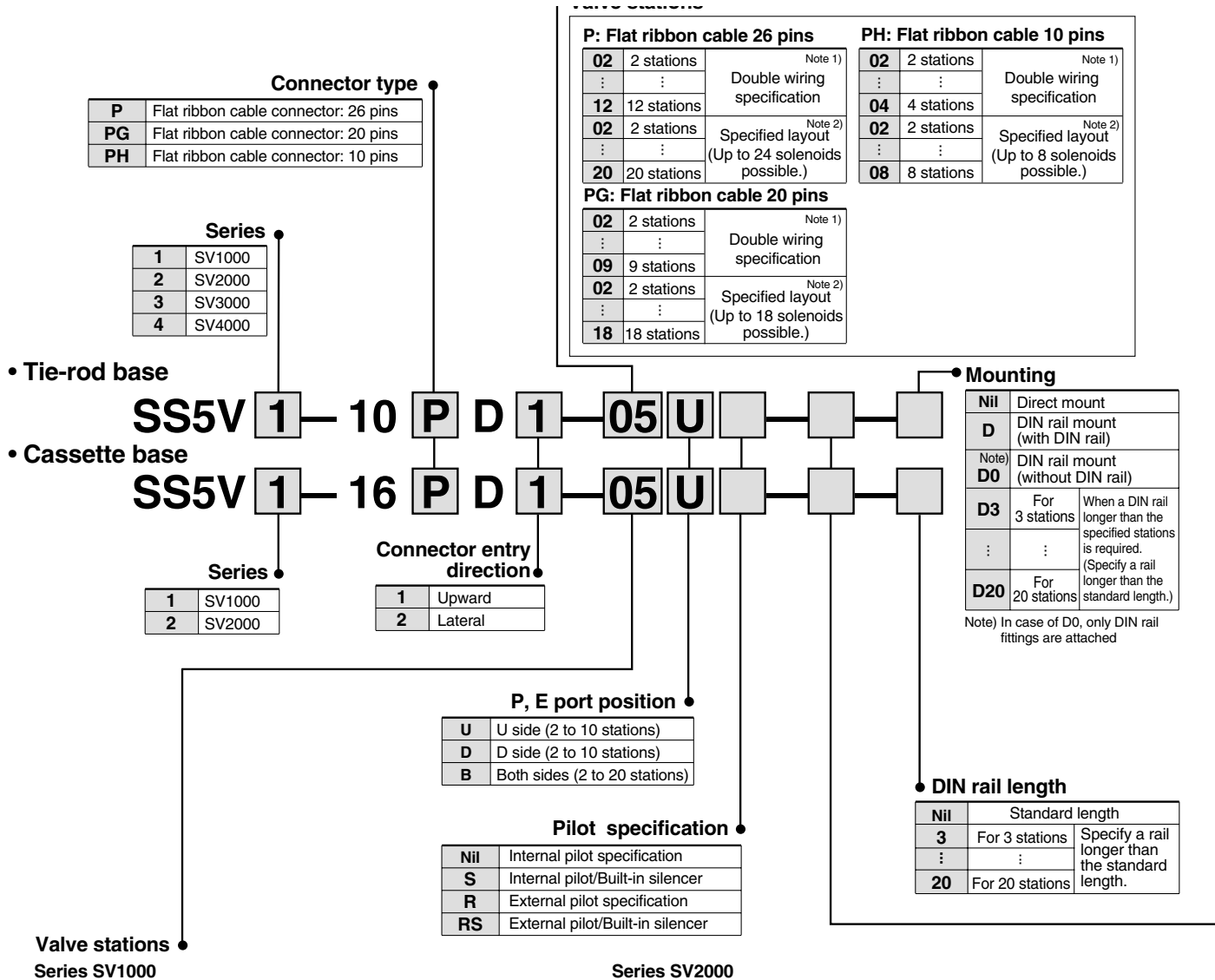
Tie-rod base



Cassette base

Applicable series	Cassette base manifold SV1000/SV2000
	Tie-rod base manifold SV1000/SV2000/SV3000/SV4000
	• Number of connectors: 26, 20, 10 pins • With strain relief - Conforms to MIL-C-83503

How to Order



P: Flat ribbon cable 26 pins

02	2 stations	Double wiring specification
:	:	
12	12 stations	Specified layout (Up to 24 solenoids possible.)
:	:	
02	2 stations	Specified layout (Up to 24 solenoids possible.)
:	:	
20	20 stations	Specified layout (Up to 24 solenoids possible.)
:	:	

PH: Flat ribbon cable 10 pins

02	2 stations	Double wiring specification
:	:	
04	4 stations	Specified layout (Up to 8 solenoids possible.)
:	:	
02	2 stations	Specified layout (Up to 8 solenoids possible.)
:	:	
08	8 stations	Specified layout (Up to 8 solenoids possible.)
:	:	

PG: Flat ribbon cable 20 pins

02	2 stations	Double wiring specification
:	:	
09	9 stations	Specified layout (Up to 18 solenoids possible.)
:	:	
02	2 stations	Specified layout (Up to 18 solenoids possible.)
:	:	
18	18 stations	Specified layout (Up to 18 solenoids possible.)
:	:	

Series SV1000

P: Flat ribbon cable 26 pins

02	2 stations	Double wiring specification
:	:	
09	9 stations	Specified layout (Up to 24 solenoids possible.)
:	:	
02	2 stations	Specified layout (Up to 24 solenoids possible.)
:	:	
18	18 stations	Specified layout (Up to 24 solenoids possible.)
:	:	

PH: Flat ribbon cable 10 pins

02	2 stations	Double wiring specification
:	:	
04	4 stations	Specified layout (Up to 8 solenoids possible.)
:	:	
02	2 stations	Specified layout (Up to 8 solenoids possible.)
:	:	
08	8 stations	Specified layout (Up to 8 solenoids possible.)
:	:	

PG: Flat ribbon cable 20 pins

02	2 stations	Double wiring specification
:	:	
09	9 stations	Specified layout (Up to 18 solenoids possible.)
:	:	
02	2 stations	Specified layout (Up to 18 solenoids possible.)
:	:	
18	18 stations	Specified layout (Up to 18 solenoids possible.)
:	:	

