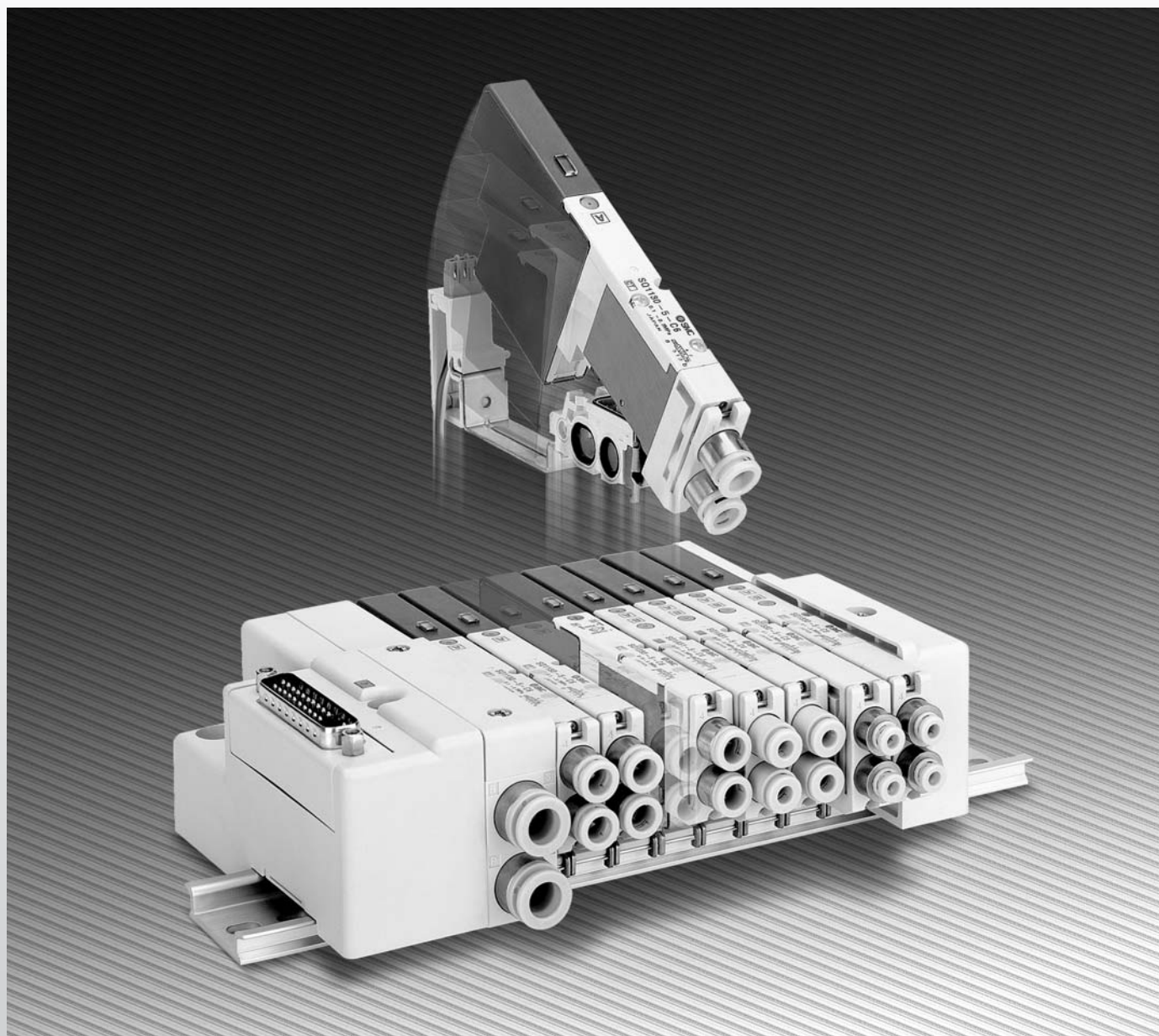


# 5 Port Solenoid Valve

## Series *SQ1000/2000*



SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

**SQ**

VQ

VQ4

VQ5

VQZ

VQD

VFS

VS

VS7

VQ7

SQ2000 Plug lead



SQ2000 Plug-in



SQ1000 Plug-in



SQ1000 Plug lead



# Low profile compact manifold

Compact with high capacity

Pressure: 0.5MPa/Load factor: 50%

			Pressure: 0.3MPa & Load factor: 50%														
Base mounted (with sub-plate)	N <sub>2</sub> /min		Cylinder speed (mm/s)	Cylinder bore size (mm)													
	Rubber seal	Metal seal		Series CJ2			Series CM2				Series MB/CA1						
				ø6	ø10	ø16	ø20	ø25	ø32	ø40	ø32	ø40	ø50	ø63	ø80	ø100	
SQ1000	245	177	150														
			300						●		●						
			450	●													
			600		●	●											
			750														
SQ2000	805	638	150														
			300														
			450	●					●	●	●						
			600		●	●											
			750														

Cylinder speeds marked with a ● are controlled by a fixed orifice.

## A wide variety of options

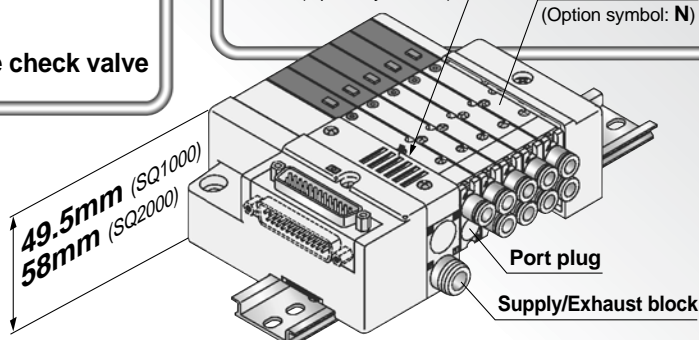
- External pilot specification
- Supply/Exhaust block
- Blanking plate
- Individual supply spacer
- Individual exhaust spacer
- Supply block plate
- Exhaust block plate
- Built-in silencer
- Name plate
- Port plug
- Back pressure check valve

**Built-in silencer**

(Option symbol: S)

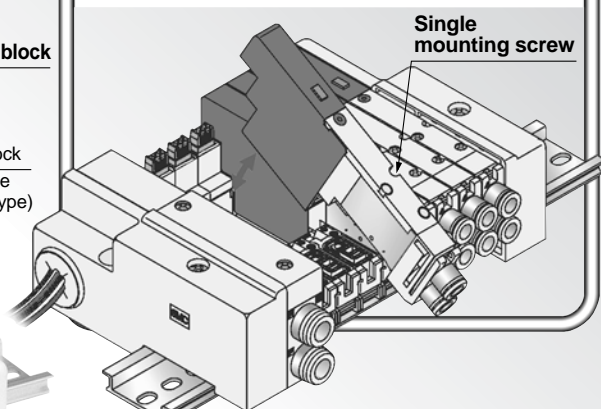
**Name plate**

(Option symbol: N)

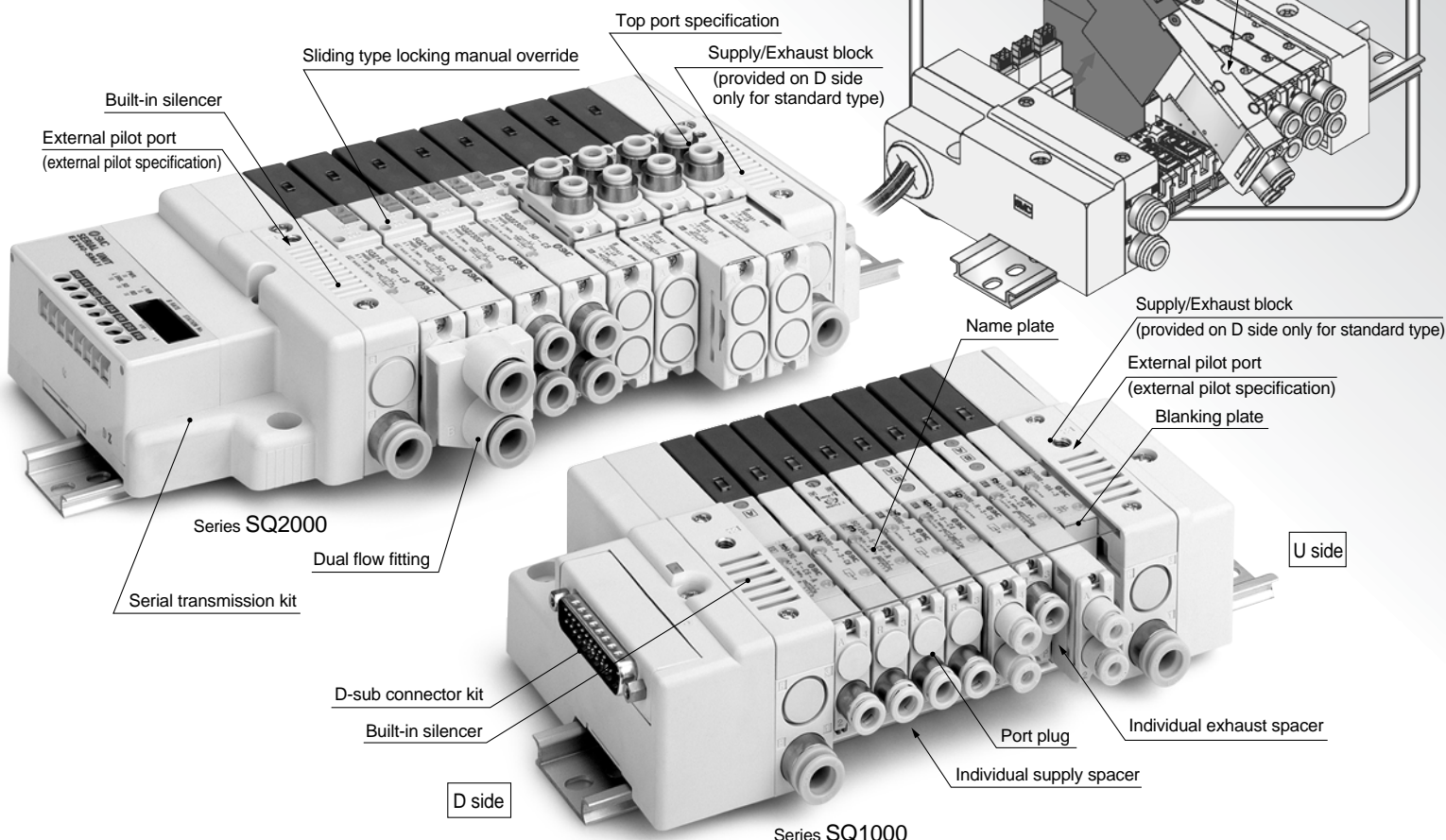


## Manifold mounted type

Valve maintenance is simple and labour time is reduced by a single mounting screw.



**Single mounting screw**



**5 Port Metal Seal/Rubber Seal Solenoid Valve  
Plug-in Type/Plug Lead Type**

**Series SQ1000/2000**

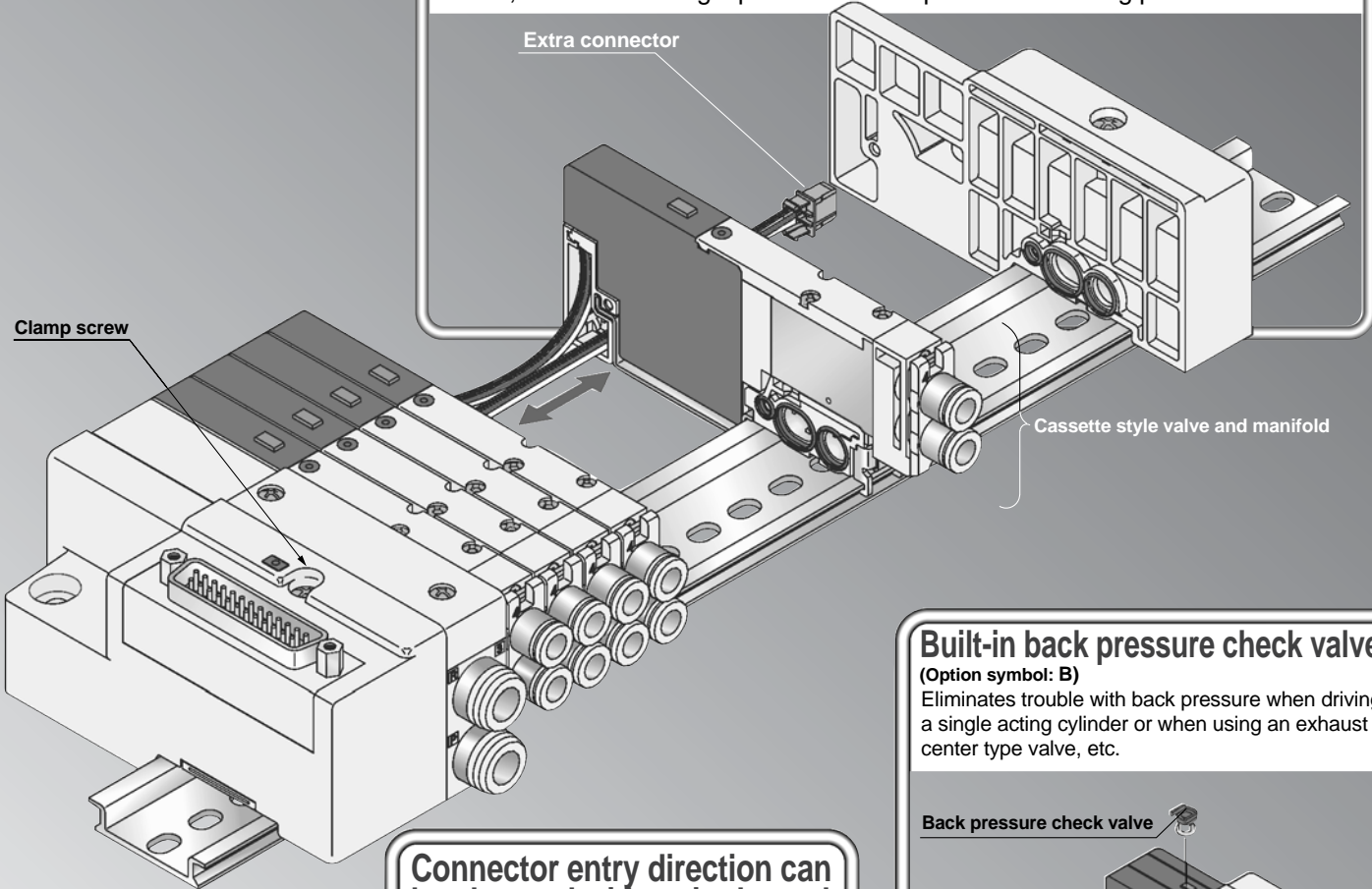




## Stacking manifold

The use of cassette style valves and manifolds makes it easy to increase or decrease the number of stations on a DIN rail. The plug-in type includes two extra valve station connectors. This design makes rewiring unnecessary during manifold expansion.

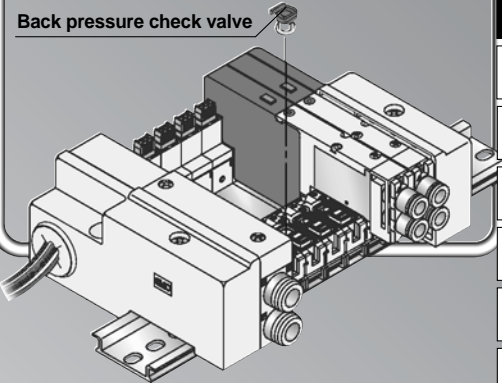
Also, the use of a single part number simplifies the ordering process.



## Built-in back pressure check valve

(Option symbol: B)

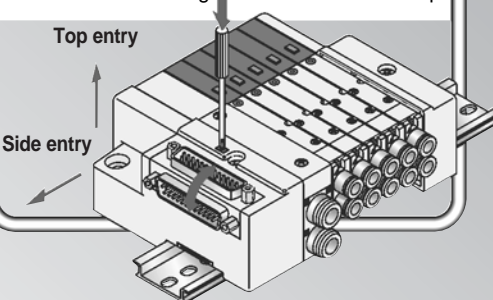
Eliminates trouble with back pressure when driving a single acting cylinder or when using an exhaust center type valve, etc.



## Connector entry direction can be changed with a single push

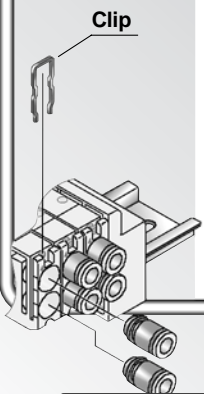
The connector entry direction can be changed from the top to the side by simply pressing the manual release button.

It is not necessary to use the manual release button when switching from the side to the top.



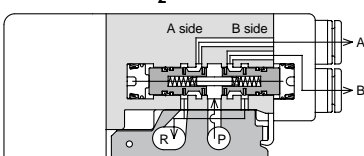
## Easy replacement of clip type One-touch fittings

One-touch fittings can be replaced without removing valves.



## Dual 3 port valves, 4 positions (Rubber seal type only)

- Two 3 port valves built into one body.
  - The 3 port valves on the A and B sides can operate independently.
  - When used as 3 port valves, only half the number of stations is required.
  - Can also be used as a 4 position type valve.
- Exhaust center: **SQ<sub>2</sub>A31**  
Pressure center: **SQ<sub>2</sub>B31**



Model	A side	B side	JIS symbol
<b>SQ<sub>2</sub>A31</b>	N.C. valve	N.C. valve	
<b>SQ<sub>2</sub>B31</b>	N.O. valve	N.O. valve	
<b>SQ<sub>2</sub>C31</b>	N.C. valve	N.O. valve	

## Outstanding response times and long life

Model	Response time	Life <sup>(Note)</sup>
<b>SQ1000</b>	12ms or less	200 million cycles
<b>SQ2000</b>	20ms or less	

Note) For metal seal, single type, DC specifications, based on SMC life conditions.

\* For applications which demand high speed, high frequency, long life and a precise response time.

SV  
SY  
SYJ  
SX  
VK  
VZ  
VF  
VFR  
VP7  
VQC  
SQ  
VQ  
VQ4  
VQ5  
VQZ  
VQD  
VFS  
VS  
VS7  
VQ7

# Series SQ1000

## Plug-in Type

### How to Order Manifolds

SS5Q13 — **08** **FD2** — **D** **□** — **Q**

#### Stations

<b>01</b>	1 station
⋮	⋮
<b>24</b> <sup>Note)</sup>	24 stations

Note) The maximum number of stations depends on the type of electrical entries.

#### Option

<b>Nil</b>	None
<b>02 to 24</b>	Specified DIN rail length <sup>Note 1)</sup>
<b>B</b>	With back pressure check valve
<b>K</b>	Special wiring specification (except double wiring) <sup>Note 2)</sup>
<b>N</b>	With name plate (side ported only)
<b>R</b>	External pilot specification
<b>S</b>	Direct exhaust outlet with built-in silencer

Note 1) Specify DIN rail length with "D□" at the end. (Enter the number of stations inside □.) Example: -D08

Note 2) The standard wiring specification is for double wiring. Indicate a wiring specification for single wiring or mixed single and double wiring, or when exceeding the standard maximum number of stations. (Except L kit)

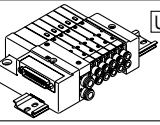
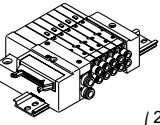
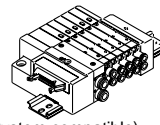
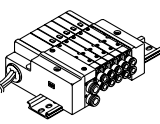
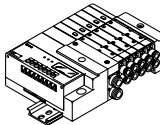
Note 3) For specifying two or more options, enter them in alphabetical order. Example: -BKN

#### Manifold mounting

<b>D</b>	DIN rail mount type
<b>E</b> <sup>Note)</sup>	Direct mount type

Note) E type is mounted using two holes in each end plate and a DIN rail that is shorter than the manifold length.

#### Electrical entry

Kit designation	Lead wire connector entry direction	Cable specification	Standard number of stations	Max. number of stations for special wiring specification	<sup>Note 2)</sup> Max. number of solenoids
<b>F</b> kit  D-sub connector kit	D side	<b>FD0</b> D side	1 to 12 stations	24 stations	24
		<b>FD1</b> D side			
		<b>FD2</b> D side			
		<b>FD3</b> D side			
<b>P</b> kit  Flat ribbon cable connector kit (26P/20P)	D side <sup>Note 1)</sup>	<b>PD0</b> D side	1 to 12 stations	24 stations	24
		<b>PD1</b> D side			
		<b>PD2</b> D side			
		<b>PD3</b> D side			
<b>J</b> kit  Flat ribbon cable (20P) (PC Wiring System compatible)	D side	<b>JD0</b> D side	1 to 8 stations	16 stations	16
<b>L</b> kit  Lead wire kit	D side	<b>LD0</b> D side	1 to 12 stations	—	—
		<b>LU0</b> U side			
		<b>LD1</b> D side			
		<b>LU1</b> U side			
		<b>LD2</b> D side			
		<b>LU2</b> U side			
<b>S</b> kit  Serial transmission kit	D side	<b>SDF</b> D side	1 to 8 stations	16 stations	16
		<b>SDH</b> D side			
		<b>SDJ1</b> D side			
		<b>SDJ2</b> D side			
		<b>SDQ</b> D side	1 to 8 stations	16 stations	16
		<b>SDR1</b> D side			
		<b>SDR2</b> D side			
		<b>SDV</b> D side			

Note 1) Separately order the 20P type cable assembly for the P kit.

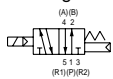
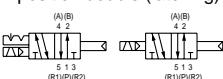
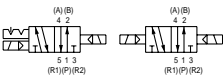
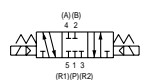
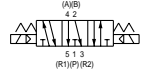

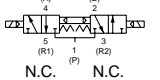
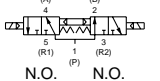
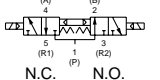
Note 2) The maximum number of stations should not be more than the maximum number of solenoids. (The number of solenoids are counted as: 1 for single solenoids and 2 for type 3P and 4P double solenoids.)



## How to Order Valves

**SQ1** **1** **3** **0** **5** **C6** **Q**

### Type of actuation

<b>1</b>	2 position single 
<b>2</b>	2 position double (latching)  Metal seal      Rubber seal 2 position double (double solenoid) Note 1)  Metal seal      Rubber seal
<b>3</b>	3 position closed centre 
<b>4</b>	3 position exhaust centre 
<b>5</b>	3 position pressure centre 
Note 2) <b>A</b>	4 position dual 3 port valve  N.C.      N.C.
Note 2) <b>B</b>	4 position dual 3 port valve  N.O.      N.O.
Note 2) <b>C</b>	4 position dual 3 port valve  N.C.      N.O.

Note 1) For double solenoid specification, the function symbol below is "D".

Note 2) Only rubber seal types are applicable.

### Seal type

<b>0</b>	Metal seal
<b>1</b>	Rubber seal

### Function

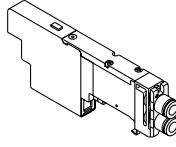
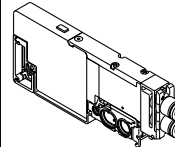
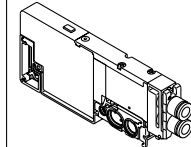
<b>Nil</b>	Standard type (1.0WDC)
<b>D</b>	2 position double (double solenoid specification)
<b>K</b> Note 1)	High voltage type (1MPa, 1.0WDC) [only metal seal applicable]
<b>N</b>	Negative COM
<b>Y</b> Note 1)	Low wattage type (0.5WDC)
<b>R</b> Note 2)	External pilot specification

Note 1) Except double (latching) type.

Note 2) Except dual 3 port valves.

Note 3) For specifying two or more functions, enter symbols in alphabetical order.

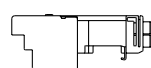
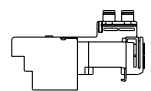
### Manifold block specification

Nil	M	MB
Without manifold block 	With manifold block 	Manifold block with built-in back pressure check valve 
• When ordering with manifolds • When only valves are required.	* Lead wire is not included.	* Lead wire is not included.
	For adding stations	

### Port plug mounting port

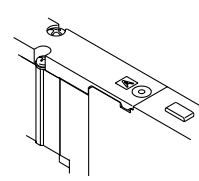
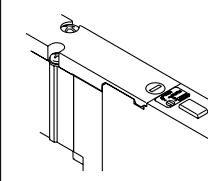
<b>Nil</b>	None
<b>A</b>	A port
<b>B</b>	B port

### Cylinder port size

<b>C3</b>	ø3.2 One-touch fitting	Side ported 
<b>C4</b>	ø4 One-touch fitting	
<b>C6</b>	ø6 One-touch fitting	
<b>M5</b>	M5 threads	Note) Top ported 
<b>L3</b>	ø3.2 One-touch fitting	
<b>L4</b>	ø4 One-touch fitting	
<b>L6</b>	ø6 One-touch fitting	
<b>L5</b>	M5 threads	

Note) Can be changed to side ported configuration.

### Manual override

Nil	B Note)
Non-locking push type (tool required) 	Locking type (tool required) 

Note) Except double (latching) type.

### Coil voltage

<b>5</b>	24VDC
<b>6</b>	12VDC

Note) Indicator light/Surge voltage suppressor is built-in.

SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

SQ

VQ

VQ4

VQ5

VQZ

VQD

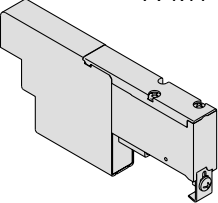
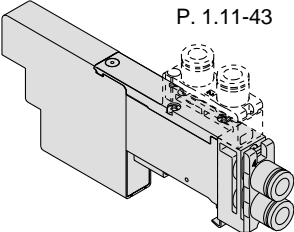
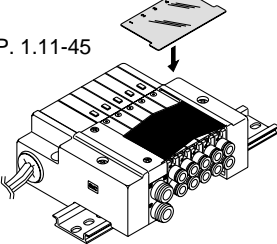
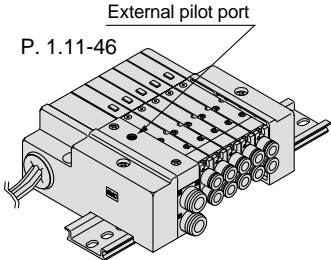
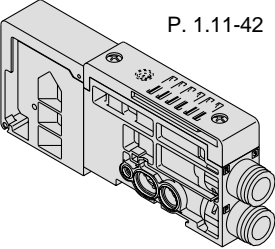
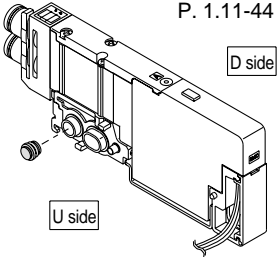
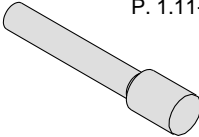
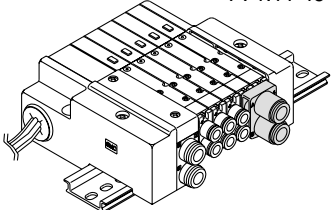
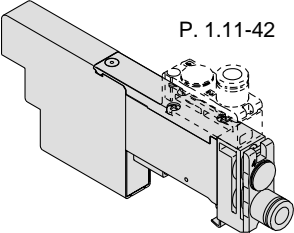
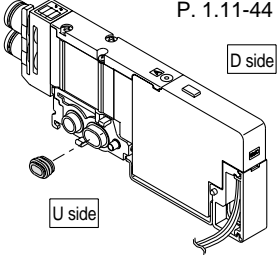
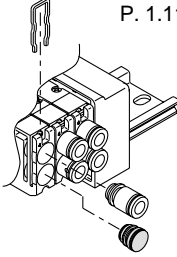
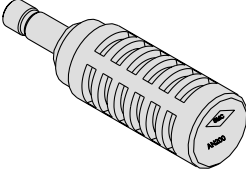
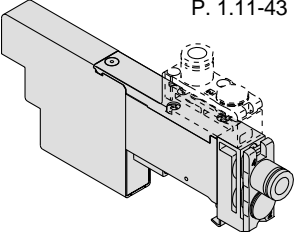
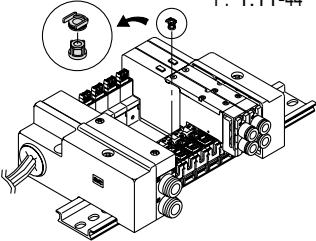
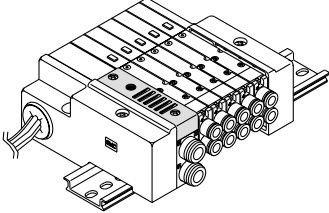
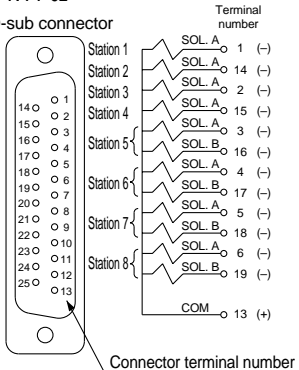
VFS

VS

VS7

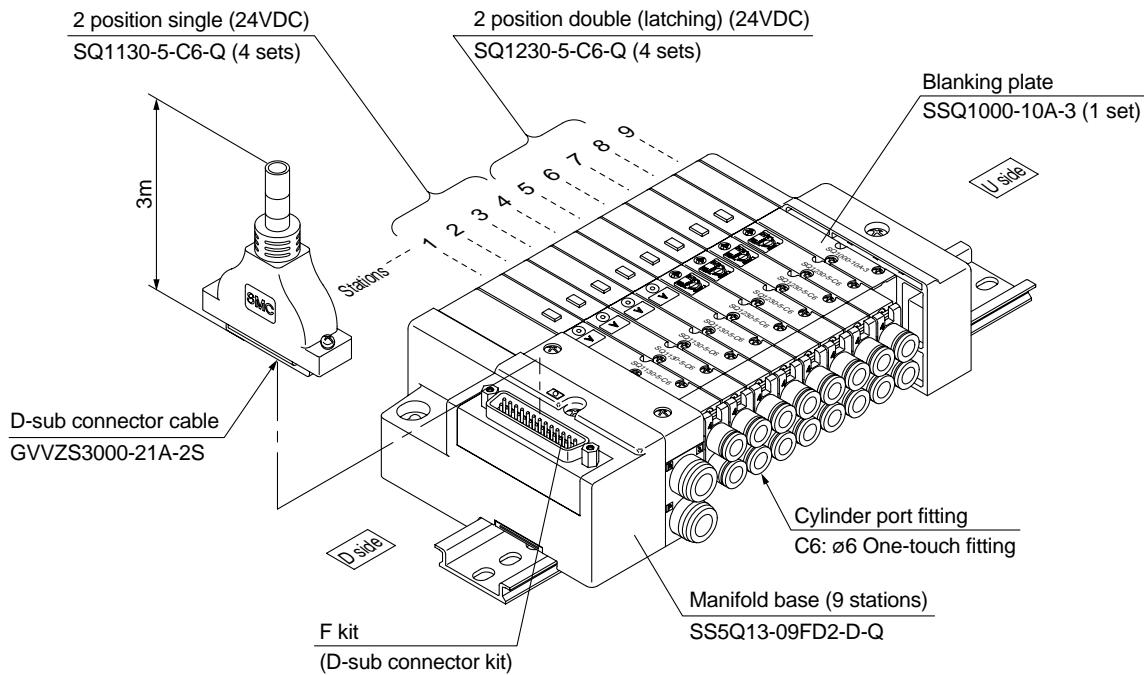
VQ7

Manifold Options

<div>Blanking plate SSQ1000-10A-3</div> <div>P. 1.11-42</div> <div></div>	<div>Individual SUP/EXH spacer SSQ1000-PR1-3-<sup>C6</sup><sub>L6</sub></div> <div>P. 1.11-43</div> <div></div>	<div>Name plate (-N) SSQ1000-N3-n</div> <div>P. 1.11-45</div> <div></div>	<div>External pilot specification (-R)</div> <div>P. 1.11-46</div> <div></div>
<div>SUP/EXH block SSQ1000-PR-3-C8(-S)</div> <div>P. 1.11-42</div> <div></div>	<div>SUP block plate SSQ1000-B-P</div> <div>P. 1.11-44</div> <div></div>	<div>Blanking plug KQ2P-23/04/06/08</div> <div>P. 1.11-45</div> <div></div>	<div>Dual flow fitting SSQ1000-52A-<sup>C8</sup><sub>N9</sub></div> <div>P. 1.11-46</div> <div></div>
<div>Individual SUP spacer SSQ1000-P-3-<sup>C6</sup><sub>L6</sub></div> <div>P. 1.11-42</div> <div></div>	<div>EXH block plate SSQ1000-B-R</div> <div>P. 1.11-44</div> <div></div>	<div>Port plug VVQZ100-CP</div> <div>P. 1.11-45</div> <div></div>	<div>Silencer (for EXH port)</div> <div>P. 1.11-46</div> <div></div>
<div>Individual EXH spacer SSQ1000-R-3-<sup>C6</sup><sub>L6</sub></div> <div>P. 1.11-43</div> <div></div>	<div>Back pressure check valve (-B) SSQ1000-BP</div> <div>P. 1.11-44</div> <div></div>	<div>Built-in silencer (-S)</div> <div>P. 1.11-45</div> <div></div>	<div>Special wiring specification (-K) P. 1.11-52</div> <div></div> <div>Although the standard products come with double wiring, mixed single and double wiring is available upon request.</div>

## How to Order Manifold Assemblies (Example)

Example: D-sub connector kit, with cable (3m)



**SS5Q13-09FD2-D-Q** ..... 1 set: F kit 9 station manifold base  
**SQ1130-5-C6-Q** ..... 4 sets: 2 position single  
**SQ1230-5-C6-Q** ..... 4 sets: 2 position double (latching)  
**SSQ1000-10A-3** ..... 1 set: Blanking plate

Add the valve and option part numbers in order starting from the first station on the D side. When entry of part numbers becomes complicated, indicate on a manifold specification sheet.

SV  
SY  
SYJ  
SX  
VK  
VZ  
VF  
VFR  
VP7

VQC  
**SQ**  
VQ  
VQ4  
VQ5  
VQZ  
VQD  
VFS  
VS  
VS7  
VQ7



## Valve Specifications



### Models

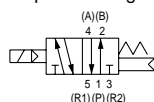
Series		Number of solenoids	Model		Note 1) Effective area mm <sup>2</sup> (N <sub>L</sub> /min)	Response time    ms <sup>Note 2)</sup>		Weight (g)
						Standard: 1W	Low wattage	
SQ1000	2 position	Single	Metal seal	<b>SQ1130</b>	3.2 (177)	12 or less	15 or less	80
			Rubber seal	<b>SQ1131</b>	4.5 (245)	15 or less	20 or less	80
		Double (latching)	Metal seal	<b>SQ1230</b>	3.2 (177)	15 or less	—	80
			Rubber seal	<b>SQ1231</b>	4.5 (245)	20 or less	—	80
		Double (double solenoid)	Metal seal	<b>SQ1230D</b>	3.2 (177)	10 or less	13 or less	95
			Rubber seal	<b>SQ1231D</b>	4.5 (245)	15 or less	20 or less	95
	3 position	Closed centre	Metal seal	<b>SQ1330</b>	2.9 (157)	20 or less	26 or less	100
			Rubber seal	<b>SQ1331</b>	3.2 (177)	25 or less	33 or less	100
		Exhaust centre	Metal seal	<b>SQ1430</b>	3.2 (177)	20 or less	26 or less	100
			Rubber seal	<b>SQ1431</b>	4.5 (245)	25 or less	33 or less	100
		Pressure centre	Metal seal	<b>SQ1530</b>	2.9 (157)	20 or less	26 or less	100
			Rubber seal	<b>SQ1531</b>	3.2 (177)	25 or less	33 or less	100
	1 position	Dual 3 port valve	Rubber seal	<b>SQ1<sup>A</sup><sub>B</sub>31<sup>C</sup></b>	3.2 (177)	25 or less	33 or less	95

Note 1) Values for the cylinder port size of C6.

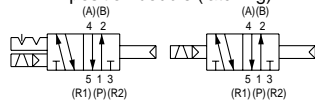
Note 2) Based on JISB8375-1981. (Values with a supply pressure of 0.5MPa and indicator light/surge voltage suppressor. Values fluctuate depending on the pressure and air quality.)

### JIS symbols

#### 2 position single



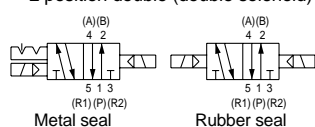
#### 2 position double (latching)



Metal seal

Rubber seal

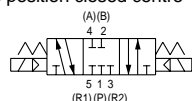
#### 2 position double (double solenoid)



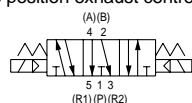
Metal seal

Rubber seal

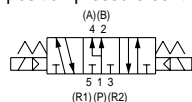
#### 3 position closed centre



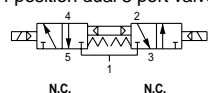
#### 3 position exhaust centre



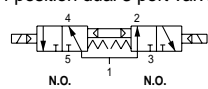
#### 3 position pressure centre



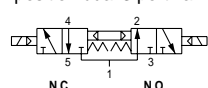
#### 4 position dual 3 port valve (A)



#### 4 position dual 3 port valve (B)



#### 4 position dual 3 port valve (C)



### Specifications

Valve specifications	Valve construction		Metal seal	Rubber seal
	Fluid		Air/Inert gas	
	Maximum operating pressure		0.7MPa (High pressure type: 1.0MPa) Note 3)	
	Minimum operating pressure	Single	0.1MPa	0.15MPa
		Double (latching)	0.18MPa	0.18MPa
		Double (double solenoid)	0.1MPa	0.1MPa
		3 position	0.1MPa	0.2MPa
		4 position	—	0.15MPa
	Ambient and fluid temperature		-10 to 50°C Note 1)	
	Lubrication		Not required	
	Pilot valve manual override		Push type/Locking type (tool required)	
Solenoid specifications	Vibration/Impact resistance Note 2)		30/150 m/s <sup>2</sup>	
	Enclosure		Dust proof	
	Rated coil voltage		12VDC, 24VDC	
	Allowable voltage fluctuation		±10% of rated voltage	
	Coil insulation type		Equivalent to B type	
	Power consumption (Current)	24VDC	1W DC (42mA), 0.5W DC (21mA) Note 4)	
		12VDC	1W DC (83mA), 0.5W DC (42mA) Note 4)	

Note 1) Use dry air to prevent condensation at low temperatures.

Note 2) Vibration resistance: No malfunction occurred in a one-sweep test between 8.3 and 2000Hz. Test was performed in the axial and right angle directions of the main valve and armature for both energized and de-energized states.

Impact resistance: No malfunction resulted from the impact test using a drop impact tester. The test was performed one time each in the axial and right angle directions of the main valve and armature, for both energized and de-energized states.

Note 3) Metal seal type only. [Except double (latching) type.]

Note 4) Values for the low wattage (0.5W) specification.

## Manifold Specifications

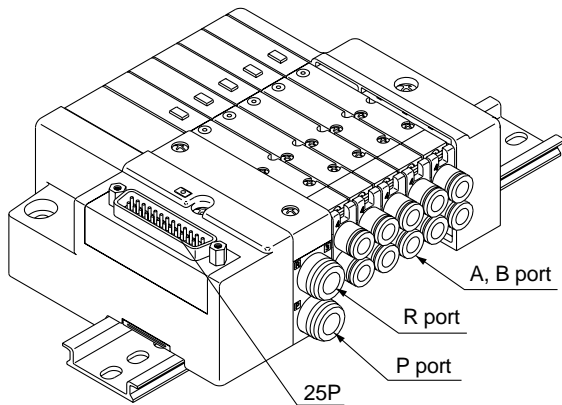
Base model	Configuration			Applicable solenoid valves	Connection type		Applicable stations <div>Note 3)</div>	5 station weight (g) <div>Note 4)</div>	Additional weight for 1 station (g) <div>Note 4)</div>
	Port size <div>Note 1)</div>								
	P, R	A, B							
Port direction		Port size							
SS5Q13-□□-□	C8 (for ø8)  Option ( Direct outlet with built-in silencer )	Side	C3 (for ø3.2) C4 (for ø4) C6 (for ø6) M5 (M5 threads)	SQ1□30 SQ1□31	F kit: D-sub connector		1 to 12 stations	420	20
					P kit: Flat ribbon cable	26P	1 to 12 stations	420	20
						20P	1 to 9 stations		
		J kit: Flat ribbon cable PC Wiring System compatible	1 to 8 stations		420	20			
		L kit: Lead wire	1 to 12 stations		460	35			
		S kit: Serial transmission	1 to 8 stations		475	20			
		<div>Note 2)</div> Top	L3 (for ø3.2) L4 (for ø4) L6 (for ø6) L5 (M5 threads)						

Note 1) One-touch fittings in inch sizes are also available. Refer to page 1.11-54 for details.

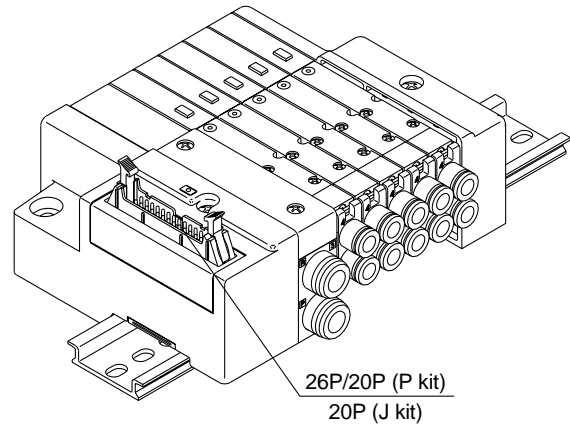
Note 2) Can be changed to side ported configuration.

Note 3) An optional specification for special wiring is available to increase the maximum number of stations. Refer to page 1.11-52 for details.

Note 4) Except valves. Refer to page 1.11-8 for valve weights.

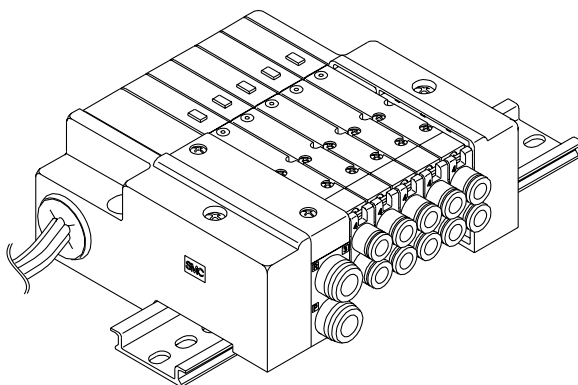


**F kit**

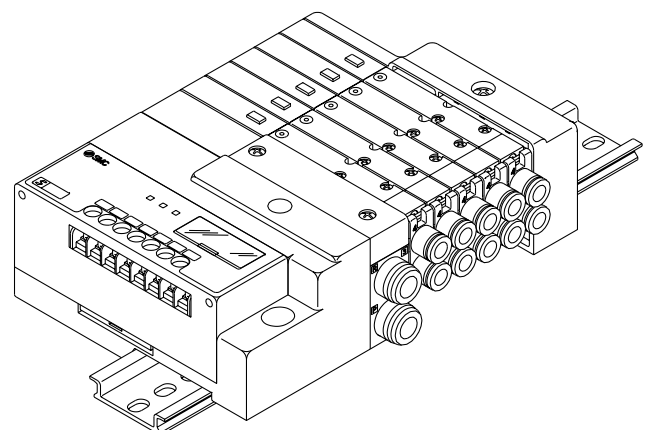


**P kit**

**J kit**



**L kit**



**S kit**

**SV**

**SY**

**SYJ**

**SX**

**VK**

**VZ**

**VF**

**VFR**

**VP7**

**VQC**

**SQ**

**VQ**

**VQ4**

**VQ5**

**VQZ**

**VQD**

**VFS**

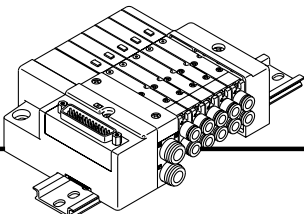
**VS**

**VS7**

**VQ7**

F

Kit (D-sub Connector kit)



- Simplification and labour savings for wiring work can be achieved by using a D-sub connector for the electrical connection.
- The use of D-sub connectors (25P) conforming to MIL standards provides a wide range of compatibility with conventional connectors.
- Top or side entry for the connector can be changed freely, allowing later changes according to the mounting space.

Manifold specifications

Series	Port position	Configuration		Maximum number of stations
		P, R	A, B	
SQ1000	Side, Top	C8	C3, C4, C6, M5	12 stations (24 stations optional)

D-sub connector (25P)

**GVVZS3000-21A-<sup>1</sup>/<sub>2</sub>-<sup>3</sup>/<sub>4</sub>-<sup>S</sup>/<sub>60</sub>**

(D-sub connector cable assemblies can be ordered with manifolds.)  
Refer to manifold ordering.

**Type Standard**

**Type 60°**

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

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

\* Connector made in conformity with DIN47100.

**Electric characteristics**

Item	Characteristics
Conductor resistance Ω/km, 20°C	57 or less
Voltage limit V, 5min, AC	1500
Insulation resistance MΩ/km	20

**D-sub connector cable ass'y**

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

**Model**

Standard	S
60°	60

**Electrical wiring specifications**

**D-sub connector**

As the standard electrical wiring specification for 12 stations or less, double wiring (connected to SOL. A and SOL. B) is used for the internal wiring of each station regardless of valve and option types. Mixed single and double wiring is available as an option. Refer to page 1.11-52 for details.

**Lead wire colours for D-sub connector assemblies**

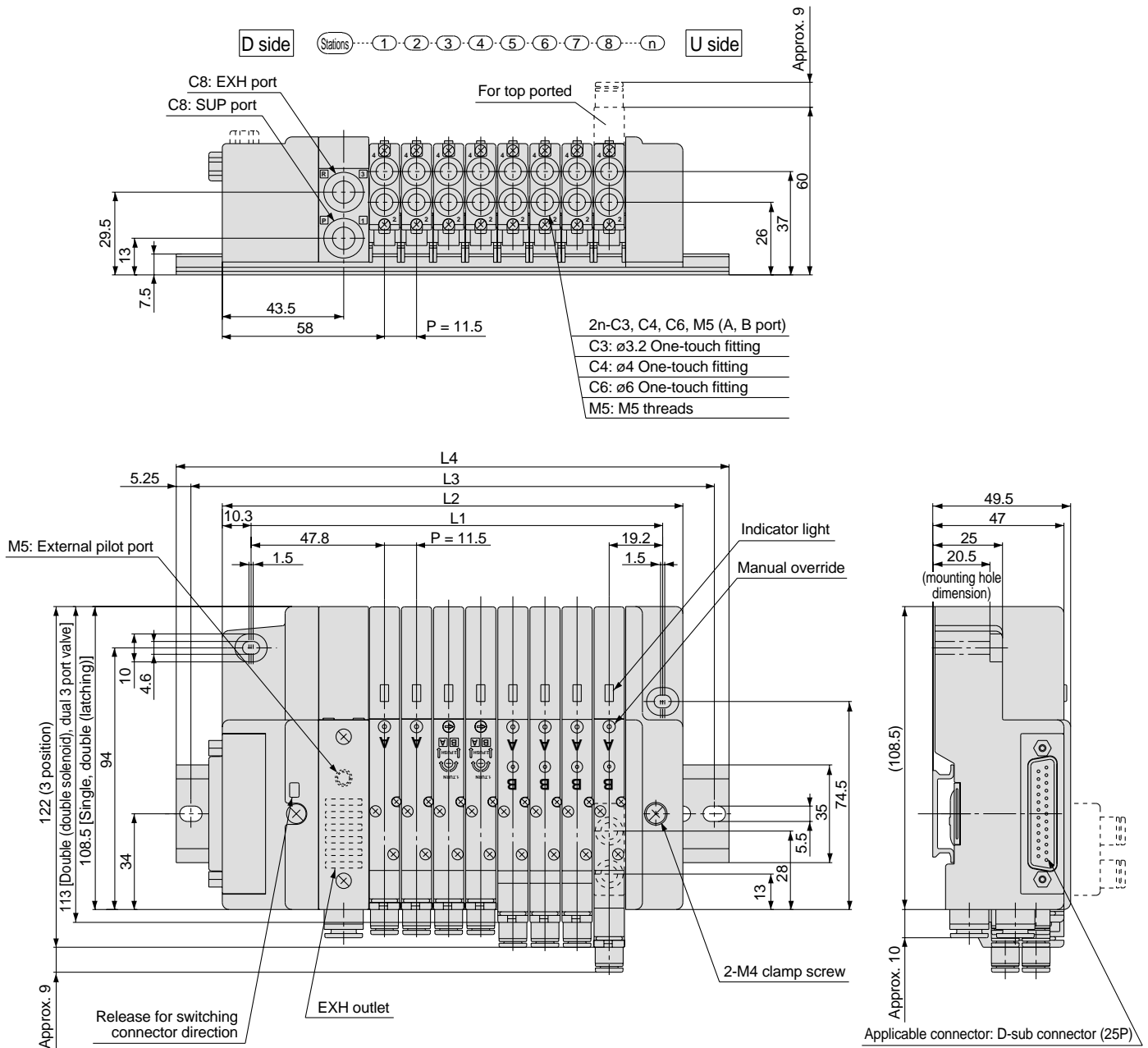
**GVVZS3000-21A-<sup>1</sup>/<sub>2</sub>-<sup>3</sup>/<sub>4</sub>-<sup>S</sup>/<sub>60</sub>**

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

Positive COM spec.      Negative COM spec.

Note) When using the negative COM specification, use valves for negative COM.





SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

**SQ**

VQ

VQ4

VQ5

VQZ

VQD

VFS

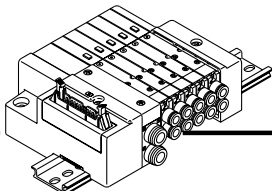
VS

VS7

VQ7

P

Kit (Flat Ribbon Cable Kit)



- Simplification and labour savings for wiring work can be achieved by using a flat ribbon cable for the electrical connection.
- The use of flat ribbon cable connectors (26P, 20P) conforming to MIL standards provides a wide range of compatibility with conventional connectors.
- Top or side entry for the connector can be changed freely, allowing later changes according to the mounting space.

Flat ribbon cable (26P, 20P)

Manifold specifications

Series	Port position	Configuration		Maximum number of stations
		P, R	A, B	
SQ1000	Side, Top	C8	C3, C4, C6, M5	12 stations (24 stations optional)

AXT100-FC<sup>20</sup>/<sub>26</sub>-<sup>1</sup>/<sub>2</sub>/<sub>3</sub>

(Type 26P flat ribbon cable connector assemblies can be ordered with manifolds. Refer to manifold ordering.)

Terminal number

Red

28AWG

(15.6)

L

**Flat ribbon cable connector assemblies (optional)**

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

\* When using a conventional connector, use a type 26P connector conforming to MIL-C-83503 or a type 20P with strain relief.

\* Cannot be used for transfer wiring.

**Connector manufacturer examples**

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

D Side

U Side

1 2 3 ..... Stations

**Electrical wiring specifications**

\* Valves are numbered from the D side.

**Flat ribbon cable connector**

26 □ □ 25
24 □ □ 23
22 □ □ 21
20 □ □ 19
18 □ □ 17
16 □ □ 15
14 □ □ 13
12 □ □ 11
10 □ □ 9
8 □ □ 7
6 □ □ 5
4 □ □ 3
2 □ □ 1

Connector terminal number

Triangle mark indicator position

Double wiring (connected to SOL. A and SOL. B) is used for the internal wiring of each station regardless of valve and option types. Mixed single and double wiring is available as an option. Refer to page 1.11-52 for details.

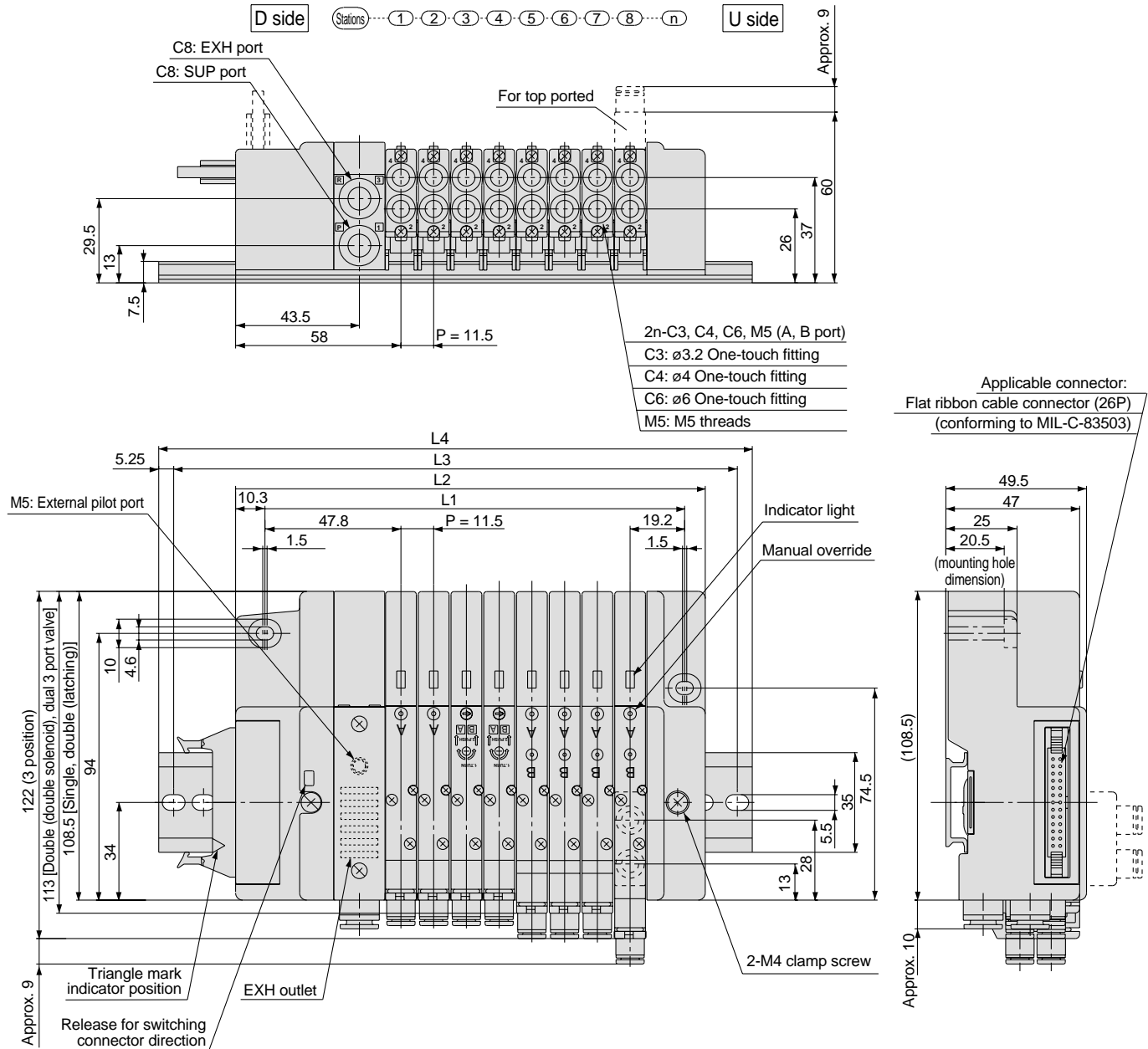
**<26P>**

	Terminal no.	Polarity
Station 1	SOL. A 1	(-) (+)
	SOL. B 2	(-) (+)
Station 2	SOL. A 3	(-) (+)
	SOL. B 4	(-) (+)
Station 3	SOL. A 5	(-) (+)
	SOL. B 6	(-) (+)
Station 4	SOL. A 7	(-) (+)
	SOL. B 8	(-) (+)
Station 5	SOL. A 9	(-) (+)
	SOL. B 10	(-) (+)
Station 6	SOL. A 11	(-) (+)
	SOL. B 12	(-) (+)
Station 7	SOL. A 13	(-) (+)
	SOL. B 14	(-) (+)
Station 8	SOL. A 15	(-) (+)
	SOL. B 16	(-) (+)
Station 9	SOL. A 17	(-) (+)
	SOL. B 18	(-) (+)
Station 10	SOL. A 19	(-) (+)
	SOL. B 20	(-) (+)
Station 11	SOL. A 21	(-) (+)
	SOL. B 22	(-) (+)
Station 12	SOL. A 23	(-) (+)
	SOL. B 24	(-) (+)
	COM 25	(+) (-)
	COM 26	(+) (-)
		Positive COM spec. Negative COM spec.

**<20P>**

	Terminal no.	Polarity
Station 1	SOL. A 1	(-) (+)
	SOL. B 2	(-) (+)
Station 2	SOL. A 3	(-) (+)
	SOL. B 4	(-) (+)
Station 3	SOL. A 5	(-) (+)
	SOL. B 6	(-) (+)
Station 4	SOL. A 7	(-) (+)
	SOL. B 8	(-) (+)
Station 5	SOL. A 9	(-) (+)
	SOL. B 10	(-) (+)
Station 6	SOL. A 11	(-) (+)
	SOL. B 12	(-) (+)
Station 7	SOL. A 13	(-) (+)
	SOL. B 14	(-) (+)
Station 8	SOL. A 15	(-) (+)
	SOL. B 16	(-) (+)
Station 9	SOL. A 17	(-) (+)
	SOL. B 18	(-) (+)
	COM 19	(+) (-)
	COM 20	(+) (-)
		Positive COM spec. Negative COM spec.

Note) When using the negative COM specification, use valves for negative COM.



SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

SQ

VQ

VQ4

VQ5

VQZ

VQD

VFS

VS

VS7

VQ7

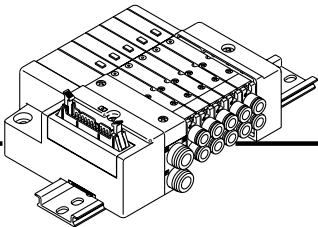
## Dimensions

Formulas:  $L1 = 11.5n + 55.5$ ,  $L2 = 11.5n + 73$  n: Stations (maximum 24 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	67	78.5	90	101.5	113	124.5	136	147.5	159	170.5	182	193.5	205	216.5	228	239.5	251	262.5	274	285.5	297	308.5	320	331.5
L2	84.5	96	107.5	119	130.5	142	153.5	165	176.5	188	199.5	211	222.5	234	245.5	257	268.5	280	291.5	303	314.5	326	337.5	349
L3	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5	375		
L4	123	135.5	148	160.5	173	185.5	198	210.5	223	235.5	248	260.5	273	285.5	298	310.5	323	335.5	348	360.5	373	385.5		



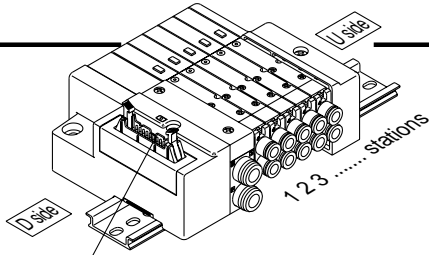
**J** Kit (PC Wiring System Compatible Flat Ribbon Cable Kit)



- Compatible with the PC Wiring System.
- The use of flat ribbon cable connectors (20P) conforming to MIL standards provides a wide range of compatibility with conventional connectors.
- Top or side entry for the connector can be changed freely, allowing later changes according to the mounting space.

**Manifold specifications**

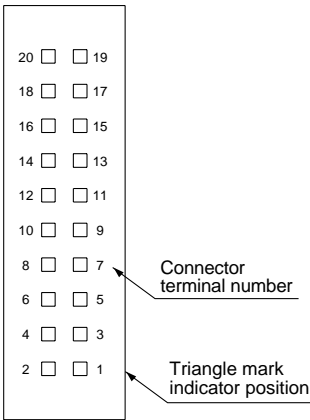
Series	Port position	Configuration		Maximum number of stations
		P, R	A, B	
<b>SQ1000</b>	Side, Top	C8	C3, C4, C6, M5	8 stations (16 stations optional)



**Electrical wiring specifications** • \* Valves are numbered from the D side.

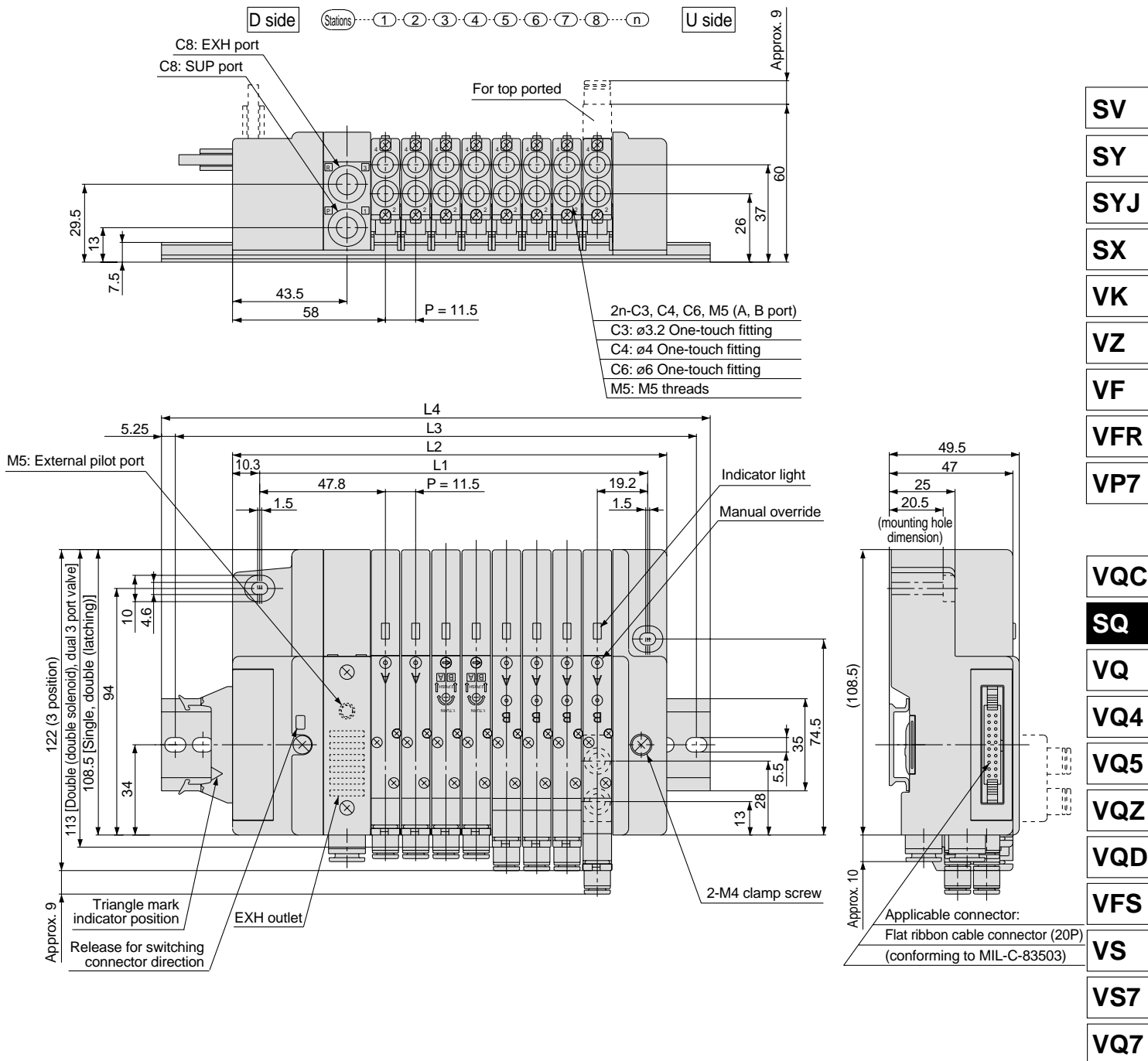
Double wiring (connected to SOL. A and SOL. B) is used for the internal wiring of each station regardless of valve and option types.  
Mixed single and double wiring is available as an option.  
Refer to page 1.11-52 for details.

