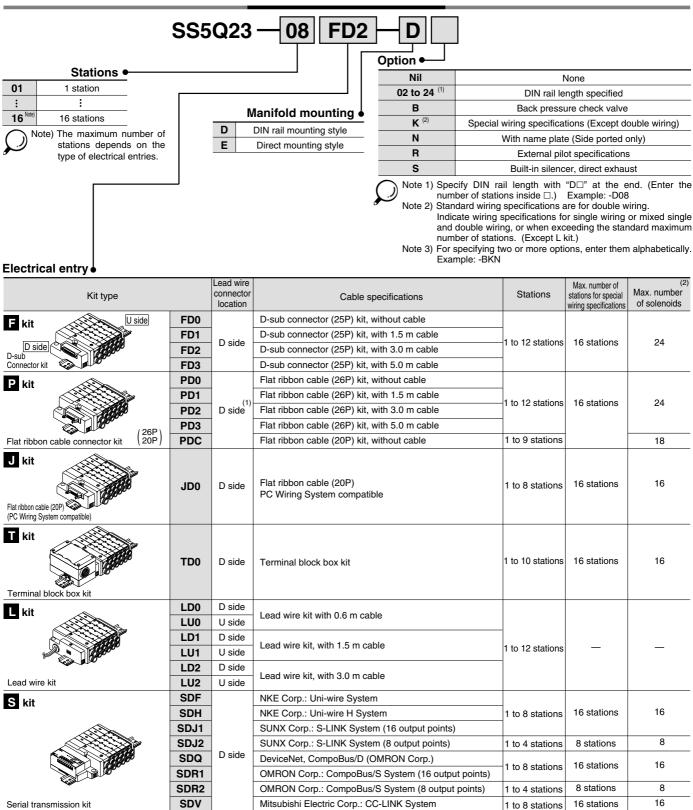
# Series SQ2000 Plug-in Manifold

# How to Order Manifold



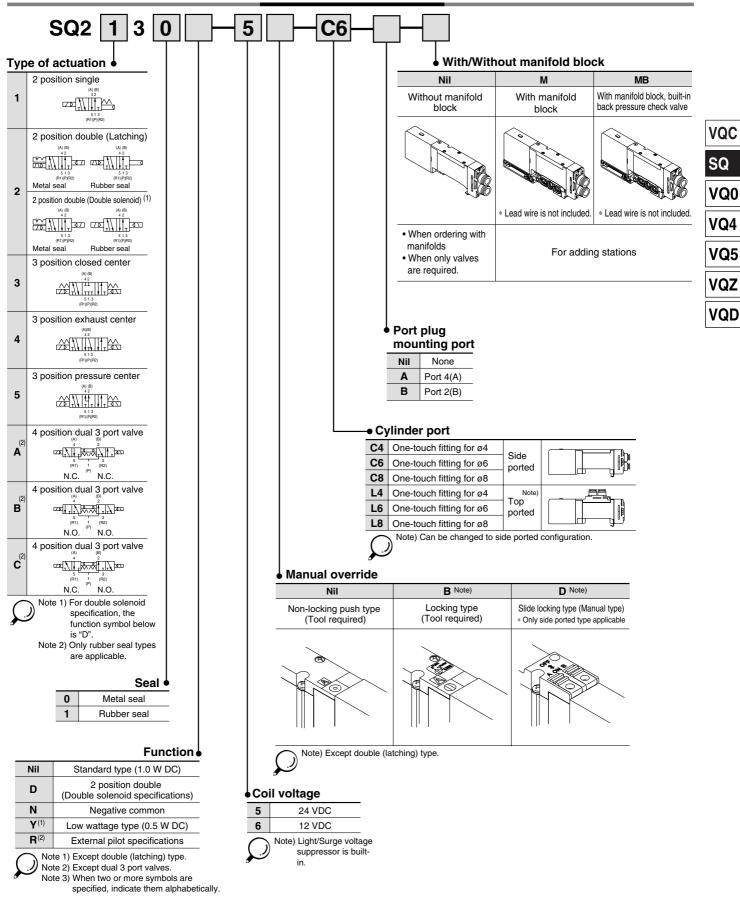
Note 1) Separately order the 20P type cable assembly for the P kit.

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.)

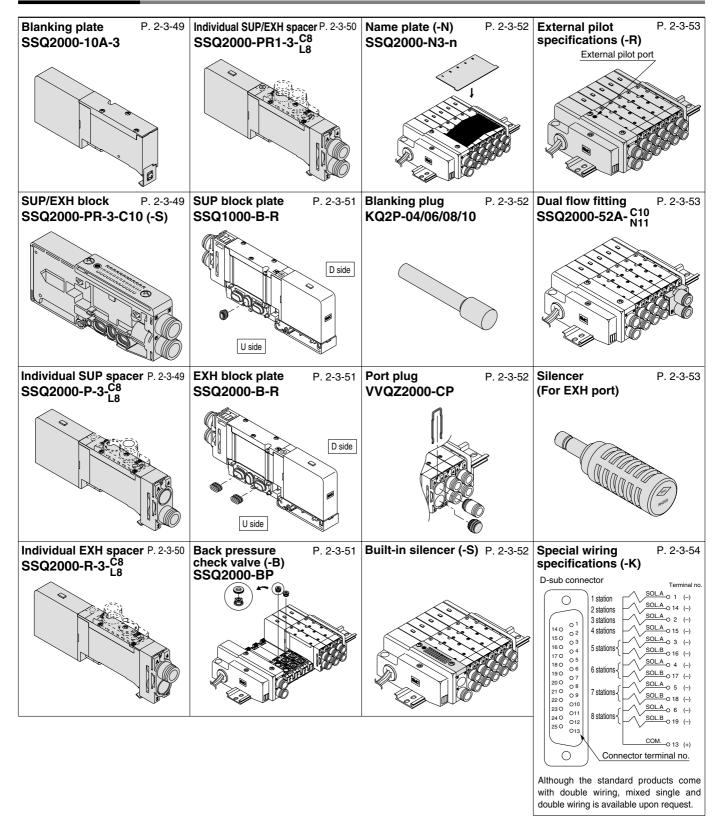


# Plug-in Unit Series SQ2000

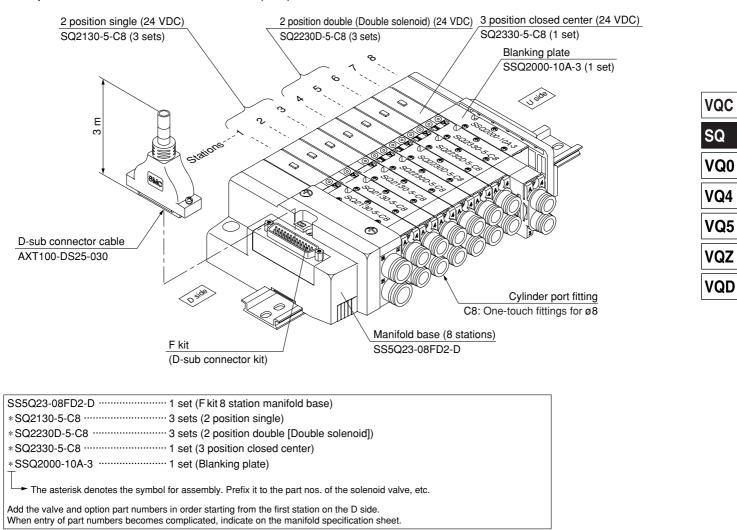
# How to Order Valves



# **Manifold Option**



# How to Order Manifold Assembly (Example)



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

# **Valve Specifications**

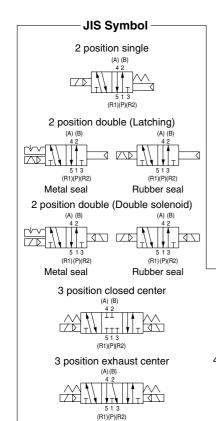
# Model

		Number of					Flow cha	racteristics			Response	time (ms) <sup>(2)</sup>	
Series		solenoids	Mode	l	$1 \rightarrow 4$	$/2 (P \rightarrow A)$	\/B)	$4/2 \rightarrow 5/3$	$B (A/B \rightarrow  $	R1/R2)	Standard:	Low	Weight (g)
					C [dm3/(s·bar)]	b	Cv	C [dm3/(s·bar)]	b	Cv	1 W	wattage	(9)
		Single	Metal seal	SQ2130	2.2	0.17	0.51	2.4	0.14	0.57	20 or less	26 or less	145
	E	Single	Rubber seal	SQ2131	2.3	0.17	0.51	3.1	0.18	0.71	24 or less	31 or less	140
	position	Double	Metal seal	SQ2230	2.2	0.17	0.51	2.4	0.14	0.57	26 or less	_	145
	2 pc	(Latching)	Rubber seal	SQ2231	2.3	0.17	0.51	3.1	0.18	0.71	31 or less	_	140
		Double	Metal seal	SQ2230D	2.2	0.17	0.51	2.4	0.14	0.57	15 or less	20 or less	160
		(Double solenoid)	Rubber seal	SQ2231D	2.3	0.17	0.51	3.1	0.18	0.71	20 or less	26 or less	155
		Closed	Metal seal	SQ2330	1.9	0.17	0.46	2.1	0.15	0.47	34 or less	44 or less	180
SQ2000	Ę	center	Rubber seal	SQ2331	1.9	0.17	0.46	1.8	0.29	0.47	34 or less	44 or less	175
302000	sition	Exhaust	Metal seal	SQ2430	1.9	0.17	0.46	2.4	0.14	0.55	34 or less	44 or less	180
	3 po	center	Rubber seal	SQ2431	1.9	0.17	0.46	3.1	0.14	0.65	34 or less	44 or less	175
		Pressure	Metal seal	SQ2530	2.3	0.17	0.51	2.1	0.18	0.47	34 or less	44 or less	180
		center	Rubber seal	SQ2531	2.5	0.17	0.56	1.8	0.30	0.47	34 or less	44 or less	175
	4 position	Dual 3 port valve	Rubber seal	SQ2 <sup>A</sup> c31	1.5	0.17	0.40	1.5	0.17	0.40	34 or less	44 or less	155

 $\sim$  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 JIS B 8375-1981. (Values with a supply pressure of 0.5 MPa and light/surge voltage suppressor. Values fluctuate depending on the pressure and air quality.)