Series SV2000

P: Flat ribbon cable 26 pins

02	2 stations	Double wiring specification
:	:	
12	12 stations	Specified layout (Up to 24 solenoids possible.)
:	:	
02	2 stations	Specified layout (Up to 24 solenoids possible.)
:	:	
20	20 stations	Specified layout (Up to 24 solenoids possible.)
:	:	

PH: Flat ribbon cable 10 pins

02	2 stations	Double wiring specification
:	:	
04	4 stations	Specified layout (Up to 8 solenoids possible.)
:	:	
02	2 stations	Specified layout (Up to 8 solenoids possible.)
:	:	
08	8 stations	Specified layout (Up to 8 solenoids possible.)
:	:	

PG: Flat ribbon cable 20 pins

02	2 stations	Double wiring specification
:	:	
09	9 stations	Specified layout (Up to 18 solenoids possible.)
:	:	
02	2 stations	Specified layout (Up to 18 solenoids possible.)
:	:	
18	18 stations	Specified layout (Up to 18 solenoids possible.)
:	:	

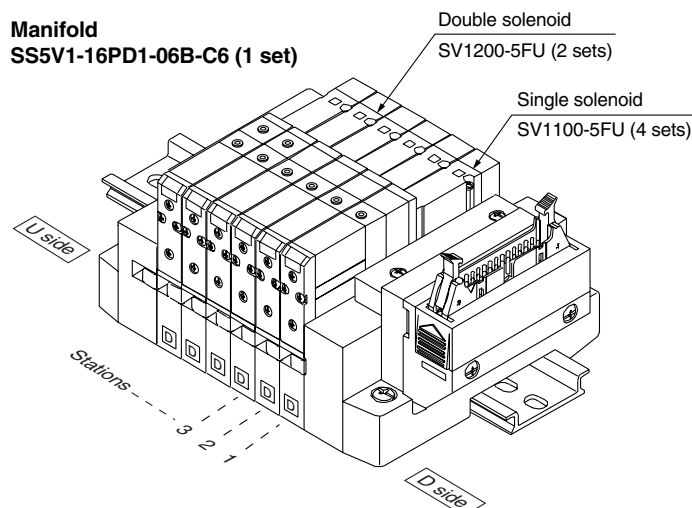
Note 1) Double wiring specification: Single, double and 3 position solenoid valves can be used on all manifold stations.
Use of a single solenoid will result in an unused control signal. If this is not desired, refer with a specified layout.

Note 2) Specified layout: Indicate wiring specifications on a manifold specification sheet.
(Note that double and 3 position valves cannot be used where single solenoid wiring has been specified.)

How to Order Manifold Assemblies (Order Example)

Example (SV1000)

Manifold
SS5V1-16PD1-06B-C6 (1 set)



SS5V1-16PD1-06B-C6 1 set (manifold part no.)
 * SV1100-5FU 4 sets (single solenoid part no.)
 * SV1200-5FU 2 sets (double solenoid part no.)

How to Order Solenoid Valves

SV 1 1 00 — 5 F

Series

1	SV1000
2	SV2000
3	SV3000
4	SV4000

Type of actuation

1	2 position single solenoid
2	2 position double solenoid
3	3 position closed center
4	3 position exhaust center
5	3 position pressure center
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 series SV1000 and SV2000 only.

Pilot specification

Nil	Internal pilot
R	External pilot

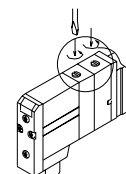
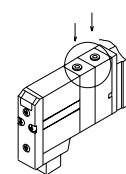
* External pilot specification is not available for 4 position dual 3 port valves.

Note) Available with manifold block for station additions. Refer to pages 77 and 81.

Manual override

Nil: Non-locking push type

D: Slotted locking type



Light/Surge voltage suppressor

U	With light and surge voltage suppressor
R	With surge voltage suppressor

Rated voltage

5	24VDC
6	12VDC

Back pressure check valve

Nil	None
K	Built-in

* Built-in back pressure check valve type is applicable to series SV1000 only.

* Back pressure check valve is not available for 3 position closed center and 3 position pressure center.

* Effective area of the built-in back pressure check valve type is reduced approximately 20%.

A, B port size (metric)

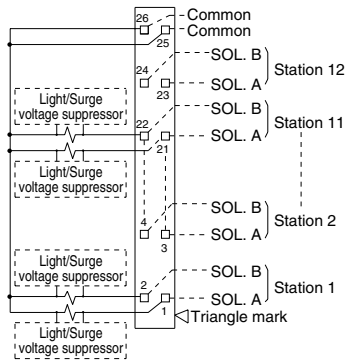
Symbol	A, B port	P, E port	Applicable series
C3	ø3.2 One-touch fitting	ø8 One-touch fitting	SV1000
C4	ø4 One-touch fitting		
C6	ø6 One-touch fitting	ø10 One-touch fitting	SV2000
C8	ø8 One-touch fitting		
C6	ø6 One-touch fitting	ø12 One-touch fitting	SV3000
C8	ø8 One-touch fitting		
C10	ø10 One-touch fitting	ø12 One-touch fitting	SV4000
C12	ø12 One-touch fitting		
02	Rc 1/4	Rc 3/8	SV4000
03	Rc 3/8		
02F	G 1/4	G 3/8	SV4000
03F	G 3/8		
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	ø3/8" One-touch fitting	SV2000
N3	ø5/32" One-touch fitting		
N7	ø1/4" One-touch fitting	ø3/8" One-touch fitting	SV3000
N9	ø5/16" One-touch fitting		
N7	ø1/4" One-touch fitting	ø3/8" One-touch fitting	SV4000
N9	ø5/16" One-touch fitting		
N11	ø3/8" One-touch fitting	ø3/8" One-touch fitting	SV4000
N9	ø5/16" One-touch fitting		
N11	ø3/8" One-touch fitting	NPT 3/8	SV4000
02N	NPT 1/4		
03N	NPT 3/8	NPTF 3/8	SV4000
02T	NPTF 1/4		
03T	NPTF 3/8		
M	A, B ports mixed		

* In case of mixed specification (M), indicate separately on a manifold specification sheet.