**Flat ribbon cable connector**



	Terminal no.	Polarity	
Station 1	SOL. A 20	(-)	(+)
	SOL. B 18	(-)	(+)
Station 2	SOL. A 16	(-)	(+)
	SOL. B 14	(-)	(+)
Station 3	SOL. A 12	(-)	(+)
	SOL. B 10	(-)	(+)
Station 4	SOL. A 8	(-)	(+)
	SOL. B 6	(-)	(+)
Station 5	SOL. A 19	(-)	(+)
	SOL. B 17	(-)	(+)
Station 6	SOL. A 15	(-)	(+)
	SOL. B 13	(-)	(+)
Station 7	SOL. A 11	(-)	(+)
	SOL. B 9	(-)	(+)
Station 8	SOL. A 7	(-)	(+)
	SOL. B 5	(-)	(+)
	4	(-)	(+)
	3	(-)	(+)
	COM 2	(+)	(-)
	COM 1	(+)	(-)
		Positive COM spec.	Negative COM spec.

Note) When using the negative COM specification, use valves for negative COM.  
For details on the PC Wiring System, refer to catalog "PC Wiring System" (CAT.ES02-20).



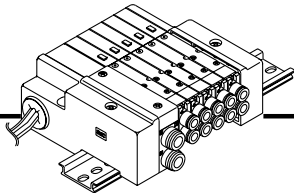
## Dimensions

Formulas:  $L1 = 11.5n + 55.5$ ,  $L2 = 11.5n + 73$  n: Stations (maximum 16 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	67	78.5	90	101.5	113	124.5	136	147.5	159	170.5	182	193.5	205	216.5	228	239.5
L2	84.5	96	107.5	119	130.5	142	153.5	165	176.5	188	199.5	211	222.5	234	245.5	257
L3	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	
L4	123	135.5	148	160.5	173	185.5	198	210.5	223	235.5	248	260.5	273	285.5	298	

Series **SQ1000**

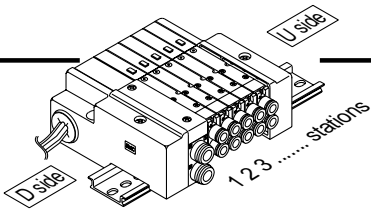
**L** Kit (Lead Wire Kit)



• Direct electrical entry type

Manifold specifications

Series	Configuration			Maximum number of stations
	Port position	Port size		
		P, R	A, B	
<b>SQ1000</b>	Side, Top	C8	C3, C4, C6, M5	12 stations



\* Valves are numbered from the D side.

• Wiring Specifications/Positive COM Specifications

Three lead wires are included per station regardless of valves used. Among the three lead wires, the red wire is for COM.

Lead wire colour

SOL. A (-) Black

COM (+) Red

SOL. B (-) White

Single solenoid type

Lead wire colour

SOL. A (-) Black

COM (+) Red

SOL. B (-) White

Double solenoid type

24AWG x 3 core cable  
O.D. ø1.5

• Wiring Specifications/Negative COM Specifications (optional)

Three lead wires are included per station regardless of valves used. Among the three lead wires, the black wire is for COM.

Lead wire colour

SOL. A (+) Red

COM (-) Black

SOL. B (+) White

Single solenoid type

Lead wire colour

SOL. A (+) Red

COM (-) Black

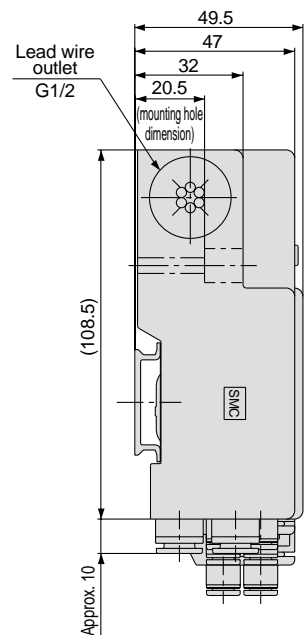
SOL. B (+) White

Double solenoid type

24AWG x 3 core cable  
O.D. ø1.5

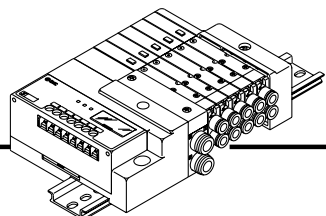
Note) When using the negative COM specification, use valves for negative COM.





L \ n	1	2	3	4	5	6	7	8	9	10	11	12
L1	56	67.5	79	90.5	102	113.5	125	136.5	148	159.5	171	182.5
L2	70.5	82	93.5	105	116.5	128	139.5	151	162.5	174	185.5	197
L3	100	112.5	125	125	137.5	150	162.5	175	187.5	200	212.5	225
L4	110.5	123	135.5	135.5	148	160.5	173	185.5	198	210.5	223	235.5

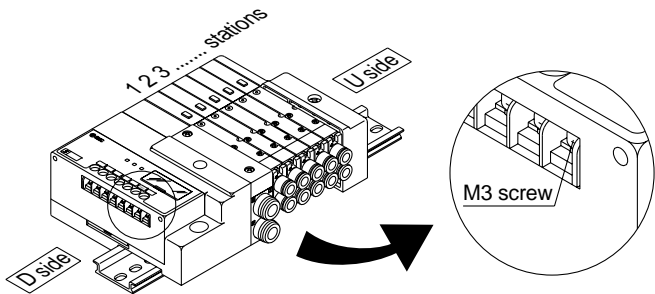
**S** Kit (Serial Transmission Kit)



- Simplification and labour savings for wiring work can be achieved by using a serial transmission unit.
- The maximum number of stations is 8 (16 optional).  
For type J2 and R2 only, the maximum number of stations is 4 (8 optional).

**Manifold specifications**

Series	Configuration			Maximum number of stations
	Port position	Port size		
		P, R	A, B	
<b>SQ1000</b>	Side, Top	C8	C3, C4, C6, M5	8 stations



- Valves are numbered from the D side.
- Double wiring (connected to SOL. A and SOL. B) is used for the internal wiring of each station regardless of valve and option types.  
Mixed single and double wiring is available as an option.

Item	Specification
External power supply	24VDC, +10%, -5%
Current consumption (inside unit)	0.1A or less

• Corresponding SI unit output numbers and solenoid coils

<Wiring example 1>

SI unit output number	0	1	2	3	4	5	6	7	8	9
	A	B	A	B	A	None	A	None	A	B
SI unit	Double		Double		Single		Single		Single	
Station	1		2		3		4		5	

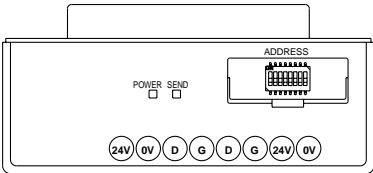
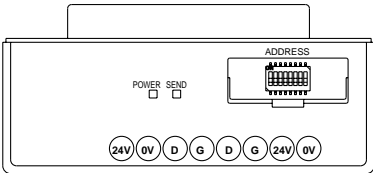
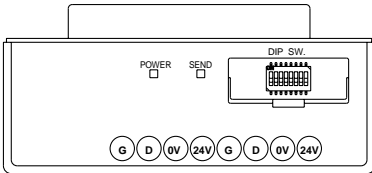
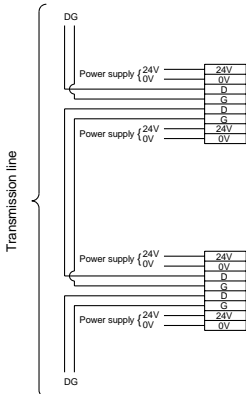
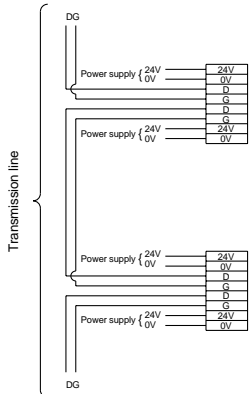
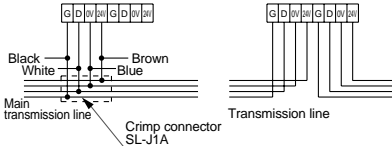
Double wiring (standard)

<Wiring example 2>

\* Mixed wiring is optional. Specify the wiring specification on a manifold specification sheet. Refer to page 49 for details.

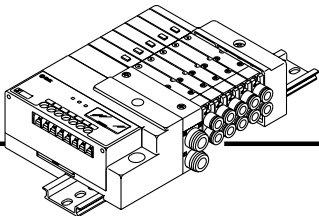
SI unit output number	0	1	2	3	4	5	6	7
	A	B	A	B	A	A	A	B
SI unit	Double		Double		Single		Double	
Station	1		2		3		5	

Mixed single and double wiring (optional)

	Type SDF NKE Corporation Uni-wire System	Type SDH NKE Corporation Uni-wire H System	Type SDJ1, SDJ2 SUNX Corporation S-LINK System																		
Terminal block LED description	<div></div> <table><tr><th>LED description</th><th>Detail</th></tr><tr><td>POWER</td><td>Light ON with power input (Light ON when normal, flickers when voltage is low)</td></tr><tr><td>SEND</td><td>Transmission indicator Normal: Blinks, Abnormal: Light OFF or ON</td></tr></table>	LED description	Detail	POWER	Light ON with power input (Light ON when normal, flickers when voltage is low)	SEND	Transmission indicator Normal: Blinks, Abnormal: Light OFF or ON	<div></div> <table><tr><th>LED description</th><th>Detail</th></tr><tr><td>POWER</td><td>Light ON with power input (Light ON when normal, flickers when voltage is low)</td></tr><tr><td>SEND</td><td>Transmission indicator Normal: Blinks, Abnormal: Light OFF or ON</td></tr></table>	LED description	Detail	POWER	Light ON with power input (Light ON when normal, flickers when voltage is low)	SEND	Transmission indicator Normal: Blinks, Abnormal: Light OFF or ON	<div></div> <table><tr><th>LED description</th><th>Detail</th></tr><tr><td>POWER</td><td>Light ON with power input</td></tr><tr><td>SEND</td><td>Transmission indicator Normal: Blinks, Abnormal: Blinks slowly</td></tr></table>	LED description	Detail	POWER	Light ON with power input	SEND	Transmission indicator Normal: Blinks, Abnormal: Blinks slowly
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POWER	Light ON with power input																				
SEND	Transmission indicator Normal: Blinks, Abnormal: Blinks slowly																				
Cable wiring	<div></div>	<div></div>	<div><p>a) Type T branching multi-drop wiring (S-LINK System)      b) Crossover wiring (Sensor link system)</p></div> <p>Dedicated S-LINK flat ribbon cable SL-RCM□00 is used in the examples above.</p>																		
Note	<ul style="list-style-type: none"><li>• Uni-wire System Send unit: SD-120</li><li>• 16 outputs</li></ul>	<ul style="list-style-type: none"><li>• Uni-wire H System Send unit: SD-H2</li><li>• 16 outputs</li></ul>	<ul style="list-style-type: none"><li>• S-LINK System S-LINK controller: SL-CU1</li><li>• 16 outputs (Type SDJ1) 8 outputs (Type SDJ2)</li></ul>																		

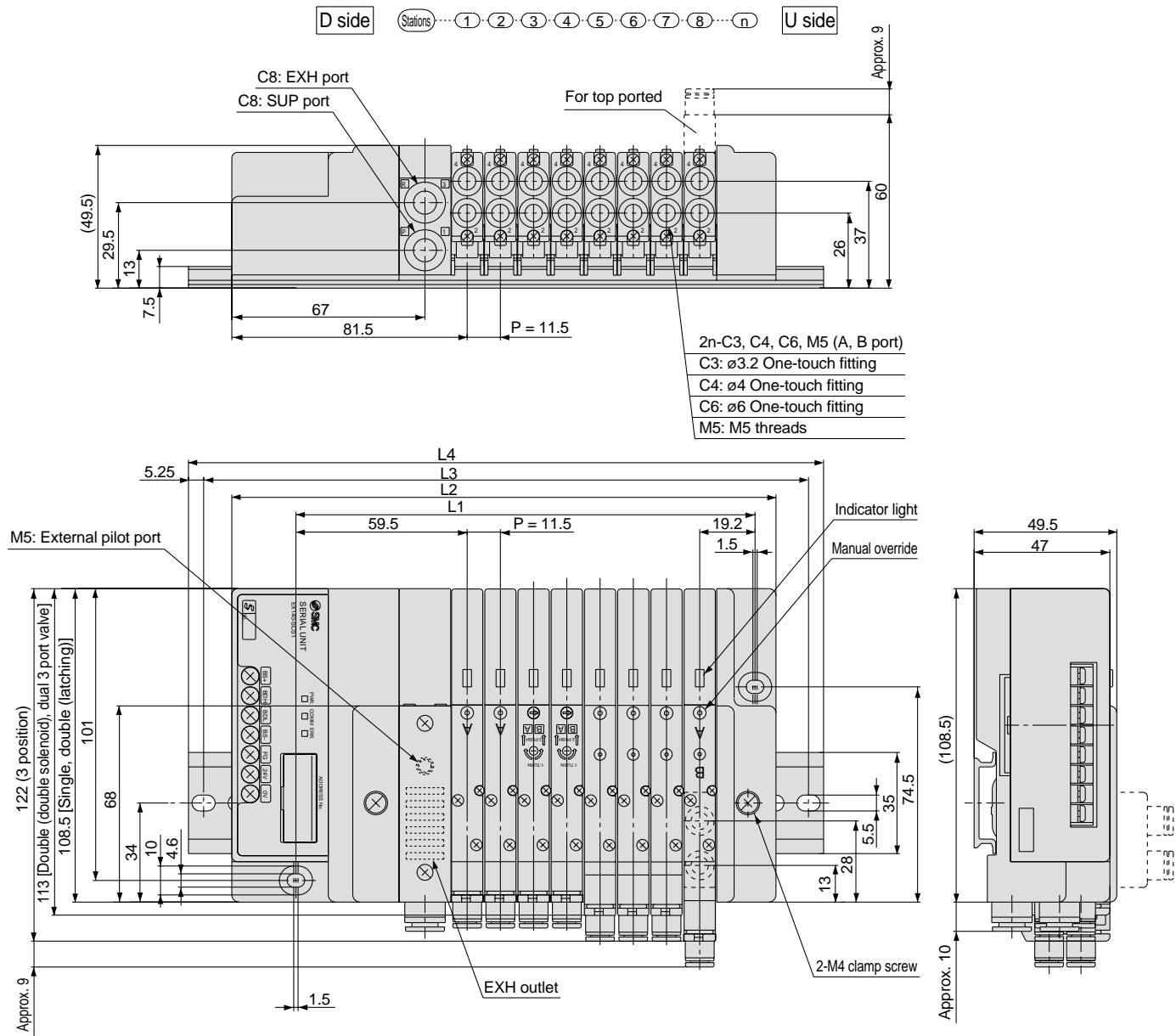
SV  
SY  
SYJ  
SX  
VK  
VZ  
VF  
VFR  
VP7  
  
VQC  
SQ  
VQ  
VQ4  
VQ5  
VQZ  
VQD  
VFS  
VS  
VS7  
VQ7

**S** Kit (Serial Transmission Kit)



	Type SDQ DeviceNet	Type SDR1, SDR2 OMRON Corporation CompoBus/S	Type SDV Mitsubishi Electric Corporation CC-LINK System																													
Terminal block LED description	<div></div> <table><tr><th>LED description</th><th>Detail</th></tr><tr><td>POWER</td><td>Green light ON with circuit power input</td></tr><tr><td rowspan="4">MOD/ NET</td><td>Light OFF: When the unit is not online or circuit power is OFF</td></tr><tr><td>Green light ON continuously: When the unit is online and in operation</td></tr><tr><td>Red light blinks: When a reversible abnormal transmission occurs</td></tr><tr><td>Red light ON continuously: When irreversible abnormal transmission occurs or the same line is unable to go online</td></tr></table>	LED description	Detail	POWER	Green light ON with circuit power input	MOD/ NET	Light OFF: When the unit is not online or circuit power is OFF	Green light ON continuously: When the unit is online and in operation	Red light blinks: When a reversible abnormal transmission occurs	Red light ON continuously: When irreversible abnormal transmission occurs or the same line is unable to go online	<div></div> <table><tr><th>LED description</th><th>Detail</th></tr><tr><td>POWER</td><td>Light ON with transmission power input, light Off without it</td></tr><tr><td>COMM</td><td>Light ON with normal transmission, light OFF with abnormal or standby transmission</td></tr><tr><td>ERR.</td><td>Light ON with abnormal transmission, light Off with normal or standby transmission</td></tr></table>	LED description	Detail	POWER	Light ON with transmission power input, light Off without it	COMM	Light ON with normal transmission, light OFF with abnormal or standby transmission	ERR.	Light ON with abnormal transmission, light Off with normal or standby transmission	<div></div> <table><tr><th>LED description</th><th>Detail</th></tr><tr><td>POWER</td><td>Light On with transmission power input, light Off without it</td></tr><tr><td>L RUN</td><td>Light ON when receiving normal data</td></tr><tr><td>SD</td><td>Light ON when sending data</td></tr><tr><td>RDL</td><td>Light ON when receiving data</td></tr><tr><td>ERR.</td><td>Light ON with transmission error/setting error, light blinks with changes in the transmission speed setting</td></tr></table>	LED description	Detail	POWER	Light On with transmission power input, light Off without it	L RUN	Light ON when receiving normal data	SD	Light ON when sending data	RDL	Light ON when receiving data	ERR.	Light ON with transmission error/setting error, light blinks with changes in the transmission speed setting
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Cable wiring	<div></div>	<div></div>	<div></div>																													
Note	<ul style="list-style-type: none"><li>• DeviceNet</li><li>• OMRON Corporation CompoBus/D System Master unit: C200HW-DRM21</li><li>• 16 outputs</li></ul>	<ul style="list-style-type: none"><li>• CompoBus/S System Master unit: C200HW-SRM21 Master unit: CQM1-SRM21</li><li>• 16 outputs (Type SDR1) 8 outputs (Type SDR2)</li></ul>	<ul style="list-style-type: none"><li>• CC-LINK System Master unit: AJ61BT11 Master unit: A1SJ61BT11 Master unit: AJ61QBT11 Master unit: A1SJ61QBT11</li><li>• 16 outputs</li></ul>																													





SV  
SY  
SYJ  
SX  
VK  
VZ  
VF  
VFR  
VP7

VQC  
SQ  
VQ  
VQ4  
VQ5  
VQZ  
VQD  
VFS  
VS  
VS7  
VQ7

## Dimensions

Formulas:  $L1 = 11.5n + 67$ ,  $L2 = 11.5n + 96.5$  n: Stations (maximum 16 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	78.5	90	101.5	113	124.5	136	147.5	159	170.5	182	193.5	205	216.5	228	239.5	251
L2	108	119.5	131	142.5	154	165.5	177	188.5	200	211.5	223	234.5	246	257.5	269	280.5
L3	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	300	300
L4	148	160.5	173	185.5	198	210.5	223	235.5	248	260.5	273	285.5	298	310.5	310.5	310.5

# Series SQ2000

## Plug-in Type

### How to Order Manifolds

SS5Q23 — **08** **FD2** **D**   **Q**

#### Stations

<b>01</b>	1 station
⋮	⋮
<b>16</b> <sup>Note)</sup>	16 stations

Note) The maximum number of stations depends on the type of electrical entries.

#### Option

<b>Nil</b>	None
<b>02 to 24</b>	Specified DIN rail length <sup>Note 1)</sup>
<b>B</b>	With back pressure check valve
<b>K</b>	Special wiring specification (except double wiring) <sup>Note 2)</sup>
<b>N</b>	With name plate (side ported only)
<b>R</b>	External pilot specification
<b>S</b>	Direct exhaust outlet with built-in silencer

Note 1) Specify DIN rail length with "D□" at the end. (Enter the number of stations inside □.) Example: -D08

Note 2) The standard wiring specification is for double wiring. Indicate a wiring specification for single wiring or mixed single and double wiring, or when exceeding the standard maximum number of stations. (Except L kit)

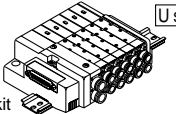
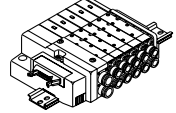
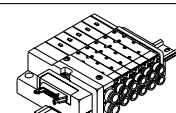
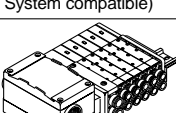
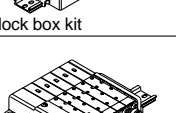
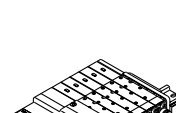
Note 3) For specifying two or more options, enter them in alphabetical order. Example: -BKN

#### Manifold mounting

<b>D</b>	DIN rail mount type
<b>E</b> <sup>Note)</sup>	Direct mount type

Note) E type is mounted using two holes in each end plate and a DIN rail that is shorter than the manifold length.

#### Electrical entry

Kit description	Lead wire connector entry direction	Cable specification	Standard number of stations	Max. number of stations for special wiring specification	Max. number of solenoids <sup>Note 2)</sup>
<b>F</b> kit  D-sub connector kit	D side	FD0	1 to 12 stations	16 stations	24
		FD1			
		FD2			
		FD3			
<b>P</b> kit  Flat ribbon cable connector kit (26P/20P)	D side <sup>Note 1)</sup>	PD0	1 to 12 stations	16 stations	24
		PD1			
		PD2			
		PD3			
		PDC	1 to 9 stations		18
<b>J</b> kit  Flat ribbon cable (20P) (PC Wiring System compatible)	D side	JD0	1 to 8 stations	16 stations	16
<b>T</b> kit  Terminal block box kit	D side	TD0	1 to 10 stations	16 stations	16
<b>L</b> kit  Lead wire kit	D side	LD0	1 to 12 stations	—	—
	U side	LU0			
	D side	LD1			
	U side	LU1			
	D side	LD2			
	U side	LU2			
<b>S</b> kit  Serial transmission kit	D side	SDF	1 to 8 stations	16 stations	16
		SDH			
		SDJ1			
		SDJ2	1 to 4 stations	8 stations	8
		SDQ	1 to 8 stations	16 stations	16
		SDR1			
		SDR2			
		SDV	1 to 4 stations	8 stations	8
			1 to 8 stations	16 stations	16

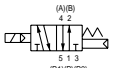
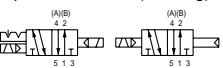
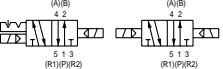

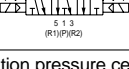
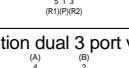
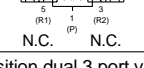
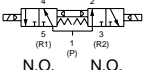
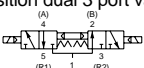
Note 1) Separately order the 20P type cable assembly for the P kit.

Note 2) The maximum number of stations should not be more than the maximum number of solenoids. (The number of solenoids are counted as: 1 for single solenoids and 2 for type 3P and 4P double solenoids.)

## How to Order Valves

**SQ2 1 3 0 5 C6 Q**

### Type of actuation

<b>1</b>	2 position single 
<b>2</b>	2 position double (latching)  Metal seal      Rubber seal 2 position double (double solenoid) (Note 1)  Metal seal      Rubber seal
<b>3</b>	3 position closed centre 
<b>4</b>	3 position exhaust centre 
<b>5</b>	3 position pressure centre 
Note 2) <b>A</b>	4 position dual 3 port valve  N.C.      N.C.
Note 2) <b>B</b>	4 position dual 3 port valve  N.O.      N.O.
Note 2) <b>C</b>	4 position dual 3 port valve  N.C.      N.O.

Note 1) For double solenoid specification, the function symbol below is "D".

Note 2) Only rubber seal types are applicable.

### Seal type

<b>0</b>	Metal seal
<b>1</b>	Rubber seal

### Function

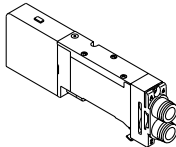
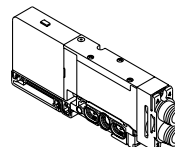
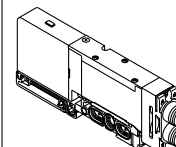
<b>Nil</b>	Standard type (1.0W DC)
<b>D</b>	2 position double (double solenoid specification)
<b>N</b>	Negative COM
<b>Y</b> (Note 1)	Low wattage type (0.5W DC)
<b>R</b> (Note 2)	External pilot specification

Note 1) Except double (latching) type.

Note 2) Except dual 3 port valves.

Note 3) For specifying two or more functions, enter symbols in alphabetical order.

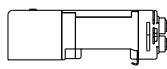
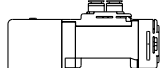
### Manifold block specification

Nil	M	MB
Without manifold block 	With manifold block 	Manifold block with built-in back pressure check valve 
• When ordering with manifolds • When only valves are required.	* Lead wire is not included. * Lead wire is not included.  For adding stations	

### Port plug mounting port

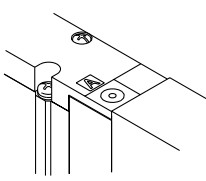
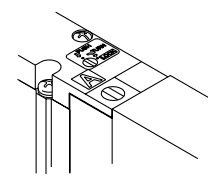
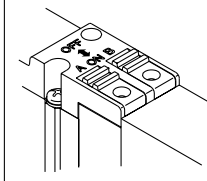
<b>Nil</b>	None
<b>A</b>	A port
<b>B</b>	B port

### Cylinder port size

<b>C4</b>	ø4 One-touch fitting	Side ported 
<b>C6</b>	ø6 One-touch fitting	
<b>C8</b>	ø8 One-touch fitting	
<b>L4</b>	ø4 One-touch fitting	Note) Top ported 
<b>L6</b>	ø6 One-touch fitting	
<b>L8</b>	ø8 One-touch fitting	

Note) Can be changed to side ported configuration.

### Manual override

Nil	B (Note)	D (Note)
Non-locking push type (tool required) 	Locking type (tool required) 	Slide locking type (manual type) * Only side ported type applicable 

Note) Except double (latching) type.

### Coil voltage

<b>5</b>	24VDC
<b>6</b>	12VDC

Note) Indicator light/surge voltage suppressor is built-in.

SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

**SQ**

VQ

VQ4

VQ5

VQZ

VQD

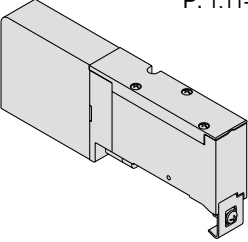
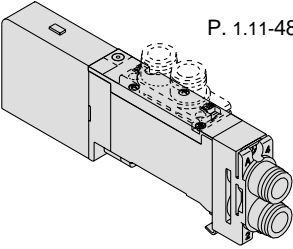
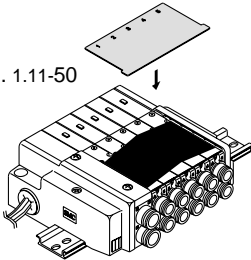
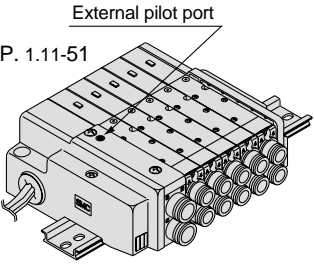
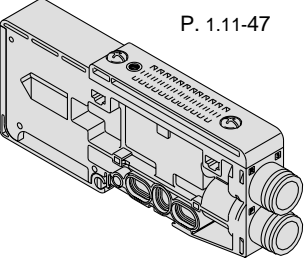
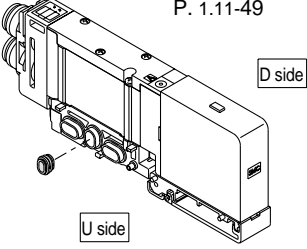
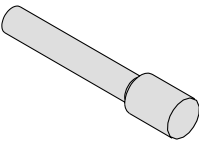
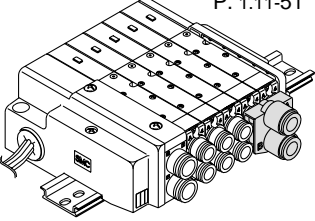
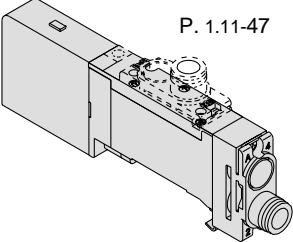
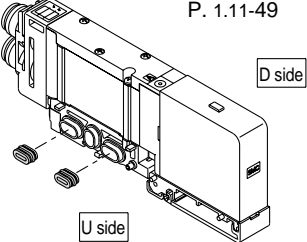
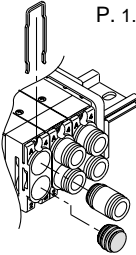
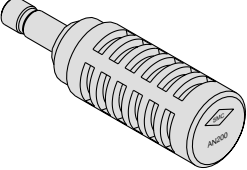
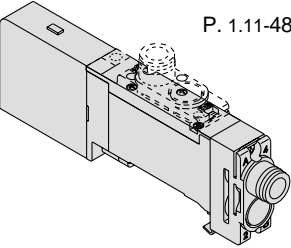
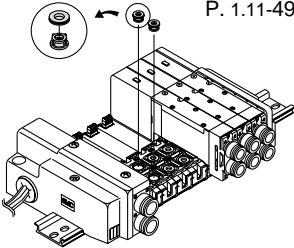
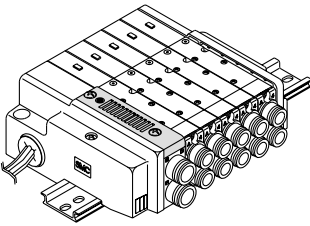
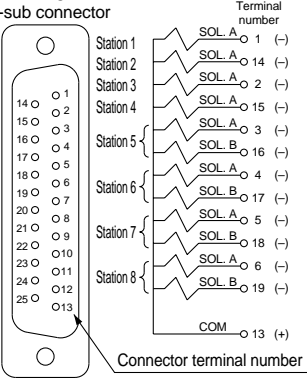
VFS

VS

VS7

VQ7

Manifold Options

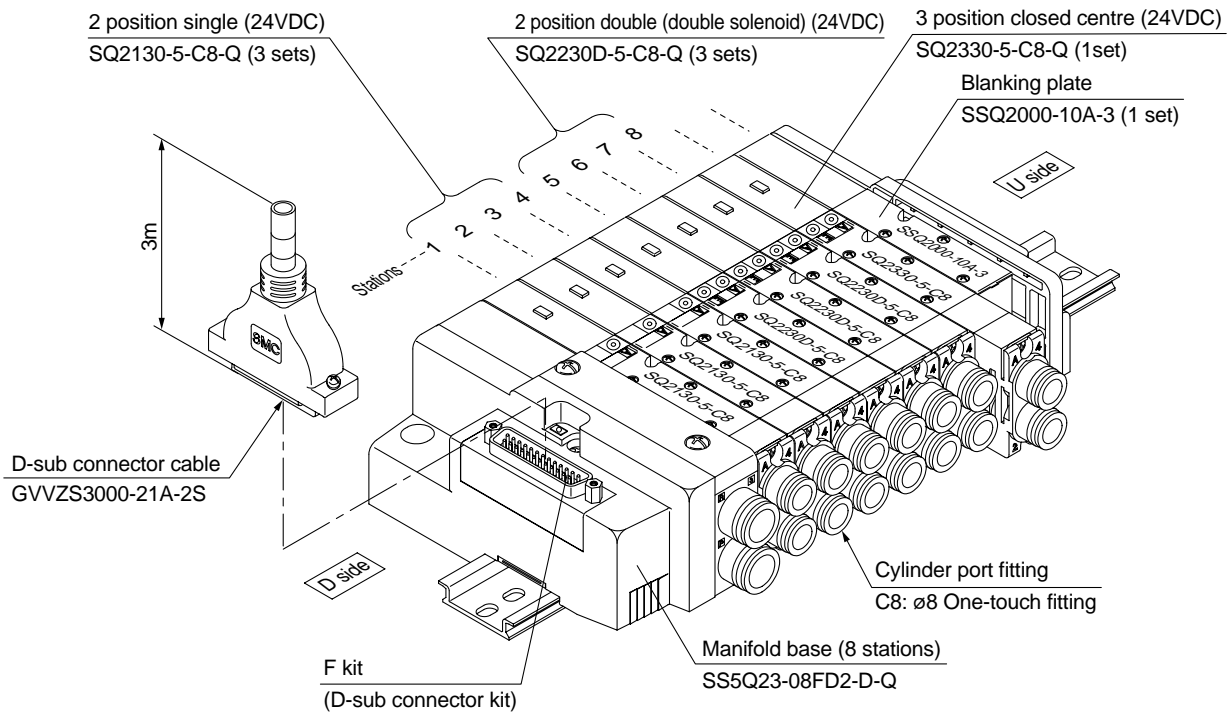
<div>Blanking plate SSQ2000-10A-3</div> <div>P. 1.11-47</div> <div></div>	<div>Individual SUP/EXH spacer SSQ2000-PR1-3-<sup>C8</sup><sub>L8</sub></div> <div>P. 1.11-48</div> <div></div>	<div>Name plate (-N) SSQ2000-N3-n</div> <div>P. 1.11-50</div> <div></div>	<div>External pilot specification (-R)</div> <div>P. 1.11-51</div> <div></div>
<div>SUP/EXH block SSQ2000-PR-3-C10 (-S)</div> <div>P. 1.11-47</div> <div></div>	<div>SUP block plate SSQ1000-B-R</div> <div>P. 1.11-49</div> <div></div>	<div>Blanking plug KQ2P-04/06/08/10</div> <div>P. 1.11-50</div> <div></div>	<div>Dual flow fitting SSQ2000-52A-<sup>C10</sup><sub>N11</sub></div> <div>P. 1.11-51</div> <div></div>
<div>Individual SUP spacer SSQ2000-P-3-<sup>C8</sup><sub>L8</sub></div> <div>P. 1.11-47</div> <div></div>	<div>EXH block plate SSQ2000-B-R</div> <div>P. 1.11-49</div> <div></div>	<div>Port plug VVQZ2000-CP</div> <div>P. 1.11-50</div> <div></div>	<div>Silencer (for EXH port)</div> <div>P. 1.11-51</div> <div></div>
<div>Individual EXH spacer SSQ2000-R-3-<sup>C8</sup><sub>L8</sub></div> <div>P. 1.11-48</div> <div></div>	<div>Back pressure check valve (-B) SSQ2000-BP</div> <div>P. 1.11-49</div> <div></div>	<div>Built-in silencer (-S)</div> <div>P. 1.11-50</div> <div></div>	<div>Special wiring specification (-K)</div> <div>P. 1.11-52</div> <div><div>D-sub connector</div><div></div></div>

Although the standard products come with double wiring, mixed single and double wiring is available upon request.



## How to Order Manifold Assemblies (Example)

Example: D-sub connector kit, with cable (3m)



SS5Q23-08FD2-D-Q .....	1 set: F kit 8 station manifold base
SQ2130-5-C8-Q .....	3 sets: 2 position single
SQ2230D-5-C8-Q .....	3 sets: 2 position double (double solenoid)
SQ2330-5-C8-Q .....	1 set: 3 position closed centre
SSQ2000-10A-3 .....	1 set: Blanking plate

Add the valve and option part numbers in order starting from the first station on the D side. When entry of part numbers becomes complicated, indicate on a manifold specification sheet.

SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

SQ

VQ

VQ4

VQ5

VQZ

VQD

VFS

VS

VS7

VQ7

## Valve Specifications



### Models

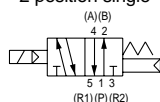
Series		Number of solenoids	Model		Note 1) Effective area mm <sup>2</sup> (N <sub>g</sub> /min)	Response time    ms <sup>Note 2)</sup>		Weight (g)
						Standard: 1W	Low wattage	
SQ2000	2 position	Single	Metal seal	<b>SQ2130</b>	11.7 (638)	20 or less	26 or less	145
			Rubber seal	<b>SQ2131</b>	14.8 (805)	24 or less	31 or less	140
		Double (latching)	Metal seal	<b>SQ2230</b>	11.7 (638)	26 or less	—	145
			Rubber seal	<b>SQ2231</b>	14.8 (805)	31 or less	—	140
		Double (double solenoid)	Metal seal	<b>SQ2230D</b>	11.7 (638)	15 or less	20 or less	160
			Rubber seal	<b>SQ2231D</b>	14.8 (805)	20 or less	26 or less	155
	3 position	Closed centre	Metal seal	<b>SQ2330</b>	8.1 (442)	34 or less	44 or less	180
			Rubber seal	<b>SQ2331</b>	9.0 (490)	34 or less	44 or less	175
		Exhaust centre	Metal seal	<b>SQ2430</b>	11.7 (638)	34 or less	44 or less	180
			Rubber seal	<b>SQ2431</b>	12.6 (687)	34 or less	44 or less	175
		Pressure centre	Metal seal	<b>SQ2530</b>	8.1 (442)	34 or less	44 or less	180
			Rubber seal	<b>SQ2531</b>	9.0 (490)	34 or less	44 or less	175
	4 position	Dual 3 port valve	Rubber seal	<b>SQ2<sub>B</sub><sup>A</sup><sub>C</sub>31</b>	9.0 (490)	34 or less	44 or less	155

Note 1) Values for the top ported cylinder port size of C8. The side ported type will be 10% less.

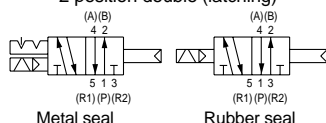
Note 2) Based on JISB8375-1981. (Values with a supply pressure of 0.5MPa and indicator light/surge voltage suppressor. Values fluctuate depending on the pressure and air quality.)

### JIS symbols

#### 2 position single



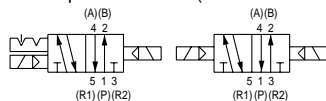
#### 2 position double (latching)



Metal seal

Rubber seal

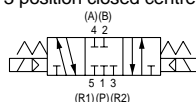
#### 2 position double (double solenoid)



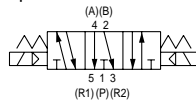
Metal seal

Rubber seal

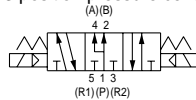
#### 3 position closed centre



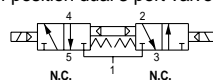
#### 3 position exhaust centre



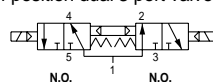
#### 3 position pressure centre



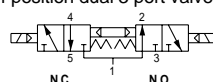
#### 4 position dual 3 port valve (A)



#### 4 position dual 3 port valve (B)



#### 4 position dual 3 port valve (C)



### Specifications

Valve specifications	Valve construction		Metal seal	Rubber seal
	Fluid		Air/Inert gas	
	Maximum operating pressure		0.7MPa	
	Minimum operating pressure	Single	0.1MPa	0.15MPa
		Double (latching)	0.18MPa	0.18MPa
		Double (double solenoid)	0.1MPa	0.1MPa
		3 position	0.1MPa	0.2MPa
		4 position	—	0.15MPa
	Ambient and fluid temperature		-10 to 50°C Note 1)	
	Lubrication		Not required	
	Pilot valve manual override		Push type (tool required)/Locking type (tool required) Slide locking type (manual type)	
Solenoid specifications	Vibration/Impact resistance Note 2)		30/150 m/s <sup>2</sup>	
	Enclosure		Dust proof	
	Rated coil voltage		12VDC, 24VDC	
	Allowable voltage fluctuation		±10% of rated voltage	
	Coil insulation type		Equivalent to class B	
	Power consumption (Current)	24VDC	1W DC (42mA), 0.5W DC (21mA) Note 3)	
		12VDC	1W DC (83mA), 0.5W DC (42mA) Note 3)	

Note 1) Use dry air to prevent condensation at low temperatures.

Note 2) Vibration resistance: No malfunction occurred in a one-sweep test between 8.3 and 2000Hz. Test was performed in the axial and right angle directions of the main valve and armature for both energized and de-energized states.

Impact resistance: No malfunction resulted from the impact test using a drop impact tester. The test was performed one time each in the axial and right angle directions of the main valve and armature, for both energized and de-energized states.

Note 3) Values for the low wattage (0.5W) specification.

## Manifold Specifications

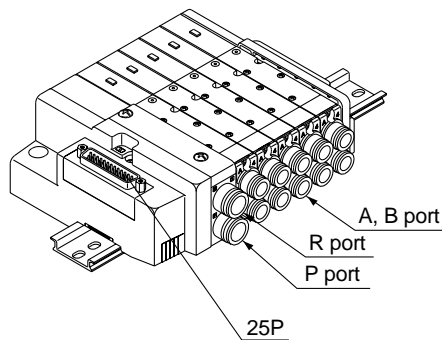
Base model	Configuration			Applicable solenoid valves	Connection type		Applicable stations	5 station weight (g)	Additional weight for 1 station (g)
	Port size <small>Note 1)</small>								
	P, R	A, B							
Port direction		Port size							
Series SQ2000	C10 (for ø10)  Option (Direct outlet with built-in silencer)	Side	C4 (for ø4) C6 (for ø6) C8 (for ø8)	SQ2□30 SQ2□31	F kit: D-sub connector		1 to 12 stations	580	35
SS5Q23-□□-□					P kit: Flat ribbon cable	26P	1 to 12 stations	580	35
						20P	1 to 9 stations		
		J kit: Flat ribbon cable PC Wiring System compatible			1 to 8 stations	580	35		
		T kit: Terminal block			1 to 10 stations	1,165	620		
		L kit: Lead wire			1 to 12 stations	620	50		
		S kit: Serial transmission			1 to 8 stations	650	35		
	Note 2)	Top	L4 (for ø4) L6 (for ø6) L8 (for ø8)						

Note 1) One-touch fittings in inch sizes are also available. Refer to page 1.11-54 for details.

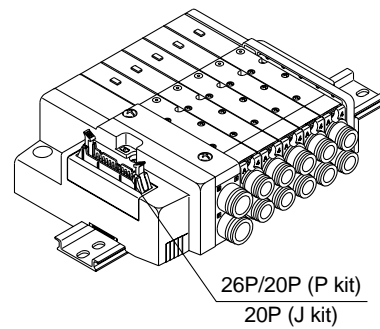
Note 2) Can be changed to side ported configuration.

Note 3) An optional specification for special wiring is available to increase the maximum number of stations. Refer to page 1.11-52 for details.

Note 4) Except valves. Refer to page 1.11-26 for valve weights.

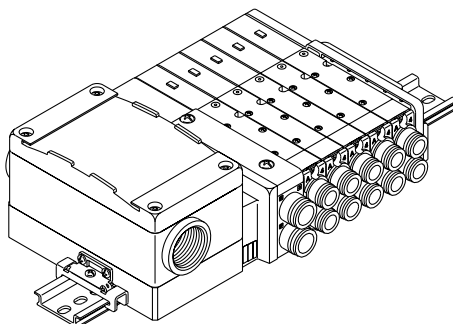


**F kit**

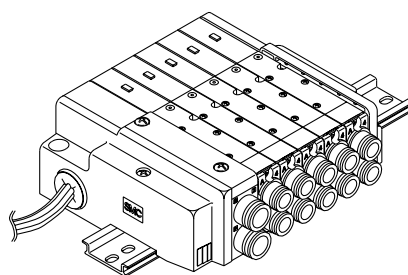


**P kit**

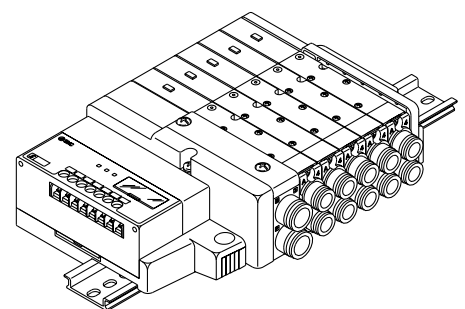
**J kit**



**T kit**



**L kit**



**S kit**

**SV**

**SY**

**SYJ**

**SX**

**VK**

**VZ**

**VF**

**VFR**

**VP7**

**VQC**

**SQ**

**VQ**

**VQ4**

**VQ5**

**VQZ**

**VQD**

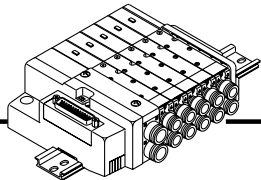
**VFS**

**VS**

**VS7**

**VQ7**

**F** Kit (D-sub Connector kit)



- Simplification and labour savings for wiring work can be achieved by using a D-sub connector for the electrical connection.
- The use of D-sub connectors (25P) conforming to MIL standards provides a wide range of compatibility with conventional connectors.
- Top or side entry for the connector can be changed freely, allowing later changes according to the mounting space.

**Manifold specifications**

Series	Port position	Configuration		Maximum number of stations
		P, R	A, B	
SQ2000	Side, Top	C10	C4, C6, C8	12 stations (16 stations optional)

**D-sub connector (25P)**

**GVVZS3000-21A-<sup>1</sup>/<sub>2</sub>-<sup>3</sup>/<sub>4</sub>-<sup>5</sup>/<sub>60</sub>**

(D-sub connector cable assemblies can be ordered with manifolds.)  
Refer to manifold ordering.

**Type Standard**

**Type 60°**

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

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

\* Connector made in conformity with DIN47100.

**Electric characteristics**

Item	Characteristics
Conductor resistance Ω/km, 20°C	57 or less
Voltage limit V, 5min, AC	1500
Insulation resistance MΩ/km	20

**D-sub connector cable ass'y**

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

**Model**

Standard	S
60°	60

**Electrical wiring specifications**

\* Valves are numbered from the D side.

**D-sub connector**

Connector terminal number

**Lead wire colours for D-sub connector assemblies**

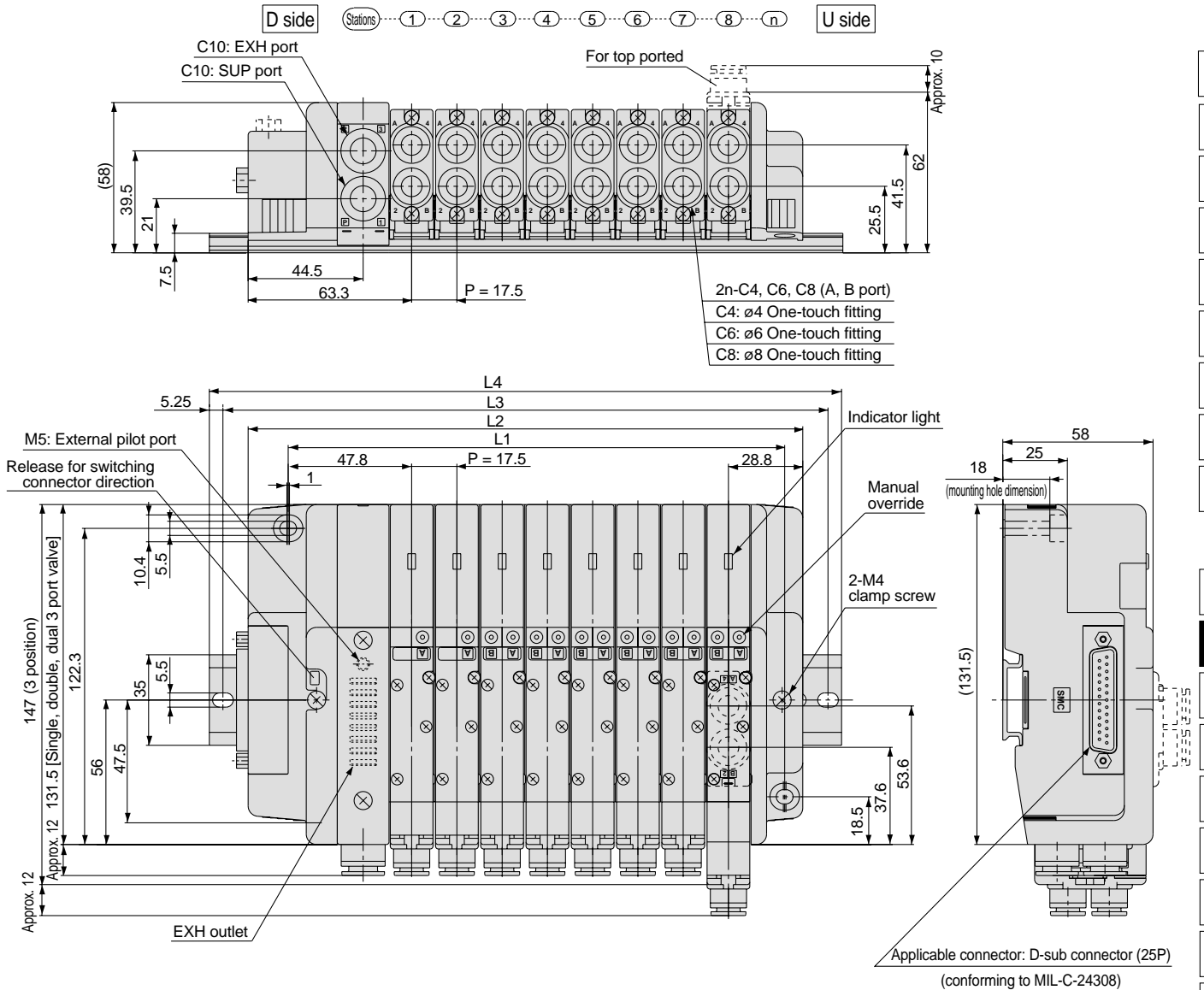
**GVVZS3000-21A-<sup>1</sup>/<sub>2</sub>-<sup>3</sup>/<sub>4</sub>-<sup>5</sup>/<sub>60</sub>**

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

Positive COM spec.      Negative COM spec.

Note) When using the negative COM specification, use valves for negative COM.

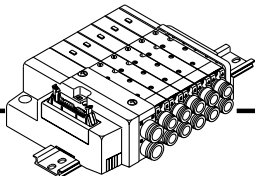




SV
SY
SYJ
SX
VK
VZ
VF
VFR
VP7
VQC
<b>SQ</b>
VQ
VQ4
VQ5
VQZ
VQD
VFS
VS
VS7
VQ7

P

Kit (Flat Ribbon Cable Kit)



- Simplification and labour savings for wiring work can be achieved by using a flat ribbon cable for the electrical connection.
- The use of flat ribbon cable connectors (26P, 20P) conforming to MIL standards provides a wide range of compatibility with conventional connectors.
- Top or side entry for the connector can be changed freely, allowing later changes according to the mounting space.

Manifold specifications

Series	Port position	Configuration		Maximum number of stations
		P, R	A, B	
SQ2000	Side, Top	C10	C4, C6, C8	12 stations (16 stations optional)

Flat ribbon cable (26P, 20P)

AXT100-FC-<sup>20</sup><sub>26-2</sub><sup>1</sup><sub>3</sub>

(Type 26P flat ribbon cable connector assemblies can be ordered with manifolds. Refer to manifold ordering.)

Terminal number

Red

28AWG

6

2

26

25

30 (20P)

37.5 (26P)

(15.6)

L

Flat ribbon cable connector assemblies (optional)

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

\* When using a conventional connector, use a type 26P connector conforming to MIL-C-83503 or a type 20P with strain relief.

\* Cannot be used for transfer wiring.

Connector manufacturer examples

• Hirose Electric Company

• Sumitomo/3-M Limited

• Fujitsu, Ltd.

• Japan Aviation Electronics Industry, Ltd.

• J.S.T. Mfg. Co., Ltd.

• Oki Electric Cable Co. Ltd.

Cable assembly

Electrical wiring specifications

U side

D side

1 2 3 ..... Stations

\* Valves are numbered from the D side.

Flat ribbon cable connector

26 □ □ 25

24 □ □ 23

22 □ □ 21

20 □ □ 19

18 □ □ 17

16 □ □ 15

14 □ □ 13

12 □ □ 11

10 □ □ 9

8 □ □ 7

6 □ □ 5

4 □ □ 3

2 □ □ 1

Connector terminal number

Triangle mark indicator position

Double wiring (connected to SOL. A and SOL. B) is used for the internal wiring of each station regardless of valve and option types. Mixed single and double wiring is available as an option. Refer to page 1.11-52 for details.

<26P>

Terminal no. Polarity

Station 1 { SOL. A 1 (-) (+)

Station 1 { SOL. B 2 (-) (+)

Station 2 { SOL. A 3 (-) (+)

Station 2 { SOL. B 4 (-) (+)

Station 3 { SOL. A 5 (-) (+)

Station 3 { SOL. B 6 (-) (+)

Station 4 { SOL. A 7 (-) (+)

Station 4 { SOL. B 8 (-) (+)

Station 5 { SOL. A 9 (-) (+)

Station 5 { SOL. B 10 (-) (+)

Station 6 { SOL. A 11 (-) (+)

Station 6 { SOL. B 12 (-) (+)

Station 7 { SOL. A 13 (-) (+)

Station 7 { SOL. B 14 (-) (+)

Station 8 { SOL. A 15 (-) (+)

Station 8 { SOL. B 16 (-) (+)

Station 9 { SOL. A 17 (-) (+)

Station 9 { SOL. B 18 (-) (+)

Station 10 { SOL. A 19 (-) (+)

Station 10 { SOL. B 20 (-) (+)

Station 11 { SOL. A 21 (-) (+)

Station 11 { SOL. B 22 (-) (+)

Station 12 { SOL. A 23 (-) (+)

Station 12 { SOL. B 24 (-) (+)

COM 25 (+) (-)

COM 26 (+) (-)

Positive COM spec.

Negative COM spec.

<20P>

Terminal no. Polarity

Station 1 { SOL. A 1 (-) (+)

Station 1 { SOL. B 2 (-) (+)

Station 2 { SOL. A 3 (-) (+)

Station 2 { SOL. B 4 (-) (+)

Station 3 { SOL. A 5 (-) (+)

Station 3 { SOL. B 6 (-) (+)

Station 4 { SOL. A 7 (-) (+)

Station 4 { SOL. B 8 (-) (+)

Station 5 { SOL. A 9 (-) (+)

Station 5 { SOL. B 10 (-) (+)

Station 6 { SOL. A 11 (-) (+)

Station 6 { SOL. B 12 (-) (+)

Station 7 { SOL. A 13 (-) (+)

Station 7 { SOL. B 14 (-) (+)

Station 8 { SOL. A 15 (-) (+)

Station 8 { SOL. B 16 (-) (+)

Station 9 { SOL. A 17 (-) (+)

Station 9 { SOL. B 18 (-) (+)

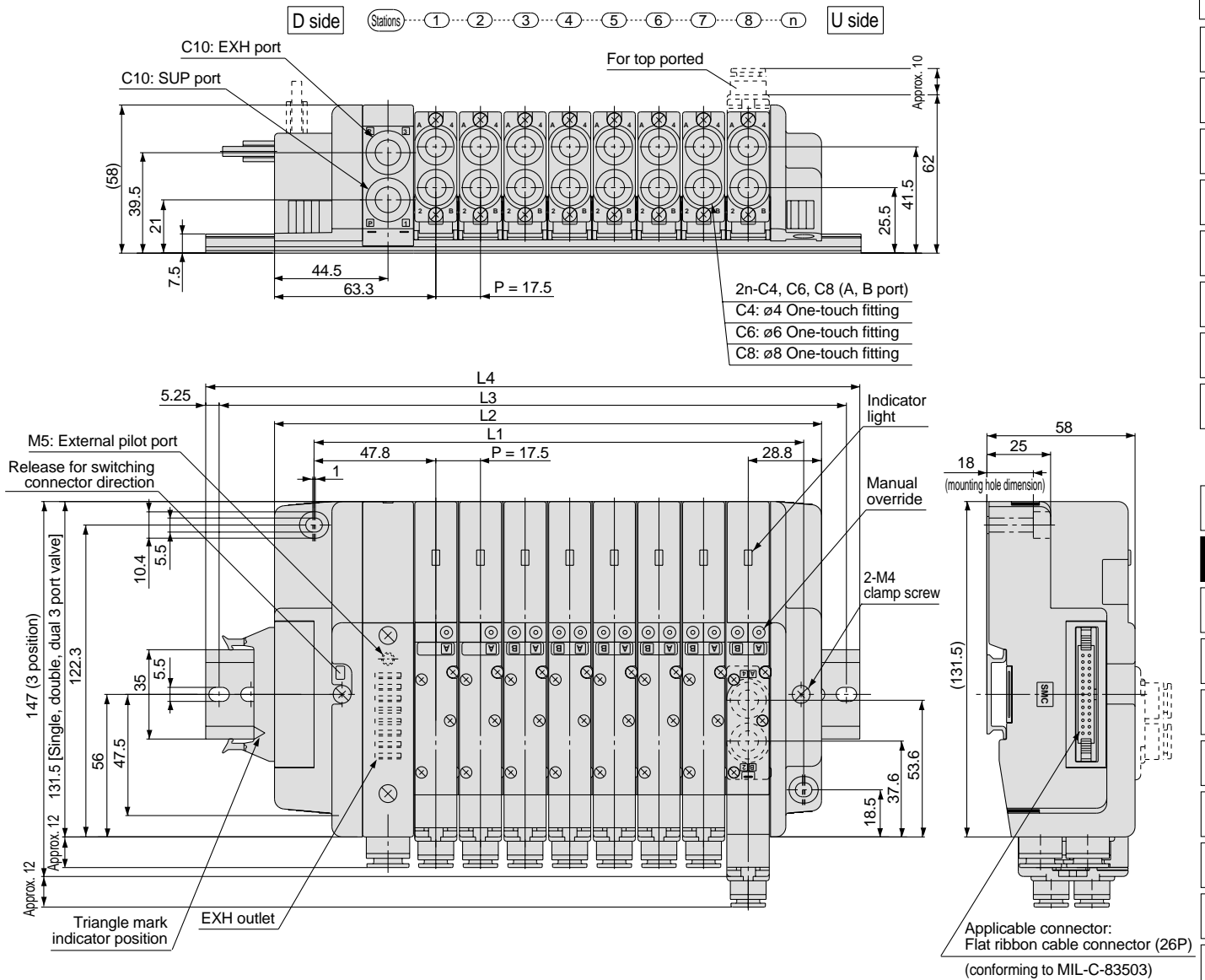
COM 19 (+) (-)

COM 20 (+) (-)

Positive COM spec.

Negative COM spec.

Note) When using the negative COM specification, use valves for negative COM.



SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

SQ

VQ

VQ4

VQ5

VQZ

VQD

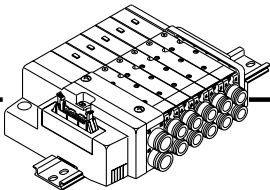
VFS

VS

VS7

VQ7

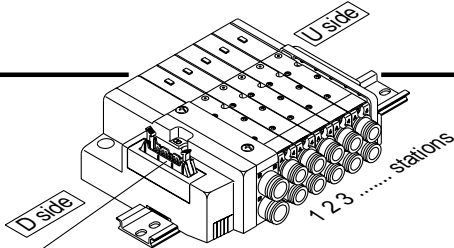
**J** Kit (PC Wiring System Compatible Flat Ribbon Cable Kit)



- Compatible with the PC Wiring System.
- The use of flat ribbon cable connectors (20P) conforming to MIL standards provides a wide range of compatibility with conventional connectors.
- Top or side entry for the connector can be changed freely, allowing later changes according to the mounting space.

**Manifold specifications**

Series	Port position	Configuration		Maximum number of stations
		P, R	A, B	
<b>SQ2000</b>	Side, Top	C10	C4, C6, C8	8 stations (16 stations optional)

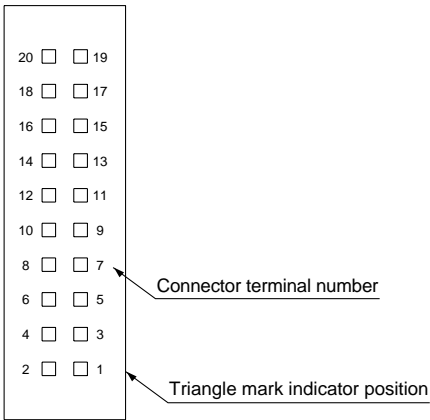


\* Valves are numbered from the D side.

**Electrical wiring specifications**

Double wiring (connected to SOL. A and SOL. B) is used for the internal wiring of each station regardless of valve and option types. Mixed single and double wiring is available as an option. Refer to page 1.11-52 for details.