## Specifications

peci	noat				
	Valv	e construction		Metal seal	Rubber seal
	Flui	d		Air/Ine	ert gas
	Max	imum operating	pressure	0.7	MPa
S	ure	Single		0.1 MPa	0.15 MPa
ation	Dress	Double (Latchi	ng)	0.18 MPa	0.18 MPa
sifice	ating	Double (Double	e solenoid)	0.1 MPa	0.1 MPa
Valve specifications	Min. operating pressure	3 position		0.1 MPa	0.2 MPa
Ve	Min.	4 position		_	0.15 MPa
Val	Aml	pient fluid tempe	rature	-10 to	50°C <sup>(1)</sup>
	Lub	rication		Not re	quired
	Pilo	t valve manual c	override	Push type (Tool required)/Slic	le locking type (Tool required)
	Vibr	ation/Impact res	istance <sup>(2)</sup>	30/15	0 m/s <sup>2</sup>
	Prot	ection structure		Dust	tight
	Coil	rated voltage		12 VDC,	24 VDC
ions	Allo	wable voltage flu	uctuation	±10% of ra	ted voltage
Solenoid ecificatic	Coil	insulation type		Equivalent	to class B
Solenoid specifications	Powe	r consumption	24 VDC	1 W DC (42 mA), 0	.5 W DC (21 mA) <sup>(3)</sup>
ŝ	(Curr		12 VDC	1 W DC (83 mA), 0	.5 W DC (42 mA) <sup>(3)</sup>
		e dry air to prever		when operating at low temperatur	

Note 1) Vibration resistance: No malfunction occurred in a one-sweep test between 45 and 2000 Hz. Test was performed at both energized and de-energized states in the axial direction and at the right angles to the main valve and armature. (Values at the initial period) Impact resistance: No malfunction occurred when it is tested with a drop tester in the axial direction and at the right angles to the main valve and armature.

in both energized and de-energized states every once for each condition. (Values at the initial period) Note 3) Values for the low wattage (0.5 W) specifications.

3 position pressure center

(A) (B)  $\square$ (R1)(P)(R2)

4 position dual 3 port valve (A)

R.M. N.C. 1 N.C.

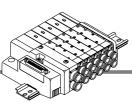
4 position dual 3 port valve (B) N.O. N.O. 4 position dual 3 port valve (C) L an N.C. N.O.

# Plug-in Unit Series SQ2000

# **Manifold Specifications**

		g specifica					(0)	(1)	(1)	
Base model	Р	ort size <sup>(1)</sup>		Applicable	Type of connection		Applicable <sup>(3)</sup>	5 station (4)	1 station	
	1(P), 3(R)		A), 2(B)	solenoid valve			stations	weight (g)	weight (g)	
	,,	Port location	Port size					(9)		
Series SQ2000	010		CA(Farred)		F kit: D-sub connector	1	1 to 12 stations	580	35	
	C10 (For ø10)	Side	C4 (For ø4) C6 (For ø6) C8 (For ø8)		P kit: Flat ribbon cable	26P 20P	1 to 12 stations 1 to 9 stations	580	35	VQC
SS5Q23-	Option Built-in		. ,	SQ2 🗌 30 SQ2 🗌 31	J kit: Flat ribbon cable PC Wiring System com	oatible	1 to 8 stations	580	35	SQ
	silencer, direct exhaust	(2)	L4 (For ø4)		T kit: Terminal block		1 to 10 stations	1,165	620	20
		Тор	L6 (For ø6) L8 (For ø8)		L kit: Lead wire		1 to 12 stations	620	50	VQ0
			L8 (F01 Ø8)		S kit: Serial transmission		1 to 8 stations	650	35	
	l h fittings in inch sizes			refer to page 2-3-5			1			VQ4
Note 3) An option	nanged to side ported al specification for spe lives. For valve weigh	ecial wiring i	s available to incre	ase the maximum	number of stations. Refer to page 2	-3-54 for	details.			VQ5
	-	~	-		~					VQZ
	/	$\langle \rangle$			A PORT					VQD
				(A) 2(P) port						
			3(R) p 1(P) p		26P/2 20P	20P (P	kit)			
	F ki	it	<u>25P</u>		P kit					
	kit			L kit	Ę		S kit	I		

Kit (D-sub connector kit)



Series

SQ2000

**Manifold Specifications** 

Port

location

Side, Top

Porting specifications

1(P), 3(R)

C10

Port size

4(A), 2(B)

C4, C6, C8

Maximum

number of

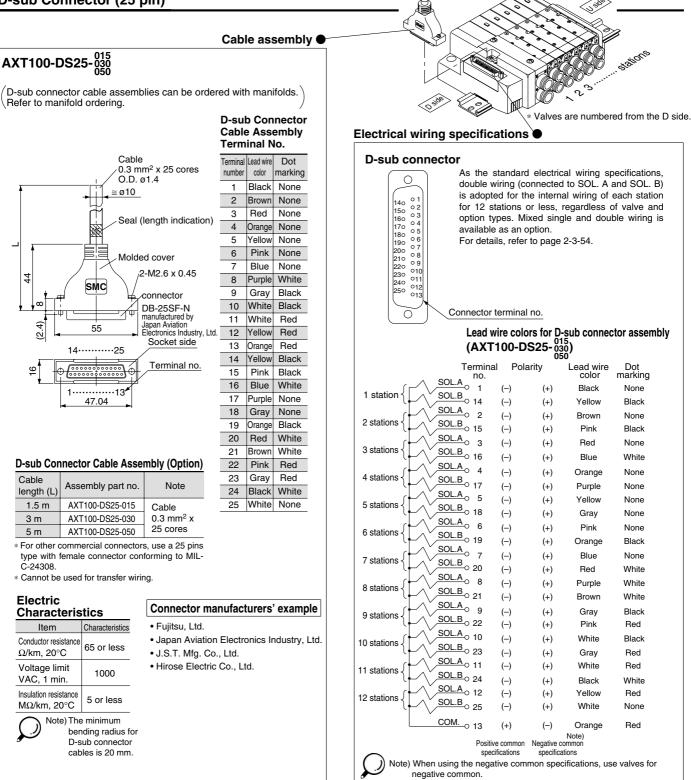
stations

12 stations

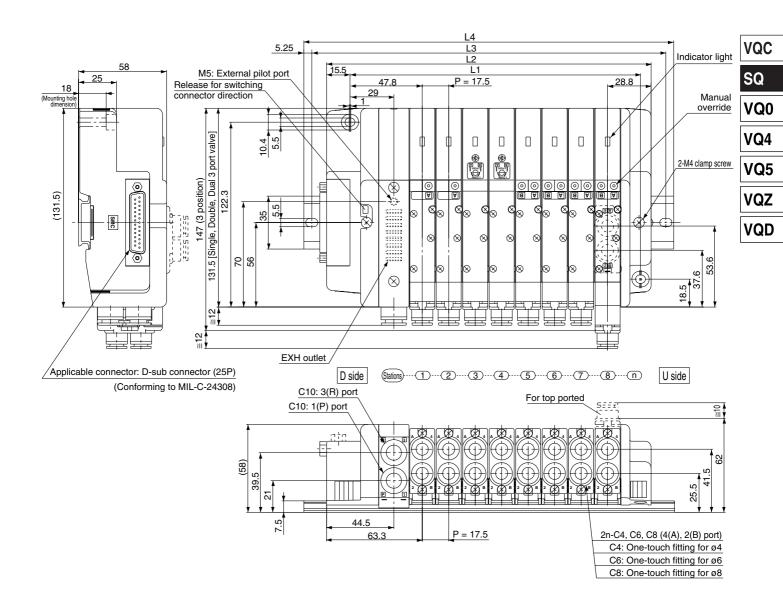
(16 as an option)

- Simplification and labor savings for wiring work can be achieved by using a D-sub connector for the electrical connection.
- Using connector for flat ribbon cable (25P) conforming to MIL standard permits the use of connectors put on the market and gives a wide interchangeability.
- Top or side entry for the connector can be changed freely, allowing later changes according to the mounting space.