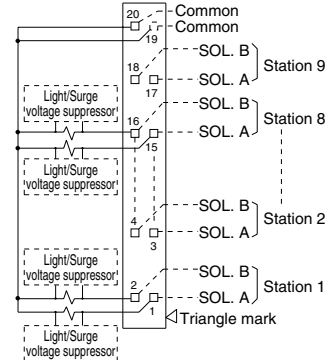
Manifold Electrical Wiring

10P/16P Flat Ribbon Cable Type (26 pins)


- This circuit has double wiring specifications for up to 12 stations. Since the usable number of solenoids differs depending on the manifold type, refer to the table below. In the case of single solenoids, connect to SOL. A. Furthermore, when wiring is specified on a manifold specification sheet, connections are made without skipping any connectors, and signals A for single and A, B for double are in order 1→2→3→4, etc.
- Stations are counted starting from station 1 on the D side (connector side).
- Since terminal numbers are not indicated on flat ribbon cables, use the triangle mark as a reference.
- Since solenoid valves do not have polarity, either the +COM or -COM can be used.

Usable number of solenoids

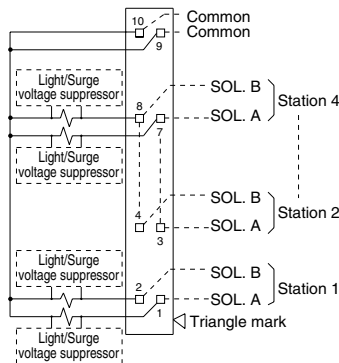
Model		Maximum number of solenoids
Tie-rod base type 10	SV1000 to SV4000	24
	SV1000 to SV2000	18
Cassette base type 16	SV2000	24

10PG/16PG Flat Ribbon Cable Type (20 pins)


- This circuit has double wiring specifications for up to 9 stations. Since the usable number of solenoids differs depending on the manifold type, refer to the table below. In the case of single solenoids, connect to SOL. A. Furthermore, when wiring is specified on a manifold specification sheet, connections are made without skipping any connectors, and signals A for single and A, B for double are in order 1→2→3→4, etc.
- Stations are counted starting from station 1 on the D side (connector side).
- Since terminal numbers are not indicated on flat ribbon cables, use the triangle mark as a reference.
- Since solenoid valves do not have polarity, either the +COM or -COM can be used.

Usable number of solenoids

Model		Maximum number of solenoids
Tie-rod base type 10	SV1000 to SV4000	18
	SV1000 to SV2000	18
Cassette base type 16	SV2000	18

10PH/16PH Flat Ribbon Cable Type (10 pins)


- This circuit has double wiring specifications for up to 4 stations. Since the usable number of solenoids differs depending on the manifold type, refer to the table below. In the case of single solenoids, connect to SOL. A. Furthermore, when wiring is specified on a manifold specification sheet, connections are made without skipping any connectors, and signals A for single and A, B for double are in order 1→2→3→4, etc.
- Stations are counted starting from station 1 on the D side (connector side).
- Since terminal numbers are not indicated on flat ribbon cables, use the triangle mark as a reference.
- Since solenoid valves do not have polarity, either the +COM or -COM can be used.

Usable number of solenoids

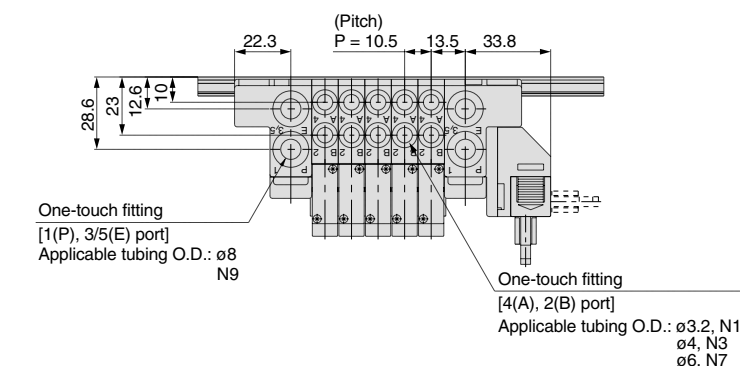
Model		Maximum number of solenoids
Tie-rod base type 10	SV1000 to SV4000	8
	SV1000 to SV2000	8
Cassette base type 16	SV2000	8

Dimensions: Series SV1000 for Flat Ribbon Cable

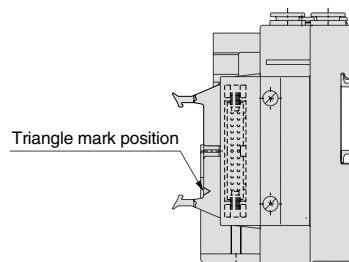
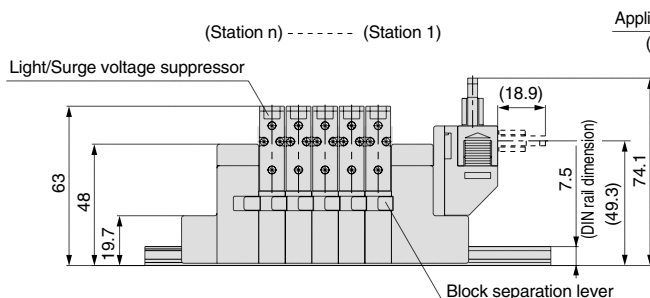
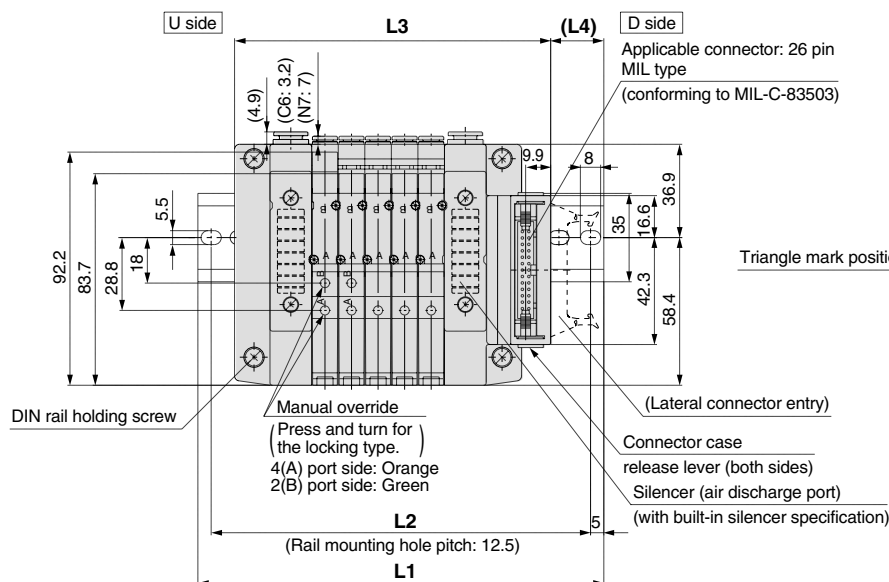
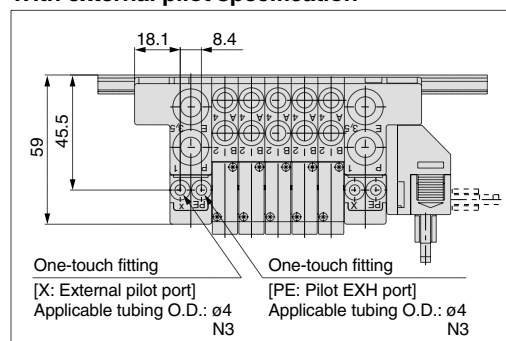
1in = 25.4mm