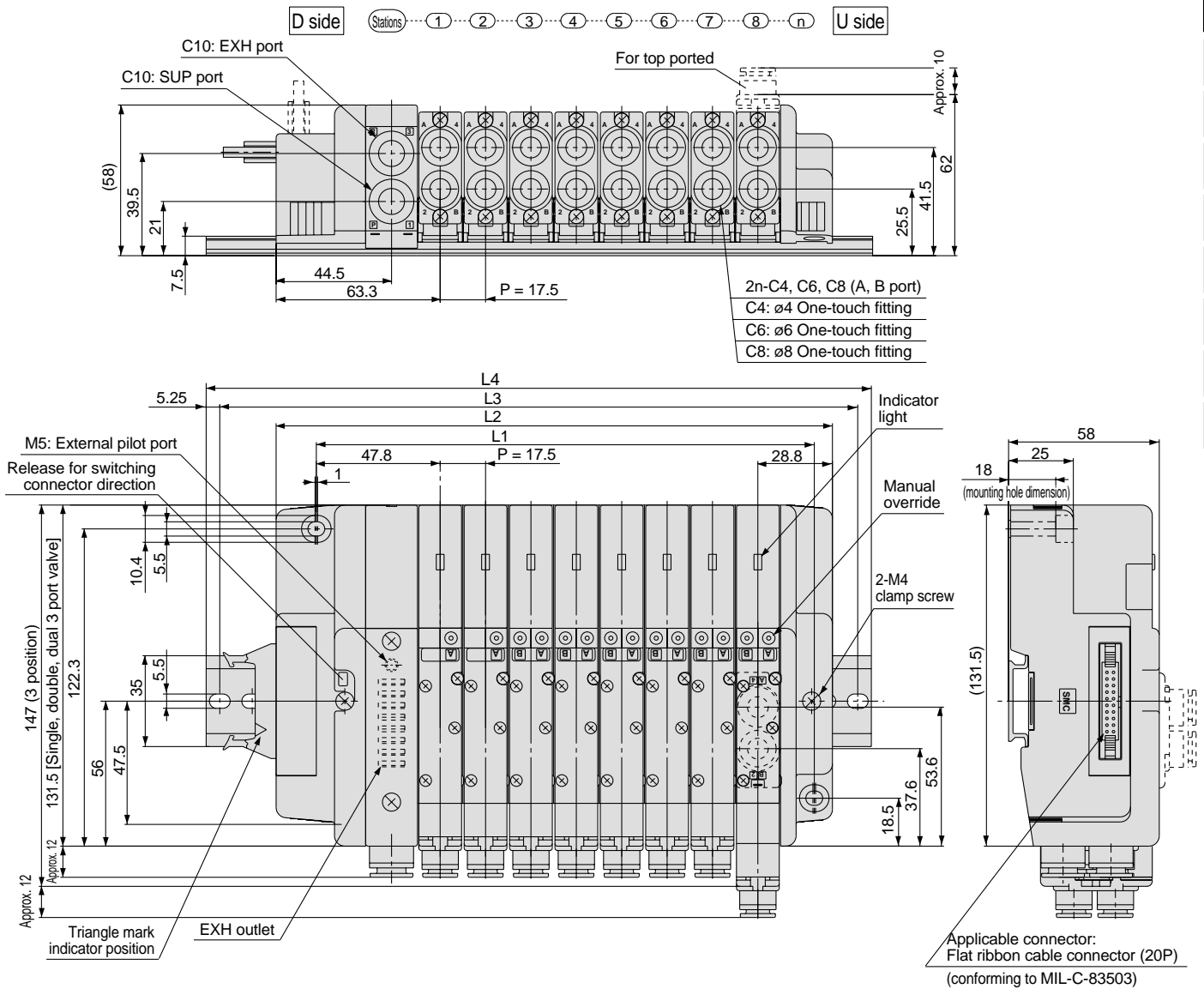
**Flat ribbon cable connector**



	Terminal no.	Polarity	
Station 1	SOL. A 20	(-)	(+)
	SOL. B 18	(-)	(+)
Station 2	SOL. A 16	(-)	(+)
	SOL. B 14	(-)	(+)
Station 3	SOL. A 12	(-)	(+)
	SOL. B 10	(-)	(+)
Station 4	SOL. A 8	(-)	(+)
	SOL. B 6	(-)	(+)
Station 5	SOL. A 19	(-)	(+)
	SOL. B 17	(-)	(+)
Station 6	SOL. A 15	(-)	(+)
	SOL. B 13	(-)	(+)
Station 7	SOL. A 11	(-)	(+)
	SOL. B 9	(-)	(+)
Station 8	SOL. A 7	(-)	(+)
	SOL. B 5	(-)	(+)
	4	(-)	(+)
	3	(-)	(+)
	COM 2	(+)	(-)
	COM 1	(+)	(-)

Note)  
Positive COM spec.    Negative COM spec.

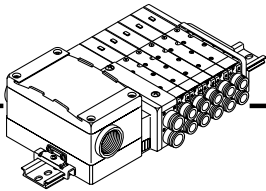
Note) When using the negative COM specification, use valves for negative COM.  
For details on the PC Wiring System, refer to catalog "PC Wiring System" (CAT.ES02-20).



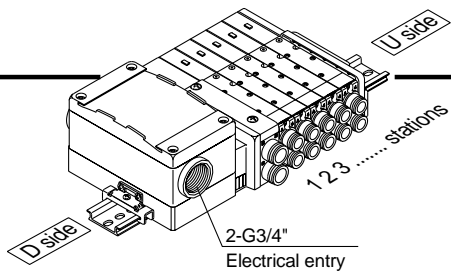
SV
SY
SYJ
SX
VK
VZ
VF
VFR
VP7
VQC
SQ
VQ
VQ4
VQ5
VQZ
VQD
VFS
VS
VS7
VQ7



**T** Kit (Terminal Block Box Kit)



- A compact terminal block is installed inside the box.  
G3/4" female threads prepared for the electrical entry enables a conduit tube bracket to be connected.
- The maximum number of stations is 10 (16 optional).



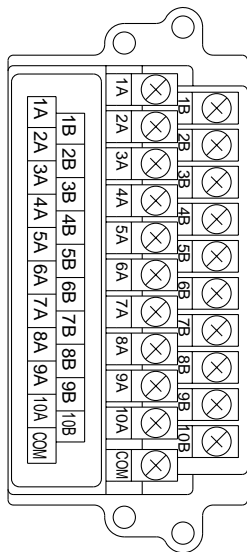
\* Valves are numbered from the D side.

**Manifold specifications**

Series	Port position	Configuration		Maximum number of stations
		P, R	A, B	
<b>SQ2000</b>	Side, Top	C10	C4, C6, C8	10 stations (16 stations optional)

**Electrical wiring specifications**

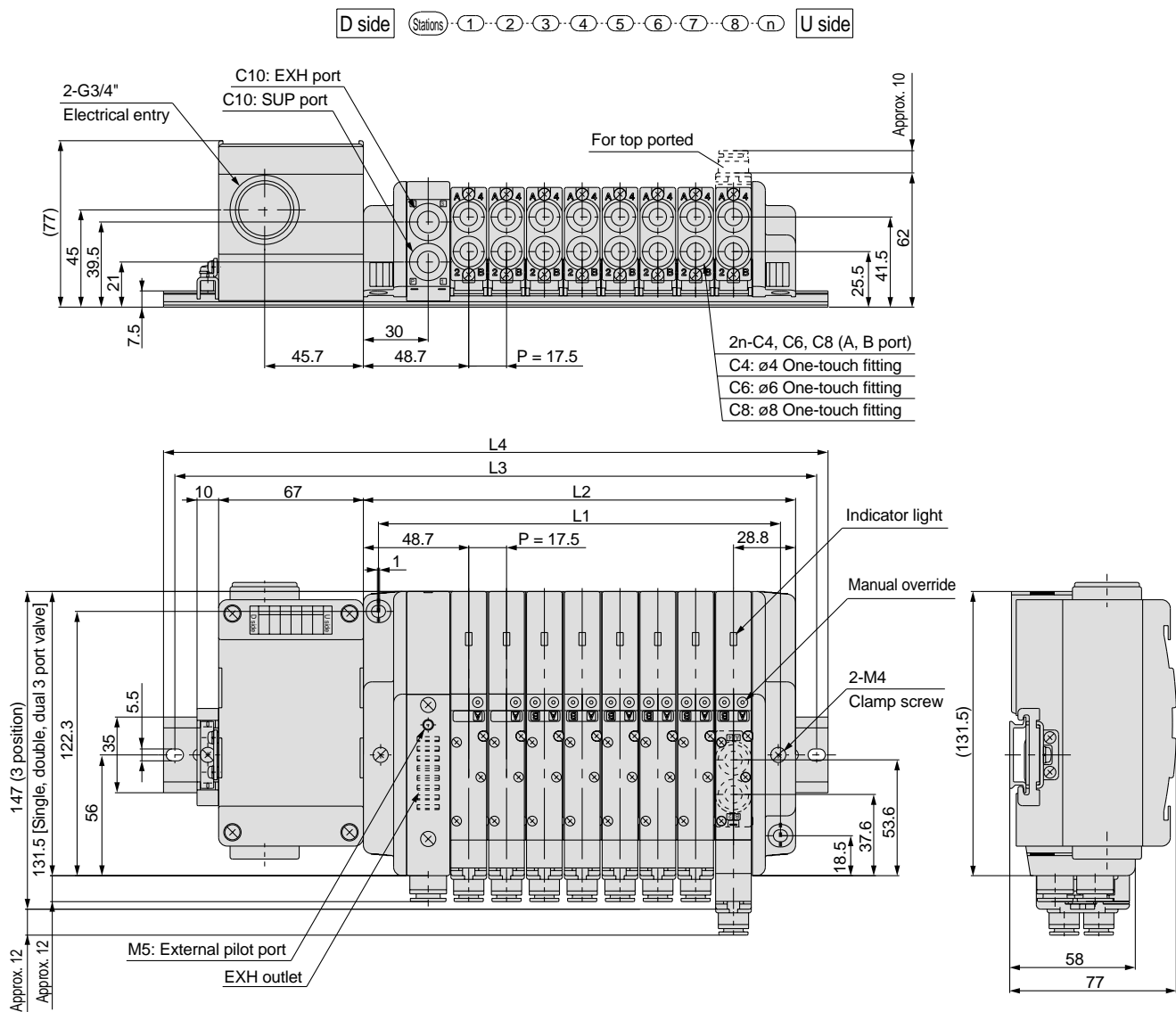
As the standard electrical wiring specification for 10 stations or less, double wiring (connected to SOL. A and SOL. B) is used for the internal wiring of each station regardless of valve and option types. Mixed single and double wiring is available as an option. Refer to page 1.11-52 for details.



	Terminal no.	Polarity	
Station 1	SOL. A 1A	(-)	(+)
	SOL. B 1B	(-)	(+)
Station 2	SOL. A 2A	(-)	(+)
	SOL. B 2B	(-)	(+)
Station 3	SOL. A 3A	(-)	(+)
	SOL. B 3B	(-)	(+)
Station 4	SOL. A 4A	(-)	(+)
	SOL. B 4B	(-)	(+)
Station 5	SOL. A 5A	(-)	(+)
	SOL. B 5B	(-)	(+)
Station 6	SOL. A 6A	(-)	(+)
	SOL. B 6B	(-)	(+)
Station 7	SOL. A 7A	(-)	(+)
	SOL. B 7B	(-)	(+)
Station 8	SOL. A 8A	(-)	(+)
	SOL. B 8B	(-)	(+)
Station 9	SOL. A 9A	(-)	(+)
	SOL. B 9B	(-)	(+)
Station 10	SOL. A 10A	(-)	(+)
	SOL. B 10B	(-)	(+)
	COM	(+)	(-)

Note)  
Positive COM spec.      Negative COM spec.

Note) When using the negative COM specification, use valves for negative COM.



SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

**SQ**

VQ

VQ4

VQ5

VQZ

VQD

VFS

VS

VS7

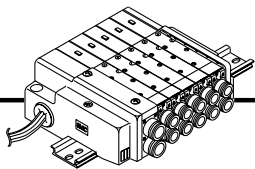
VQ7

## Dimensions

Formulas:  $L1 = 17.5n + 46$ ,  $L2 = 17.5n + 60$  n: Stations (maximum 16 stations)

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	63.5	81	98.5	116	133.5	151	168.5	186	203.5	221	238.5	256	273.5	291	308.5	326
L2	77.5	95	112.5	130	147.5	165	182.5	200	217.5	235	252.5	270	287.5	305	322.5	340
L3	175	200	212.5	237.5	250	262.5	287.5	300	325	337.5	350	375	387.5	412.5	425	437.5
L4	185.5	210.5	223	248	260.5	273	298	310.5	335.5	348	360.5	385.5	398	423	435.5	448

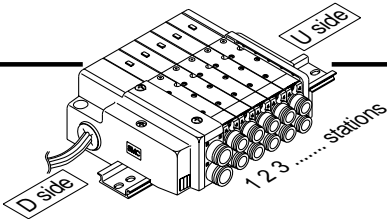
**L** Kit (Lead Wire Kit)



• Direct electrical entry type

**Manifold specifications**

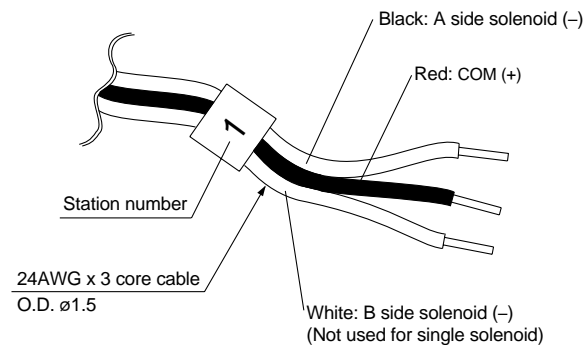
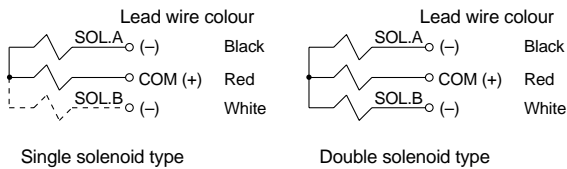
Series	Configuration		Maximum number of stations	
	Port position	Port size		
		P, R		A, B
<b>SQ2000</b>	Side, Top	C10	C4, C6, C8	12 stations



\* Valves are numbered from the D side.

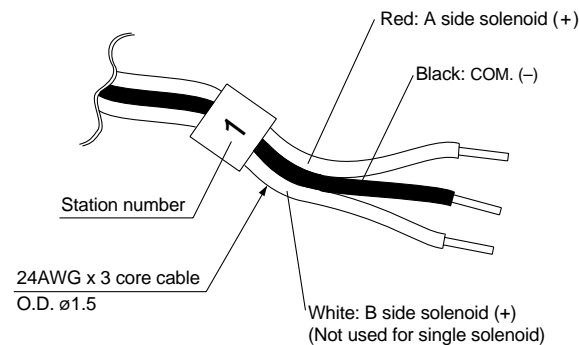
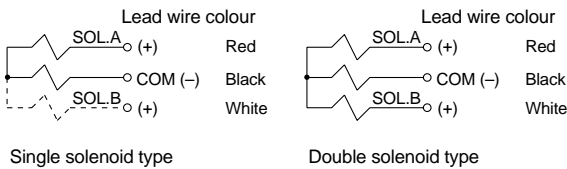
• **Wiring Specifications/Positive COM Specifications**

Three lead wires are included per station regardless of valves used. Among the three lead wires, the red wire is for COM.

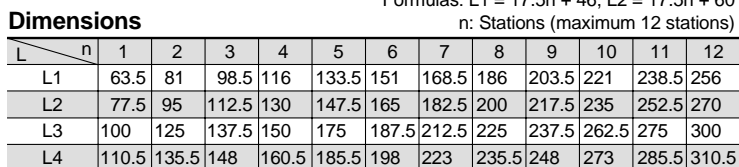


• **Wiring Specifications/Negative COM Specifications (optional)**

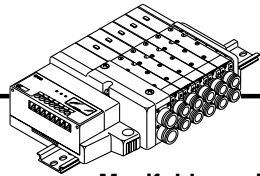
Three lead wires are included per station regardless of valves used. Among the three lead wires, the black wire is for COM.



Note) When using the negative COM specification, use valves for negative COM.



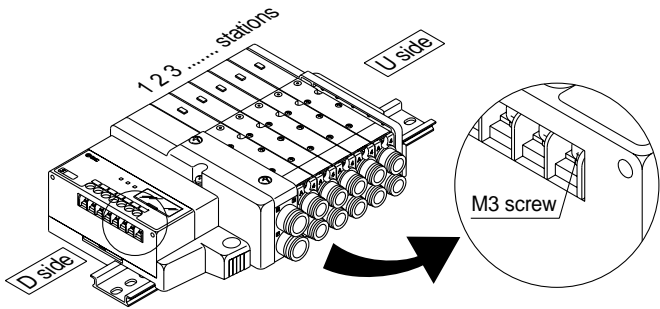
**S** Kit (Serial Transmission Kit)



- Simplification, space savings and labour savings for wiring work can be achieved by using a serial transmission system.
- The maximum number of stations is 8 (16 optional).  
For type J2 and R2 only, the maximum number of stations is 4 (8 optional).

**Manifold specifications**

Series	Configuration			Maximum number of stations
	Port position	Port size		
		P, R	A, B	
<b>SQ2000</b>	Side, Top	C10	C4, C6, C8	8 stations



- Valves are numbered from the D side.
  - Double wiring (connected to SOL. A and SOL. B) is used for the internal wiring of each station regardless of valve and option types.
- Mixed single and double wiring is available as an option.

Item	Specification
External power supply	24VDC, +10%, -5%
Current consumption (inside unit)	0.1A or less

• Corresponding SI unit output numbers and solenoid coils

<Wiring example 1>

SI unit output number	0	1	2	3	4	5	6	7	8	9
	A	B	A	B	A	None	A	None	A	B
SI unit	Double		Double		Single		Single		Single	
Station	1		2		3		4		5	

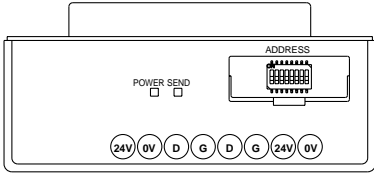
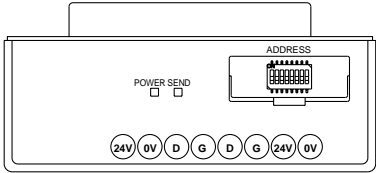
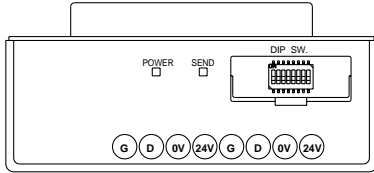
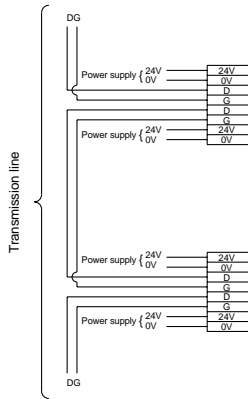
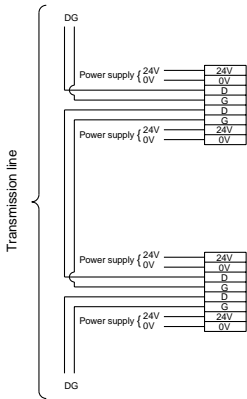
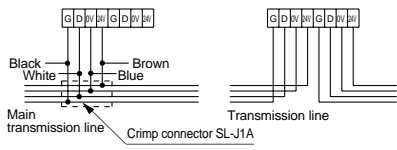
Double wiring (standard)

<Wiring example 2>

\* Mixed wiring is optional. Specify the wiring specification on a manifold specification sheet. Refer to page 49 for details.

SI unit output number	0	1	2	3	4	5	6	7
	A	B	A	B	A	A	A	B
SI unit	Double		Double		Single	Single	Double	
Station	1		2		3	4	5	

Mixed single and double wiring (optional)

	Type SDF NKE Corporation Uni-wire System	Type SDH NKE Corporation Uni-wire H System	Type SDJ1, SDJ2 SUNX Corporation S-LINK System																		
Terminal block LED description	<div></div> <table><tr><th>LED description</th><th>Detail</th></tr><tr><td>POWER</td><td>Light ON with power input (Light ON when normal, flickers when voltage is low)</td></tr><tr><td>SEND</td><td>Transmission indicator Normal: Blinks, Abnormal: Light OFF or ON</td></tr></table>	LED description	Detail	POWER	Light ON with power input (Light ON when normal, flickers when voltage is low)	SEND	Transmission indicator Normal: Blinks, Abnormal: Light OFF or ON	<div></div> <table><tr><th>LED description</th><th>Detail</th></tr><tr><td>POWER</td><td>Light ON with power input (Light ON when normal, flickers when voltage is low)</td></tr><tr><td>SEND</td><td>Transmission indicator Normal: Blinks, Abnormal: Light OFF or ON</td></tr></table>	LED description	Detail	POWER	Light ON with power input (Light ON when normal, flickers when voltage is low)	SEND	Transmission indicator Normal: Blinks, Abnormal: Light OFF or ON	<div></div> <table><tr><th>LED description</th><th>Detail</th></tr><tr><td>POWER</td><td>Light ON with power input</td></tr><tr><td>SEND</td><td>Transmission indicator Normal: Blinks, Abnormal: Blinks slowly</td></tr></table>	LED description	Detail	POWER	Light ON with power input	SEND	Transmission indicator Normal: Blinks, Abnormal: Blinks slowly
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LED description	Detail																				
POWER	Light ON with power input																				
SEND	Transmission indicator Normal: Blinks, Abnormal: Blinks slowly																				
Cable wiring	<div></div>	<div></div>	<div><p>a) Type T branching multi-drop wiring (S-LINK System)    b) Crossover wiring (Sensor link system)</p></div> <p>Dedicated S-LINK flat ribbon cable SL-RCM□00 is used in the examples above.</p>																		
Note	<ul style="list-style-type: none"><li>• Uni-wire System Send unit: SD-120</li><li>• 16 outputs</li></ul>	<ul style="list-style-type: none"><li>• Uni-wire H System Send unit: SD-H2</li><li>• 16 outputs</li></ul>	<ul style="list-style-type: none"><li>• S-LINK System S-LINK controller: SL-CU1</li><li>• 16 outputs (Type SDJ1) 8 outputs (Type SDJ2)</li></ul>																		

SV

SY

SYJ

SX

VK

VZ

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VFR

VP7

VQC

SQ

VQ

VQ4

VQ5

VQZ

VQD

VFS

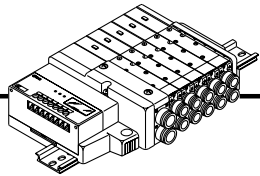
VS

VS7

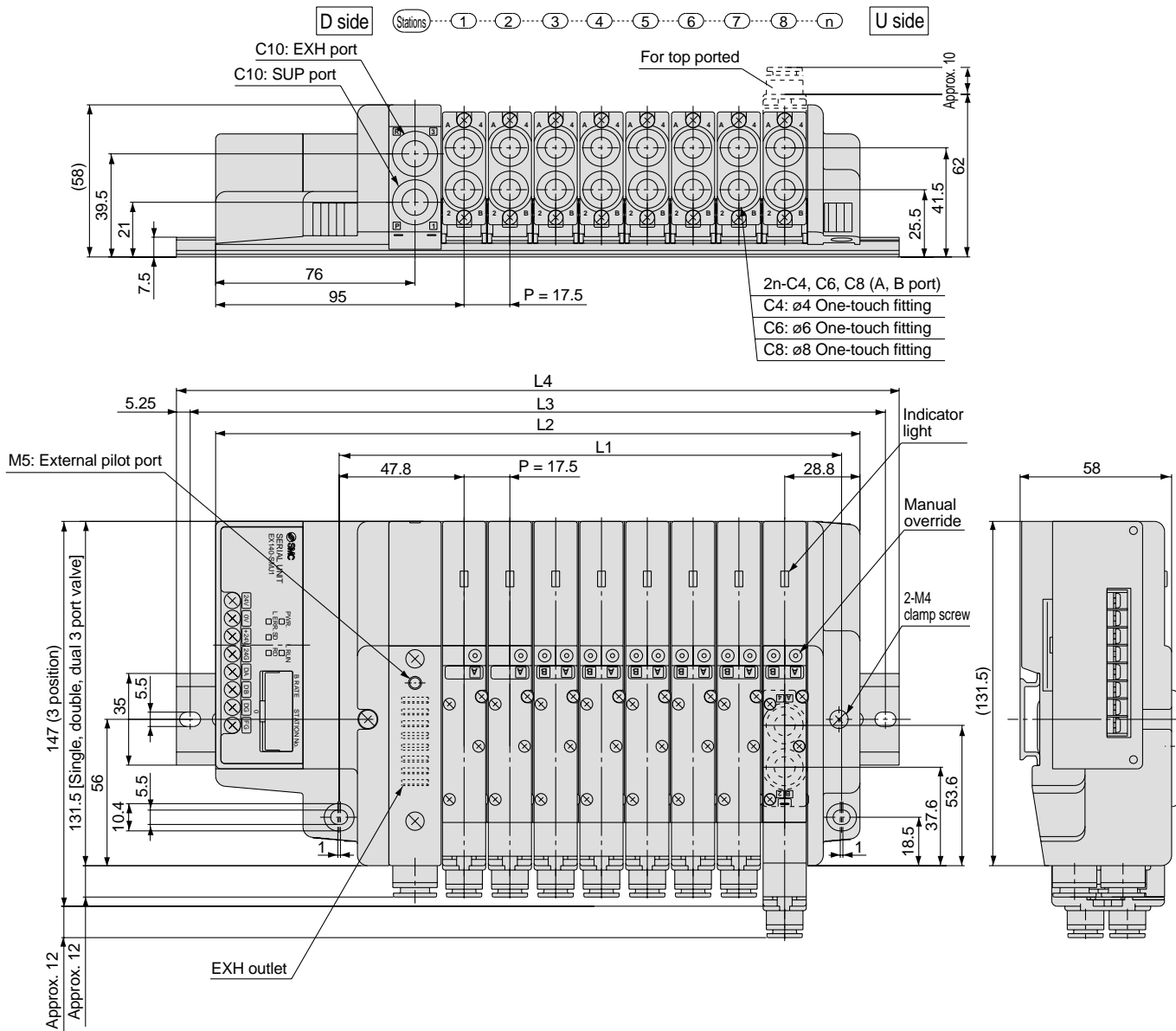
VQ7



**S** Kit (Serial Transmission Kit)



	Type SDQ DeviceNet	Type SDR1, SDR2 OMRON Corporation CompoBus/S	Type SDV Mitsubishi Electric Corporation CC-LINK System																													
Terminal block LED description	<div></div> <table><tr><th>LED description</th><th>Detail</th></tr><tr><td>POWER</td><td>Green light ON with circuit power input</td></tr><tr><td rowspan="4">MOD/NET</td><td>Light OFF: When the unit is not online or circuit power is OFF</td></tr><tr><td>Green light ON continuously: When the unit is online and in operation</td></tr><tr><td>Red light blinks: When a reversible abnormal transmission occurs</td></tr><tr><td>Red light ON continuously: When irreversible abnormal transmission occurs or the same line is unable to go online</td></tr></table>	LED description	Detail	POWER	Green light ON with circuit power input	MOD/NET	Light OFF: When the unit is not online or circuit power is OFF	Green light ON continuously: When the unit is online and in operation	Red light blinks: When a reversible abnormal transmission occurs	Red light ON continuously: When irreversible abnormal transmission occurs or the same line is unable to go online	<div></div> <table><tr><th>LED description</th><th>Detail</th></tr><tr><td>POWER</td><td>Light ON with transmission power input, light Off without it</td></tr><tr><td>COMM</td><td>Light ON with normal transmission, light OFF with abnormal or standby transmission</td></tr><tr><td>ERR.</td><td>Light ON with abnormal transmission, light Off with normal or standby transmission</td></tr></table>	LED description	Detail	POWER	Light ON with transmission power input, light Off without it	COMM	Light ON with normal transmission, light OFF with abnormal or standby transmission	ERR.	Light ON with abnormal transmission, light Off with normal or standby transmission	<div></div> <table><tr><th>LED description</th><th>Detail</th></tr><tr><td>POWER</td><td>Light ON with transmission power input, light Off without it</td></tr><tr><td>L RUN</td><td>Light ON when receiving normal data</td></tr><tr><td>SD</td><td>Light ON when sending data</td></tr><tr><td>RD</td><td>Light ON when receiving data</td></tr><tr><td>L ERR.</td><td>Light ON with transmission error/setting error, light blinks with changes in the station no. or transmission speed setting</td></tr></table>	LED description	Detail	POWER	Light ON with transmission power input, light Off without it	L RUN	Light ON when receiving normal data	SD	Light ON when sending data	RD	Light ON when receiving data	L ERR.	Light ON with transmission error/setting error, light blinks with changes in the station no. or transmission speed setting
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L ERR.	Light ON with transmission error/setting error, light blinks with changes in the station no. or transmission speed setting																															
Cable wiring																																
Note	<ul style="list-style-type: none"><li>• DeviceNet</li><li>• OMRON Corporation CompoBus/D System Master unit: C200HW-DRM21</li><li>• 16 outputs</li></ul>	<ul style="list-style-type: none"><li>• CompoBus/S System Master unit: C200HW-SRM21 Master unit: CQM1-SRM21</li><li>• 16 outputs (Type SDR1) 8 outputs (Type SDR2)</li></ul>	<ul style="list-style-type: none"><li>• CC-LINK System Master unit: AJ61BT11 Master unit: A1SJ61BT11 Master unit: AJ61QBT11 Master unit: A1SJ61QBT11</li><li>• 16 outputs</li></ul>																													



SV
SY
SYJ
SX
VK
VZ
VF
VFR
VP7
VQC
<b>SQ</b>
VQ
VQ4
VQ5
VQZ
VQD
VFS
VS
VS7
VQ7

## Dimensions

Formulas:  $L1 = 17.5n + 52$ ,  $L2 = 17.5n + 106$  n: Stations (maximum 16 stations)

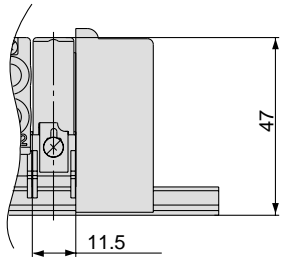
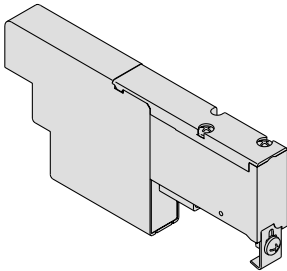
L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	69.5	87	104.5	122	139.5	157	174.5	192	209.5	227	244.5	262	279.5	297	314.5	332
L2	123.5	141	158.5	176	193.5	211	228.5	246	263.5	281	298.5	316	333.5	351	368.5	386
L3	150	162.5	187.5	200	225	237.5	250	275	287.5	312.5	325	337.5	362.5	375	400	412.5
L4	160.5	173	198	210.5	235.5	248	260.5	285.5	298	323	335.5	348	373	385.5	410.5	423

Optional Manifold Parts for **SQ1000**

Blanking plate

**SSQ1000-10A-3**

This is mounted on a manifold block when a valve is removed for maintenance or when installation of an additional valve is planned for the future, etc.



JIS symbol



SUP/EXH block

**SSQ1000-PR-3-C8-**

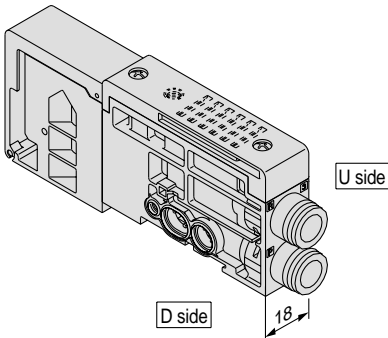
•Option

Nil	Standard
R	External pilot specification
S	Built-in silencer

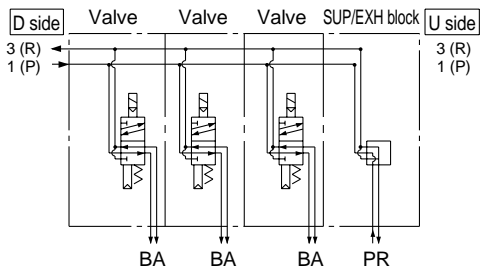
Note) When specifying both options, indicate "RS".  
\* Specify the spacer mounting position on a manifold specification sheet.

For standard type manifolds, the SUP/EXH block is mounted on the D side. It is added to the manifold to increase SUP/EXH capacity.

- \* The number of SUP/EXH blocks that can be added is limited to two sets, one between manifold stations and another on the U side of the manifold due to the length of the internal lead wire.
- \* SUP/EXH blocks are not included in the number of manifold stations.



Description/Model		Stations				
		1	2	3	4	5
Valve	Single	●	●	●		
	...					
Option	SUP/EXH block					
	SSQ1000-PR-3-C8-□			●		



Individual SUP spacer

**SSQ1000-P-3-C6**

•Port direction

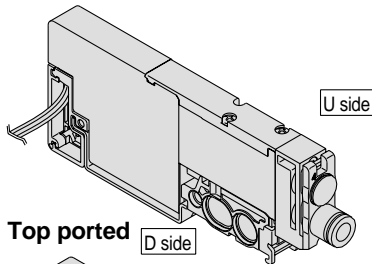
C6	Side ported
L6	Top ported

This is used as a supply port for different pressures when using different pressures in the same manifold (for one station). Both sides of the station which is used with supply pressure from the individual SUP spacer are shut off.

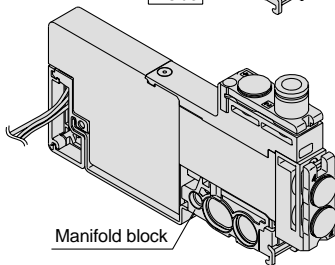
(See examples.)

- \* Specify the spacer mounting position and SUP passage shut off positions on a manifold specification sheet. Two shut off positions are required per unit.
- (Two pieces of SUP block plate that shut off the supply pressure are included with the individual SUP spacer, therefore, it is not necessary to order them separately.)
- \* Electrical wiring is also connected to the manifold station with the individual SUP spacer.
- \* By changing the fitting shown in the drawing and the block plates, the spacer's specification can be changed later (from the individual SUP spacer to the individual EXH spacer).
- \* The number of spacers is not limited when ordered with the manifold. However, when adding individual SUP spacers later, it is limited to two units, one between manifold stations and another on the U side due to the length of the internal lead wire.
- \* Part number with manifold block:  
SSQ1000-P-3-C6-L6-M

Side ported

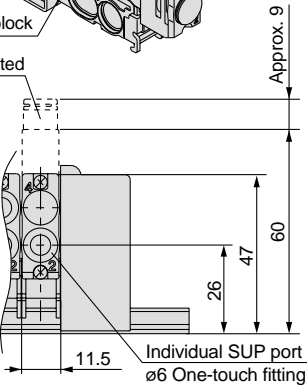


Top ported



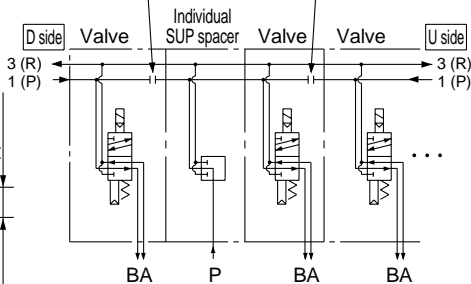
Manifold block

For top ported



Description/Model		Stations				
		1	2	3	4	5
Valve	Single	●	●	●		
	...					
Option	Individual SUP spacer		●			
	SUP shut off position: Specify 2 positions.	●	●			

SUP block plate (ordering not required)      SUP block plate (ordering not required)



## Individual EXH spacer

SSQ1000-R-3-**C6**

### Port direction

<b>C6</b>	Side ported
<b>L6</b>	Top ported

This is used to exhaust an individual valve when the exhaust from a valve interferes with other stations in the circuit (used for one station).

Both sides of the station which is to be individually exhausted are shut off. (See examples.)

\* Specify the spacer mounting position and EXH passage shut off positions on a manifold specification sheet. Two shut off positions are required per unit.

(Two pieces of EXH block plate that shut off the exhaust are included with the individual EXH spacer, therefore, it is not necessary to order them separately.)

\* Electrical wiring is also connected to the manifold station with the individual EXH spacer.

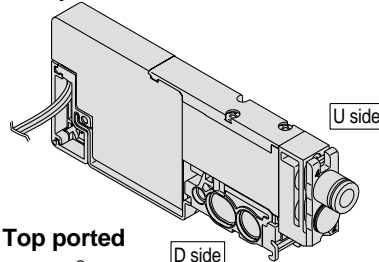
\* By changing the fitting shown in the drawing and the block plates, the spacer's specification can be changed later (from the individual EXH spacer to the individual SUP spacer).

\* The number of spacers is not limited when ordered with the manifold. However, when adding individual EXH spacers later, it is limited to two units, one between manifold stations and another on the U side due to the length of the internal lead wire.

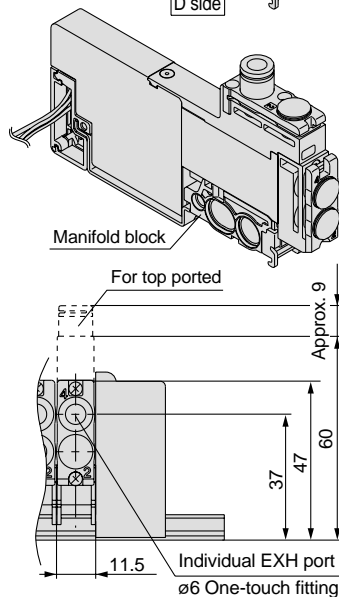
\* Part number with manifold block:

SSQ1000-R-3-**C6**-**M**

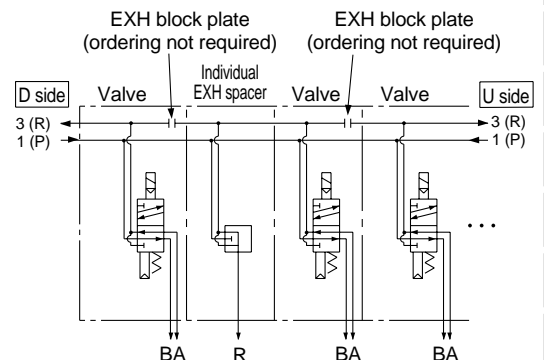
### Side ported



### Top ported



Description/Model	Stations	1	2	3	4	5
Valve	Single	●	●	●		
Option	Individual EXH spacer SSQ1000-R-3- <b>C6</b>		●			
	EXH shut off position: Specify 2 positions.	●	●			



## Individual SUP/EXH spacer

SSQ1000-PR1-3-**C6**

### Port direction

<b>C6</b>	Side ported
<b>L6</b>	Top ported

This has both functions of the individual SUP and EXH spacers above.

(See examples.)

\* Specify the spacer mounting position and SUP and EXH passage shut off positions on a manifold specification sheet. Two shut off positions each for SUP and EXH are required per unit.

(Two pieces each of block plate that shut off the SUP and EXH passages are included with the individual SUP/EXH spacer.)

\* Electrical wiring is also connected to the manifold station with the individual EXH spacer.

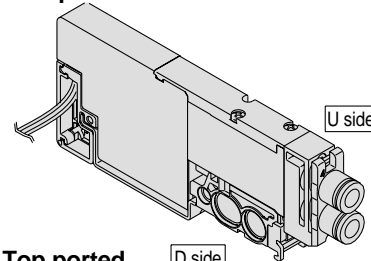
\* By changing the fitting shown in the drawing and the block plates, the spacer's specification can be changed later.

\* The number of spacers is not limited when ordered with the manifold. However, when adding individual SUP/EXH spacers later, it is limited to two units, one between manifold stations and another on the U side due to the length of the internal lead wire.

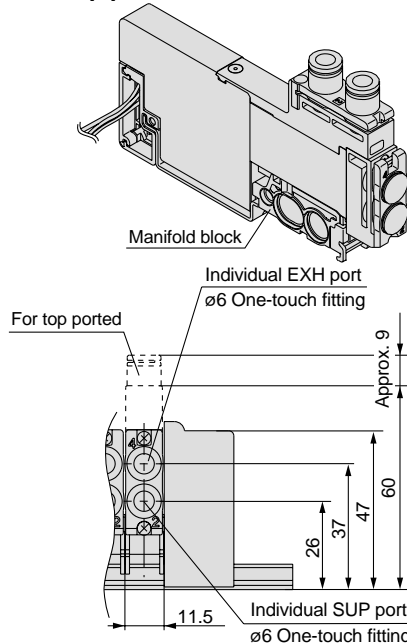
\* Part number with manifold block:

SSQ1000-PR1-3-**C6**-**M**

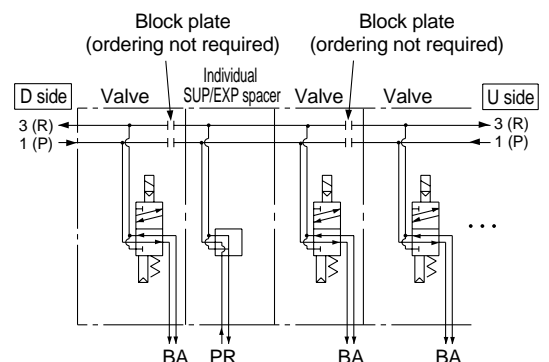
### Side ported



### Top ported



Description/Model	Stations	1	2	3	4	5
Valve	Single	●	●	●		
Option	Individual SUP/EXH spacer SSQ1000-PR1-3- <b>C6</b>		●			
	SUP shut off position: Specify 2 positions.	●	●			
	EXH shut off position: Specify 2 positions.	●	●			



## Optional Manifold Parts for SQ1000

### SUP block plate

#### SSQ1000-B-P

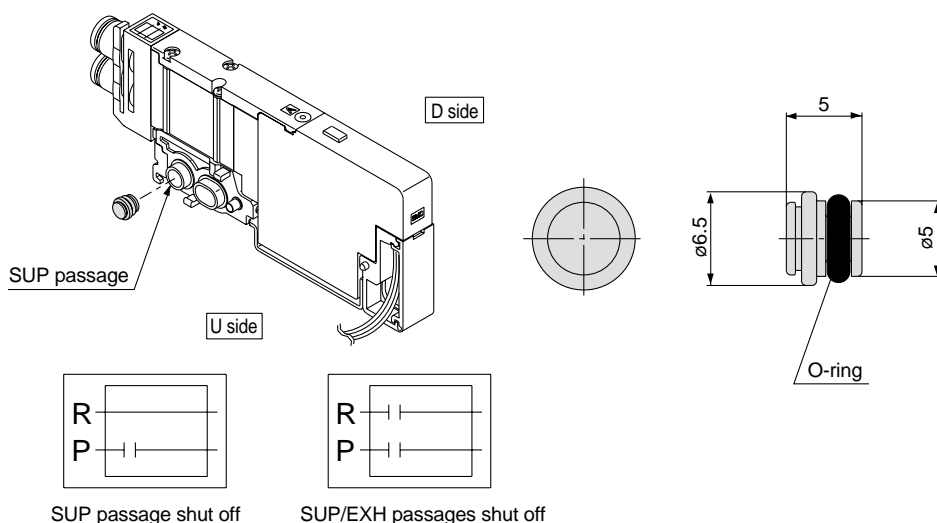
When supplying two different pressures, high and low, to one manifold, this is used between stations with different pressures. Also, it is used with an individual SUP spacer to shut off the air supply.

\* Specify the mounting station on a manifold specification sheet.

#### <Shut off label>

When a SUP passage is shut off with a SUP block plate, a label is attached for external confirmation of the shut off position (one label each).

\* Shut off labels are applied when SUP block plates are ordered with manifolds.



### EXH block plate

#### SSQ1000-B-R

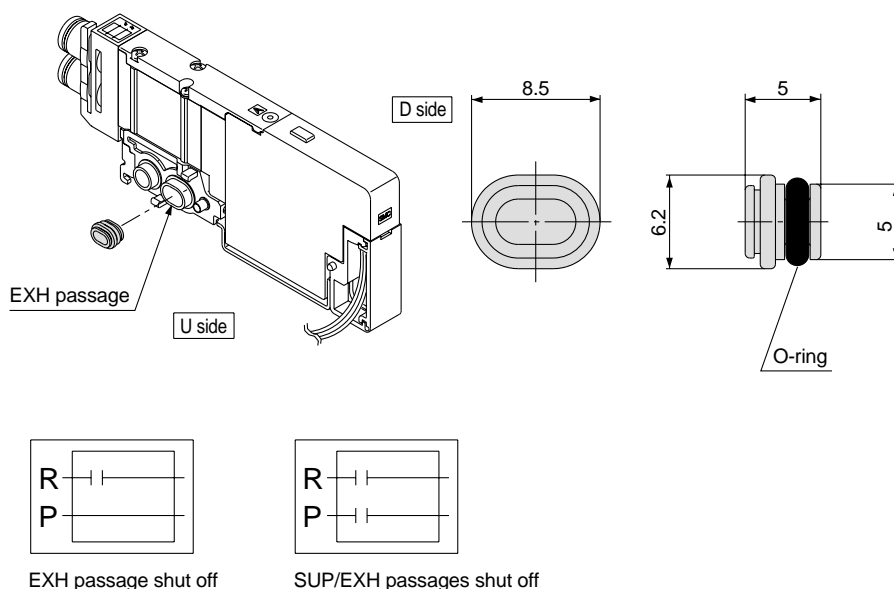
When the exhaust from a valve interferes with other stations in the circuit, this is used between stations to separate exhausts. Also, it is used with an individual EXH spacer to shut off the exhaust of individual valves.

\* Specify the mounting station on a manifold specification sheet.

#### <Shut off label>

When an EXH passage is shut off with an EXH block plate, a label is attached for external confirmation of the shut off position (one label each).

\* Shut off labels are applied when EXH block plates are ordered with manifolds.



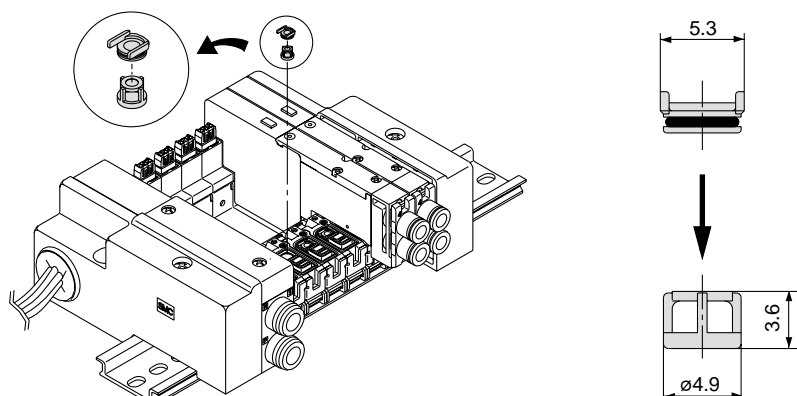
### Back pressure check valve [-B]

#### SSQ1000-BP

This prevents cylinder malfunction caused by the exhaust from other valves. It is inserted into the R (EXH) port of the valve that is affected. It is especially effective when using single acting cylinders or exhaust center type solenoid valves.

\* When installing back pressure check valves only on the stations required, enter the part number and specify the mounting stations on a manifold specification sheet.

\* When installing back pressure check valves on all of the stations, indicate "-B" at the end of the manifold part number.



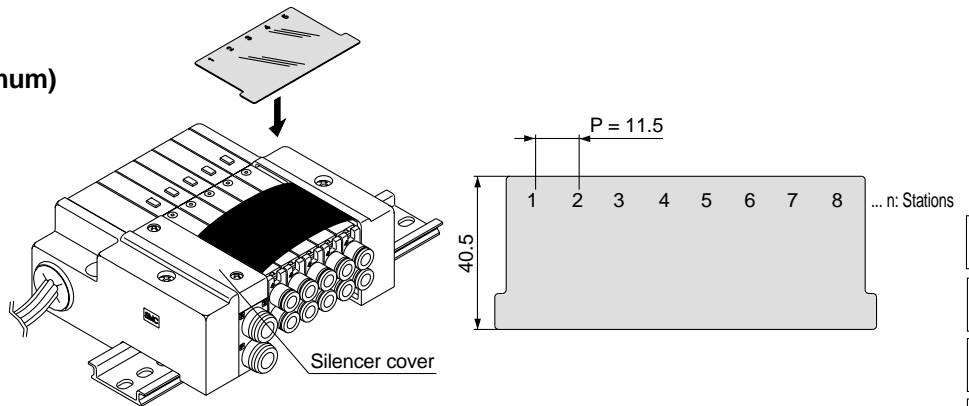
## ⚠ Caution

1. Although the back pressure check valve is an assembly part with a check valve mechanism, a small amount of air leakage is allowed. Therefore, take care not to restrict the exhaust air from the exhaust port.
2. The effective area of valves is about 20% less when the back pressure check valve is installed.
3. Since 4 port specification valves (R1 and R2 are common) are used, back pressure cannot be prevented with dual 3 port valves.

## Name plate [-N]

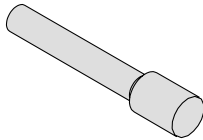
### SSQ1000-N3- Stations (1 to maximum)

A clear resin plate for applying solenoid valve function description labels, etc.  
To install, bend the plate slightly as shown and insert into the slots on the end plate side. Also, the plate is difficult to bend for manifolds with only a few stations, therefore, remove the silencer cover to install it.  
\* When ordering with manifolds, add "-N" at the end of the manifold number.

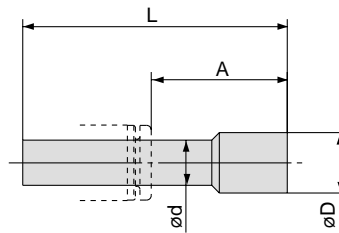


## Blanking plug (for One-touch fitting)

**KQ2P-**  
23  
04  
06  
08



This is inserted into the cylinder port and SUP and EXH ports that are not used.  
Available in 10 piece units.



## Dimensions

Applicable fitting size ød	Model	A	L	D
3.2	KQ2P-23	16	31.5	3.2
4	KQ2P-04	16	32	6
6	KQ2P-06	18	35	8
8	KQ2P-08	20.5	39	10

## Port plug

### VVQZ100-CP

This is used to close the cylinder ports when changing a 5 port valve to a 3 port valve.  
\* Add "A" or "B" at the end of the valve part number when ordering with valves.

Example) SQ1131-5-C6-A (N.O. specification)

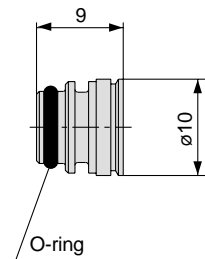
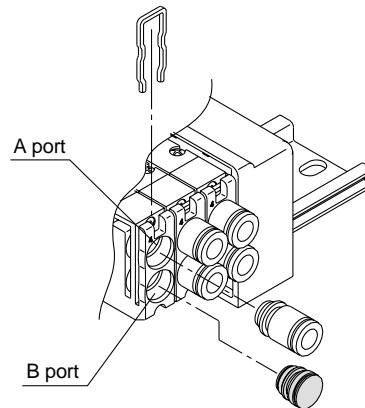
• A port plug

Example) SQ1131-5-C6-B (N.C. specification)

• B port plug

Example) SQ1131-5-C6-B-M

(B port plug with manifold block)



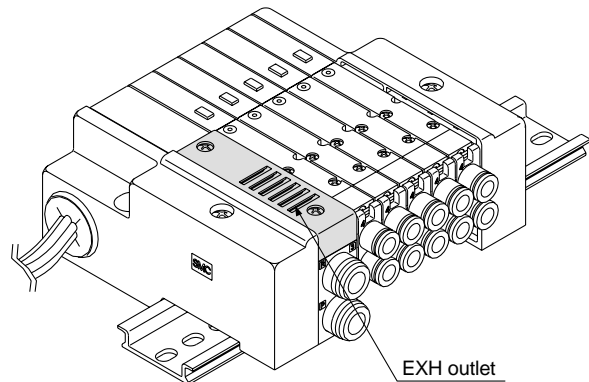
## Direct EXH outlet with built-in silencer [-S]

The EXH outlet is placed on the top side of the manifold end plate. The built-in silencer provides highly effective noise reduction. (Noise reduction of 30dB)

Note) Note that when excessive drainage occurs in the air supply, the drainage will be released along with the exhaust.

\* Add "-S" at the end of the manifold part number when ordering with manifolds.

\* Refer to page 1.11-125 for handling precautions and the replacement of elements.



SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

SQ

VQ

VQ4

VQ5

VQZ

VQD

VFS

VS

VS7

VQ7

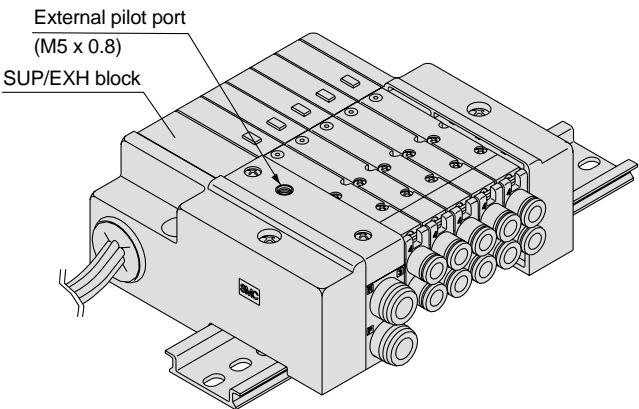


Optional Manifold Parts for **SQ1000**

External pilot specification [-R]

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

- Example for valve part number  
SQ1130 R -5-C6  
    • External pilot specification
- Example for manifold part number  
\* SS5Q13-08FD1-DR  
    • External pilot specification



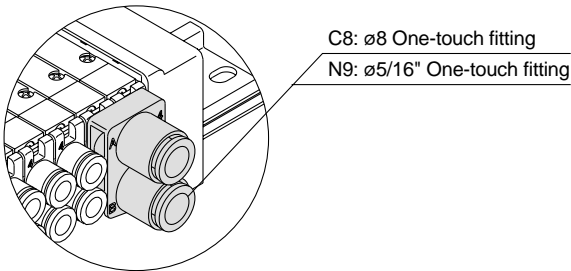
- Note 1) Not applicable for 4 position dual 3 port valves.  
Note 2) Indicate "RY" for low wattage types.  
Note 3) Valves with the external pilot specification have a pilot EXH with individual exhaust specification and EXH can be pressurized. However, the pressure supplied from EXH should be 0.4MPa or lower.

Duplex fitting

SSQ1000-52A-C8

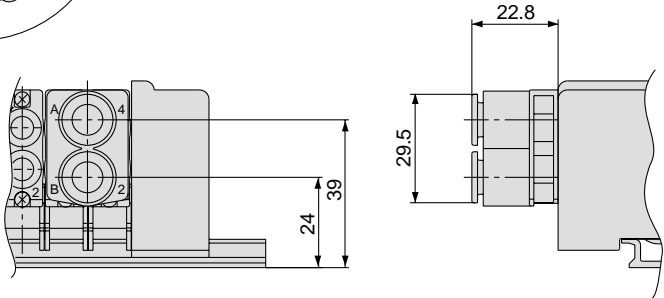
•Bore size

C8	ø8
N9	ø5/16"



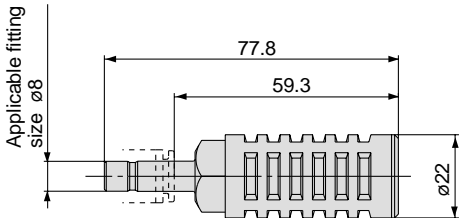
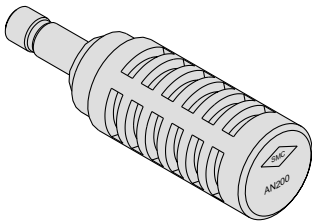
To drive a large bore cylinder, two valve stations are operated simultaneously to double the air flow. This fitting is used on the cylinder ports in this situation. Available sizes are ø8 and ø5/16" One-touch fittings.  
\* When ordering with valves, specify the valve part number without One-touch fitting and list the duplex fitting part number.

- Example) Valve part number  
(without One-touch fitting part number)  
SQ1131-5-C0 ..... 2 sets  
\*SSQ1000-52A-C8 ..... 1 set  
                                  N9



Silencer (for EXH port)

This is inserted into the centralized type EXH port (One-touch fitting).



Specifications

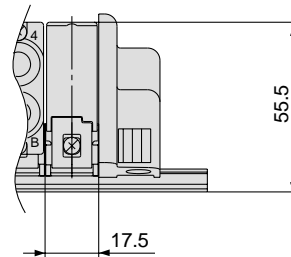
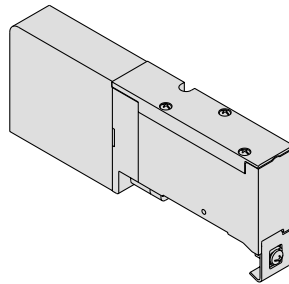
Series	Model	Effective area mm <sup>2</sup> (Cv factor)	Noise reduction dB
SQ1000	AN200-KM8	20 (1.1)	30

## Optional Manifold Parts for SQ2000

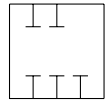
### Blanking plate

#### SSQ2000-10A-3

This is mounted on a manifold block when a valve is removed for maintenance or when installation of an additional valve is planned for the future, etc.



JIS symbol



### SUP/EXH block

#### SSQ2000-PR-3-C10-

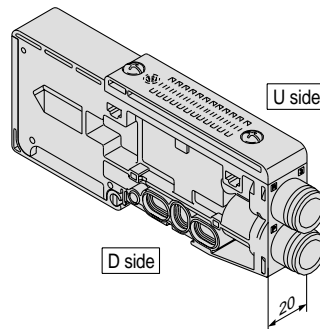
• Option

<b>Nil</b>	Standard
<b>R</b>	External pilot specification
<b>S</b>	Built-in silencer

Note) When specifying both options, indicate "RS".

\* Specify the spacer mounting position on a manifold specification sheet.

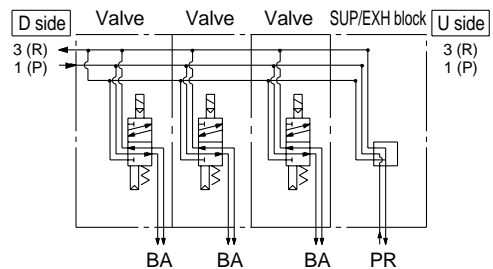
For standard type manifolds, the SUP/EXH block is mounted on the D side. It is added to the manifold to increase SUP/EXH capacity.



		Stations				
Description/Model		1	2	3	4	5
Valve	Single	●	●	●		
	...					
Option	SUP/EXH block				●	
	SSQ2000-PR-3-C10-					

\* The number of SUP/EXH blocks that can be added is limited to two sets, one between manifold stations and another on the U side of the manifold due to the length of the internal lead wire.

\* SUP/EXH blocks are not included in the number of manifold stations.



### Individual SUP spacer

#### SSQ2000-P-3-C8

• Port direction

<b>C8</b>	Side ported
<b>L8</b>	Top ported

This is used as a supply port for different pressures when using different pressures in the same manifold (for one station).

Both sides of the station which is used with supply pressure from the individual SUP spacer are shut off. (See examples.)

\* Specify the spacer mounting position and SUP passage shut off positions on a manifold specification sheet. Two shut off positions are required per unit. (Two pieces of SUP block plate that shut off the supply pressure are included with the individual SUP spacer, therefore, it is not necessary to order them separately.)

\* Electrical wiring is also connected to the manifold station with the individual SUP spacer.

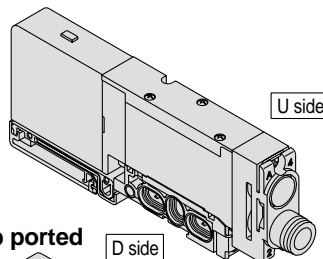
\* By changing the fitting shown in the drawing and the block plates, the spacer's specification can be changed later (from individual SUP spacer to individual EXH spacer).

\* The number of spacers is not limited when ordered with the manifold. However, when adding individual SUP spacers later, it is limited to two units, one between manifold stations and another on the U side due to the length of the internal lead wire.

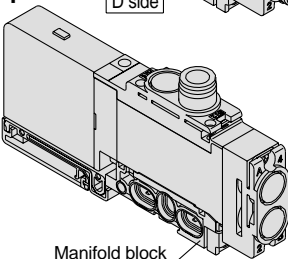
\* Part number with manifold block:

SSQ2000-P-3-<sup>C8</sup><sub>L8</sub>-M

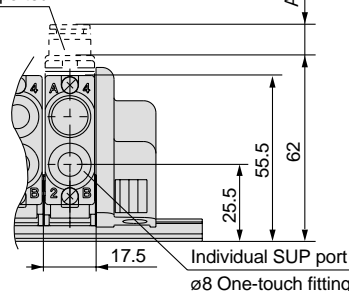
#### Side ported



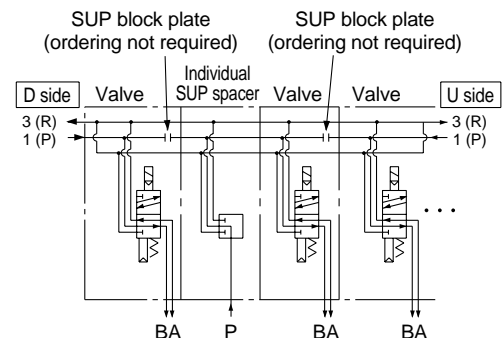
#### Top ported



For top ported



		Stations				
Description/Model		1	2	3	4	5
Valve	Single	●	●	●		
	...					
Option	Individual SUP spacer		●			
	SSQ2000-P-3-C8					
Option	SUP shut off position:	●	●			
	Specify 2 positions.					



## Manifold Option Parts for SQ2000

### Individual EXH spacer

SSQ2000-R-3-**C8**

#### Port direction

<b>C8</b>	Side ported
<b>L8</b>	Top ported

This is used to exhaust an individual valve when the exhaust from a valve interferes with other stations in the circuit (used for one station). Both sides of the station which is to be individually exhausted are shut off. (See examples.)

\* Specify the spacer mounting position and EXH passage shut off positions on a manifold specification sheet.

Two shut off positions are required per unit. (Four pieces of EXH block plate that shut off the exhaust are included with the individual EXH spacer, therefore, it is not necessary to order them separately.)

\* Electrical wiring is also connected to the manifold station with the individual EXH spacer.

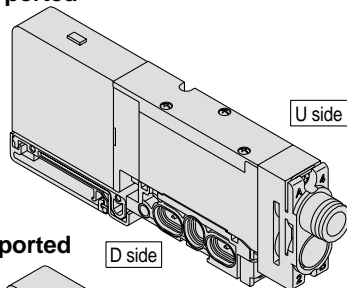
\* By changing the fitting shown in the drawing and the block plates, the spacer's specification can be changed later (from the individual EXH spacer to the individual SUP spacer).