# D-sub Connector (25 pin)

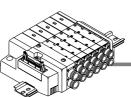






Dimen	sion	S		Formula: L1 = 17.5n + 52, L2 = 17.5n + 74.5 n: Stations (Maximum 16 stations)												
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	69.5	87	104.5	122	139.5	157	174.5	192	209.5	227	244.5	262	279.5	297	314.5	332
L2	92	109.5	127	144.5	162	179.5	197	214.5	232	249.5	267	284.5	302	319.5	337	354.5
L3	112.5	137.5	150	175	187.5	200	225	237.5	262.5	275	287.5	312.5	325	350	362.5	375
L4	123	148	160.5	185.5	198	210.5	235.5	248	273	285.5	298	323	335.5	360.5	373	385.5

Kit (Flat ribbon cable connector)



Series

SQ2000

Manifold Specifications

Port

location

Side, Top

Porting specifications

1(P), 3(R)

C10

Port size

4(A), 2(B)

C4, C6, C8

Maximum

number of

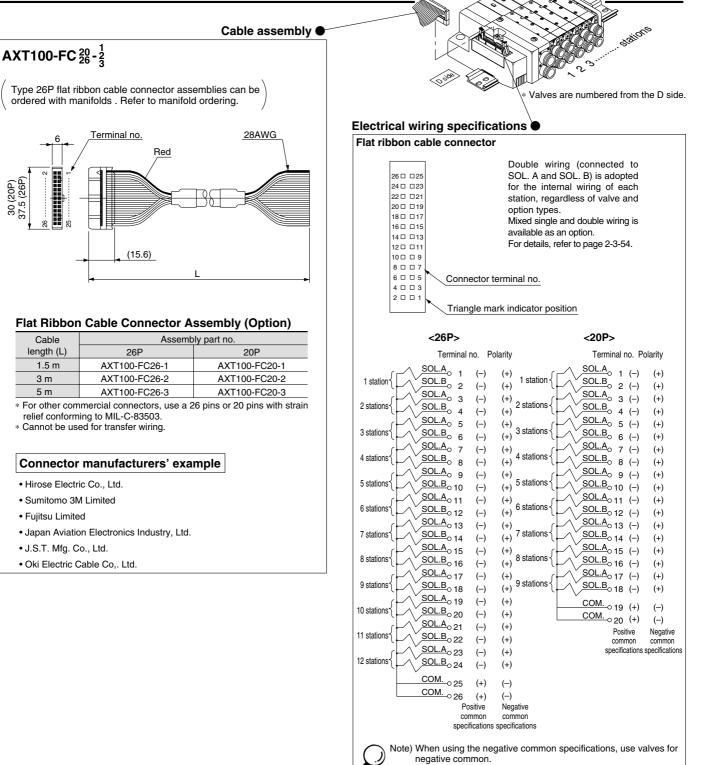
stations

12 stations

(16 as an option)

- Simplification and labor savings for wiring work can be achieved by using a flat ribbon cable for the electrical connection.
- Using connector for flat ribbon cable (26P, 20P) conforming to MIL standard permits the use of connectors put on the market and gives a wide interchangeability.
- Top or side entry for the connector can be changed freely, allowing later changes according to the mounting space.

# Flat Ribbon Cable (26 pins, 20 pins)



6

Cable length (L)

1.5 m

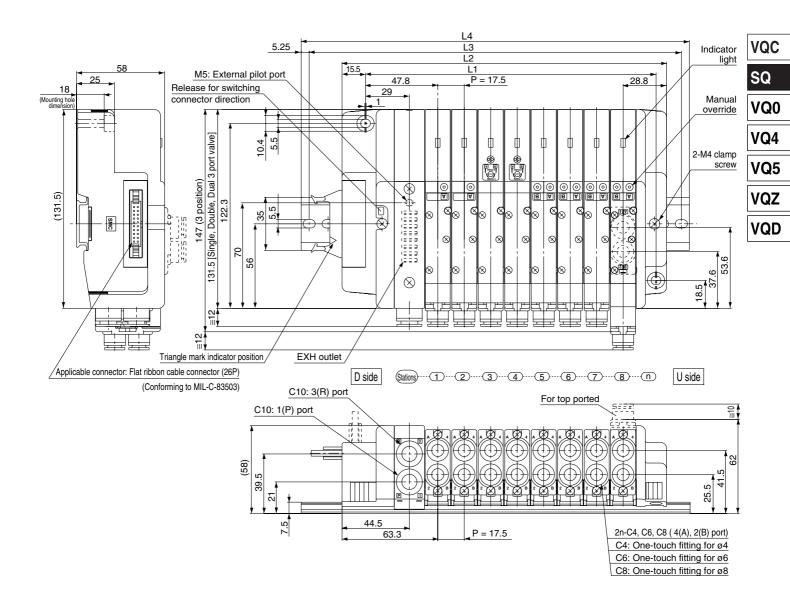
3 m

5 m

• Fujitsu Limited

30 (20P) 37.5 (26P



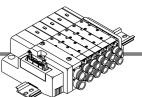


Dimens	sion	S		Formula: L1 = 17.5n + 52, L2 = 17.5n + 74.5 n: Stations (Maximum 16 stations)												
/	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	69.5	87	104.5	122	139.5	157	174.5	192	209.5	227	244.5	262	279.5	297	314.5	332
L2	92	109.5	127	144.5	162	179.5	197	214.5	232	249.5	267	284.5	302	319.5	337	354.5
L3	112.5	137.5	150	175	187.5	200	225	237.5	262.5	275	287.5	312.5	325	350	362.5	375
L4	123	148	160.5	185.5	198	210.5	235.5	248	273	285.5	298	323	335.5	360.5	373	385.5

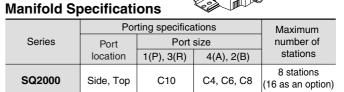
# Kit (PC Wiring System compatible flat ribbon cable kit)

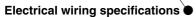
ation

Valves are numbered from the D side.



- PC Wiring System compatible.
- Using connector for flat ribbon cable (20P) conforming to MIL standard permits the use of connectors put on the market and gives a wide interchangeability.
- Top or side entry for the connector can be changed freely, allowing later changes according to the mounting space.



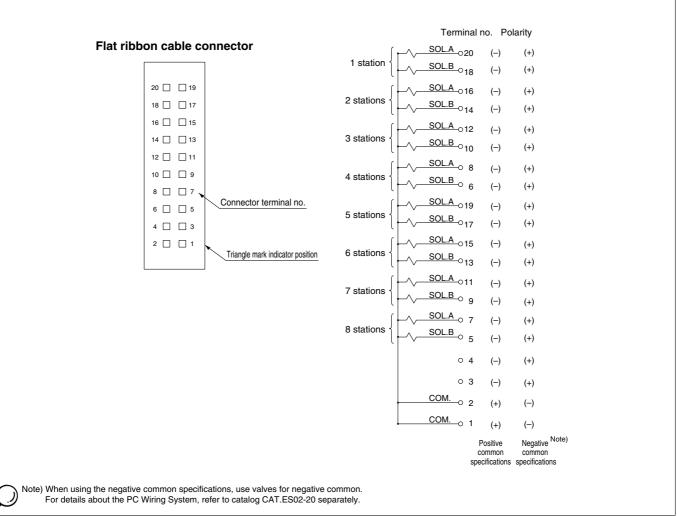


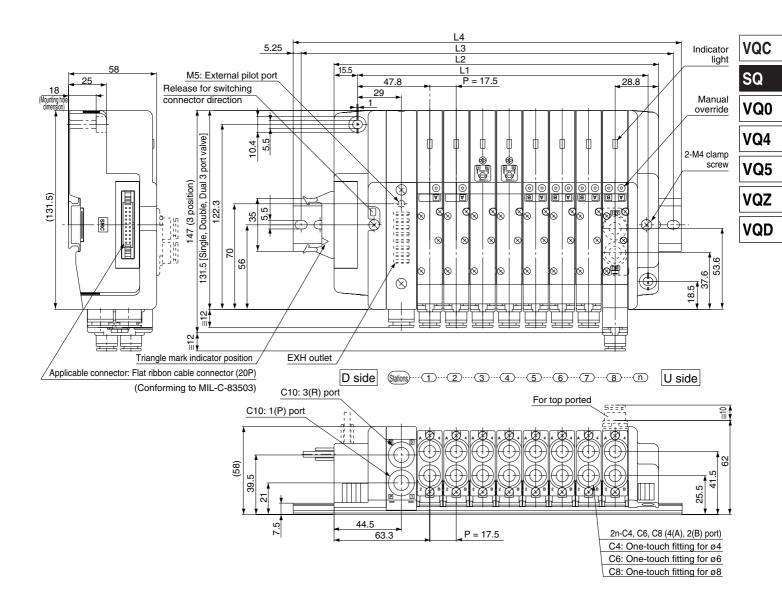
Double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station,

regardless of valve and option types.

Mixed single and double wiring is available as an option.

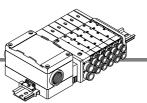
For details, refer to page 2-3-54.



