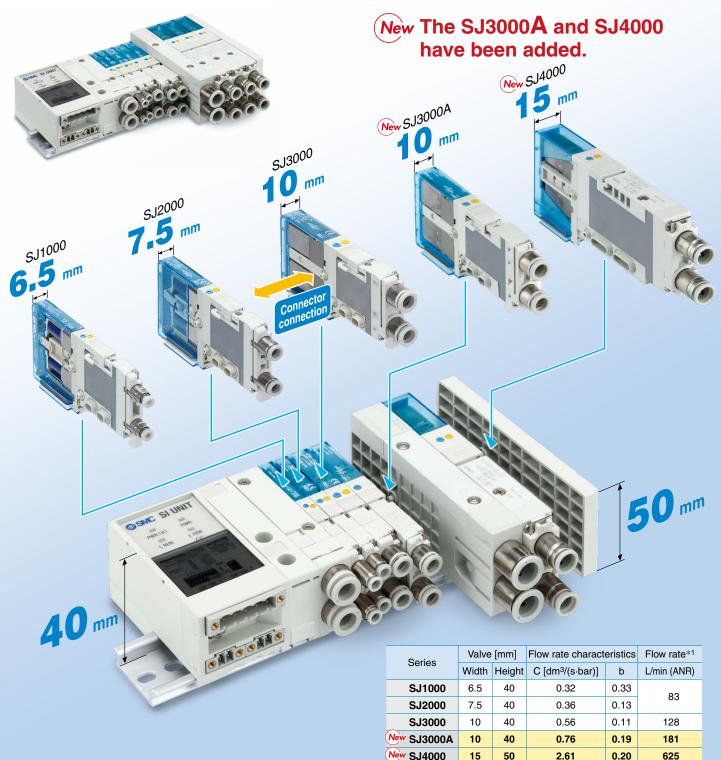
# 4-Port Solenoid Valve Cassette Type Manifold

**Rubber Seal** 





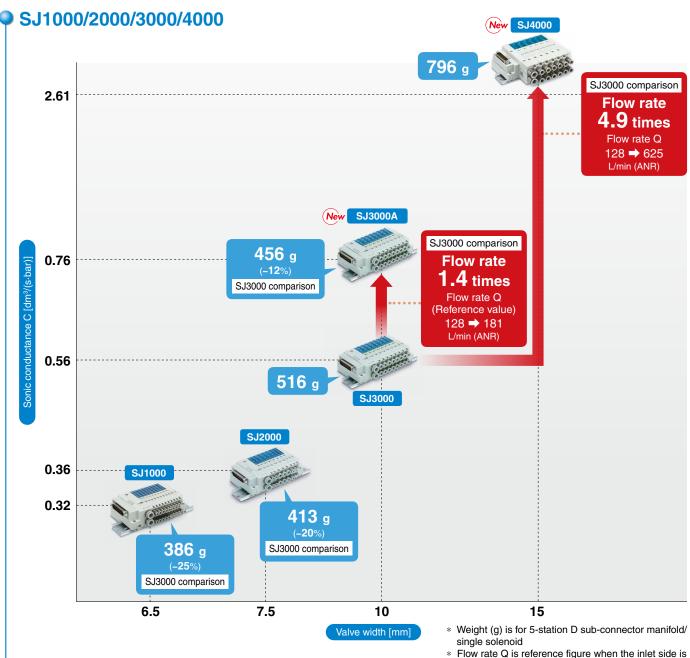
# SJ Series-5 sized valves can be mixed



\*1 Inlet pressure: 0.6 MPa, Outlet pressure: 0.5 MPa (at 20°C)

SJ1000/2000/3000/4000 Series





 Flow rate Q is reference figure when the inlet side is 0.6 MPa, and the outlet side is 0.5 MPa (20°C)

#### Power consumption

0.15 W<sup>\*1</sup> (SJ3000/4000 with power-saving circuit) 0.23 W<sup>\*1</sup> (SJ1000/2000 with power-saving circuit) \*1 Refer to page 140 for details.

#### Connector type (Card edge type)

- SJ1000, SJ2000, SJ3000, and SJ4000 series valves can be mounted together.
- Easily increase or decrease the number of stations and easily replace valves

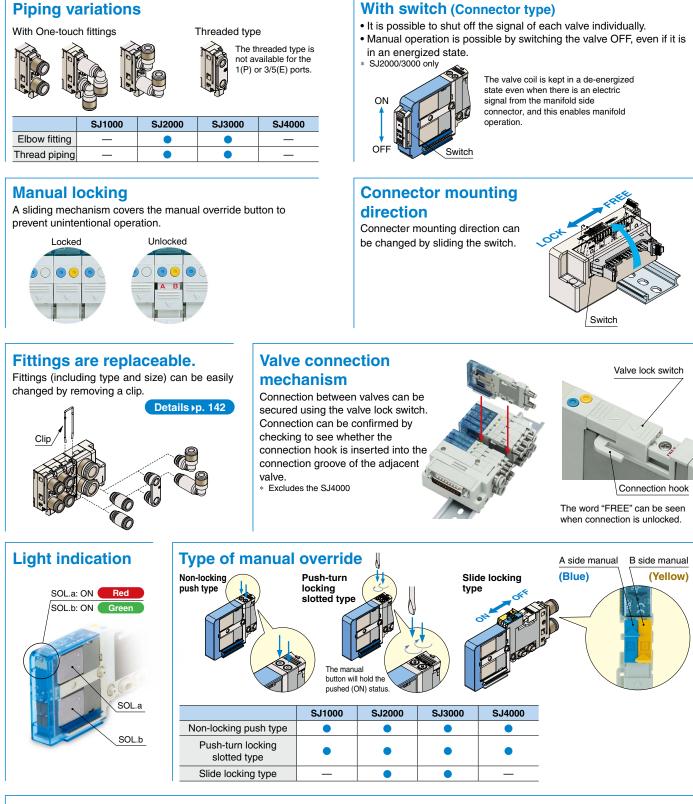
•The 34-pin connector allows for up to 16 stations with double solenoids or 32 stations with single solenoids.



### Non plug-in individual wiring



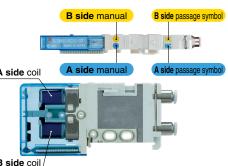
The manifold uses halogen-free lead wires.



#### 4-position dual 3-port valve

- 3-port valves integrated into a single valve
  It is possible to control the 4(A) and 2(B)
- Ports individually.Can be mounted on the same manifold as
- a 4-port valve3 types of combinations are available.

	A side	B side	Symbol		
	N.C. valve	N.C. valve	4(A) 2(B)	Asi	
-	N.O. valve	N.O. valve	4(A) 2(B)	<u>A 5</u>	
	N.C. valve	N.O. valve	4(A) 2(B)	<u>B si</u>	
	<b>SMC</b>				



### **Connector Type Manifold**



### EX180 Integrated type (for output) serial transmission system

Connector type only

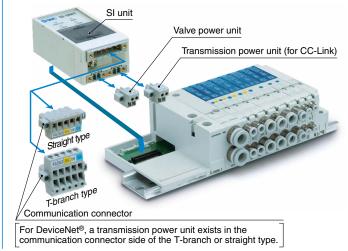


CC-Link (32 outputs), DeviceNet<sup>®</sup> (16 or 32 outputs)

• The connector allows for easy attaching/detaching of the SI unit and wiring.

Separated valve power unit and transmission power unit/Improved maintenance safety

Select between a T-branch or a straight type communication connector



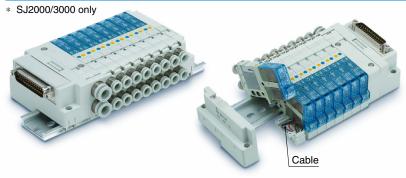


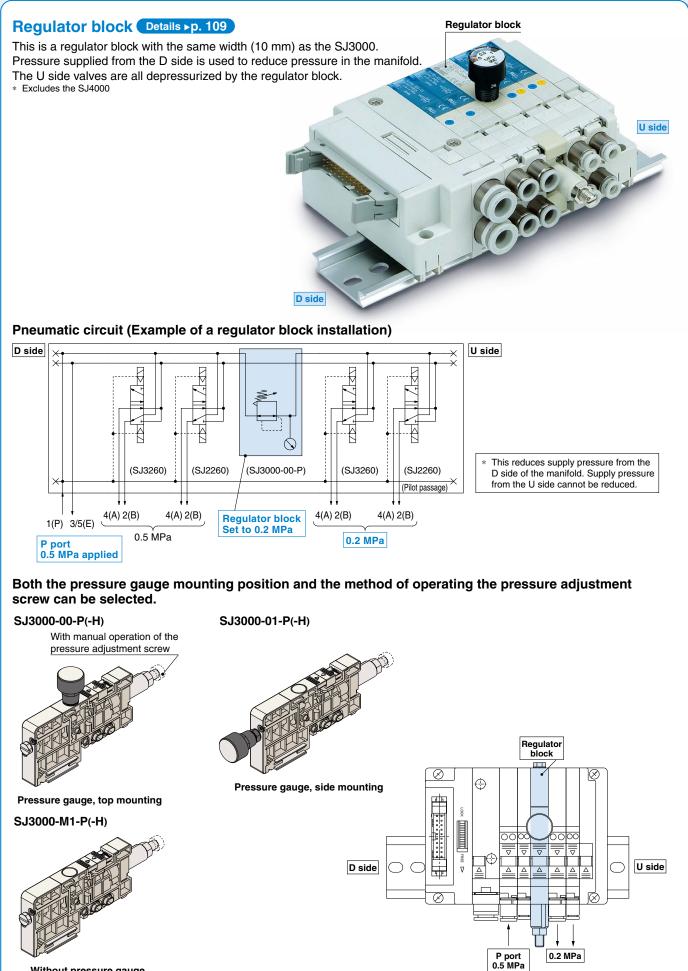
## EX510 Gateway type serial transmission system



- Max. 128 points (Input 64 points/Output 64 points)
- All wires can be plugged into the connector units.
- CC-Link, DeviceNet®, and PROFIBUS-DP compliant

### Plug-in Cable Type Manifold



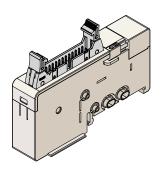


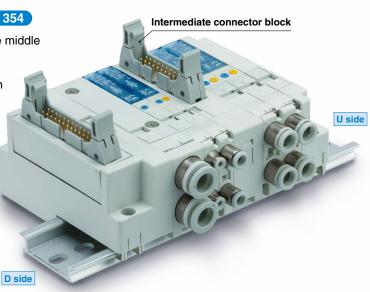
Without pressure gauge

#### Intermediate connector block Details > p. 354

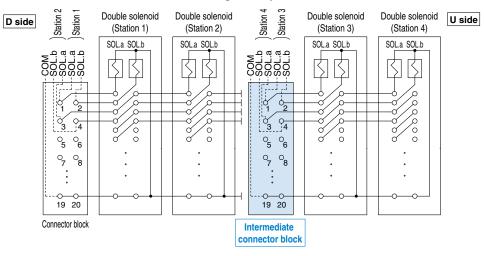
This connector block can be used by inserting it into the middle of the manifold.

It can be used, for example, when you wish to separate electrical control of valves in the same manifold or when the number of control points is insufficient.



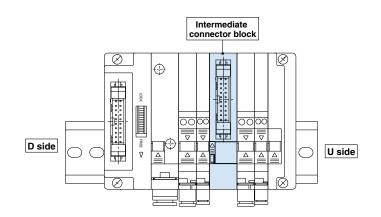


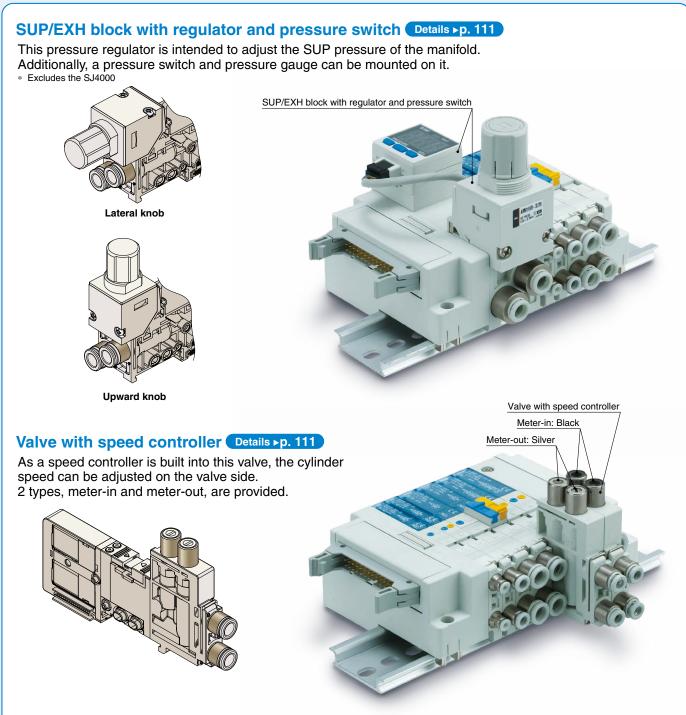
#### Intermediate connector block wiring example



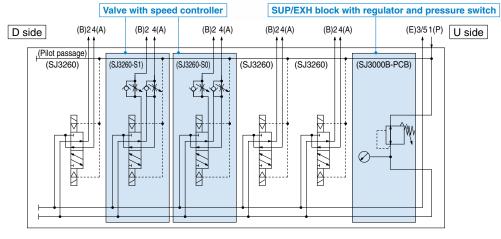
\* The U side solenoid valve with an intermediate connector block can be controlled.

 $\ast~$  To use the intermediate connector block, place an order in manifold specifications sheet.





Pneumatic circuit (Installation example of a SUP/EXH block with regulator and pressure switch and a valve with speed controller)

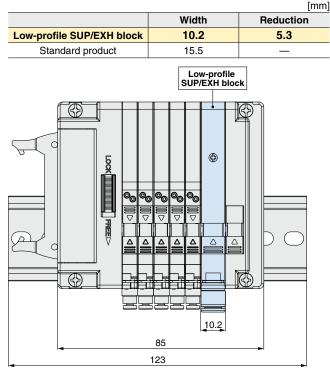




#### Low-profile SUP/EXH block Details > p. 117 (Made to order)

The width dimension of the SUP/EXH block is only 10.2 mm, smaller than the 15.5 mm width of the standard product, which allows for the length of the entire manifold to be reduced.

\* Excludes the SJ4000



\* SJ1000 5-station manifold example

#### Flow Rate Characteristics

	Port	size	Flow rate ch	aracteristics							
Series	1(P)	4, 2	$1 \rightarrow 4/2 \ (P \rightarrow A/B)$	$4/2 \rightarrow 3/5 (A/B \rightarrow E)$							
	3/5(E)	(A, B)	C [dm³/(s·bar)]	C [dm³/(s·bar)]							
SJ1000	C6	C2	0.12	0.13							
531000	60	C4	0.26	0.30							
	C6	C2	0.13	0.13							
SJ2000		C6	C6	C6	C6	C6	C6	C6	C4	0.30	0.34
		M3	0.18	0.20							
		C2	0.13	0.14							
SJ3000	C6	C4	0.38	0.45							
333000	0	C6	0.45	0.51							
		M5	0.40	0.45							

\* The values are for an individually operated 2-position type manifold base with 5 stations.

\* Excludes the SJ3000A (Large flow type) and SJ4000

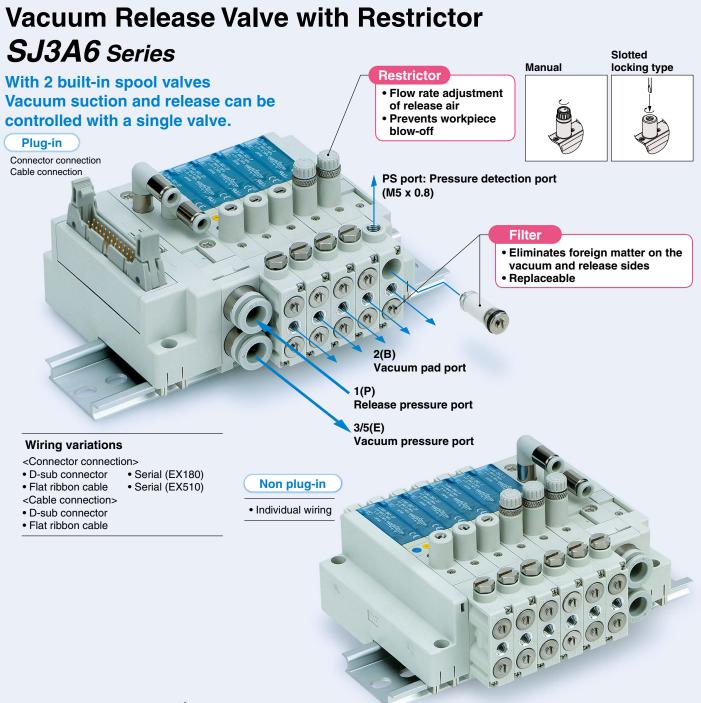
#### Tube Releasing Tool Web Catalog

#### Use this to remove tubing from A, B and P, E ports.

Part no.		Applicable	TG-0204	TG-0608	TG-1012
Applicabl	e tubing O.D.	port	ø2/ø4	ø6/ø8	ø10
	SJ1000	For A, B port		—	—
	531000	For P, E port	—	•	—
	SJ2000	For A, B port		_	—
Series	532000	For P, E port	—	•	_
Series	SJ3000	For A, B port		•	—
	533000	For P, E port	—	•	—
	SJ4000	For A, B port		•	_
	534000	For P, E port	_	•	



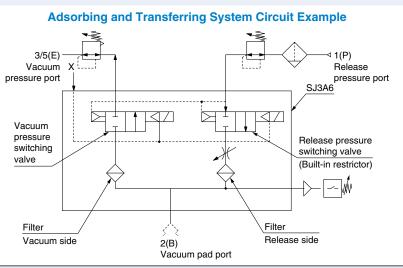
mm



- Power consumption: 0.15 W\*1 (with powersaving circuit)
- Width: 10 mm (same as the SJ3000 series)
- Equipped with restrictor to enable flow rate adjustment of release air
- Replaceable filters are built-in on the vacuum and release sides.
- Equipped with a pressure detection port which allows for the connection of a pressure switch, etc.
- Can be combined with 4-port solenoid valves, as well as SJ1000, 2000, and 3000 series valves (Special order) (Please contact SMC for details.)
- Enables 2-system pressure switching where the 1(P) port and the 3/5(E) port are set to different positive pressures

(In this case, flow can be adjusted on the P-port side only.)

\*1 Refer to page 140 for details.



<b>4-</b> F	ort Sole	noid Valve	Connection						
SJ	11000/20	000/3000/4000	Series	Paralle	l wiring	Serial tra	nsmission		
Va wit		elease Valve ctor	D-sub connector	Flat ribbon cable	EX180 (For output)	EX510 (Gateway type)	Individual wiring		
Ð	Plug in	Connector type	SJ1000/2000/ 3000/4000 SS5J1/2/3/4-60⊡	<b>р</b> . 29	<b>0</b> p. 29	<b>p</b> . 61	*8 • p. 77	*1 *7 *8 • p. 30 p. 62 p. 78	
4-port solenoid valve	Plug-in	Cable type	SJ2000/3000 SS5J2/3-60L⊡	<b>p</b> . 33	<b>p</b> . 33	_	_	_	
-4	Non plug-i	in	SJ2000/3000 SS5J2/3-60-⊡	_	_	_	_	<b>0</b> p. 95	
restrictor	Plugin	Connector type	SJ3A6 SS3J3-V60⊡	<b>p</b> . 127	<b>р</b> . 127	<b>0</b> p. 127	<b>0</b> p. 127	*1 • p. 128	
Vacuum release valve with restrictor	Plug-in	-in Cable type	SJ3A6 SS3J3-V60L⊡	<b>p</b> . 129	<b>р</b> . 129	_	_	_	
Vacuum r	Non plug-	in	SJ3A6 SS3J3-V60-⊡	_	_	_	_	<b>p</b> . 133	
*1 A I	inkage-printed circuit	t board is built into individual wiring	*5 Only the SJ3000 siz	ze is availa	able.				

\*1 A linkage-printed circuit board is built into individual wiring

valves so as to allow for use in combination with the plug-in types.

\*2 Specify the required specifications on the manifold specification sheet.\*3 All single wiring or all double wiring can be specified.

\*4 The vacuum release valve can only use double wiring.

\*5 Only the SJ3000 size is available.

\*6 Adding 1 additional station is possible up to the max. number of stations.

 $\ast 7\,$  Only the SJ2000 and SJ3000 sizes are available.

\*8 Excludes the SJ4000

# SJ1000/2000/3000/4000 Series SJ3A6 Series

				Mani	fold op	tions					Sole	noid va	lve spe	ecificat	tions
Mixed wiring Single/Double	Mixed type M60 SJ1000/2000/3000/4000	Block disk/ Different pressure pneumatic circuit diagram	Blanking block	Dual flow fitting	Regulator block	SUP/EXH block with regulator and pressure switch	Valve with speed controller	Intermediate connector block	Increase of manifold stations	Low-profile SUP/EXH block	Voltag Non-polar	+/- common Polar	With power-saving circuit	With individual switch	Main valve fluororubber specification
*2	<b>p</b> . 29 p. 31	<b>р</b> . 103	<b>р</b> . 105	*5 • p. 108	*8 • p. 109	*8 • p. 111	*5 • p. 111	*8 • p. 115	<b>0</b> p. 90	*8 • p. 117	*7	•	•	*7	*7 • p. 116
*3	_	<b>р</b> . 103	<b>p</b> . 105	*5 • p. 108	_	_	*5 • p. 111	_	*6 • p. 91	<b>p</b> . 117	_	٩	•	_	<b>p</b> . 116
٩	*7 • p. 95	<b>р</b> . 103	<b>p</b> . 105	*5 • p. 108	<b>p</b> . 109	<b>p</b> . 111	*5 • p. 111	_	<b>p</b> . 90	<b>p</b> . 117	_	•	_	_	<b>p</b> . 116
*4	_	<b>р</b> . 103	<b>p</b> . 105	_	_	_	_	<b>p</b> . 115	<b>p</b> . 90	<b>p</b> . 117	٢	•	•	٢	<b>p</b> . 116
*4	_	<b>p</b> . 103	<b>p</b> . 105	_	_	_	_	_	*6 • p. 91	<b>p</b> . 117	_	•	•	_	<b>p</b> . 116
*4	_	<b>р</b> . 103	<b>0</b> p. 105	_	_	_	_	_	<b>0</b> p. 90	<b>0</b> p. 117	_	•	-	_	<b>р</b> . 116



# CONTENTS

Manifold Variations	 p.	9
Manifold Variations	 р	•

### 4-Port Solenoid Valve SJ1000/2000/3000/4000 Series

Common Specifications	p.	13
Construction	p.	18

#### Plug-in Connector Type Manifold/Cable Type Manifold

#### p. 28



D	-sub Connector/Flat Ribbon Cable		
Н	ow to Order: Connector Type	p. 2	9
Н	ow to Order: Cable Type	р. З	3
Μ	lanifold Electrical Wiring: Connector Type, Cable Type	р. З	5
D	imensions: Connector Type, Cable Type	р. З	7
Е	X180 Integrated Type (For Output) Serial Transmission System		
Н	ow to Order: Connector Type	p. 6	;1
D	imensions: Connector Type	p. 6	5
Ε	X510 Gateway Type Serial Transmission System		
Н	ow to Order: Connector Type	p. 7	7
D	imensions: Connector Type	p. 7	9

Manifold Exploded View: Connector Type, Cable Type ...... p. 86 Manifold Exploded View (Mixed Specification): Connector Type ...... p. 89 How to Increase Manifold Stations: Connector Type, Cable Type ....... p. 92

#### Non Plug-in Individual Wiring Manifold

Individual Wiring	
How to Order	p. 95
Dimensions	p. 97

Manifold Exploded View: Individua	I Wiring p.	102
-----------------------------------	-------------	-----

Manifold Options	p. 103
Made to Order	p. 116



### Vacuum Release Valve with Restrictor SJ3A6 Series (p. 124)

Common Specifications	
Construction/Circuit Example	

#### Plug-in Connector Type Manifold/Cable Type Manifold



#### Non Plug-in Individual Wiring Manifold



Individual Wiring	
How to Order p. 133	
Dimensions p. 135	

	SJ3A6
Manifold Exploded View: Connector Type, Cable Type, Individual Wiring	

	n Spec. uction
Specific Product Precautions p. 138	Comme

12

**Decificat** 

Construction

Plug-in

EX510 EX180 Plat Ribbon

Non Plug-in

Individual Wiring

Manifold Options

Made to Order

Plug-in

D-sub Flat Ribbon Serial

Non Plug-in

Individual Wiring

### 4-Port Solenoid Valve SJ1000/2000/3000/4000 Series Common Specifications

#### **Manifold Specifications**

			D-sub connector		Flat ribbon cable		Serial	wiring	Individual wiring
Model <sup>*1</sup>		Type 60F (Connector type/ Cable type	Type 60P (Connector type/ Cable type	Type 60PG (Connector type/ Cable type	Type 60PH (Connector type/ Cable type	Type 60S□ (EX180/ (Connector type)	Type 60S6B <sup>*4</sup> (EX510/ (Connector type)	Type 60 <sup>*4</sup>	
Manifol	d type			Plug-in, Connecto	or type/Cable type	)	Plug-in, Co	nnector type	Non plug-in
1(P: SU	P), 3/5(E: E)	KH)			C	Common SUP, EX	Η		
Valve st	tations			1 to 24 stations to 20 stations	1 to 18 stations (Type PG)	1 to 8 stations	1 to 32 stations	1 to 16 stations	1 to 20 stations
Applicable connector		D-sub connector Compliant with MIL-C-24308 JIS-X-5101	Socket: 26 pins MIL type with strain relief	Flat ribbon cable connector Socket: 20 pins MIL type with strain relief Compliant with MIL-C-83503	Flat ribbon cable connector Socket: 10 pins MIL type with strain relief Compliant with MIL- C-83503	_	_	_	
	SJ1000			Connecto	or type: positive c	ommon, negative	common	1	
Internal wiring	SJ2000/30	00(A)	Connector type: non-polar, positive common, negative common/Cable type: positive common, negative common —						
wining	SJ4000		Connector type: non-polar, positive common, negative common – – –						—
4(A), 2(E	B) port	Location	Valve						
piping s	pecification	Direction	Horizontal, Upward, Downward (Elbow fittings are used for upward or downward. Upward and downward are not available for the SJ1000/4000.)						
	1(P), 3/5(E) port	SJ1000/ 2000/ 3000(A)				C6, C8, N7, N9 <sup>*5</sup>			
Devit	poir	SJ4000				C10*6			
Port size SJ1000			C2, C4						
(A) SJ2000			C2, C4, N1, N3, M3						
2(B) port 5J3000		C2, C4, C6, N1, N3, N7, M5							
SJ3000A		C4, C6							
		SJ4000	C6, C8						
Weight W [g]*2 (n: Number of SUP/EXH blocks m: Weight of DIN rail SJ1000/ 2000/ 3000(A)		Standard: W = $51n + m + 133$ Low-profile SUP/EXH block specification: W = $32n + m + 133^{*3}$							
( in meight	vi viit läll	SJ4000			Manifold [D-su	b connector]: W =	81n + m + 144		

\*1 The SJ1000/4000 series does not support cable connection or individual wiring.