\* The number of spacers is not limited when ordered with the manifold. However, when adding individual EXH spacers later, it is limited to two units, one between manifold stations and another on the U side due to the length of the internal lead wire.

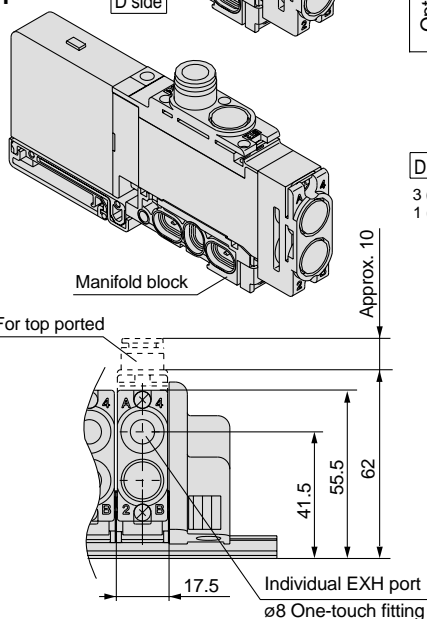
\* Part number with manifold block:

SSQ2000-R-3-**C8**-**M**

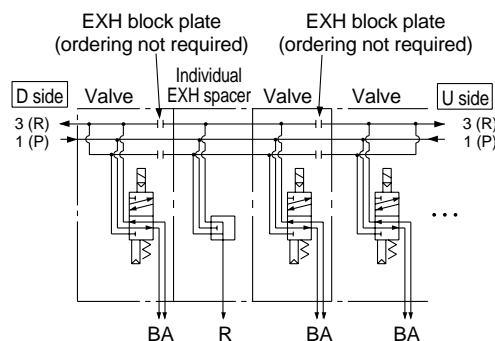
#### Side ported



#### Top ported



Description/Model	Stations	1	2	3	4	5
Valve	Single	●	●	●		
Option	Individual EXH spacer SSQ2000-R-3- <b>C8</b>		●			
	EXH shut off position: Specify 2 positions.	●	●			



### Individual SUP/EXH spacer

SSQ2000-PR1-3-**C8**

#### Port direction

<b>C8</b>	Side ported
<b>L8</b>	Top ported

This has both functions of the individual SUP and EXH spacers above. (See examples.)

\* Specify the spacer mounting position and SUP and EXH passage shut off positions on a manifold specification sheet. Two shut off positions each for SUP and EXH are required per unit.

[Block plates that shut off the SUP and EXH passages are included with the individual SUP/EXH spacer (2 pcs. of SUP block plate and 4 pcs. of EXH block plate).]

\* Electrical wiring is also connected to the manifold station with the individual EXH spacer.

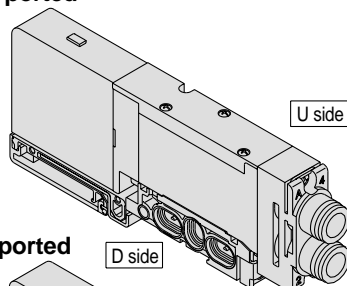
\* By changing the fitting shown in the drawing and the block plates, the spacer's specification can be changed later.

\* The number of spacers is not limited when ordered with the manifold. However, when adding individual SUP/EXH spacers later, it is limited to two units, one between manifold stations and another on the U side due to the length of the internal lead wire.

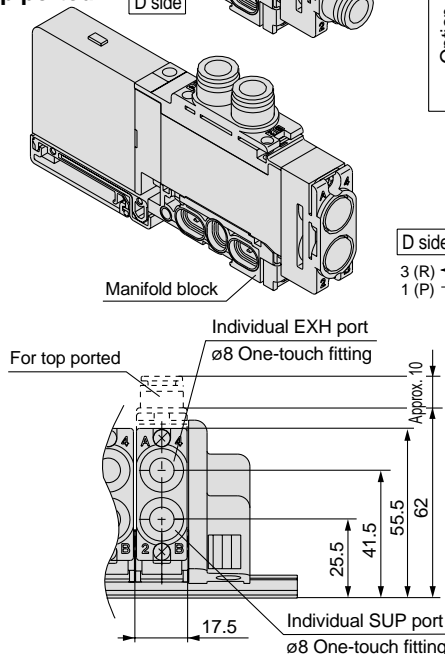
\* Part number with manifold block:

SSQ2000-PR1-3-**C8**-**M**

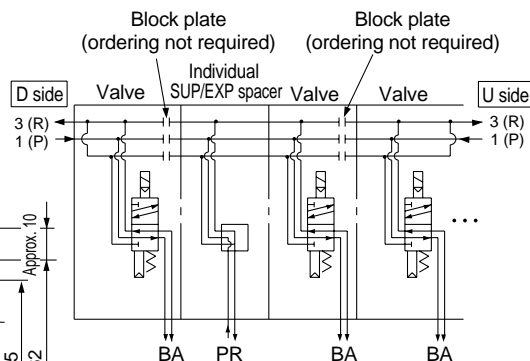
#### Side ported



#### Top ported



Description/Model	Stations	1	2	3	4	5
Valve	Single	●	●	●		
Option	Individual SUP/EXH spacer SSQ2000-PR1-3- <b>C8</b>		●			
	SUP shut off position: Specify 2 positions.	●	●			
	EXH shut off position: Specify 2 positions.	●	●			



## SUP block plate

### SSQ1000-B-R

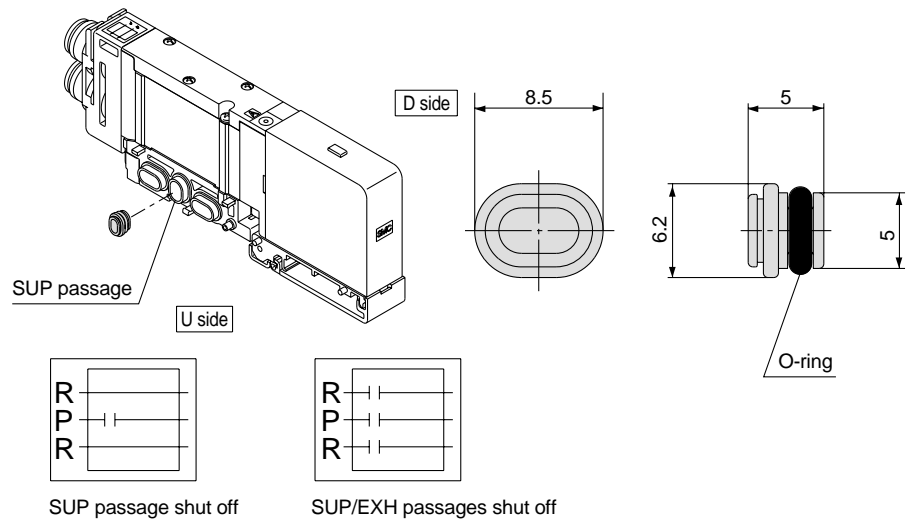
When supplying two different pressures, high and low, to one manifold, this is used between stations with different pressures. Also, it is used with an individual SUP spacer to shut off the air supply.

\* Specify the mounting station on a manifold specification sheet.

#### <Shut off label>

When a SUP passage is shut off with a SUP block plate, a label is attached for external confirmation of the shut off position (one label each).

\* Shut off labels are applied when SUP block plates are ordered with manifolds.



## EXH block plate

### SSQ2000-B-R

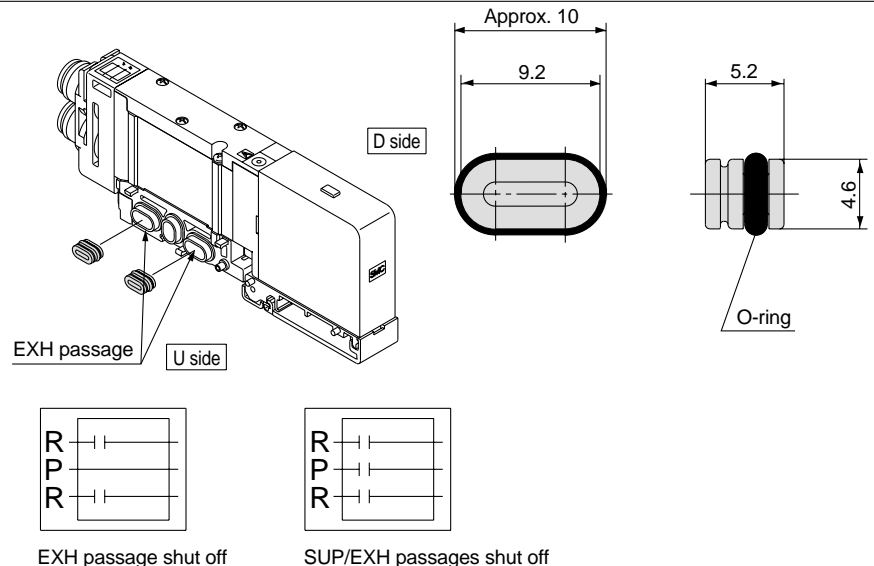
When the exhaust from a valve interferes with other stations in the circuit, this is used between stations to separate exhausts. Also, it is used with an individual EXH spacer to shut off the exhaust of individual valves.

\* Specify the mounting station on a manifold specification sheet.

#### <Shut off label>

When an EXH passage is shut off with an EXH block plate, a label is attached for external confirmation of the shut off position (one label each).

\* Shut off labels are applied when EXH block plates are ordered with manifolds.



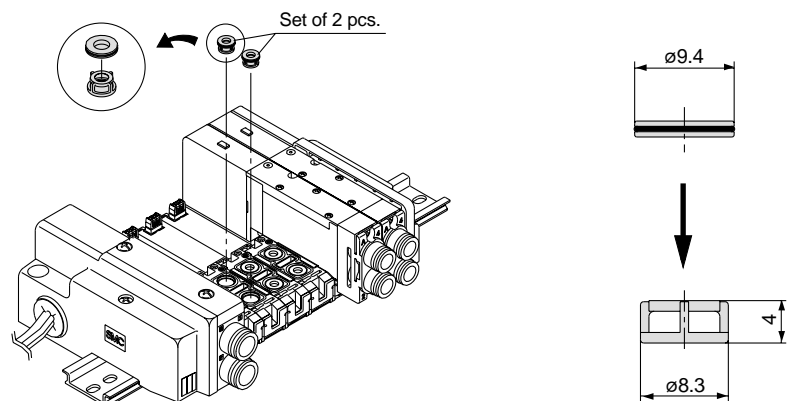
## Back pressure check valve [-B]

### SSQ2000-BP

This prevents cylinder malfunction caused by the exhaust from other valves. It is inserted into the R (EXH) port of the valve that is affected. It is especially effective when using single acting cylinders or exhaust center type solenoid valves.

\* When installing back pressure check valves only on the stations required, enter the part number and specify the mounting stations on a manifold specification sheet.

\* When installing back pressure check valves on all of the stations, indicate "-B" at the end of the manifold part number.



## ⚠ Caution

- Although the back pressure check valve is an assembly part with a check valve mechanism, a small amount of air leakage is allowed. Therefore, take care not to restrict the exhaust air from the exhaust port.
- The effective area of valves is about 20% less when the back pressure check valve is installed.

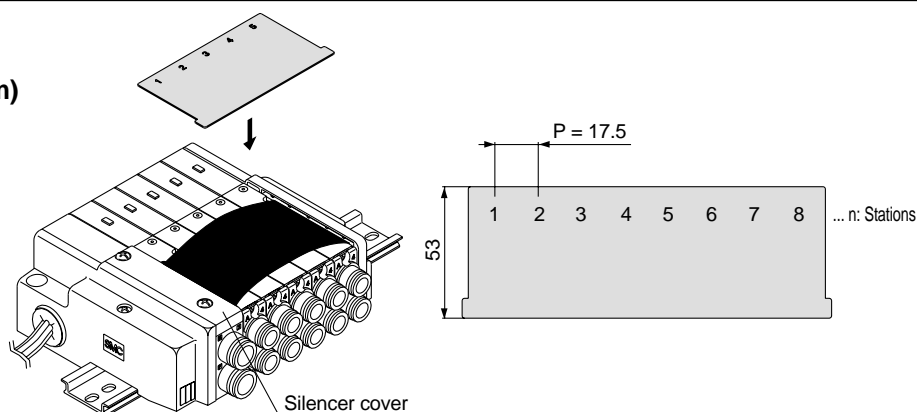
## Manifold Option Parts for SQ2000

### Name plate [-N]

#### SSQ2000-N3- Stations (1 to maximum)

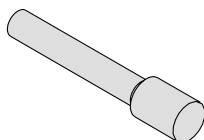
A clear resin plate for applying solenoid valve function description labels, etc.  
To install, bend the plate slightly as shown and insert into the slots on the end plate side. Also, the plate is difficult to bend for manifolds with only a few stations, therefore, remove the silencer cover to install it.

\* When ordering with manifolds, add "-N" at the end of the manifold number.

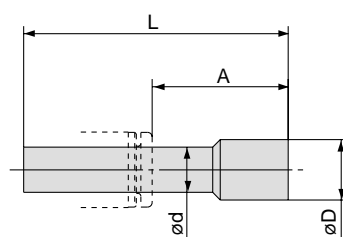


### Blanking plug (for One-touch fitting)

04  
KQ2P-06  
08  
10



This is inserted into the cylinder port and SUP and EXH ports that are not used.  
Available in 10 piece units.



### Dimensions

Applicable fitting size $\phi d$	Model	A	L	D
4	KQ2P-04	16	32	6
6	KQ2P-06	18	35	8
8	KQ2P-08	20.5	39	10
10	KQ2P-10	22	43	12

### Port plug

#### VVQZ2000-CP

This is used to close the cylinder ports when changing a 5 port valve to a 3 port valve.

\* Add "A" or "B" at the end of the valve part number when ordering with valves.

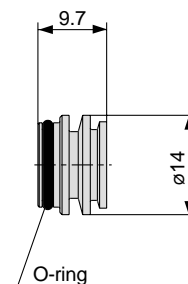
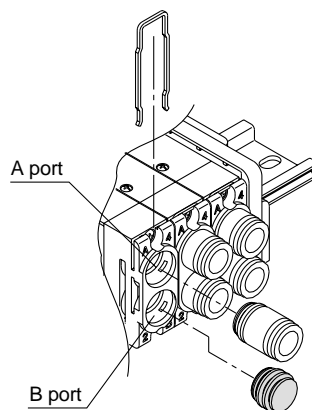
Example) SQ2131-5-C8-A (N.O. specification)

• A port plug

Example) SQ2131-5-C8-B (N.C. specification)

• B port plug

Example) SQ2131-5-C8-B-M  
(B port plug with manifold block)



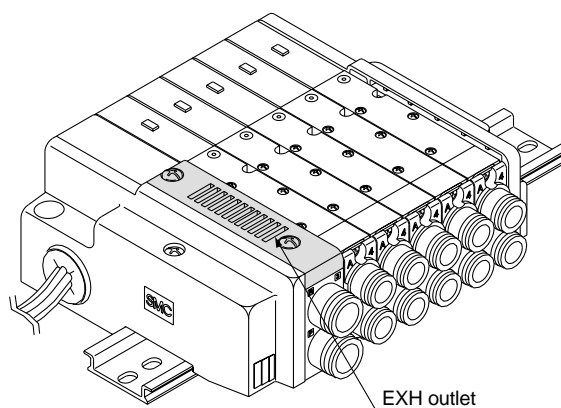
### Direct EXH outlet with built-in silencer [-S]

The EXH outlet is placed on the top side of the manifold end plate. The built-in silencer provides highly effective noise reduction. (Noise reduction of 30dB)

Note) Note that when excessive drainage occurs in the air supply, the drainage will be released along with the exhaust.

\* Add "-S" at the end of the manifold part number when ordering with manifolds.

\* Refer to page 1.11-125 for handling precautions and the replacement of elements.





## External pilot specification [-R]

This can be used when the air pressure is 0.1 to 0.2 MPa lower than the minimum operating pressure of the solenoid valves or used for vacuum specifications.

Add "R" to the part numbers of manifolds and valves to indicate the external pilot specification.

An M5 port will be installed on the top side of the manifold's SUP/EXH block.

- Example for valve part number  
SQ2130 R -5-C6

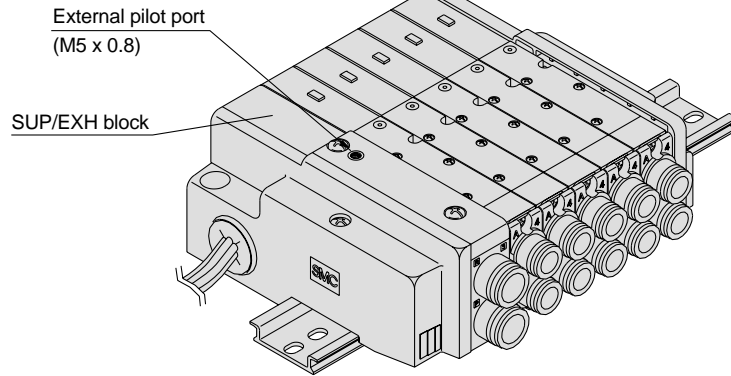
• External pilot specification

- Example for manifold part number

\* Indicate "R" for an option.

SS5Q23-08FD1-DR

• External pilot specification



Note 1) Not applicable for dual 3 port valves.

Note 2) Indicate "RY" for low wattage types.

Note 3) Valves with the external pilot specification have a pilot EXH with individual exhaust specification and EXH can be pressurized. However, the pressure supplied from EXH should be 0.4MPa or lower.

## Dual flow fitting

### SSQ2000-52A- C10

• Bore size

C10	ø10
N11	ø3/8"

To drive a large bore cylinder, two valve stations are operated simultaneously to double the air flow. This fitting is used on the cylinder ports in this situation. Available sizes are ø10 and ø3/8" One-touch fittings.

\* When ordering with valves, specify the valve part number without One-touch fitting and list the dual flow fitting part number.

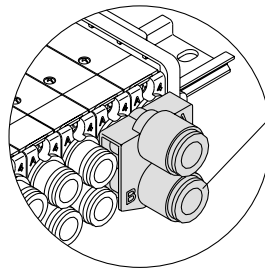
Example) Valve part number

(without One-touch fitting)

SQ2131-5- C0 ..... 2 sets

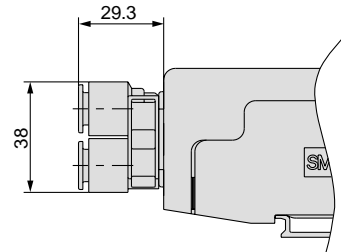
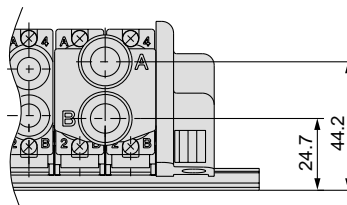
\*SSQ2000- 52A- C10 ..... 1 set

N11



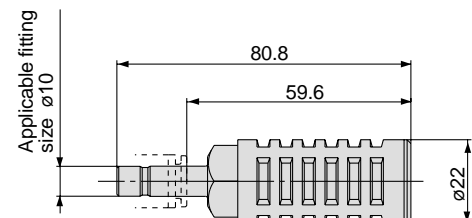
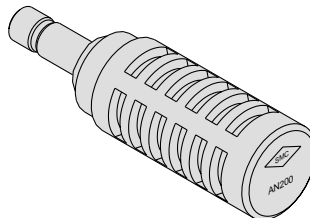
C10: ø10 One-touch fitting

N11: ø3/8" One-touch fitting



## Silencer (for EXH port)

This is inserted into the centralized type EXH port (One-touch fitting).



## Specifications

Series	Model	Effective area mm <sup>2</sup> (Cv factor)	Noise reduction dB
SQ2000	AN200-KM10	26 (1.4)	30

SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

SQ

VQ

VQ4

VQ5

VQZ

VQD

VFS

VS

VS7

VQ7



Manifold Options for **SQ1000/SQ2000**

Special wiring specifications

The standard internal wiring of F kit, P kit, J kit, T kit, and S kit is double wiring (connected to SOL. A and SOL. B) regardless of the valve and option types. Mixed single and double wiring is available as an option.

1. How to order

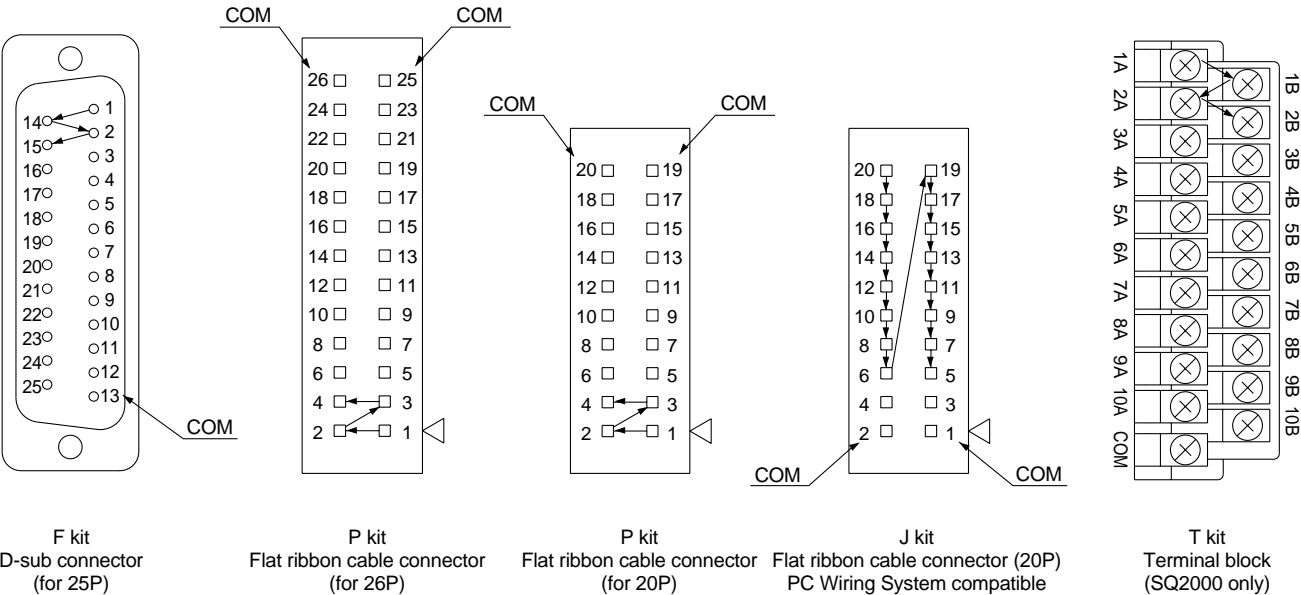
Indicate option symbol "-K" in the manifold part number and be sure to specify station positions for single or double wiring on a manifold specification sheet. Also, specify wiring for spare connectors. (Up to two spare connectors are included depending on the remaining number of connector pins. When the wiring for the spare connectors is not specified, they will be wired according to "Spare Connector Wiring" on page 1.11-55.

Example) **SS5Q13-09** **FD0** **DKS**

Other option symbols: Enter in alphabetical order.

2. Wiring specifications

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



Refer to pages 1.11-18 and 1.11-38 for S kit (serial transmission kit).

3. Maximum stations

The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. Determine the number of stations so that the total number of solenoids is no more than the maximum points in the table below.

Kit	F kit (D-sub connector)	P kit (Flat ribbon cable connector)		J kit Flat ribbon cable connector PC Wiring System compatible	T kit (Terminal block) SQ2000 only *	S kit (Serial)
Type	FD□ 25P	PD□ 26P	PDC 20P	JD0 20P	TD0	SD□
Max . points	24 points	24 points	18 points	16 points	20 points	16 points

Note) Maximum stations ..... SQ1000: 24 stations  
SQ2000: 16 stations

## Applicable DIN rail mounting

Each manifold can be mounted on a DIN rail.

Indicate the symbol "-D" for ordering DIN rail mount type manifolds.

The standard DIN rail provided is approximately 30mm longer than the overall length of the manifold with a specified number of stations.

The following options are also available.

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

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

Example) **SS5Q13- 08FD0 - D09BNK**

8 station manifold

• Option symbols  
(in alphabetical order)

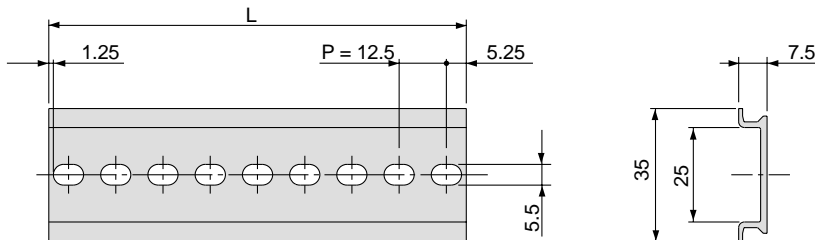
• DIN rail for 9 stations

### • Ordering DIN rail only

DIN rail part number

**AXT100- DR - [n]**

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



### Dimension L

$$L = 12.5 \times n + 10.5$$

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

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

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

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

SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

**SQ**

VQ

VQ4

VQ5

VQZ

VQD

VFS

VS

VS7

VQ7

Manifold Options for SQ1000/SQ2000

Negative COM specifications

The following valve part numbers are for negative COM specifications. Manifold part numbers are the same as the standard except for the L kit.  
Also, negative COM specifications are not available for the S kit.

• How to order negative COM valves (example)

SQ1130 N -5-C6-Q  
• Negative COM specification


• How to order negative COM manifolds (example)

SS5Q13-08 LD1 N -D N-Q  
Stations •  
Kit type •  
• Option  
• DIN rail mount type  
• Negative COM specification

One-touch fittings in inch sizes

For One-touch fittings in inch sizes, use the following part numbers. Also, the colour of the release button is orange.

• How to order valves (example)

SQ1130- 5 -  N7 -Q  
Port position • Cylinder port size

Nil	Side
L	Top

Symbol	N1	N3	N7	N9
Applicable tube O.D. inch	ø1/8"	ø5/32"	ø1/4"	ø5/16"
A/B port	SQ1000	●	●	—
	SQ2000	—	●	●

• How to order manifolds (example)

Add "00T" at the end of the part number.

SS5Q13-08 FD0-DN- 00T -Q  
• P/R port in inch size  
  { SQ1000: ø5/16" (N9)  
  { SQ2000: ø3/8" (N11)

## How to Add Manifold Stations for SQ1000/SQ2000

### 1. Using spare connector to add stations

As shown in the table below, wiring specifications for spare connectors are based on to the remaining number of connector pins (remaining number of pins against the maximum number of solenoids for each kit). The following procedures are for using spare connectors to add stations.

• **Spare connector wiring**

Remaining connector pins	4 pins or more	3 pins	2 pins	1 pin	0 pin
Spare connector wiring	2 for double wiring	1 for double wiring (on the low no. station side) 1 for single wiring	1 for double wiring	1 for single wiring	None

**What to prepare**

- Valves with manifold block (refer to pages 1.11-5 and 1.11-23) or manifold block (refer to page 1.11-56)

**Steps for adding stations**

- ① Loosen the clamp screw on the U side end plate and open the manifold.

↓

② Mount the manifold block to be added.

↓

③ Open the junction cover and attach the spare connector. Match the station position of the added station and the spare connector station number.

↓

④ Press on the end plate to eliminate any space between the manifold blocks and tighten the clamp screw.  
(Proper tightening torque: 0.8 to 1.0N·m)
- SV

SY

SYJ

SX

VK

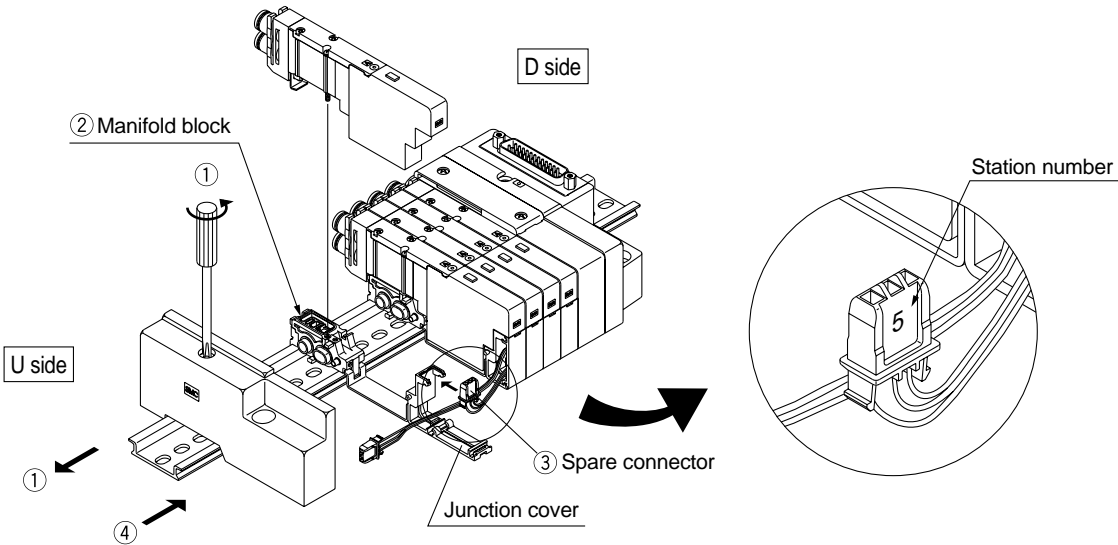
VZ

VF

VFR

VP7

Note 1) Order a manifold block with lead wire for the L kit because a spare connector is not included with the kit. (Refer to page 1.11-56.)  
Note 2) Do not let the lead wires get caught between manifolds, or when closing the junction cover.



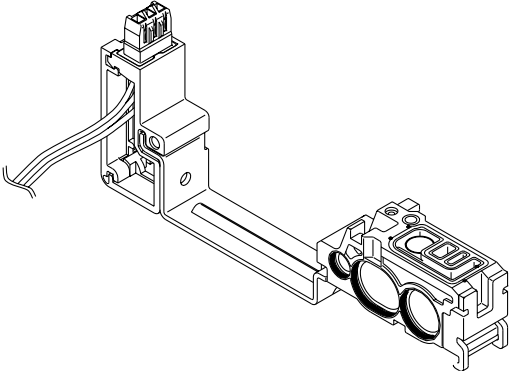
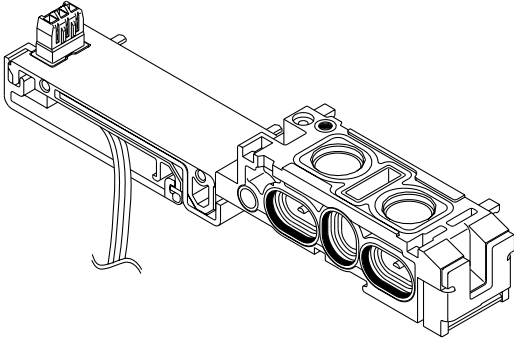
- VQC
- SQ
- VQ
- VQ4
- VQ5
- VQZ
- VQD
- VFS
- VS
- VS7
- VQ7

How to Add Manifold Stations for SQ1000/SQ2000

2. Adding stations without required spare connectors

Spare connectors for 2 stations are initially included. However, to add 3 or more stations, order manifold blocks with lead wire in the tables below.

To order manifold blocks with lead wire

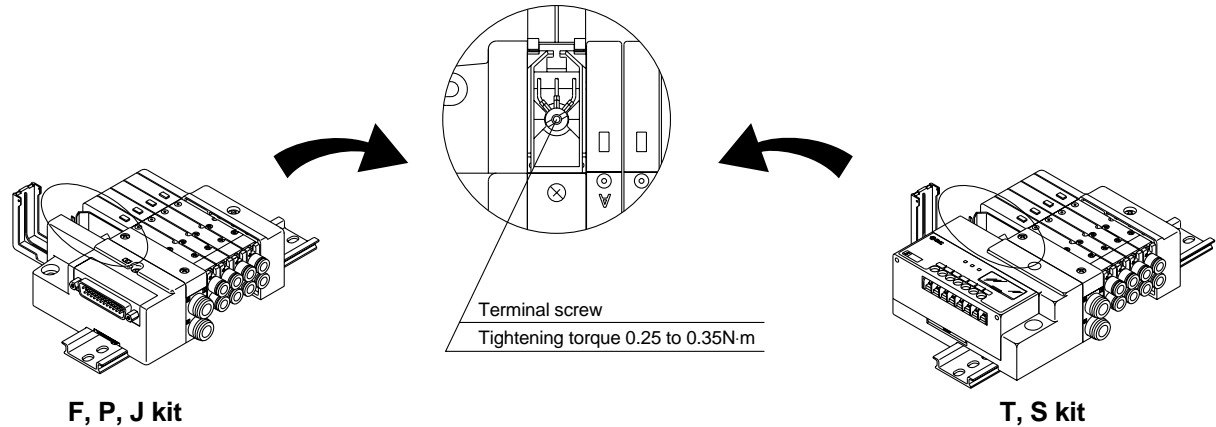
SQ1000	SQ2000																																																																				
																																																																					
<div>SSQ1000—1A—3—FS03—</div> <div><div>Lead wire type</div><table><tr><td>F0</td><td>Without lead wire (for using spare connectors to add stations)</td></tr><tr><td>FS</td><td>F kit (D-sub connector kit) Single wiring</td></tr><tr><td>FW</td><td>F kit (D-sub connector kit) Double wiring</td></tr><tr><td>PS</td><td>P, J kit (Flat ribbon cable kit) Single wiring</td></tr><tr><td>PW</td><td>P, J kit (Flat ribbon cable kit) Double wiring</td></tr><tr><td>L0</td><td>L kit (Lead wire kit) Lead wire length 0.6m</td></tr><tr><td>L1</td><td>L kit (Lead wire kit) Lead wire length 1.5m</td></tr><tr><td>L2</td><td>L kit (Lead wire kit) Lead wire length 3.0m</td></tr><tr><td>SS</td><td>S kit (Serial transmission kit) Single wiring</td></tr><tr><td>SW</td><td>S kit (Serial transmission kit) Double wiring</td></tr></table><div><div>Applicable stations</div><table><tr><td>01</td><td>1 station</td></tr><tr><td>⋮</td><td>⋮</td></tr><tr><td>24</td><td>24 stations</td></tr></table><div>Note 1) No symbol required for "F0". Note 2) Specify from "01" to "16" for S kit.</div></div><div><div>Option</div><table><tr><td>Nil</td><td>None</td></tr><tr><td>B</td><td>Back pressure check valve</td></tr><tr><td>R</td><td>External pilot specification</td></tr></table><div>Note) Enter "-BR" for both specifications.</div></div></div>	F0	Without lead wire (for using spare connectors to add stations)	FS	F kit (D-sub connector kit) Single wiring	FW	F kit (D-sub connector kit) Double wiring	PS	P, J kit (Flat ribbon cable kit) Single wiring	PW	P, J kit (Flat ribbon cable kit) Double wiring	L0	L kit (Lead wire kit) Lead wire length 0.6m	L1	L kit (Lead wire kit) Lead wire length 1.5m	L2	L kit (Lead wire kit) Lead wire length 3.0m	SS	S kit (Serial transmission kit) Single wiring	SW	S kit (Serial transmission kit) Double wiring	01	1 station	⋮	⋮	24	24 stations	Nil	None	B	Back pressure check valve	R	External pilot specification	<div>SSQ2000—1A—3—FS03—</div> <div><div>Lead wire type</div><table><tr><td>F0</td><td>Without lead wire (for using spare connectors to add stations)</td></tr><tr><td>FS</td><td>F kit (D-sub connector kit) Single wiring</td></tr><tr><td>FW</td><td>F kit (D-sub connector kit) Double wiring</td></tr><tr><td>PS</td><td>P, J kit (Flat ribbon cable kit) Single wiring</td></tr><tr><td>PW</td><td>P, J kit (Flat ribbon cable kit) Double wiring</td></tr><tr><td>TS</td><td>T kit (Terminal block kit) Single wiring</td></tr><tr><td>TW</td><td>T kit (Terminal block kit) Double wiring</td></tr><tr><td>L0</td><td>L kit (Lead wire kit) Lead wire length 0.6m</td></tr><tr><td>L1</td><td>L kit (Lead wire kit) Lead wire length 1.5m</td></tr><tr><td>L2</td><td>L kit (Lead wire kit) Lead wire length 3.0m</td></tr><tr><td>SS</td><td>S kit (Serial transmission kit) Single wiring</td></tr><tr><td>SW</td><td>S kit (Serial transmission kit) Double wiring</td></tr></table><div><div>Applicable stations</div><table><tr><td>01</td><td>1 station</td></tr><tr><td>⋮</td><td>⋮</td></tr><tr><td>16</td><td>16 stations</td></tr></table><div>Note) No symbol required for "F0".</div></div><div><div>Option</div><table><tr><td>Nil</td><td>None</td></tr><tr><td>B</td><td>Back pressure check valve</td></tr><tr><td>R</td><td>External pilot specification</td></tr></table><div>Note) Enter "-BR" for both specifications.</div></div></div>	F0	Without lead wire (for using spare connectors to add stations)	FS	F kit (D-sub connector kit) Single wiring	FW	F kit (D-sub connector kit) Double wiring	PS	P, J kit (Flat ribbon cable kit) Single wiring	PW	P, J kit (Flat ribbon cable kit) Double wiring	TS	T kit (Terminal block kit) Single wiring	TW	T kit (Terminal block kit) Double wiring	L0	L kit (Lead wire kit) Lead wire length 0.6m	L1	L kit (Lead wire kit) Lead wire length 1.5m	L2	L kit (Lead wire kit) Lead wire length 3.0m	SS	S kit (Serial transmission kit) Single wiring	SW	S kit (Serial transmission kit) Double wiring	01	1 station	⋮	⋮	16	16 stations	Nil	None	B	Back pressure check valve	R	External pilot specification
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01	1 station																																																																				
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16	16 stations																																																																				
Nil	None																																																																				
B	Back pressure check valve																																																																				
R	External pilot specification																																																																				

**3. Connection method** (Refer to page 52 regarding the procedures for adding stations to a manifold block.)

Connect lead wire assemblies included with manifold blocks as follows.

**① Connecting common terminals**

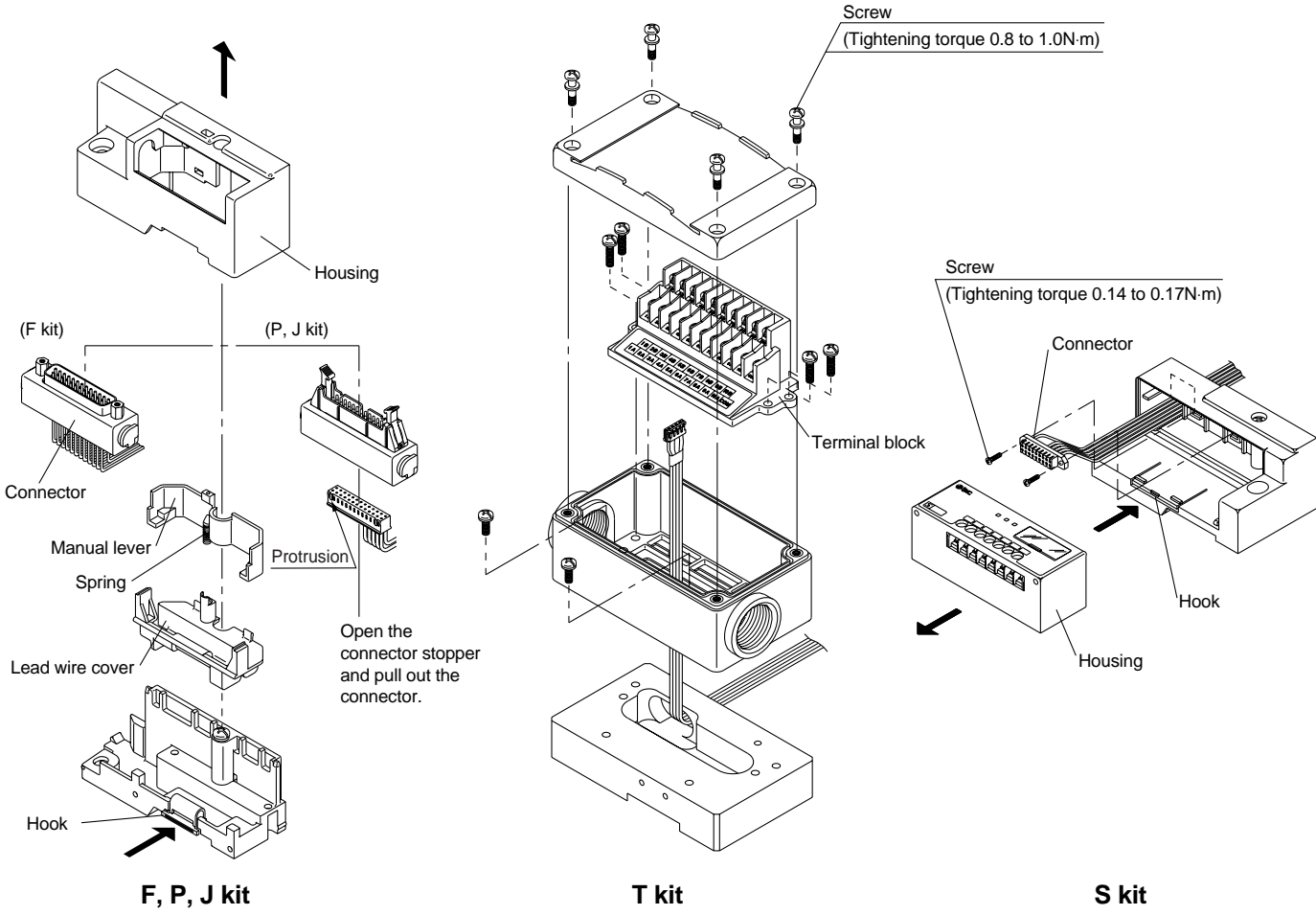
Connect the round terminal of the red lead wire to the common terminal inside the junction cover.



**② Pulling out the connectors**

Pull out the connector to connect the lead wire.

- For F, P, and J kits, pull out and remove the housing while pressing down hard on the hook with a flat head screw driver, etc. Remove the manual lever and lead wire cover, and pull out the connector.
- For T kits, remove the screws and pull out the terminal block.
- For S kits, remove the screws and pull out the connector.



SV
SY
SYJ
SX
VK
VZ
VF
VFR
VP7
VQC
<b>SQ</b>
VQ
VQ4
VQ5
VQZ
VQD
VFS
VS
VS7
VQ7



## How to Add Manifold Stations for SQ1000/SQ2000

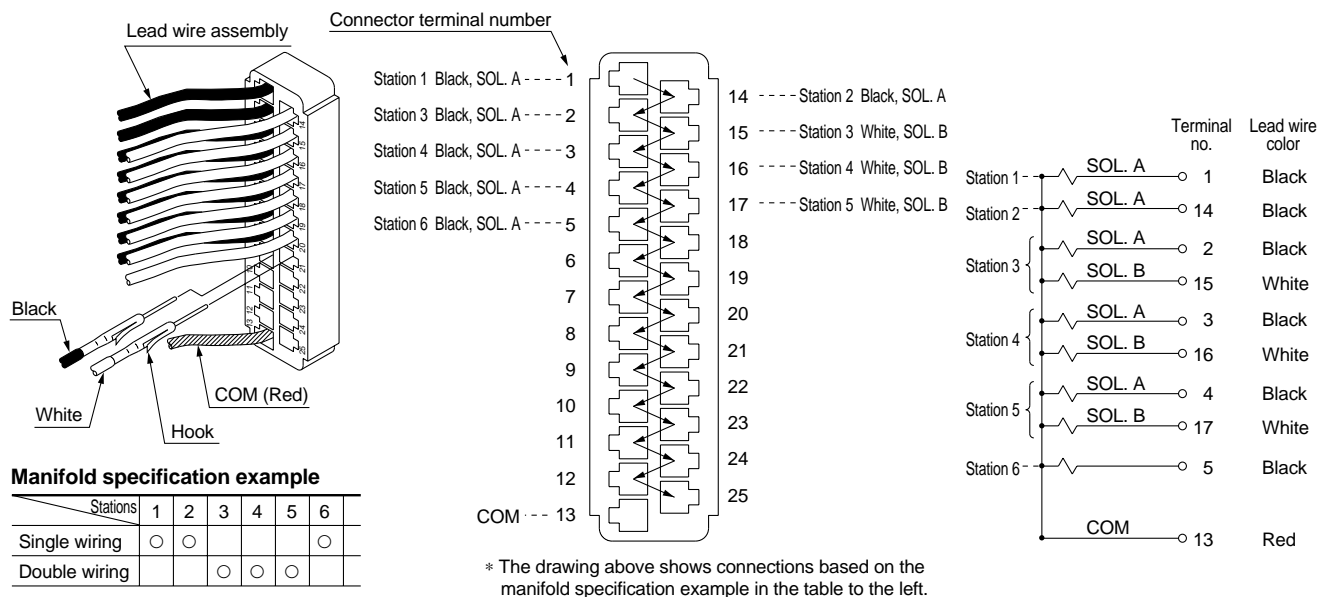
③ **Connect the black and white lead wire pins to the positions shown below in accordance with each kit.**

**⚠ Caution**

- 1) After inserting the pin, confirm that the pin hook is locked by lightly pulling the lead wire.
- 2) Do not pull the lead wire forcefully when connecting. Also, take care that lead wires do not get caught between manifolds or when closing the junction cover.

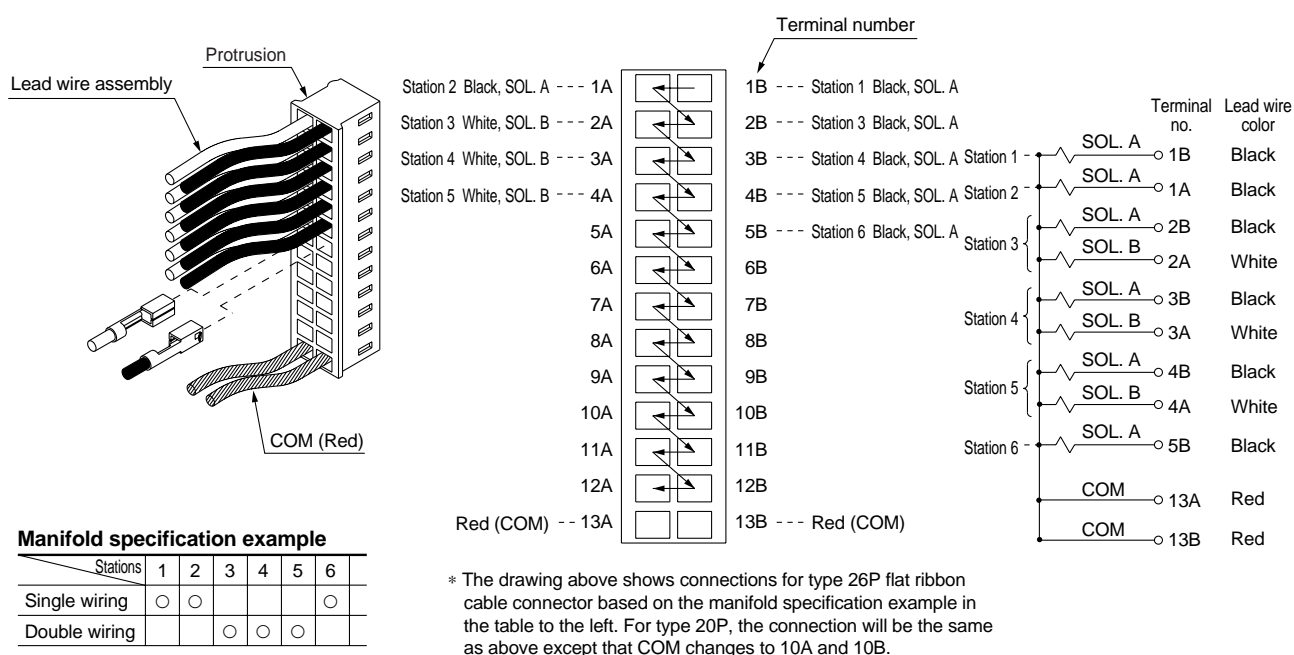
### Wiring (F kit: D-sub connector kit)

Procedure) Based on the manifold specification, station 1 of SOL. A (black wire) will be terminal number 1 of the D-sub connector, and for station 2 and thereafter, connect black wires to white wires in the order shown by the arrows in the drawing below.



### Wiring (P kit: Flat ribbon cable kit)

Procedure) Based on the manifold specification, station 1 of SOL. A (black wire) will be terminal number 1B of the flat ribbon cable connector, and for station 2 and thereafter, connect black wires to white wires in the order shown by the arrows in the table below.



Wiring (J kit: Flat ribbon cable kit, PC Wiring System compatible)

Procedure) Based on the manifold specification, station 1 of SOL. A (black wire) will be terminal number 10A of the flat ribbon cable connector, and for station 2 and thereafter, connect black wires to white wires in the order shown by the arrows in the drawing below.

Terminal number

Red (COM) ---- 1A  
Unused ---- 2A  
Station 5 White ---- 3A  
Station 5 Black ---- 4A  
Station 4 White ---- 5A  
Station 4 Black ---- 6A  
Station 3 White ---- 7A  
Station 3 Black ---- 8A  
Station 2 Black ---- 9A  
Station 1 Black ---- 10A

1B ---- Red (COM)  
2B ---- Unused  
3B  
4B  
5B  
6B  
7B  
8B  
9B  
10B ---- Station 6 Black

Station 1 { SOL. A 10A Black  
          SOL. A 9A Black  
Station 2 { SOL. A 8A Black  
          SOL. B 7A White  
Station 3 { SOL. A 6A Black  
          SOL. B 5A White  
Station 4 { SOL. A 4A Black  
          SOL. B 3A White  
Station 5 { SOL. A 10B Black  
          COM 1A Red  
          COM 1B Red

Terminal no.   Lead wire colour

Station 1 { SOL. A 10A Black  
          SOL. A 9A Black  
Station 2 { SOL. A 8A Black  
          SOL. B 7A White  
Station 3 { SOL. A 6A Black  
          SOL. B 5A White  
Station 4 { SOL. A 4A Black  
          SOL. B 3A White  
Station 5 { SOL. A 10B Black  
          COM 1A Red  
          COM 1B Red

Manifold specification example

Stations	1	2	3	4	5	6
Single wiring	○	○				○
Double wiring			○	○	○	

Wiring (T kit: Terminal block kit)

Procedure) Based on the manifold specification, connect to the housing according to the wiring example below.

Lead wire assembly

Housing

White SOL. B  
Red COM.  
Black SOL. A

Insert to the locking position.

Single wiring

Double wiring

Station 1 { SOL. A Black  
          COM Red  
Station 2 { SOL. A Black  
          COM Red  
Station 3 { SOL. A Black  
          COM Red  
Station 4 { SOL. A Black  
          COM Red  
Station 5 { SOL. A Black  
          COM Red  
Station 6 { SOL. A Black  
          COM Red

Lead wire colour   Terminal no.

Station 1: 1  
Station 1: 2  
Station 1: 3  
Station 1: 4  
Station 2: 1  
Station 2: 2  
Station 2: 3  
Station 2: 4  
Station 3: 1  
Station 3: 3  
Station 3: 4  
Station 4: 1  
Station 4: 3  
Station 4: 4

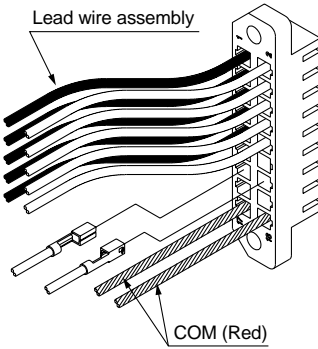
Manifold specification example

Stations	1	2	3	4	5	6
Single wiring	○	○	○			○
Double wiring				○	○	

How to Add Manifold Stations for SQ1000/SQ2000

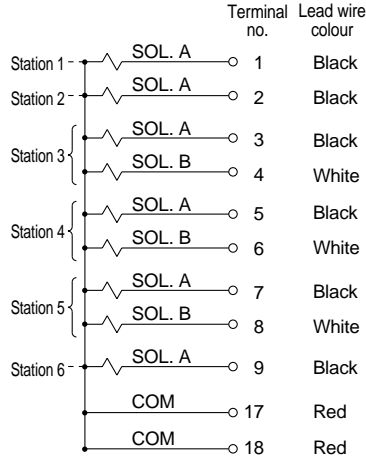
Wiring (S kit: Serial transmission kit)

Procedure) Based on the manifold specification, station 1 of SOL. A (black wire) will be terminal number 1 of the serial connector, and for station 2 and thereafter, connect black wires to white wires in the order shown by the arrows in the drawing below.



Connector terminal number

Station 1 Black, SOL. A ---- 1      2 ---- Station 2 Black, SOL. A  
Station 3 Black, SOL. A ---- 3      4 ---- Station 3 White, SOL. B  
Station 4 Black, SOL. A ---- 5      6 ---- Station 4 White, SOL. B  
Station 5 Black, SOL. A ---- 7      8 ---- Station 5 White, SOL. B  
Station 6 Black, SOL. A ---- 9      10  
11      12  
13      14  
15      16  
COM Red ---- 17      18 ---- COM Red



	Terminal no.	Lead wire colour
Station 1 - SOL. A	1	Black
Station 2 - SOL. A	2	Black
Station 3 - SOL. A	3	Black
Station 3 - SOL. B	4	White
Station 4 - SOL. A	5	Black
Station 4 - SOL. B	6	White
Station 5 - SOL. A	7	Black
Station 5 - SOL. B	8	White
Station 6 - SOL. A	9	Black
COM	17	Red
COM	18	Red

**Manifold specification example**

Stations	1	2	3	4	5	6
Single wiring	○	○				○
Double wiring			○	○	○	

\* The drawing above shows connections based on the manifold specification example in the table to the left.

SV
----

SY
----

SYJ
-----

SX
----

VK
----

VZ
----

VF
----

VFR
-----

VP7
-----

VQC
-----

SQ
----

VQ
----

VQ4
-----

VQ5
-----

VQZ
-----

VQD
-----

VFS
-----

VS
----

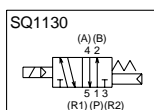
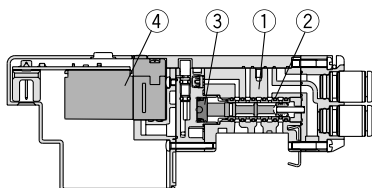
VS7
-----

VQ7
-----

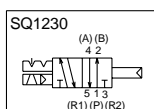
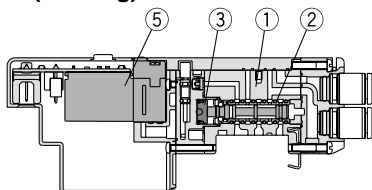
## Construction/Series SQ1000 Plug-in Type Main Parts and Pilot Valve Assemblies

### Metal seal type

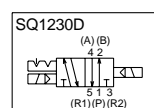
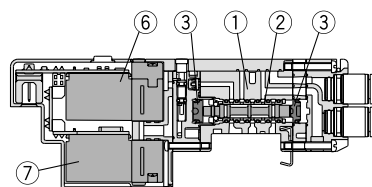
#### Single: SQ1130



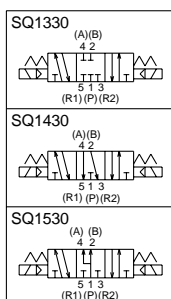
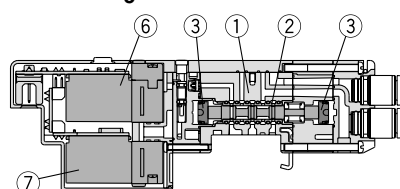
#### Double (latching): SQ1230



#### Double (double solenoid): SQ1230D

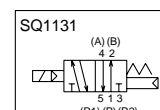
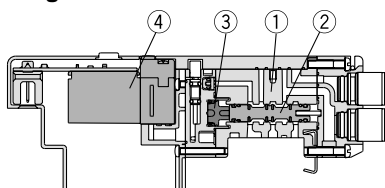


#### 3 position: SQ1430

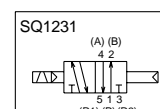
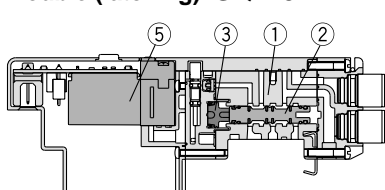


### Rubber seal type

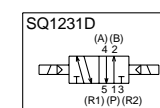
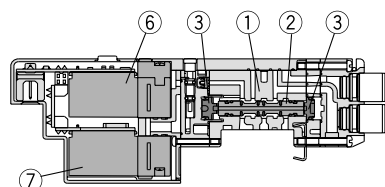
#### Single: SQ1131



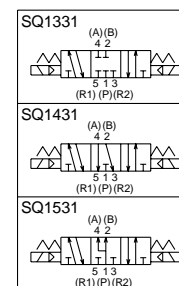
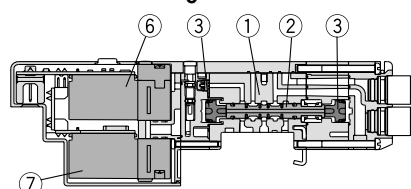
#### Double (latching): SQ1231



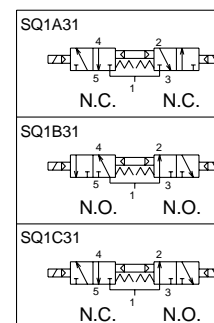
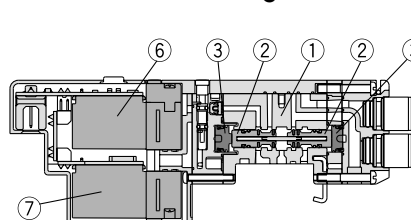
#### Double (double solenoid): SQ1231D



#### 3 position: SQ1431



#### Dual 3 port valve: SQ1B31



### Parts list

No.	Description	Material
1	Body	Die-cast zinc
2	Spool sleeve	Stainless steel (metal seal)
2	Spool	Aluminum (rubber seal)
3	Piston	Resin

### Pilot valve assemblies Note)

No.	Type	SQ1□3□
4	For single	VQ110S <sup>(K)</sup> <sub>5</sub> <sup>(Y)</sup> (N)J11(B)-1
5	For double (latching)	VQ110SL <sup>(K)</sup> <sub>5</sub> J12-1 Negative COM: VQ110SN <sup>(K)</sup> <sub>5</sub> J12-1
6	For double (double solenoid) on A side For 3P, dual 3 port on A side	VQ110S <sup>(K)</sup> <sub>5</sub> (N)J13(B)-1
7	For double (double solenoid) on B side For 3P, dual 3 port on B side	VQ111S <sup>(K)</sup> <sub>5</sub> (N)J14-1

Note) Nil: Standard

B: Locking type manual override

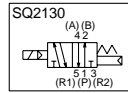
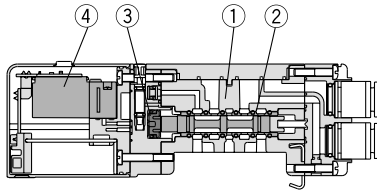
N: Negative COM specification

Y: Low wattage specification

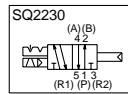
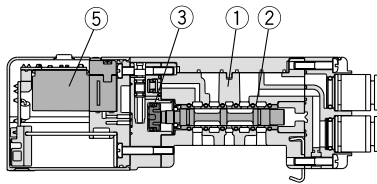
## Construction/Series **SQ2000** Plug-in Type Main Parts and Pilot Valve Assemblies

### Metal seal type

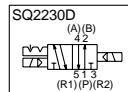
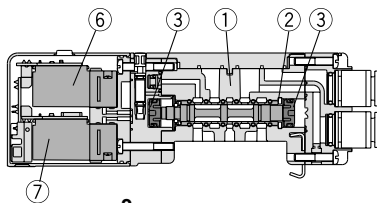
Single: **SQ2130**



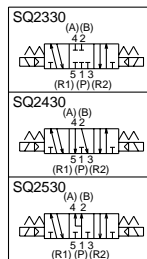
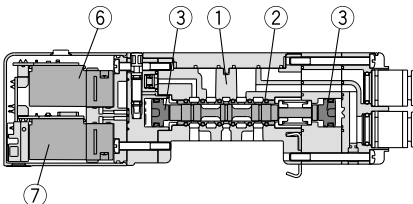
Double (latching): **SQ2230**



Double (double solenoid): **SQ2230D**

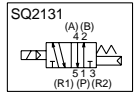
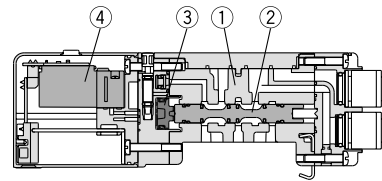


3 position: **SQ2<sup>3</sup><sub>4</sub>30**

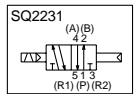
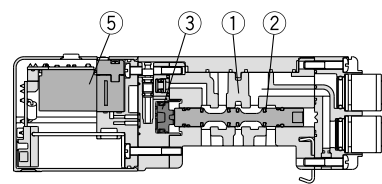


### Rubber seal type

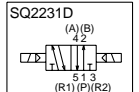
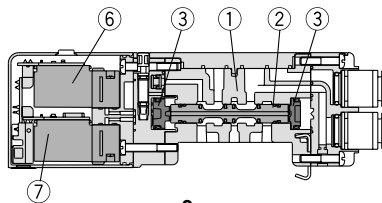
Single: **SQ2131**



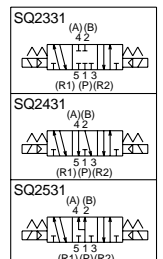
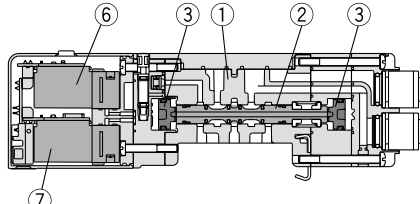
Double (latching): **SQ2231**



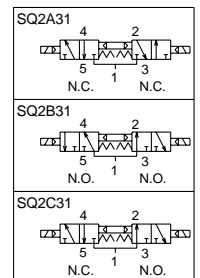
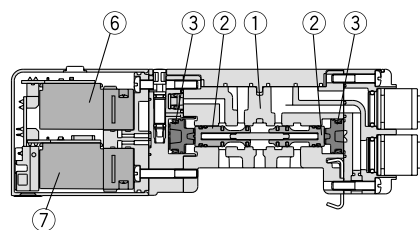
Double (double solenoid): **SQ2231D**



3 position: **SQ2<sup>3</sup><sub>4</sub>31**



Dual 3 port valve: **SQ2<sup>A</sup><sub>3</sub>31**



### Parts list

No.	Description	Material
1	Body	Die-cast aluminum
2	Spool sleeve	Stainless steel (metal seal)
2	Spool	Aluminum (rubber seal)
3	Piston	Resin

### Pilot valve assemblies Note)

No.	Type	<b>SQ2□3□</b>
4	For single	VQ111S(Y)- <sup>5</sup> / <sub>6</sub> (N)J31-1
5	For double (latching)	VQ110SL- <sup>5</sup> / <sub>6</sub> J32-1 Negative COM: VQ110SN- <sup>5</sup> / <sub>6</sub> J32-1
6	For double (double solenoid) on A side For 3P, dual 3 port on A side	VQ111S(Y)- <sup>5</sup> / <sub>6</sub> (N)J23-1
7	For double (double solenoid) on B side For 3P, dual 3 port on B side	VQ111S(Y)- <sup>5</sup> / <sub>6</sub> (N)J34-1

Note) Nil: Standard

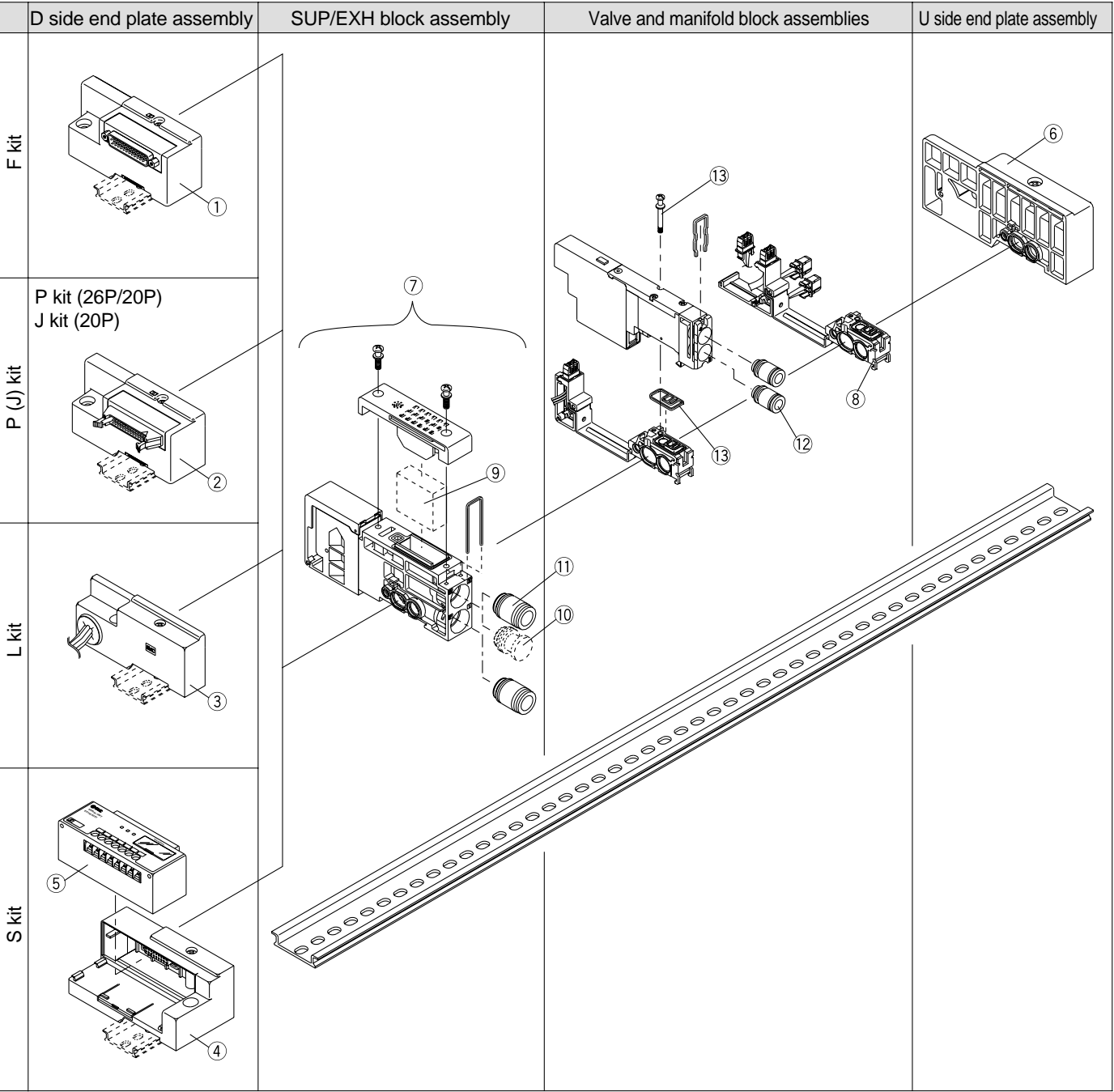
N: Negative COM specification

Y: Low wattage specification



**Exploded View of Manifold/SQ1000 (Plug-in Type Manifold) SS5Q13**

(F, P, J, L, S kit)



## Manifold Spare Parts

Refer to pages 1.11-55 through 1.11-60 of "How to Add Manifold Stations" regarding the mounting of each spare part.