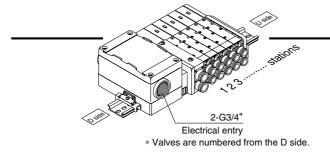


	Dimens	sion	S		For	mula:	L1 = 1	7.5n +	52, L2	= 17.5	5n + 74	l.5 n:	Statio	ns (Ma	aximun	n 16 st	ations)
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	L1	69.5	87	104.5	122	139.5	157	174.5	192	209.5	227	244.5	262	279.5	297	314.5	332
	L2	92	109.5	127	144.5	162	179.5	197	214.5	232	249.5	267	284.5	302	319.5	337	354.5
	L3	112.5	137.5	150	175	187.5	200	225	237.5	262.5	275	287.5	312.5	325	350	362.5	375
Ī	L4	123	148	160.5	185.5	198	210.5	235.5	248	273	285.5	298	323	335.5	360.5	373	385.5

Kit (Terminal block box kit)



- A compact terminal block is installed inside the box. G 3/4" female threads prepared for the electrical entry enables a conduit tube bracket to be connected.
- The maximum number of stations is 10 (16 option).



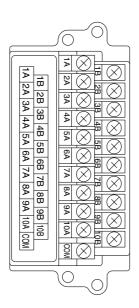
# **Manifold Specifications**

	Р	orting specifi	cations	Maximum
Series	Port	Por	t size	number of
	location	stations		
SQ2000	Side, Top	C10	C4, C6, C8	10 stations (16 as an option)

### **Electrical wiring specifications**

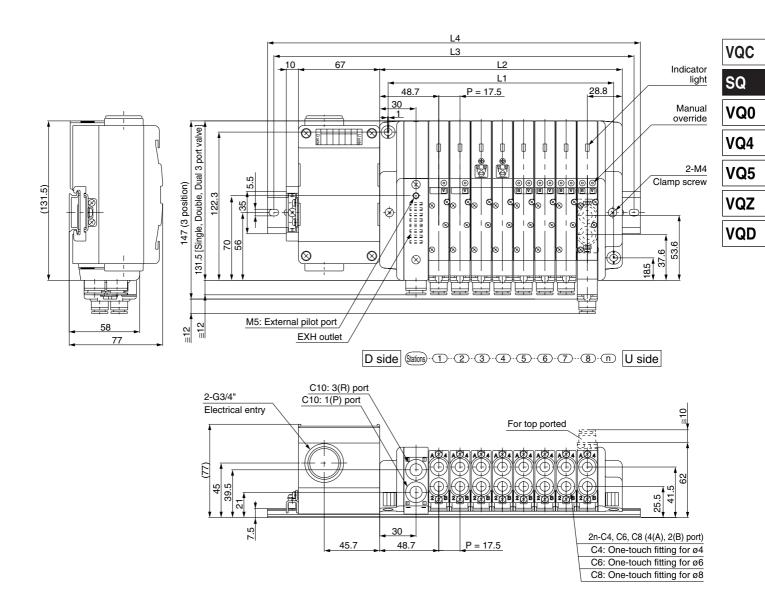
As the standard electrical wiring specifications, double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station for 10 stations or less, regardless of valve and option types.

Mixed single and double wiring is available as an option. For details, refer to page 2-3-54.



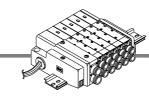
	<b>T</b>
$\sim$	Terminal no. Polarity
	1 station { SOL.A (-) (+)
	( -) (+)
	2 stations { SOL A (-) (+)
	2 stations SOL.B 2 B (-) (+)
	$2 \text{ stations} \int \frac{\text{SOL.A}}{\text{SOL.A}} 3 \text{A} (-) (+)$
	3 stations { SOL.B 3B (-) (+)
	4 stations $\begin{cases} SOL.B \\ 4B \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ $
	SOL.A
	5 stations $\begin{cases} \hline & & & \\$
	SOL.A
	6 stations {
	( SOL.A _
	7 stations $\begin{cases} SOLB \\ SOLB \end{cases}$
	(
	8 stations $\begin{cases} & & & SOLB \\ & & & SOLB \end{cases}$
	( -) (+)
	9 stations $\begin{cases} -\sqrt{SOL.A} & 9A (-) & (+) \\ -\sqrt{SOL.B} & - & (+) \end{cases}$
	(
	10 stations $\begin{cases} \sqrt{SOLA} & 10A \\ SOLB & (-) \\ SOLB & (+) \end{cases}$
	10 stations SOL.B 0 10B (-) (+)
	└────────────────────────────────────
Note) When using the negative common specifications, use valves for r	Positive Negative Note) egative common common specifications specifications
/	

)



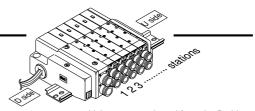
Dimen	sion	S		F	ormula	a: L1 =	17.5n	+ 46, l	_2 = 17	7.5n +	60 n:	Statio	ons (Ma	aximun	n 16 st	ations)
L	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	63.5	81	98.5	116	133.5	151	168.5	186	203.5	221	238.5	256	273.5	291	308.5	326
L2	77.5	95	112.5	130	147.5	165	182.5	200	217.5	235	252.5	270	287.5	305	322.5	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

# Kit (Lead wire cable)

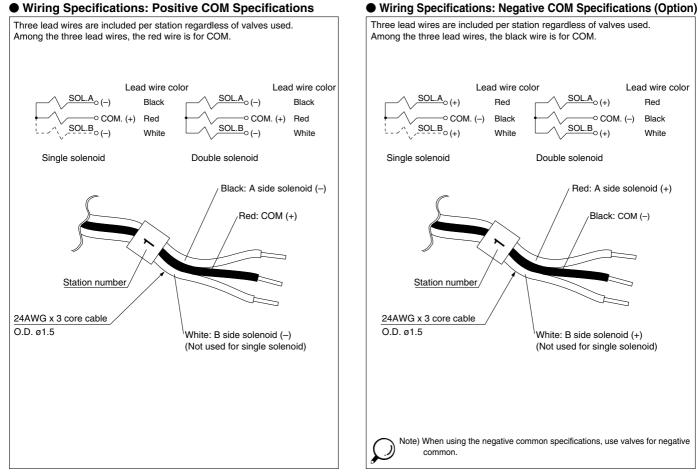


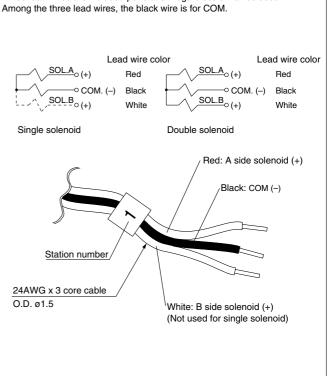
## **Direct electrical entry type Manifold Specifications**

		Porting speci	Porting specifications								
Series	Port	Por	t size	number of							
	location	location 1(P), 3(R) 4(A), 2(B)									
SQ2000	Side, Top	C10	C4, C6, C8	12 stations							

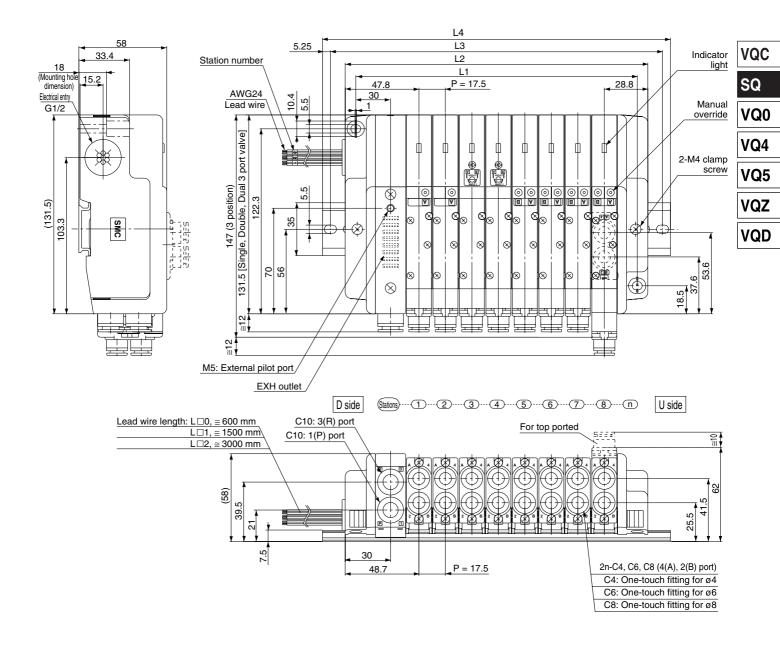


\* Valves are numbered from the D side.



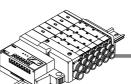


Note) When using the negative common specifications, use valves for negative common.



Dimens	sion	S	Formula: L1 = 17.5n + 46, L2 = 17.5n + 60 n: Stations (Maximum 12 stations)											
L	1	2	3	4	5	6	7	8	9	10	11	12		
L1	63.5	81	98.5	116	133.5	151	168.5	186	203.5	221	238.5	256		
L2	77.5	95	112.5	130	147.5	165	182.5	200	217.5	235	252.5	270		
L3	100	125	137.5	150	175	187.5	212.5	225	237.5	262.5	275	300		
L4	110.5	135.5	148	160.5	185.5	198	223	235.5	248	273	285.5	310.5		





- The serial transmission system reduces wiring work, while minimizing wiring and saving space.
- The maximum number of stations is 8. (16 as an option).
  Only for type J2 and R2, the maximum stations are 4 (8 as an option).

stations

## Manifold Specifications

	F	Porting specif	ications	Maximum				
Series	Port	Port	size	number of				
	location	location 1(P), 3(R) 4(A), 2(B)						
SQ2000	Side, Top	C10	C4, C6, C8	8 stations				

- Stations are counted from station 1 on the D side.
- Double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station, regardless of valve and option types.