• Cassette base manifold: **SS5V1-16** $\begin{matrix} P \\ PG \\ PH \end{matrix} D \frac{1}{2}$ - Stations $\begin{matrix} U \\ D \\ B \end{matrix}$ (S, R, RS) - $\begin{matrix} C3, N1 \\ C4, N3 \\ C6, N7 \end{matrix}$

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

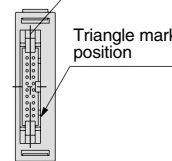


With external pilot specification

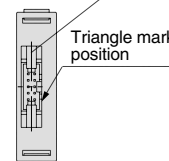


Applicable connector: 20 pin MIL type
(conforming to MIL-C-83503)

Applicable connector: 10 pin MIL type
(conforming to MIL-C-83503)



For 16PG (20 pins)



For 16PH (10 pins)

L dimensions (mm)

$\frac{L}{n}$	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
L1	135.5	135.5	148	160.5	173	185.5	198	198	210.5	223	235.5	248	260.5	260.5	273	285.5	298
L2	125	125	137.5	150	162.5	175	187.5	187.5	200	212.5	225	237.5	250	250	262.5	275	287.5
L3	93.5	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5	230	240.5	251	261.5
L4	24.5	19	20	21	22	23	24	19	20	21	22	23	24	18.5	19.5	20.5	21.5

n: Stations

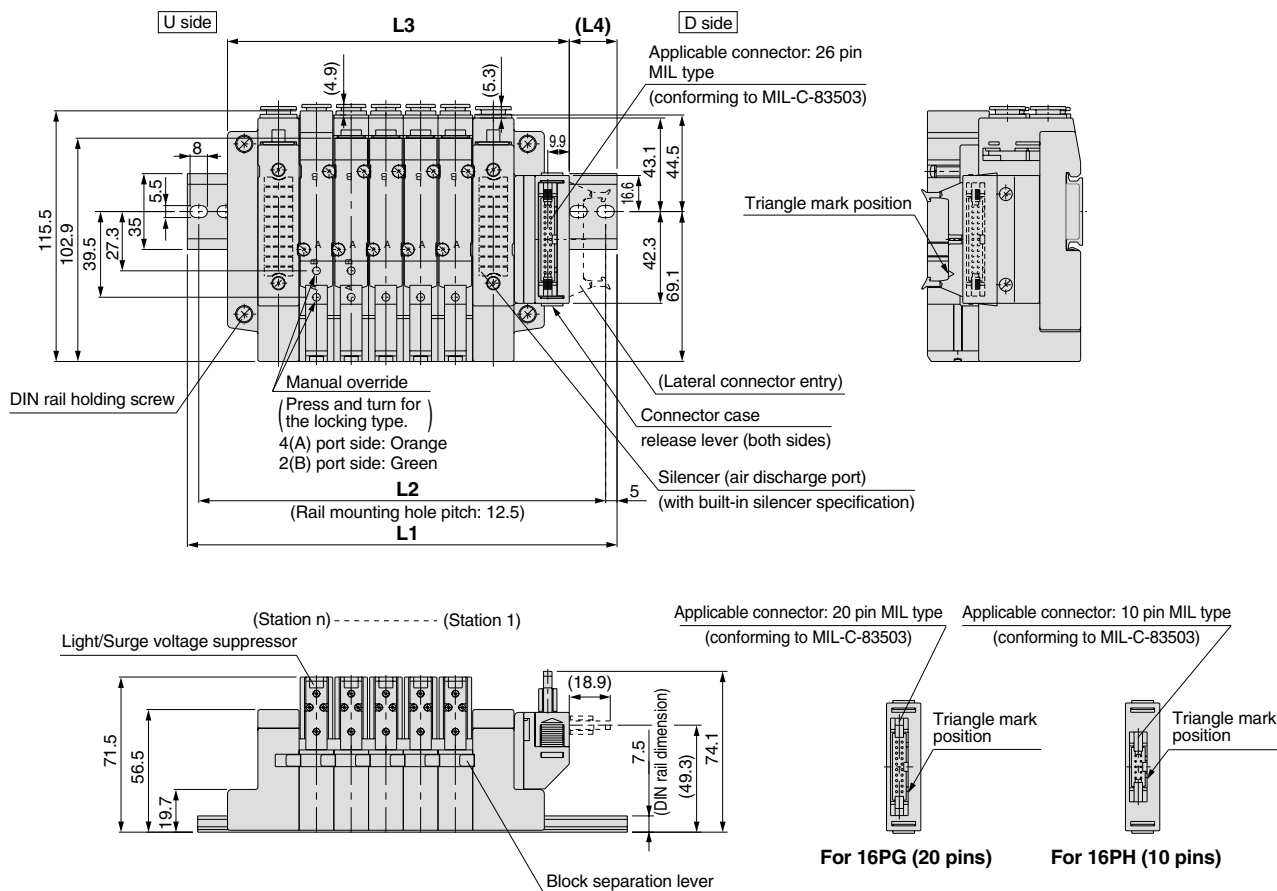
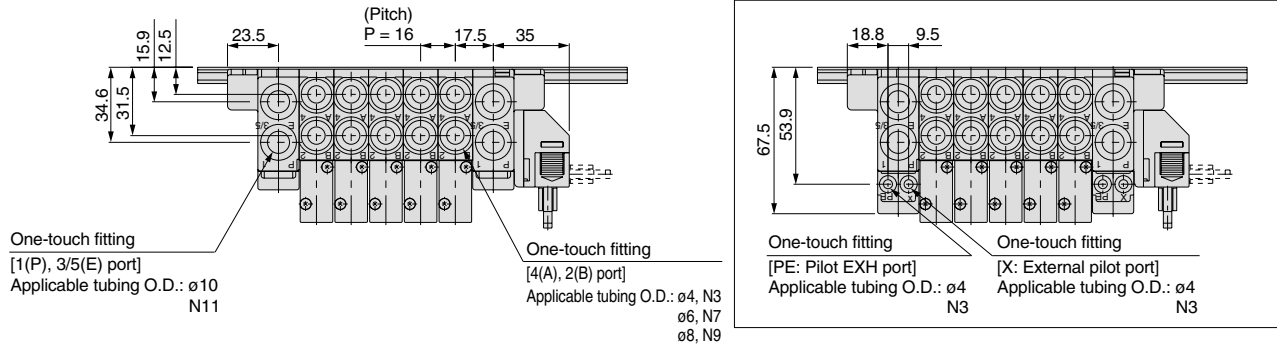
Dimensions: Series SV2000 for Flat Ribbon Cable