\*2 The weight W is the value for the D-sub connector manifold with internal pilot and SUP/EXH block straight fittings specifications only. To obtain the weight with solenoid valves mounted, add the solenoid valve weights given on page 16 for the appropriate number of stations. Refer to page 106 for the weight of the DIN rail. (Please contact SMC for the weight of the external pilot specification with elbow fittings.)

\*3 Refer to page 117 for low-profile SUP/EXH block specifications.

\*4 Not available for the SJ4000 series

\*5 Inch size elbow fittings are not available.

\*6 Metric/Inch size elbow fittings are not available.

\* When many valves are operated simultaneously, use the B type (SUP/EXH both sides), supplying pressure to the 1(P) ports on both sides and exhausting from the 3/5(E) ports on both sides.

### Common Specifications SJ1000/2000/3000/4000 Series

#### **Flow Rate Characteristics**

SJ1000 S	eries
----------	-------

Port size			Flow rate characteristics								
1(P)	4, 2 $1 \rightarrow 4/2 (P \rightarrow A/B)$ $4/2 \rightarrow 3/5 (A/B \rightarrow E)$		$1 \rightarrow 4/2 \ (P \rightarrow A/B)$								
3/5(E)	(A, B)	C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv				
C8	C2	0.12	0.64	0.04	0.13	0.59	0.04				
	C4	0.28	0.35	0.08	0.32	0.33	0.08				

#### SJ2000 Series

Port si	ze	Flow rate characteristics					
1(P)	4, 2	$1 \rightarrow 4/2 \ (P \rightarrow A/B)$				4/2 $\rightarrow$ 3/5 (A/B $\rightarrow$ E)	
3/5(E)	(A, B)	C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv
	C2	0.13	0.55	0.04	0.13	0.50	0.04
C8	C4	0.33	0.16	0.08	0.36	0.13	0.08
	M3	0.18	0.52	0.06	0.20	0.29	0.06

#### SJ3000 Series

Port si	ize Flow rate characteristics						
1(P)	4, 2		$1 \rightarrow 4/2 \ (P \rightarrow A/B)$			4/2 $\rightarrow$ 3/5 (A/B $\rightarrow$ E)	
3/5(E)	(A, B)	C [dm³/(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv
	C2	0.13	0.56	0.04	0.14	0.51	0.04
~	C4	0.42	0.17	0.11	0.45	0.16	0.11
C8	C6	0.55	0.10	0.12	0.56	0.11	0.12
	M5	0.40	0.28	0.11	0.45	0.15	0.11

#### SJ3000A Series

	M5	0.40	0.28	0.11	0.45	0.15	0.11	
SJ30004	A Serie	S					1	Miring
Port s	ize			Flow rate ch	naracteristics			
1(P)	4, 2		$1 \rightarrow 4/2 \ (P \rightarrow A/B)$			4/2 $\rightarrow$ 3/5 (A/B $\rightarrow$ E)		
3/5(E)	(A, B)	C [dm³/(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv	ons fold
	C4	0.53	0.34	0.17	0.75	0.21	0.20	Manifold Options
C8	C6	0.68	0.27	0.19	0.76	0.19	0.21	
	M5	0.55	0.33	0.16	0.75	0.21	0.20	

#### SJ4000 Series

SJ4000 \$	Series							Made to Order
Port si	ze			Flow rate ch	naracteristics			ΣŬ
1(P)	4, 2		$1 \rightarrow 4/2 \ (P \rightarrow A/B)$			$4/2 \rightarrow 3/5 (A/B \rightarrow E)$		
3/5(E)	(A, B)	C [dm³/(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv	
010	C6	1.47	0.36	0.43	2.34	0.34	0.70	SJ3A6
C10	C8	2.14	0.24	0.58	2.61	0.20	0.68	COORO

\* The values are for an individually operated 2-position type manifold base with 5 stations.

Please contact SMC for details on 4-position dual 3-port valves.

4000

Construction

Plug-in

EX510 EX180 Plat Ribbon

Non Plug-in

Common Spec. Construction

Plug-in

### SJ1000/2000/3000/4000 Series





Flat ribbon cable



EX180 Integrated type (for output) serial transmission system



EX510 Gateway type serial transmission system



Individual wiring

#### **Solenoid Valve Specifications**

Fluid		Air		
	2-position single		0.45 += 0.7	
Internal pilot	4-position	dual 3-port valve	0.15 to 0.7	
operating pressure range [MPa]	2-position	double	0.1 to 0.7	
51 1	3-position	1	0.2 to 0.7	
	Operating	pressure range	-100 kPa to 0.7	
External pilot	Pilot	2-position single		
operating pressure range [MPa]	pressure	2-position double	0.25 to 0.7	
511	range	3-position		
Ambient and fluid te	mperatures	[°C]	-10 to 50 (No freezing)	
	2-position single, double		10 (SJ4000: 5 Hz)	
Max. operating frequency [Hz]	4-position dual 3-port valve			
	3-position		3	
Manual according (Ma			Non-locking push type	
Manual override (Ma	nual operat	lion)	Push-turn locking slotted type	
Dilat and another distant	Internal p	ilot	Main and pilot valve common exhaust	
Pilot exhaust method External pilot		oilot	Pilot valve individual exhaust	
Lubrication			Not required	
Mounting orientation	n		Unrestricted	
Impact/Vibration res	istance [m/	′s²]	150/30	
Enclosure			Dustproof	
Impact resistance : No	malfunction or	curred when it is tes	ted with a drop tester in the axial direction and at t	

npact 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. (Value in the initial state)

Vibration resistance: No malfunction occurred in one sweep test between 45 and 2000 Hz in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states for each condition. (Value in the initial state)

#### **Solenoid Specifications**

Coil rated voltage		24 VDC, 12 VDC*4		
Allowable voltage fluctuation		±10% of ra	ted voltage*1	
Standard		SJ2000	0.55	
	Standard	SJ3000/4000	0.4	
Power consumption [W]	With power- saving circuit*3 (Continuous duty type)	SJ1000/2000	0.23 <sup>*2</sup> [Starting 0.55, Holding 0.23]	
		SJ3000/4000	0.15 <sup>*2</sup> [Starting 0.4, Holding 0.15]	
Surge voltage suppressor		D	iode	
Indicator light		L	ED	

\*1 For the allowable voltage fluctuation for Z and T types (with power-saving circuit), please observe the following range because they have voltage drop due to internal circuit.

- Z type 24 VDC: -7% to +10%
- 12 VDC: -4% to +10%
- T type 24 VDC: -5% to +10%
- 12 VDC: -6% to +10%
- \*2 Refer to page 140 for details.
- \*3 SJ1000 series available as power-saving type only. Standard type (without power-saving circuit) cannot be selected.
- \*4 The 12 VDC specification is not available for the SJ4000.

#### **Response Time**

Turne of actuation	I	Response time [ms] (at 0.5 MPa)				
Type of actuation	SJ1000	SJ2000	SJ3000	SJ4000		
2-position single	16	16	16	26		
2-position double	10	10	10	12		
3-position	20	34	22	29		
4-position dual 3-port valve	18	30	30	30		

\* Based on dynamic performance test, JIS B 8419:2010 (Coil temperature: 20°C, at rated voltage)

### Common Specifications SJ1000/2000/3000/4000 Series

#### Weight

#### Model: SJ1000/2000 Series

Valve model	т	ype of actuation	Port size 4(A), 2(B)	Weight [g]	
		Single	(, , , <u></u> ( <u></u> )	34	
	2-position	Double	00	38	
		Closed center	C2		
SJ1⊡60T-C2	3-position		ø2 One-	41	
		Pressure center	touch fitting		
	4-position	Dual 3-port valve		38	
	i .	Single		36	
	2-position	Double	C4	40	
SJ1⊡60T-C4		Closed center	/ ø4 One- \		
501001-04	3-position	Exhaust center		43	
		Pressure center	(touch fitting)		
	4-position	Dual 3-port valve		40	
	2-position	Single		43	
	2-005111011	Double	C2	46	
SJ2⊟60-C2	3-position	Closed center	/ ø2 One- \		
5J2⊡00-C2		Exhaust center		50	
		Pressure center	\touch fitting/		
	4-position	Dual 3-port valve		46	
	2-position	Single		41	
	2-00311011	Double	C4	44	
SJ2⊡60-C4		Closed center	/ ø4 One- \		
302-00-04	3-position	Exhaust center	touch fitting)	48	
		Pressure center			
	4-position	Dual 3-port valve		44	
	2-position	Single		39	
SJ2⊡60-M3	- poolaon	Double		42	
		Closed center	M3 x 0.5		
	3-position		1110 X 0.0	46	
		Pressure center		40	
4-position Dual 3-port valve 42					
Please contact SMC for the weight of elbow fittings.					

		ries	Port size	Weight
Valve model	T	ype of actuation	4(A), 2(B)	[g]
0 monthing		Single	, (, , , =(2)	63
	2-position	Double	C2	71
SJ3⊟60-C2		Closed center	/ ø2 One- \	
533-00-02	3-position	Exhaust center		75
		Pressure center	\touch fitting/	
	4-position	Dual 3-port valve		71
	2-position	Single		65
	2-00311011	Double	C4	73
SJ3⊟60-C4		Closed center	/ ø4 One- \	
000-04	3-position			77
		Pressure center	\touch fitting/	
	4-position	Dual 3-port valve		73
	2-position	Single		61
	2 position	Double	C6	69
SJ3⊟60-C6	3-position	Closed center	/ ø6 One- \	73
000-00-00			touch fitting	
		Pressure center		
	4-position	Dual 3-port valve		69
	2-position	Single		57
	- poolaon	Double		65
SJ3⊟60-M5		Closed center	M5 x 0.8	
	3-position			69
		Pressure center	4	
	4-position	Dual 3-port valve		65
		Single	C4	53
SJ3□60A-C4		•	/ ø4 One- \	
••••		Double	touch fitting)	64
	-		(todorr inting/	
SJ3⊡60A-C6		Single	C6	49
	2-position	-	/ ø6 One- \	
	P	Double	touch fitting	60
	1	Single		46
SJ3⊡60A-M5		Cirigie	M5×0.8	
		Double		57

\* Please contact SMC for the weight of elbow fittings.

**SMC** 

#### Model: SJ4000 Series

Valve model	Т	ype of actuation	Port size 4(A), 2(B)	Weight
		Single	4(A), 2(D)	<u>[g]</u> 111
	2-position	Double	C6	121
SJ4⊡60-C6		Closed center	/ ø6 One- \	
55400-00	3-position	Exhaust center		131
		Pressure center	touch fitting	
	4-position	Dual 3-port valve		120
	2-position	Single		108
	2-00510011	Double	C8	118
SJ4⊡60-C8		Closed center	/ ø8 One- \	
33400-00	3-position	Exhaust center		128
		Pressure center	essure center (touch fitting)	
	4-position	Dual 3-port valve		117

Flat Ribbon Plug-in Common Spec.

000

4000

Construction

Plug-in

EX510 EX180 Flat Ribbon

Non Plug-in

Individual Wiring

Manifold Options

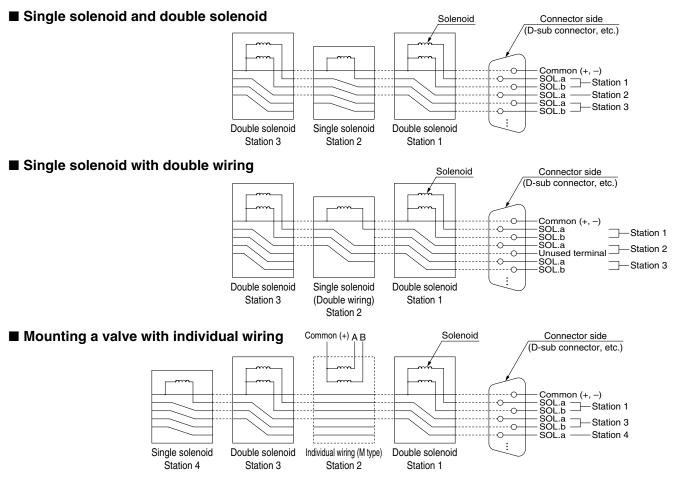
Made to Order

SJ3A6

### SJ1000/2000/3000/4000 Series

#### **Connector Wiring Diagram**

For both serial and parallel wiring, additional valves are sequentially assigned pins on the connector. This makes it completely unnecessary to disassemble the connector unit.



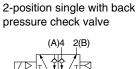
# SJ1000/2000/3000/4000 Series Construction

#### SJ1000/2000: Connector Type

#### Symbol

2-position single







2-position double with back

(A)4 2(B)

(EA)5 1 3(EB)

(P)

3-position exhaust center

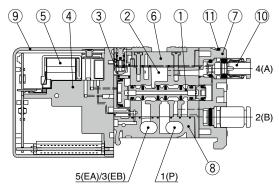
(A)4 2(B)

(EA)5 1 3(EB) (P)

 $\triangleleft \setminus$ 

pressure check valve

2-position single



Commor pecification

Plug-in

D-sub Flat Ribbon

EX510 EX180

Non Plug-in

Individual Wiring

Manifold Options

Made to Order

SJ3A6

Common Spec. Construction

Plug-in

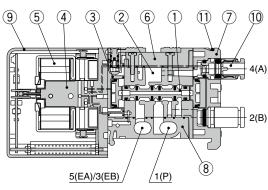
Flat Ribbon

Non Plug-in

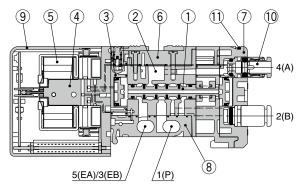
> Individual Wiring

Specific Product Precautions

#### 2-position double

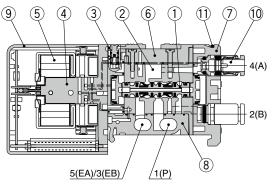


#### 3-position closed center/exhaust center/pressure center

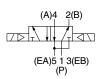


#### SJ1260KT/SJ2260K [With back pressure check valve]

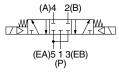
**SMC** 



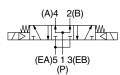
2-position double



3-position closed center



3-position pressure center



#### **Component Parts**

0011						
No.	Description	Material	Note			
1	Spool valve assembly	Resin/HNBR (3-position solenoid valve: Aluminum/HNBR)	_			
2	Body	Zinc die-cast	—			
3	Adapter plate	Resin	White			
4	Pilot adapter	Resin	White			
5	Pilot valve assembly	_	—			
6	Body cover	Resin	White			
7	Port block	Resin	White			
8	Bottom cover	Resin	White			
9	Light cover	Resin	Light blue			

#### **Replacement Parts**

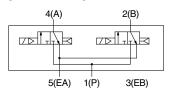
No.	Description		Part no.
10	One-touch fitting		Refer to the One-touch fitting part no. on page 142.
11	Clin	SJ1000	SJ1000-CL-1 (10 pcs.)
	Clip	SJ2000	SJ2000-CL-1 (10 pcs.)

### SJ1000/2000/3000/4000 Series

### SJ1000/2000: Connector Type

#### Symbol

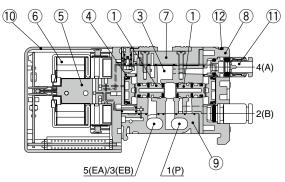
4-position dual 3-port valve SJ1A60T/SJ2A60 [N.C. valve x 2]



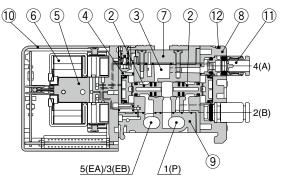




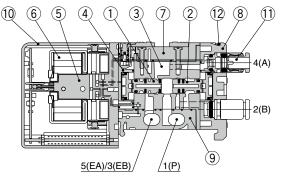
#### SJ1A60T/SJ2A60 [N.C. valve x 2]



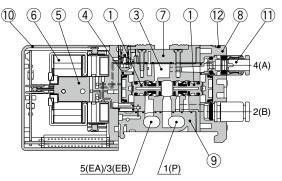
SJ1B60T/SJ2B60 [N.O. valve x 2]



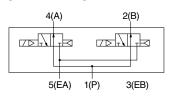
#### SJ1C60T/SJ2C60 [N.C., N.O. valve x 1 (each)]



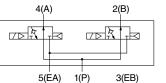
#### SJ1A60KT/SJ2A60K [With back pressure check valve]



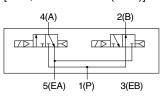
SJ1B60T/SJ2B60 [N.O. valve x 2]



SJ1B60KT/SJ2B60K with back pressure check valve



SJ1C60T/SJ2C60 [N.C., N.O. valve x 1 (each)]



SJ1C60KT/SJ2C60K with back pressure check valve

4(A) 2(B)

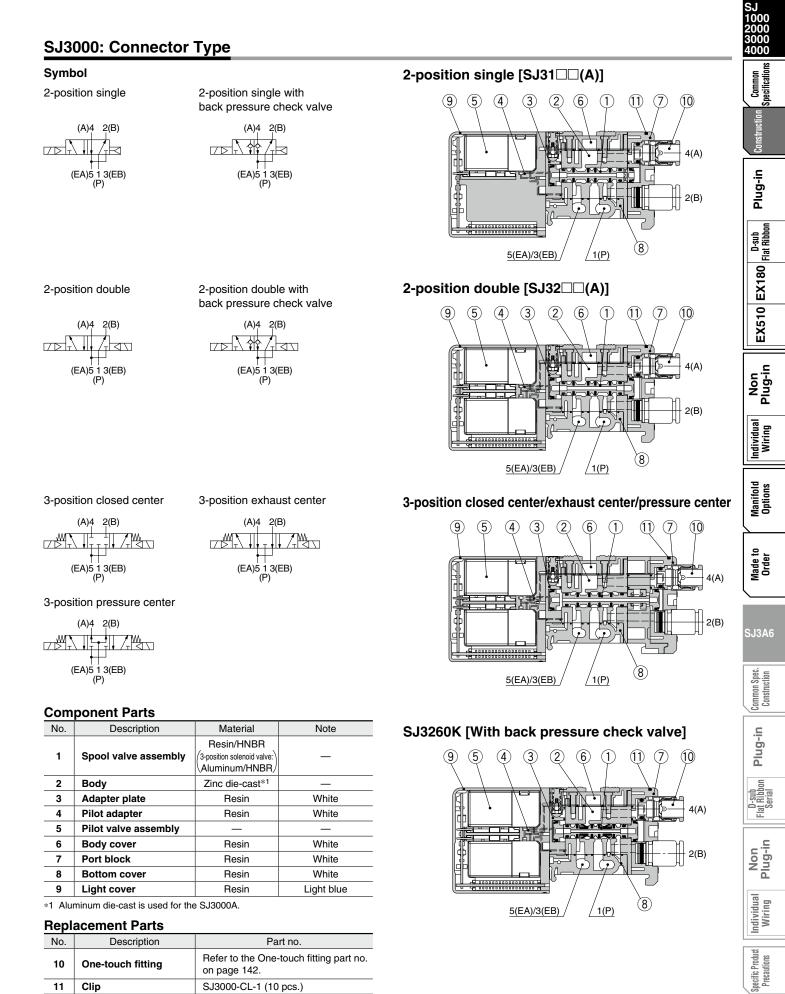
#### **Component Parts**

No.	Description	Material	Note
1	Spool valve assembly	Resin/HNBR	N.C. (Normally closed)
2	Spool valve assembly	Resin/HNBR	N.O. (Normally open)
3	Body	Zinc die-cast	—
4	Adapter plate	Resin	White
5	Pilot adapter	Resin	White
6	Pilot valve assembly	—	—
7	Body cover	Resin	White
8	Port block	Resin	White
9	Bottom cover	Resin	White
10	Light cover	Resin	Light blue

#### **Replacement Parts**

No.	Description		Part no.
11	One-touch fitting		Refer to the One-touch fitting part no. on page 142.
10	SJ1000		SJ1000-CL-1 (10 pcs.)
12	Clip	SJ2000	SJ2000-CL-1 (10 pcs.)

### Construction SJ1000/2000/3000/4000 Series



**SMC** 

20

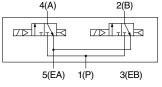
### SJ1000/2000/3000/4000 Series

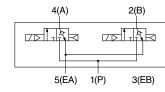
#### SJ3000: Connector Type

#### Symbol

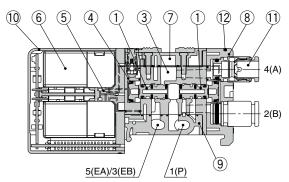
4-position dual 3-port valve SJ3A60 [N.C. valve x 2]

SJ3A60K with back pressure check valve

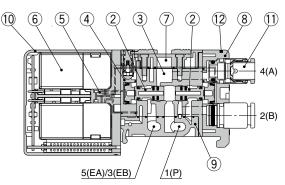




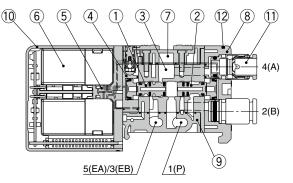
SJ3A60 [N.C. valve x 2]



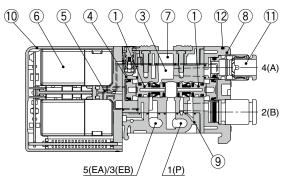
SJ3B60 [N.O. valve x 2]



#### SJ3C60 [N.C. valve, N.O. valve x 1 (each)]



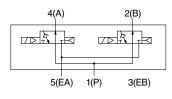
#### SJ3A60K [With back pressure check valve]



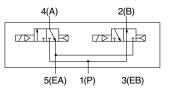
#### SJ3B60 [N.O. valve x 2]

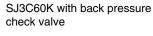
4(A) 2(B) -13 3(EB) 5(EA) 1(P)

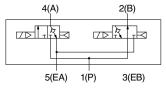
SJ3B60K with back pressure check valve



SJ3C60 [N.C., N.O. valve x 1 (each)]







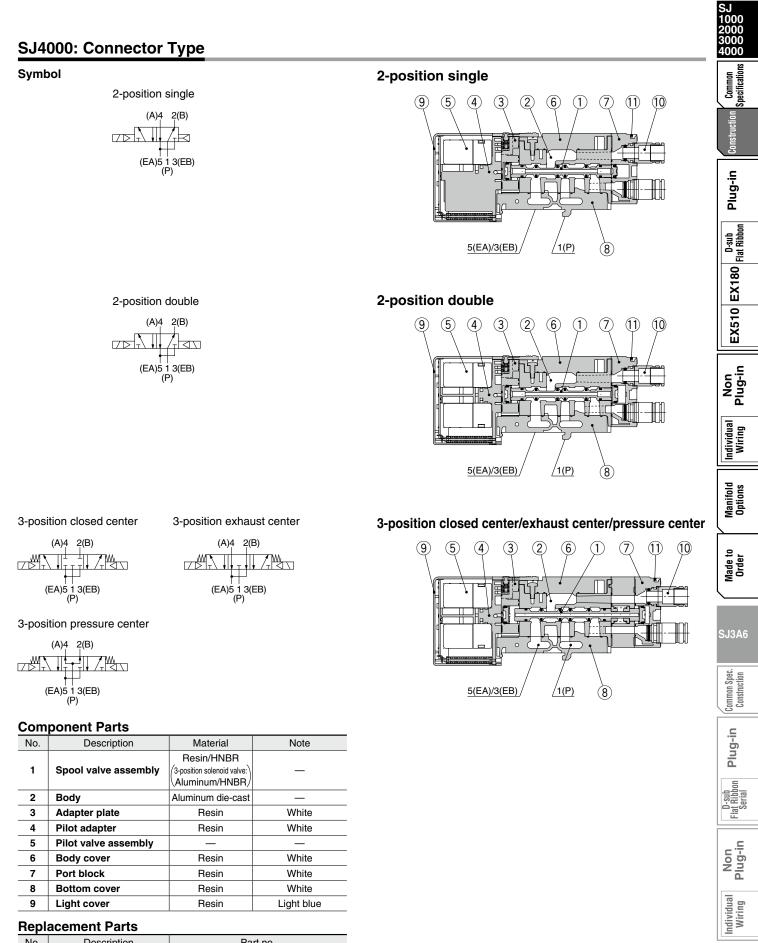
#### **Component Parts**

No.	Description	Material	Note
1	Spool valve assembly	Resin/HNBR	N.C. (Normally closed)
2	Spool valve assembly	Resin/HNBR	N.O. (Normally open)
3	Body	Zinc die-cast	_
4	Adapter plate	Resin	White
5	Pilot adapter	Resin	White
6	Pilot valve assembly	—	—
7	Body cover	Resin	White
8	Port block	Resin	White
9	Bottom cover	Resin	White
10	Light cover	Resin	Light blue

#### **Replacement Parts**

No.	Description	Part no.
11	One-touch fitting	Refer to the One-touch fitting part no. on page 142.
12	Clip	SJ3000-CL-1 (10 pcs.)
21		<u> </u>

### Construction SJ1000/2000/3000/4000 Series



**SMC** 

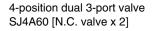
No.	Description	Part no.
10	One-touch fitting	Refer to the One-touch fitting part no. on page 142.
11	Clip	JSY31M-19P-1A (10 pcs.)