### <①②③④ D side end plate assemblies>

**SSQ1000 – 3A – 3**  **F0**

Manifold mounting ●

<b>Nil</b>	DIN rail mount type
<b>E</b>	Direct mount type

Electrical entry ●


<b>F0</b>	F kit	①
<b>P0</b>	P kit (26P)	
<b>PC0</b>	P kit (20P)	②
<b>J0</b>	J kit (20P)	
<b>Nil</b>	L kit	③
<b>S0</b>	S kit	④

### <⑤ SI units>


Applicable manifold	Part no.	Description
SDF kit	EX140-SUW1	NKE Corporation: Uni-wire System compatible (16 outputs)
SDH kit	EX140-SUH1	NKE Corporation: Uni-wire H System compatible (16 outputs)
SDJ1 kit	EX140-SSL1	SUNX Corporation: S-LINK System compatible (16 outputs)
SDJ2 kit	EX140-SSL2	SUNX Corporation: S-LINK System compatible (8 outputs)
SDQ kit	EX140-SDN1	DeviceNet compatible (16 outputs)
SDR1 kit	EX140-SCS1	OMRON Corporation: CompoBus/S compatible (16 outputs)
SDR2 kit	EX140-SCS2	OMRON Corporation: CompoBus/S compatible (8 outputs)
SDV kit	EX140-SMJ1	Mitsubishi Electric Corporation: CC-LINK System compatible (16 outputs)

### <⑥ U side end plate assemblies>

(For F, P, J, S kit)

**SSQ1000 – 2A – 3**  **1**

(For L kit)

**SSQ1000 – 2A – 3**  **2**

Manifold mounting ●

<b>Nil</b>	DIN rail mount type
<b>E</b>	Direct mount type

### <⑦ SUP/EXH block assemblies>

**SSQ1000 – PR – 3 – C8** 

Bore size ●

<b>C8</b>	ø8 One-touch fitting
<b>N9</b>	ø5/16" One-touch fitting

Option ●

<b>Nil</b>	Centralized exhaust
<b>R</b>	For external pilot
<b>S</b>	For direct exhaust outlet with built-in silencer

Note) Enter "-RS" for both options.

### <⑧ Manifold block assemblies>

**SSQ1000 – 1A – 3 – F0 01**  ⑬ Includes gaskets.

Lead wire type ●

<b>F0</b>	Without lead wire
<b>FS</b>	F kit: D-sub connector kit Single wiring
<b>FW</b>	F kit: D-sub connector kit Double wiring
<b>PS</b>	P kit: Flat ribbon cable kit Single wiring
	J kit: PC Wiring System compatible Single wiring
<b>PW</b>	P kit: Flat ribbon cable kit Double wiring
	J kit: PC Wiring System compatible Double wiring
<b>L0</b>	L kit: Lead wire kit Lead wire length 0.6m
<b>L1</b>	L kit: Lead wire kit Lead wire length 1.5m
<b>L2</b>	L kit: Lead wire kit Lead wire length 3m
<b>SS</b>	S kit: Serial transmission kit Single wiring
<b>SW</b>	S kit: Serial transmission kit Double wiring

Option ●

<b>Nil</b>	None
<b>B</b>	Back pressure check valve
<b>R</b>	External pilot specification

Note) Enter "-BR" for both options.

Applicable stations

(For F, P, J, S kit)

<b>01</b>	Station 1
<b>⋮</b>	<b>⋮</b>
<b>24</b>	Station 24

Note 1) No symbol required for "F0".

Note 2) Specify from "01" to "16" for S kit.

### <⑨ Elements>

**SSQ1000 – SE**


Note) Part number for a 10 piece set of elements. Refer to page 1.11-125 for replacement procedures.

### <⑩ Port plugs>

**VVQZ2000 – CP**

### <⑪ Fitting assemblies>

(For P, R port)

**VVQ1000 – 51A – C8** 


Bore size ●

<b>C6</b>	ø6 One-touch fitting
<b>C8</b>	ø8 One-touch fitting
<b>N7</b>	ø1/4" One-touch fitting
<b>N9</b>	ø5/16" One-touch fitting

Note) Available in units of 10 pieces.

### <⑫ Fitting assemblies>

(For cylinder port)

**VVQ1000 – 50A – C3** 

Bore size ●

<b>C3</b>	ø3.2 One-touch fitting
<b>C4</b>	ø4 One-touch fitting
<b>C6</b>	ø6 One-touch fitting
<b>M5</b>	M5 threads
<b>N1</b>	ø1/8" One-touch fitting
<b>N3</b>	ø5/32" One-touch fitting
<b>N7</b>	ø1/4" One-touch fitting

Note) Available in units of 10 pieces.

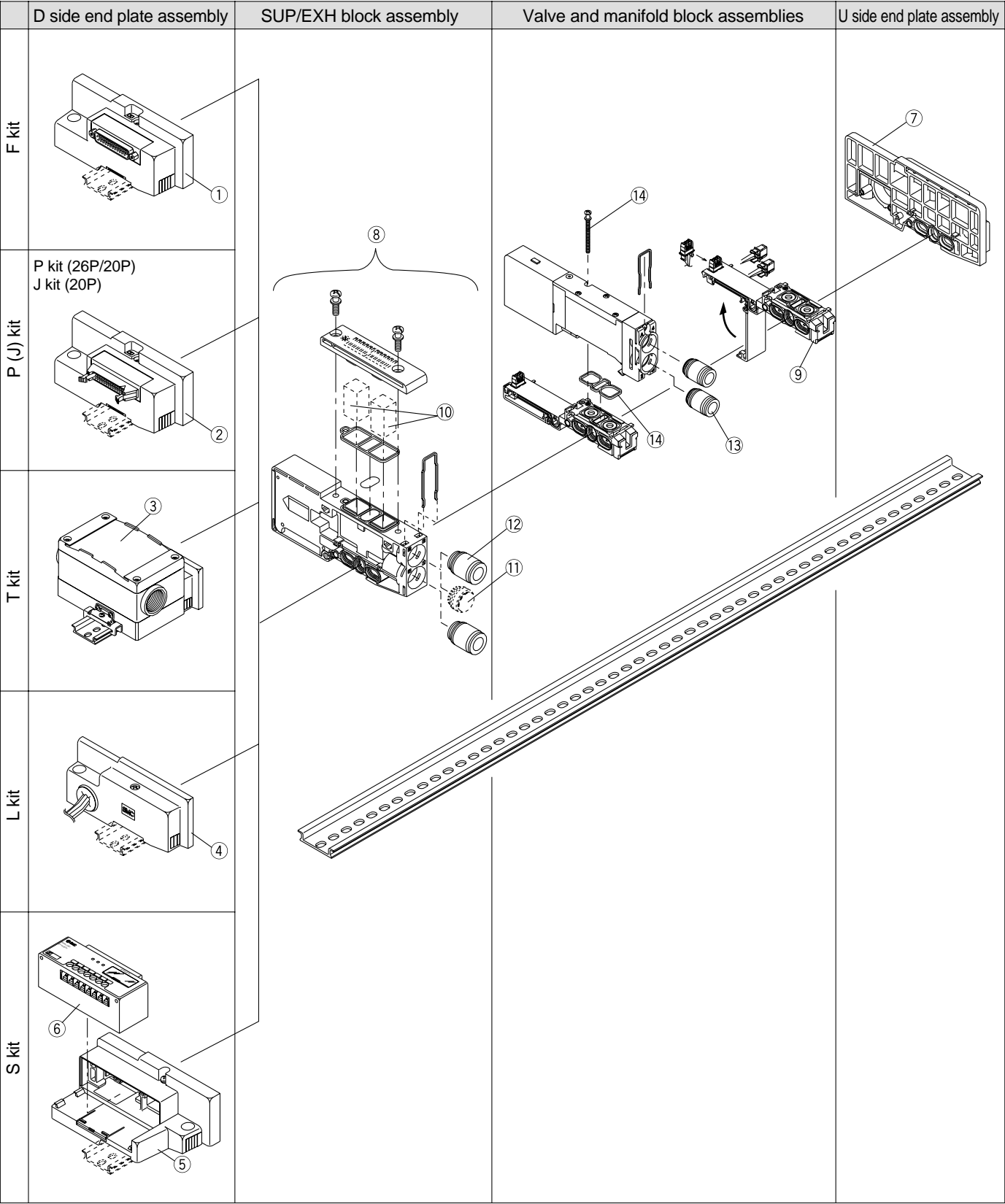
### <⑬ Gasket and screw assemblies>

**SQ1000 – GS**

Note) Part number for 10 pieces each of gaskets and screws.

**Exploded View of Manifold/SQ2000 (Plug-in Type Manifold) SS5Q23**


(F, P, J, T, L, S kit)



## Manifold Spare Parts

Refer to pages 1.11-55 through 1.11-60 of "How to Add Manifold Stations" regarding the mounting of each spare part.

### <①②③④⑤ D side end plate assemblies>

**SSQ2000 – 3A – 3**  **F0**

Manifold mounting

Nil	DIN rail mount type
E	Direct mount type

Electrical entry


F0	F kit	①
P0	P kit (26P)	②
PC0	P kit (20P)	
J0	J kit (20P)	③
T0	T kit	
Nil	L kit	④
S0	S kit	⑤

### <⑥ SI units>


Applicable manifold	Part no.	Description
SDF kit	EX140-SUW1	NKE Corporation: Uni-wire System compatible (16 outputs)
SDH kit	EX140-SUH1	NKE Corporation: Uni-wire H System compatible (16 outputs)
SDJ1 kit	EX140-SSL1	SUNX Corporation: S-LINK System compatible (16 outputs)
SDJ2 kit	EX140-SSL2	SUNX Corporation: S-LINK System compatible (8 outputs)
SDQ kit	EX140-SDN1	DeviceNet compatible (16 outputs)
SDR1 kit	EX140-SCS1	OMRON Corporation: CompoBus/S compatible (16 outputs)
SDR2 kit	EX140-SCS2	OMRON Corporation: CompoBus/S compatible (8 outputs)
SDV kit	EX140-SMJ1	Mitsubishi Electric Corporation: CC-LINK System compatible (16 outputs)

### <⑦ U side end plate assemblies>

(For F, P, J, T, S kit)

**SSQ2000 – 2A – 3**  **1**

(For L kit)

**SSQ2000 – 2A – 3**  **2**

Manifold mounting

Nil	DIN rail mount type
E	Direct mount type

### <⑧ SUP/EXH block assemblies>

**SSQ2000 – PR – 3**  **C8** 

Bore size

C8	ø8 One-touch fitting
C10	ø10 One-touch fitting
N9	ø5/16" One-touch fitting
N11	ø3/8" One-touch fitting

Option

Nil	Centralized exhaust
R	For external pilot
S	For direct exhaust outlet with built-in silencer

Note) Enter "-RS" for both options.

### <⑨ Manifold block assemblies>

**SSQ2000 – 1A – 3**  **F0**  **01**  <sup>⑬</sup> Includes gaskets.

Lead wire type

F0	Without lead wire
FS	F kit: D-sub connector kit Single wiring
FW	F kit: D-sub connector kit Double wiring
PS	P kit: Flat ribbon cable kit Single wiring
	J kit: PC Wiring System compatible Single wiring
PW	P kit: Flat ribbon cable kit Double wiring
	J kit: PC Wiring System compatible Double wiring
TS	T kit: Terminal block kit Single wiring
TW	T kit: Terminal block kit Double wiring
L0	L kit: Lead wire kit Lead wire length 0.6m
L1	L kit: Lead wire kit Lead wire length 1.5m
L2	L kit: Lead wire kit Lead wire length 3m
SS	S kit: Serial transmission kit Single wiring
SW	S kit: Serial transmission kit Double wiring

Option

Nil	None
B	Back pressure check valve
R	External pilot specification

Note) Enter "-BR" for both options.

Applicable stations

01	Station 1
⋮	⋮
16	Station 16

Note 1) No symbol required for "F0".

### <⑩ Elements>

**SSQ2000 – SE**


Note) Part number for a 10 piece set of elements. Refer to page 1.11-125 for replacement procedures.

### <⑪ Port plugs>

**VVQZ3000 – CP**

### <⑫ Fitting assemblies>

(For P, R port)

**VVQ2000 – 51A**  **C8**


Bore size

C8	ø8 One-touch fitting
C10	ø10 One-touch fitting
N9	ø5/16" One-touch fitting
N11	ø3/8" One-touch fitting

Note) Available in units of 10 pieces.

### <⑬ Fitting assemblies>

(For cylinder port)

**VVQ1000 – 51A**  **C4**

Bore size

C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
C8	ø8 One-touch fitting
N3	ø5/32" One-touch fitting
N7	ø1/4" One-touch fitting
N9	ø5/16" One-touch fitting
01	Rc 1/8 threads

Note) Available in units of 10 pieces.

### <⑭ Gasket and screw assemblies>

**SQ2000 – GS**

Note) Part number for 10 pieces each of gaskets and screws.

## Series SQ1000

# Plug Lead Type

### How to Order Manifolds

SS5Q14 — **08** **FD2** — D **□** — Q

#### Stations

01	1 station
⋮	⋮
24 <sup>Note)</sup>	24 stations

Note) The maximum number of stations depends on the type of electrical entries.

#### Option

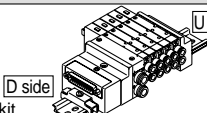
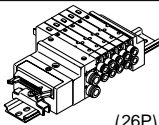
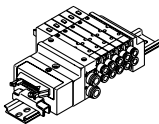
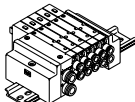
Nil	None
02 to 24	Specified DIN rail length <sup>Note 1)</sup>
B	With back pressure check valve
K	Special wiring specification (except double wiring) <sup>Note 2)</sup>
N	With name plate (side ported only)
R	External pilot specification
S	Direct exhaust outlet with built-in silencer

Note 1) Specify DIN rail length with "D□" at the end. (Enter the number of stations inside □.) Example: -D08

Note 2) The standard wiring specification is for double wiring. Indicate a wiring specification for single wiring or mixed single and double wiring, or when exceeding the standard maximum number of stations. (Except C kit)

Note 3) For specifying two or more options, enter them in alphabetical order. Example: -BKN

#### Electrical entry

Kit description		Lead wire connector entry direction	Cable specification	Standard number of stations	Max. number of stations for special wiring specification	Max. number of solenoids <sup>Note 2)</sup>
<b>F</b> kit  D-sub connector kit	FD0	D side	D-sub connector (25P) kit, without cable	1 to 12 stations	24 stations	24
	FD1		D-sub connector (25P) kit, with 1.5m cable			
	FD2		D-sub connector (25P) kit, with 3.0m cable			
	FD3		D-sub connector (25P) kit, with 5.0m cable			
<b>P</b> kit  Flat ribbon cable connector kit (26P/20P)	PD0	D side <sup>Note 1)</sup>	Flat ribbon cable (26P) kit, without cable	1 to 12 stations	24 stations	24
	PD1		Flat ribbon cable (26P) kit, with 1.5m cable			
	PD2		Flat ribbon cable (26P) kit, with 3.0m cable			
	PD3		Flat ribbon cable (26P) kit, with 5.0m cable			
	PDC		Flat ribbon cable (20P) kit, without cable	1 to 9 stations	18 stations	18
<b>J</b> kit  Flat ribbon cable (20P) (PC Wiring System compatible)	JD0	D side	Flat ribbon cable (20P) PC Wiring System compatible	1 to 8 stations	16 stations	16
<b>C</b> kit  Connector kit	C	—	Connector kit	1 to 24 stations	—	—

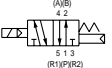
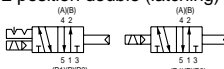
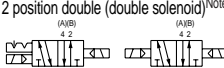
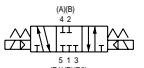


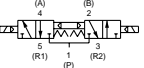
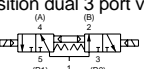
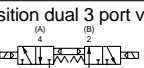
Note 1) Separately order the 20P type cable assembly for the P kit.

Note 2) The maximum number of stations should not be more than the maximum number of solenoids. (The number of solenoids are counted as: 1 for single solenoids and 2 for type 3P and 4P double solenoids.)

## How to Order Valves

SQ1 1 4 0 5 L C6 Q

### Type of actuation

1	2 position single 
2	2 position double (latching)  Metal seal Rubber seal 2 position double (double solenoid) <sup>Note 1)</sup>  Metal seal Rubber seal
3	3 position closed centre 
4	3 position exhaust centre 
5	3 position pressure centre 
Note 2) A	4 position dual 3 port valve  N.C. N.C.
Note 2) B	4 position dual 3 port valve  N.O. N.O.
Note 2) C	4 position dual 3 port valve  N.C. N.O.

Note 1) For double solenoid specification, the function symbol below is "D".

Note 2) Only rubber seal types are applicable.

### Seal type

0	Metal seal
1	Rubber seal

### Function

Nil	Standard type (1.0W DC)
D	2 position double (double solenoid specification)
K <sup>Note 1)</sup>	High voltage type (1.0MPa, 1.0W DC) [only metal seal applicable]
N	Negative COM
Y <sup>Note 1)</sup>	Low wattage type (0.5W DC)
R <sup>Note 2)</sup>	External pilot specification

Note 1) Except double (latching) type.

Note 2) Except dual 3 port valves.

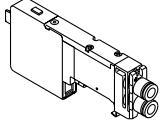
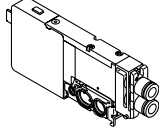
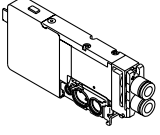
Note 3) For specifying two or more functions, enter symbols in alphabetical order.

### Coil voltage

5	24VDC
6	12VDC

Note) Indicator light/surge voltage suppressor is built-in.

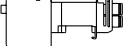

### Manifold block specification

Nil	M	MB
Without manifold block	With manifold block	Manifold block with built-in back pressure check valve
		
• When ordering with manifolds • When only valves are required.	* Lead wire is not included. * Lead wire is not included. For adding stations	

### Port plug mounting port

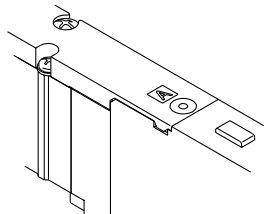
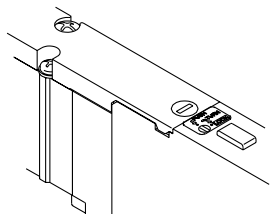
Nil	None
A	A port
B	B port

### Cylinder port size

C3	Ø3.2 One-touch fitting	Side ported	
C4	Ø4 One-touch fitting		
C6	Ø6 One-touch fitting		
M5	M5 threads	Note) Top ported	
L3	Ø3.2 One-touch fitting		
L4	Ø4 One-touch fitting		
L6	Ø6 One-touch fitting		
L5	M5 threads		

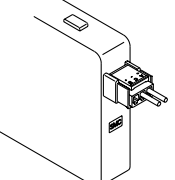
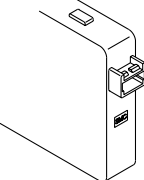
Note) Can be changed to side ported configuration.

### Manual override

Nil	B <sup>Note)</sup>
Non-locking push type (tool required)	Locking type (tool required)
	

Note) Except double (latching) type.

### Electrical entry

L	LO
Plug connector type With 300mm lead wire 	Plug connector type Without connector 

Note) For F, P, J kit manifolds

Note) Indicate "LO" when ordering centralized wiring type manifolds, F, P, and J kits, since the lead wire will be attached to the manifold side.

SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

SQ

VQ

VQ4

VQ5

VQZ

VQD

VFS

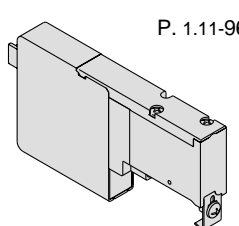
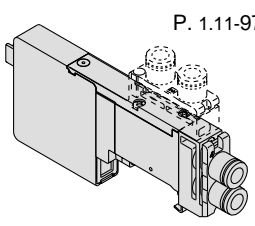
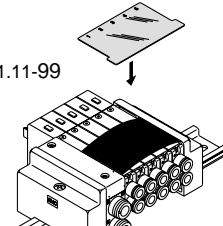
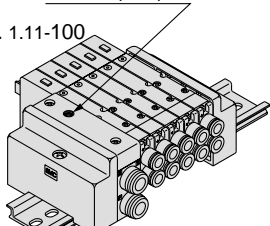
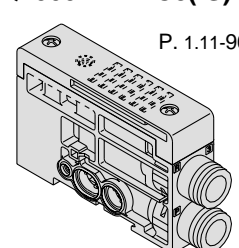
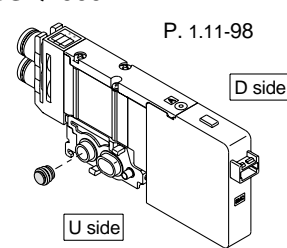
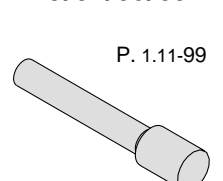
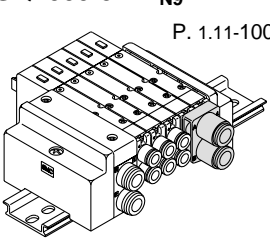
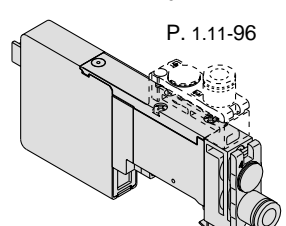
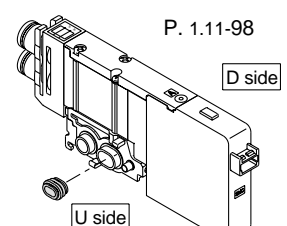
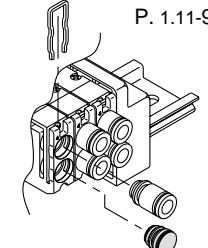
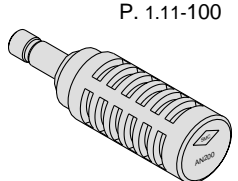
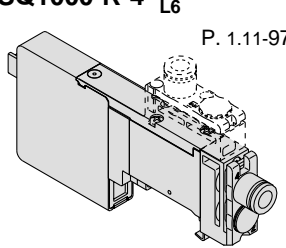
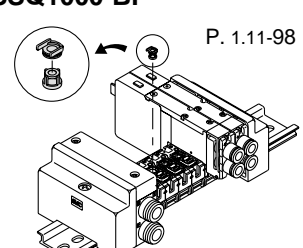
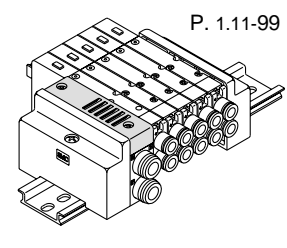
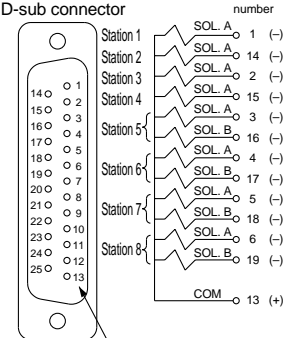
VS

VS7

VQ7

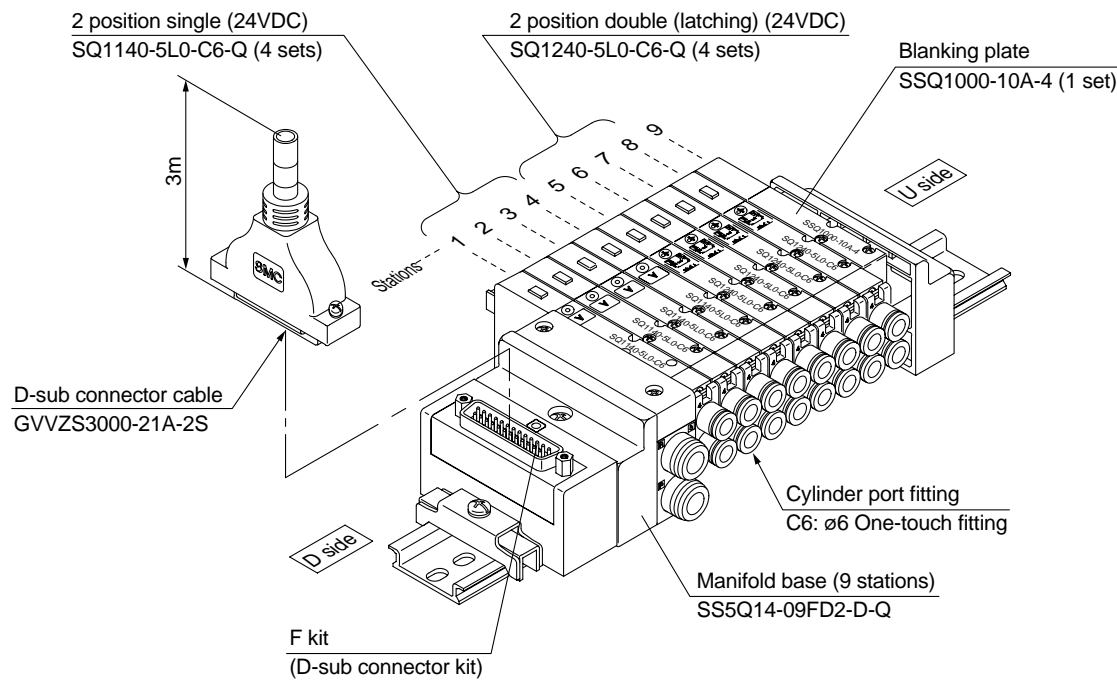


## Manifold Options

<b>Blanking plate</b> <b>SSQ1000-10A-4</b>  P. 1.11-96	<b>Individual SUP/EXH spacer</b> <b>SSQ1000-PR1-4-<sup>C6</sup><sub>L6</sub></b>  P. 1.11-97	<b>Name plate (-N)</b> <b>SSQ1000-N3-n</b>  P. 1.11-99	<b>External pilot specification (-R)</b>  P. 1.11-100
<b>SUP/EXH block</b> <b>SSQ1000-PR-4-C8(-S)</b>  P. 1.11-96	<b>SUP block plate</b> <b>SSQ1000-B-P</b>  P. 1.11-98 D side U side	<b>Blanking plug</b> <b>KQ2P-23/04/06/08</b>  P. 1.11-99	<b>Dual flow fitting</b> <b>SSQ1000-52A-<sup>C8</sup><sub>N9</sub></b>  P. 1.11-100
<b>Individual SUP spacer</b> <b>SSQ1000-P-4-<sup>C6</sup><sub>L6</sub></b>  P. 1.11-96	<b>EXH block plate</b> <b>SSQ1000-B-R</b>  P. 1.11-98 D side U side	<b>Port plug</b> <b>VVQZ100-CP</b>  P. 1.11-99	<b>Silencer (for EXH port)</b>  P. 1.11-100
<b>Individual EXH spacer</b> <b>SSQ1000-R-4-<sup>C6</sup><sub>L6</sub></b>  P. 1.11-97	<b>Back pressure check valve (-B)</b> <b>SSQ1000-BP</b>  P. 1.11-98	<b>Built-in silencer (-S)</b>  P. 1.11-99	<b>Special wiring specification (-K)</b> P. 1.11-106  D-sub connector Terminal number Connector terminal number Although the standard products come with double wiring, mixed single and double wiring is available upon request.

**How to Order Manifold Assemblies (Example)**

Example: D-sub connector kit, with cable (3m)



SV
SY
SYJ
SX
VK
VZ
VF
VFR
VP7

VQC
SQ
VQ
VQ4
VQ5
VQZ
VQD
VFS
VS
VS7
VQ7

SS5Q14-09FD2-D-Q	1 set: F kit 9 station manifold base
SQ1140-5L0-C6-Q	4 sets: 2 position single
SQ1240-5L0-C6-Q	4 sets: 2 position double (latching)
SSQ1000-10A-4	1 set: Blanking plate

Add the valve and option part numbers in order starting from the first station on the D side. When entry of part numbers becomes complicated, indicate on a manifold specification sheet.

## Valve Specifications



### Models

Series		Number of solenoids	Model		Note 1) Effective area mm <sup>2</sup> (N <sub>2</sub> /min)	Response time ms		Weight (g)
						Standard: 1W	Low wattage	
SQ1000	2 position	Single	Metal seal	SQ1140	3.2 (177)	12 or less	15 or less	80
			Rubber seal	SQ1141	4.5 (245)	15 or less	20 or less	80
		Double (latching)	Metal seal	SQ1240	3.2 (177)	15 or less	—	80
			Rubber seal	SQ1241	4.5 (245)	20 or less	—	80
		Double (double solenoid)	Metal seal	SQ1240D	3.2 (177)	10 or less	13 or less	95
			Rubber seal	SQ1241D	4.5 (245)	15 or less	20 or less	95
	3 position	Closed centre	Metal seal	SQ1340	2.9 (157)	20 or less	26 or less	100
			Rubber seal	SQ1341	3.2 (177)	25 or less	33 or less	100
		Exhaust centre	Metal seal	SQ1440	3.2 (177)	20 or less	26 or less	100
			Rubber seal	SQ1441	4.5 (245)	25 or less	33 or less	100
		Pressure centre	Metal seal	SQ1540	2.9 (157)	20 or less	26 or less	100
			Rubber seal	SQ1541	3.2 (177)	25 or less	33 or less	100
	4 position	Dual 3 port valve	Rubber seal	SQ1 <sup>A</sup> <sub>B</sub> 41 <sup>C</sup>	3.2 (177)	25 or less	33 or less	95

Note 1) Values for the cylinder port size of C6.

Note 2) Based on JISB8375-1981. (Values with a supply pressure of 0.5MPa and indicator light/surge voltage suppressor. Values fluctuate depending on the pressure and air quality.)

### Specifications

Valve specifications	Valve construction		Metal seal	Rubber seal
	Fluid		Air/Inert gas	
	Maximum operating pressure		0.7MPa (High pressure type: 1.0MPa) <sup>Note 3)</sup>	
	Minimum operating pressure	Single	0.1MPa	0.15MPa
		Double (latching)	0.18MPa	0.18MPa
		Double (double solenoid)	0.1MPa	0.1MPa
		3 position	0.1MPa	0.2MPa
		4 position	—	0.15MPa
	Ambient and fluid temperature		-10 to 50°C <sup>Note 1)</sup>	
	Lubrication		Not required	
	Pilot valve manual override		Push type/Locking type (tool required)	
Solenoid specifications	Vibration/Impact resistance <sup>Note 2)</sup>		30/150 m/s <sup>2</sup>	
	Enclosure		Dust proof	
	Rated coil voltage		12VDC, 24VDC	
	Allowable voltage fluctuation		±10% of rated voltage	
	Coil insulation type		Equivalent to class B	
	Power consumption (Current)	24VDC	1W DC (42mA), 0.5W DC (21mA) <sup>Note 4)</sup>	
		12VDC	1W DC (83mA), 0.5W DC (42mA) <sup>Note 4)</sup>	

Note 1) Use dry air to prevent condensation at low temperatures.

Note 2) Vibration resistance: No malfunction occurred in a one-sweep test between 8.3 and 2000Hz. Test was performed in the axial and right angle directions of the main valve and armature for both energized and de-energized states.

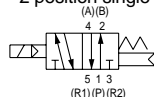
Impact resistance: No malfunction resulted from the impact test using a drop impact tester. The test was performed one time each in the axial and right angle directions of the main valve and armature, for both energized and de-energized states.

Note 3) Metal seal type only. [Except double (latching) type.]

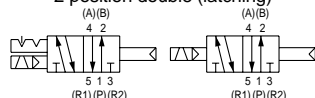
Note 4) Values for the low wattage (0.5W) specification.

### JIS symbols

#### 2 position single

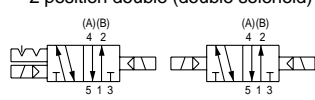


#### 2 position double (latching)



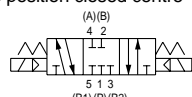
Metal seal Rubber seal

#### 2 position double (double solenoid)

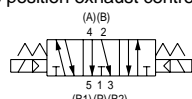


Metal seal Rubber seal

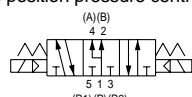
#### 3 position closed centre



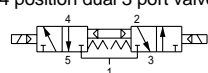
#### 3 position exhaust centre



#### 3 position pressure centre

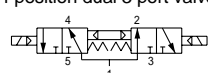


#### 4 position dual 3 port valve (A)



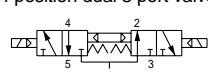
N.C. N.C.

#### 4 position dual 3 port valve (B)



N.O. N.O.

#### 4 position dual 3 port valve (c)

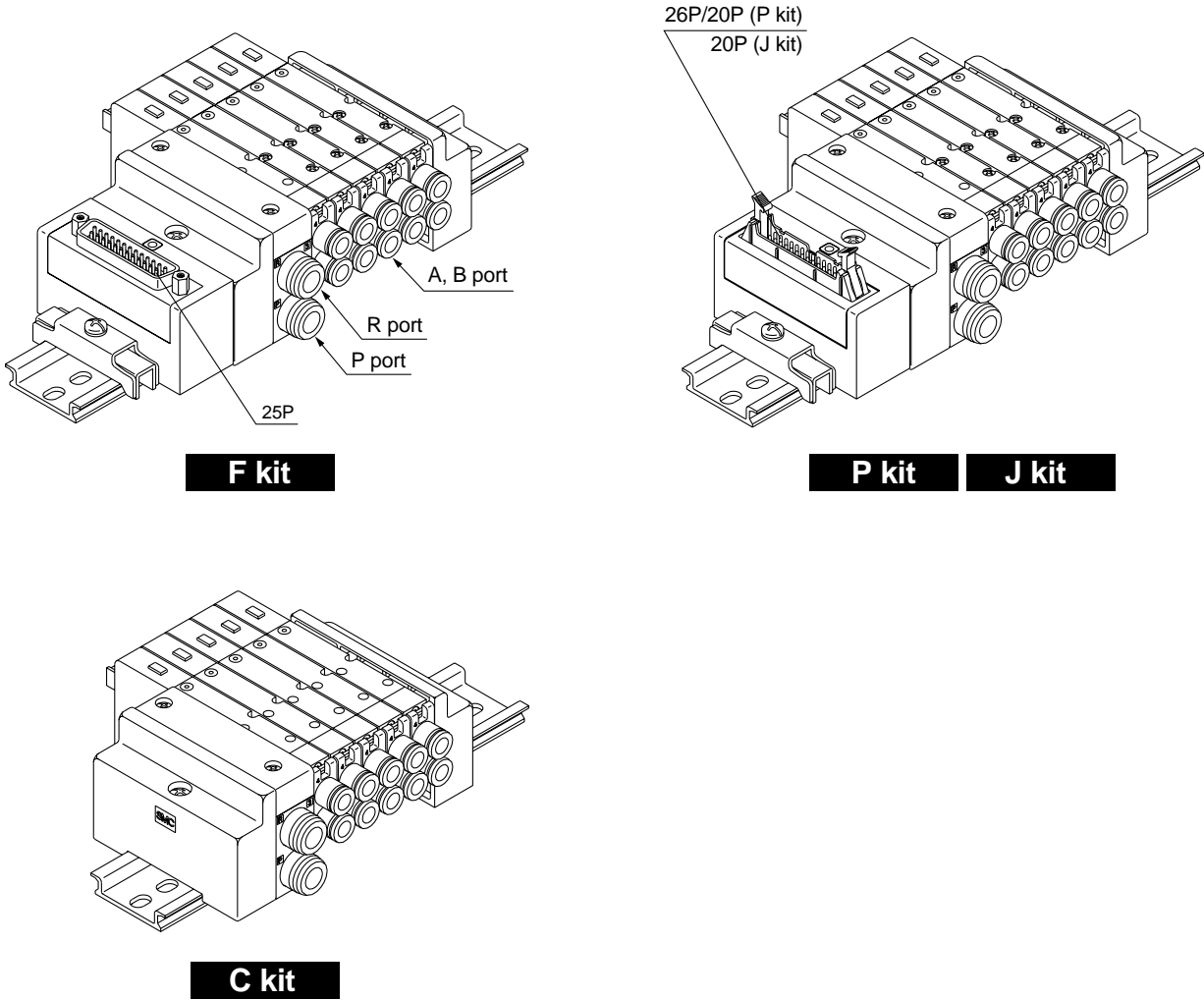


N.C. N.O.

**Manifold Specifications**

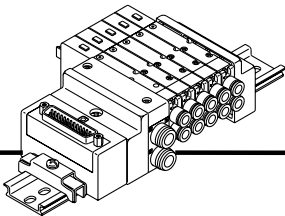
Base model	Configuration			Applicable solenoid valves	Connection type	Applicable stations <small>Note 3)</small>	5 station weight (g) <small>Note 4)</small>	Additional weight for 1 station (g) <small>Note 4)</small>	
	Port size <small>Note 1)</small>								
	P, R	A, B							
Port direction		Port size							
SS5Q14-□□-□	C8 (for ø8)  Option (Direct outlet with built-in silencer)	Side	C3 (for ø3.2) C4 (for ø4) C6 (for ø6) M5 (M5 threads)	SQ1□40 SQ1□41	F kit: D-sub connector		1 to 12 stations	420	20
			Note 2) Top		L3 (for ø3.2) L4 (for ø4) L6 (for ø6) L5 (M5 threads)	P kit: Flat ribbon cable		26P 1 to 12 stations 20P 1 to 9 stations	420
		J kit: Flat ribbon cable PC Wiring System compatible			1 to 8 stations	420	20		
		C kit: Connector kit			1 to 12 stations	460	35		

Note 1) One-touch fittings in inch sizes are also available. Refer to page 1.11-108 for details.  
Note 2) Can be changed to side ported configuration.  
Note 3) An optional specification for special wiring is available to increase the maximum number of stations. Refer to page 1.11-106 for details.  
Note 4) Except valves. Refer to page 1.11-72 for valve weights.



SV
SY
SYJ
SX
VK
VZ
VF
VFR
VP7
VQC
SQ
VQ
VQ4
VQ5
VQZ
VQD
VFS
VS
VS7
VQ7

**F** Kit (D-sub Connector kit)



- Simplification and labour savings for wiring work can be achieved by using a D-sub connector for the electrical connection.
- The use of D-sub connectors (25P) conforming to MIL standards provides a wide range of compatibility with conventional connectors.
- Top or side entry for the connector can be changed freely, allowing later changes according to the mounting space.

**D-sub connector (25P)**

**GVVZS3000-21A-<sup>1</sup>/<sub>2</sub>-<sup>3</sup>/<sub>4</sub>-<sup>S</sup>/<sub>60</sub>**

(D-sub connector cable assemblies can be ordered with manifolds.)  
Refer to manifold ordering.

**Type Standard**

**Type 60°**

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

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

\* Connector made in conformity with DIN47100.

**Electric characteristics**

Item	Characteristics
Conductor resistance Ω/km, 20°C	57 or less
Voltage limit V, 5min, AC	1500
Insulation resistance MΩ/km	20

**D-sub connector cable ass'y**

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

**Model**

Standard	S
60°	60

**Manifold specifications**

Series	Port position	Configuration		Maximum number of stations
		P, R	A, B	
<b>SQ1000</b>	Side, Top	C8	C3, C4, C6, M5	12 stations (24 stations optional)

**Cable assembly**

**Electrical wiring specifications**

\* Valves are numbered from the D side.

**D-sub connector**

As the standard electrical wiring specification for 12 stations or less, double wiring (connected to SOL. A and SOL. B) is used for the internal wiring of each station regardless of valve and option types. Mixed single and double wiring is available as an option. Refer to page 1.11-52 for details.

Connector terminal number

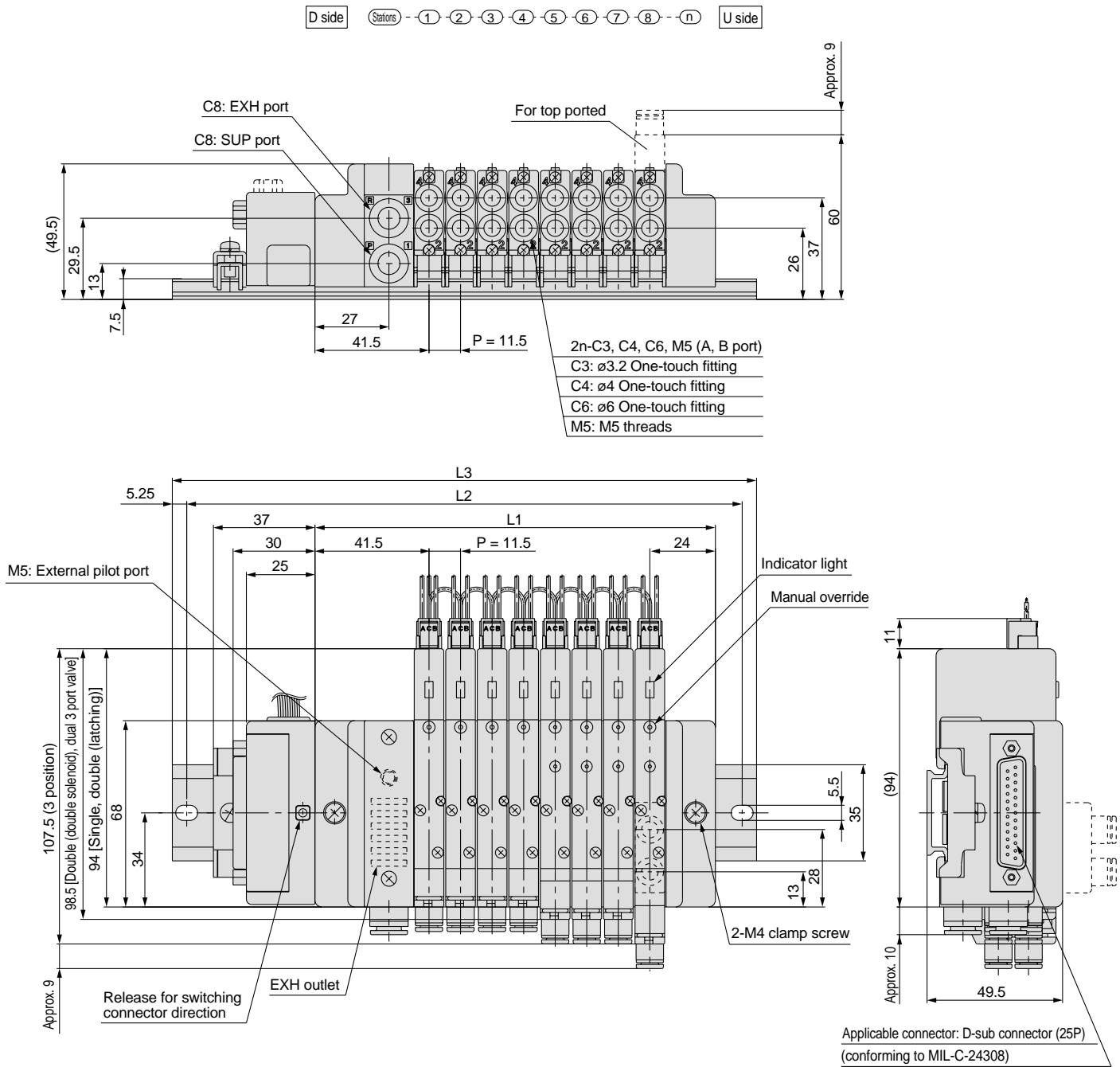
**Lead wire colors for D-sub connector assemblies**

**GVVZS3000-21A-<sup>1</sup>/<sub>2</sub>-<sup>3</sup>/<sub>4</sub>-<sup>S</sup>/<sub>60</sub>**

	Terminal no.	Polarity	Lead wire colour	Dot marking	
Station 1	SOL. A 1	(-)	(+)	White	None
	SOL. B 14	(-)	(+)	Brown	Green
Station 2	SOL. A 2	(-)	(+)	Brown	None
	SOL. B 15	(-)	(+)	White	Yellow
Station 3	SOL. A 3	(-)	(+)	Green	None
	SOL. B 16	(-)	(+)	Yellow	Brown
Station 4	SOL. A 4	(-)	(+)	Yellow	None
	SOL. B 17	(-)	(+)	White	Grey
Station 5	SOL. A 5	(-)	(+)	Grey	None
	SOL. B 18	(-)	(+)	Grey	Brown
Station 6	SOL. A 6	(-)	(+)	Pink	None
	SOL. B 19	(-)	(+)	White	Pink
Station 7	SOL. A 7	(-)	(+)	Blue	None
	SOL. B 20	(-)	(+)	Pink	Brown
Station 8	SOL. A 8	(-)	(+)	Red	None
	SOL. B 21	(-)	(+)	White	Blue
Station 9	SOL. A 9	(-)	(+)	Black	None
	SOL. B 22	(-)	(+)	Brown	Blue
Station 10	SOL. A 10	(-)	(+)	Violet	None
	SOL. B 23	(-)	(+)	White	Red
Station 11	SOL. A 11	(-)	(+)	Grey	Pink
	SOL. B 24	(-)	(+)	Brown	Red
Station 12	SOL. A 12	(-)	(+)	Red	Blue
	SOL. B 25	(-)	(+)	White	Black
	COM. 13	(+)	(-)	White	Green

Positive COM spec.      Negative COM spec. (Note)

Note) When using the negative COM specification, use valves for negative COM.



SV
SY
SYJ
SX
VK
VZ
VF
VFR
VP7
VQC
<b>SQ</b>
VQ
VQ4
VQ5
VQZ
VQD
VFS
VS
VS7
VQ7

## Dimensions

Formula:  $L1 = 11.5n + 54$  n: Stations (maximum 24 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	65.5	77	88.5	100	111.5	123	134.5	146	157.5	169	180.5	192	203.5	215	226.5	238	249.5	261	272.5	284	295.5	307	318.5	330
L2	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5	375	387.5	375	387.5
L3	135.5	148	160.5	173	185.5	198	210.5	223	235.5	248	260.5	273	285.5	298	310.5	323	335.5	348	360.5	373	385.5	385.5	398	398

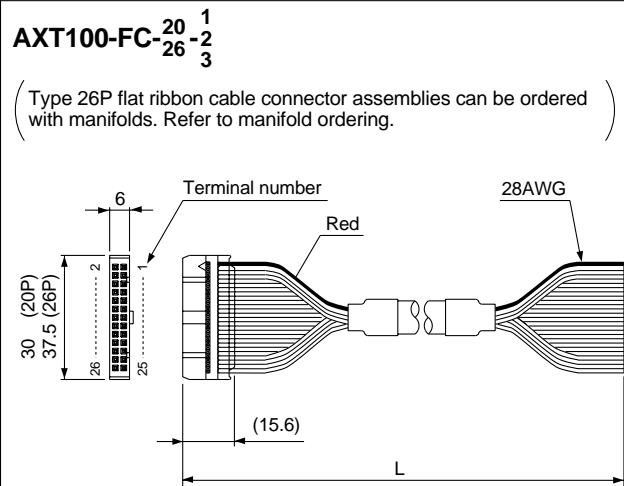


P

Kit (Flat Ribbon Cable Kit)

- Simplification and labour savings for wiring work can be achieved by using a MIL type for the electrical connection.
- The use of flat ribbon cable connectors (26P, 20P) conforming to MIL standards provides a wide range of compatibility with conventional connectors.
- Top or side entry for the connector can be changed freely, allowing later changes according to the mounting space.

Flat ribbon cable (26P, 20P)



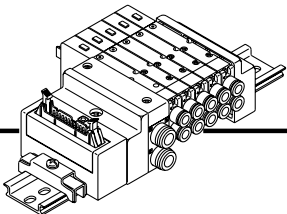
Flat ribbon cable connector assemblies (optional)

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

- \* When using a conventional connector, use a type 26P connector conforming to MIL-C-83503 or a type 20P with strain relief.
- \* Cannot be used for transfer wiring.

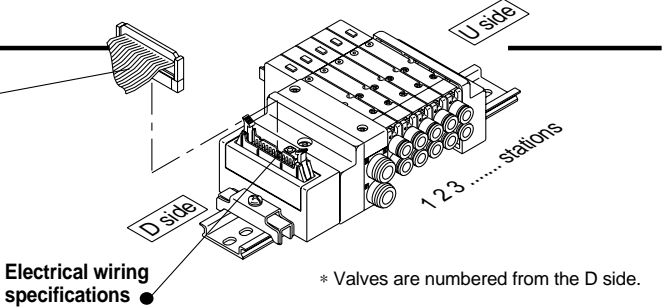
Connector manufacturer examples

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



Manifold specifications

Series	Port position	Configuration		Maximum number of stations
		P, R	A, B	
<b>SQ1000</b>	Side, Top	C8	C3, C4, C6, M5	12 stations (24 stations optional)



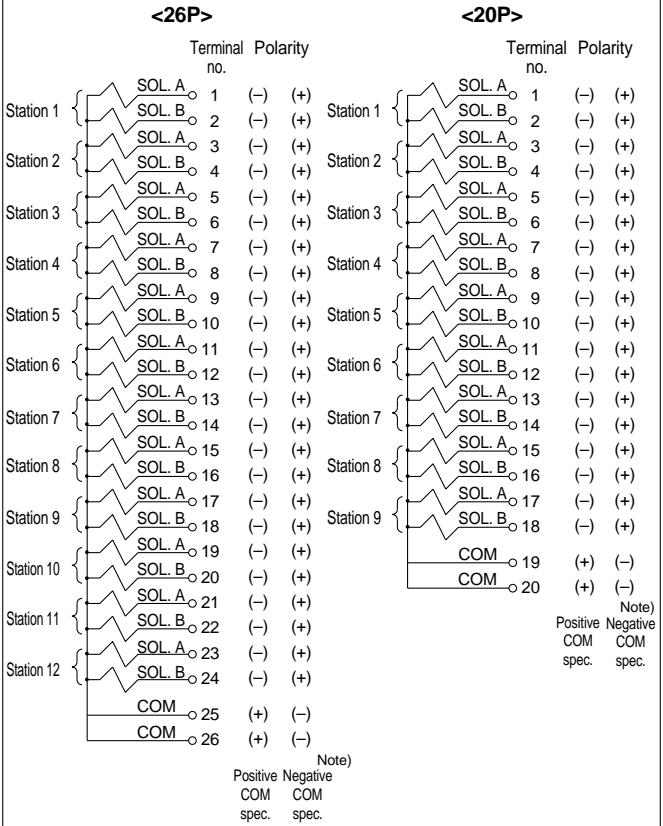
Flat ribbon cable connector

26 □ 25
24 □ 23
22 □ 21
20 □ 19
18 □ 17
16 □ 15
14 □ 13
12 □ 11
10 □ 9
8 □ 7
6 □ 5
4 □ 3
2 □ 1

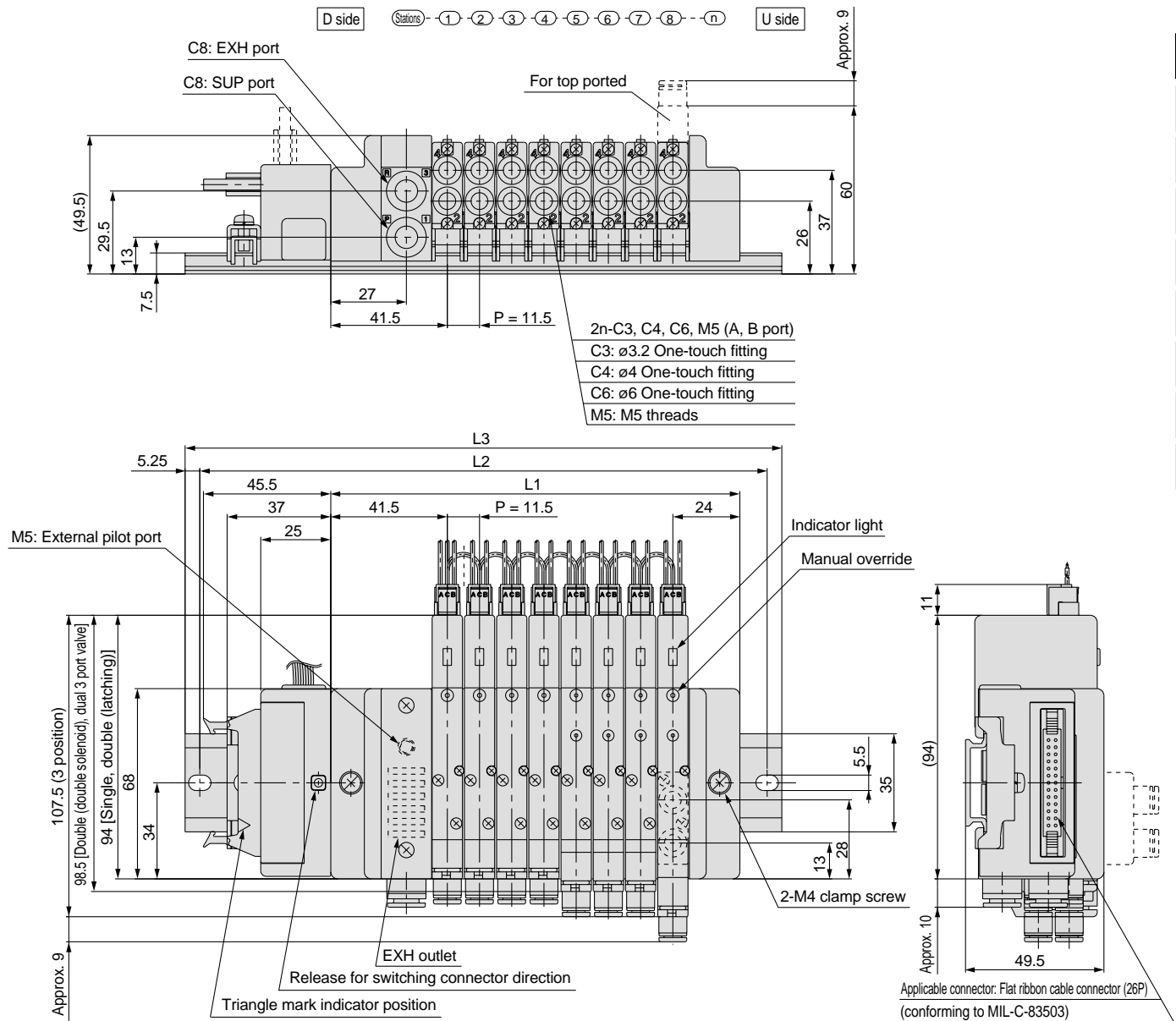
Connector terminal number

Triangle mark indicator position

Double wiring (connected to SOL. A and SOL. B) is used for the internal wiring of each station regardless of valve and option types. Mixed single and double wiring is available as an option. Refer to page 1.11-106 for details.



Note) When using the negative COM specification, use valves for negative COM.



SV

SY

SYJ

SX

VK

VZ

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VFR

VP7

VQC

**SQ**

VQ

VQ4

VQ5

VQZ

VQD

VFS

VS

VS7

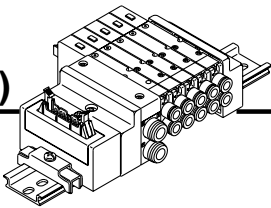
VQ7

## Dimensions

Formula:  $L1 = 11.5n + 54$  n: Stations (maximum 24 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	65.5	77	88.5	100	111.5	123	134.5	146	157.5	169	180.5	192	203.5	215	226.5	238	249.5	261	272.5	284	295.5	307	318.5	330
L2	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5	375	387.5		
L3	135.5	148	160.5	173	185.5	198	210.5	223	235.5	248	260.5	273	285.5	298	310.5	323	335.5	348	360.5	373	385.5	398		

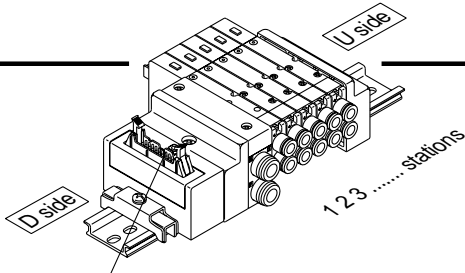
**J** Kit (PC Wiring System Compatible Flat Ribbon Cable Kit)



- Compatible with the PC Wiring System.
- The use of flat ribbon cable connectors (20P) conforming to MIL standards provides a wide range of compatibility with conventional connectors.
- Top or side entry for the connector can be changed freely, allowing later changes according to the mounting space.

**Manifold specifications**

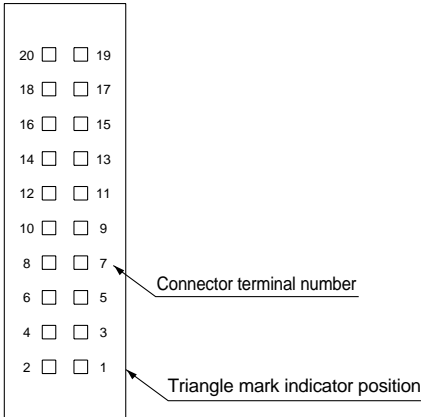
Series	Port position	Configuration		Maximum number of stations
		P, R	A, B	
<b>SQ1000</b>	Side, Top	C8	C3, C4, C6, M5	8 stations (16 stations optional)



**Electrical wiring specifications** ● \* Valves are numbered from the D side.

Double wiring (connected to SOL. A and SOL. B) is used for the internal wiring of each station regardless of valve and option types.  
Mixed single and double wiring is available as an option.  
Refer to page 1.11-112 for details.