• Cassette base manifold: **SS5V2-16** $\frac{P}{PG} \frac{D}{PH} D_2^1$ - Stations - $\frac{U}{D} \frac{B}{B}$ (S, R, RS) - C4, N3
C6, N7
C8, N9

1in = 25.4mm

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

With external pilot specification



L dimensions (mm)

n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	148	160.5	173	198	210.5	223	235.5	260.5	273	285.5	310.5	323	335.5	348	373	385.5	398	423	435.5
L2	137.5	150	162.5	187.5	200	212.5	225	250	262.5	275	300	312.5	325	337.5	362.5	375	387.5	412.5	425
L3	109.5	125.5	141.5	157.5	173.5	189.5	205.5	221.5	237.5	253.5	269.5	285.5	301.5	317.5	333.5	349.5	365.5	381.5	397.5
L4	22.5	21	19	23.5	22	20	18.5	23	21	19.5	24	22	20.5	18.5	23	21.5	19.5	24	22.5

n: Stations

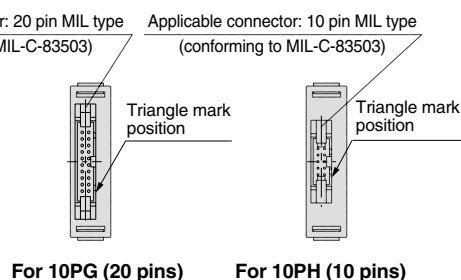
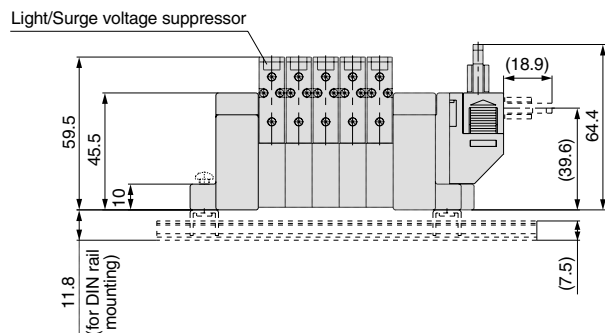
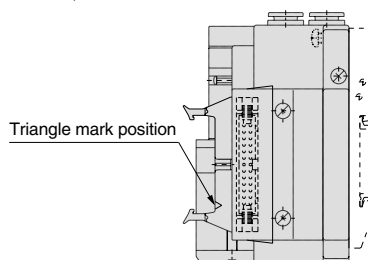
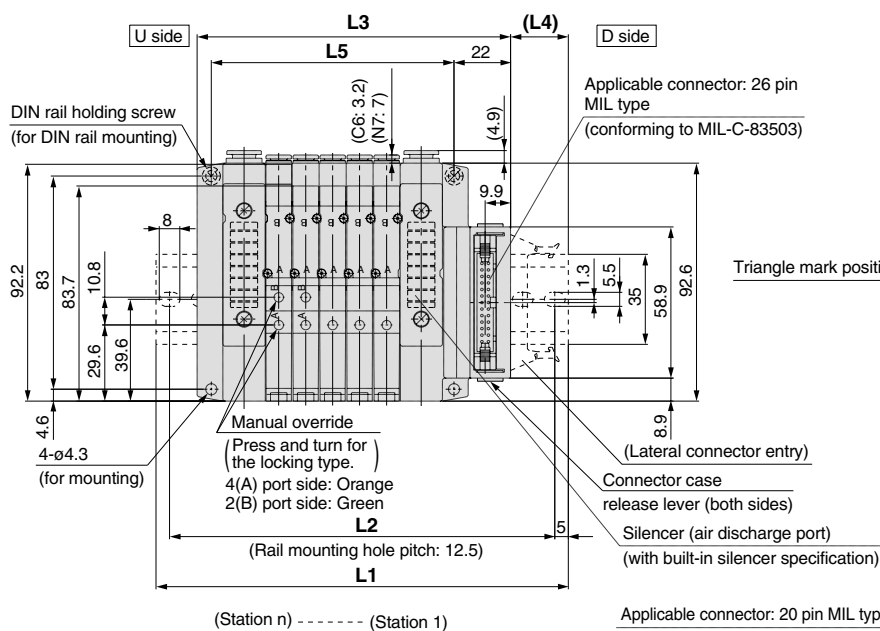
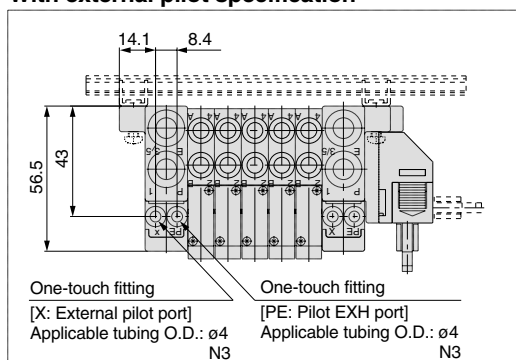
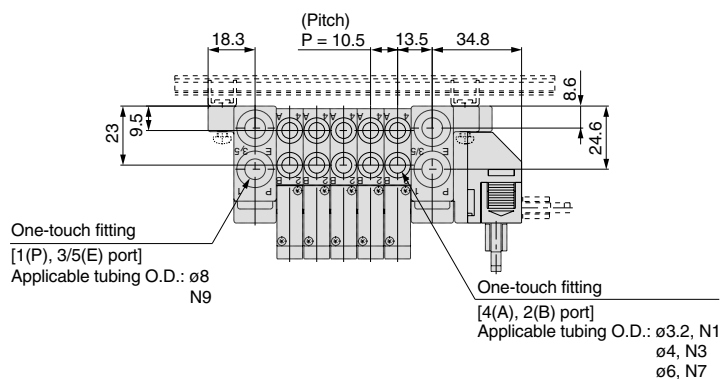
Dimensions: Series SV1000 for Flat Ribbon Cable