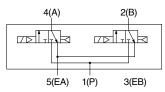
Specific Product Precautions

### SJ1000/2000/3000/4000 Series

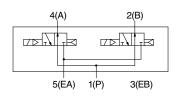
#### SJ4000: Connector Type

#### Symbol

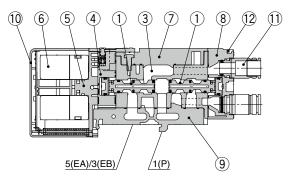




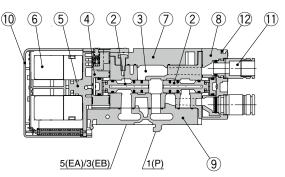
SJ4B60 [N.O. valve x 2]



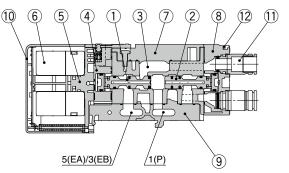
SJ4A60 [N.C. valve x 2]



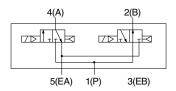
SJ4B60 [N.O. valve x 2]



#### SJ4C60 [N.C. valve, N.O. valve x 1 (each)]



SJ4C60 [N.C., N.O. valve x 1 (each)]



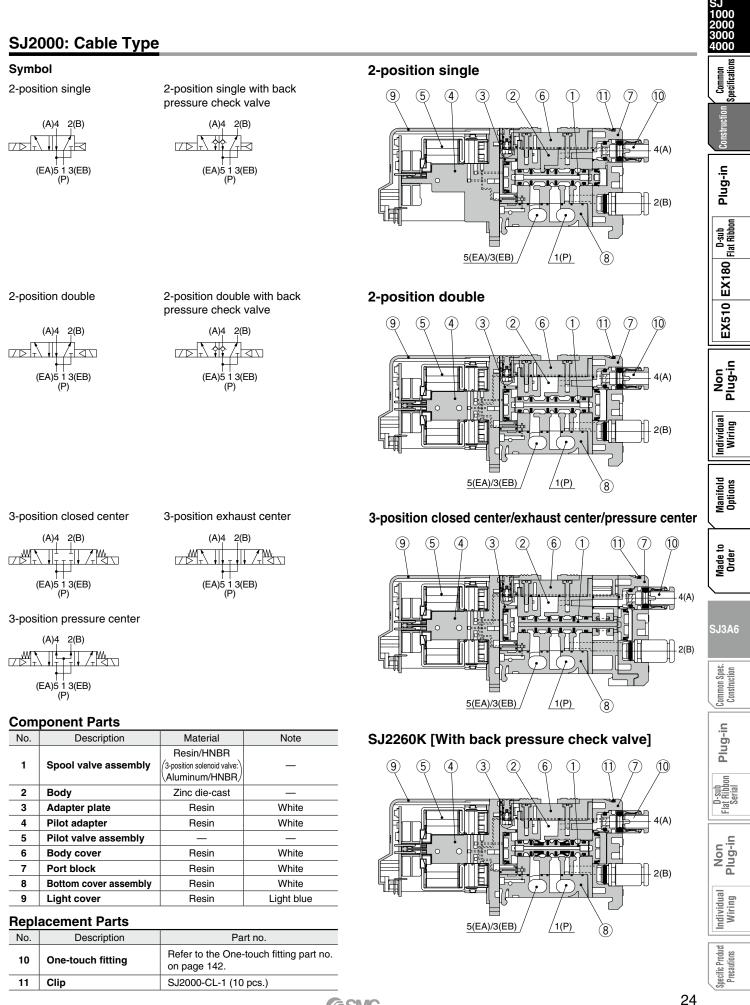
#### **Component Parts**

No.	Description	Material	Note		
1	Spool valve assembly	Resin/HNBR	N.C. (Normally closed)		
2	Spool valve assembly	Resin/HNBR	N.O. (Normally open)		
3	Body	Aluminum die-cast	_		
4 Adapter plate		Resin	White		
5	Pilot adapter	Resin	White		
6	Pilot valve assembly	—	—		
7	Body cover	Resin	White		
8 Port block		Resin	White		
9	Bottom cover	Resin	White		
10	Light cover	Resin	Light blue		

#### **Replacement Parts**

No.	Description	Part no.	
11	One-touch fitting	Refer to the One-touch fitting part no. on page 142.	
12	Clip	JSY31M-19P-1A (10 pcs.)	
23		5	

### Construction SJ2000/3000 Series



**SMC** 

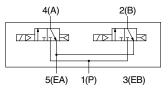
### SJ2000/3000 Series

#### SJ2000: Cable Type

#### Symbol

4-position dual 3-port valve SJ2A60 [N.C. valve x 2]

SJ2A60K with back pressure check valve



SJ2B60 [N.O. valve x 2]

2(B)

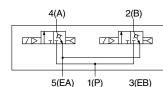
3(EB)

4(A)

-13

5(EA)

1(P)



SJ2B60K with back pressure

2(B)

₽

3(EB)

**SMC** 

1(P)

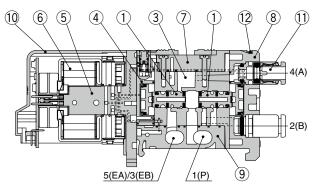
check valve

4(A)

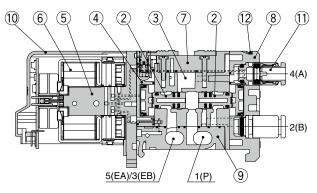
-13

5(ĖA)

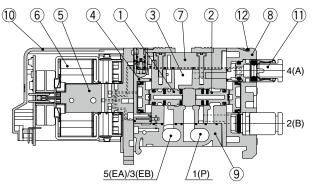
SJ2A60 [N.C. valve x 2]



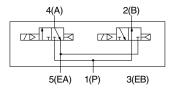
SJ2B60 [N.O. valve x 2]



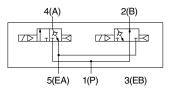
#### SJ2C60 [N.C. valve, N.O. valve x 1 (each)]



### SJ2C60 [N.C., N.O. valve x 1 (each)]



SJ2C60K with back pressure check valve



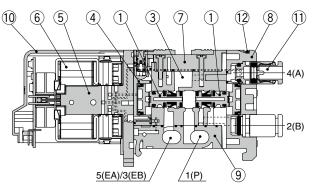
#### **Component Parts**

No.	Description	Material	Note	
1	Spool valve assembly	Resin/HNBR	N.C. (Normally closed)	
2	Spool valve assembly	Resin/HNBR	N.O. (Normally open)	
3	Body	Zinc die-cast		
4	Adapter plate	Resin	White	
5	Pilot adapter	Resin	White	
6	Pilot valve assembly	—	—	
7	Body cover	Resin	White	
8	Port block	Resin	White	
9	Bottom cover assembly	Resin	White	
10	Light cover	Resin	Light blue	

#### **Replacement Parts**

No.	Description	Part no.		
11	One-touch fitting	Refer to the One-touch fitting part no. on page 142.		
12	Clip	SJ2000-CL-1 (10 pcs.)		
~ -	~-			

#### SJ2A60K [With back pressure check valve]



25

### Construction SJ2000/3000 Series

(6)

(1)

(1(P)

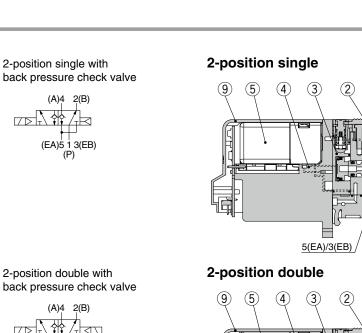
(11)(7)

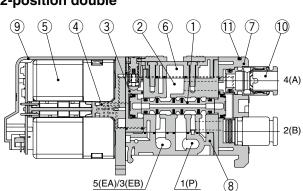
(8)

(10)

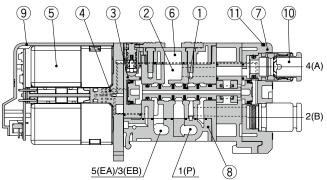
4(A)

2(B)

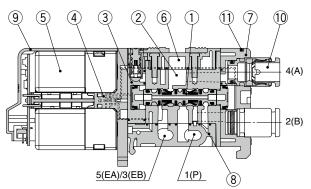


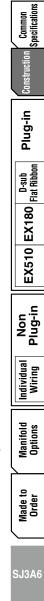


#### 3-position closed center/exhaust center/pressure center



#### SJ3260K [With back pressure check valve]





Common Spec. Construction

Plug-in

D-sub Flat Ribbon Serial

Non Plug-in

Individual Wiring

Specific Product Precautions

#### 2-position double

SJ3000: Cable Type

Symbol

2-position single

(A)4 2(B)

(EA)5 1 3(EB) (P)

′-⊧≂



#### 3-position closed center

(A)4 2(B) (EA)5 1 3(EB) (P)

3-position pressure center

#### **Component Parts**

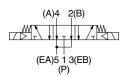
No.	Description	Material	Note
1	Spool valve assembly	Resin/HNBR (3-position solenoid valve: Aluminum/HNBR)	—
2	Body	Zinc die-cast*1	—
3	Adapter plate	Resin	White
4	Pilot adapter	Resin	White
5	Pilot valve assembly	—	—
6	Body cover	Resin	White
7	Port block	Resin	White
8	Bottom cover assembly	Resin	White
9	Light cover	Resin	Light blue

\*1 Aluminum die-cast is used for the SJ3000A.

#### **Replacement Parts**

No.	Description	Part no.	
10	One-touch fitting	Refer to the One-touch fitting part no. on page 142.	
11	Clip	SJ3000-CL-1 (10 pcs.)	

**SMC** 



3-position exhaust center

2-position single with

(A)4 2(B)

(EA)5 1 3(EB) (P)

2-position double with

\_∰

(A)4 2(B)

(EA)5 1 3(EB) (P)

বি

 $\overline{}$ 

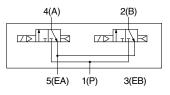
### SJ2000/3000 Series

#### SJ3000: Cable Type

#### Symbol

4-position dual 3-port valve SJ3A60 [N.C. valve x 2]

SJ3A60K with back pressure check valve



SJ3B60 [N.O. valve x 2]

2(B)

3(EB)

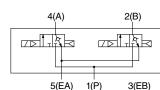
4(A)

-13

5(EA)

1(P)

(each)]



SJ3B60K with back pressure

2(B)

₽

3(EB)

**SMC** 

1(P)

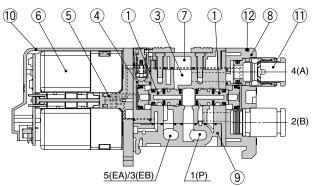
check valve

4(A)

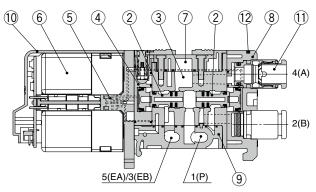
-13

5(EA)

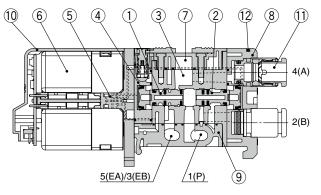
SJ3A60 [N.C. valve x 2]



SJ3B60 [N.O. valve x 2]

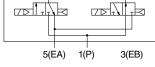


#### SJ3C60 [N.C. valve, N.O. valve x 1 (each)]

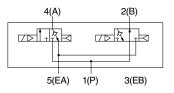


### 4(A) 2(B)

SJ3C60 [N.C., N.O. valve x 1



SJ3C60K with back pressure check valve



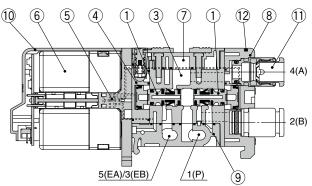
#### **Component Parts**

No.	. Description Material No		Note	
1	Spool valve assembly	Resin/HNBR	N.C. (Normally closed)	
2	Spool valve assembly	Resin/HNBR	N.O. (Normally open)	
3	Body	Zinc die-cast	—	
4	Adapter plate	Resin	White	
5	Pilot adapter	Resin	White	
6	Pilot valve assembly	—	—	
7	Body cover	Resin	White	
8	Port block	Resin	White	
9	Bottom cover assembly	Resin	White	
10	Light cover	Resin	Light blue	

#### **Replacement Parts**

No.	Description	Part no.
11	One-touch fitting	Refer to the One-touch fitting part no. on page 142.
12	Clip	SJ3000-CL-1 (10 pcs.)
~ -		

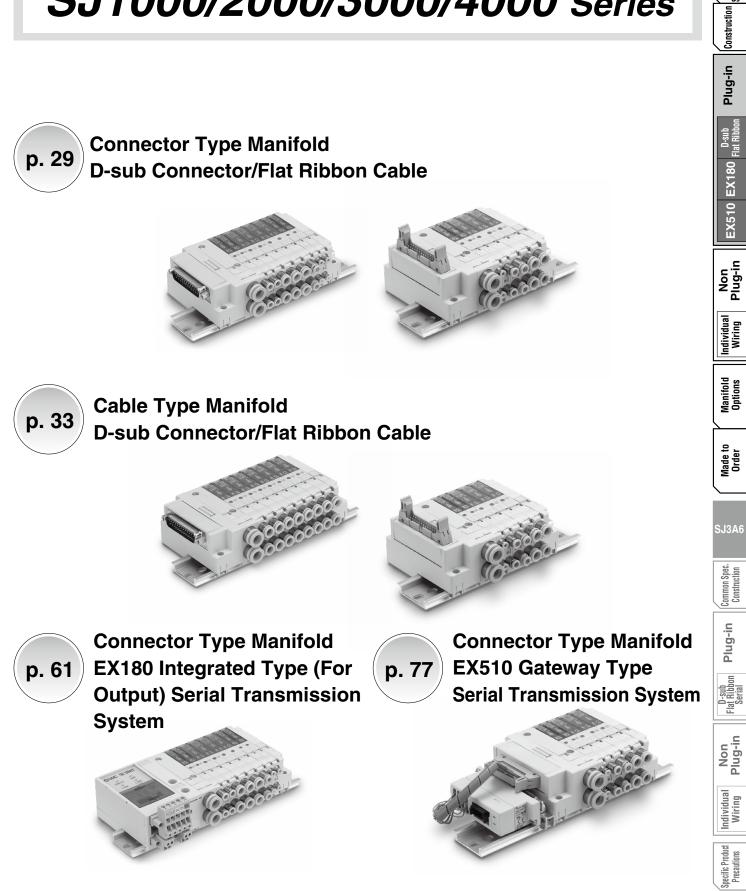
#### SJ3A60K [With back pressure check valve]



27

### **Plug-in Connector Type Manifold Cable Type Manifold**

# SJ1000/2000/3000/4000 Series



Common Specificatio

EX510 EX180

### Plug-in Connector Type D-sub Connector/Flat Ribbon Cable (RoHS) SJ1000/2000/3000 Series

How to Order

no. Be sure to order solenoid valves for mounting at the same time while referring to the ordering example.

P: Flat ribbon cable

(26 pins)

Note

Up to 24 solenoids

Note

Up to 8 solenoids

can be selected.

can be selected.

Connector type manifold

05 **SS5J** 3 **60 2** Mixed mounting type Connector type

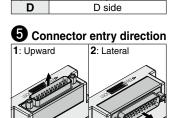
F: D-sub connector

(25 pins)

1 Series			
1	SJ1000		
2	SJ2000		
	SJ3000		
3	(SJ1000/2000/3000		
	mixed <sup>*1</sup> )		

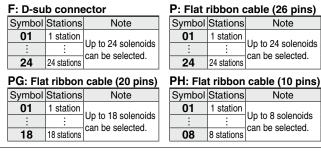
\*1 Select "3" for the combination of SJ1000 and SJ2000 valves.

4 Con	nector mounting position
Symbol	Mounting position



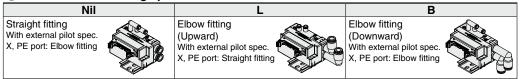
- Nil Standard\*1 Mixed mounting\*2 м For SJ1000, 2000, and 3000 series \*1
- valves, select "Nil" when only using a single series.
- Select "M" when SJ1000, SJ2000, or \*2 SJ3000 series valves will be mounted on the same manifold base together.

#### 6 Valve stations



This number also includes the blanking block. Since single and double wiring are available for the blanking block, select a model compatible with the valve wiring specification to be used. (Refer to page 105.)

#### SUP/EXH block fitting specification



\* There is no need to enter anything when the SUP/EXH block mounting position "M" is selected.

### How to Order Manifold Assembly

#### Ordering example (SS5J3-60PD2-Double solenoid, individual wiring/ Double solenoid, with switch (24 VDC) lead wire length 300 mm (24 VDC) SJ3260-5CZJ-C6 (1 set) Double solenoid (24 VDC) SJ3260-5MZ-C6 (1 set) SJ3260-5CU-C6 (2 sets) Single solenoid (24 VDC) SJ3160-5CU-C6 (2 sets) Uside Stations SUP/EXH block (D side mounting)

* SJ3160-5CI * SJ3260-5CI * SJ3260-5C2	D2-06D J-C6 J-C6 J-C6 ZJ-C6 Z-C6	2 sets ( 2 sets ( 1 set (D 1 set (D	Single so Double s ouble solen ouble solen	olenoid pa olenoid pa bid, with swite	art no.) ch part no.) ual wiring/
	isk denotes the the part numb				etc.
For the valve	e arrangement, e 1st station.	the va	lve close	st to the	D side i

- too complicated, specify the details on a manifold specification sheet.
- When ordering a manifold, specify the part nos. of the valves to be mounted on it. (An order cannot be placed with only the manifold part no.)

#### SUP/EXH block mounting position

PG: Flat ribbon cable PH: Flat ribbon cable

(10 pins)

-	<b></b>
U	U side
D	D side
В	Both sides
M*1	Special specifications

Specify the required specifications (including port sizes other than ø8) on the manifold specification sheet.

#### 8 Pilot type

An order cannot be placed with only the manifold part

(20 pins)

Nil Internal pilot						
s	Internal pilot, Built-in					
3	silencer					
R	External pilot					
DC	External pilot, Built-in					
RS silencer						
There is r	There is no need to enter anything when the SUP/					

EXH block mounting position "M" is selected.

The 3/5(E) port is plugged for the built-in silencer type.

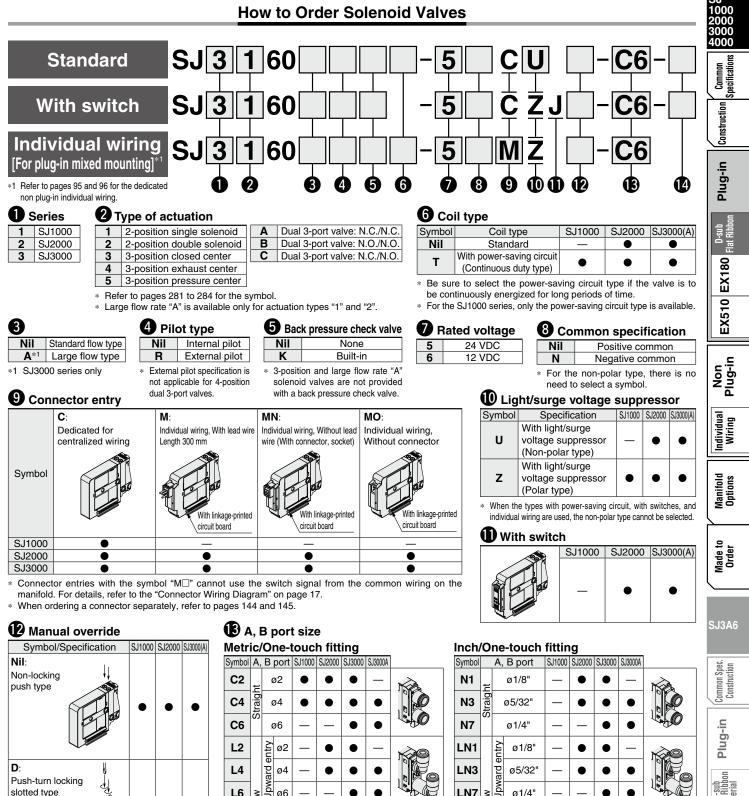
#### DIN rail length specified

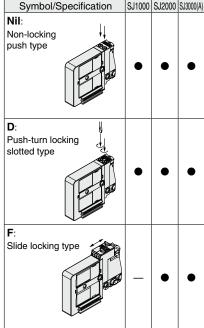
Nil	Standard length						
2	2 stations	Specify a length					
:	÷	longer than that of					
24	24 stations	the standard rail.					

Specify the number of valve stations without exceeding the max. number of stations.



## Plug-in Connector Type D-sub Connector/Flat Ribbon Cable **SJ1000/2000/3000 Series**





Symbol	Α,	В	port	SJ1000	SJ2000	SJ3000	SJ3000A				
C2	t	t	١t	¢	ð2	•	•	•	—	KA.	
C4	Straight	¢	ð4	•	•	•	•				
C6	လ	G	ø6	—	—	•	•				
L2		ntry	ø2	—	•	•	_				
L4	Elbow		Upward entry	ø4	—	•	•	•			
L6			ø6	—	—	•	•				
B2	E	entry	ø2	—	•	•	—	No.			
В4					Downward entry	ø4	_	•	•	•	
<b>B</b> 6		Dowr	ø6	—	—	•	•	- gree			

#### Thread piping

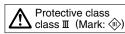
Symbol	A, B port	SJ1000	SJ2000	SJ3000	SJ3000A	
М3	M3 x 0.5	_	•	_	-	
М5	M5 x 0.8			•	•	10

**SMC** 

Symbol		А,	B port	SJ1000	SJ2000	SJ3000	SJ3000A			
N1	Ħ		ø1/8"	_	•	•	—	Kon Sala		
N3	Straight		ø5/32"	-	•	•	ullet			
N7	S		ø1/4"	_	—	•	•			
LN1		entry	ø1/8"	_	•	•	_			
LN3	Elbow			Jpward e	ø5/32"	-	•	•	•	
LN7			ø1/4"	—	—	•	•			
BN1	Ш	entry	ø1/8"	—	•	•	_			
BN3		Downward	ø5/32"	_	•	•	•			
BN7		Dowr	ø1/4"	_	_	•	•	J.		

#### Osingle solenoid wiring specification Single wiring Nil D Double wiring

There is no need to enter anything
for 2-position double, 3-position,
and 4-position solenoid valves.
Select this when the unused
numbers to wiring are set. Refer to
page 17 for details.



Flat

Non Plug-in

Individual Wiring

Product <sup>o</sup>recautions

pecific

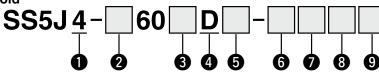
### Plug-in Connector Type **D-sub Connector/Flat Ribbon Cable** RoHS SJ4000 Series

How to Order

SS5J4-60

An order cannot be placed with only the manifold part no. Be sure to order solenoid valves for mounting at the same time while referring to the ordering example.

Connector type manifold



F: D-sub connector P: Flat ribbon cable PG: Flat ribbon cable PH: Flat ribbon cable

(20 pins)

(26 pins)

#### Series

SJ4000

#### 2 Mixed mounting type

Nil	Standard (Dedicated for the SJ4000)						
M Mixed mounting							
	«••••••						

Select "Nil" when only using a single series.

Select "M" when SJ1000, SJ2000, or SJ3000 series valves will be mounted on the same manifold base together.