Mixed single and double wiring is available as an option.

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

### Corresponding SI unit output numbers and solenoid coils <Wiring example 1>

А	В	А	В	A	None	Α	None	А	в
Dou	ble	Dou	ıble	Si	ngle	Si	ngle	Sin	gle
1		2	2		3		4	5	5
		A B Double	Double Dou		Double Double Sir	Double Double Single	DoubleDoubleSingleSi123	DoubleDoubleSingleSingle1234	Double Double Single Single Sin

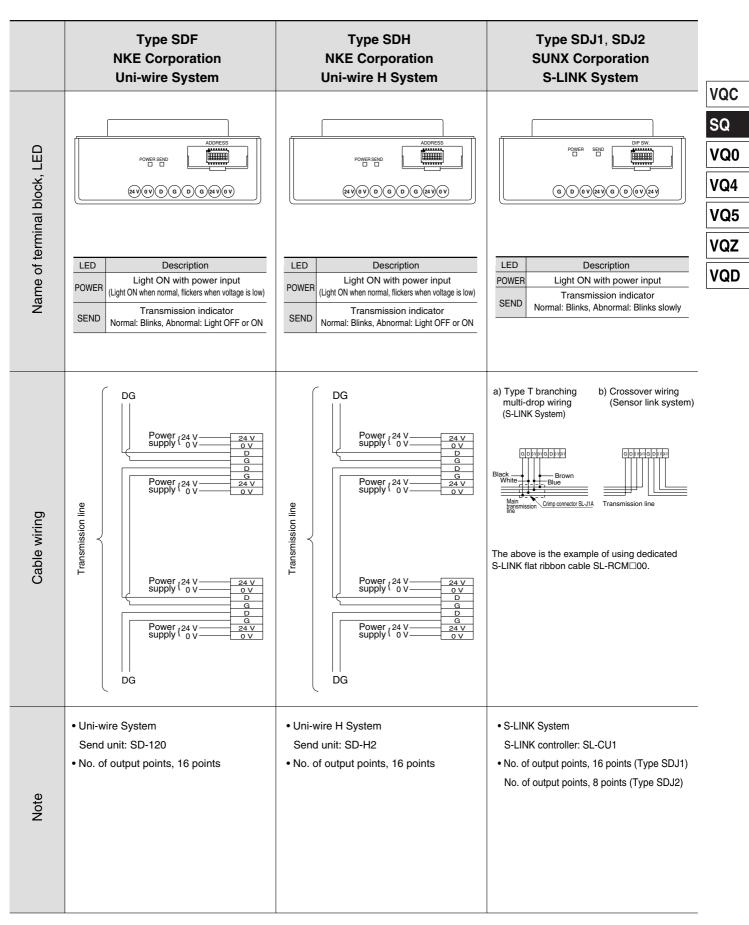
Double wiring (Standard)

M3 screw

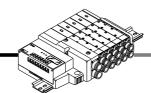
### <Wiring example 2>

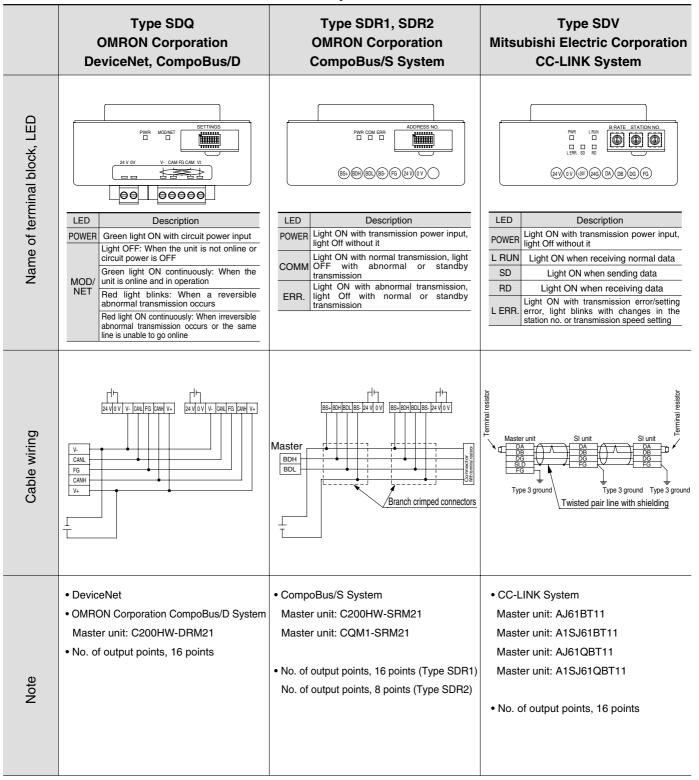
\* Mixed wiring is available as an option. Specify the wiring specification by means of the manifold specification sheet. Refer to page 2-3-54 for details.

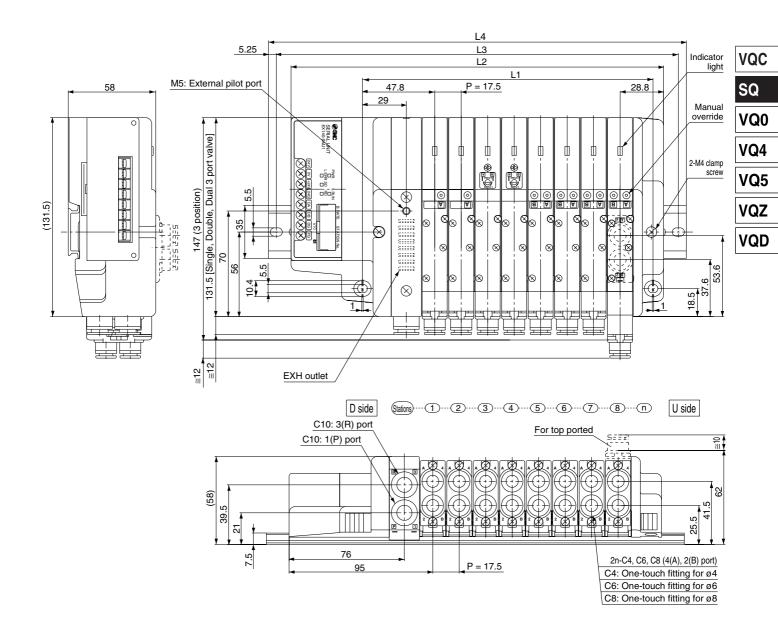
SI unit ····· output no.	0	1	2	3	4	5	6	7
	А	В	А	В	А	А	А	В
SI unit	Dou	ıble	Do	uble	Single	Single	Dou	uble
Stations	1		2	2	3	4	5	5
				Mi	xed single a	nd double wi	rina (O	ption)



Kit (Serial transmission unit)







	Dimens	sion	S		Fo	rmula:	L1 = 1	17.5n +	52, L	2 = 17.	5n + 1	06 n:	Statio	ons (Ma	aximun	n 16 st	ations)
		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
Ī	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

# Plug-in Unit Series SQ1000/2000

# Manifold Option Parts for SQ2000

## **Blanking plate**

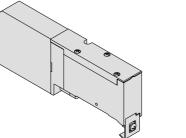
## SSQ2000-10A-3

SUP/EXH block

SSQ2000-PR-3-C10-

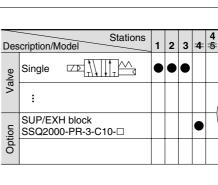
cate "RS".

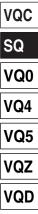
It is used by attaching on the manifold block for being prepared for removing a valve for maintenance reasons or planning to mount a spare valve, etc.



U side

ŝ 55. Ø 17.5

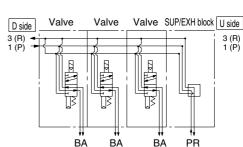




JIS Symbol

 $\perp \perp$ 

Τ Т Т



### \* 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.

capacity.

block is mounted on the D side.

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

Note) When specifying both options, indi-

Specify the spacer mounting position

on the manifold specification sheet. For standard type manifolds, the SUP/EXH

It is added to the manifold to increase SUP/EXH

# Individual SUP spacer

# SSQ2000-P-3-C8

 Port location C8 Side ported L8 Top ported

Option

Standard

External pilot specifications

Built-in silencer

D side

Side ported

Nil

R

S

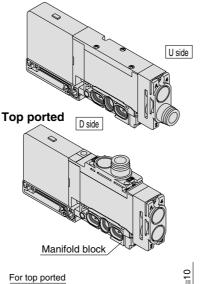
This is used as a supply port for different pressures when using different pressures in the same manifold (for one station).

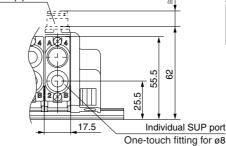
Both sides of the station which is used with supply pressure from the individual SUP spacer are shut off. (Refer to application example.)