• Tie-rod base manifold: **SS5V1-10** $\frac{P}{PH} D \frac{1}{2}$ - Stations $\frac{U}{B}$ (S, R, RS) - $\frac{C3, N1}{C4, N3}$ $\frac{C6, N7}{C6, N7}$ (-D)

1in = 25.4mm

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

With external pilot specification



L dimensions (mm)

n: Stations

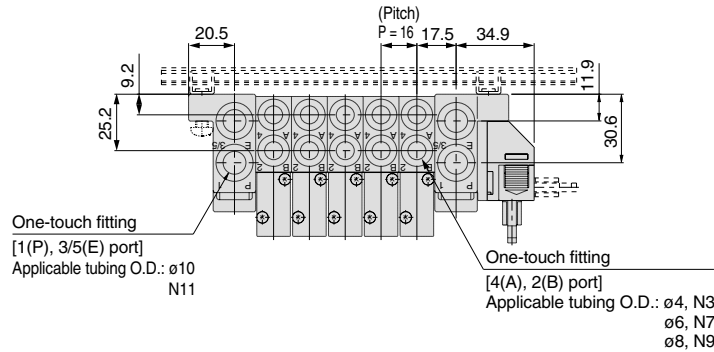
n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	123	135.5	148	160.5	173	173	185.5	198	210.5	223	235.5	248	248	260.5	273	285.5	298	310.5	310.5
L2	112.5	125	137.5	150	162.5	162.5	175	187.5	200	212.5	225	237.5	237.5	250	262.5	275	287.5	300	300
L3	90.5	101	111.5	122	132.5	143	153.5	164	174.5	185	195.5	206	216.5	227	237.5	248	258.5	269	279.5
L4	19.5	20.5	21.5	22.5	23.5	18.5	19.5	20.5	21.5	22.5	23.5	24.5	19	20	21	22	23	24	19
L5	63	73.5	84	94.5	105	115.5	126	136.5	147	157.5	168	178.5	189	199.5	210	220.5	231	241.5	252

Dimensions: Series SV2000 for Flat Ribbon Cable

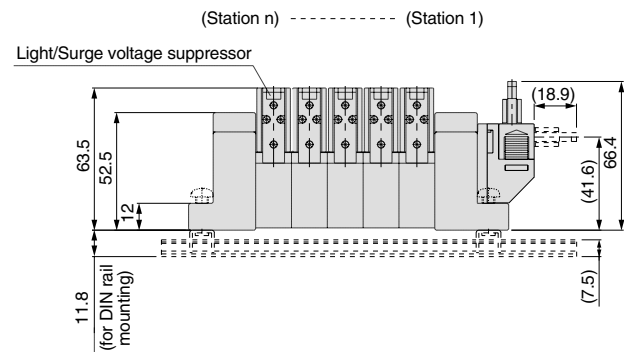
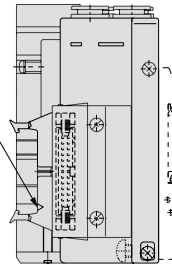
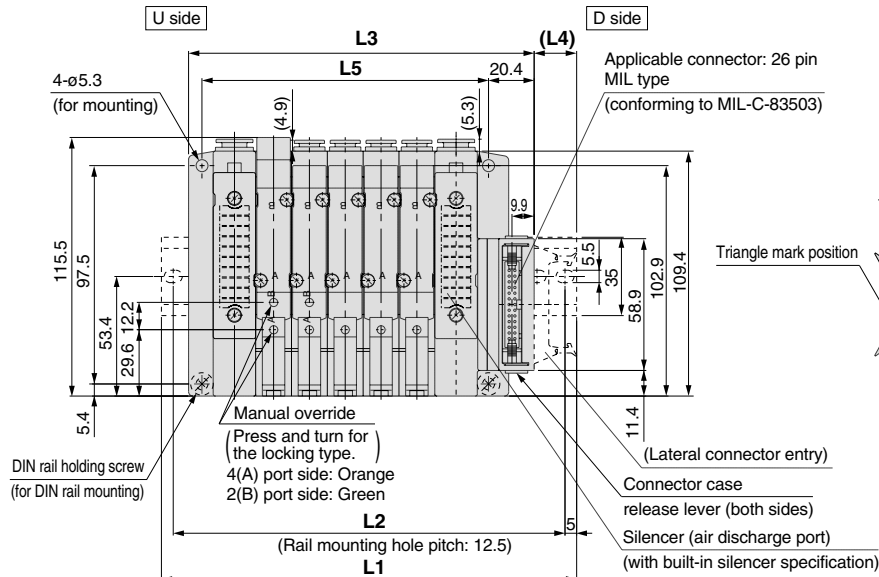
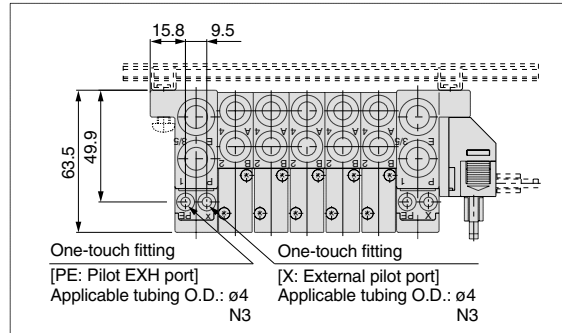
1in = 25.4mm

• Tie-rod base manifold: **SS5V2-10** $\frac{P}{PH}$ $\frac{D}{B}$ $\frac{1}{2}$ - [Stations] $\frac{U}{B}$ (S, R, RS) - $\frac{C4, N3}{C8, N7}$ (-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.