#### 6 Valve stations

#### F: D-sub connector P: Flat ribbon cable (26 pins) Symbol Stations Symbol Stations Note Note 01 1 station 01 1 station Up to 24 solenoids Up to 24 solenoids can be selected. can be selected. 24 24 stations 24 stations 24 PG: Flat ribbon cable (20 pins) PH: Flat ribbon cable (10 pins) Symbol Stations Symbol Stations Note Note 01 1 station 01 1 station Up to 18 solenoids Up to 8 solenoids can be selected. can be selected. 08 8 stations 18 18 stations

Connector type

(25 pins)

This number also includes the blanking block. Since single and double wiring are available for the blanking block, select a model compatible with the valve wiring specification to be used. (Refer to page 105.)

#### **O** SUP/EXH block mounting position

(10 pins)

	J
U	U side
D	D side
В	Both sides
M	Special specifications

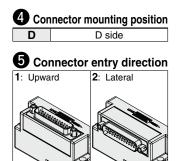
Special specifications (including instructions for port sizes other than ø10 of the standard SUP/EXH block) must be specified separately in manifold specifications sheet.

\* For 11 or more valve stations, "B" (both sides) is recommended.

#### 9 DIN rail length specified

Nil	Standard length						
2	2 stations	Specify a length					
÷	÷	longer than that of					
24	24 stations	ns the standard rail.					

\* Specify the number of valve stations without exceeding the max. number of stations.

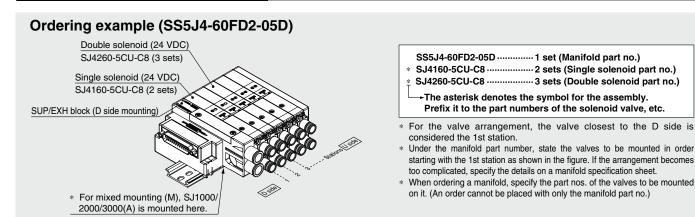


#### Pilot type

-	
Nil	Internal pilot
S	Internal pilot, Built-in silencer
R	External pilot

- There is no need to enter anything when the SUP/EXH block mounting position "M" is selected.
- The 3/5(E) port is plugged for the built-in silencer type (S).
- SJ4000 does not have the external pilot and built-in silencer (RS) type.

#### How to Order Manifold Assembly

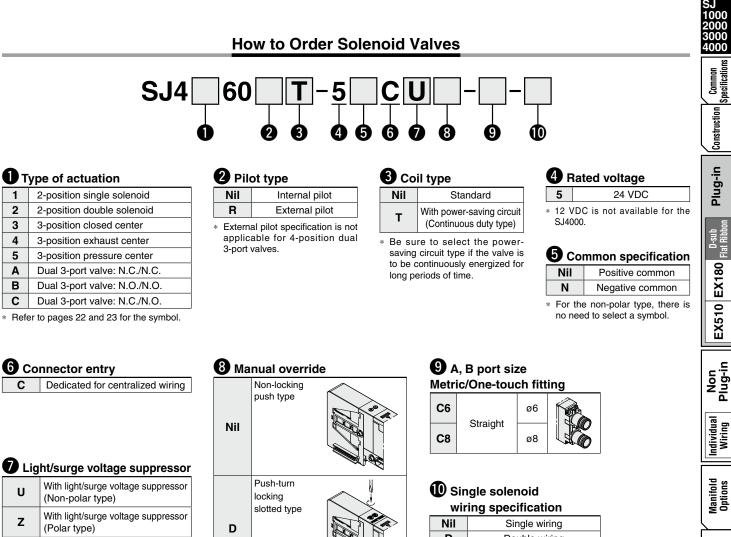


When SJ4000 and SJ1000/2000/3000 are mixed mounting (M), SJ1000/2000/3000 valves are mounted on the D side of SJ4000 D side SUP/EXH block.

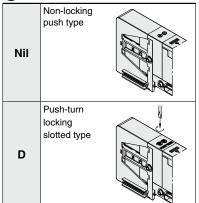
SJ4000 series does not have an elbow One-touch fitting



# Plug-in Connector Type D-sub Connector/Flat Ribbon Cable **SJ4000** Series



When the type with power-saving circuit is used, the non-polar type cannot be selected.



	wiring specification							
Nil Single wiring								
	D Double wiring							
	* There is no need to enter anything for 2-position double, 3-position, and 4-position solenoid valves.							

SJ4000 series is not equipped with a back pressure check valve.

SJ4000 series does not have a One-touch fitting for A, B port elbow. \*

Made to Order

SJ3A6

Construction

Plug-in

)-sub Ribbon Flat

Non Plug-in

Individual Wiring

pecific Product Precautions

## Plug-in Cable Type D-sub Connector/Flat Ribbon Cable (RoHS) SJ2000/3000 Series

05

9

Ð

How to Order

#### Cable type manifold

SS5J3-60L

Series **2** Cable type SJ2000 SJ3000

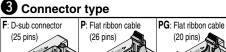
#### Connector mounting position

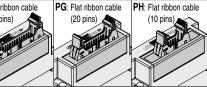
Symbol Mounting position D D side

#### 6 Manifold wiring specification

#### Nil All double wiring\*1 All single wiring\*2 S

- All double wiring: 2-position single, 2-position double, 3-position, and 4-position valves can be used on all manifold stations.
- \*2 All single wiring: Available only for manifolds which have 2-position single valves on all stations Note that 2-position double, 3-position,
- or 4-position valves cannot be used. If a mixture of single wiring and double
- wiring is required, it is available as a special order.





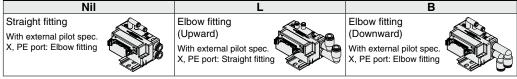
#### Valve stations

F: D-sul	<b>F</b> : D-sub connector (25 pins) <b>P</b> : Flat ribbon cable (26 pins)							
Symbol	Stations	Note		Symbol	Stations	Note		
02	2 stations			02	2 stations			
:	÷	All double wiring		:	:	All double wiring		
10	10 stations	wining		10	10 stations	winng		
02	2 stations			02	2 stations			
:	:	All single		:		All single wiring		
20	20 stations	wiring		20	20 stations	winng		
PG: Fla	t ribbon	cable (20 pins)		<b>PH</b> : Fla	t ribbon (	cable (10 pins)		
Symbol	Stations	Note		Symbol	Stations	Note		
02	2 stations	All double		02	2 stations	All double		
:	÷	wiring		:	:	wiring		
09	9 stations	wining		04	4 stations	wining		
02	2 stations			02	2 stations			
:	:	All single wiring		:		All single wiring		
18	18 stations	winng		08	8 stations	winng		

This number also includes the blanking plate.

The cable type is only applicable when there are 2 or more stations.

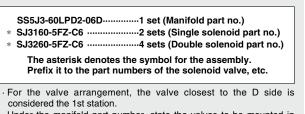
#### SUP/EXH block fitting specification



\* There is no need to enter anything when the SUP/EXH block mounting position "M" is selected.

### How to Order Manifold Assembly

### Ordering example (SS5J3-60LPD2) Double solenoid (24 VDC) Single solenoid (24 VDC) SJ3260-5FZ-C6 (4 sets) SJ3160-5FZ-C6 (2 sets) Usite Station () Side SUP/EXH block (D side mounting)

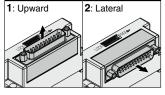


Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

When ordering a manifold, specify the part nos. of the valves to be mounted on it. (An order cannot be placed with only the manifold part no.)

#### 5 Connector entry direction

An order cannot be placed with only the manifold part no. Be sure to order solenoid valves for mounting at the same time while referring to the ordering example.



#### 8 SUP/EXH block mounting position

-	•••				
U	U side				
D	D side				
В	Both sides				
<b>M</b> *1	Special specifications				

- Specify the required specifications (including port sizes other than ø8) on the manifold specification sheet. Due to the length of the cable, the max.
- number of supply and exhaust blocks that can be installed is 3 in total: one set between stations, one set on the D-side, and one set on the U-side end of the manifold.

#### 9 Pilot type

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

There is no need to enter anything when the SUP/EXH block mounting position "M" is selected.

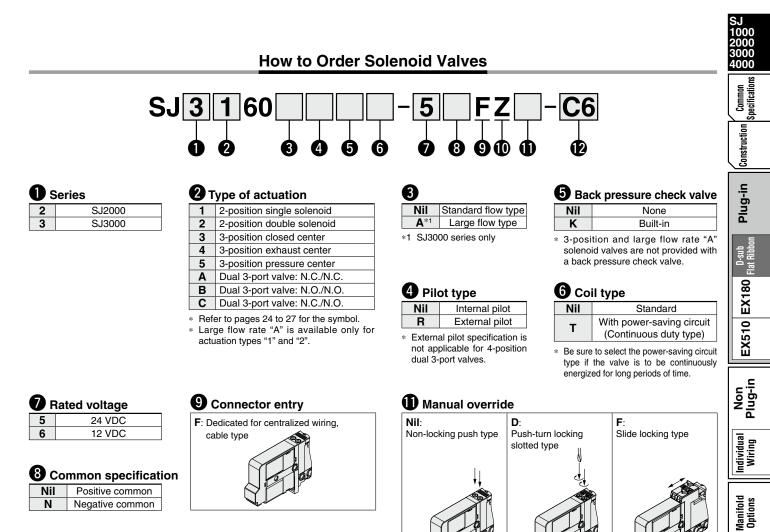
#### DIN rail length specified

Nil	Standard length					
3	3 stations	Specify a length				
÷	÷	longer than that of				
20	20 stations	the standard rail.				

Specify the number of valve stations without exceeding the max. number of stations

**@SMC** 

# Plug-in Cable Type D-sub Connector/Flat Ribbon Cable **SJ2000/3000 Series**



**SMC** 

#### Light/surge voltage suppressor

Z With light/surge voltage suppressor

🕑 A, I							
Metric/	'Or		ouch fit	ting			
Symbol		Α,	B port	SJ2000	SJ3000	SJ3000A	
C2	ŧ		ø2	•	•	—	K .
C4	Straight		ø4	•	•	•	
C6	S		ø6	_	•	•	
L2		entry	ø2	•	•	-	
L4			ø4	•	•	•	RO
L6	Elbow	Upward	ø6	_	•	•	
B2	В	entry	ø2	•	•	_	No.
B4		Downward	ø4	•	•	•	
B6		Down	ø6		•	•	

#### Thread piping

Symbol	A, B port	SJ2000	SJ3000	SJ3000A	
МЗ	M3 x 0.5	•	_	_	
М5	M5 x 0.8	—	•	•	

#### Inch/One-touch fitting

Symbol		Α,	B port	SJ2000	SJ3000	SJ3000A					
N1	JT .		ø1/8"	●	•	_		SJ3A6			
N3	Straight	traigh	traigh	traigh	'	ø5/32"	•		•		4
N7	Ś		ø1/4"	_	•	•		Common Spec. Construction			
LN1		entry	ø1/8"	•	•	_		Comr			
LN3		Upward	ø5/32"	•	•	•		. <u>e</u>			
LN7	Elbow		ø1/4"	—	•	•		Plug-in			
BN1		entry	ø1/8"	•	•	_	No.				
BN3		Downward	ø5/32"	•	•	•		D-sub Flat Ribbon Serial			
BN7		Dowr	ø1/4"	_	•	•		Fla			

Protective class class II (Mark: ♠)

Made to Order

Non Plug-in

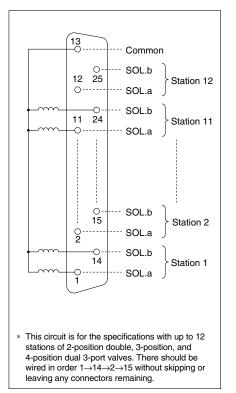
Individual Wiring

Specific Product Precautions

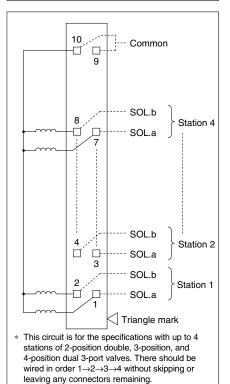
### SJ1000/2000/3000/4000 Series

#### Manifold Electrical Wiring: Connector Type (Non-polar Type)

#### Type 60F: D-sub connector (25 pins)



#### Type 60PH: Flat ribbon cable (10 pins)



#### Type 60P: Flat ribbon cable (26 pins)

Common

SOL.b

SOL.a

SOL.b

SOL.a

SOL.b

SOL.a

SOL.b

SOL.a

Triangle mark

Station 12

Station 11

Station 2

Station 1

26

-[]  $\square$ 

24

22

Гſ 

4

2

₽

\*

3

( This circuit is for the specifications with up to 12

stations of 2-position double, 3-position, and

4-position dual 3-port valves. There should be

wired in order 1→2→3→4 without skipping or

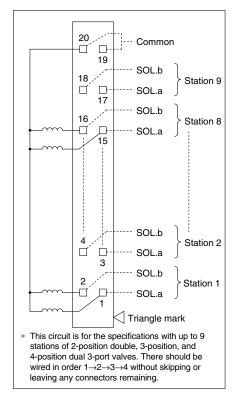
leaving any connectors remaining.

25

⊡-23 

21

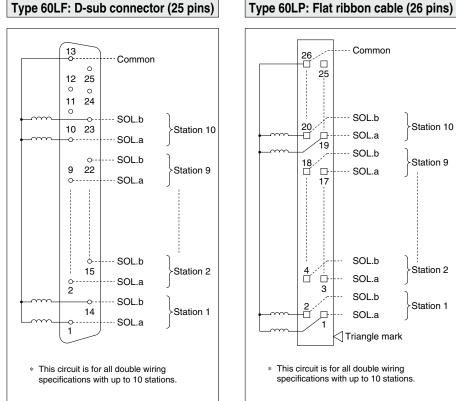
#### Type 60PG: Flat ribbon cable (20 pins)

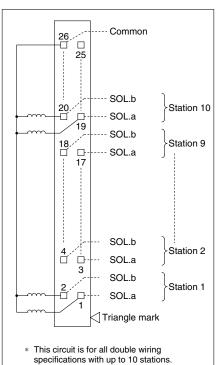


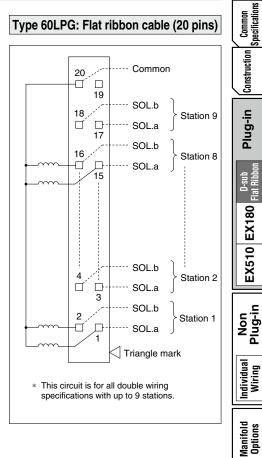
### Caution

When the non-polar U type valves are used, either positive common or negative common wiring of the manifold is possible. However, when the Z type valves are used, select the positive common or negative common according to the wiring specifications.

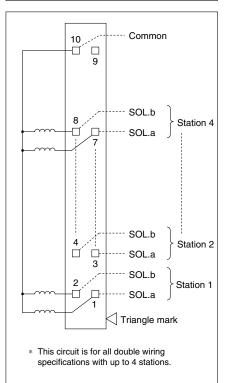
## Manifold Electrical Wiring: Cable Type







#### Type 60LPH: Flat ribbon cable (10 pins)



# A Caution

For electrical connections, select the positive common or negative common according to the wiring specifications.

Individual Wiring

Specific Product Precautions

Made to Order

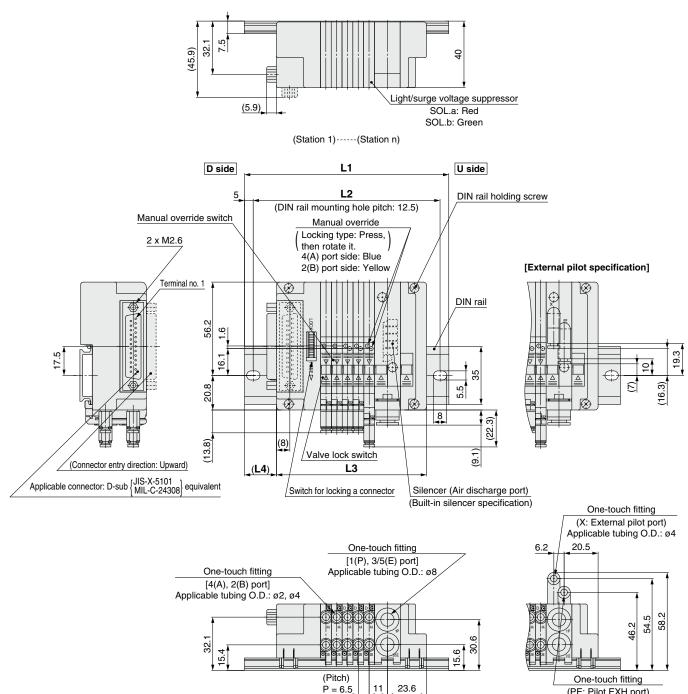
SJ3A6

1000 000



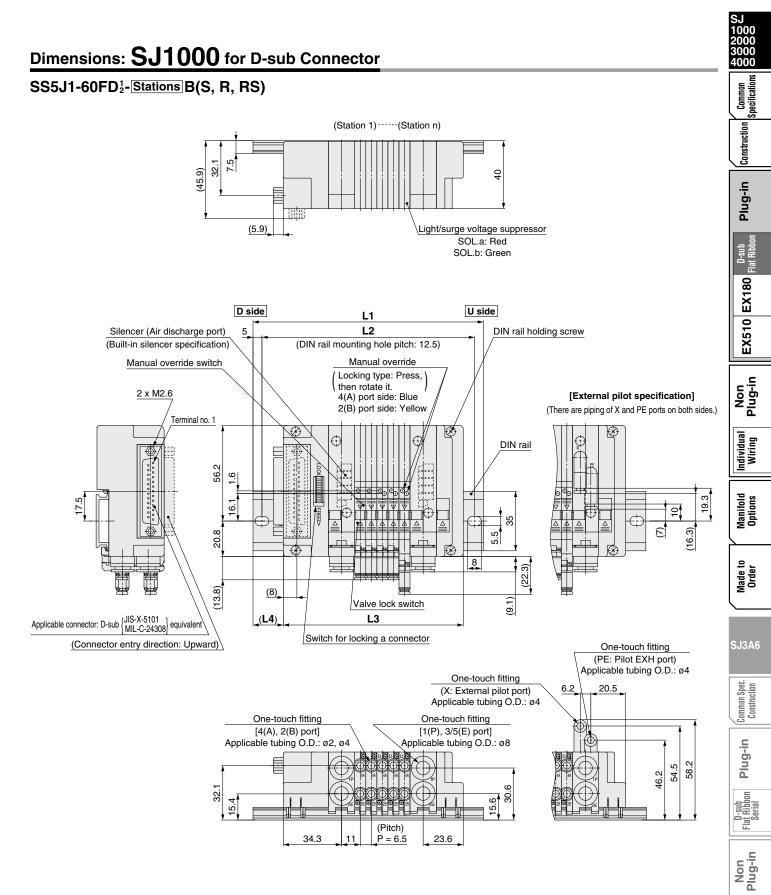
# Dimensions: SJ1000 for D-sub Connector

# SS5J1-60FD<sub>2</sub><sup>1</sup>-Stations U(S, R, RS)

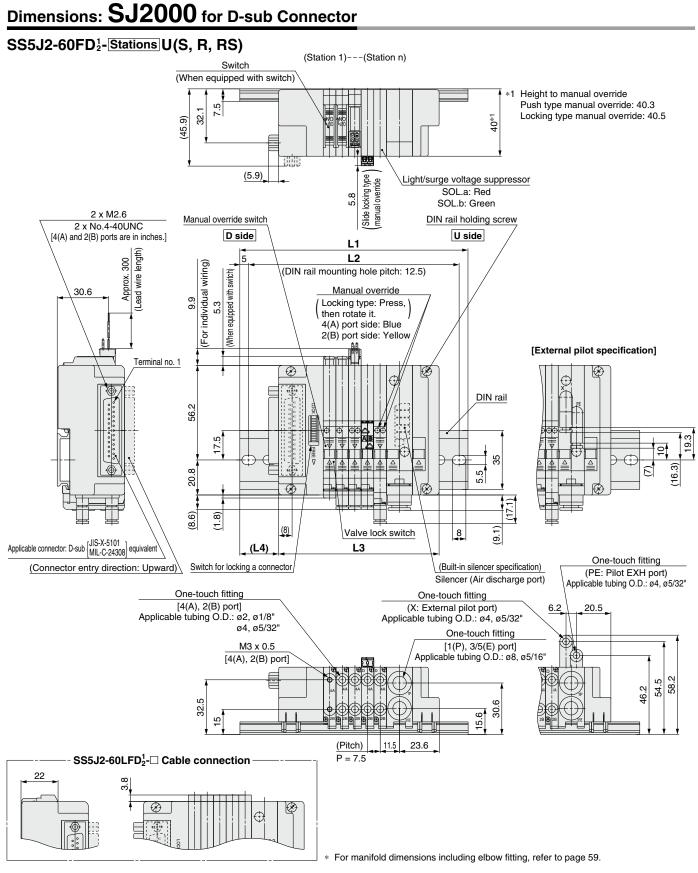


(PE: Pilot EXH port)	
Applicable tubing O.D.: ø4	ŀ

L: 0	)imer	nsior	าร																				n: S	tations
$\sim$	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	98	110.5	110.5	123	123	135.5	135.5	148	148	160.5	160.5	173	173	185.5	185.5	198	198	210.5	210.5	223	235.5	235.5	248	248
L2	87.5	100	100	112.5	112.5	125	125	137.5	137.5	150	150	162.5	162.5	175	175	187.5	187.5	200	200	212.5	225	225	237.5	237.5
L3	64.3	70.8	77.3	83.8	90.3	96.8	103.3	109.8	116.3	122.8	129.3	135.8	142.3	148.8	155.3	161.8	168.3	174.8	181.3	187.8	194.3	200.8	207.3	213.8
L4	20	23	19.5	22.5	19.5	22.5	19	22	19	22	18.5	21.5	18.5	21.5	18	21	18	21	17.5	20.5	23.5	20.5	23.5	20



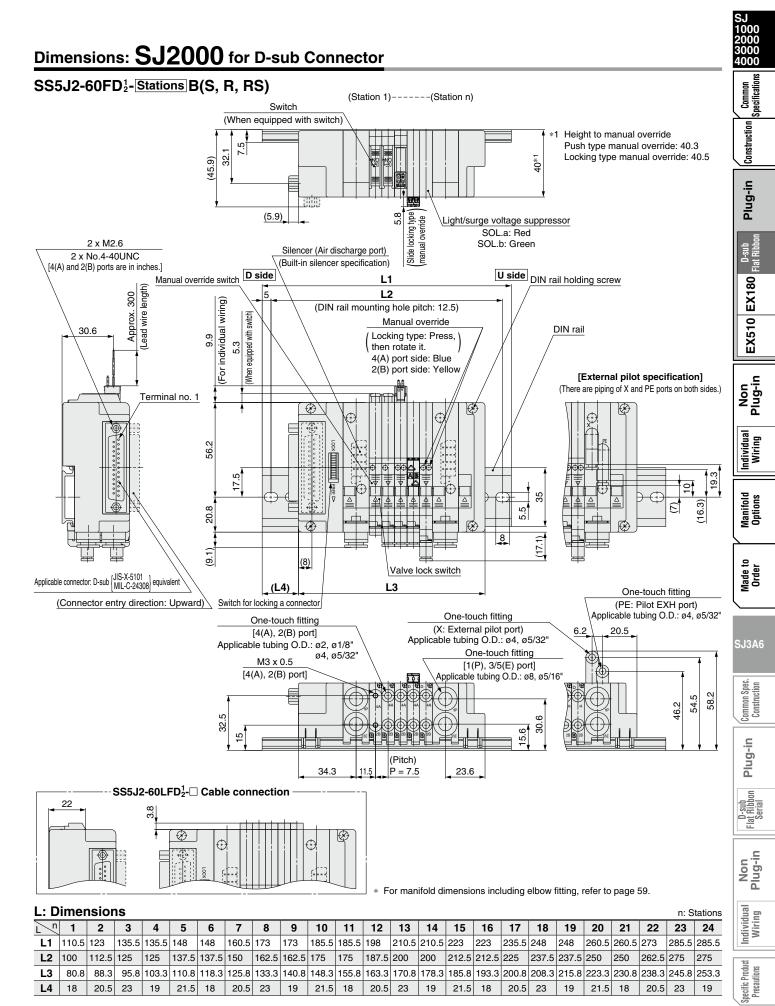
L: D	imer	nsior	าร																				n: S	tations	vidual iring
L _ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Wir
L1	110.5	123	123	135.5	135.5	148	148	160.5	173	173	185.5	185.5	198	198	210.5	210.5	223	223	235.5	235.5	248	248	260.5	260.5	
L2	100	112.5	112.5	125	125	137.5	137.5	150	162.5	162.5	175	175	187.5	187.5	200	200	212.5	212.5	225	225	237.5	237.5	250	250	oduct
L3	79.8	86.3	92.8	99.3	105.8	112.3	118.8	125.3	131.8	138.3	144.8	151.3	157.8	164.3	170.8	177.3	183.8	190.3	196.8	203.3	209.8	216.3	222.8	229.3	ffic Pr cautio
L4	18.5	21.5	18	21	18	21	17.5	20.5	23.5	20.5	23.5	20	23	20	23	19.5	22.5	19.5	22.5	19	22	19	22	18.5	Specific Product Precautions