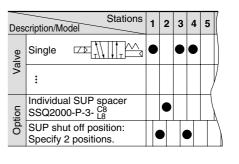
Specify the spacer mounting position and SUP passage shut off positions on the manifold specification sheet. Two shut off positions are required per unit.

(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.)

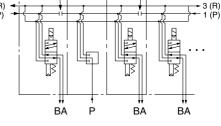
- \* Electrical wiring is also connected to the manifold station with the individual SUP spacer.
- \* By changing the fitting shown in the drawing and the block plates, the spacer's specification can be changed later (from the individual SUP spacer to the individual EXH spacer).
- \* The number of spacers is not limited when ordered with the manifold. However, when adding individual SUP spacers later, it is limited to two units, and another on the U side due to the length of the internal lead wire.
- \* Model no. with manifold block: SSQ2000-P-3-C8 -M







### SUP block plate SUP block plate (Ordering not required) (Ordering not required) Individual SUP Valve Valve D side Valve spacer 3 (R) 1(P)



**SMC** 

U side

# Manifold Option Parts for SQ2000

## Individual EXH spacer

# SSQ2000-R-3-C8

•Port location C8 Side ported

L8 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. (Refer to application example.)

\* Specify the spacer mounting position and EXH passage shut off positions on the 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.
- \* Model no. with manifold block: SSQ2000-R-3- $\frac{C8}{L8}$  M

# Individual SUP/EXH spacer

# SSQ2000-PR1-3-C8

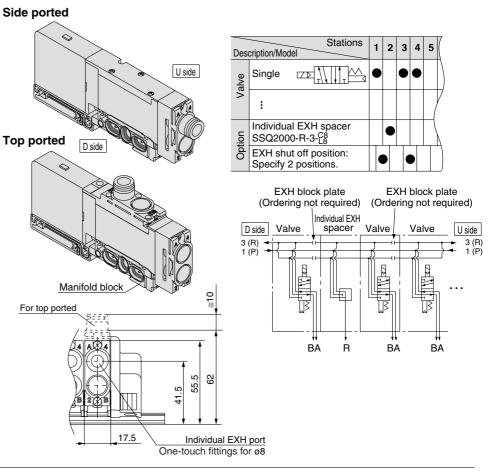
Port location
 C8 Side ported
 L8 Top ported

This has both functions of the individual SUP and EXH spacers above. (Refer to application example.)

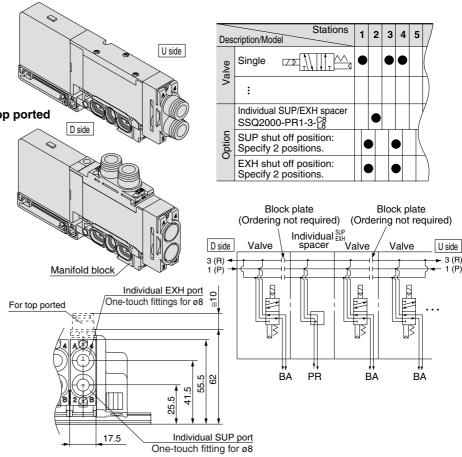
\* Specify the spacer mounting position and SUP and EXH passage shut off positions on the manifold specification sheet. Two shut off positions each for SUP and EXH are required per unit.

[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 on the U side due to the length of the internal lead wire.
- \* Model no. with manifold block: SSQ2000-PR1-3-<sup>C8</sup> - M



Side ported



**SMC** 

# Plug-in Unit Series SQ1000/2000

## SUP block plate

### SSQ1000-B-R

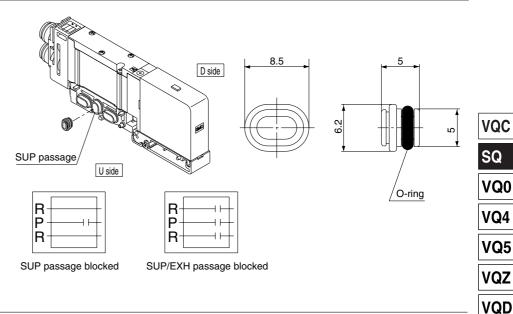
When supplying two different pressures, high and low, to one manifold, this is used between stations with different pressures. Also, it is used with an individual SUP spacer to shut off the air supply.

\* Specify the station position on the 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

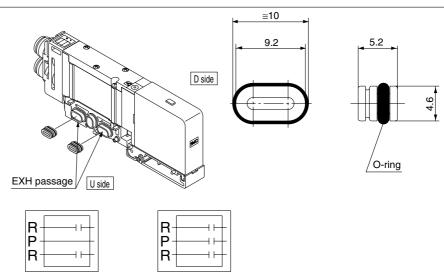
When the exhaust from a valve interferes with other stations in the circuit, this is used between stations to separate exhausts. Also, it is used with an individual EXH spacer to shut off the exhaust of individual valves.

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

### <Shut off label>

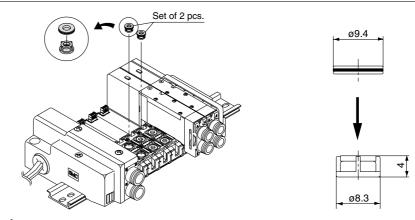
When an EXH passage is shut off with an EXH block plate, a label is attached for external confirmation of the shut off position (one label each).

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



EXH passage blocked

SUP/EXH passage blocked



# \land 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.

# 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.

# Manifold Option Parts for SQ2000

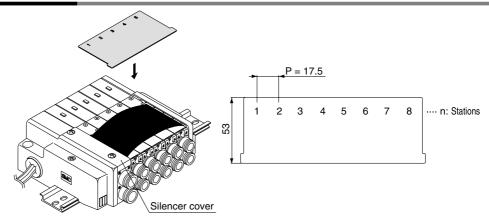
## Name plate [-N]

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

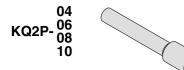
This is a clear resin plate for applying solenoid valve function description labels, etc.

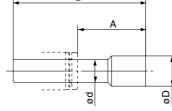
To install, bend the plate slightly as shown and insert into the slots on the end plate side. Also, the plate is difficult to bend for manifolds with only a few stations, therefore, remove the silencer cover to install it.

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



# Blanking plug (For One-touch fitting)





## **Dimensions**

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

This is inserted into cylinder ports and SUP and EXH ports that are not used. Purchasing order is available in units of 10

pieces.

## Port plug

### VVQZ2000-CP

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

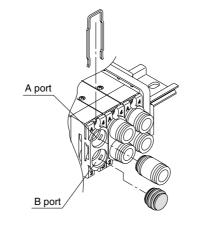
\* Add "A" or "B" at the end of the valve part number when ordering with valves. Example) SQ2131-5-C8-A (N.O. specifications)

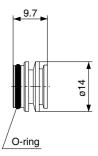
4 (A) port plug

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

2 (B) port plug

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





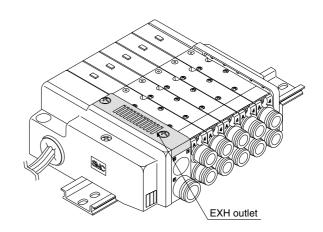
# Direct EXH outlet, built-in silencer [-S]

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 30 dB)



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.
- \* For precautions on handling and how to replace elements, refer to page 2-3-5.





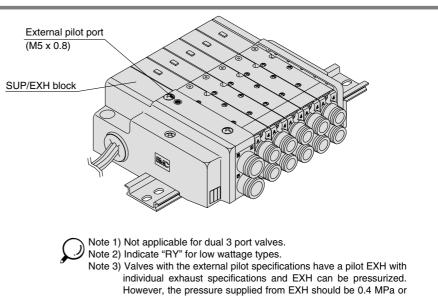
# Plug-in Unit Series SQ1000/2000

### **External pilot specifications [-R]**

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

Add "R" to the part numbers of manifolds and valves to indicate the external pilot specifications. An M5 port will be installed on the top side of the manifold's SUP/EXH block.

- How to order valves (Example) SQ2130 <u>R</u> -5-C6
  - External pilot specifications
- How to order manifold (Example)
  Indicate "R" for an option.
  SS5Q23-08FD1-DR
  - External pilot specifications



Dual flow fitting

# SSQ2000-52A- C10

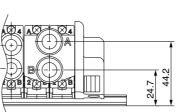


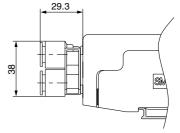
To drive a large bore cylinder, two valve stations are operated simultaneously to double the air flow. This fitting is used on the cylinder ports in this situation. Available sizes are ø10 and ø3/8" One-touch fittings.

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

lower.

C10: One-touch fitting for ø10 N11: One-touch fitting for ø3/8"

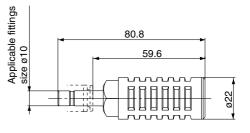




# Silencer (For EXH port)

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



VQC

SQ

VQ0

VQ4

VQ5

VQZ

# Manifold Option Parts for SQ1000/SQ2000

# **Special Wiring Specifications**

In the internal wiring of F kit, P kit, J kit, T kit and S kit, double wiring (connected to SOL. A and SOL. B) is adopted for each station 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 the manifold specification sheet. Also, specify wiring for spare connectors.