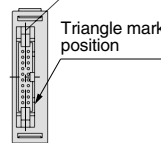


With external pilot specification

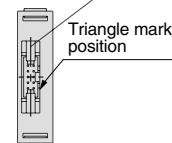


Applicable connector: 20 pin MIL type (conforming to MIL-C-83503)

Applicable connector: 10 pin MIL type (conforms to MIL-C-83503)



For 10PG (20 pins)



For 10PH (10 pins)

L dimensions (mm)

n: Stations

n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	148	160.5	173	185.5	210.5	223	235.5	248	273	285.5	298	323	335.5	348	360.5	385.5	398	410.5	435.5
L2	137.5	150	162.5	175	200	212.5	225	237.5	262.5	275	287.5	312.5	325	337.5	350	375	387.5	400	425
L3	106.4	122.4	138.4	154.4	170.4	186.4	202.4	218.4	234.4	250.4	266.4	282.4	298.4	314.4	330.4	346.4	362.4	378.4	394.4
L4	24.5	22.5	20.5	19	23.5	21.5	20	18.5	22.5	21	19.5	23.5	22	20.5	18.5	23	21	19.5	24
L5	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304	320	336	352	368

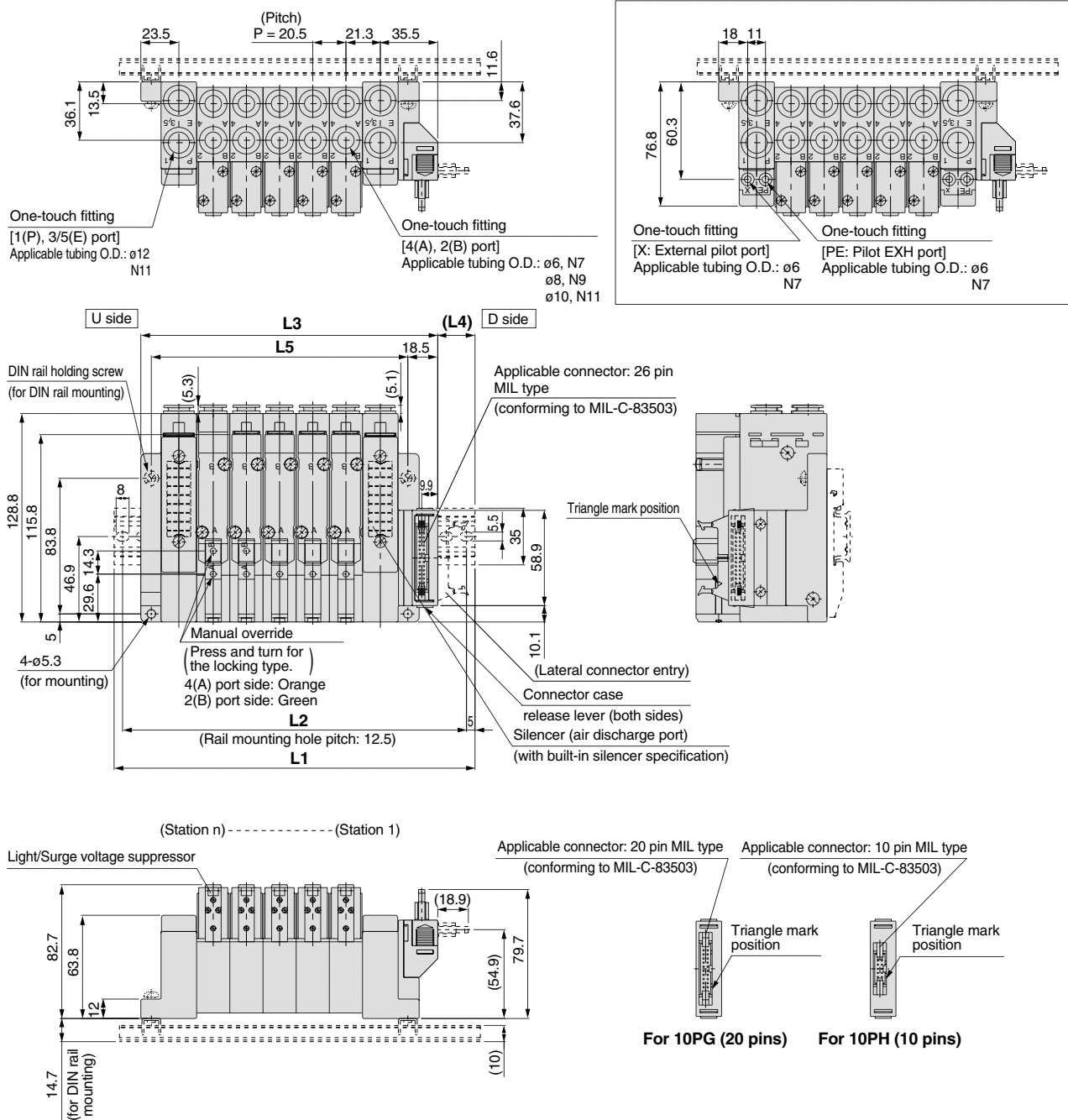
Dimensions: Series SV3000 for Flat Ribbon Cable

• Tie-rod base manifold: **SS5V3-10** ^P_{PG} ^D₂ ¹_{PH} - Stations ^U_D (S, R, RS) - ^{C6, N7}_{C8, N9} ^(-D)_{C10, N11}