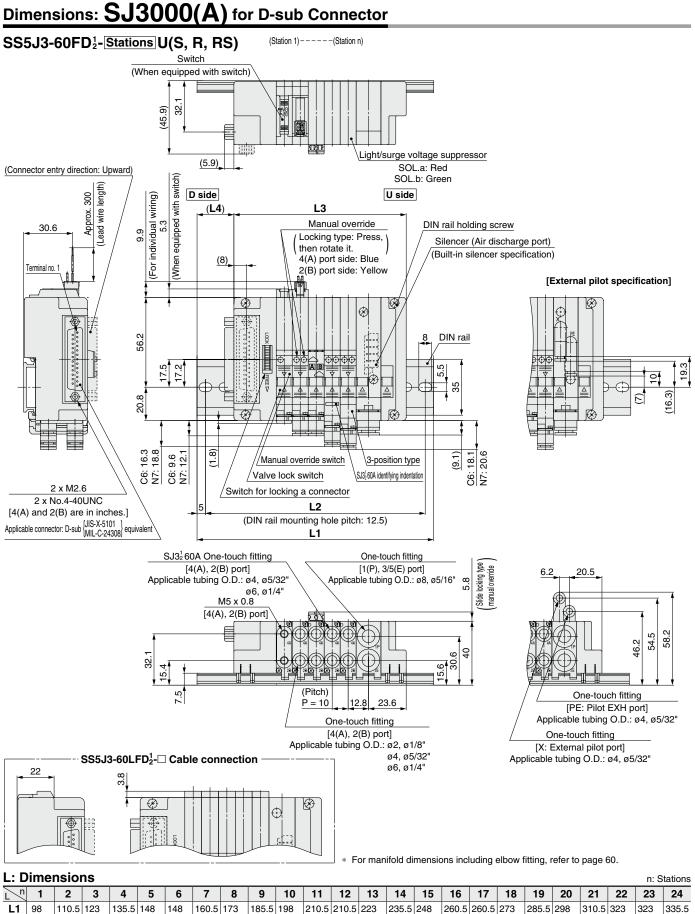


## L: Dimensions

L: D	imer	nsior	าร																				n: S	tations
L _	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	98	110.5	110.5	123	135.5	135.5	148	148	160.5	173	173	185.5	185.5	198	210.5	210.5	223	223	235.5	248	248	260.5	260.5	273
L2	87.5	100	100	112.5	125	125	137.5	137.5	150	162.5	162.5	175	175	187.5	200	200	212.5	212.5	225	237.5	237.5	250	250	262.5
L3	65.3	72.8	80.3	87.8	95.3	102.8	110.3	117.8	125.3	132.8	140.3	147.8	155.3	162.8	170.3	177.8	185.3	192.8	200.3	207.8	215.3	222.8	230.3	237.8
L4	19.5	22	18	20.5	23	19.5	22	18	20.5	23	19.5	22	18	20.5	23	19.5	22	18	20.5	23	19.5	22	18	20.5

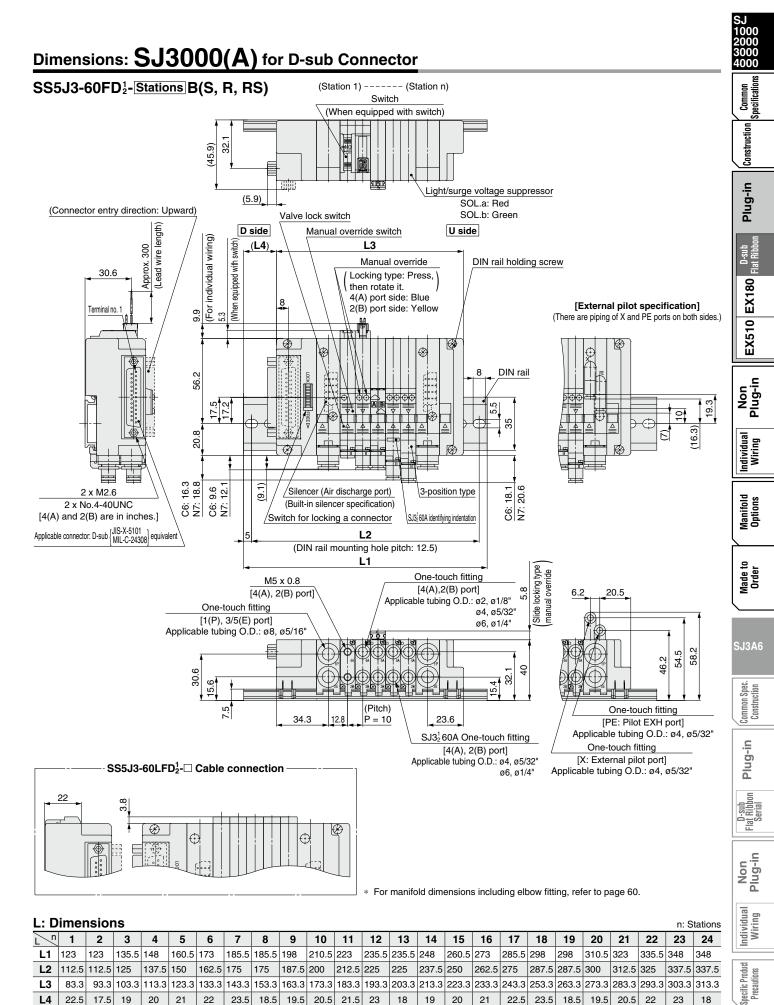






L	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	98	110.5	123	135.5	148	148	160.5	173	185.5	198	210.5	210.5	223	235.5	248	260.5	260.5	273	285.5	298	310.5	323	323	335.5
L2	87.5	100	112.5	125	137.5	137.5	150	162.5	175	187.5	200	200	212.5	225	237.5	250	250	262.5	275	287.5	300	312.5	312.5	325
L3	67.8	77.8	87.8	97.8	107.8	117.8	127.8	137.8	147.8	157.8	167.8	177.8	187.8	197.8	207.8	217.8	227.8	237.8	247.8	257.8	267.8	277.8	287.8	297.8
L4	18	19	20.5	21.5	22.5	17.5	18.5	20	21	22	23	18	19.5	20.5	21.5	22.5	17.5	19	20	21	22	23.5	18.5	19.5

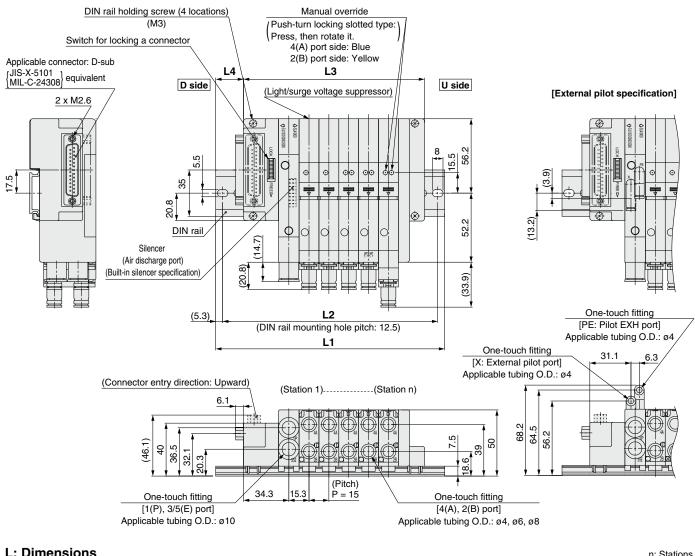
**SMC** 



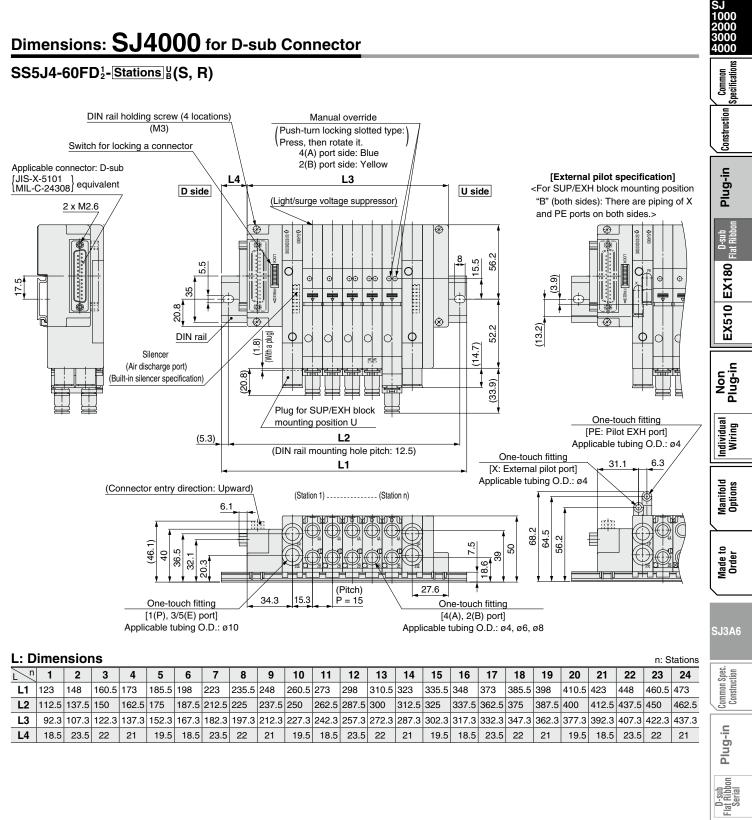
		1
Ľ	JIN	

# Dimensions: SJ4000 for D-sub Connector

## SS5J4-60FD<sup>1</sup><sub>2</sub>-Stations D(S, R)

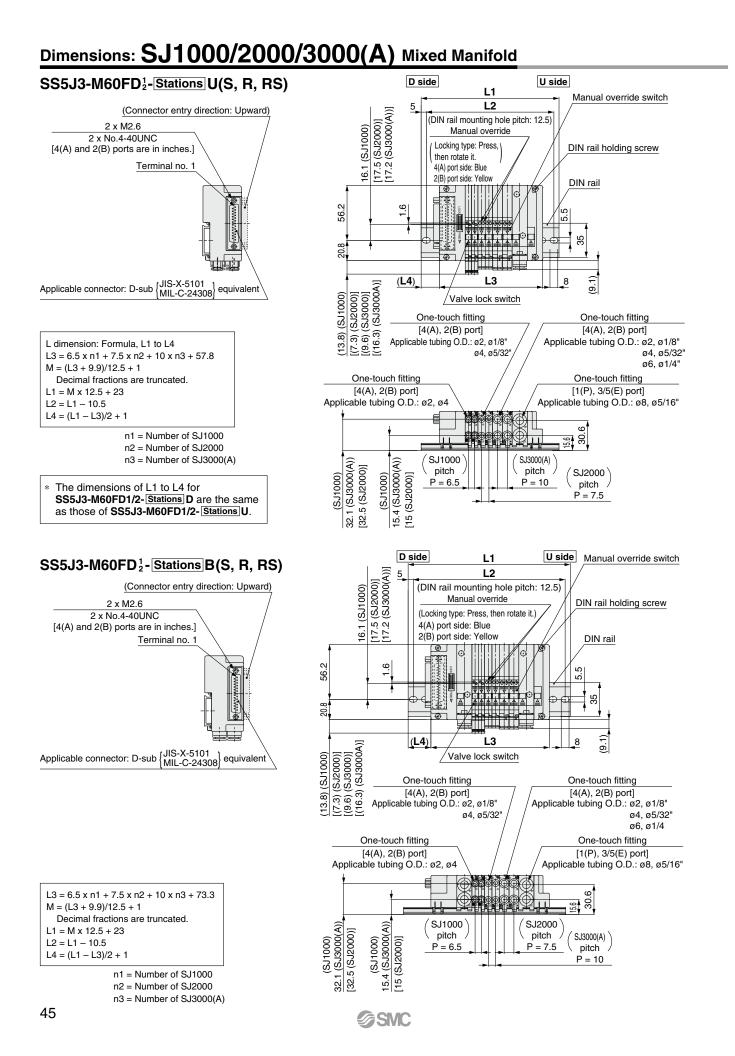


L: L	лте	ISIO	IS																				n: S	tations
L	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	110.5	123	148	160.5	173	185.5	198	223	235.5	248	260.5	273	298	310.5	323	335.5	348	373	385.5	398	410.5	423	448	460.5
L2	100	112.5	137.5	150	162.5	175	187.5	212.5	225	237.5	250	262.5	287.5	300	312.5	325	337.5	362.5	375	387.5	400	412.5	437.5	450
L3	76.8	91.8	106.8	121.8	136.8	151.8	166.8	181.8	196.8	211.8	226.8	241.8	256.8	271.8	286.8	301.8	316.8	331.8	346.8	361.8	376.8	391.8	406.8	421.8
L4	20	18.5	23.5	22.5	21	20	18.5	23.5	22.5	21	20	18.5	23.5	22.5	21	20	18.5	23.5	22.5	21	20	18.5	23.5	22.5

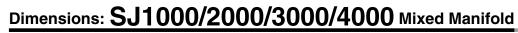


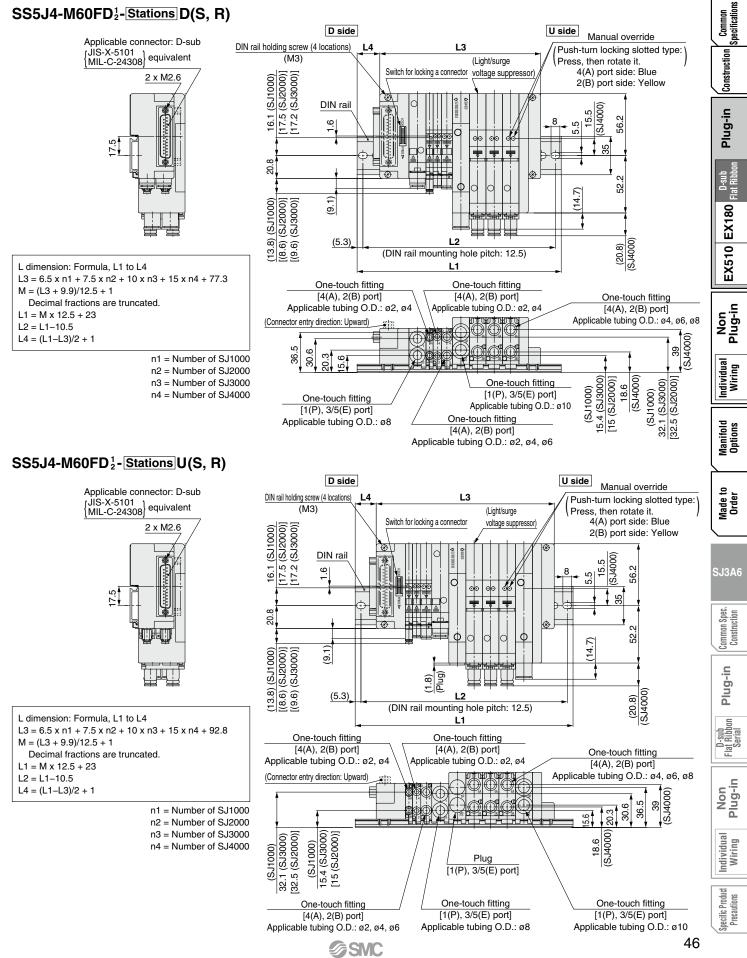
Non Plug-in Individual Wiring

Specific Product Precautions



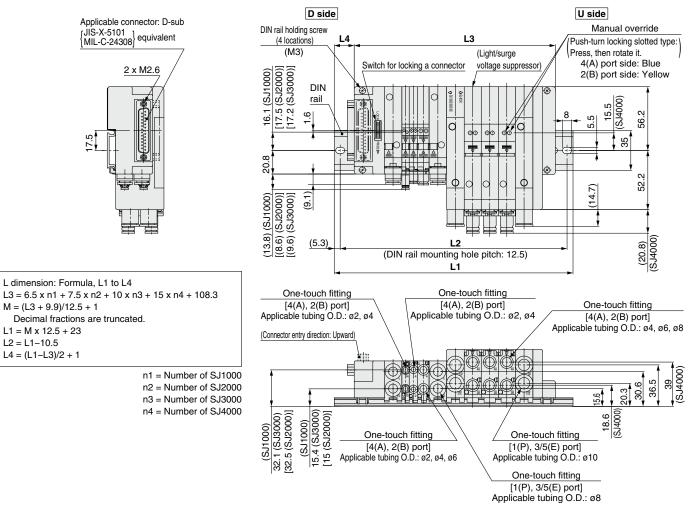
1000

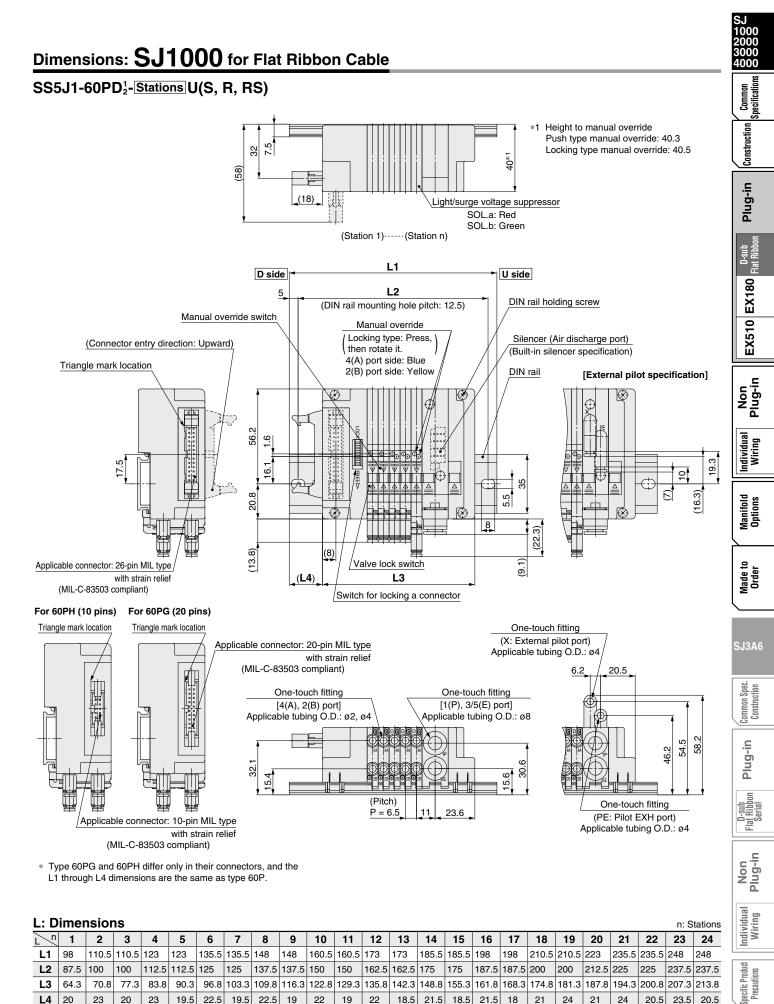




# Dimensions: SJ1000/2000/3000/4000 Mixed Manifold

## SS5J4-M60FD<sup>1</sup><sub>2</sub>-Stations B(S, R)





9	22	1
	<b>S</b> N	С

18.5

21.5

18.5

21.5 18 21 24

21

24

20.5

23.5

22

19

L4 20 23

20

23

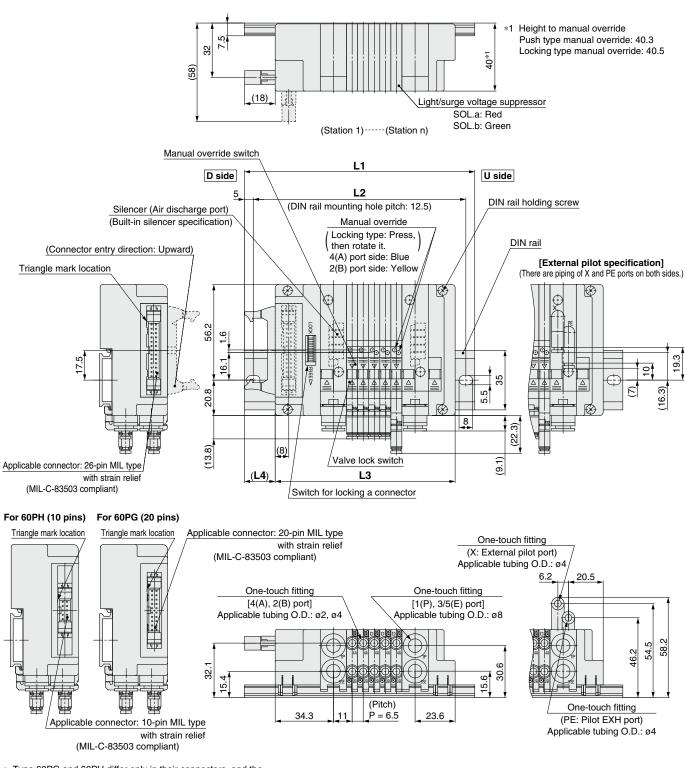
19.5

22.5

19.5 22.5 19

# Dimensions: SJ1000 for Flat Ribbon Cable

## SS5J1-60PD<sub>2</sub><sup>1</sup>-Stations B(S, R, RS)



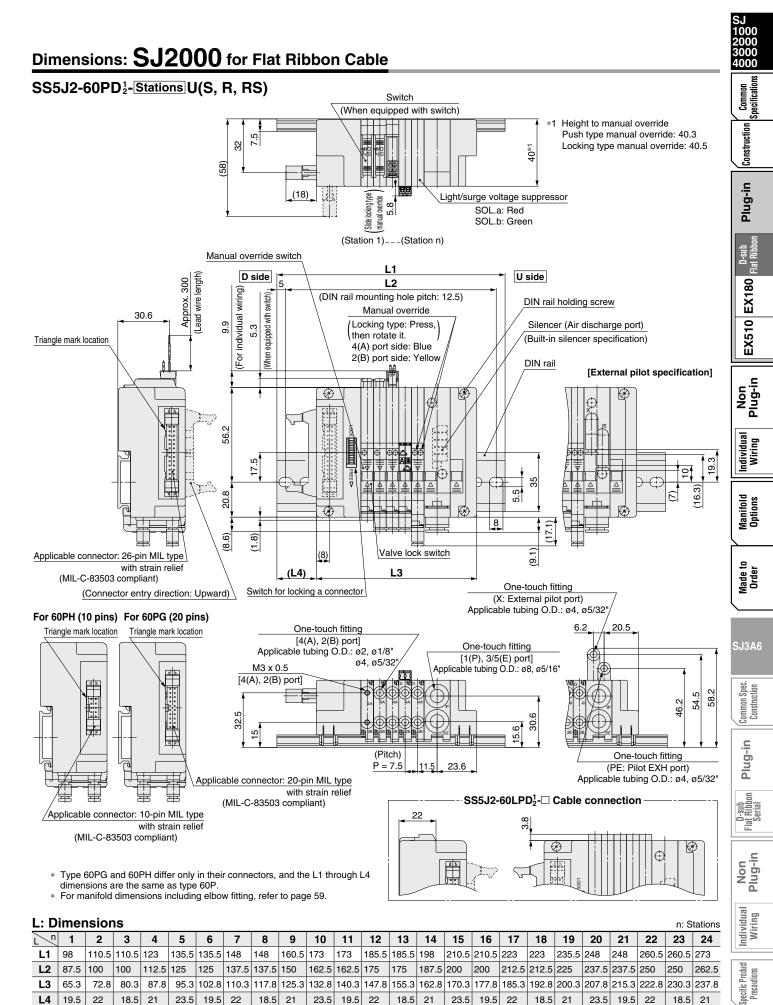
\* Type 60PG and 60PH differ only in their connectors, and the

L1 through L4 dimensions are the same as type 60P.