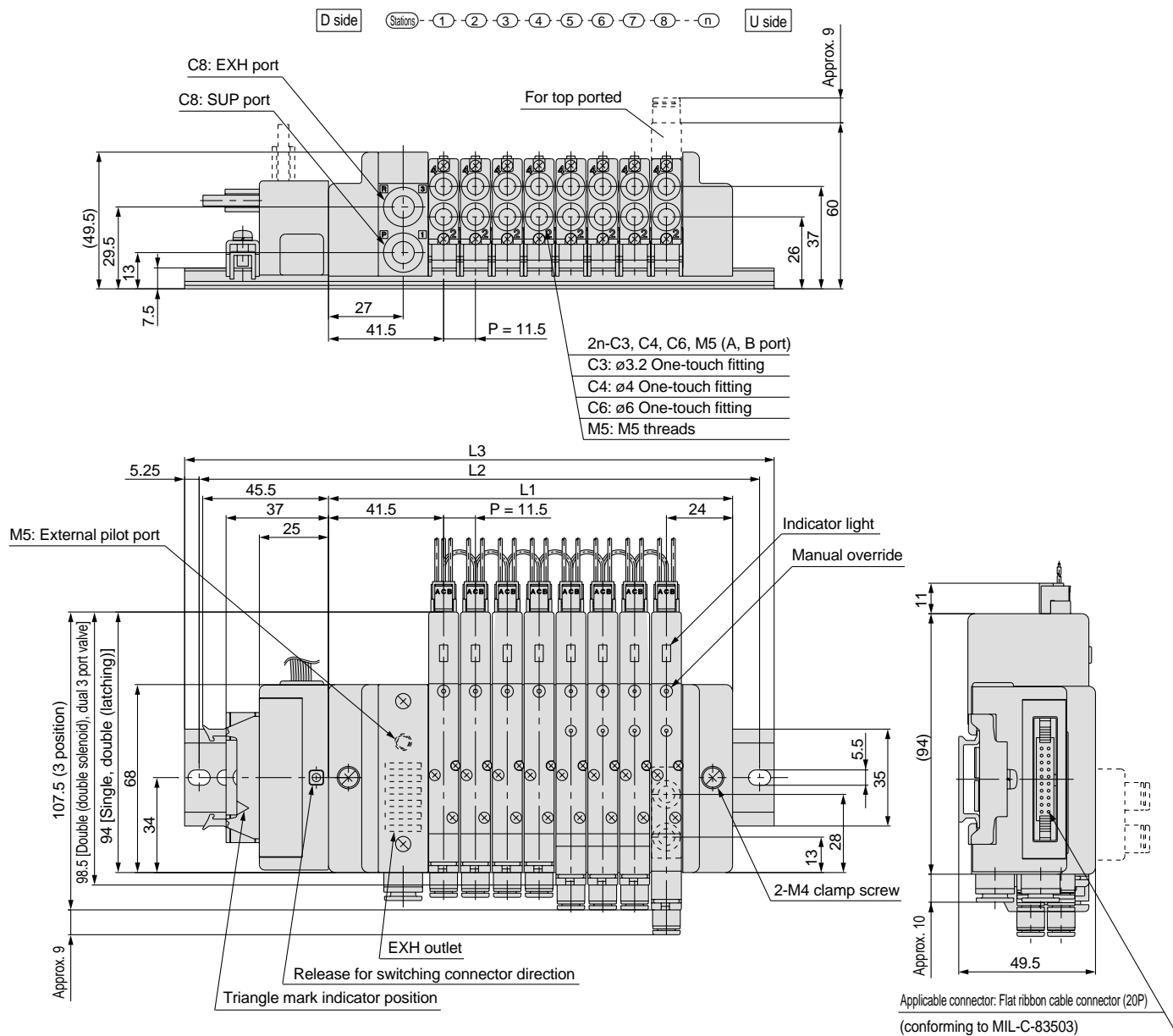
**Flat ribbon cable connector**



	Terminal no.		Polarity
Station 1	SOL. A 20	(-)	(+)
	SOL. B 18	(-)	(+)
Station 2	SOL. A 16	(-)	(+)
	SOL. B 14	(-)	(+)
Station 3	SOL. A 12	(-)	(+)
	SOL. B 10	(-)	(+)
Station 4	SOL. A 8	(-)	(+)
	SOL. B 6	(-)	(+)
Station 5	SOL. A 19	(-)	(+)
	SOL. B 17	(-)	(+)
Station 6	SOL. A 15	(-)	(+)
	SOL. B 13	(-)	(+)
Station 7	SOL. A 11	(-)	(+)
	SOL. B 9	(-)	(+)
Station 8	SOL. A 7	(-)	(+)
	SOL. B 5	(-)	(+)
	4	(-)	(+)
	3	(-)	(+)
	COM 2	(+)	(-)
	COM 1	(+)	(-)

Note)  
Positive COM spec.      Negative COM spec.

Note) When using the negative COM specification, use valves for negative COM.  
For details on the PC Wiring System, refer to catalog "PC Wiring System" (CAT.ES02-20).



## Dimensions

Formula:  $L1 = 11.5n + 54$  n: Stations (maximum 16 stations)

L		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1		65.5	77	88.5	100	111.5	123	134.5	146	157.5	169	180.5	192	203.5	215	226.5	238
L2		125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	237.5	250	262.5	275	287.5	300
L3		135.5	148	160.5	173	185.5	198	210.5	223	235.5	248	248	260.5	273	285.5	298	310.5

SY

**SX**

VK

VZ

VF

VFR

VP7

**VQC**

**SQ**

VQ

VQ4

**VQ5**

VQZ

VQD

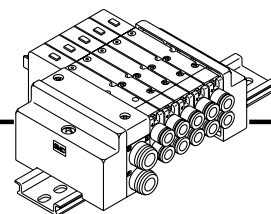
VFS

**VS**

VS7

VQ7

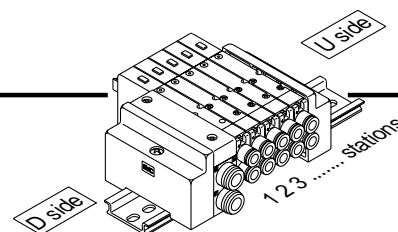
## C Kit (Connector Kit)



- This is the standard type with lead wires for each valve.

### Manifold specifications

Series	Port position	Configuration		Maximum number of stations
		P, R	A, B	
<b>SQ1000</b>	Side, Top	C8	C3, C4, C6, M5	24 stations

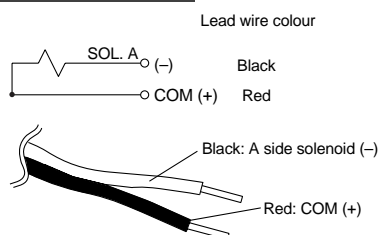


\* Valves are numbered from the D side.

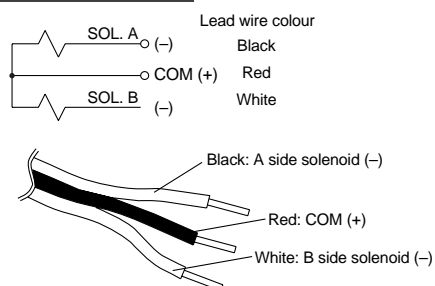
### • Wiring Specifications/Positive COM Specifications

Since lead wires are connected to the valves as shown below, connect each wire to the power supply.

#### Single Solenoid Type



#### Double Solenoid Type



#### • Lead wire length of plug connectors

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

Example) For lead wire length of 1000mm:

SQ1140-5LO-C6 ..... 3 pcs.

AXT661-14AL-10 ..... 3 pcs.

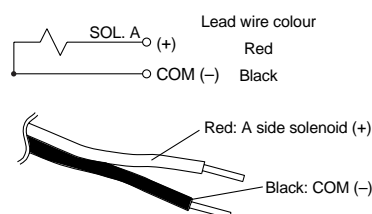
#### Connector assembly part nos.

Lead wire length	Single solenoid	Double solenoid
Socket only (3 pcs.)	AXT661-12AL	
300mm	AXT661-14AL	AXT661-13AL
600mm	AXT661-14AL-6	AXT661-13AL-6
1000mm	AXT661-14AL-10	AXT661-13AL-10
2000mm	AXT661-14AL-20	AXT661-13AL-20
3000mm	AXT661-14AL-30	AXT661-13AL-30

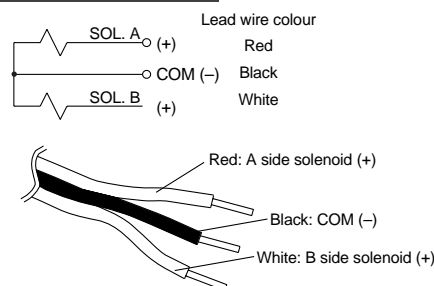
### • Wiring Specifications/Negative COM Specifications (optional)

Since lead wires are connected to the valves as shown below, connect each wire to the power supply.

#### Single Solenoid Type



#### Double Solenoid Type



#### • Lead wire length of plug connectors

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

Example) For lead wire length of 1000mm:

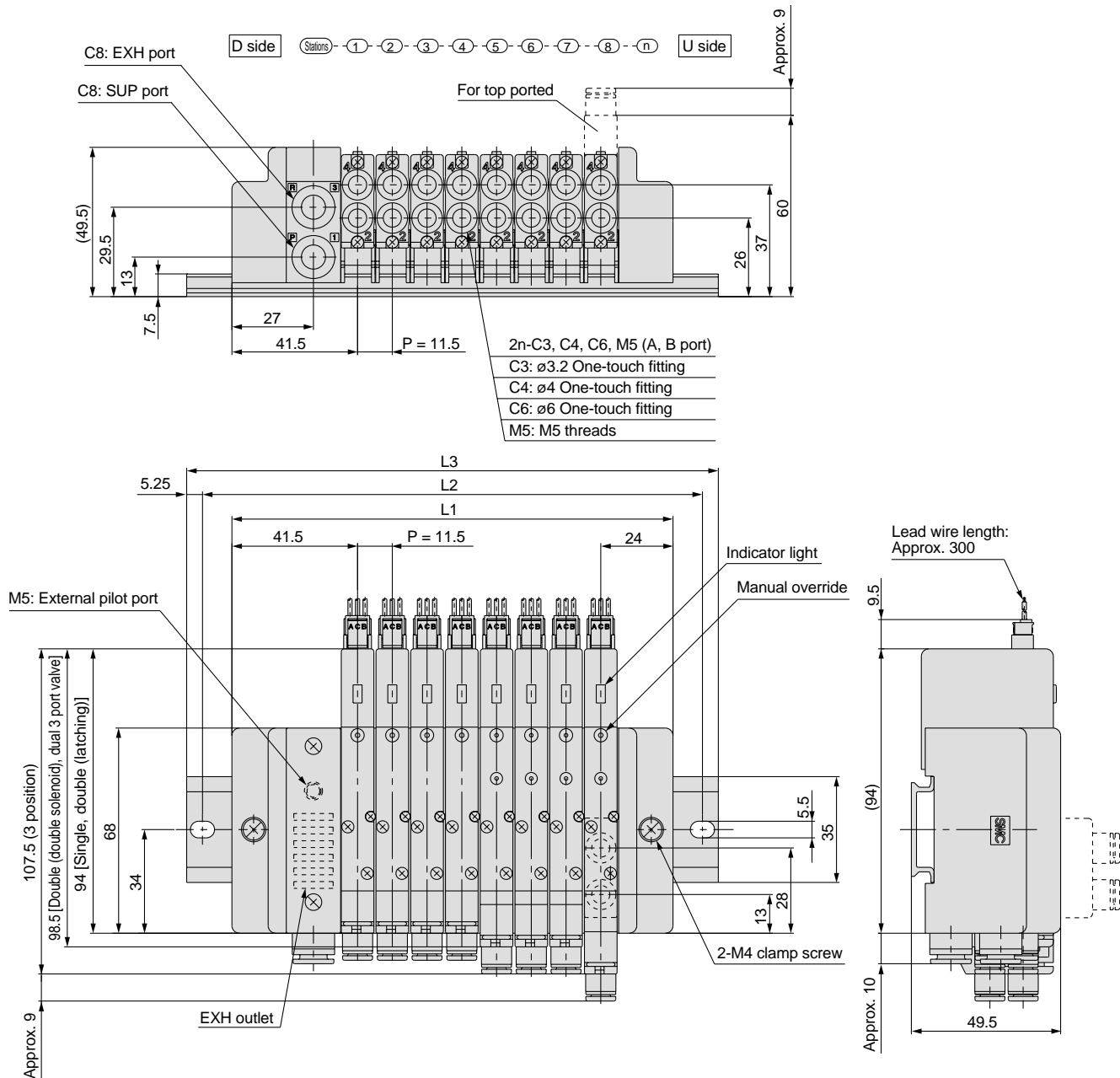
SQ1140-5LO-C6 ..... 3 pcs.

AXT661-14ANL-10 ..... 3 pcs.

#### Connector assembly part nos.

Lead wire length	Single solenoid	Double solenoid
Socket only (3 pcs.)	AXT661-12AL	
300mm	AXT661-14ANL	AXT661-13ANL
600mm	AXT661-14ANL-6	AXT661-13ANL-6
1000mm	AXT661-14ANL-10	AXT661-13ANL-10
2000mm	AXT661-14ANL-20	AXT661-13ANL-20
3000mm	AXT661-14ANL-30	AXT661-13ANL-30

Note) When using the negative COM specification, use valves for negative COM.



SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

**SQ**

VQ

VQ4

VQ5

VQZ

VQD

VFS

VS

VS7

VQ7

## Dimensions

Formula:  $L1 = 11.5n + 54$  n: Stations (maximum 24 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	65.5	77	88.5	100	111.5	123	134.5	146	157.5	169	180.5	192	203.5	215	226.5	238	249.5	261	272.5	284	295.5	307	318.5	330
L2	87.5	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	360.5	371
L3	98	110.5	123	135.5	148	160.5	173	185.5	198	210.5	223	235.5	248	260.5	273	285.5	298	310.5	323	335.5	348	360.5	371	383



## Series SQ2000

# Plug Lead Type

### How to Order Manifolds

SS5Q24 — **08** **FD2** — **D** **□** — **Q**

#### Stations

<b>01</b>	1 station
⋮	⋮
<b>16</b> <small>Note)</small>	16 stations

Note) The maximum number of stations depends on the type of electrical entries.

#### Option

<b>Nil</b>	None
<b>02 to 24</b>	Specified DIN rail length <small>Note 1)</small>
<b>B</b>	With back pressure check valve
<b>K</b>	Special wiring specification (except double wiring) <small>Note 2)</small>
<b>N</b>	With name plate (side ported only)
<b>R</b>	External pilot specification
<b>S</b>	Direct exhaust outlet with built-in silencer

Note 1) Specify DIN rail length with "D□" at the end. (Enter the number of stations inside □.) Example: -D08

Note 2) The standard wiring specification is for double wiring. Indicate a wiring specification for single wiring or mixed single and double wiring, or when exceeding the standard maximum number of stations. (Except C kit)

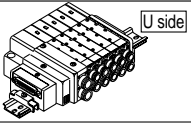
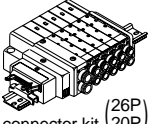
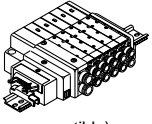
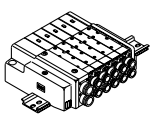
Note 3) For specifying two or more options, enter them in alphabetical order. Example: -BKN

#### Manifold mounting

<b>D</b>	DIN rail mount type
<b>E</b> <small>Note)</small>	Direct mount type

Note) E type is only available with a C kit.  
E type is mounted using two holes in each end plate and a DIN rail that is shorter than the manifold length.

#### Electrical entry

Kit description	Lead wire connector entry direction	Cable specification	Standard number of stations	Max. number of stations for special wiring specification	<small>Note 2)</small> Max. number of solenoids
<b>F</b> kit  D-sub connector kit	<b>FD0</b> <b>FD1</b> <b>FD2</b> <b>FD3</b> D side	D-sub connector (25P) kit, without cable	1 to 12 stations	16 stations	24
		D-sub connector (25P) kit, with 1.5m cable			
		D-sub connector (25P) kit, with 3.0m cable			
		D-sub connector (25P) kit, with 5.0m cable			
<b>P</b> kit  Flat ribbon cable connector kit (26P/20P)	<b>PD0</b> <b>PD1</b> <b>PD2</b> <b>PD3</b> <b>PDC</b> <small>Note 1)</small> D side	Flat ribbon cable (26P) kit, without cable	1 to 12 stations	16 stations	24
		Flat ribbon cable (26P) kit, with 1.5m cable			
		Flat ribbon cable (26P) kit, with 3.0m cable			
		Flat ribbon cable (26P) kit, with 5.0m cable			
<b>J</b> kit  Flat ribbon cable (20P) (PC Wiring System compatible)	<b>JD0</b> D side	Flat ribbon cable (20P) PC Wiring System compatible	1 to 8 stations	16 stations	16
<b>C</b> kit  Connector kit	<b>C</b>	Connector kit	1 to 16 stations	—	—

Note 1) Separately order the 20P type cable assembly for the P kit.

Note 2) The maximum number of stations should not be more than the maximum number of solenoids. (The number of solenoids are counted as: 1 for single solenoids and 2 for type 3P and 4P double solenoids.)

## How to Order Valves

SQ2 1 4 0 5 L C6 Q

### Type of actuation

1	2 position single (A)(B) 4 2 5 1 3 (R1) (P) (R2)
2	2 position double (latching) (A)(B) (A)(B) 4 2 4 2 5 1 3 5 1 3 (R1) (P) (R2) (R1) (P) (R2) Metal seal Rubber seal 2 position double (double solenoid) Note 1) (A)(B) (A)(B) 4 2 4 2 5 1 3 5 1 3 (R1) (P) (R2) (R1) (P) (R2) Metal seal Rubber seal
3	3 position closed centre (A)(B) 4 2 5 1 3 (R1) (P) (R2)
4	3 position exhaust centre (A)(B) 4 2 5 1 3 (R1) (P) (R2)
5	3 position pressure centre (A)(B) 4 2 5 1 3 (R1) (P) (R2)
Note 2) A	4 position dual 3 port valve (A) (B) 4 2 3 4 5 (R1) 1 (P) 3 (R2) N.C. N.C.
Note 2) B	4 position dual 3 port valve (A) (B) 4 2 3 4 5 (R1) 1 (P) 3 (R2) N.O. N.O.
Note 2) C	4 position dual 3 port valve (A) (B) 4 2 3 4 5 (R1) 1 (P) 3 (R2) N.C. N.O.

Note 1) For double solenoid specification, the function symbol below is "D".

Note 2) Only rubber seal types are applicable.

### Seal type

0	Metal seal
1	Rubber seal

### Function

Nil	Standard type (1.0W DC)
D	2 position double (double solenoid specification)
N	Negative COM
Y Note 1)	Low wattage type (0.5W DC)
R Note 2)	External pilot specification

Note 1) Except double (latching) type.

Note 2) Except dual 3 port valves.

Note 3) For specifying two or more functions, enter symbols in alphabetical order.

### Coil voltage

5	24VDC
6	12VDC

Note) Indicator light/surge voltage suppressor is built-in.

### Manifold block specification

Nil	M	MB
Without manifold block	With manifold block	Manifold block with built-in back pressure check valve
	 * Lead wire is not included.	 * Lead wire is not included.
• When ordering with manifolds • When only valves are required.	For adding stations	

### Port plug mounting port

Nil	None
A	A port
B	B port

### Cylinder port size

C4	ø4 One-touch fitting	Side ported	
C6	ø6 One-touch fitting		
C8	ø8 One-touch fitting		
L4	ø4 One-touch fitting	Note) Top ported	
L6	ø6 One-touch fitting		
L8	ø8 One-touch fitting		

Note) Can be changed to side ported configuration.

### Manual override

Nil	B Note)	D Note)
Non-locking push type (tool required)	Locking type (tool required)	Slide locking type (manual type) * Only side ported type applicable

Note) Except double (latching) type.

### Electrical entry

L	LO
Plug connector type With 300mm lead wire 	Plug connector type Without connector 
	Note) For F, P, J kit manifolds

Note) Indicate "LO" when ordering centralized wiring type manifolds, F, P, and J kits, since the lead wire will be attached to the manifold side.

SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

SQ

VQ

VQ4

VQ5

VQZ

VQD

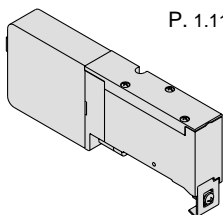
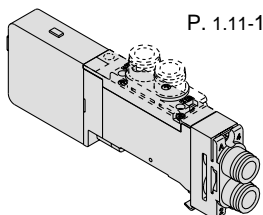
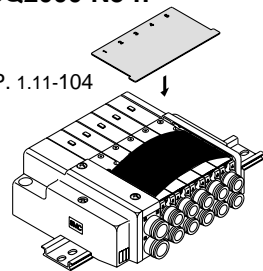
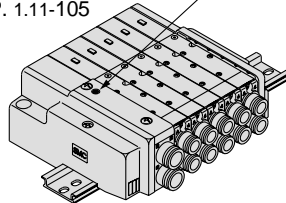
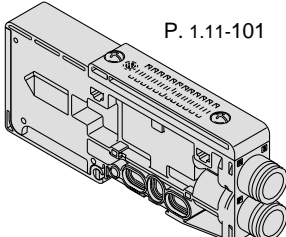
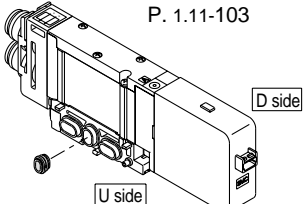
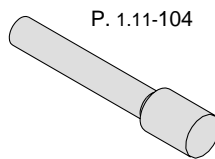
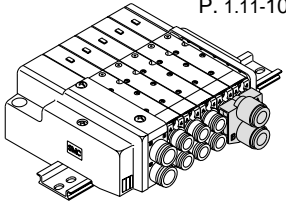
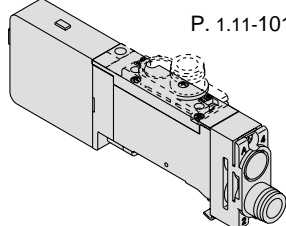
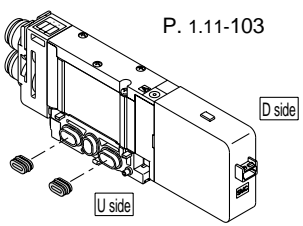
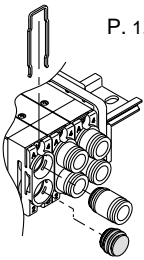
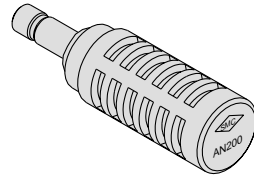
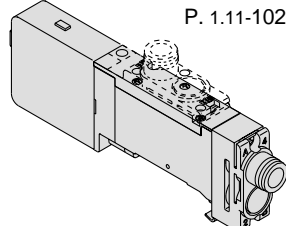
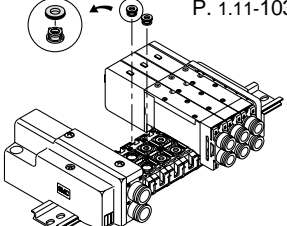
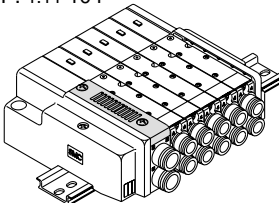
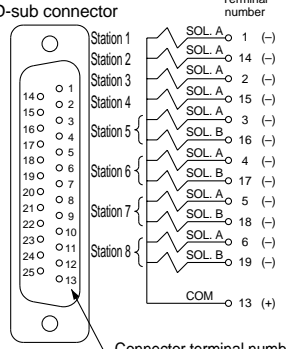
VFS

VS

VS7

VQ7

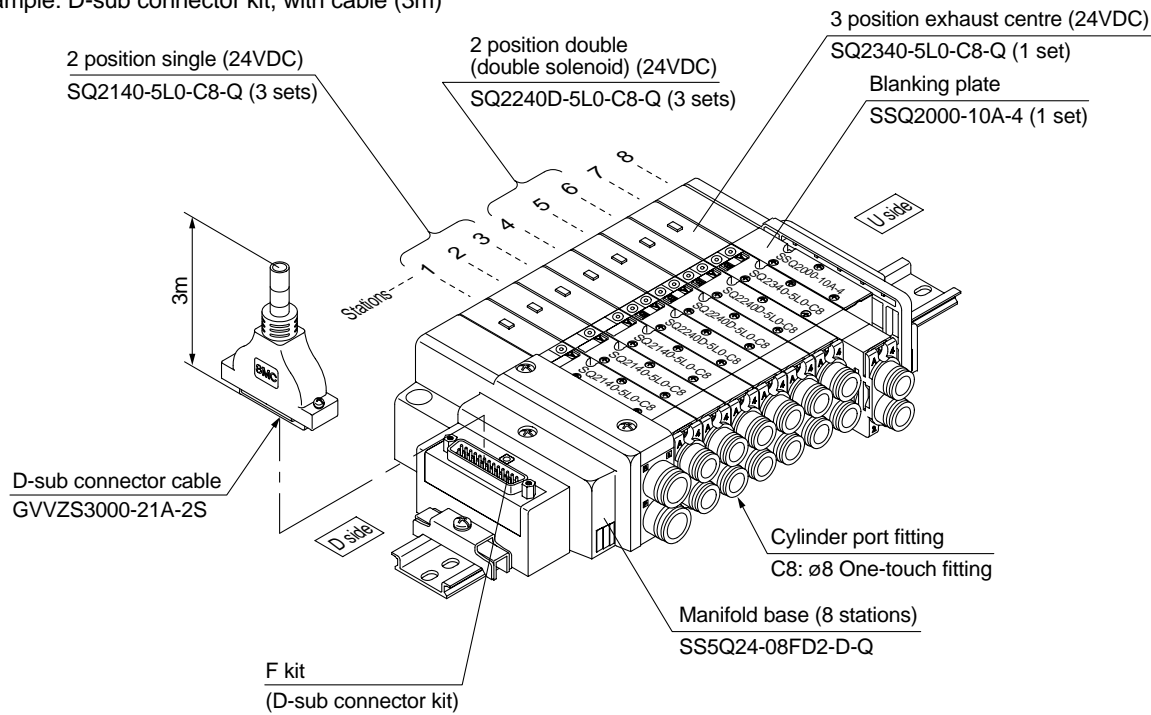
## Manifold Options

<b>Blanking plate</b> <b>SSQ2000-10A-4</b>  <p>P. 1.11-101</p>	<b>Individual SUP/EXH spacer</b> <b>SSQ2000-PR1-4-<sup>C8</sup><sub>L8</sub></b>  <p>P. 1.11-102</p>	<b>Name plate (-N)</b> <b>SSQ2000-N3-n</b>  <p>P. 1.11-104</p>	<b>External pilot specification (-R)</b> <u>External pilot port</u>  <p>P. 1.11-105</p>
<b>SUP/EXH block</b> <b>SSQ2000-PR-4-C10(-S)</b>  <p>P. 1.11-101</p>	<b>SUP block plate</b> <b>SSQ1000-B-R</b>  <p>P. 1.11-103</p> <p>D side</p> <p>U side</p>	<b>Blanking plug</b> <b>KQ2P-04/06/08/10</b>  <p>P. 1.11-104</p>	<b>Dual flow fitting</b> <b>SSQ2000-52A-<sup>C10</sup><sub>N11</sub></b>  <p>P. 1.11-105</p>
<b>Individual SUP spacer</b> <b>SSQ2000-P-4-<sup>C8</sup><sub>L8</sub></b>  <p>P. 1.11-101</p>	<b>EXH block plate</b> <b>SSQ2000-B-R</b>  <p>P. 1.11-103</p> <p>D side</p> <p>U side</p>	<b>Port plug</b> <b>VVQZ2000-CP</b>  <p>P. 1.11-104</p>	<b>Silencer (for EXH port)</b>  <p>P. 1.11-105</p>
<b>Individual EXH spacer</b> <b>SSQ2000-R-4-<sup>C8</sup><sub>L8</sub></b>  <p>P. 1.11-102</p>	<b>Back pressure check valve (-B)</b> <b>SSQ2000-BP</b>  <p>P. 1.11-103</p>	<b>Built-in silencer (-S)</b>  <p>P. 1.11-104</p>	<b>Special wiring specification (-K)</b> P. 1.11-106  <p>D-sub connector</p> <p>Terminal number</p> <p>Connector terminal number</p> <p>Station 1 SOL A 1 (-)  Station 2 SOL A 14 (-)  Station 3 SOL A 2 (-)  Station 4 SOL A 15 (-)  Station 5 SOL B 3 (-)  Station 6 SOL B 16 (-)  Station 7 SOL A 4 (-)  Station 8 SOL B 17 (-)  Station 9 SOL A 5 (-)  Station 10 SOL B 18 (-)  Station 11 SOL A 6 (-)  Station 12 SOL B 19 (-)  COM 13 (+)</p>

Although the standard products come with double wiring, mixed single and double wiring is available upon request.

**How to Order Manifold Assemblies (Example)**

Example: D-sub connector kit, with cable (3m)



SV
SY
SYJ
SX
VK
VZ
VF
VFR
VP7

VQC
SQ
VQ
VQ4
VQ5
VQZ
VQD
VFS
VS
VS7
VQ7

- SS5Q24-08FD2-D-Q ..... 1 set: F kit 8 station manifold base
- SQ2140-5L0-C8-Q ..... 3 sets: 2 position single
- SQ2240D-5L0-C8-Q ..... 3 sets: 2 position double (double solenoid)
- SQ2340-5L0-C8-Q ..... 1 set: 3 position exhaust centre
- SSQ2000-10A-4 ..... 1 set: Blanking plate

Add the valve and option part numbers in order starting from the first station on the D side. When entry of part numbers becomes complicated, indicate on a manifold specification sheet.

## Valve Specifications



### Models

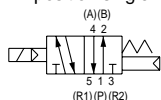
Series		Number of solenoids	Model		Note 1) Effective area mm <sup>2</sup> (Nℓ/min)	Response time ms <sup>Note 2)</sup>		Weight (g)
						Standard: 1W	Low wattage	
SQ2000	2 position	Single	Metal seal	SQ2140	11.7 (638)	20 or less	26 or less	145
			Rubber seal	SQ2141	14.8 (805)	24 or less	31 or less	140
		Double (latching)	Metal seal	SQ2240	11.7 (638)	26 or less	—	145
			Rubber seal	SQ2241	14.8 (805)	31 or less	—	140
		Double (double solenoid)	Metal seal	SQ2240D	11.7 (638)	15 or less	20 or less	160
			Rubber seal	SQ2241D	14.8 (805)	20 or less	26 or less	155
	3 position	Closed centre	Metal seal	SQ2340	8.1 (442)	34 or less	44 or less	180
			Rubber seal	SQ2341	9.0 (490)	34 or less	44 or less	175
		Exhaust centre	Metal seal	SQ2440	11.7 (638)	34 or less	44 or less	180
			Rubber seal	SQ2441	12.6 (687)	34 or less	44 or less	175
		Pressure centre	Metal seal	SQ2540	8.1 (442)	34 or less	44 or less	180
			Rubber seal	SQ2541	9.0 (490)	34 or less	44 or less	175
	4 position	Dual 3 port valve	Rubber seal	SQ241 <sup>A</sup> <sub>B</sub> <sub>C</sub>	9.0 (490)	34 or less	44 or less	155

Note 1) Values for the top ported cylinder port size of C8. The side ported type will be about 10% less.

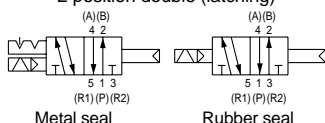
Note 2) Based on JISB8375-1981. (Values with a supply pressure of 0.5MPa and indicator light/surge voltage suppressor. Values fluctuate depending on the pressure and air quality.)

### JIS symbols

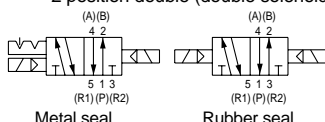
#### 2 position single



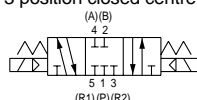
#### 2 position double (latching)



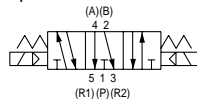
#### 2 position double (double solenoid)



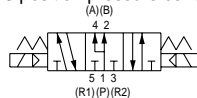
#### 3 position closed centre



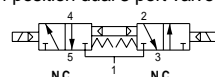
#### 3 position exhaust centre



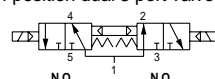
#### 3 position pressure centre



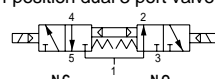
#### 4 position dual 3 port valve (A)



#### 4 position dual 3 port valve (B)



#### 4 position dual 3 port valve (C)



### Specifications

Valve specifications	Valve construction		Metal seal	Rubber seal
	Fluid		Air/Inert gas	
	Maximum operating pressure		0.7MPa	
	Minimum operating pressure	Single	0.1MPa	0.15MPa
		Double (latching)	0.18MPa	0.18MPa
		Double (double solenoid)	0.1MPa	0.1MPa
		3 position	0.1MPa	0.2MPa
		4 position	—	0.15MPa
	Ambient and fluid temperature		-10 to 50°C Note 1)	
	Lubrication		Not required	
Solenoid specifications	Pilot valve manual override		Push type (tool required)/Locking type (tool required) Slide locking type (manual type)	
	Vibration/Impact resistance Note 2)		30/150m/s <sup>2</sup>	
	Enclosure		Dust proof	
	Rated coil voltage		12VDC, 24VDC	
	Allowable voltage fluctuation		±10% of rated voltage	
	Coil insulation type		Equivalent to class B	
	Power consumption (Current)	24VDC	1W DC (42mA), 0.5W DC (21mA) Note 3)	
		12VDC	1W DC (83mA), 0.5W DC (42mA) Note 3)	

Note 1) Use dry air to prevent condensation at low temperatures.

Note 2) Vibration resistance: No malfunction occurred in a one-sweep test between 8.3 and 2000Hz. Test was performed in the axial and right angle directions of the main valve and armature for both energized and de-energized states.

Impact resistance: No malfunction resulted from the impact test using a drop impact tester. The test was performed one time each in the axial and right angle directions of the main valve and armature, for both energized and de-energized states.

Note 3) Values for the low wattage (0.5W) specification.

## Manifold Specifications

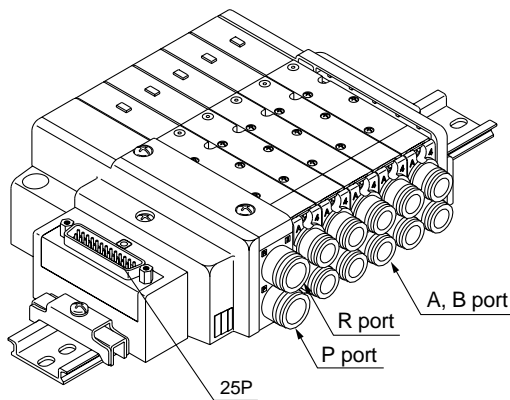
Base model	Configuration			Applicable solenoid valves	Connection type	Applicable stations <div>Note 3)</div>	5 station weight (g) <div>Note 4)</div>	Additional weight for 1 station (g) <div>Note 4)</div>
	Port size <div>Note 1)</div>							
	P, R	A, B						
Port direction		Port size						
SS5Q24-□□-□	C10 (for ø10)  Option (Direct outlet with built-in silencer)	Side	C4 (for ø4) C6 (for ø6) C8 (for ø8)	SQ2□40 SQ2□41	F kit: D-sub connector	1 to 12 stations	580	35
			Note 2) Top		L4 (for ø4) L6 (for ø6) L8 (for ø8)	P kit: Flat ribbon cable	26P 1 to 12 stations 20P 1 to 9 stations	580
		J kit: Flat ribbon cable PC Wiring System compatible				1 to 8 stations	580	35
		C kit: Connector kit	1 to 12 stations		620	50		

Note 1) One-touch fittings in inch sizes are also available. Refer to page 1.11-108 for details.

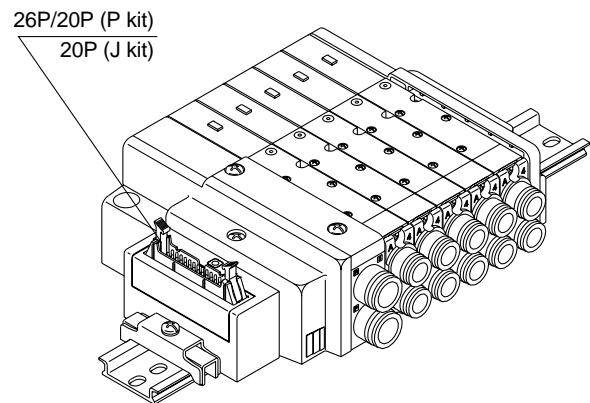
Note 2) Can be changed to side ported configuration.

Note 3) An optional specification for special wiring is available to increase the maximum number of stations. Refer to page 1.11-106 for details.

Note 4) Except valves. Refer to page 1.11-86 for valve weights.

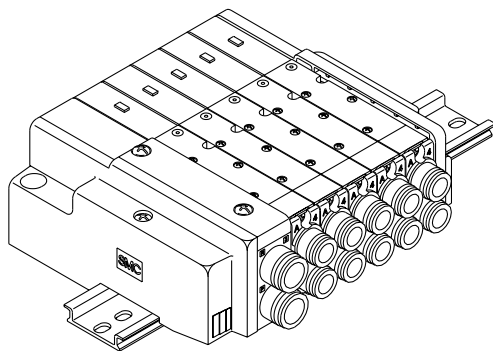


**F kit**



**P kit**

**J kit**



**C kit**

**SV**

**SY**

**SYJ**

**SX**

**VK**

**VZ**

**VF**

**VFR**

**VP7**

**VQC**

**SQ**

**VQ**

**VQ4**

**VQ5**

**VQZ**

**VQD**

**VFS**

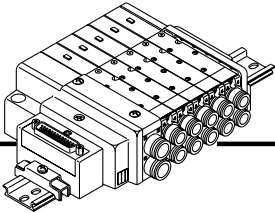
**VS**

**VS7**

**VQ7**



**F** Kit (D-sub Connector kit)



- Simplification and labour savings for wiring work can be achieved by using a D-sub connector for the electrical connection.
- The use of D-sub connectors (25P) conforming to MIL standards provides a wide range of compatibility with conventional connectors.
- Top or side entry for the connector can be changed freely, allowing later changes according to the mounting space.

**D-sub connector (25P)**

**GVVZS3000-21A-<sup>1 2 3 4 5</sup><sub>S</sub>60**

(D-sub connector cable assemblies can be ordered with manifolds.)  
Refer to manifold ordering.

**Type Standard**

**Type 60°**

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

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

\* Connector made in conformity with DIN47100.

**Electric characteristics**

Item	Characteristics
Conductor resistance Ω/km, 20°C	57 or less
Voltage limit V, 5min, AC	1500
Insulation resistance MΩ/km	20

**D-sub connector cable ass'y**

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

**Model**

	Standard	60°
	S	60

**Manifold specifications**

Series	Port position	Configuration		Maximum number of stations
		P, R	A, B	
SQ2000	Side, Top	C10	C4, C6, C8	12 stations (16 stations optional)

**Electrical wiring specifications**

**D-sub connector**

As the standard electrical wiring specification for 12 stations or less, double wiring (connected to SOL. A and SOL. B) is used for the internal wiring of each station regardless of valve and option types. Mixed single and double wiring is available as an option. Refer to page 1.11-52 for details.

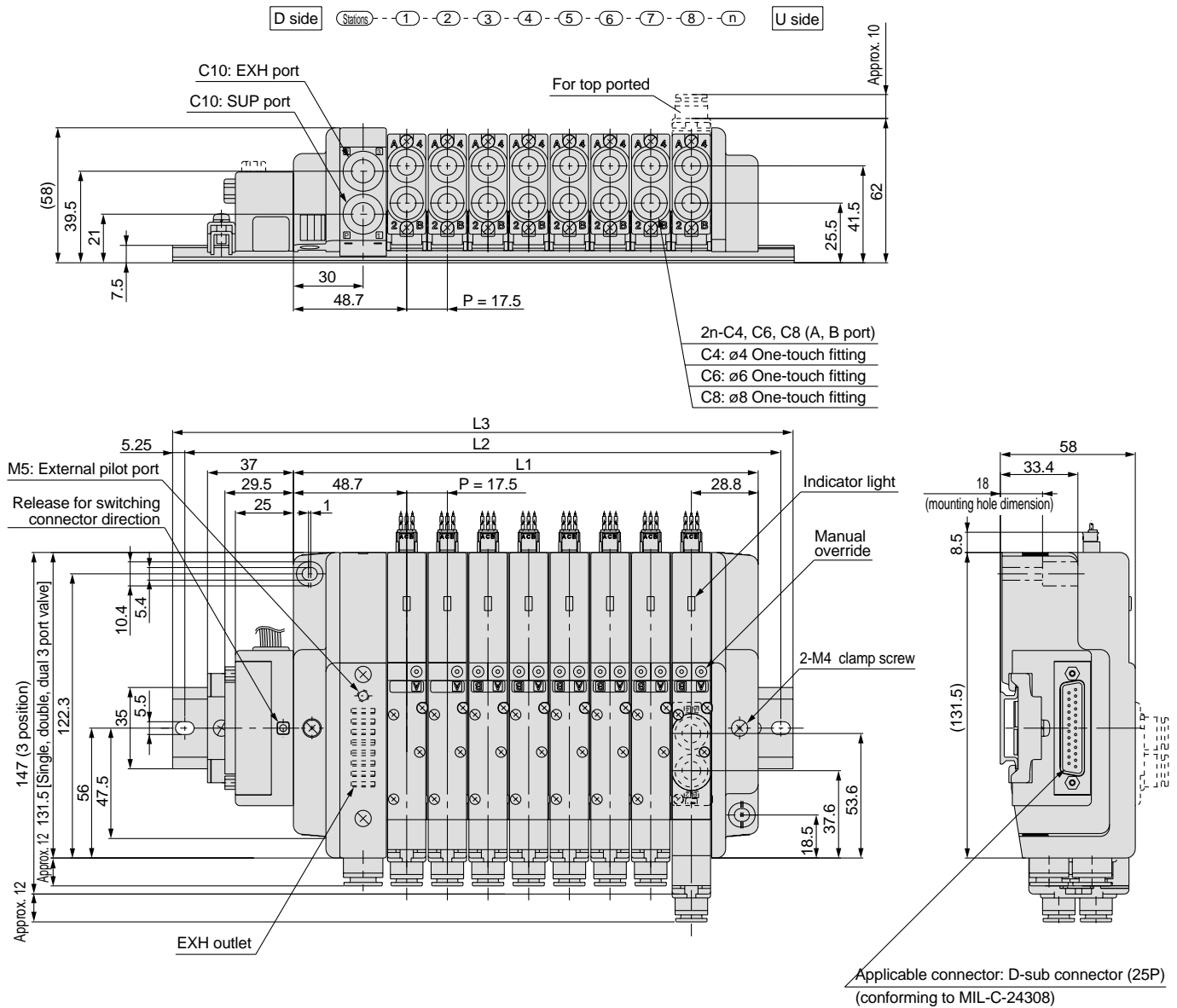
**Lead wire colors for D-sub connector assemblies**

**GVVZS3000-21A-<sup>1 2 3 4 5</sup><sub>S</sub>60**

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

Positive COM spec.      Negative COM spec.

Note) When using the negative COM specification, use valves for negative COM.



SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

SQ

VQ

VQ4

VQ5

VQZ

VQD

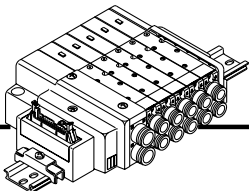
VFS

VS

VS7

VQ7

**P** Kit (Flat Ribbon Cable Kit)

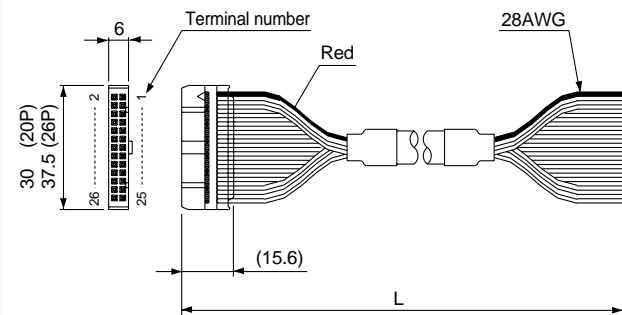


- Simplification and labour savings for wiring work can be achieved by using a MIL type for the electrical connection.
- The use of flat ribbon cable connectors (26P, 20P) conforming to MIL standards provides a wide range of compatibility with conventional connectors.
- Top or side entry for the connector can be changed freely, allowing later changes according to the mounting space.

**Flat ribbon cable (26P, 20P)**

**AXT100-FC-<sup>20</sup>/<sub>26</sub>-<sup>2</sup>/<sub>3</sub>**

(Type 26P flat ribbon cable connector assemblies can be ordered with manifolds. Refer to manifold ordering.)



**Flat ribbon cable connector assemblies (optional)**

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

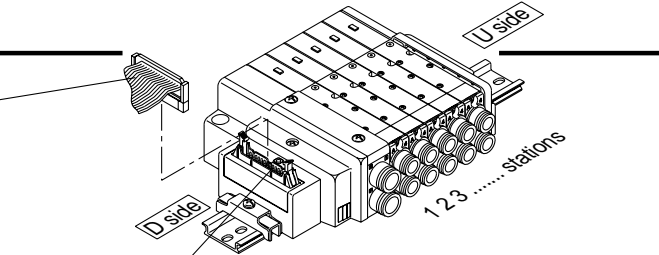
- \* When using a conventional connector, use a type 26P connector conforming to MIL-C-83503 or a type 20P with strain relief.
- \* Cannot be used for transfer wiring.

**Connector manufacturer examples**

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

**Manifold specifications**

Series	Port position	Configuration		Maximum number of stations
		P, R	A, B	
<b>SQ2000</b>	Side, Top	C10	C4, C6, C8	12 stations (16 stations optional)



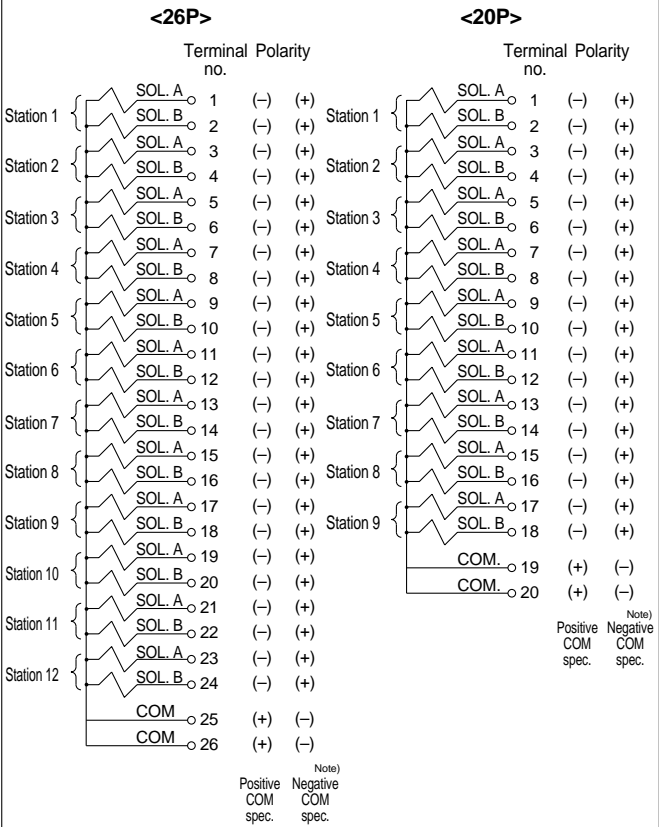
**Electrical wiring specifications** \* Valves are numbered from the D side.

**Flat ribbon cable connector**

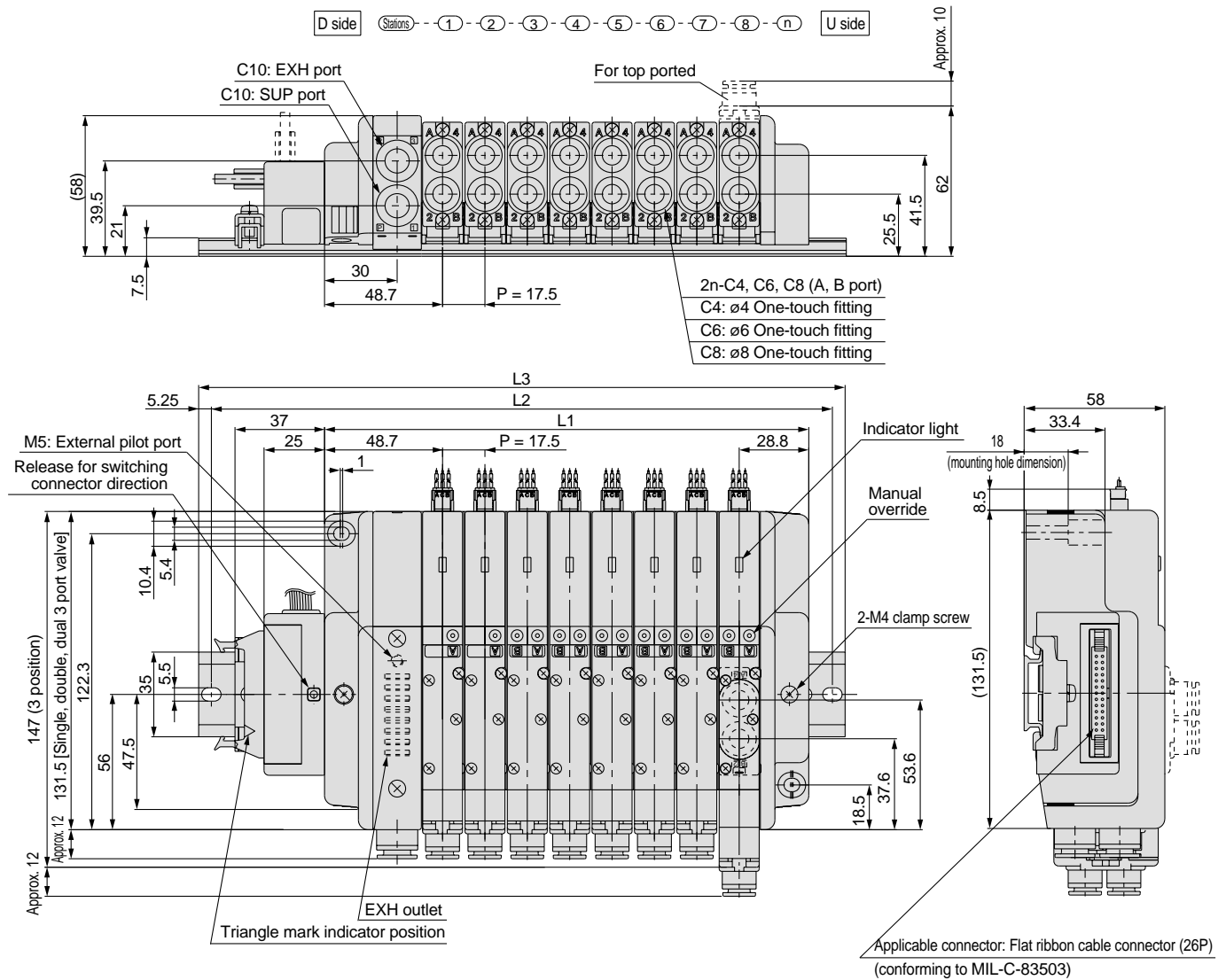
- 26 □ □ 25
- 24 □ □ 23
- 22 □ □ 21
- 20 □ □ 19
- 18 □ □ 17
- 16 □ □ 15
- 14 □ □ 13
- 12 □ □ 11
- 10 □ □ 9
- 8 □ □ 7
- 6 □ □ 5
- 4 □ □ 3
- 2 □ □ 1

Double wiring (connected to SOL. A and SOL. B) is used for the internal wiring of each station regardless of valve and option types. Mixed single and double wiring is available as an option. Refer to page 1.11-112 for details.

Connector terminal number  
Triangle mark indicator position



Note) When using the negative COM specification, use valves for negative COM.



SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

**SQ**

VQ

VQ4

VQ5

VQZ

VQD

VFS

VS

VS7

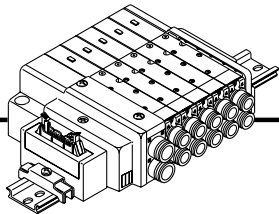
VQ7

## Dimensions

Formula:  $L1 = 17.5n + 60$  n: Stations (maximum 16 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	77.5	95	112.5	130	147.5	165	182.5	200	217.5	235	252.5	270	287.5	305	322.5	340
L2	137.5	162.5	175	187.5	212.5	225	250	262.5	275	300	312.5	337.5	350	362.5	387.5	400
L3	148	173	185.5	198	223	235.5	260.5	273	285.5	310.5	323	348	360.5	373	398	410.5

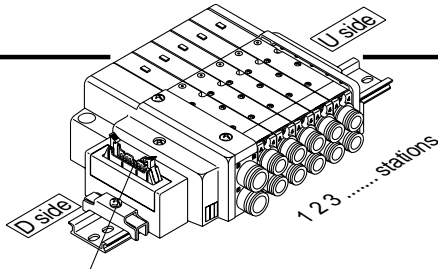
**J** Kit (PC Wiring System Compatible Flat Ribbon Cable Kit)



- Compatible with the PC Wiring System.
- The use of flat ribbon cable connectors (20P) conforming to MIL standards provides a wide range of compatibility with conventional connectors.
- Top or side entry for the connector can be changed freely, allowing later changes according to the mounting space.

Manifold specifications

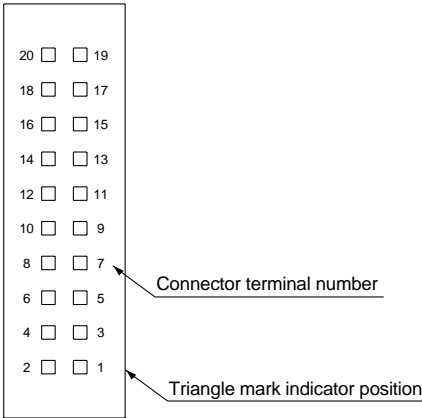
Series	Configuration		Maximum number of stations	
	Port position	Port size		
		P, R		A, B
<b>SQ2000</b>	Side, Top	C10	C4, C6, C8	8 stations (16 stations optional)



**Electrical wiring specifications** ● \* Valves are numbered from the D side.

Double wiring (connected to SOL. A and SOL. B) is used for the internal wiring of each station regardless of valve and option types.  
Mixed single and double wiring is available as an option.  
Refer to page 1.11-112 for details.

Flat ribbon cable connector

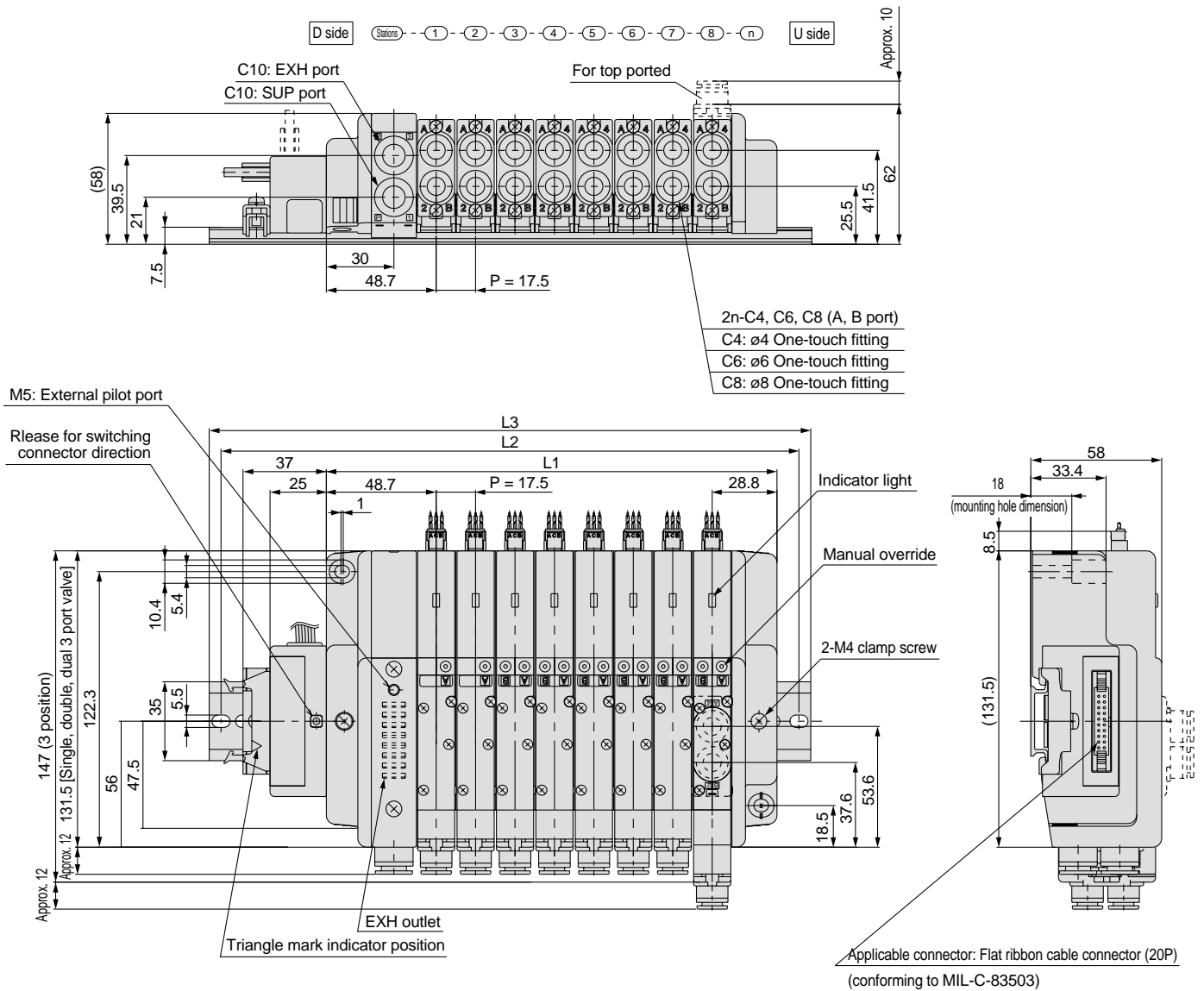


	Terminal no.	Polarity
Station 1	SOL. A 20	(-) (+)
	SOL. B 18	(-) (+)
Station 2	SOL. A 16	(-) (+)
	SOL. B 14	(-) (+)
Station 3	SOL. A 12	(-) (+)
	SOL. B 10	(-) (+)
Station 4	SOL. A 8	(-) (+)
	SOL. B 6	(-) (+)
Station 5	SOL. A 19	(-) (+)
	SOL. B 17	(-) (+)
Station 6	SOL. A 15	(-) (+)
	SOL. B 13	(-) (+)
Station 7	SOL. A 11	(-) (+)
	SOL. B 9	(-) (+)
Station 8	SOL. A 7	(-) (+)
	SOL. B 5	(-) (+)
	4	(-) (+)
	3	(-) (+)
	COM 2	(+) (-)
	COM 1	(+) (-)

Positive COM spec.

Note)  
Negative COM spec.

Note) When using the negative COM specification, use valves for negative COM.  
For details on the PC Wiring System, refer to catalog "PC Wiring System" (CAT.ES02-20).



## Dimensions

Formula:  $L1 = 17.5n + 60$  n: Stations (maximum 16 stations)

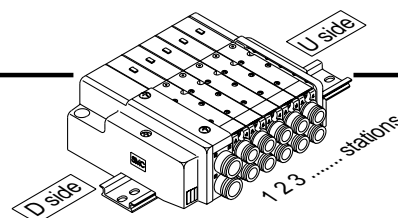
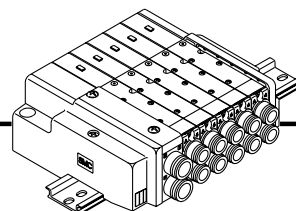
n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	77.5	95	112.5	130	147.5	165	182.5	200	217.5	235	252.5	270	287.5	305	322.5	340
L2	137.5	162.5	175	187.5	212.5	225	250	262.5	275	300	312.5	337.5	350	362.5	387.5	400
L3	148	173	185.5	198	223	235.5	260.5	273	285.5	310.5	323	348	360.5	373	398	410.5

## C Kit (Connector Kit)

- This is the standard type with lead wires for each valve.

### Manifold specifications

Series	Port position	Configuration		Maximum number of stations
		P, R	A, B	
<b>SQ2000</b>	Side, Top	C10	C4, C6, C8	16 stations

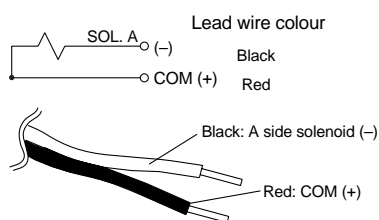


\* Valves are numbered from the D side.

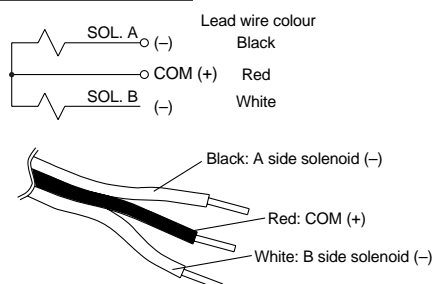
### • Wiring Specifications/Positive COM Specifications

Since lead wires are connected to the valves as shown below, connect each wire to the power supply.

#### Single Solenoid Type



#### Double Solenoid Type



- Lead wire length of plug connectors  
The lead wire length of the valves with lead wire is 300mm. When ordering a lead wire length of 600mm or longer, list the part numbers for the valve without connector and the connector assembly.  
Example) For lead wire length of 1000mm:  
SQ1140-5LO-C6 ..... 3 pcs.  
AXT661-14AL-10 ..... 3 pcs.