1in = 25.4mm

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

With external pilot specification



L dimensions (mm)

n : Stations

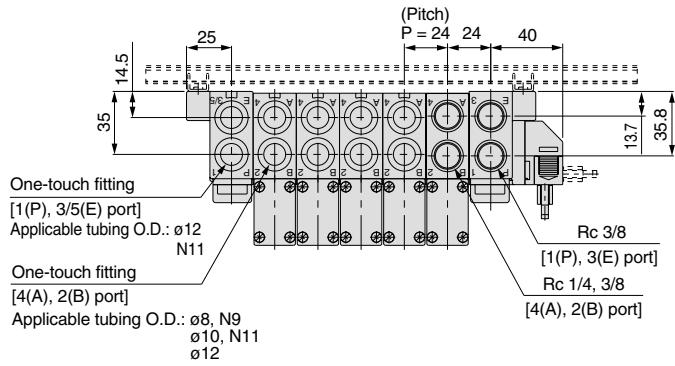
L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1		160.5	173	198	223	235.5	260.5	285.5	298	323	348	360.5	385.5	398	423	448	460.5	485.5	510.5	523
L2		150	162.5	187.5	212.5	225	250	275	287.5	312.5	337.5	350	375	387.5	412.5	437.5	450	475	500	512.5
L3		122	142.5	163	183.5	204	224.5	245	265.5	286	306.5	327	347.5	368	388.5	409	429.5	450	470.5	491
L4		22.5	18.5	21	23	19	21.5	23.5	19.5	22	24	20	22.5	18.5	20.5	23	19	21	23.5	19.5
L5		97	117.5	138	158.5	179	199.5	220	240.5	261	281.5	302	322.5	343	363.5	384	404.5	425	445.5	466

Dimensions: Series SV4000 for Flat Ribbon Cable

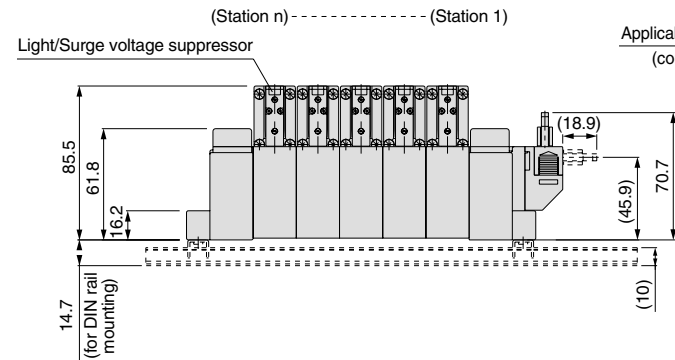
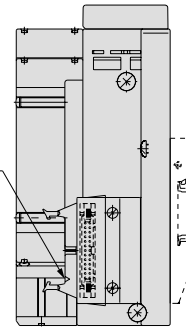
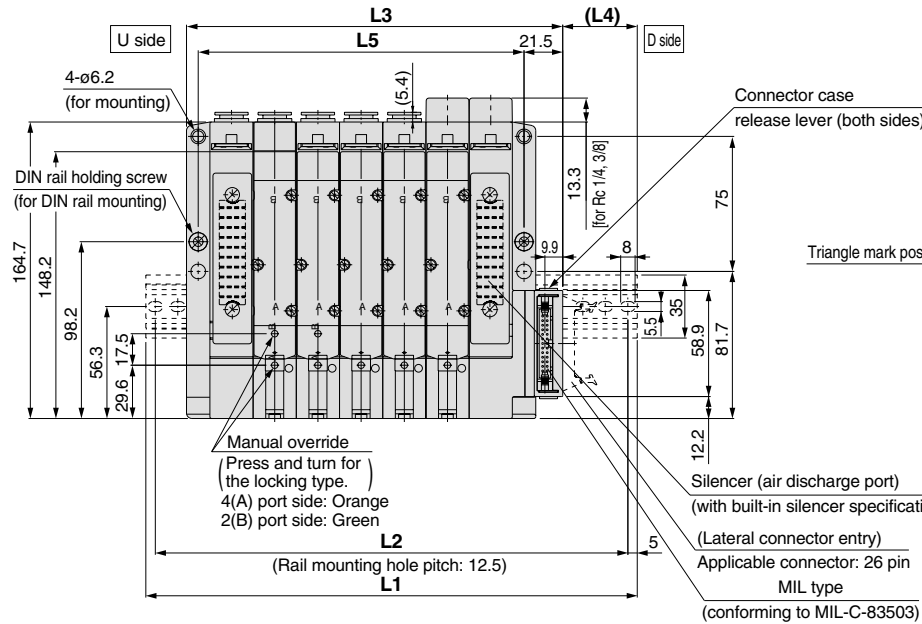
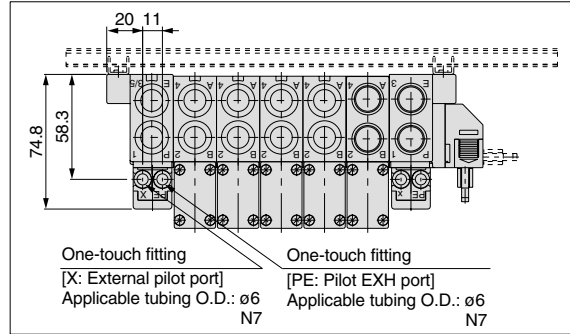
1in = 25.4mm

• Tie-rod base manifold: **SS5V4-10** ^P_{PG} ^D₂ - ^U_D Stations ^B (S, R, RS) - ^{02, C8, N9}_{03, 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.

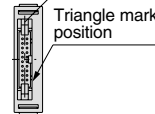


With external pilot specification

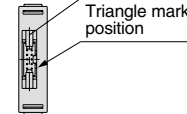


Applicable connector: 20 pin MIL type (conforming to MIL-C-83503)

Applicable connector: 10 pin MIL type (conforming to MIL-C-83503)



For 10PG (20 pins)



For 10PH (10 pins)

L dimensions (mm)

n: Stations

L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1		185.5	210.5	235.5	260.5	285.5	310.5	335.5	348	373	398	423	448	473	498	523	548	573	598	623
L2		175	200	225	250	275	300	325	337.5	362.5	387.5	412.5	437.5	462.5	487.5	512.5	537.5	562.5	587.5	612.5
L3		137	161	185	209	233	257	281	305	329	353	377	401	425	449	473	497	521	545	569
L4		31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5
L5		109	133	157	181	205	229	253	277	301	325	349	373	397	421	445	469	493	517	541