## L: Dimensions

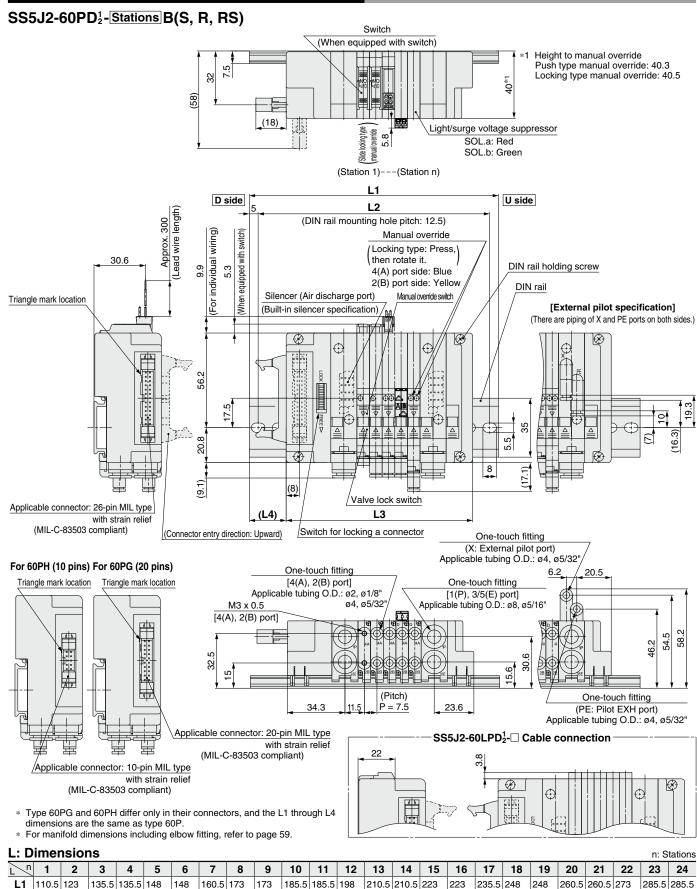
L: D	imer	nsior	າຣ																				n: S	tations
L _n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	110.5	123	123	135.5	135.5	148	148	160.5	173	173	185.5	185.5	198	198	210.5	210.5	223	223	235.5	235.5	248	248	260.5	260.5
L2	100	112.5	112.5	125	125	137.5	137.5	150	162.5	162.5	175	175	187.5	187.5	200	200	212.5	212.5	225	225	237.5	237.5	250	250
L3	79.8	86.3	92.8	99.3	105.8	112.3	118.8	125.3	131.8	138.3	144.8	151.3	157.8	164.3	170.8	177.3	183.8	190.3	196.8	203.3	209.8	216.3	222.8	229.3
L4	18.5	21.5	18.5	21.5	18	21	24	21	24	20.5	23.5	20.5	23.5	20	23	20	23	19.5	22.5	19.5	22.5	19	22	19

**SMC** 



Ś	S	V	U

# Dimensions: SJ2000 for Flat Ribbon Cable



95.8 103.3

125

19.5 22

137.5

110.8

137.5 150

118.3 125.8

18

162.5

133.3

20.5 23 162.5 175

140.8 148.3

19.5 22

112.5 125

20.5

80.8 88.3

L2 106

L3

L4 18

51



187.5 200

163.3 170.8

23

200

178.3

19.5 22

212.5

185.8

212.5 225

193.3 200.8

18

237.5

208.3

20.5 23 237.5 250

19.5 22

215.8 223.3

250

230.8

18

262.5 275

20.5 23

238.3 245.8

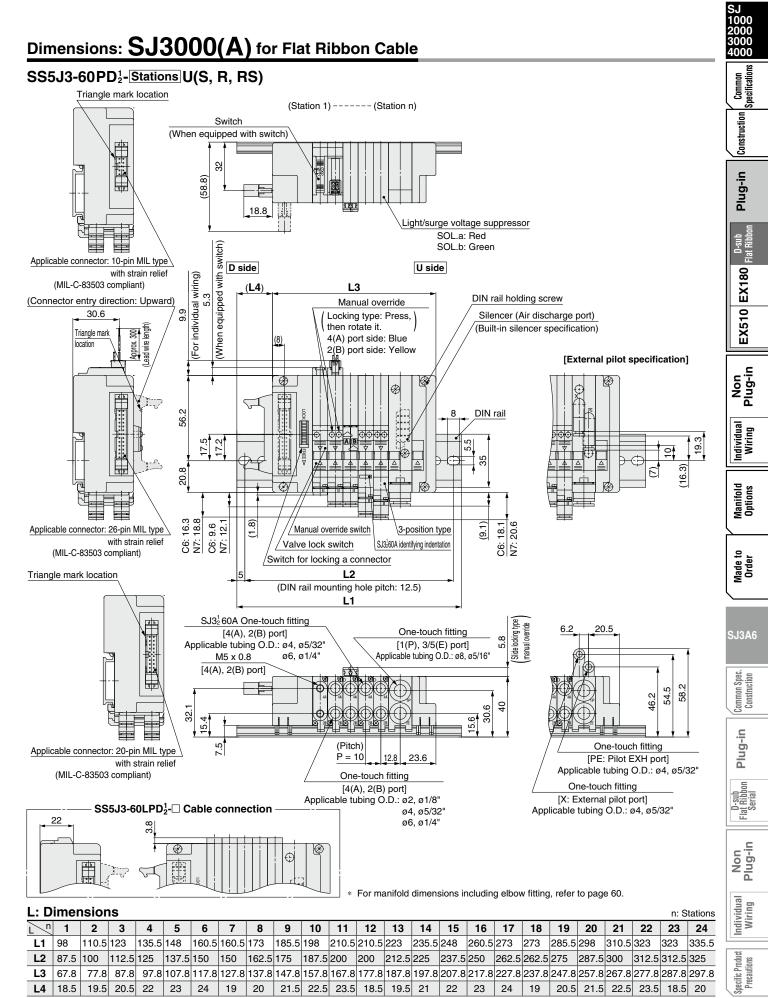
275

253.3

19.5

175

155.8

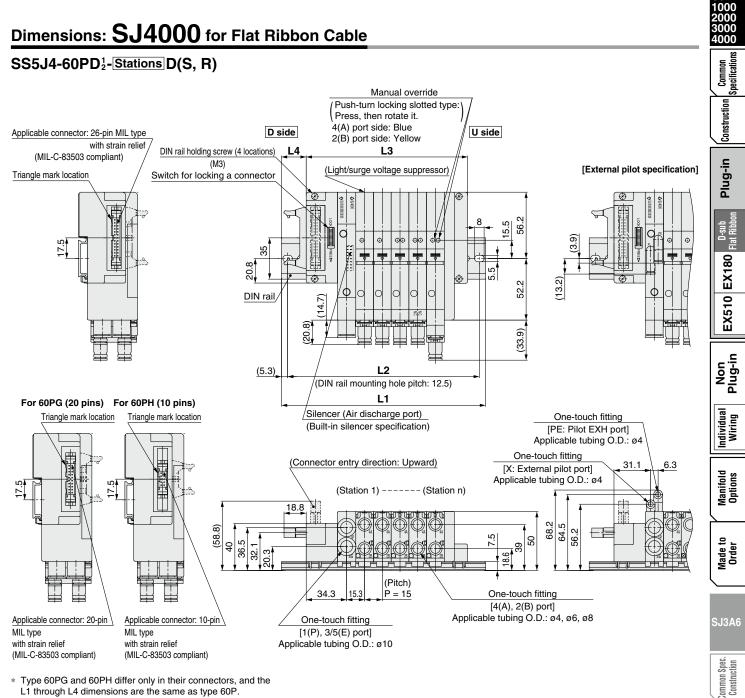


SMC

#### Dimensions: SJ3000(A) for Flat Ribbon Cable SS5J3-60PD<sup>1</sup><sub>2</sub>-Stations B(S, R, RS) Triangle mark location (Station 1) ----- (Station n) Switch (When equipped with switch) 32 (58.8) L. 18.8 Light/surge voltage suppressor SOL.a: Red SOL.b: Green D side U side Applicable connector: 10-pin MIL type L3 (L4) switch) with strain relief Valve lock switch ر ور (MIL-C-83503 compliant) with Manual override switch individual wirii (Connector entry direction: Upward) Manual override DIN rail holding screw When equipped 5.3 30.6 6.6 Locking type: Press, then rotate it. Approx. 300 Lead wire length) Triangle mark 4(A) port side: Blue <sup>1/F</sup>or µ (8) location 2(B) port side: Yellow [External pilot specification] (There are piping of X and PE ports on both sides.) $\otimes$ 1.7 5 56.2 8 DIN rail 17.2 19.3 4 K 35 œ 8 18.1 20.6 (1.6) Silencer (Air discharge port) 9.6 12.1 3-position type Applicable connector: 26-pin MIL type <u>6</u> 8 (Built-in silencer specification) with strain relief 20 20 20 20 SJ3260A identifying indentation N7: N7: /Switch for locking a connector (MIL-C-83503 compliant) L2 (DIN rail mounting hole pitch: 12.5) Triangle mark location L1 M5 x 0.8 One-touch fitting (Slide locking type) manual override [4(A), 2(B) port] [4(A), 2(B) port] 6.2 20.5 Applicable tubing O.D.: ø2, ø1/8" d h 5.8 One-touch fitting ø4, ø5/32" [1(P), 3/5(E) port] ø6, ø1/4' Applicable tubing O.D.: ø8, ø5/16 54.5 58.2 46.2 30.6 40 32. 15.6 15.4 7.5 (Pitch) One-touch fitting 34.3 P = 10 23.6 12.8 [PE: Pilot EXH port] Applicable connector: 20-pin MIL type Applicable tubing O.D.: ø4, ø5/32" SJ3<sup>1</sup><sub>2</sub>60A One-touch fitting with strain relief [4(A), 2(B) port] One-touch fitting (MIL-C-83503 compliant) Applicable tubing O.D.: ø4, ø5/32" [X: External pilot port] ø6, ø1/4" SS5J3-60LPD<sub>2</sub><sup>1</sup>- Cable connection Applicable tubing O.D.: ø4, ø5/32" 22 3.8 $\otimes$ 4 h 89 For manifold dimensions including elbow fitting, refer to page 60. L: Dimensions n. Stations

L. D	me	13101	13																				11. 0	lations
L _	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	123	135.5	135.5	148	160.5	173	185.5	185.5	198	210.5	223	235.5	248	248	260.5	273	285.5	298	298	310.5	323	335.5	348	348
L2	112.5	125	125	137.5	150	162.5	175	175	187.5	200	212.5	225	237.5	237.5	250	262.5	275	287.5	287.5	300	312.5	325	337.5	337.5
L3	83.3	93.3	103.3	113.3	123.3	133.3	143.3	153.3	163.3	173.3	183.3	193.3	203.3	213.3	223.3	233.3	243.3	253.3	263.3	273.3	283.3	293.3	303.3	313.3
L4	23	24	19	20.5	21.5	22.5	23.5	18.5	20	21	22	23	24.5	19.5	20.5	21.5	22.5	24	19	20	21	22	23.5	18.5

**SMC** 



\* Type 60PG and 60PH differ only in their connectors, and the L1 through L4 dimensions are the same as type 60P.

#### L: Dimensions

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	110.5	123	148	160.5	173	185.5	198	223	235.5	248	260.5	273	298	310.5	323	335.5	348	373	385.5	398	410.5	423	448	460.5
L2	100	112.5	137.5	150	162.5	175	187.5	212.5	225	237.5	250	262.5	287.5	300	312.5	325	337.5	362.5	375	387.5	400	412.5	437.5	450
L3	76.8	91.8	106.8	121.8	136.8	151.8	166.8	181.8	196.8	211.8	226.8	241.8	256.8	271.8	286.8	301.8	316.8	331.8	346.8	361.8	376.8	391.8	406.8	421.8
L4	19.5	18	23	22	20.5	19.5	18	23	22	20.5	19.5	18	23	22	20.5	19.5	18	23	22	20.5	19.5	18	23	22

**SMC** 

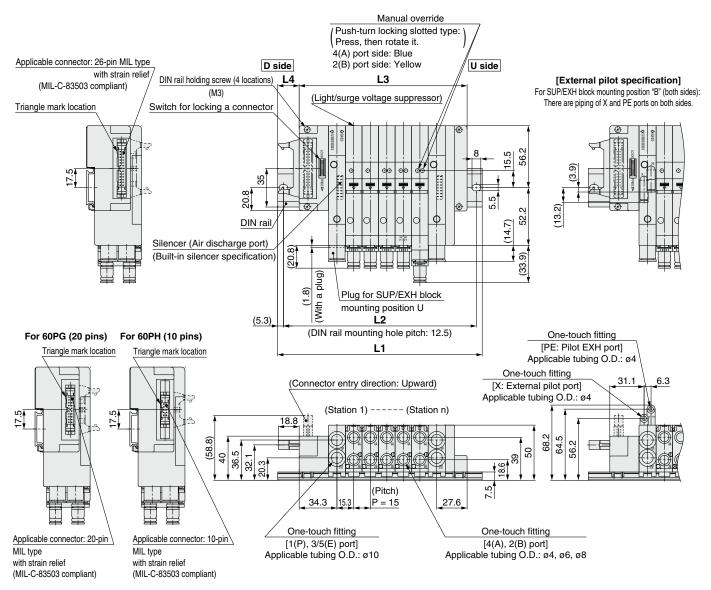


Plug-in

n. Stations

# Dimensions: SJ4000 for Flat Ribbon Cable

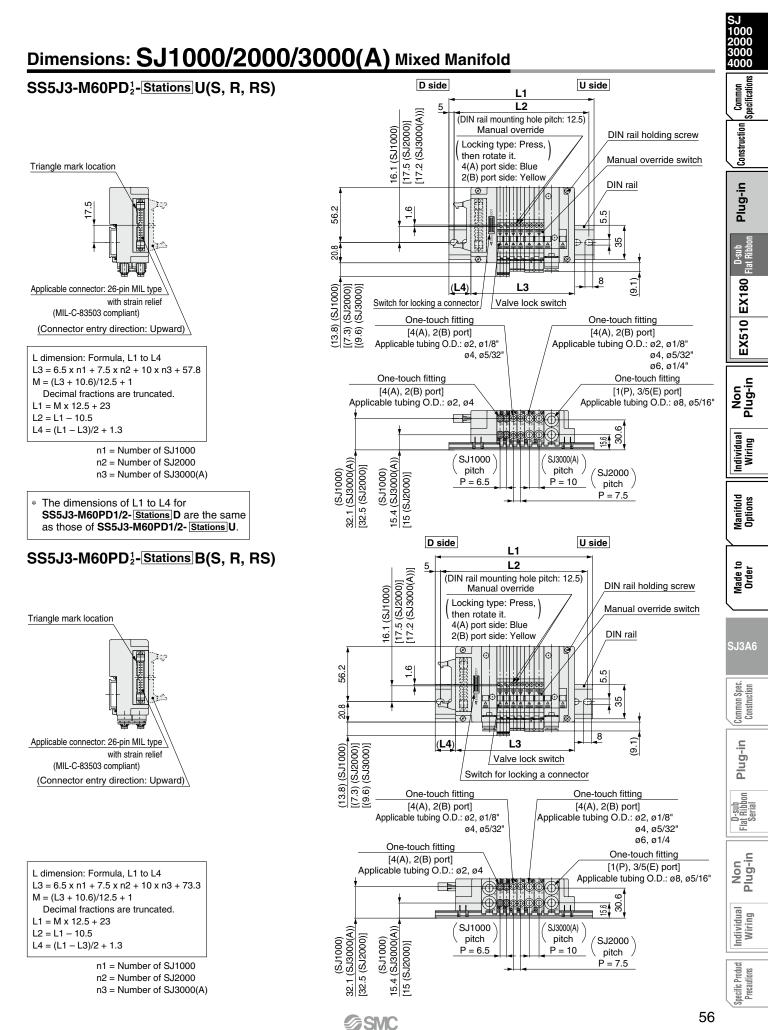
## SS5J4-60PD<sup>1</sup><sub>2</sub>-Stations<sup>1</sup><sub>B</sub>(S, R)



\* Type 60PG and 60PH differ only in their connectors, and the L1 through L4 dimensions are the same as type 60P.

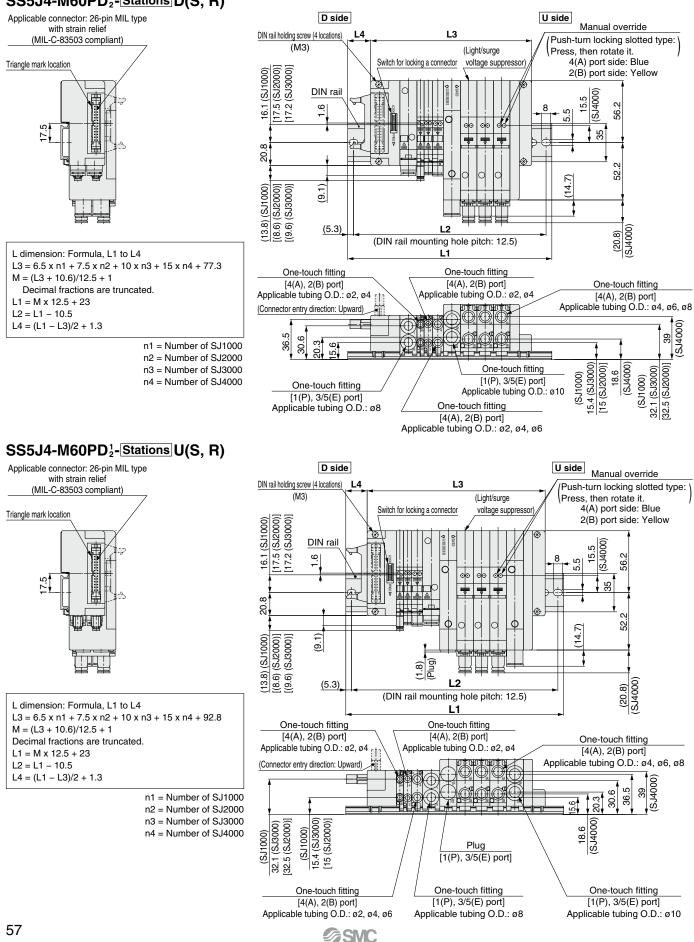
#### L: Dimensions

L: C	L: Dimensions n: Sta															tations								
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	123	148	160.5	173	185.5	198	223	235.5	248	260.5	273	298	310.5	323	335.5	348	373	385.5	398	410.5	423	448	460.5	473
L2	112.5	137.5	150	162.5	175	187.5	212.5	225	237.5	250	262.5	287.5	300	312.5	325	337.5	362.5	375	387.5	400	412.5	437.5	450	462.5
L3	92.3	107.3	122.3	137.3	152.3	167.3	182.3	197.3	212.3	227.3	242.3	257.3	272.3	287.3	302.3	317.3	332.3	347.3	362.3	377.3	392.3	407.3	422.3	437.3
L4	18	23	21.5	20.5	19	18	23	21.5	20.5	19	18	23	21.5	20.5	19	18	23	21.5	20.5	19	18	23	21.5	20.5

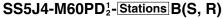


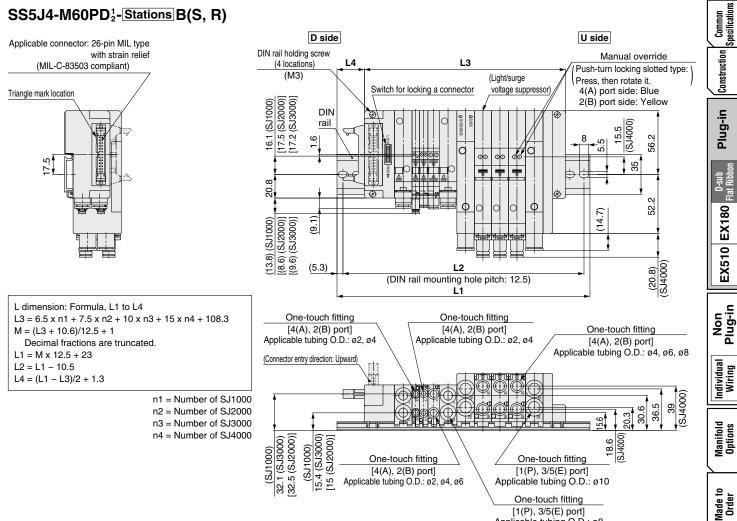
# Dimensions: SJ1000/2000/3000/4000 Mixed Manifold

## SS5J4-M60PD<sup>1</sup><sub>2</sub>-Stations D(S, R)



# Dimensions: SJ1000/2000/3000/4000 Mixed Manifold





[1(P), 3/5(E) port] Applicable tubing O.D.: ø8



Common Spec. Construction

1000

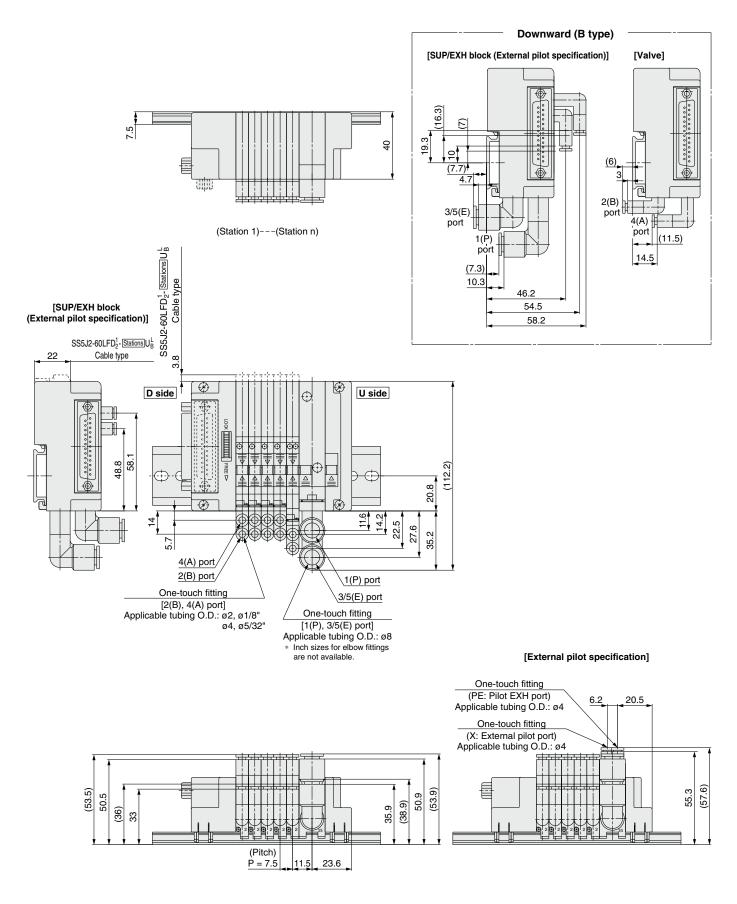
8000 4000

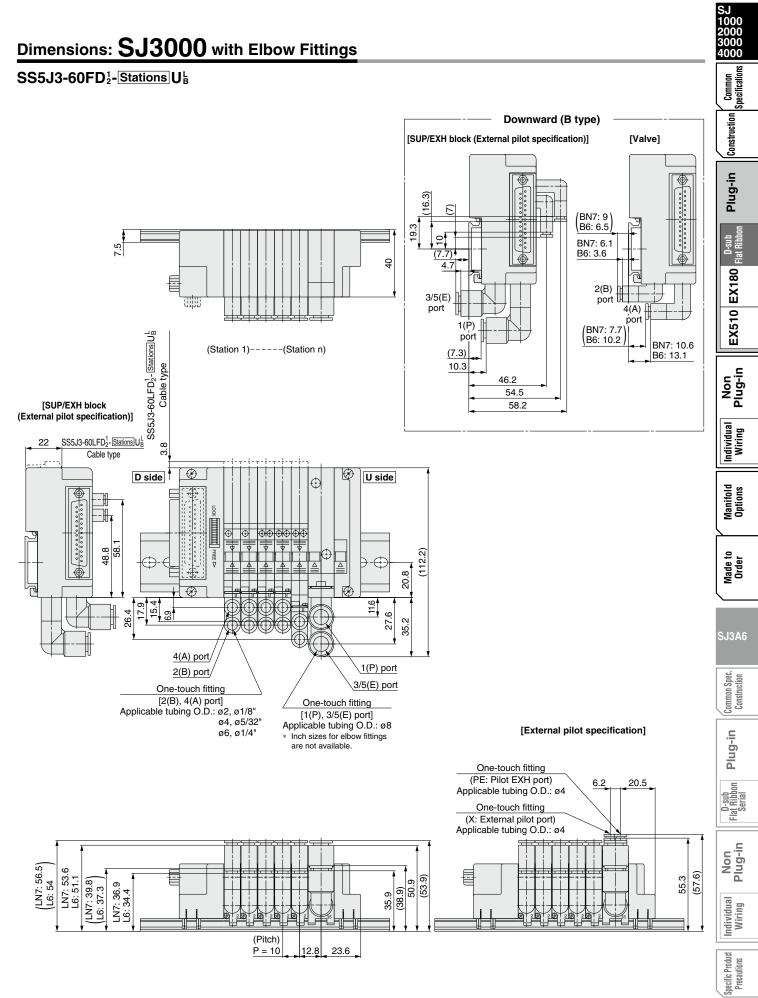
Plug-in D-sub Flat Ribbon Serial



# Dimensions: SJ2000 with Elbow Fittings

## SS5J2-60FD<sub>2</sub><sup>1</sup>-Stations U<sub>B</sub><sup>L</sup>



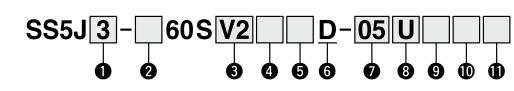


**SMC** 

# Plug-in Connector Type EX180 Integrated Type CA CA (For Output) Serial Transmission System (RoHS) Type 60S

How to Order

An order cannot be placed with only the manifold part no. Be sure to order solenoid valves for mounting at the same time while referring to the ordering example.



0

## Series

SJ1000 1 2 SJ2000 SJ3000 3 (SJ1000/2000/ 3000 mixed\*1)

\*1 Select "3" for the combination of SJ1000 and SJ2000 valves

## Valve stations

Symbol	Stations	Note						
01	1 station							
÷	÷	Up to 32 solenoids						
32	32 stations	can be selected.						

This number also includes the blanking block. Since single and double wiring are available for the blanking block, select a model compatible with the valve wiring specification to be used. (Refer to page 105.)

#### 2 Mixed mounting type Standard\*1

Mixed mounting\*2 м \*1 For SJ1000, 2000, and 3000 series valves, select "Nil" when only using a single series. \*2 Select "M" when SJ1000,

Nil

SJ2000, or SJ3000 series valves will be mounted on the same manifold base together.