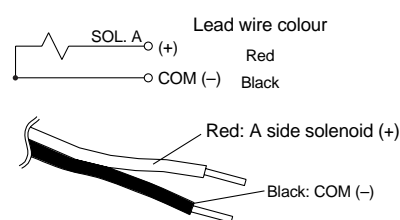
#### Connector assembly part nos.

Lead wire length	Single solenoid	Double solenoid
Socket only (3 pcs.)	AXT661-12AL	
300mm	AXT661-14AL	AXT661-13AL
600mm	AXT661-14AL-6	AXT661-13AL-6
1000mm	AXT661-14AL-10	AXT661-13AL-10
2000mm	AXT661-14AL-20	AXT661-13AL-20
3000mm	AXT661-14AL-30	AXT661-13AL-30

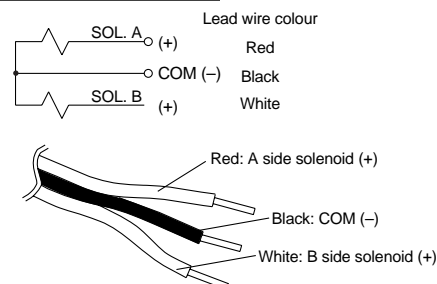
### • Wiring Specifications/Negative COM Specifications (optional)

Since lead wires are connected to the valves as shown below, connect each wire to the power supply.

#### Single Solenoid Type



#### Double Solenoid Type



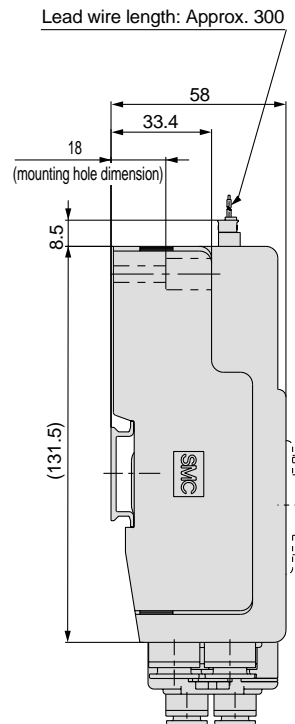
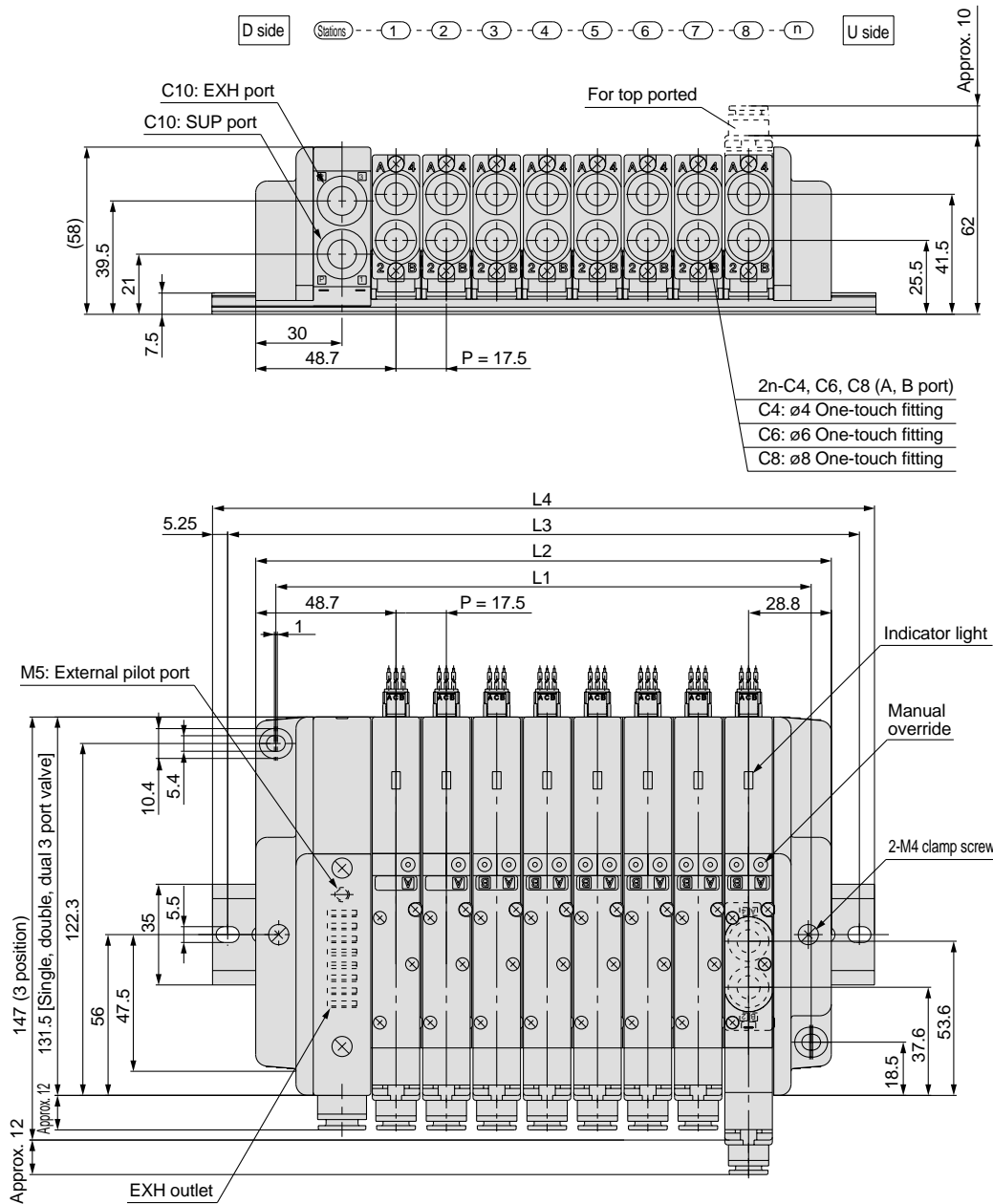
- Lead wire length of plug connectors  
The lead wire length of the valves with lead wire is 300mm. When ordering a lead wire length of 600mm or longer, list the part numbers for the valve without connector and the connector assembly.  
Example) For lead wire length of 1000mm:  
SQ1140-5LO-C6 ..... 3 pcs.  
AXT661-14ANL-10 ..... 3 pcs.

#### Connector assembly part nos.

Lead wire length	Single solenoid	Double solenoid
Socket only (3 pcs.)	AXT661-12AL	
300mm	AXT661-14ANL	AXT661-13ANL
600mm	AXT661-14ANL-6	AXT661-13ANL-6
1000mm	AXT661-14ANL-10	AXT661-13ANL-10
2000mm	AXT661-14ANL-20	AXT661-13ANL-20
3000mm	AXT661-14ANL-30	AXT661-13ANL-30

Note) When using the negative COM specification, use valves for negative COM.





## Dimensions

Formulas:  $L1 = 17.5n + 46$ ,  $L2 = 17.5n + 60$  n: Stations (maximum 16 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	63.5	81	98.5	116	133.5	151	168.5	186	203.5	221	238.5	256	273.5	291	308.5	326
L2	77.5	95	112.5	130	147.5	165	182.5	200	217.5	235	252.5	270	287.5	305	322.5	340
L3	100	125	137.5	150	175	187.5	212.5	225	237.5	262.5	275	300	312.5	325	350	362.5
L4	110.5	135.5	148	160.5	185.5	198	223	235.5	248	273	285.5	310.5	323	335.5	360.5	373

SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

**SQ**

VQ

VQ4

VQ5

VQZ

VQD

VFS

VS

VS7

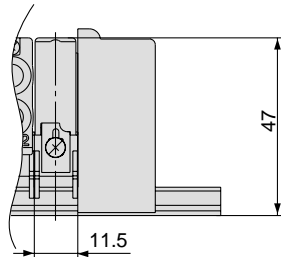
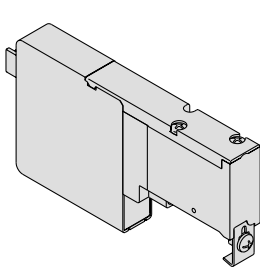
VQ7

Optional Manifold Parts for **SQ1000**

Blanking plate

**SSQ1000-10A-4**

This is mounted on a manifold block when a valve is removed for maintenance or when installation of an additional valve is planned for the future, etc.



JIS symbol



SUP/EXH block

**SSQ1000-PR-4-C8-**

Option

Nil	Standard
R	External pilot specification
S	Built-in silencer

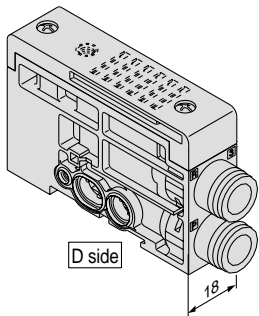
Note) When specifying both options, indicate "RS".

\* Specify the spacer mounting position on a manifold specification sheet.

For standard type manifolds, the SUP/EXH block is mounted on the D side. It is added to the manifold to increase SUP/EXH capacity.

\* The number of SUP/EXH blocks that can be added is limited to two sets, one between manifold stations and another on the U side of the manifold, due to the length of the lead wire.

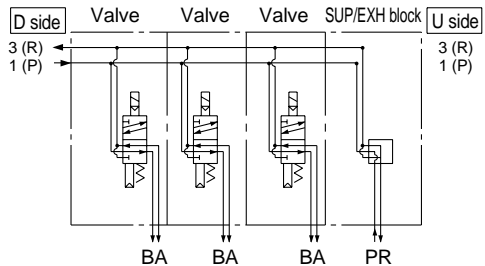
\* SUP/EXH blocks are not included in the number of manifold stations.



U side

D side

Description/Model		Stations				
		1	2	3	4	5
Valve	Single	●	●	●		
	...					
Option	SUP/EXH block				●	
	SSQ1000-PR-4-C8-□					



Individual SUP spacer

**SSQ1000-P-4-C6**

Port direction

C6	Side ported
L6	Top ported

This is used as a supply port for different pressures when using different pressures in the same manifold (for one station). Both sides of the station which is used with supply pressure from the individual SUP spacer are shut off. (See examples.)

\* Specify the spacer mounting position and SUP passage shut off positions on a manifold specification sheet. Two shut off positions are required per unit. (Two pieces of SUP block plate that shut off the supply pressure are included with the individual SUP spacer, therefore, it is not necessary to order them separately.)

\* Electrical wiring is also connected to the manifold station with the individual SUP spacer.

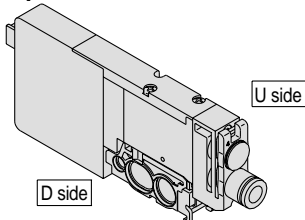
\* By changing the fitting shown in the drawing and the block plates, the spacer's specification can be changed later (from the individual SUP spacer to the individual EXH spacer).

\* The number of spacers is not limited when ordered with the manifold. However, for F, P, and J kits, when adding individual SUP spacers later, it is limited to two units, one between manifold stations and another on the U side, due to the length of the lead wire.

\* Part number with manifold block:

SSQ1000-P-4-C6-M

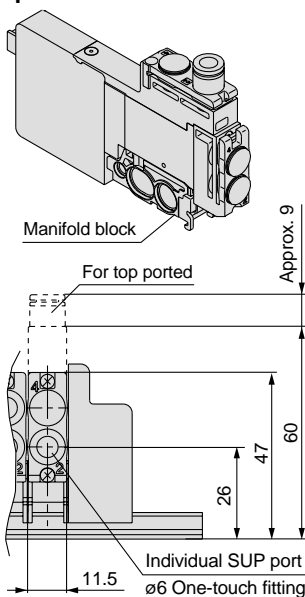
Side ported



U side

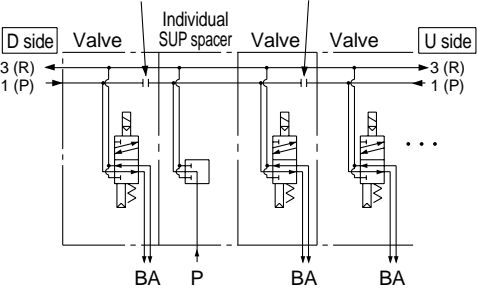
D side

Top ported



Description/Model		Stations				
		1	2	3	4	5
Valve	Single	●	●	●		
	...					
Option	Individual SUP spacer		●			
	SSQ1000-P-4- <u>C6</u>					
Option	SUP shut off position:	●	●			
	Specify 2 positions.					

SUP block plate (ordering not required)



## Individual EXH spacer

SSQ1000-R-4-C6

### Port direction

C6	Side ported
L6	Top ported

This is used to exhaust an individual valve when the exhaust from a valve interferes with other stations in the circuit (used for one station).

Both sides of the station which is to be individually exhausted are shut off. (See examples.)

\* Specify the spacer mounting position and EXH passage shut off positions on a manifold specification sheet. Two shut off positions are required per unit.

(Two pieces of EXH block plate that shut off the exhaust are included with the individual EXH spacer, therefore, it is not necessary to order them separately.)

\* Electrical wiring is also connected to the manifold station with the individual EXH spacer.

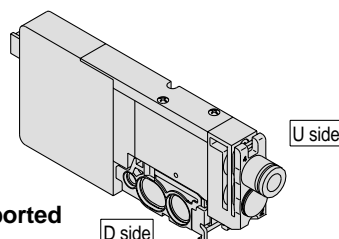
\* By changing the fitting shown in the drawing and the block plates, the spacer's specification can be changed later (from the individual EXH spacer to the individual SUP spacer).

\* The number of spacers is not limited when ordered with the manifold. However, for F, P, and J kits, when adding individual EXH spacers later, it is limited to two units, one between manifold stations and another on the U side, due to the length of the lead wire.

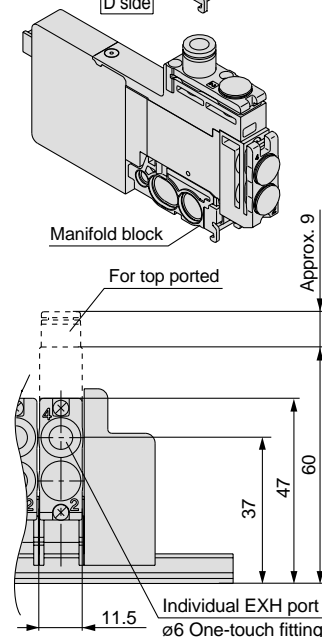
\* Part number with manifold block:

SSQ1000-R-4-C6-M

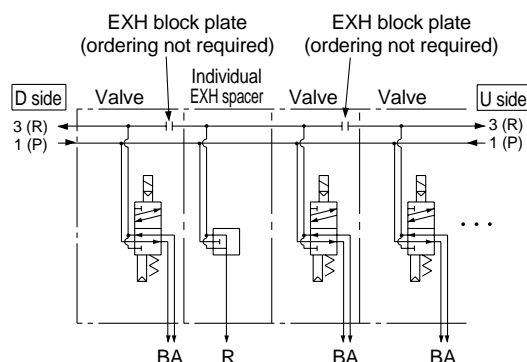
### Side ported



### Top ported



Description/Model		Stations				
Valve	Single		1	2	3	4
	...					
Option	Individual EXH spacer SSQ1000-R-4-C6		●			
	EXH shut off position: Specify 2 positions.		●	●		



## Individual SUP/EXH spacer

SSQ1000-PR1-4-C6

### Port direction

C6	Side ported
L6	Top ported

This has both functions of the individual SUP and EXH spacers above.

(See examples.)

\* Specify the spacer mounting position and SUP and EXH passage shut off positions on a manifold specification sheet. Two shut off positions each for SUP and EXH are required per unit.

(Two pieces each of block plate that shut off the SUP and EXH passages are included with the individual SUP/EXH spacer.)

\* Electrical wiring is also connected to the manifold station with the individual EXH spacer.

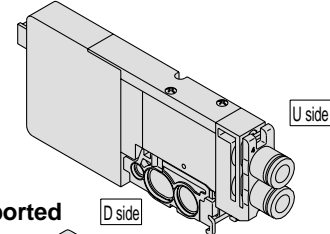
\* By changing the fitting shown in the drawing and the block plates, the spacer's specification can be changed later.

\* The number of spacers is not limited when ordered with the manifold. However, for F, P, and J kits, when adding individual SUP/EXH spacers later, it is limited to two units, one between manifold stations and another on the U side, due to the length of the lead wire.

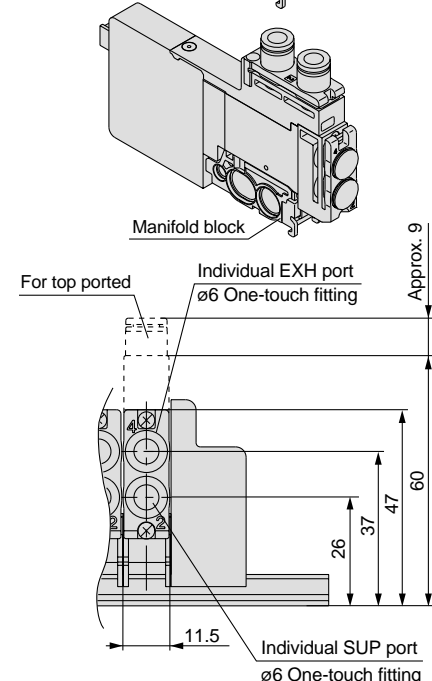
\* Part number with manifold block:

SSQ1000-PR1-4-C6-M

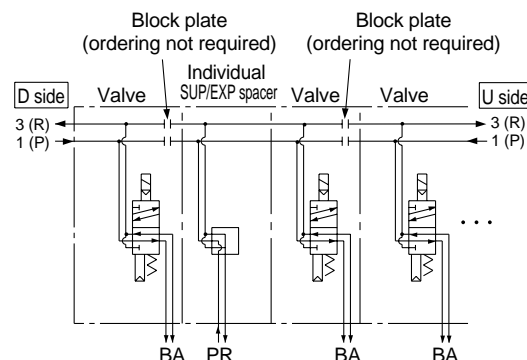
### Side ported



### Top ported



Description/Model		Stations				
Valve	Single		1	2	3	4
	...					
Option	Individual SUP/EXH spacer SSQ1000-PR1-4-C6		●			
	SUP shut off position: Specify 2 positions.		●	●		
	EXH shut off position: Specify 2 positions.		●		●	



## Optional Manifold Parts for SQ1000

### SUP block plate

#### SSQ1000-B-P

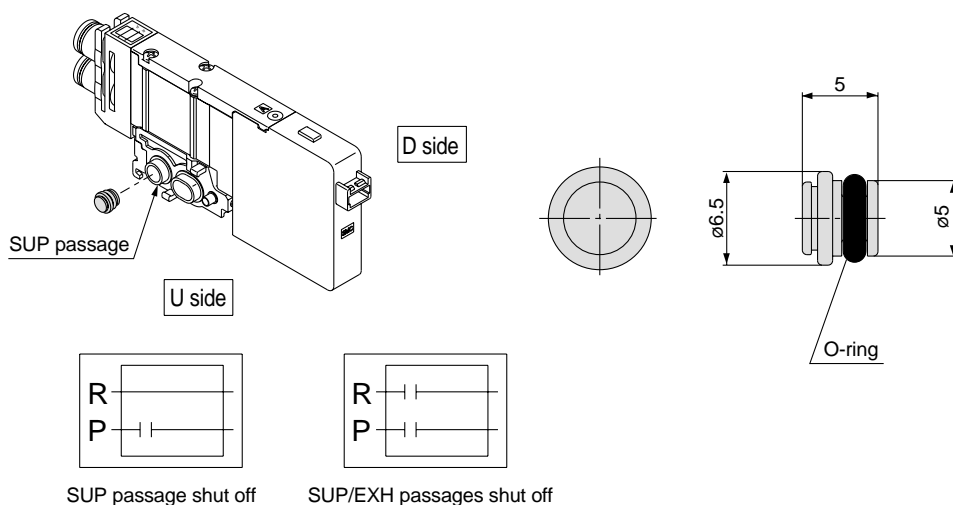
When supplying two different pressures, high and low, to one manifold, this is used between stations with different pressures. Also, it is used with an individual SUP spacer to shut off the air supply.

\* Specify the station position on a manifold specification sheet.

#### <Shut off label>

When a SUP passage is shut off with a SUP block plate, a label is attached for external confirmation of the shut off position (one label each).

\* Shut off labels are applied when SUP block plates are ordered with manifolds.



### EXH block plate

#### SSQ1000-B-R

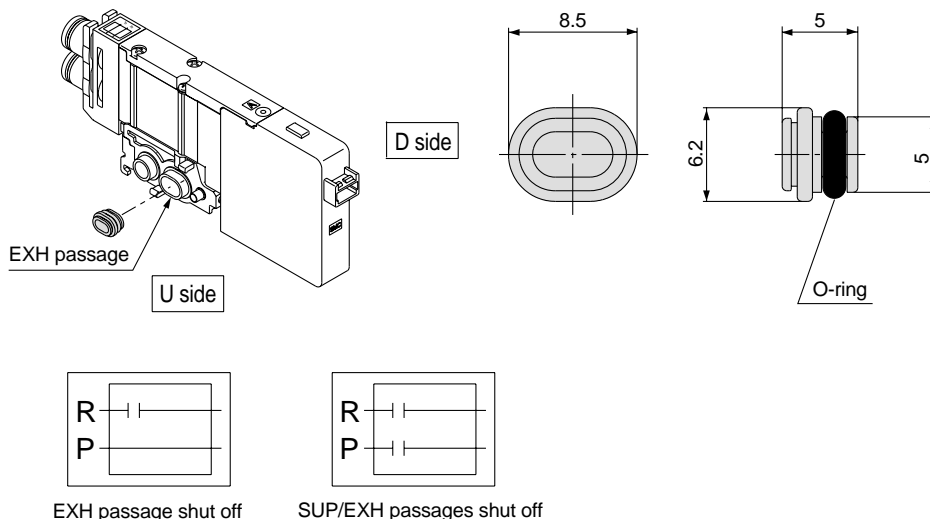
When the exhaust from a valve interferes with other stations in the circuit, this is used between stations to separate exhausts. Also, it is used with an individual EXH spacer to shut off the exhaust of individual valves.

\* Specify the station position on a manifold specification sheet.

#### <Shut off label>

When an EXH passage is shut off with an EXH block plate, a label is attached for external confirmation of the shut off position (one label each).

\* Shut off labels are applied when EXH block plates are ordered with manifolds.



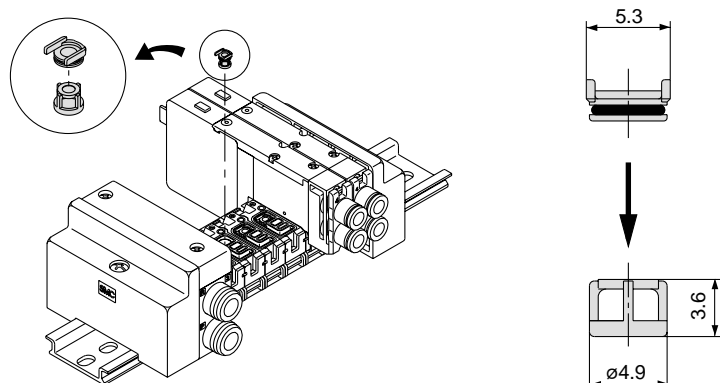
### Back pressure check valve [-B]

#### SSQ1000-BP

This prevents cylinder malfunction caused by the exhaust from other valves. It is inserted into the R (EXH) port of the valve that is affected. It is especially effective when using single acting cylinders or exhaust center type solenoid valves.

\* When installing back pressure check valves only on the stations required, enter the part number and specify the station positions on a manifold specification sheet.

\* When installing back pressure check valves on all of the stations, indicate "-B" at the end of the manifold part number.



### ⚠ Caution

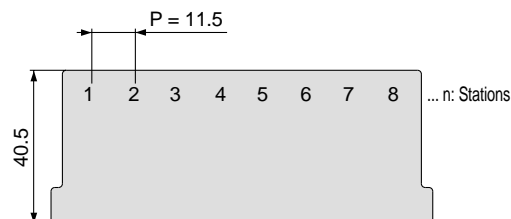
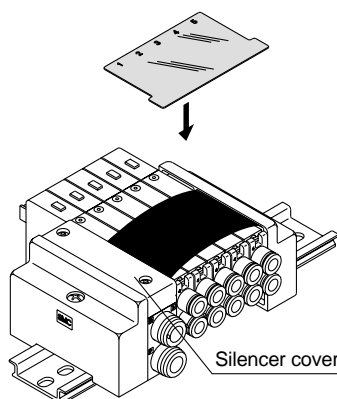
1. Although the back pressure check valve is an assembly part with a check valve mechanism, a small amount of air leakage is allowed. Therefore, take care not to restrict the exhaust air from the exhaust port.
2. The effective area of valves is about 20% less when the back pressure check valve is installed.
3. Since 4 port specification valves (R1 and R2 are common) are used, back pressure cannot be prevented with dual 3 port valves.

## Name plate [-N]

### SSQ1000-N3- Stations (1 to maximum)

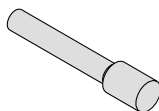
This is a clear resin plate for applying solenoid valve function description labels, etc.  
To install, bend the plate slightly as shown and insert into the slots on the end plate side.  
Also, the plate is difficult to bend for manifolds with only a few stations, therefore, remove the silencer cover to install it.

\* When ordering with manifolds, add "-N" at the end of the manifold number.

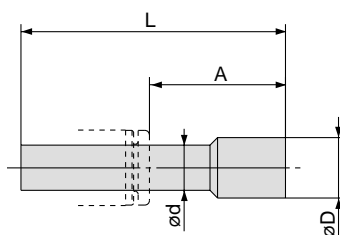


## Blanking plug (for One-touch fitting)

**23**  
**KQ2P-04**  
**06**  
**08**



This is inserted into cylinder ports and SUP and EXH ports that are not used.  
Available in 10 piece units.



## Dimensions

Applicable fitting size ød	Model	A	L	D
3.2	KQ2P-23	16	31.5	3.2
4	KQ2P-04	16	32	6
6	KQ2P-06	18	35	8
8	KQ2P-08	20.5	39	10

## Port plug

### VVQZ100-CP

This is used to close the cylinder ports when changing a 5 port valve to a 3 port valve.

\* Add "A" or "B" at the end of the valve part number when ordering with valves.

Example) SQ1141-5L-C6-A (N.O. specification)

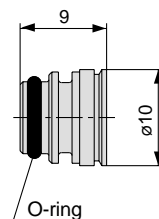
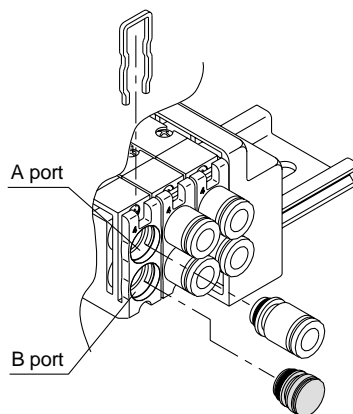
• A port plug

Example) SQ1141-5L-C6-B (N.C. specification)

• B port plug

Example) SQ1141-5L-C6-B-M

(B port plug with manifold block)



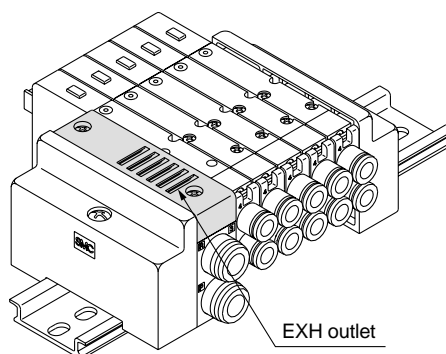
## Direct EXH outlet with built-in silencer [-S]

The EXH outlet is placed on the top side of the manifold end plate. The built-in silencer provides highly effective noise reduction.  
(Noise reduction of 30dB)

Note) Note that when excessive drainage occurs in the air supply, the drainage will be released along with the exhaust.

\* Add "-S" at the end of the manifold part number when ordering with manifolds.

\* Refer to page 1.11-125 for handling precautions and the replacement of elements.



SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

SQ

VQ

VQ4

VQ5

VQZ

VQD

VFS

VS

VS7

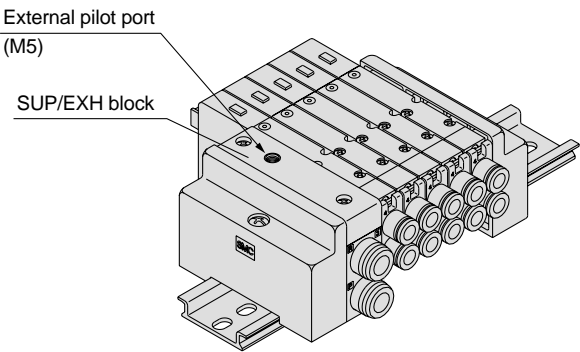
VQ7

Optional Manifold Parts for **SQ1000**

External pilot specification [-R]

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

- Example for valve part number  
SQ1140 R -5L-C6  
    ↓  
    • External pilot specification
- Example for manifold part number  
\* Indicate "R" for an option.  
SS5Q14-08FD1-DR  
    ↓  
    • External pilot specification



- Note 1) Not applicable for dual 3 port valves.  
Note 2) Indicate "RY" for low wattage types.  
Note 3) Valves with the external pilot specification have a pilot EXH with individual exhaust specification and EXH can be pressurized. However, the pressure supplied from EXH should be 0.4MPa or lower.

Dual flow fitting

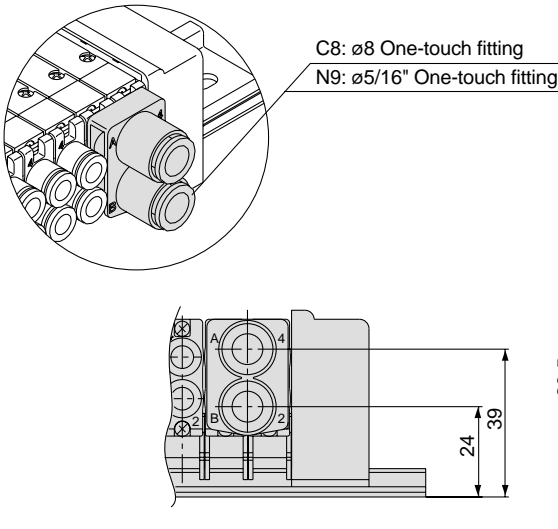
**SSQ1000-52A-C8**

•Bore size

<b>C8</b>	ø8
<b>N9</b>	ø5/16"

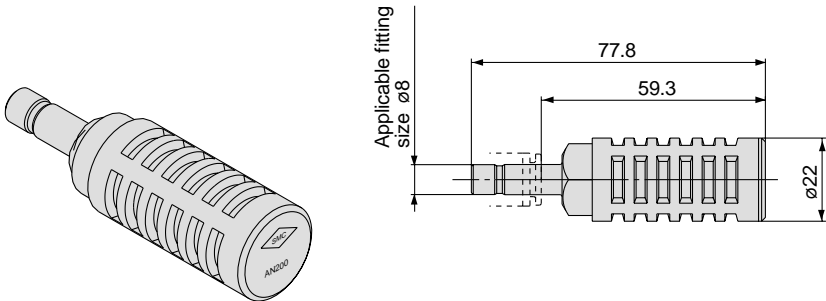
To drive a large bore cylinder, two valve stations are operated simultaneously to double the air flow. This fitting is used on the cylinder ports in this situation. Available sizes are ø8 and ø5/16" One-touch fittings.  
\* When ordering with valves, specify the valve part number without One-touch fitting and list the dual flow fitting part number.

- Example) Valve part number  
(without One-touch fitting part number)  
SQ1141-5L-C0 ..... 2 sets  
\* SSQ1000-52A-C8/N9 ..... 1 set



Silencer (for EXH port)

This is inserted into the centralized type EXH port (One-touch fitting).



Specifications

Series	Model	Effective area mm <sup>2</sup> (Cv factor)	Noise reduction dB
SQ1000	AN200-KM8	20 (1.1)	30

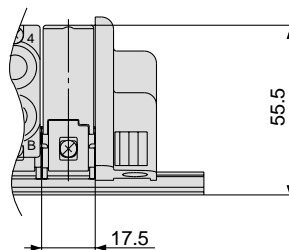
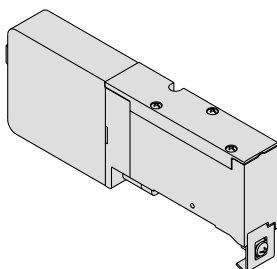


## Optional Manifold Parts for SQ2000

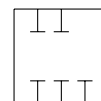
### Blanking plate

#### SSQ2000-10A-4

This is mounted on a manifold block when a valve is removed for maintenance or when installation of an additional valve is planned for the future, etc.



JIS symbol



### SUP/EXH block

#### SSQ2000-PR-4-C10-□

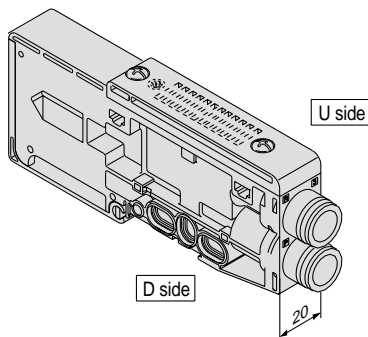
##### Option

Nil	Standard
R	External pilot specification
S	Built-in silencer

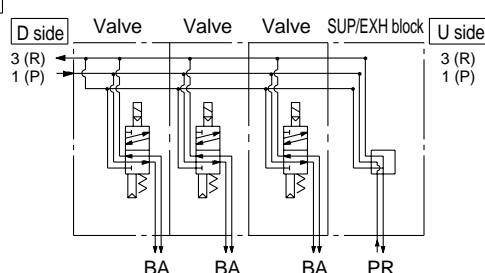
Note) When specifying both options, indicate "RS".  
\* Specify the spacer mounting position on a manifold specification sheet.

For standard type manifolds, the SUP/EXH block is mounted on the D side. It is added to the manifold to increase SUP/EXH capacity.

- \* The number of SUP/EXH blocks that can be added is limited to two sets, one between manifold stations and another on the U side of the manifold, due to the length of the lead wire.
- \* SUP/EXH blocks are not included in the number of manifold stations.



Description/Model	Stations	1	2	3	4	5
Valve	Single	●	●	●		
Option	SUP/EXH block SSQ2000-PR-4-C10-□			●		



### Individual SUP spacer

#### SSQ2000-P-4-C8

##### Port direction

C8	Side ported
L8	Top ported

This is used as a supply port for different pressures when using different pressures in the same manifold (for one station).

Both sides of the station which is used with supply pressure from the individual SUP spacer are shut off. (See examples.)

- \* Specify the spacer mounting position and SUP passage shut off positions on a manifold specification sheet. Two shut off positions are required per unit.

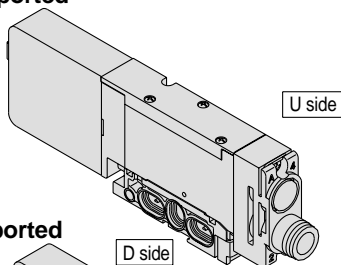
(Two pieces of SUP block plate that shut off the supply pressure are included with the individual SUP spacer, therefore, it is not necessary to order them separately.)

- \* Electrical wiring is also connected to the manifold station with the individual SUP spacer.
- \* By changing the fitting shown in the drawing and the block plates, the spacer's specification can be changed later (from the individual SUP spacer to the individual EXH spacer).
- \* The number of spacers is not limited when ordered with the manifold. However, for F, P, and J kits, when adding individual SUP spacers later, it is limited to two units, one between manifold stations and another on the U side, due to the length of the lead wire.

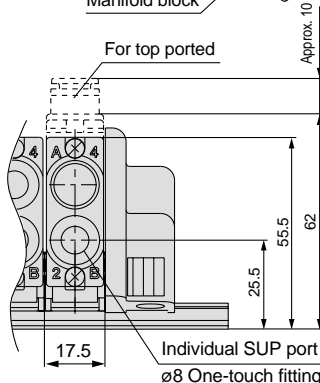
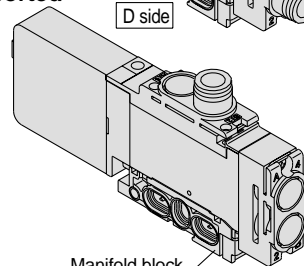
\* Part number with manifold block:

SSQ2000-P-4-C8-M

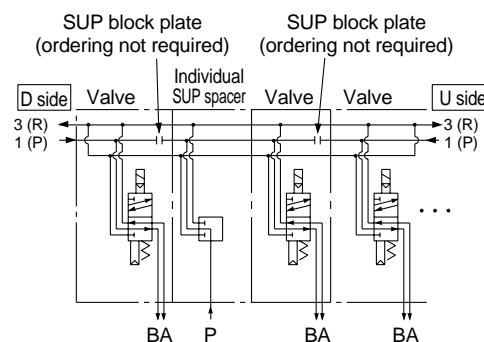
### Side ported



### Top ported



Description/Model	Stations	1	2	3	4	5
Valve	Single	●	●	●		
Option	Individual SUP spacer SSQ2000-P-4-C8		●			
	SUP shut off position: Specify 2 positions.	●	●			



SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

SQ

VQ

VQ4

VQ5

VQZ

VQD

VFS

VS

VS7

VQ7



## Manifold Option Parts for SQ2000

### Individual EXH spacer

SSQ2000-R-4-**C8**

#### Port direction

<b>C8</b>	Side ported
<b>L8</b>	Top ported

This is used to exhaust an individual valve when the exhaust from a valve interferes with other stations in the circuit (used for one station). Both sides of the station which is to be individually exhausted are shut off. (See examples.)

\* Specify the spacer mounting position and EXH passage shut off positions on a manifold specification sheet.

Two shut off positions are required per unit.

(Four pieces of EXH block plate that shut off the exhaust are included with the individual EXH spacer, therefore, it is not necessary to order them separately.)

\* Electrical wiring is also connected to the manifold station with the individual EXH spacer.

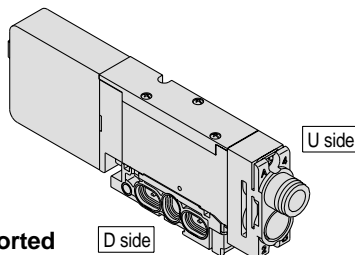
\* By changing the fitting shown in the drawing and the block plates, the spacer's specification can be changed later (from the individual EXH spacer to the individual SUP spacer).

\* The number of spacers is not limited when ordered with the manifold. However, for F, P, and J kits, when adding individual EXH spacers later, it is limited to two units, one between manifold stations and another on the U side, due to the length of the lead wire.

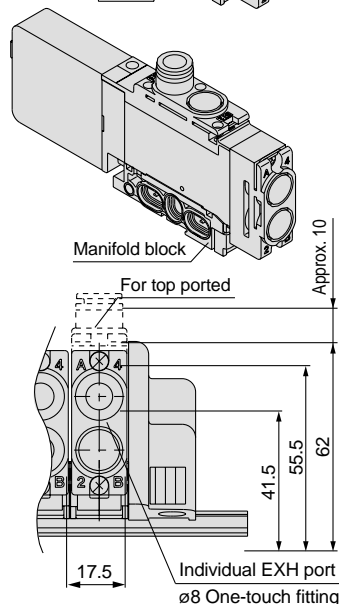
\* Part number with manifold block:

SSQ2000-R-4-**C8**-**M**  
**L8**

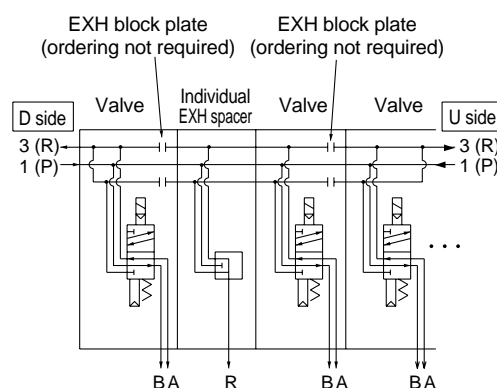
#### Side ported



#### Top ported



Description/Model		Stations				
Valve	Single					
Option	Individual EXH spacer SSQ2000-R-4- <b>C8</b> EXH shut off position: Specify 2 positions.					



### Individual SUP/EXH spacer

SSQ2000-PR1-4-**C8**

#### Port direction

<b>C8</b>	Side ported
<b>L8</b>	Top ported

This has both functions of the individual SUP and EXH spacers above. (See examples.)

\* Specify the spacer mounting position and SUP and EXH passage shut off positions on a manifold specification sheet. Two shut off positions each for SUP and EXH are required per unit.

[Block plates that shut off the SUP and EXH passages are included with the individual SUP/EXH spacer (2 pcs. of SUP block plate and 4 pcs. of EXH block plate).]

\* Electrical wiring is also connected to the manifold station with the individual EXH spacer.

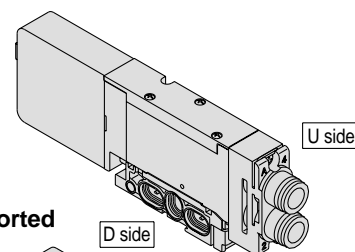
\* By changing the fitting shown in the drawing and the block plates, the spacer's specification can be changed later.

\* The number of spacers is not limited when ordered with the manifold. However, for F, P, and J kits, when adding individual SUP/EXH spacers later, it is limited to two units, one between manifold stations and another on the U side, due to the length of the lead wire.

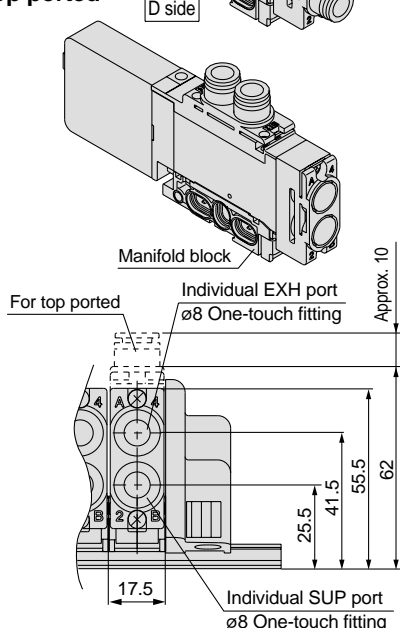
\* Part number with manifold block:

SSQ2000-PR1-4-**C8**-**M**  
**L8**

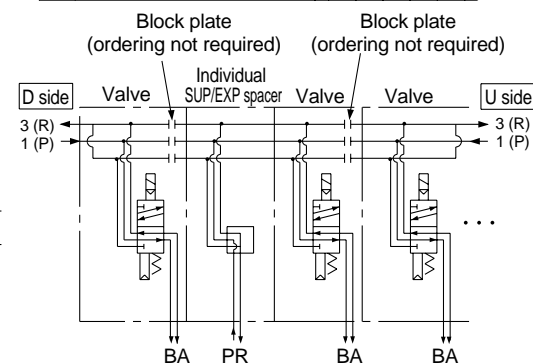
#### Side ported



#### Top ported



Description/Model		Stations				
Valve	Single					
Option	Individual SUP/EXH spacer SSQ2000-PR1-4- <b>C8</b> SUP shut off position: Specify 2 positions. EXH shut off position: Specify 2 positions.					



## SUP block plate

### SSQ1000-B-R

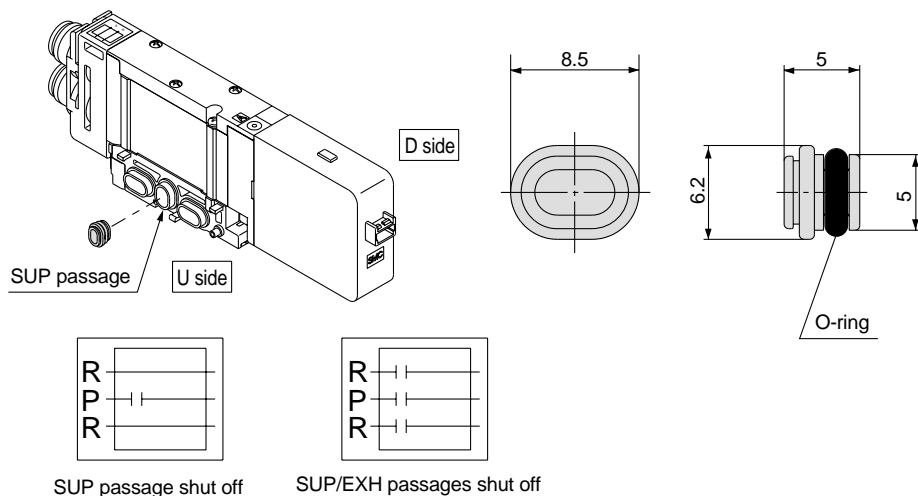
When supplying two different pressures, high and low, to one manifold, this is used between stations with different pressures. Also, it is used with an individual SUP spacer to shut off the air supply.

\* Specify the station position on a manifold specification sheet.

#### <Shut off label>

When a SUP passage is shut off with a SUP block plate, a label is attached for external confirmation of the shut off position (one label each).

\* Shut off labels are applied when SUP block plates are ordered with manifolds.



## EXH block plate

### SSQ2000-B-R

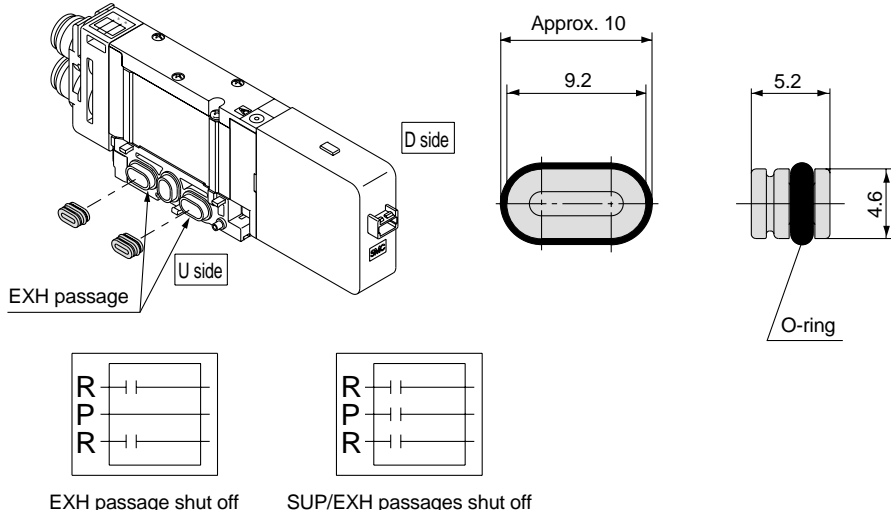
When the exhaust from a valve interferes with other stations in the circuit, this is used between stations to separate exhausts. Also, it is used with an individual EXH spacer to shut off the exhaust of individual valves.

\* Specify the station position on a manifold specification sheet.

#### <Shut off label>

When an EXH passage is shut off with an EXH block plate, a label is attached for external confirmation of the shut off position (one label each).

\* Shut off labels are applied when EXH block plates are ordered with manifolds.



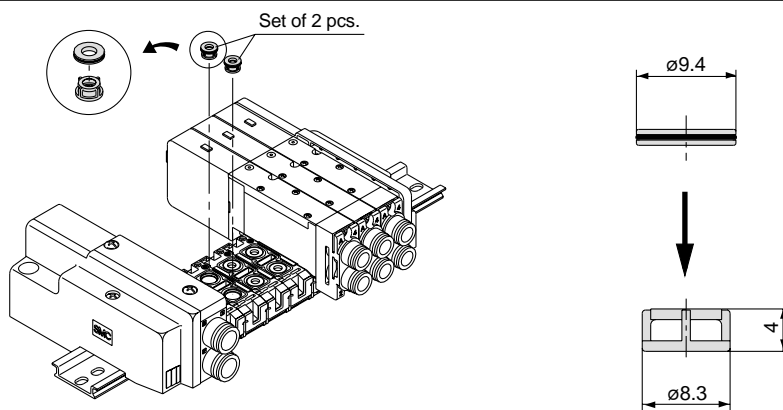
## Back pressure check valve [-B]

### SSQ2000-BP

This prevents cylinder malfunction caused by the exhaust from other valves. It is inserted into the R (EXH) port of the valve that is affected. It is especially effective when using single acting cylinders or exhaust center type solenoid valves.

\* When installing back pressure check valves only on the stations required, enter the part number and specify the station positions on a manifold specification sheet.

\* When installing back pressure check valves on all of the stations, indicate "-B" at the end of the manifold part number.



## ⚠ Caution

1. Although the back pressure check valve is an assembly part with a check valve mechanism, a small amount of air leakage is allowed. Therefore, take care not to restrict the exhaust air from the exhaust port.
2. The effective area of valves is about 20% less when the back pressure check valve is installed.

SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

SQ

VQ

VQ4

VQ5

VQZ

VQD

VFS

VS

VS7

VQ7

## Manifold Option Parts for SQ2000

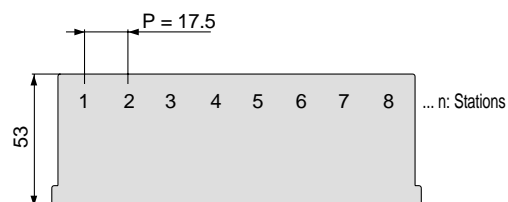
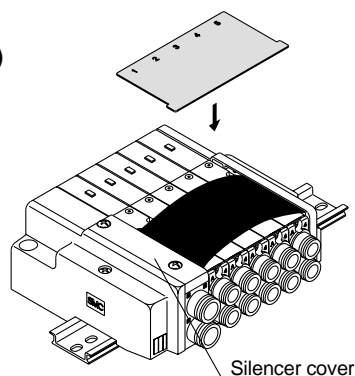
### Name plate [-N]

#### SSQ2000-N3- Stations (1 to maximum)

This is a clear resin plate for applying solenoid valve function description labels, etc.

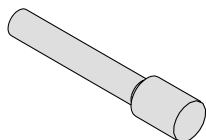
To install, bend the plate slightly as shown and insert into the slots on the end plate side. Also, the plate is difficult to bend for manifolds with only a few stations, therefore, remove the silencer cover to install it.

\* When ordering with manifolds, add "-N" at the end of the manifold number.

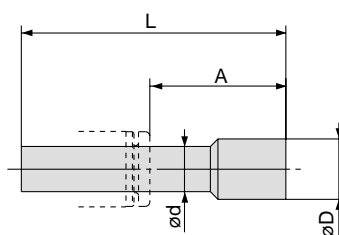


### Blanking plug (for One-touch fitting)

**KQ2P-**  
04  
06  
08  
10



This is inserted into cylinder ports and SUP and EXH ports that are not used.  
Available in 10 piece units.



### Dimensions

Applicable fitting size $\phi d$	Model	A	L	D
4	KQ2P-04	16	32	6
6	KQ2P-06	18	35	8
8	KQ2P-08	20.5	39	10
10	KQ2P-10	22	43	12

### Port plug

#### VVQZ2000-CP

This is used to close the cylinder ports when changing a 5 port valve to a 3 port valve.

\* Add "A" or "B" at the end of the valve part number when ordering with valves.

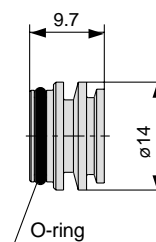
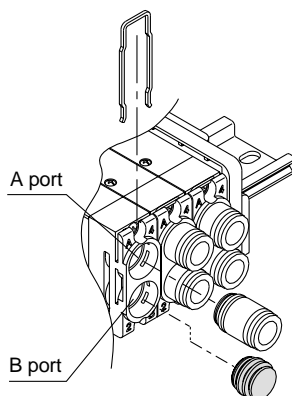
Example) SQ2141-5L-C8-A (N.O. specification)

• A port plug

Example) SQ2141-5L-C8-B (N.C. specification)

• B port plug

Example) SQ2141-5L-C8-B-M  
(B port plug with manifold block)



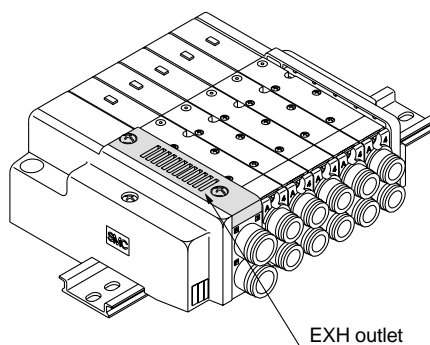
### Direct EXH outlet with built-in silencer [-S]

The EXH outlet is placed on the top side of the manifold end plate. The built-in silencer provides highly effective noise reduction. (Noise reduction of 30dB)

Note) Note that when excessive drainage occurs in the air supply, the drainage will be released along with the exhaust.

\* Add "-S" at the end of the manifold part number when ordering with manifolds.

\* Refer to page 1.11-125 for handling precautions and the replacement of elements.



## External pilot specification [-R]

This can be used when the air pressure is 0.1 to 0.2 MPa lower than the minimum operating pressure of the solenoid valves or used for vacuum specifications.

Add "R" to the part numbers of manifolds and valves to indicate the external pilot specification.

An M5 port will be installed on the top side of the manifold's SUP/EXH block.

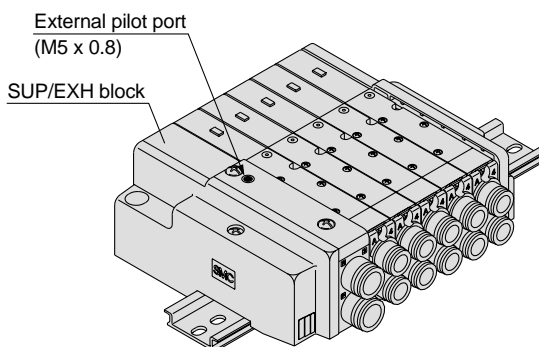
- Example for valve part number  
SQ2140 R -5L-C6

• External pilot specification

- Example for manifold part number  
\* Indicate "R" for an option.

SS5Q24-08FD1-DR

• External pilot specification



Note 1) Not applicable for 4 position dual 3 port valves.

Note 2) Indicate "RY" for low wattage types.

Note 3) Valves with the external pilot specification have a pilot EXH with individual exhaust specification and EXH can be pressurized. However, the pressure supplied from EXH should be 0.4MPa or lower.

## Dual flow fitting

### SSQ2000-52A-C10

#### Bore size

C10	ø10
N11	ø3/8"

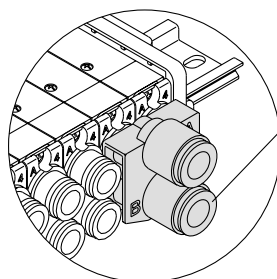
To drive a large bore cylinder, two valve stations are operated simultaneously to double the air flow. This fitting is used on the cylinder ports in this situation. Available sizes are ø10 and ø3/8" One-touch fittings.

\* When ordering with valves, specify the valve part number without One-touch fitting and list the dual flow fitting part number.

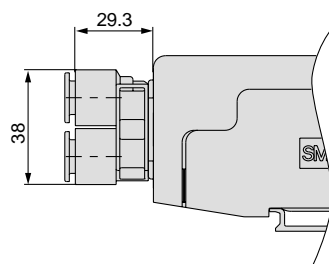
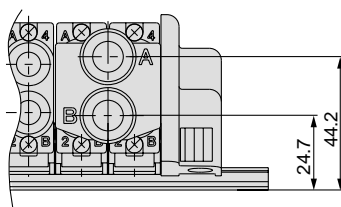
Example) Valve part number  
(without One-touch fitting)

SQ2141-5L-C0 ..... 2 sets

\* SSQ2000-52A-C10 ..... 1 set

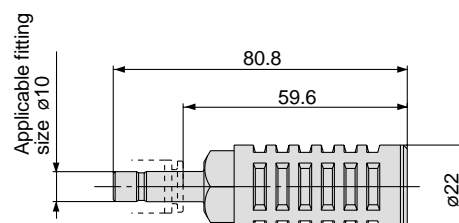
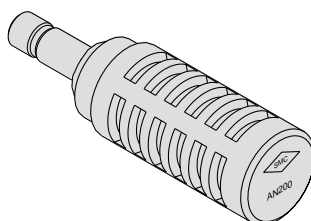


C10: ø10 One-touch fitting  
N11: ø3/8" One-touch fitting



## Silencer (for EXH port)

This is inserted into the centralized type EXH port (One-touch fitting).



## Specifications

Series	Model	Effective area mm <sup>2</sup> (Cv factor)	Noise reduction dB
SQ2000	AN200-KM10	26 (1.4)	30

SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

SQ

VQ

VQ4

VQ5

VQZ

VQD

VFS

VS

VS7

VQ7

Manifold Options for **SQ1000/SQ2000**

Special wiring specifications

The standard internal wiring of F kit, P kit, and J kit is double wiring (connected to SOL. A and SOL. B) regardless of the valve and option types. Mixed single and double wiring is available as an option.

1. How to order

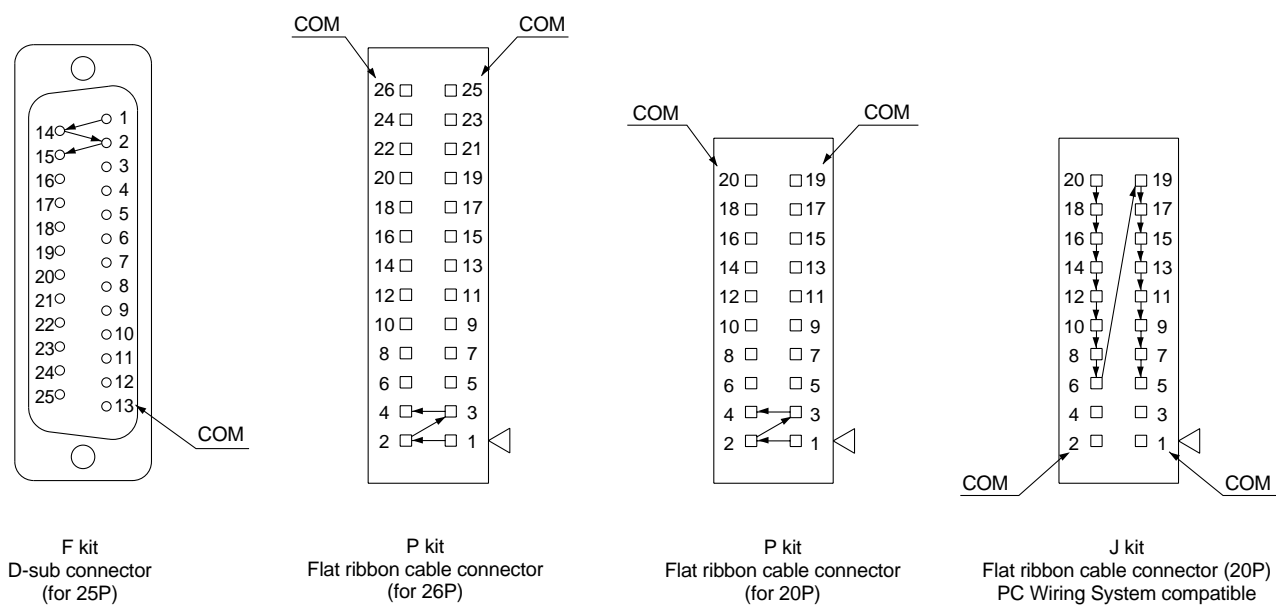
Indicate option symbol "-K" in the manifold part number and be sure to specify station positions for single or double wiring on a manifold specification sheet.

Example) **SS5Q14-09FD0-DKS**

Other option symbols: Enter in alphabetical order.

2. Wiring specifications

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



3. Maximum stations

The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. Determine the number of stations so that the total number of solenoids is no more than the maximum points in the table below.

Kit	F kit (D-sub connector)	P kit (Flat ribbon cable connector)		J kit Flat ribbon cable connector PC Wiring System compatible
Type	FD□ 25P	PD□ 26P	PDC 20P	JD0 20P
Max. points	24 points	24 points	18 points	16 points

Note) Maximum stations ..... SQ1000: 24 stations  
SQ2000: 16 stations

**Applicable DIN rail mounting**

Each manifold can be mounted on a DIN rail.  
Indicate the symbol "-D" for ordering DIN rail mount type manifolds.  
The standard DIN rail provided is approximately 30mm longer than the overall length of the manifold with a specified number of stations.  
The following options are also available.

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

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

Example) **SS5Q14- 08FD0 - D09BNK**

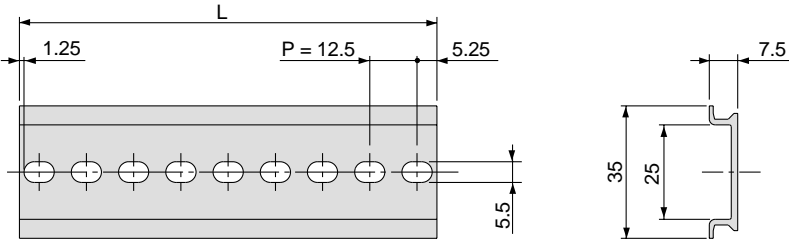


**• Ordering DIN rail only**

DIN rail part number

**AXT100- DR -n**

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



**Dimension L**

$L = 12.5 \times n + 10.5$

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

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

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

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

SV
SY
SYJ
SX
VK
VZ
VF
VFR
VP7
VQC
<b>SQ</b>
VQ
VQ4
VQ5
VQZ
VQD
VFS
VS
VS7
VQ7

**Manifold Options for SQ1000/SQ2000**

**Negative COM specifications**

The following valve part numbers are for negative COM specifications. Manifold part numbers are the same as standard.


• **How to order negative COM valves (example)**

SQ1140 N -5L-C6-Q  
 Negative COM specification

**One-touch fittings in inch sizes**

For One-touch fittings in inch sizes, use the following part numbers. Also, the color of the release button is orange.

• **How to order valves (example)**

SQ1140- 5L -  N7 -Q

Port position
 

Nil	Side
L	Top

Cylinder port size
 

Symbol	N1	N3	N7	N9
Applicable tube O.D. inch	ø1/8"	ø5/32"	ø1/4"	ø5/16"
A/B port	●	●	●	—
	—	●	●	●

• **How to order manifolds (example)**

Add "00T" at the end of the part number.