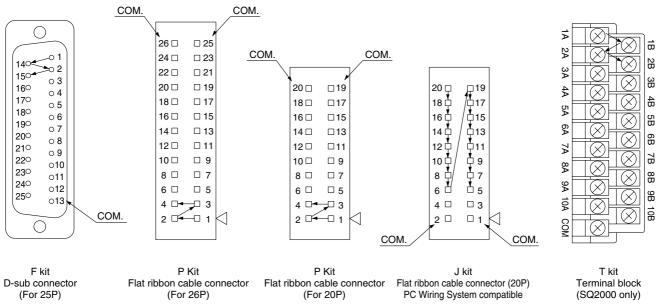
(Up to two spare connectors are included depending on the remaining number of connector pins. When the wiring for the spare connectors is not specified, they will be wired according to "Spare Connector Wiring" on page 2-3-57.)

# Example) SS5Q13 - 09 FD0 - DKS

• Others, option symbols: to be indicated alphabetically.

## 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.



For S kit (serial transmission kit), refer to pages 2-3-20 and 2-3-40.

### 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 PC Wiring System compatible	T kit (Terminal block) SQ2000 only*	S kit (Serial)
Туре	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

## Special DIN Rail Length (DIN rail mounting (-D) only)

The standard DIN rail provided is approximately 30 mm 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 (alphabetically)

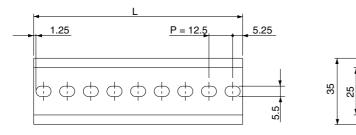
### DIN rail for 9 stations

## Ordering DIN rail only

DIN rail part number



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

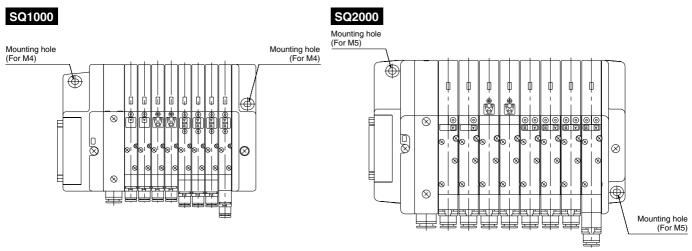


L Dimens	ion								L =	12.5 x n + 10.5
No.	1	2	3	4	5	6	7	8	9	10
L dimension	23	35.5	48	60.5	73	85.5	98	110.5	123	135.5
No.	11	12	13	14	15	16	17	18	19	20
L dimension	148	160.5	173	185.5	198	210.5	223	235.5	248	260.5
No.	21	22	23	24	25	26	27	28	29	30
L dimension	273	285.5	298	310.5	323	335.5	348	360.5	373	385.5
			-						-	
No.	31	32	33	34	35	36	37	38	39	40
L dimension	398	410.5	423	435.5	448	460.5	473	485.5	498	510.5

7.5

## **Direct Mounting Style (-E)**

Manifold is mounted by using mounting holes of both sides of the manifold. DIN rail is not sticking out of the edge of end plate.



**SMC** 

VQC
SQ
VQ0
VQ4
VQ5
VQZ
VQD

# Manifold Option for SQ1000/SQ2000

## **Negative Common Specifications**

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

## • How to order negative COM valves (Example)

# SQ1130 N -5-C6

Negative common specifications

## How to order negative COM manifold (Example)

## SS5Q13 - 08 LD1 N - D N

Kit type

Stations •

Option

DIN rail mounting style

Negative common specifications

## Inch-size One-touch Fittings

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

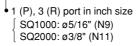
## • How to order valves (Example)

S	SQ1130- 5 - 🖓 🕅 7										
	Por	t location •	•Cylinder	port							
	Nil	Side ported	Syn	Symbol			N7	N9			
	L	Top ported	Applicable tub	Applicable tubing O.D. (Inch)			ø1/4"	ø5/16"			
			4(A),	SQ1000				—			
			2(B) port	SQ2000	_	•					

## • How to order manifold (Example)

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

## SS5Q13-08 FD0-DN-00T



# 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 steps 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	VQC
Spare connector wiring 2	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	SQ

## What to order

• Valves with manifold block (refer to pages 2-3-7 and 2-3-25) or the manifold blocks (Refer to page 2-3-58)>

# Steps for adding stations

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

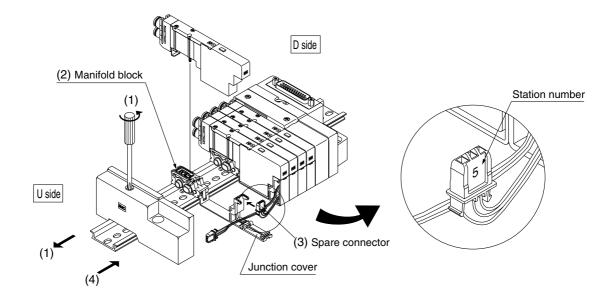
(2) Mount the manifold block to be added.

(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 1.0 N·m)

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 2-3-58.)

Note 2) Do not let the lead wires get caught between manifolds, or when closing the junction cover.



VQ0

VQ4

VQ5

VQZ

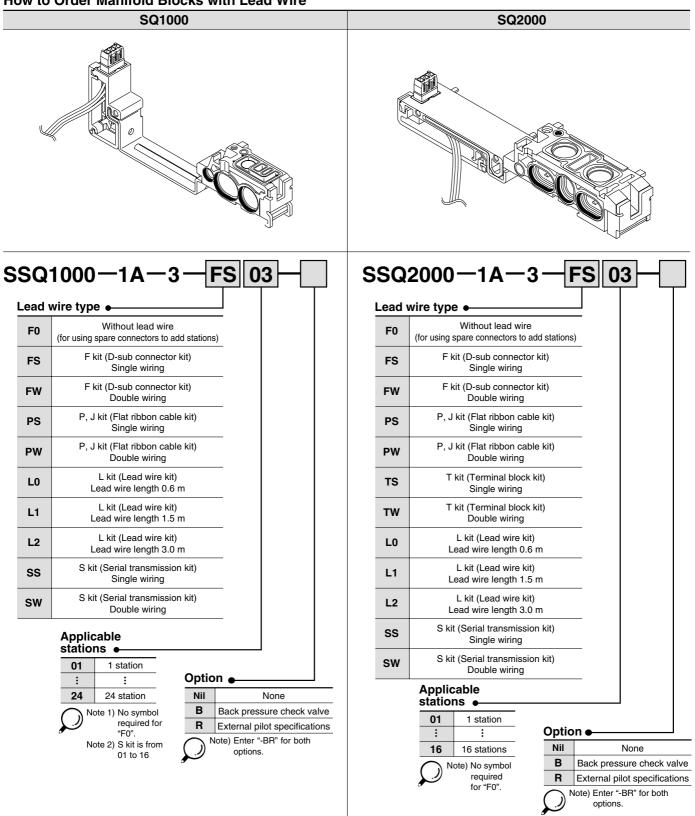
VQD

# 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.

## How to Order Manifold Blocks with Lead Wire

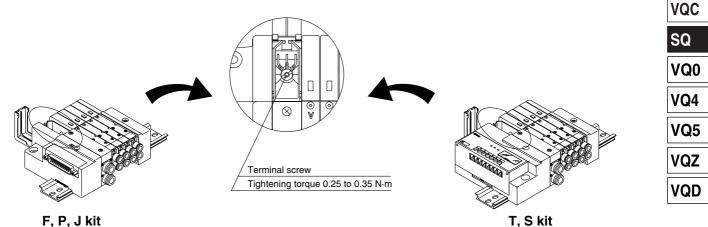


## 3. Connection Method (Refer to page 2-3-57 regarding the steps for adding stations to a manifold block.)

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

### (1) Connecting common terminals

Connect lead wire assemblies included with manifold blocks as follows.

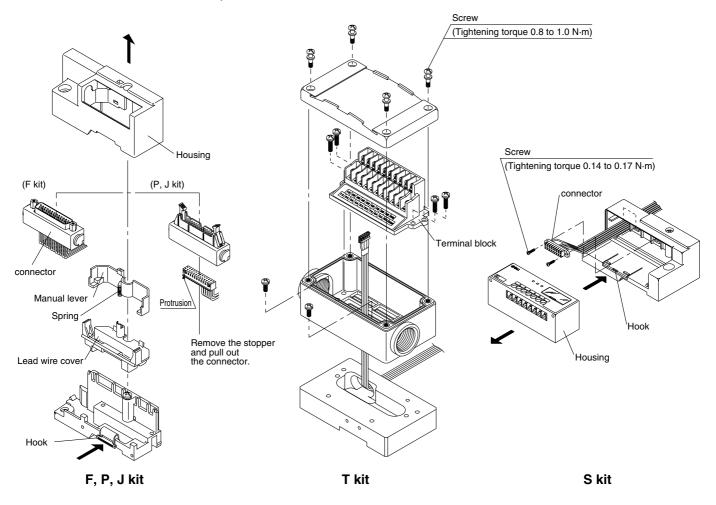




## (2) Pulling out connector

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 screwdriver, 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.