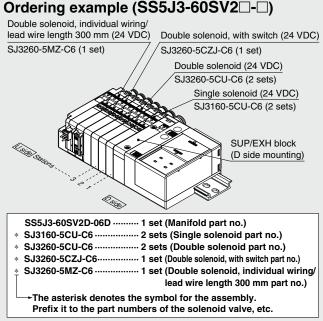
## 8 SUP/EXH block

# mounting position

U	U side
D	D side
В	Both sides
<b>M</b> *1	Special specifications

\*1 Specify the required specifications (including port sizes other than ø8) on the manifold specification sheet.

# How to Order Manifold Assembly



· For the valve arrangement, the valve closest to the D side is considered the 1st station. · Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

When ordering a manifold, specify the part nos. of the valves to be mounted on it. (An order cannot be placed with only the manifold part no.)

#### Component module Without SI unit

V2 CC-Link (32 points) Q2 DeviceNet® (32 points) **Q3** DeviceNet<sup>®</sup> (16 points)

Please contact SMC for SI unit specifications.

#### 4 Communication connector

Nil T-branch type Α Straight type The communication connector and power connector are shipped together with the manifold. The power connector is only available for the straight type.



Nil	Internal pilot						
S	Internal pilot, Built-in						
3	silencer						
R	External pilot						
RS	External pilot, Built-in						
пэ	silencer						

- There is no need to enter anything when the SUP/EXH block mounting position "M" is selected.
- The 3/5(E) port is plugged for the built-in silencer type.

## **U** DIN rail length specified

Nil	Standard length										
2	2 stations	Specify a length									
	÷	longer than that of									
32	32 stations	the standard rail.									

Specify the number of valve stations without exceeding the max. number of stations.

#### SI Unit Part Nos.

•. •							
Symbol	Component	module/Communication connector	Common specifica	ation	SI unit part no.		
V2	CC-Lir	nk (32 points)	NPN output (Positive co	mmon)	EX180-SMJ3		
V2N	T-bran	ch type	PNP output (Negative co	mmon)	) EX180-SMJ5		
V2A	CC-Lir	nk (32 points)	NPN output (Positive co	mmon)	EX180-SMJ3A		
V2AN	Straigh	nt type	PNP output (Negative co	mmon)	EX180-SMJ5A		
Q2	Device	Net <sup>®</sup> (32 points)	NPN output (Positive co	mmon)	EX180-SDN3		
Q2N	T-bran	ch type	PNP output (Negative co	n) EX180-SDN5			
Q2A	Device	Net <sup>®</sup> (32 points)	NPN output (Positive co	mmon)	n) EX180-SDN3A		
Q2AN	Straigh	nt type	PNP output (Negative co	mmon)	on) EX180-SDN5A		
Q3	Device	Net <sup>®</sup> (16 points)	NPN output (Positive co	mmon)	n) EX180-SDN4		
Q3N	T-bran	ch type	PNP output (Negative co	) EX180-SDN6			
Q3A	Device	Net <sup>®</sup> (16 points)	NPN output (Positive co	mmon)	EX180-SDN4A		
Q3AN	Straigh	nt type	PNP output (Negative co	mmon)	EX180-SDN6A		
		Item		5	Specification		
Power se	ource	Non-polar		DC +10%/-5%			
for drivin	g valve	With power-saving circ	uit (Continuous duty)	24 V	DC +10%/0%		

For details on the EX180 Integrated Type (For Output) Serial Transmission System, refer to the Web Catalog and the Operation Manual. Please download the Operation Manual via the SMC website: https://www.smcworld.com

SUP/EXH block fitting

D

Nil

Ν

5 SI unit common specification

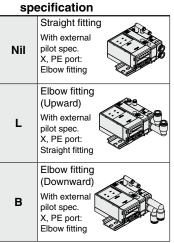
6 Unit mounting

D side

position

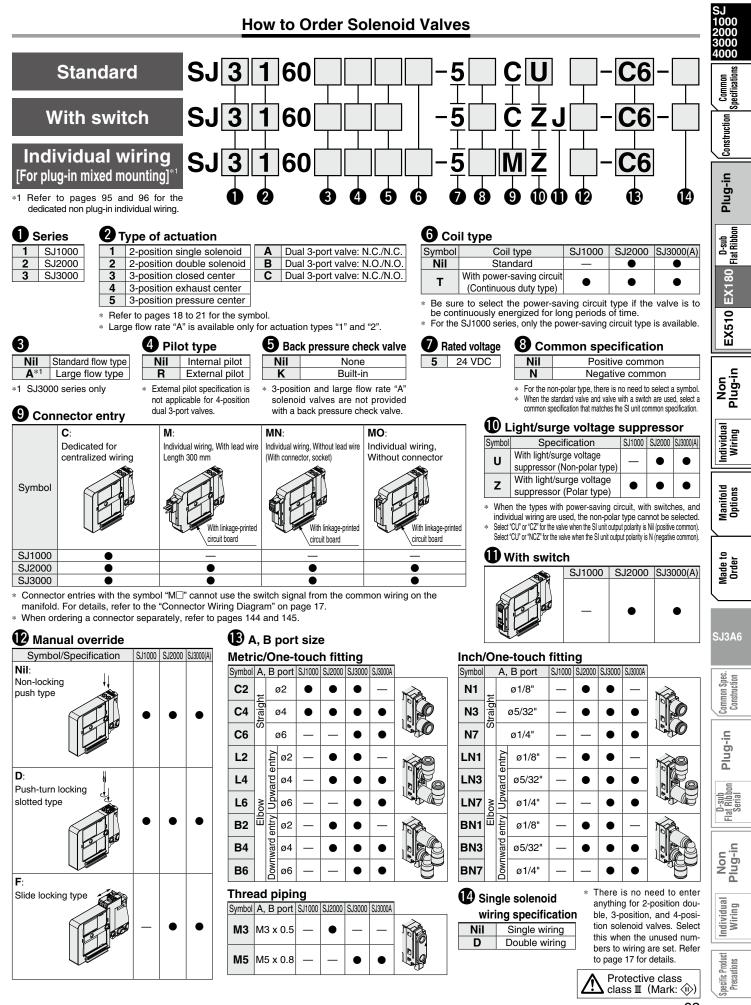
Positive common

Negative common



There is no need to enter anything when the SUP/EXH block mounting position "M" is selected.

# EX180 Integrated Type (For Output) Serial Transmission System SJ1000/2000/3000 Series

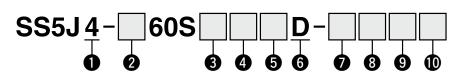


**SMC** 

# Plug-in Connector Type ( C UK RoHS EX180 Integrated Type (For Output) Serial Transmission System **SJ4000 Series**

How to Order

An order cannot be placed with only the manifold part no. Be sure to order solenoid valves for mounting at the same time while referring to the ordering example.



# 1 Series

## 2 Mixed mounting type

- SJ4000 Nil Standard (Dedicated for the SJ4000) M Mixed mounting
  - Mixed mounting \* Select "Nil" when only using a single series.
  - Select "M" when SJ1000, SJ2000, or SJ3000 series valves will be mounted on the same manifold base together.

U

D

B

М

**B** SUP/EXH block

mounting position

U side

D side

Both sides

Special specifications

Special specifications (including instructions

for port sizes other than ø10 of the standard

SUP/EXH block) must be specified separately

For 11 or more valve stations, "B" (both sides)

in manifold specifications sheet

is recommended.

## Valve stations

Symbol	Stations	Note							
01	1 station								
:	÷	Up to 32 solenoids							
32	32 stations	can be selected.							

This number also includes the blanking block. Since single and double wiring are available for the blanking block, select a model compatible with the valve wiring specification to be used. (Refer to page 105.)

# Component module

 0
 Without SI unit

 V2
 CC-Link (32 points)

 Q2
 DeviceNet® (32 points)

 Q3
 DeviceNet® (16 points)

- Please contact SMC for SI unit
   specifications
  - specifications.

#### Communication connector

 Nil
 T-branch type

 A
 Straight type

 \*
 The communication connector and power connector are shipped together with the manifold. The power connector is only available for the straight type.

## 9 Pilot type

Nil	Internal pilot
S	Internal pilot, Built-in silencer
R	External pilot
The sec 2	-

- \* There is no need to enter anything when the SUP/EXH block mounting position "M" is selected.
- \* The 3/5(E) port is plugged for the built-in silencer type (S).
- \* SJ4000 does not have the external pilot and built-in silencer (RS) type.

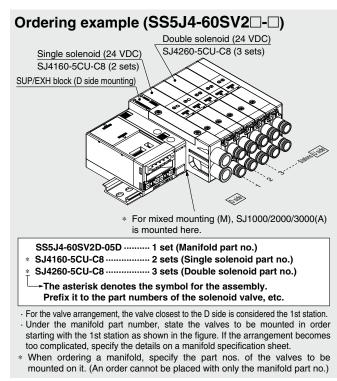
## SI Unit Part Nos.

01 <b>0</b> 1110	i altiteel					
Symbol	Component module/Communication connector	Common specifica	ation	SI unit part no.		
V2	CC-Link (32 points)	NPN output (Positive co	mmon)	EX180-SMJ3		
V2N	T-branch type	PNP output (Negative co	mmon)	EX180-SMJ5		
V2A	CC-Link (32 points)	NPN output (Positive co	mmon)	EX180-SMJ3A		
V2AN	Straight type	PNP output (Negative co	mmon)	EX180-SMJ5A		
Q2	DeviceNet <sup>®</sup> (32 points)	NPN output (Positive co	mmon)	EX180-SDN3		
Q2N	T-branch type	PNP output (Negative co	mmon)	EX180-SDN5		
Q2A	DeviceNet <sup>®</sup> (32 points)	NPN output (Positive co	mmon)	EX180-SDN3A		
Q2AN	Straight type	PNP output (Negative co	mmon)	EX180-SDN5A		
Q3	DeviceNet <sup>®</sup> (16 points)	NPN output (Positive co	mmon)	EX180-SDN4		
Q3N	T-branch type	PNP output (Negative co	mmon)	EX180-SDN6		
Q3A	DeviceNet <sup>®</sup> (16 points)	NPN output (Positive co	mmon)	EX180-SDN4A		
<b>Q3AN</b>	Straight type	PNP output (Negative common) EX180-SDN				
	Item		S	pecification		

	Specification	
Power source	Non-polar	24 VDC +10%/-5%
for driving valve	With power-saving circuit (Continuous duty)	24 VDC +10%/0%

For details on the EX180 Integrated Type (For Output) Serial Transmission System, refer to the **Web Catalog** and the Operation Manual. Please download the Operation Manual via the SMC website: https://www.smcworld.com

## How to Order Manifold Assembly



- When SJ4000 and SJ1000/2000/3000 are mixed mounting (M), SJ1000/2000/3000 valves are mounted on the D side of SJ4000 D side SUP/EXH block.
- SJ4000 series does not have an elbow One-touch fitting.



 :
 :
 Ionger than that of

 32
 32 stations
 the standard rail.

 \* Specify the number of valve stations without exceeding the max. number of stations.

5 SI unit common

specification

6 Unit mounting

D side

Standard length

2 stations Specify a length

position

DIN rail length specified

Nil

Ν

D

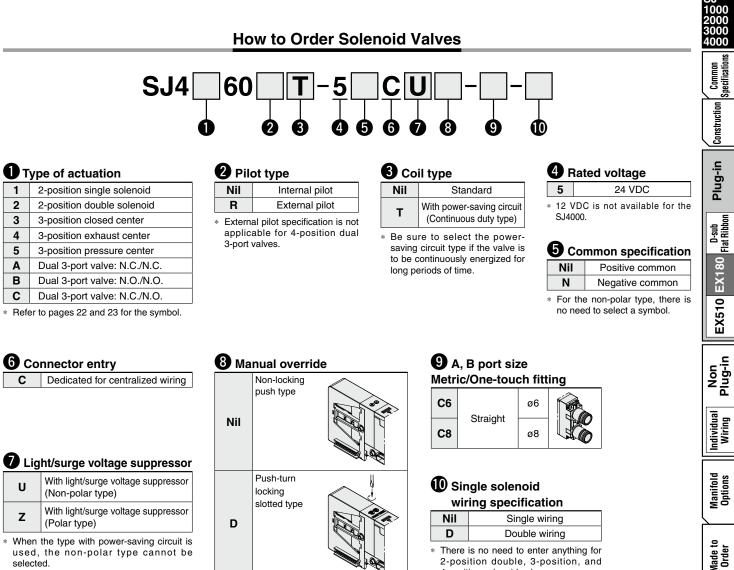
Nil

2

Positive common

Negative common

# Plug-in Connector Type EX180 Integrated Type (For Output) Serial Transmission System **SJ4000 Series**



When the type with power-saving circuit is used, the non-polar type cannot be selected.

VV II	ing specification
Nil	Single wiring
D	Double wiring
2-posi	is no need to enter anything for tion double, 3-position, and ion solenoid valves.

SJ4000 series is not equipped with a back pressure check valve.

SJ4000 series does not have a One-touch fitting for A, B port elbow. \*

# Plug-in Non Plug-in

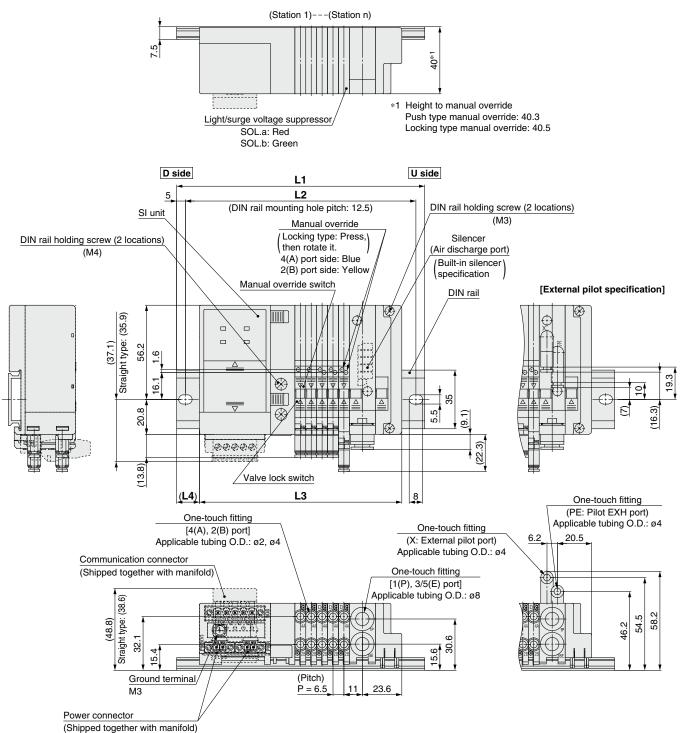
SJ3A6

common Spec. Construction Common

# Individual Wiring Specific Product Precautions

# Dimensions: SJ1000 for EX180 Integrated Type (For Output) Serial Transmission System

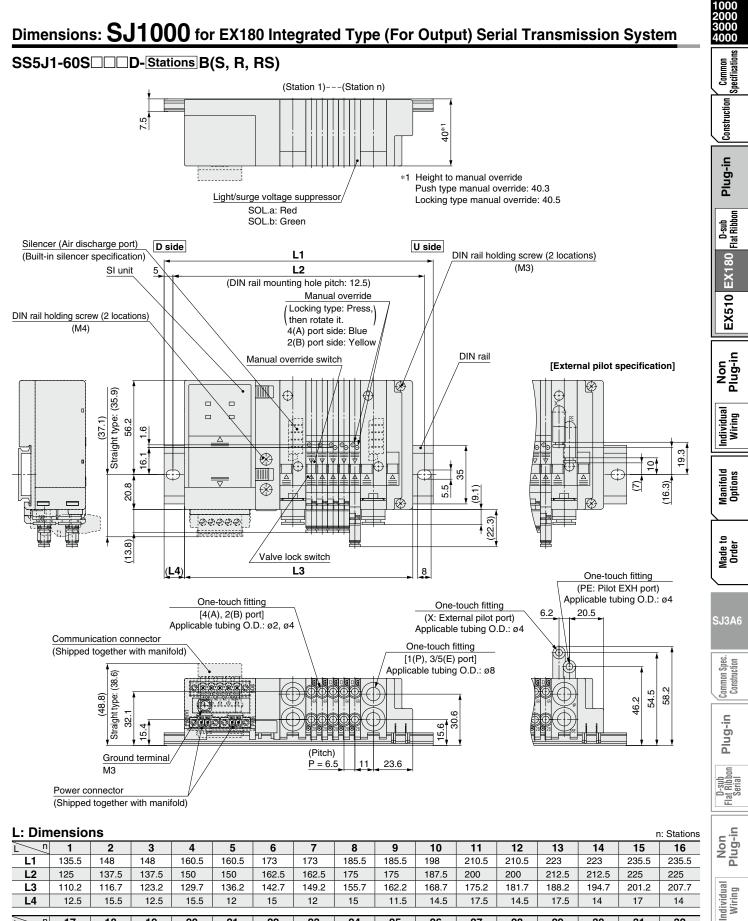
## SS5J1-60S D-Stations U(S, R, RS)



#### L: Dimensions

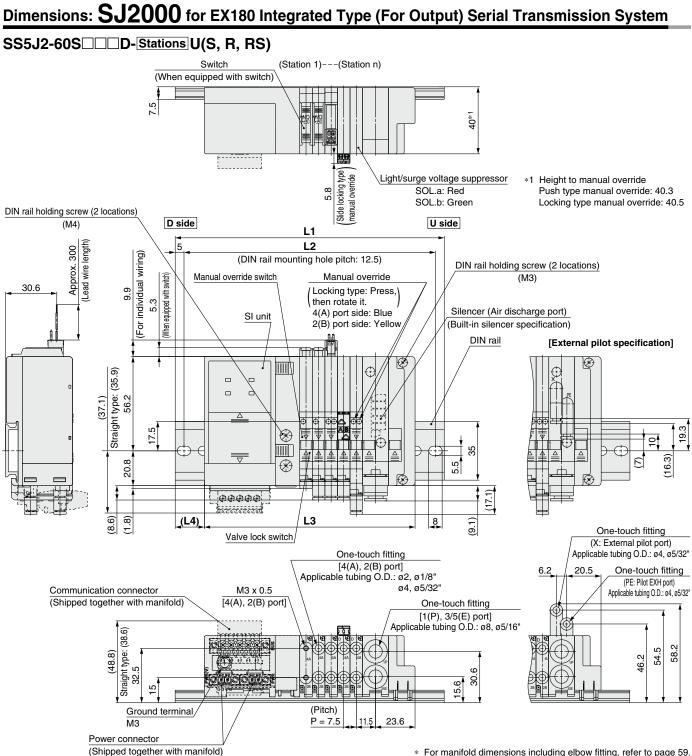
L: Dim	nensio	ns													r	: Stations
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	123	135.5	135.5	148	148	160.5	160.5	173	173	185.5	185.5	198	198	210.5	210.5	223
L2	112.5	125	125	137.5	137.5	150	150	162.5	162.5	175	175	187.5	187.5	200	200	212.5
L3	94.7	101.2	107.7	114.2	120.7	127.2	133.7	140.2	146.7	153.2	159.7	166.2	172.7	179.2	185.7	192.2
L4	14	17	14	17	13.5	16.5	13.5	16.5	13	16	13	16	12.5	15.5	12.5	15.5
				,				,						,	,	
L n	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
L1	223	235.5	235.5	248	248	260.5	273	273	285.5	285.5	298	298	310.5	310.5	323	323
L2	212.5	225	225	237.5	237.5	250	262.5	262.5	275	275	287.5	287.5	300	300	312.5	312.5
L3	198.7	205.2	211.7	218.2	224.7	231.2	237.7	244.2	250.7	257.2	263.7	270.2	276.7	283.2	289.7	296.2
L4	12	15	12	15	11.5	14.5	17.5	14.5	17.5	14	17	14	17	13.5	16.5	13.5
~ -																

**SMC** 



L2	125	137.5	137.5	150	150	162.5	162.5	175	175	187.5	200	200	212.5	212.5	225	225
L3	110.2	116.7	123.2	129.7	136.2	142.7	149.2	155.7	162.2	168.7	175.2	181.7	188.2	194.7	201.2	207.7
L4	12.5	15.5	12.5	15.5	12	15	12	15	11.5	14.5	17.5	14.5	17.5	14	17	14
L	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
L1	248	248	260.5	260.5	273	273	285.5	285.5	298	298	310.5	310.5	323	323	335.5	335.5
L2	237.5	237.5	250	250	262.5	262.5	275	275	287.5	287.5	300	300	312.5	312.5	325	325
L3	214.2	220.7	227.2	233.7	240.2	246.7	253.2	259.7	266.2	272.7	279.2	285.7	292.2	298.7	305.2	311.7
L4	17	13.5	16.5	13.5	16.5	13	16	13	16	12.5	15.5	12.5	15.5	12	15	12
© SMC														66		

Specific Product Precautions

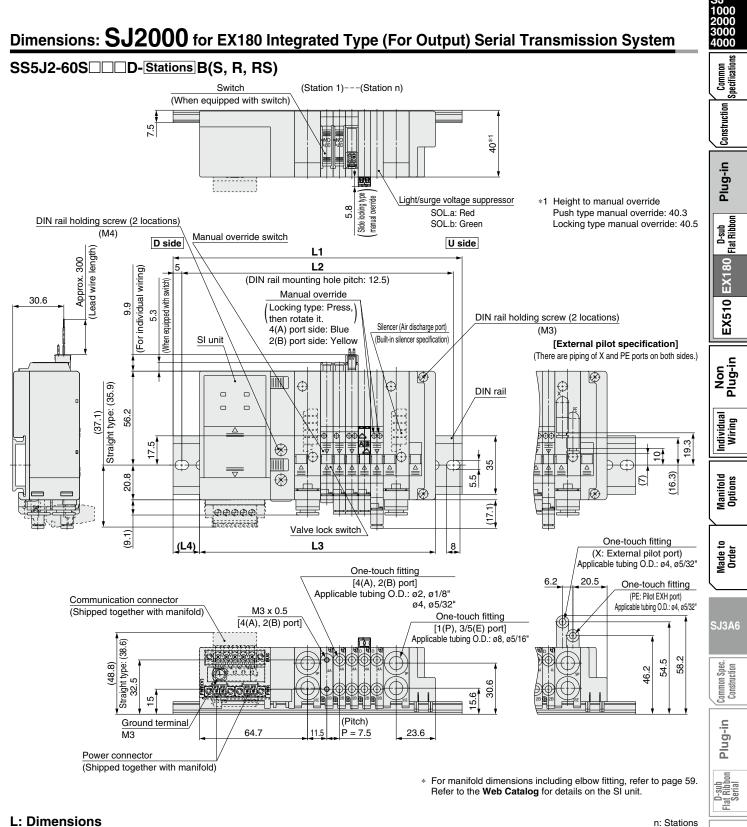


\* For manifold dimensions including elbow fitting, refer to page 59. Refer to the Web Catalog for details on the SI unit.