SS5Q14-08 FD0-DN 00T -Q

P/R port in inch size

- SQ1000: ø5/16" (N9)
- SQ2000: ø3/8" (N11)



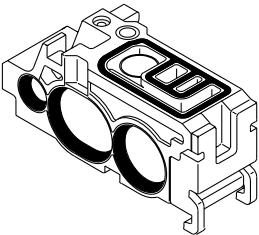
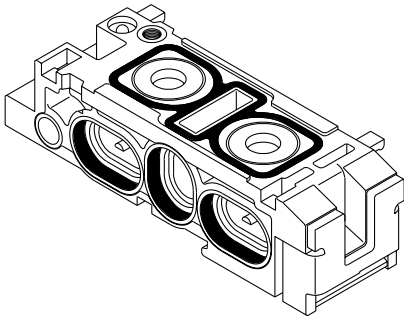




How to Add Manifold Stations for SQ1000/SQ2000

1. How to add manifold stations

What to order

- Valves with manifold block (refer to pages 1.11-69 and 1.11-83) or the manifold blocks shown below. For F kit, P kit, and J kit, also order the lead wire assemblies in the next section.

Manifold block part nos.

SQ1000	SQ2000												
													
<div>SSQ1000—1A—4—</div> <div>Option ● </div> <table><tr><td>Nil</td><td>None</td></tr><tr><td>B</td><td>With back pressure check valve</td></tr><tr><td>R</td><td>External pilot specification</td></tr></table> <div>Note) Enter "-BR" for both options.</div>	Nil	None	B	With back pressure check valve	R	External pilot specification	<div>SSQ2000—1A—4—</div> <div>Option ● </div> <table><tr><td>Nil</td><td>None</td></tr><tr><td>B</td><td>With back pressure check valve</td></tr><tr><td>R</td><td>External pilot specification</td></tr></table> <div>Note) Enter "-BR" for both options.</div>	Nil	None	B	With back pressure check valve	R	External pilot specification
Nil	None												
B	With back pressure check valve												
R	External pilot specification												
Nil	None												
B	With back pressure check valve												
R	External pilot specification												

SV
SY
SYJ
SX
VK
VZ
VF
VFR
VP7
VQC
SQ
VQ
VQ4
VQ5
VQZ
VQD
VFS
VS
VS7
VQ7

How to Add Manifold Stations for SQ1000/SQ2000

For F kit, P kit, J kit,

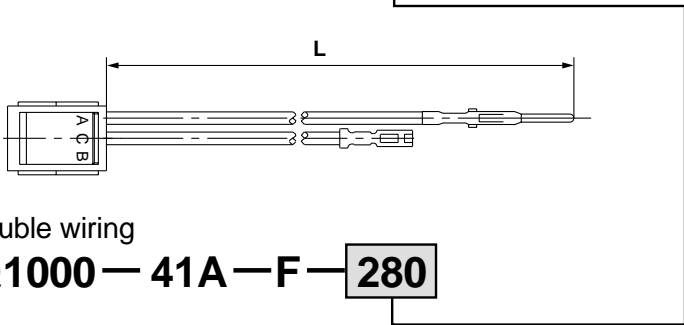
What to prepare: Lead wire assemblies

**SQ1000**

D-sub connector kit (F kit)

- For single wiring

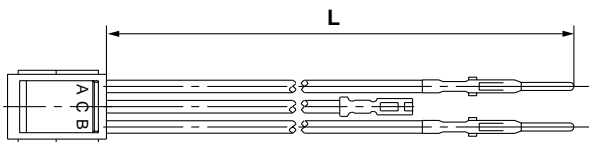
**SSQ1000—40A—F—205**



Station	Symbol (Dimension L)	Station	Symbol (Dimension L)
Station 2	165	Station 14	320
Station 3	175	Station 15	335
Station 4	190	Station 16	350
Station 5	205	Station 17	365
Station 6	215	Station 18	375
Station 7	230	Station 19	385
Station 8	245	Station 20	400
Station 9	260	Station 21	405
Station 10	280	Station 22	420
Station 11	290	Station 23	435
Station 12	300	Station 24	450
Station 13	310		

- For double wiring

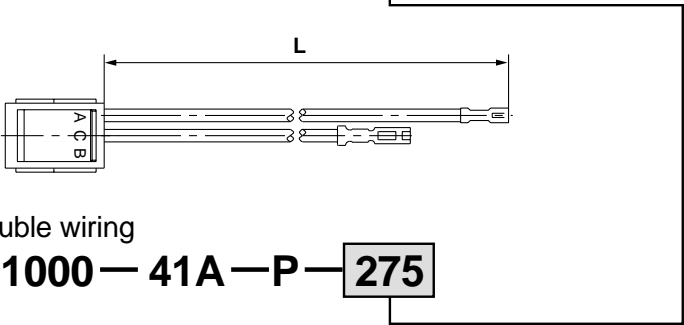
**SSQ1000—41A—F—280**



Flat ribbon cable kit (P kit), PC Wiring System compatible (J kit)

- For single wiring

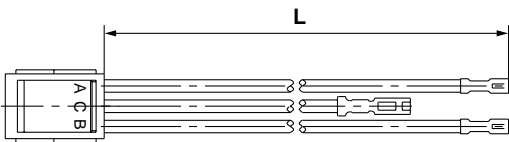
**SSQ1000—40A—P—200**



Station	Symbol (Dimension L)	Station	Symbol (Dimension L)
Station 2	160	Station 14	315
Station 3	170	Station 15	330
Station 4	185	Station 16	345
Station 5	200	Station 17	360
Station 6	210	Station 18	370
Station 7	225	Station 19	380
Station 8	240	Station 20	395
Station 9	255	Station 21	400
Station 10	275	Station 22	415
Station 11	285	Station 23	430
Station 12	295	Station 24	445
Station 13	305		

- For double wiring

**SSQ1000—41A—P—275**

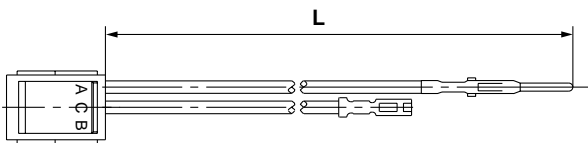


**SQ2000**

**D-sub connector kit (F kit)**

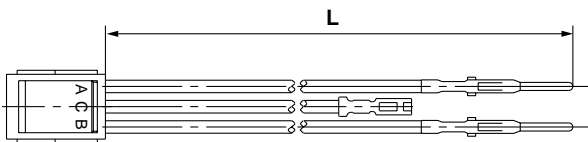
- For single wiring

**SSQ1000—40A—F—250**



- For double wiring

**SSQ1000—41A—F—350**

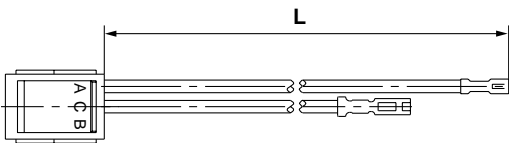


Station	Symbol (Dimension L)	Station	Symbol (Dimension L)
Station 2	190	Station 14	430
Station 3	210	Station 15	450
Station 4	230	Station 16	470
Station 5	250	Station 17	490
Station 6	270	Station 18	510
Station 7	290	Station 19	530
Station 8	310	Station 20	550
Station 9	330	Station 21	570
Station 10	350	Station 22	590
Station 11	370	Station 23	610
Station 12	390	Station 24	630
Station 13	410		

**Flat ribbon cable kit (P kit), PC Wiring System compatible (J kit)**

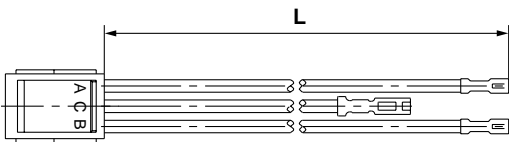
- For single wiring

**SSQ1000—40A—P—250**



- For double wiring

**SSQ1000—41A—P—350**



Station	Symbol (Dimension L)	Station	Symbol (Dimension L)
Station 2	190	Station 14	430
Station 3	210	Station 15	450
Station 4	230	Station 16	470
Station 5	250	Station 17	490
Station 6	270	Station 18	510
Station 7	290	Station 19	530
Station 8	310	Station 20	550
Station 9	330	Station 21	570
Station 10	350	Station 22	590
Station 11	370	Station 23	610
Station 12	390	Station 24	630
Station 13	410		

SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

SQ

VQ

VQ4

VQ5

VQZ

VQD

VFS

VS

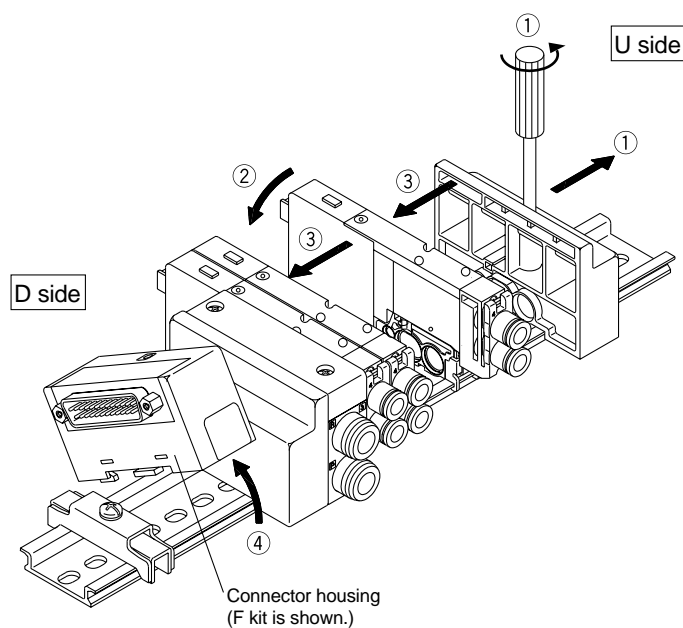
VS7

VQ7

## How to Add Manifold Stations for SQ1000/SQ2000

### Steps for adding stations

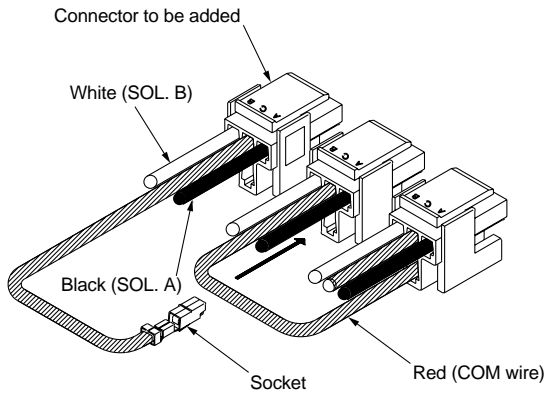
- ① Loosen the clamp screw on the U side end plate and open the manifold.
- ② Mount the manifold block or valve with manifold block to be added.
- ③ Press on the end plate to eliminate any space between the manifold blocks and tighten the clamp screw.  
(Proper tightening torque: 0.8 to 1.0N·m)
- ④ In the case of F kit, P kit or J kit, remove the connector housing from the DIN rail and connect the wiring.



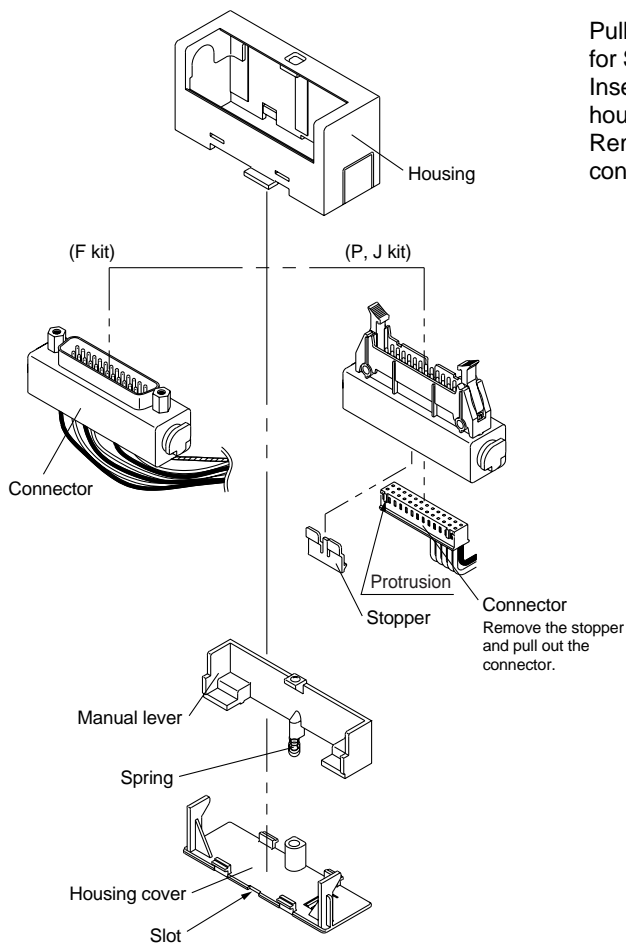
2. Connection method

① Connecting common wire

Insert the red lead wire (common wire) of the connector to be added into the adjacent connector as shown in the drawing below. After inserting, lightly pull on the wire to confirm that the socket is locked.



② Pulling out connector



F, P, J kit

Pull out the connector to connect the lead wires for SOL. A and SOL. B.  
Insert a flat head screw driver into the slot of the housing cover and remove it.  
Remove the manual lever and pull out the connector.

SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

**SQ**

VQ

VQ4

VQ5

VQZ

VQD

VFS

VS

VS7

VQ7

How to Add Manifold Stations for SQ1000/SQ2000

- ③ **Connector connection/**Connect the black and white lead wire pins to the positions shown below in accordance with each kit.
- ⚠ **Caution** 1) After inserting the pin, confirm that the pin hook is locked by lightly pulling the lead wire.
- 2) Do not pull the lead wire forcefully when connecting. Also, take care that lead wires do not get caught between manifolds or when remounting the housing.

Wiring (F kit: D-sub connector kit)

Procedure) Based on the manifold specification, station 1 of SOL. A (black wire) will be terminal number 1 of the D-sub connector, and for station 2 and thereafter, connect black wires to white wires in the order shown by the arrows in the drawing below.

Lead wire assembly

Connector terminal number

Station 1 Black, SOL. A --- 1

Station 3 Black, SOL. A --- 2

Station 4 Black, SOL. A --- 3

Station 5 Black, SOL. A --- 4

Station 6 Black, SOL. A --- 5

14 --- Station 2 Black, SOL. A

15 --- Station 3 White, SOL. B

16 --- Station 4 White, SOL. B

17 --- Station 5 White, SOL. B

18

19

20

21

22

23

24

25

6

7

8

9

10

11

12

COM --- 13

Black

White

Hook

COM (Red)

Stations	1	2	3	4	5	6
Single wiring	○	○				○
Double wiring			○	○	○	

Station 1 SOL. A 1 Black

Station 2 SOL. A 14 Black

Station 3 SOL. A 2 Black

Station 3 SOL. B 15 White

Station 4 SOL. A 3 Black

Station 4 SOL. B 16 White

Station 5 SOL. A 4 Black

Station 5 SOL. B 17 White

Station 6 SOL. A 5 Black

COM 13 Red

\* The drawing above shows connections based on the manifold specification example in the table to the left.

Wiring (P kit: Flat ribbon cable kit)

Procedure) Based on the manifold specification, station 1 of SOL. A (black wire) will be terminal number 1B of the flat ribbon cable connector, and for station 2 and thereafter, connect black wires to white wires in the order shown by the arrows in the drawing below.

Lead wire assembly

Protrusion

Station 2 Black, SOL. A --- 1A

Station 3 White, SOL. B --- 2A

Station 4 White, SOL. B --- 3A

Station 5 White, SOL. B --- 4A

5A

6A

7A

8A

9A

10A

11A

12A

Red (COM) --- 13A

1B --- Station 1 Black, SOL. A

2B --- Station 3 Black, SOL. A

3B --- Station 4 Black, SOL. A

4B --- Station 5 Black, SOL. A

5B --- Station 6 Black, SOL. A

6B

7B

8B

9B

10B

11B

12B

13B --- Red (COM)

COM (Red)

Stations	1	2	3	4	5	6
Single wiring	○	○				○
Double wiring			○	○	○	

Station 1 SOL. A 1B Black

Station 2 SOL. A 1A Black

Station 3 SOL. A 2B Black

Station 3 SOL. B 2A White

Station 4 SOL. A 3B Black

Station 4 SOL. B 3A White

Station 5 SOL. A 4B Black

Station 5 SOL. B 4A White

Station 6 SOL. A 5B Black

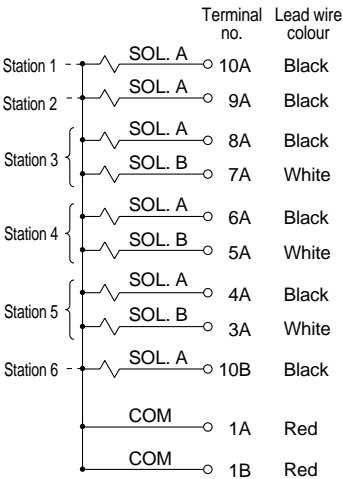
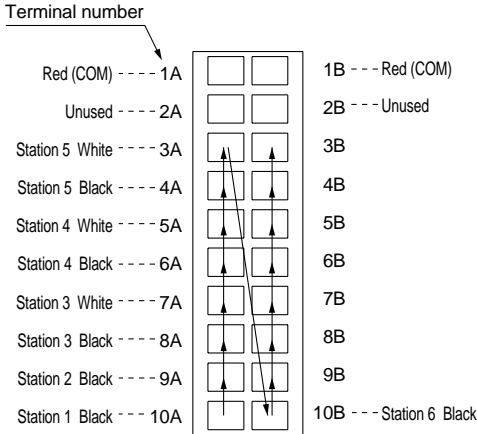
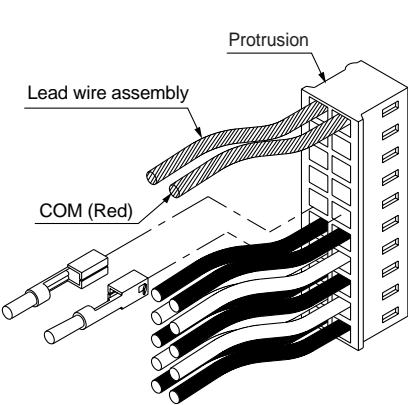
COM 13A Red

COM 13B Red

\* The drawing above shows connections for type 26P flat ribbon cable connector based on the manifold specification example in the table to the left. For type 20P, the connection will be the same as above except that COM changes to 10A and 10B.

**Wiring (J kit: Flat ribbon cable, PC Wiring System compatible)**

Procedure) Based on the manifold specification, station 1 of SOL. A (black wire) will be terminal number 10A of the flat ribbon cable connector, and for station 2 and thereafter, connect black wires to white wires in the order shown by the arrows in the drawing below.



**Manifold specification example**

Stations	1	2	3	4	5	6
Single wiring	○	○				○
Double wiring			○	○	○	

SV
SY
SYJ
SX
VK
VZ
VF
VFR
VP7

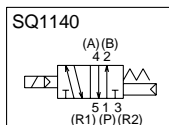
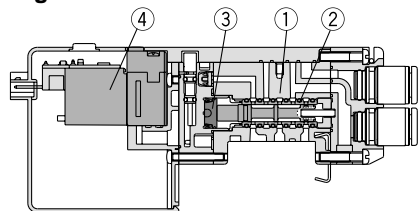
VQC
SQ
VQ
VQ4
VQ5
VQZ
VQD
VFS
VS
VS7
VQ7



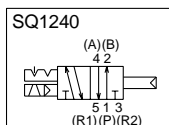
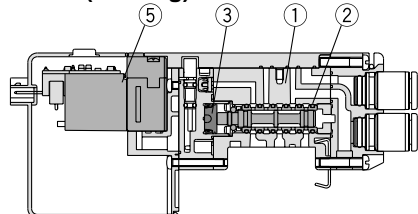
## Construction/Series SQ1000 Plug Lead Type Main Parts and Pilot Valve Assemblies

### Metal seal type

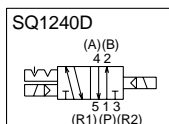
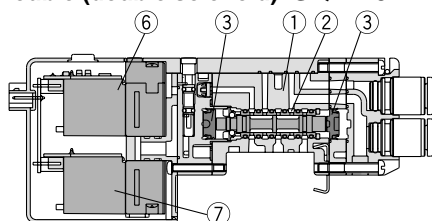
#### Single: SQ1140



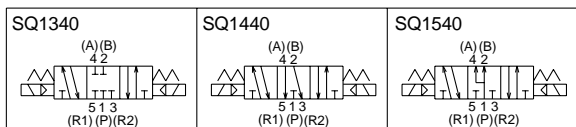
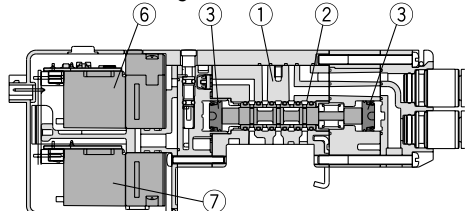
#### Double (latching): SQ1240



#### Double (double solenoid): SQ1240D

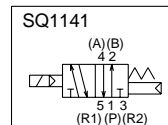
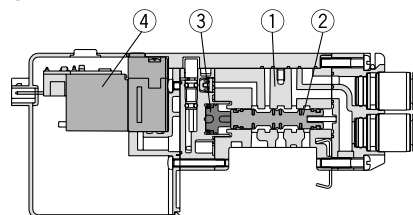


#### 3 position: SQ14 40

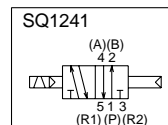
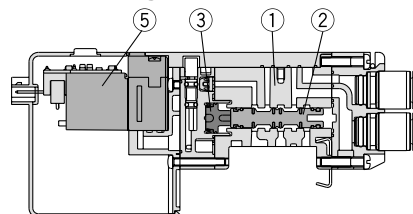


### Rubber seal type

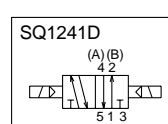
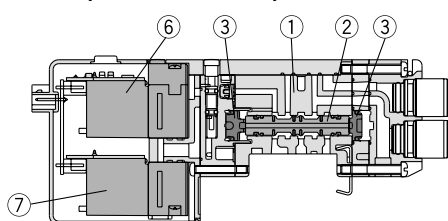
#### Single: SQ1141



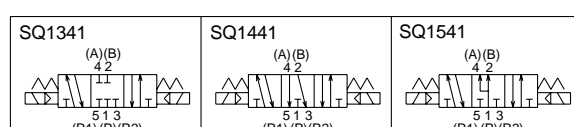
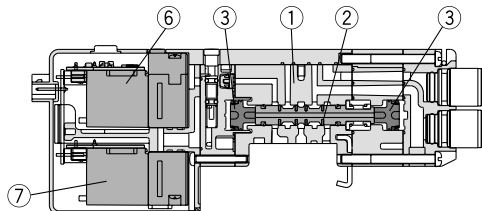
#### Double (latching): SQ1241



#### Double (double solenoid): SQ1241D



#### 3 position: SQ14 41



### Parts list

No.	Description	Material
1	Body	Die-cast zinc
2	Spool sleeve	Stainless steel (metal seal)
	Spool	Aluminum (rubber seal)
3	Piston	Resin

### Pilot valve assemblies Note)

No.	Type	SQ1□4□
4	For single	VQ110 <sup>(K)</sup> <sub>(Y)</sub> - <sup>5</sup> / <sub>6</sub> (N)J1(B)-1
5	For double (latching)	VQ110L- <sup>5</sup> / <sub>6</sub> J2-1 Negative COM: VQ110N- <sup>5</sup> / <sub>6</sub> J2-1
6	For double (double solenoid) on A side For 3P, dual 3 port on A side	VQ110 <sup>(K)</sup> <sub>(Y)</sub> - <sup>5</sup> / <sub>6</sub> (N)J3(B)-1
7	For double (double solenoid) on B side For 3P, dual 3 port on B side	VQ111 <sup>(K)</sup> <sub>(Y)</sub> - <sup>5</sup> / <sub>6</sub> (N)J4-1

Note) Nil: Standard

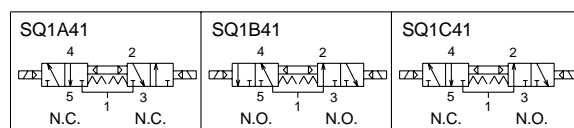
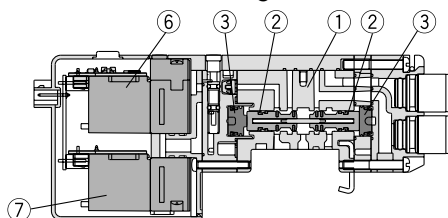
B: Locking type manual override

K: High pressure specification (metal seal only)

N: Negative COM specification

Y: Low wattage specification

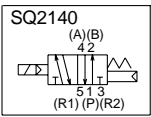
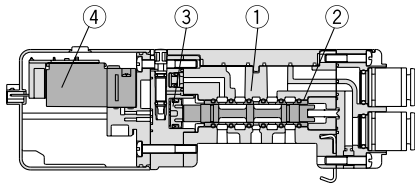
### Dual 3 port valve: SQ1B 41



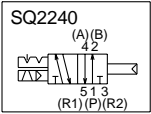
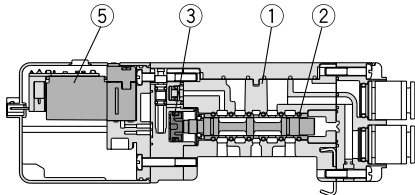
Construction/Series **SQ2000** Plug Lead Type Main Parts and Pilot Valve Assemblies

**Metal seal type**

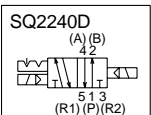
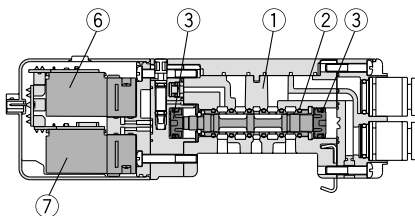
Single: **SQ2140**



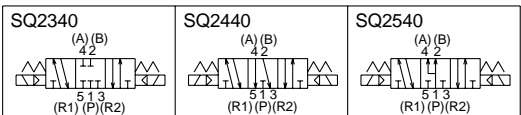
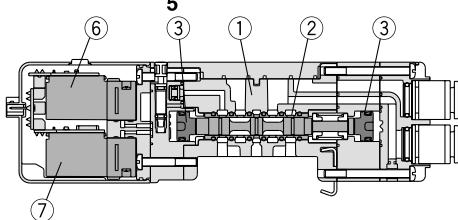
Double (latching): **SQ2240**



Double (double solenoid): **SQ2240D**



3 position: **SQ2440**



**Parts list**

No.	Description	Material
1	Body	Die-cast aluminum
2	Spool sleeve	Stainless steel (metal seal)
2	Spool	Aluminum (rubber seal)
3	Piston	Resin

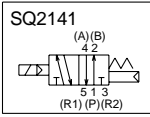
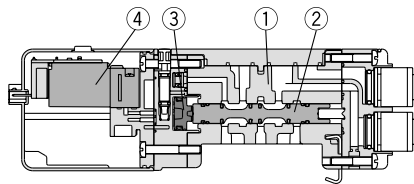
**Pilot valve assemblies** (Note)

No.	Type	<b>SQ2□4□</b>
4	For single	VQ111S(Y)- <sup>5</sup> / <sub>6</sub> (N)J21-1
5	For double (latching)	VQ110SL- <sup>5</sup> / <sub>6</sub> J22-1 Negative COM: VQ110SN- <sup>5</sup> / <sub>6</sub> J22-1
6	For double (double solenoid) on A side For 3P, dual 3 port on A side	VQ111S(Y)- <sup>5</sup> / <sub>6</sub> (N)J23-1
7	For double (double solenoid) on B side For 3P, dual 3 port on B side	VQ111S(Y)- <sup>5</sup> / <sub>6</sub> (N)J24-1

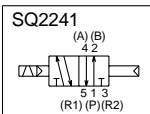
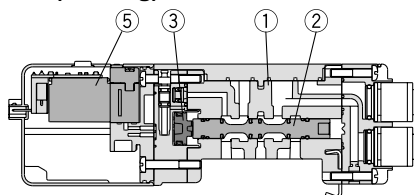
Note) Nil: Standard  
N: Negative COM specification  
Y: Low wattage specification

**Rubber seal type**

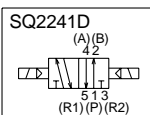
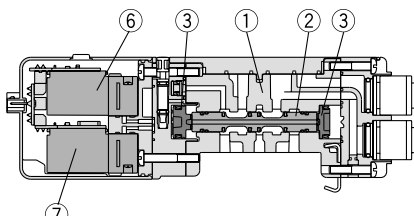
Single: **SQ2141**



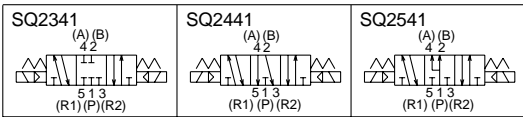
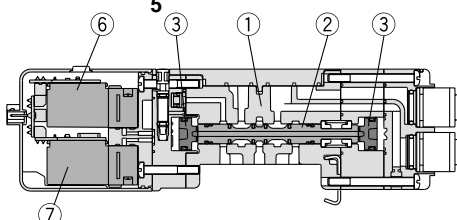
Double (latching): **SQ2241**



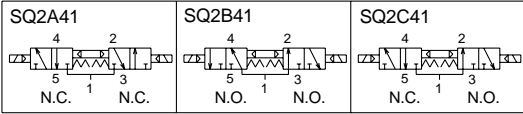
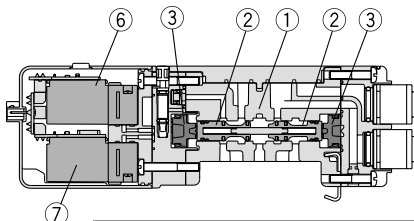
Double (double solenoid): **SQ2241D**



3 position: **SQ2441**



Dual 3 port valve: **SQ2B41**



SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

**SQ**

VQ

VQ4

VQ5

VQZ

VQD

VFS

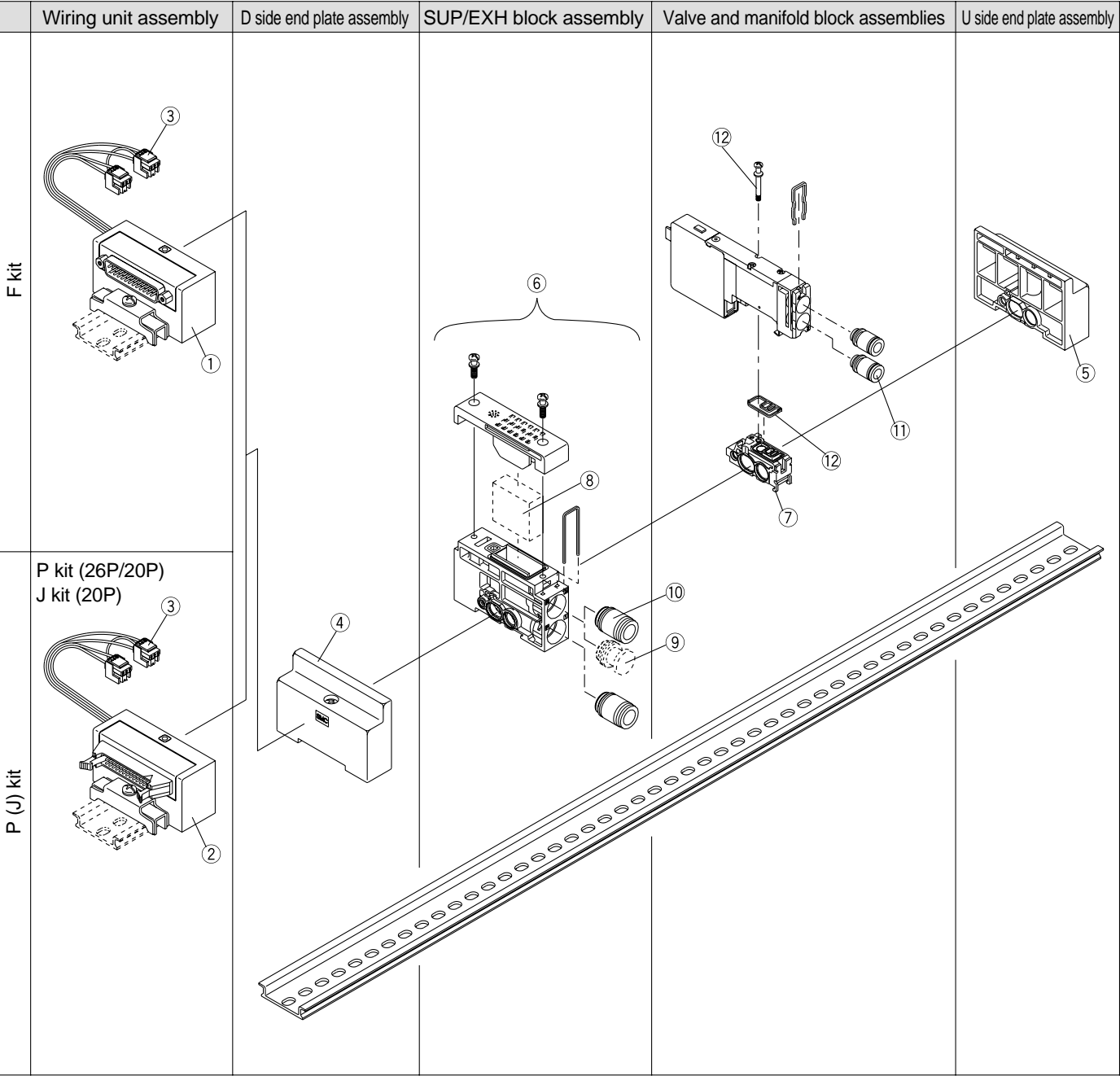
VS

VS7

VQ7

**Exploded View of Manifold/SQ1000 (Plug Lead Type Manifold) SS5Q14**

(F, P, J, C kit)



## Manifold Spare Parts

Refer to pages 1.11-109 through 1.11-115 of "How to Add Manifold Stations" regarding the mounting of each spare part.

### <① D-sub connector housing assemblies>

**AXT100-40-FL25-S 03**

Wiring		Stations	
S	Single wiring	01	1 station
D	Double wiring	:	:
		24	24 stations

### <② Flat ribbon cable connector housing assemblies>

**AXT100-40-PL26-PL20-JL20-S 03**

Wiring		Stations	
S	Single wiring	01	1 station
D	Double wiring	:	:
		24	24 stations

Note)  
PL26: 01 to 24 (P kit, 26P)  
PL20: 01 to 18 (P kit, 20P)  
JL20: 01 to 16 (J kit, 20P)

### <③ Lead wire assemblies>

(For F kit)

For station 1 **SSQ1000-4 1 B-F-155**

Wiring	
0	For single (2 wires)
1	For double (3 wires)

For stations 2 to 24 **SSQ1000-4 1 A-F-205**

Wiring	
0	For single (2 wires)
1	For double (3 wires)

Lead wire length

Station	Dimension L (mm)	Station	Dimension L (mm)	Station	Dimension L (mm)	Station	Dimension L (mm)
2	165	8	245	14	320	20	400
3	175	9	260	15	335	21	405
4	190	10	280	16	350	22	420
5	205	11	290	17	365	23	435
6	215	12	300	18	375	24	450
7	230	13	310	19	385		

(For P, J kits)

For station 1 **SSQ1000-4 1 B-P-150**

Wiring	
0	For single (2 wires)
1	For double (3 wires)

For stations 2 to 24 **SSQ1000-4 1 A-P-200**

Wiring	
0	For single (2 wires)
1	For double (3 wires)

Lead wire length

Station	Dimension L (mm)	Station	Dimension L (mm)	Station	Dimension L (mm)	Station	Dimension L (mm)
2	160	8	240	14	315	20	395
3	170	9	255	15	330	21	400
4	185	10	275	16	345	22	415
5	200	11	285	17	360	23	430
6	210	12	295	18	370	24	445
7	225	13	305	19	380		

(For C kit)

**AXT661-1 3 AL**

Wiring	
3	For double (3 wires)
4	For single (2 wires)

Lead wire length

Symbol	Dimension L (mm)
Nil	300
6	600
10	1000
15	1500
20	2000
25	2500
30	3000
50	5000

### <④ D side end plate assemblies>

**SSQ1000-3A-4**

### <⑤ U side end plate assemblies>

**SSQ1000-2A-4**

### <⑥ SUP/EXH block assemblies>

**SSQ1000-PR-4-C8**

Bore size	
C6	ø6 One-touch fitting
C8	ø8 One-touch fitting
N7	ø1/4" One-touch fitting
N9	ø5/16" One-touch fitting

Option	
Nil	Centralized exhaust
R	For external pilot
S	For direct exhaust outlet with built-in silencer

Note) Enter "RS" for both options.

### <⑦ Manifold block assemblies>

**SSQ1000-1A-4** <sup>⑫</sup> Includes gaskets

Option	
Nil	None
B	Back pressure check valve
R	External pilot specification

Note) Enter "BR" for both options.

### <⑧ Elements>

**SSQ1000-SE**

Note) Part number for a 10 piece set of elements. Refer to page 1.11-125 for replacement procedures.

### <⑨ Port plugs>

**VVQZ2000-CP**

### <⑩ Fitting assemblies>

(For P, R port)

**VVQ1000-51A-C8**

Bore size	
C6	ø6 One-touch fitting
C8	ø8 One-touch fitting
N7	ø1/4" One-touch fitting
N9	ø5/16" One-touch fitting

Note) Available in units of 10 pieces.

### <⑪ Fitting assemblies>

(For cylinder port)

**VVQ1000-50A-C6**

Bore size	
C3	ø3.2 One-touch fitting
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
M5	M5 threads
N1	ø1/8" One-touch fitting
N3	ø5/32" One-touch fitting
N7	ø1/4" One-touch fitting

Note) Available in units of 10 pieces.

### <⑫ Gasket and screw assemblies>

**SQ1000-GS**

Note) Part number for 10 pieces each of gaskets and screws.

SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

SQ

VQ

VQ4

VQ5

VQZ

VQD

VFS

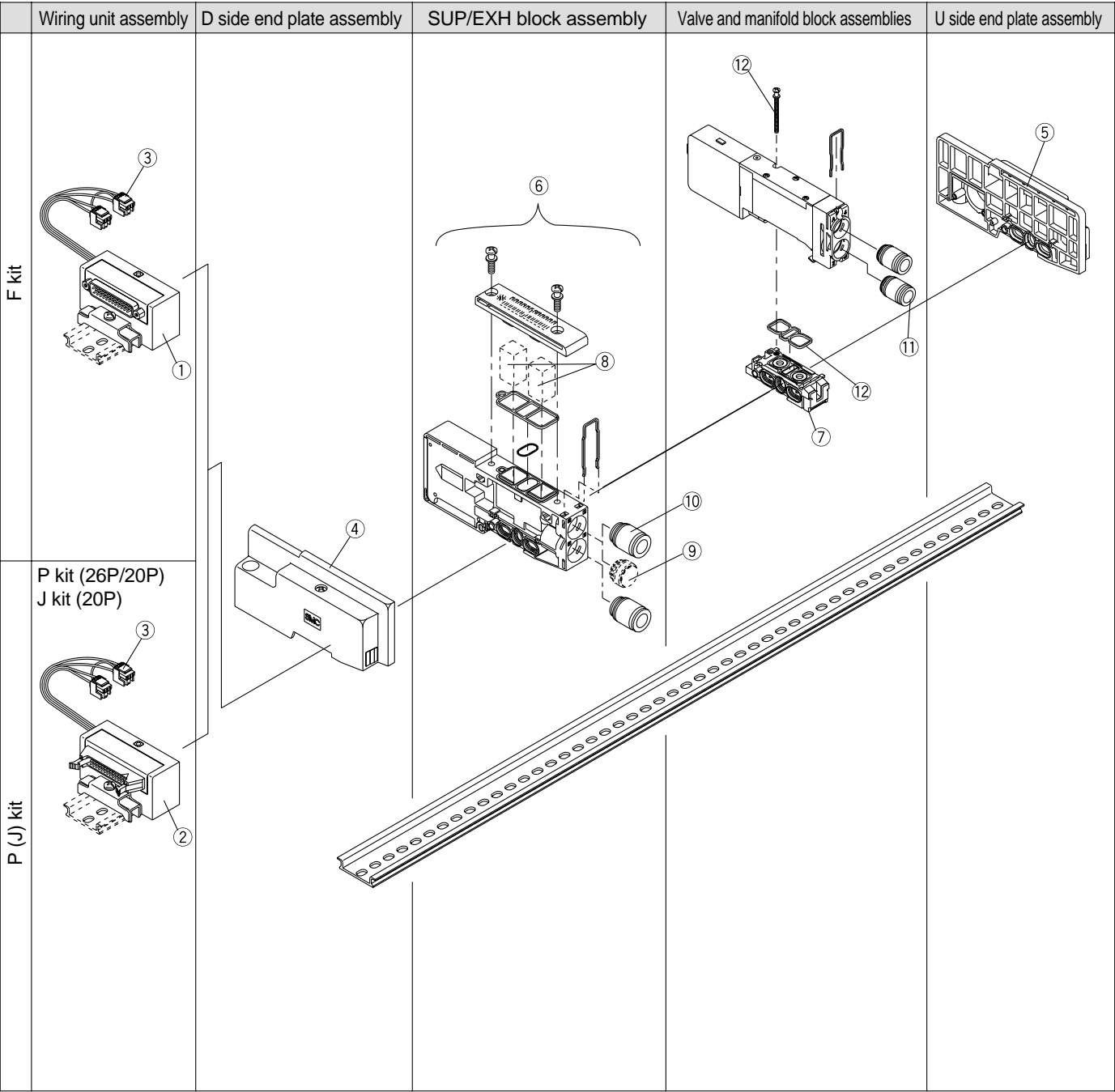
VS

VS7

VQ7

**Exploded View of Manifold/SQ2000 (Plug Lead Type Manifold) SS5Q24**

(F, P, J, C kit)



## Manifold Spare Parts

Refer to pages 1.11-109 through 1.11-115 of "How to Add Manifold Stations" regarding the mounting of each spare part.

### <① D-sub connector housing assemblies>

**AXT100-41-FL25-S 03**

Wiring		Stations	
S	Single wiring	01	1 station
D	Double wiring	12	12 stations

### <② Flat ribbon cable connector housing assemblies>

**AXT100-41-PL20-S 03**  
**PL26**  
**JL20**

Wiring		Stations		Note	
S	Single wiring	01	1 station	PL26:	01 to 12 (P kit, 26P)
D	Double wiring	12	12 stations	PL20:	01 to 09 (P kit, 20P)
				JL20:	01 to 08 (J kit, 20P)

### <③ Lead wire assemblies>

(For F kit)  
 For station 1

**SSQ1000-4 1 B-F-170**

Wiring	
0	For single (2 wires)
1	For double (3 wires)

For stations  
 2 to 24

**SSQ1000-4 1 A-F-230**

Wiring	
0	For single (2 wires)
1	For double (3 wires)

Lead wire length

Station	Dimension L (mm)	Station	Dimension L (mm)	Station	Dimension L (mm)	Station	Dimension L (mm)
2	190	8	310	14	430	20	550
3	210	9	330	15	450	21	570
4	230	10	350	16	470	22	590
5	250	11	370	17	490	23	610
6	270	12	390	18	510	24	630
7	290	13	410	19	530		

(For P, J kits)

For station 1 **SSQ1000-4 1 B-P-170**

Wiring	
0	For single (2 wires)
1	For double (3 wires)

For stations  
 2 to 24

**SSQ1000-4 1 A-P-310**

Wiring	
0	For single (2 wires)
1	For double (3 wires)

Lead wire length

Station	Dimension L (mm)	Station	Dimension L (mm)	Station	Dimension L (mm)	Station	Dimension L (mm)
2	190	8	310	14	430	20	550
3	210	9	330	15	450	21	570
4	230	10	350	16	470	22	590
5	250	11	370	17	490	23	610
6	270	12	390	18	510	24	630
7	290	13	410	19	530		

(For C kit)

**AXT661-1 3 AL-6**

Wiring	
3	For double (3 wires)
4	For single (2 wires)

Lead wire length

Symbol	Dimension L (mm)
Nil	300
6	600
10	1000
15	1500
20	2000
25	2500
30	3000
50	5000

### <④ D side end plate assemblies>

**SSQ2000-3A-4**

Manifold mounting	
Nil	DIN rail mount type
E	Direct mount type

### <⑤ U side end plate assemblies>

**SSQ2000-2A-4 1**

Manifold mounting	
Nil	DIN rail mount type
E	Direct mount type

### <⑥ SUP/EXH block assemblies>

**SSQ2000-PR-4 C10**

Bore size	
C8	ø8 One-touch fitting
C10	ø10 One-touch fitting
N9	ø5/16" One-touch fitting
N11	ø3/8" One-touch fitting

Option	
Nil	Centralized exhaust
R	For external pilot
S	For direct exhaust outlet with built-in silencer

Note) Enter "-RS" for both options.

### <⑦ Manifold block assemblies>

**SSQ2000-1A-4**

⑫ Includes gaskets

Option	
Nil	None
B	Back pressure check valve
R	External pilot specification

Note) Enter "-BR" for both options.

### <⑧ Elements>

**SSQ2000-SE**

Note) Part number for a 10 piece set of elements. Refer to page 1.11-125 for replacement procedures.

### <⑨ Port plugs>

**VVQZ3000-CP**

### <⑩ Fitting assemblies>

(For P, R port)

**VVQ2000-51A-C10**

Bore size	
C8	ø8 One-touch fitting
C10	ø10 One-touch fitting
N9	ø5/16" One-touch fitting
N11	ø3/8" One-touch fitting

Note) Available in units of 10 pieces.

### <⑪ Fitting assemblies>

(For cylinder port)

**VVQ1000-51A-C8**

Bore size	
C4	ø4 One-touch fitting
C6	ø6 One-touch fitting
C8	ø8 One-touch fitting
N3	ø5/32" One-touch fitting
N7	ø1/4" One-touch fitting
N9	ø5/16" One-touch fitting

Note) Available in units of 10 pieces.

### <⑫ Gasket and screw assemblies>

**SQ2000-GS**

Note) Part number for 10 pieces each of gaskets and screws.

SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

SQ

VQ

VQ4

VQ5

VQZ

VQD

VFS

VS

VS7

VQ7





# Series SQ1000/2000 Specific Product Precautions 1

Be sure to read before handling.

## ⚠ Warning

### Manual Override

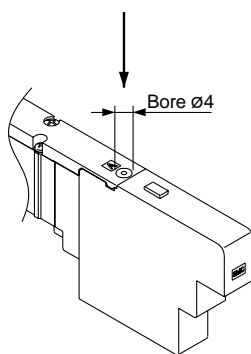
Use to switch the main valve.

#### Push type (tool required)

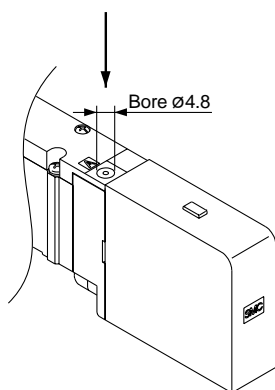
Push the manual override all the way in using a small screw driver, etc.

[Available for all types except 2 position double (latching)]

**SQ1000**



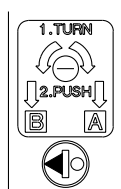
**SQ2000**



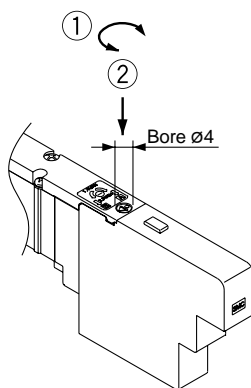
#### Push type (tool required)

##### 2 position double (latching) type

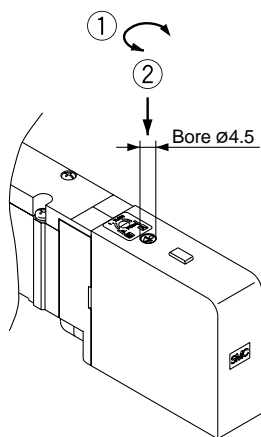
- Turn the manual override 180° clockwise until the ► mark aligns with "A" and push in to lock in the set condition (flow from P to A).
- Turn the manual override 180° counter clockwise until the ► mark aligns with "B" and push in to return to the reset condition (flow from P to B).



**SQ1000**



**SQ2000**



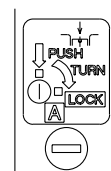
#### <Caution>

Do not turn the manual override when it is pushed in, as this may cause damage. The construction is such that the operating force is different on sides A and B.

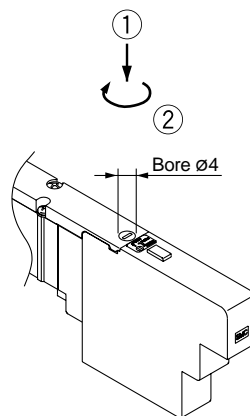
#### Locking type (tool required)

The manual override is locked by pushing it all the way in and turning it 90° clockwise using a small flat head screw driver. Turn it counter clockwise to release it.

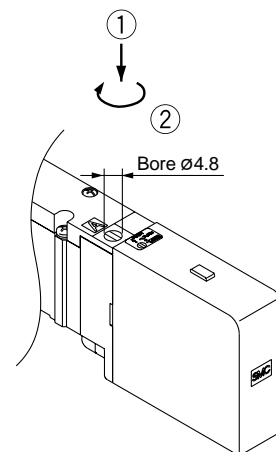
[Available for all types except 2 position double (latching)]



**SQ1000**



**SQ2000**



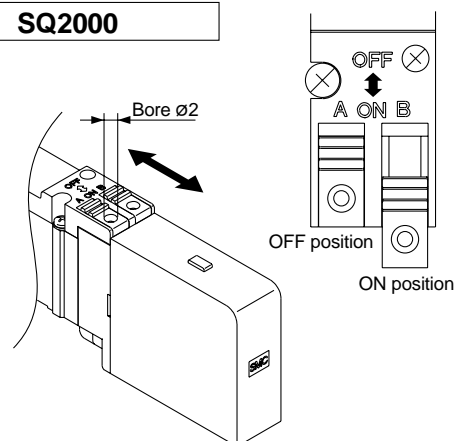
#### Slide locking type

(SQ2000 only)

The manual override is locked by sliding it all the way to the pilot valve side (ON side) with a small flat head screw driver or finger. Slide it to the fitting side (OFF side) to release it. In addition, it can also be used as a push type by using a screw driver, etc., of ø2 or less.

[Available for all types except 2 position double (latching)]

**SQ2000**





# Series SQ1000/2000 Specific Product Precautions 2

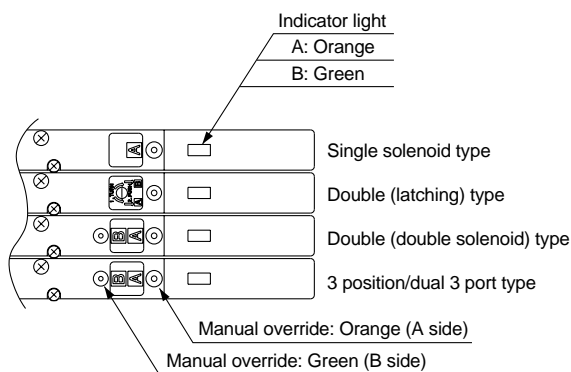
Be sure to read before handling.

## ⚠ Caution

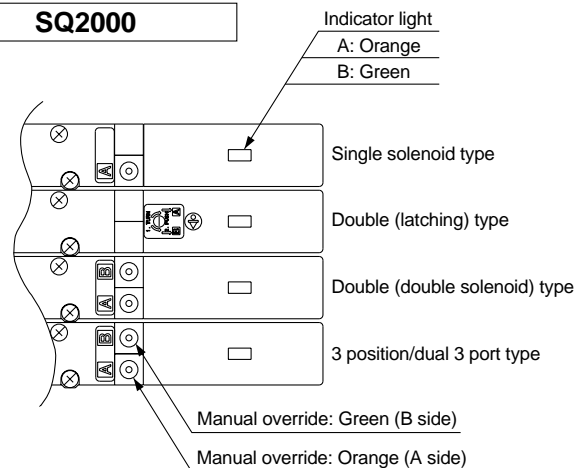
### Indicator light/surge voltage suppressor

Indicator lights are all positioned on one side for both single solenoid and double solenoid types.  
For double, 3 position, and 4 position dual 3 port types, 2 colours are used to indicate the energization of A side or B side.

#### SQ1000

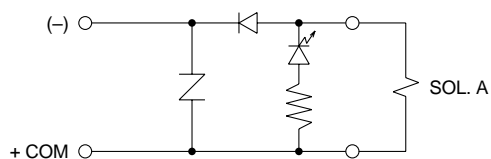


#### SQ2000

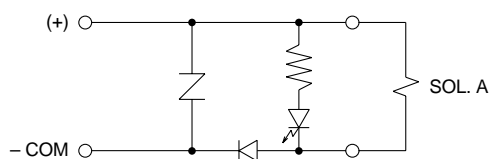


- Single solenoid type (SQ1000/2000)

#### Positive COM specification

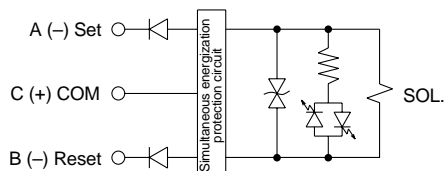


#### Negative COM specification

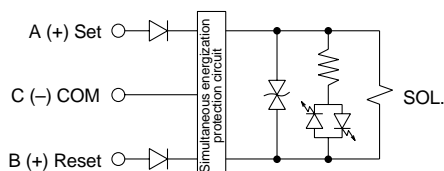


- Double (latching) type (SQ1000/2000)

#### Positive COM specification



#### Negative COM specification

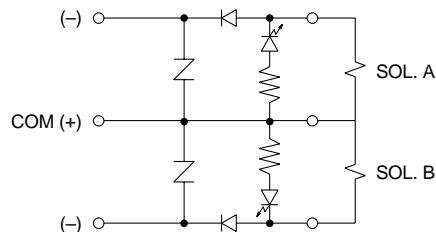


- Double (double solenoid) type (SQ1000/2000)

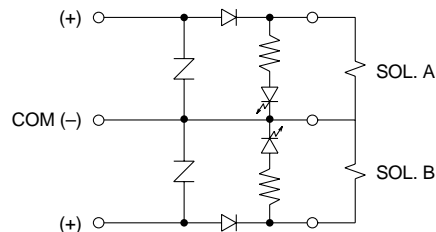
- 3 position type (SQ1000/2000)

- 4 position dual 3 port type (SQ1000/2000)

#### Positive COM specification



#### Negative COM specification



SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

SQ

VQ

VQ4

VQ5

VQZ

VQD

VFS

VS

VS7

VQ7



# Series SQ1000/2000 Specific Product Precautions 3

Be sure to read before handling.

## ⚠ Caution

### 2 Position Double (Latching Solenoid) Type

Within the double type, a latching (with self holding mechanism) solenoid type is available in addition to the conventional double solenoid. The appearance is the same as the single solenoid. However, the construction allows the armature inside the solenoid to hold the A side ON position and B side ON position during momentary energization (20ms or longer). The operating method and functions are the same as the conventional double solenoid type.

#### <Special precautions for latching solenoid>

1. Use in a circuit that does not have simultaneous energization of ON and OFF signals.
2. To operate with momentary energization, the energized time should be 20ms or longer.
3. Although there is no problem for normal operations and environments, do not operate in an environment with vibration (3G or more) or strong magnetic field.
4. This valve is shipped with the armature inside the solenoid holding the B side ON position (Reset). However, energize to confirm whether it is holding the A side ON position or B side ON position before operation.
5. To operate for an extended time, use SQ<sub>2</sub><sup>1</sup><sub>2</sub><sup>30</sup><sub>41</sub>-□□-□□-X11 with energy saving circuit.

## ⚠ Caution

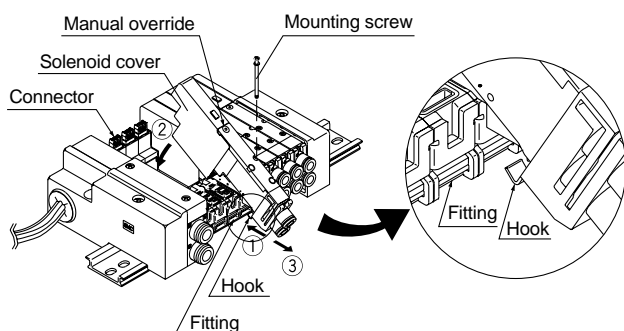
### Mounting and Removal of Valves

#### Mounting

- Insert the hook of the valve into the fitting on the manifold block, then push the valve down into place and tighten the mounting screw.
- Tighten the screw with the appropriate tightening torque shown below.

SQ1000	0.17 to 0.23N·m
SQ2000	0.25 to 0.35N·m

- When pushing the valve down, press it on the area near the manual override. Be careful not to push the solenoid cover.



#### Removal

Loosen the valve mounting screw, lift the valve from the solenoid cover side and remove it by sliding it in the direction of arrow ③.

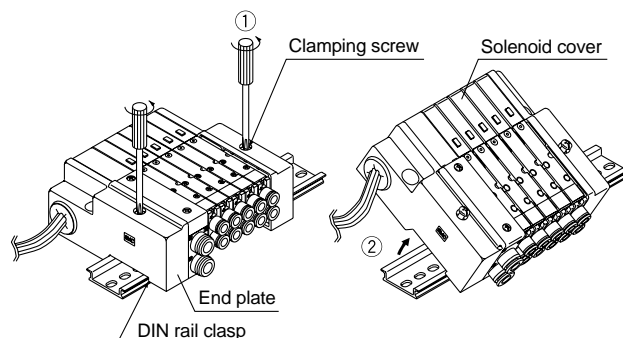
If it is difficult to loosen the screw, loosen it while pressing the valve gently on the area near the manual override.

## ⚠ Caution

### Mounting and Removal of Manifold with DIN Rail

#### Removing Manifold from DIN Rail

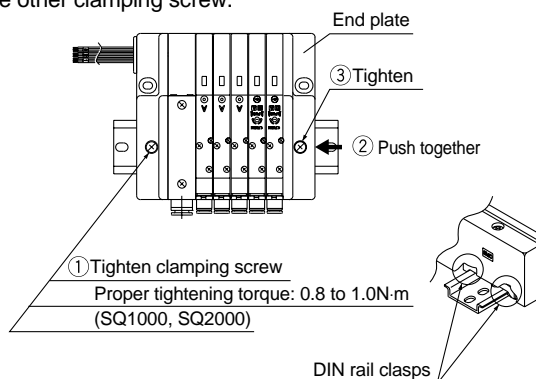
- ① Loosen the end plate clamping screws on both sides until they turn freely. (The screws do not come out.)
- ② Remove the manifold from the DIN rail by lifting it from the solenoid cover side.



When a manifold contains a large number of stations and is difficult to remove all at once, separate the manifold into several sections before removing it.

#### Mounting Manifold on DIN Rail

The procedure is the reverse of that above. After tightening the clamping screw on one side, push on the opposite end plate so that there are no gaps between the manifold blocks and then tighten the other clamping screw.



- Confirm that the DIN rail clasps are securely hooked into the DIN rail.



# Series SQ1000/2000 Specific Product Precautions 4

Be sure to read before handling.

## ⚠ Caution

### Replacing Cylinder Port Fittings

Cylinder port fittings are available in cassette type and can be replaced easily.

Fittings are secured with a clip that is inserted from the top side of the valve. Remove the clip with a flat head screw driver, etc., to replace the fittings.

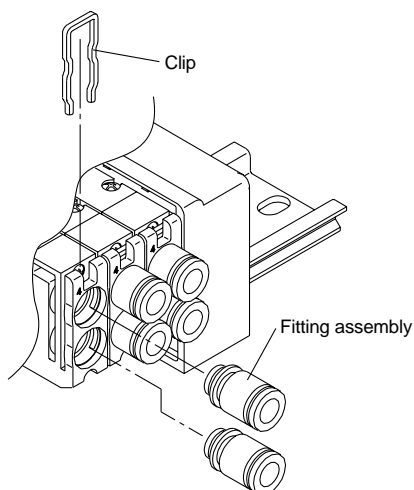
To mount a fitting, insert the fitting assembly until it stops and reinsert the clip to its designated position.

Applicable tube O.D. (mm)	Fitting assembly part no.	
	SQ1000	SQ2000
3.2	VVQ1000-50A-C3	—
4	VVQ1000-50A-C4	VVQ1000-51A-C4
6	VVQ1000-50A-C6	VVQ1000-51A-C6
8	—	VVQ1000-51A-C8

\* Part numbers above are for one fitting; however, order them in 10 piece units.

## ⚠ Caution

Do not scratch or put foreign matter on the O-rings as this will cause air leakage.



## ⚠ Caution

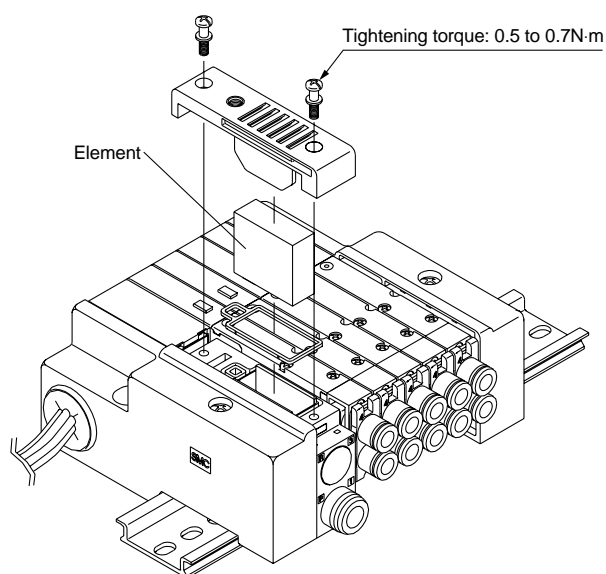
### Built-in Silencer Elements

A filter element is built into the manifold base end plate. When the element becomes dirty and clogged, this will cause trouble such as a drop in the cylinder speed, etc. Therefore, replace the element regularly.

#### Element part nos.

Type	Element part no.	
	SQ1000	SQ2000
Direct exhaust outlet with built-in silencer (-S)	SSQ1000-82A-3	SSQ2000-82A-3

\* Part numbers above are for a set of ten elements.



To replace an element, remove the cover on the top side of the end plate and remove the old element with a flat head screw driver, etc.

SV

SY

SYJ

SX

VK

VZ

VF

VFR

VP7

VQC

SQ

VQ

VQ4

VQ5

VQZ

VQD

VFS

VS

VS7

VQ7