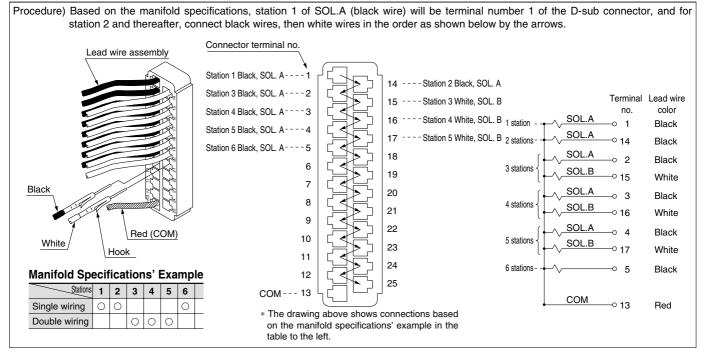
# How to Add Manifold Stations for SQ1000/SQ2000

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

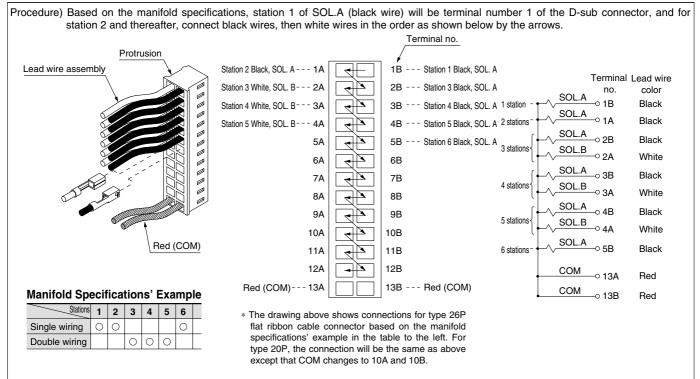
Caution 1. After inserting the pin, confirm that the pin hook is locked by lightly pulling the lead wire.

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.

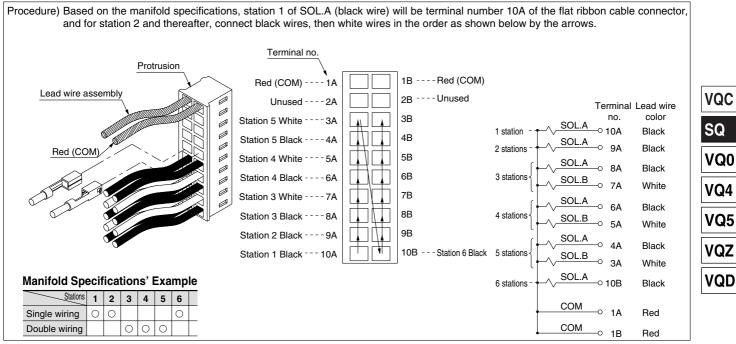
## Wiring (F kit: D-sub connector kit)



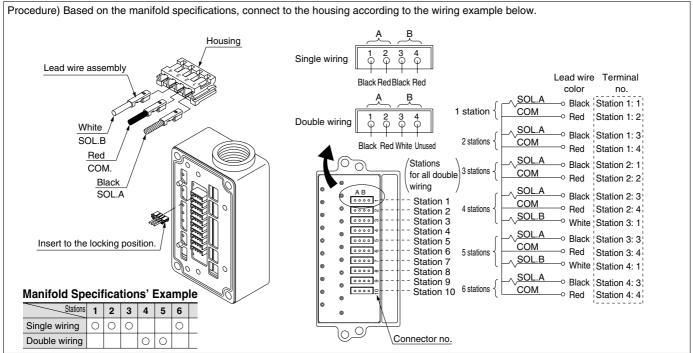
# Wiring (P kit: Flat ribbon cable kit)



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

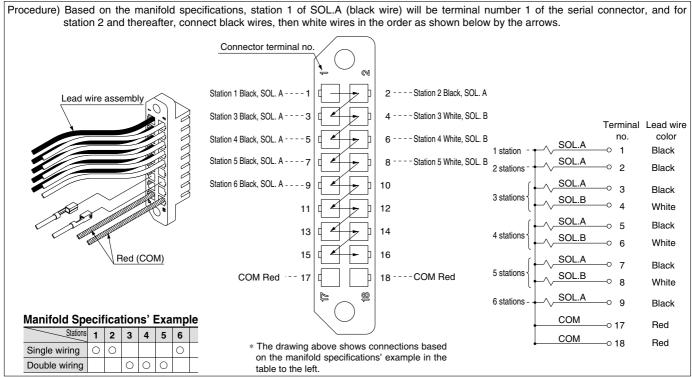


# Wiring (T kit: Terminal block kit)



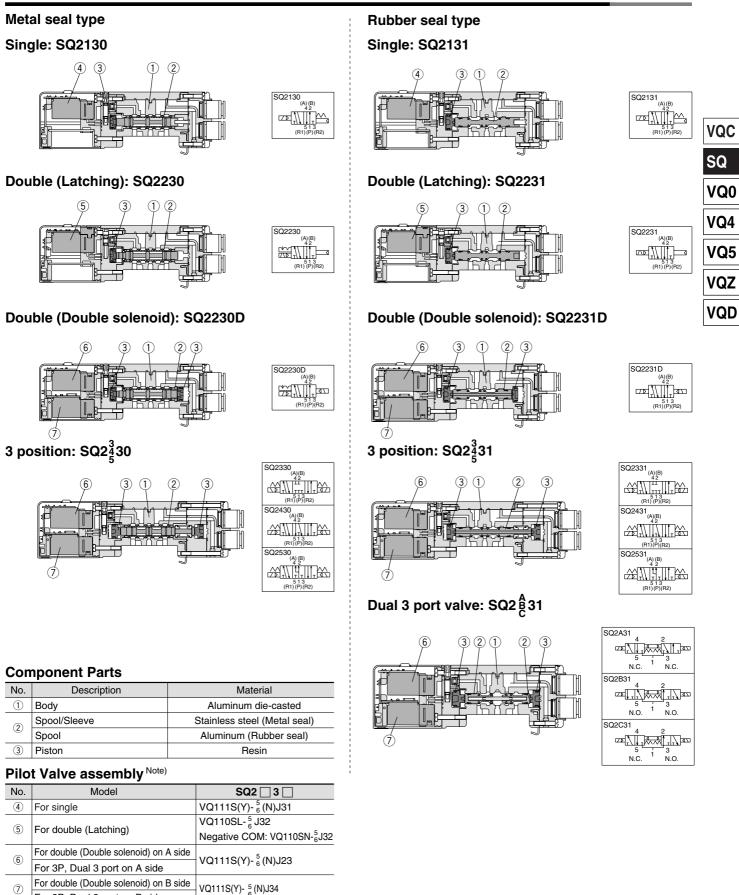
# How to Add Manifold Stations for SQ1000/SQ2000

## Wiring (S kit: Serial transmission kit)



# Plug-in Unit Series SQ1000/2000

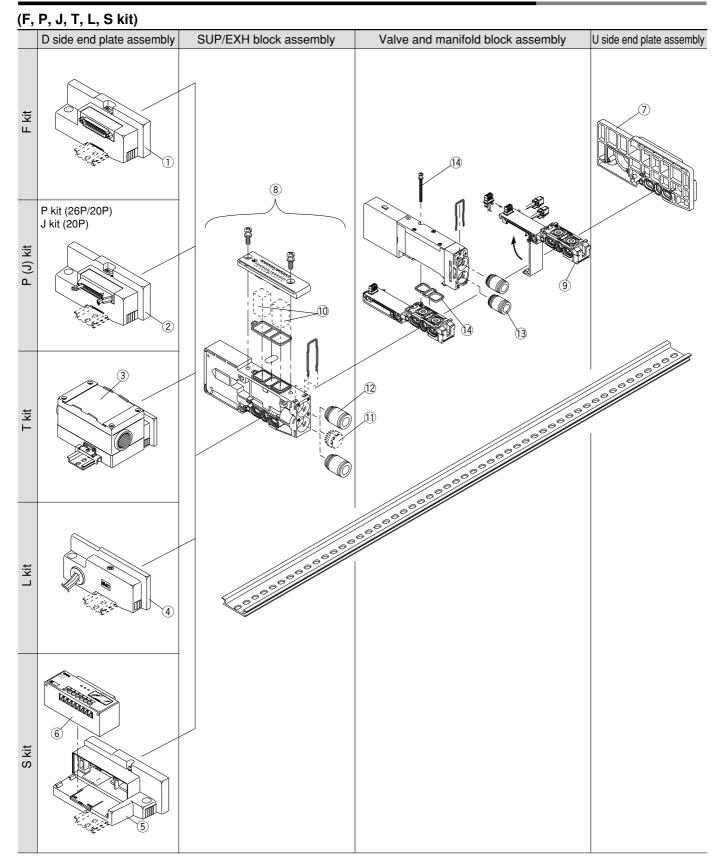
# Construction: Series SQ2000 Plug-in Type Main Parts and Pilot Valve Assembly



For 3P, Dual 3 port on B side Note) Nil: Standard N : Negative COM specifications Y : Low wattage specifications



# Exploded View of Manifold: SQ2000 (Plug-in Type Manifold) SS5Q23



# **Manifold Spare Parts**