#### L: Dimensions

L: Dimensions n: Stations																
L	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	123	135.5	135.5	148	160.5	160.5	173	173	185.5	198	198	210.5	210.5	223	235.5	235.5
L2	112.5	125	125	137.5	150	150	162.5	162.5	175	187.5	187.5	200	200	212.5	225	225
L3	95.7	103.2	110.7	118.2	125.7	133.2	140.7	148.2	155.7	163.2	170.7	178.2	185.7	193.2	200.7	208.2
L4	13.5	16	12.5	15	17.5	13.5	16	12.5	15	17.5	13.5	16	12.5	15	17.5	13.5
L	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
L1	248	248	260.5	273	273	285.5	285.5	298	310.5	310.5	323	323	335.5	348	348	360.5
L2	237.5	237.5	250	262.5	262.5	275	275	287.5	300	300	312.5	312.5	325	337.5	337.5	350
L3	215.7	223.2	230.7	238.2	245.7	253.2	260.7	268.2	275.7	283.2	290.7	298.2	305.7	313.2	320.7	328.2
L4	16	12.5	15	17.5	13.5	16	12.5	15	17.5	13.5	16	12.5	15	17.5	13.5	16

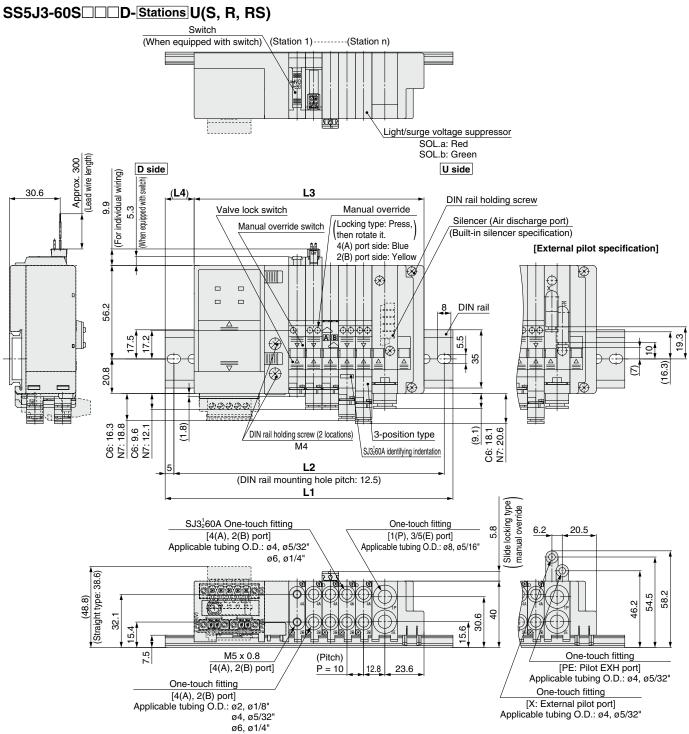




<b>E</b> . <b>D</b>																											
L	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	<u> </u>										
L1	135.5	148	160.5	160.5	173	173	185.5	198	198	210.5	210.5	223	235.5	235.5	248	248	Ing										
L2	125	137.5	150	150	162.5	162.5	175	187.5	187.5	200	200	212.5	225	225	237.5	237.5	2										
L3	111.2	118.7	126.2	133.7	141.2	148.7	156.2	163.7	171.2	178.7	186.2	193.7	201.2	208.7	216.2	223.7	=										
L4	12	14.5	17	13.5	16	12	14.5	17	13.5	16	12	14.5	17	13.5	16	12	vidua iring										
<u> </u>																	Vi N										
L	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32											
L1	260.5	273	273	285.5	285.5	298	310.5	310.5	323	323	335.5	348	348	360.5	360.5	373											
1.0	050	000 F	000 5	075	075	287.5	300	300	312.5	312.5	325	337.5	337.5	350	350	362.5	, et										
L2	250	262.5	262.5	275	275	287.5	300	300	312.5	312.5	525	337.5	007.0	000	330	302.5	b Si										
L2 L3	231.2	202.5	262.5	275 253.7	275	267.5	276.2	283.7	291.2	298.7	306.2	313.7	321.2	328.7	336.2	343.7	Specific Product Precautions										







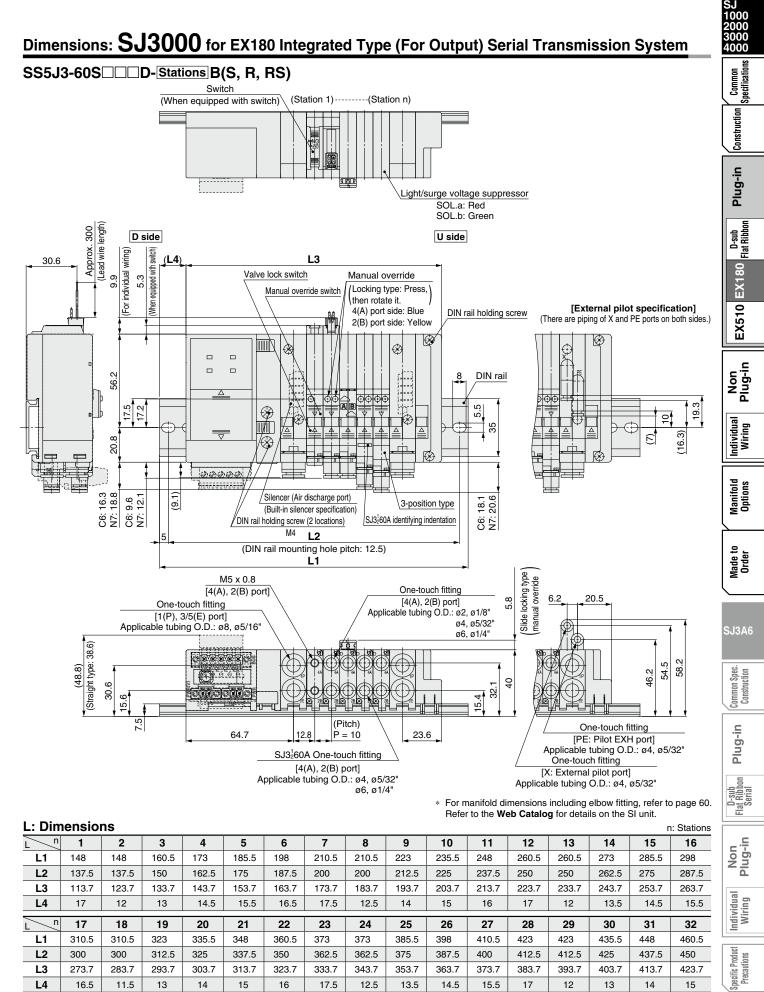
For manifold dimensions including elbow fitting, refer to page 60. Refer to the Web Catalog for details on the SI unit.

n: Stations

#### L: Dimensions

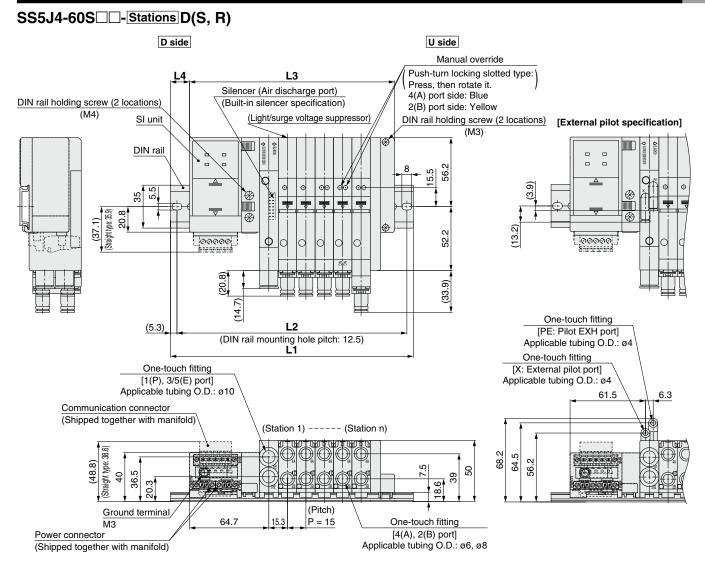
L	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	123	135.5	148	160.5	173	173	185.5	198	210.5	223	235.5	235.5	248	260.5	273	285.5
L2	112.5	125	137.5	150	162.5	162.5	175	187.5	200	212.5	225	225	237.5	250	262.5	275
L3	98.2	108.2	118.2	128.2	138.2	148.2	158.2	168.2	178.2	188.2	198.2	208.2	218.2	228.2	238.2	248.2
L4	12.5	13.5	14.5	16	17	12	13	14	15.5	16.5	17.5	12.5	13.5	15	16	17
L	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
L <sup>n</sup> L1	<b>17</b> 285.5	<b>18</b> 298	<b>19</b> 310.5	<b>20</b> 323	<b>21</b> 335.5	<b>22</b> 348	<b>23</b> 348	<b>24</b> 360.5	<b>25</b> 373	<b>26</b> 385.5	<b>27</b> 398	<b>28</b> 398	<b>29</b> 410.5	<b>30</b> 423	<b>31</b> 435.5	<b>32</b> 448
L	17		-	-					-	-					-	-
L1	285.5	298	310.5	323	335.5	348	348	360.5	373	385.5	398	398	410.5	423	435.5	448

**SMC** 



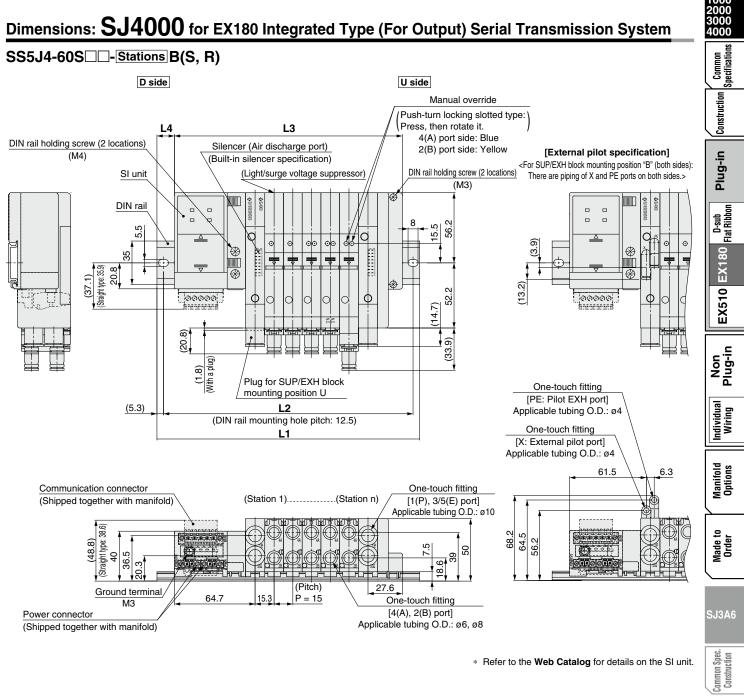
# SJ4000 Series

# Dimensions: SJ4000 for EX180 Integrated Type (For Output) Serial Transmission System



\* Refer to the Web Catalog for details on the SI unit.

L: Dimensions n: Stations																
L	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	135.5	148	160.5	185.5	198	210.5	223	235.5	260.5	273	285.5	298	310.5	335.5	348	360.5
L2	125	137.5	150	175	187.5	200	212.5	225	250	262.5	275	287.5	300	325	337.5	350
L3	107.2	122.2	137.2	152.2	167.2	182.2	197.2	212.2	227.2	242.2	257.2	272.2	287.2	302.2	317.2	332.2
L4	14	13	11.5	16.5	15.5	14	13	11.5	16.5	15.5	14	13	11.5	16.5	15.5	14
L	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
L1	373	385.5	410.5	423	435.5	448	460.5	485.5	498	510.5	523	535.5	560.5	573	585.5	598
L2	362.5	375	400	412.5	425	437.5	450	475	487.5	500	512.5	525	550	562.5	575	587.5
L3	347.2	362.2	377.2	392.2	407.2	422.2	437.2	452.2	467.2	482.2	497.2	512.2	527.2	542.2	557.2	572.2
L4	13	11.5	16.5	15.5	14	13	11.5	16.5	15.5	14	13	11.5	16.5	15.5	14	13



\* Refer to the Web Catalog for details on the SI unit.

L: Dim	.: Dimensions         n: Stations           n         1         2         3         4         5         6         7         8         9         10         11         12         13         14         15         16															: Stations
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	148	173	185.5	198	210.5	223	248	260.5	273	285.5	298	323	335.5	348	360.5	373
L2	137.5	162.5	175	187.5	200	212.5	237.5	250	262.5	275	287.5	312.5	325	337.5	350	362.5
L3	122.7	137.7	152.7	167.7	182.7	197.7	212.7	227.7	242.7	257.7	272.7	287.7	302.7	317.7	332.7	347.7
L4	12.5	17.5	16.5	15	14	12.5	17.5	16.5	15	14	12.5	17.5	16.5	15	14	12.5
L	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
L1	398	410.5	423	435.5	448	473	485.5	498	510.5	523	548	560.5	573	585.5	598	623
L2	387.5	400	412.5	425	437.5	462.5	475	487.5	500	512.5	537.5	550	562.5	575	587.5	612.5
L3	362.7	377.7	392.7	407.7	422.7	437.7	452.7	467.7	482.7	497.7	512.7	527.7	542.7	557.7	572.7	587.7
L4	17.5	16.5	15	14	12.5	17.5	16.5	15	14	12.5	17.5	16.5	15	14	12.5	17.5



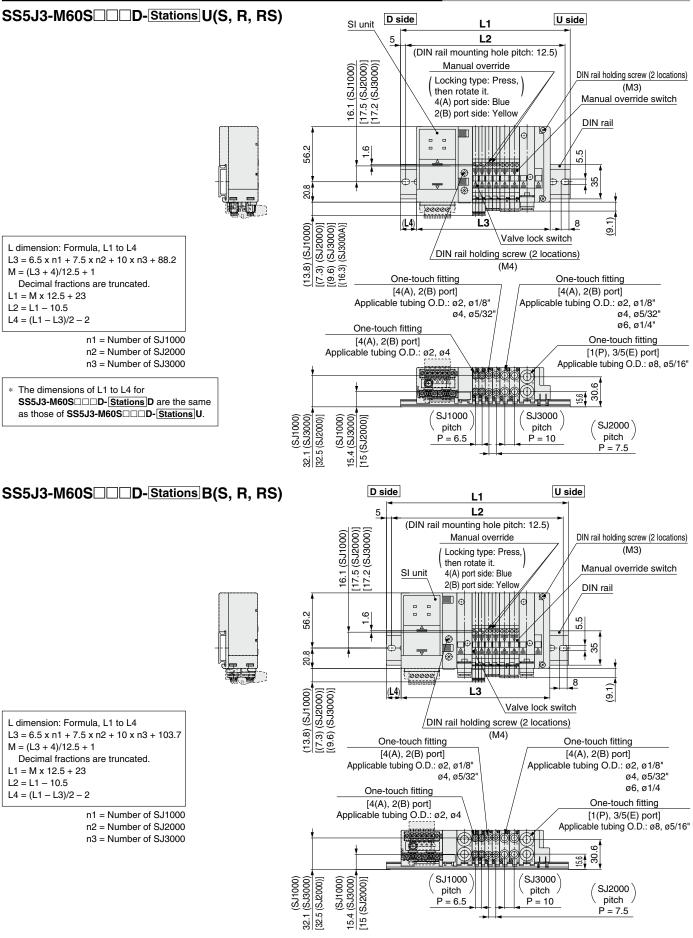
Precautions

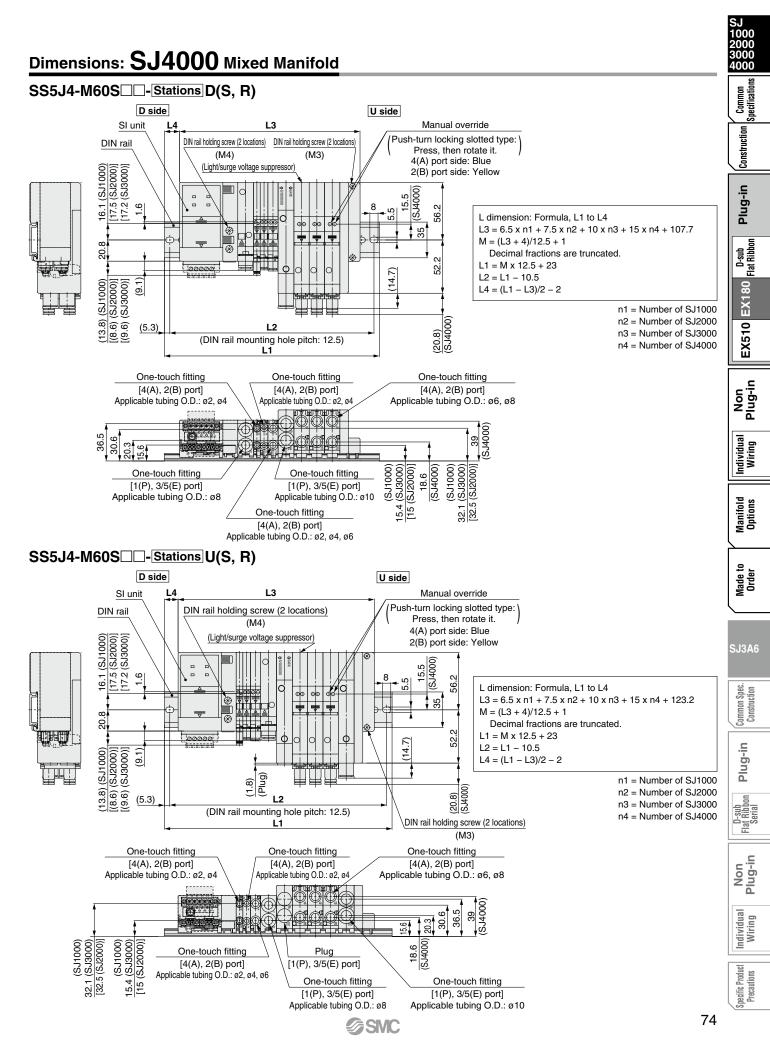
Flat Ribbon Plug-in Serial

pecific Product

### SJ1000/2000/3000 Series

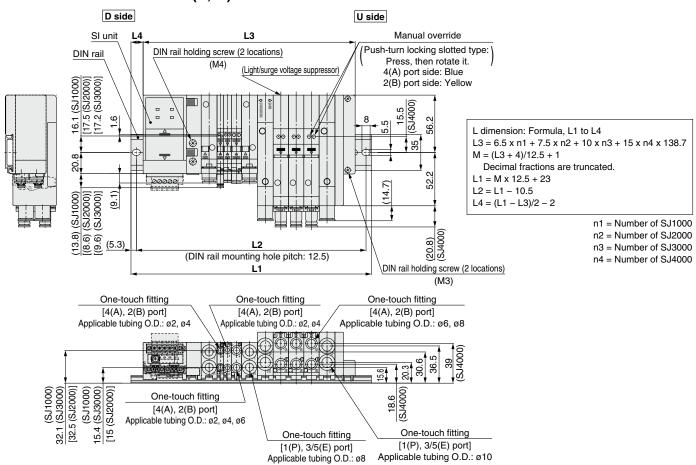
### Dimensions: SJ1000/2000/3000 Mixed Manifold





### Dimensions: SJ4000 Mixed Manifold

### SS5J4-M60S B(S, R)



	SJ
	1000 2000 3000 4000
	Common Specifications
	Construction
	Plug-in
	0 D-sub Flat Ribbon
	10 EX18
	EX5
	Non Plug-in
	Individual Wiring
	Manifold Options
	Made to Order
	SJ3A6
	Common Spec. Construction
	Plug-in
	D-sub Flat Ribbon Serial
	Non Plug-in
	Individual Wiring
	Specific Product Precautions
6	

### Plug-in Connector Type EX510 Gateway Type 1 S.I2000/3000 only **Serial Transmission System** (RoHS) Type 60S6B SJ1000/2000/3000 Series

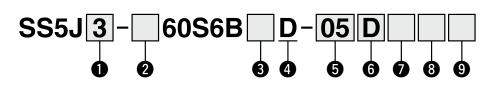
How to Order Manifolds

An order cannot be placed with only the manifold part no. Be sure to order solenoid valves for mounting at the same time while referring to the ordering example.

**4** Unit mounting

D side

position



#### Manifold series

-	
1	SJ1000
2	SJ2000
3	SJ3000 (SJ1000/2000/3000 mixed <sup>*1</sup> )

Select "3" for the combination of SJ1000 and SJ2000 valves.

### **5** Valve stations

Symbol	Stations	Note
01	1 station	
:	÷	Up to 16 solenoids can be selected.
16	16 stations	

This number also includes the blanking block. Since single and double wiring are available for the blanking block, select a model compatible with the valve wiring specification to be used.

### SUP/EXH block fitting specification

Nil

Select "M" when SJ1000, SJ2000, or	
SJ3000 series valves will be mounted	
on the same manifold base together.	

#### 6 SUP/EXH block mounting position

	V I
U	U side
D	D side
В	Both sides
M*1	Special specifications

\*1 Specify the required specifications (including port sizes other than ø8) on the manifold specification sheet.

### Pilot type

**3** SI unit common

specification

Positive common

Negative common

Nil

Ν

B

[	Nil Internal pilot								
	S	Internal pilot, Built-in silencer							
[	R	External pilot							
[	RS	External pilot, Built-in silencer							

D

There is no need to enter anything when the SUP/ EXH block mounting position "M" is selected.

The 3/5(E) port is plugged for the built-in silencer type.

#### 9 DIN rail length specified Nil Standard length 2 stations Specify a length longer than that of

16

Specify the number of valve stations without exceeding the max. number of stations.

16 stations

the standard rail.

For details on the EX510 Gateway Type Serial Transmission System, refer to the Web Catalog and the Operation Manual. Please download the Operation Manual via the SMC website: https://www.smcworld.com

#### Straight fitting Elbow fitting (Upward) Elbow fitting (Downward) With external With external With external pilot spec. pilot spec. pilot spec. . X, PE port: X. PE port: X. PE port: Straight fitting Elbow fitting Elbow fitting There is no need to enter anything when the SUP/EXH block mounting position "M" is selected.

2 Mixed mounting type

Standard\*1 Mixed mounting\*2

For SJ1000, 2000, and 3000 series valves,

select "Nil" when only using a single series.

Nil

М

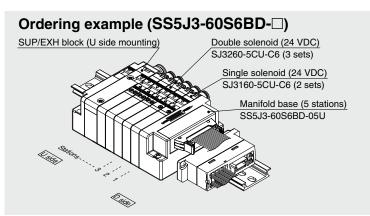
\*1

\*2

SI Unit Part Nos.

Symbol	SI unit specification	SI unit part no.
Nil	NPN output (Positive common)	EX510-S002C
Ν	PNP output (Negative common)	EX510-S102C

### How to Order Manifold Assembly



SS5J3-60S6BD-05U 1 set (Type 60S6B, 5-station manifold base part no.)	
* SJ3160-5CU-C6 2 sets (Single solenoid part no.)	
* SJ3260-5CU-C6	

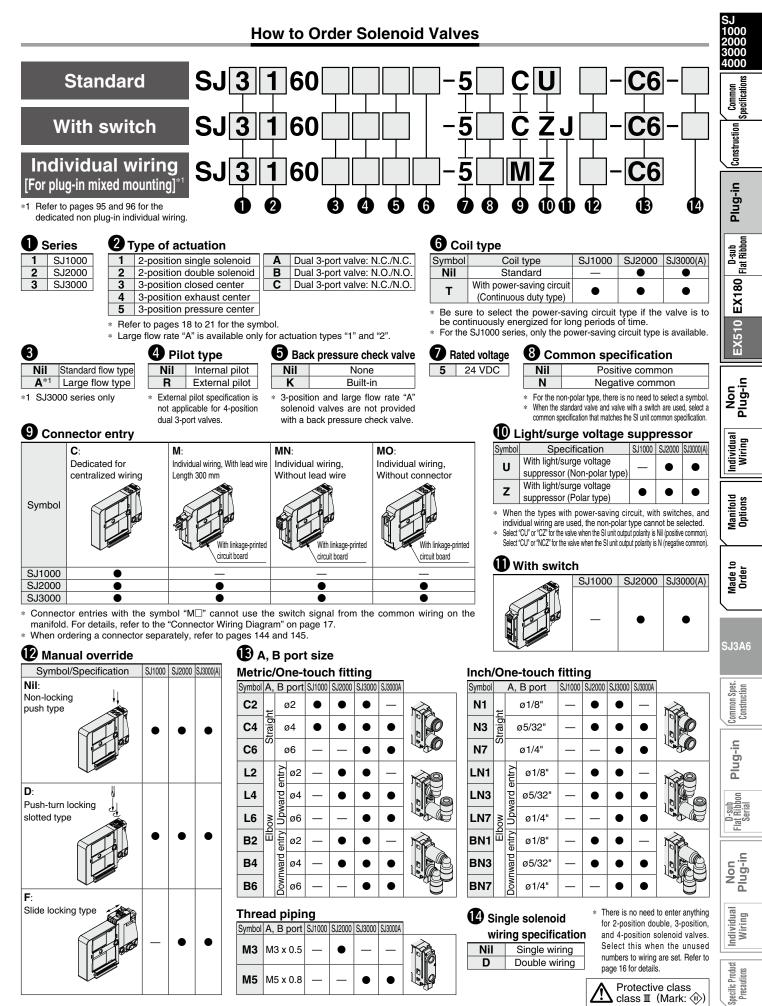
- The asterisk denotes the symbol for the assembly.
  - Prefix it to the part numbers of the solenoid valve, etc.
- For the valve arrangement, the valve closest to the D side is considered the 1st station.

Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.

When ordering a manifold, specify the part nos. of the valves to be mounted on it. (An order cannot be placed with only the manifold part no.)



### Plug-in Connector Type EX510 Gateway Type Serial Transmission System SJ1000/2000/3000 Series

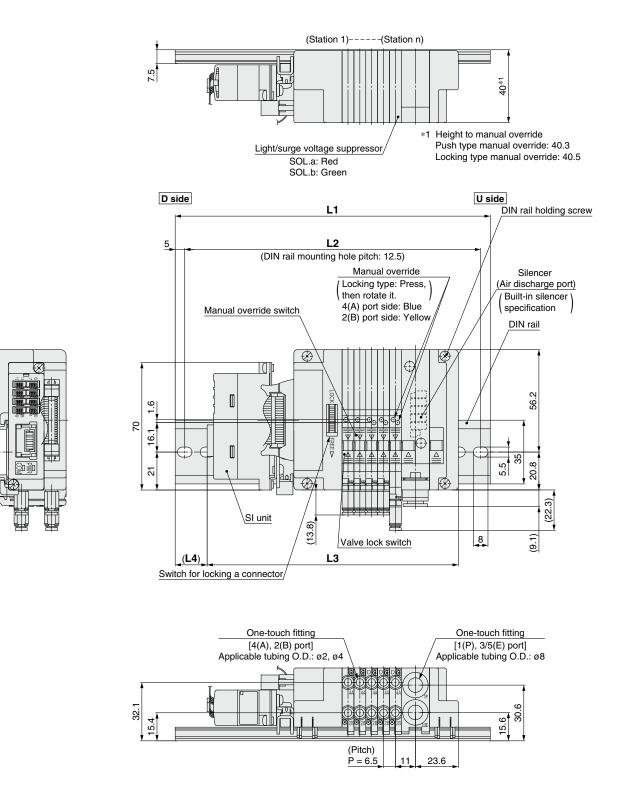


78

### SJ1000/2000/3000 Series

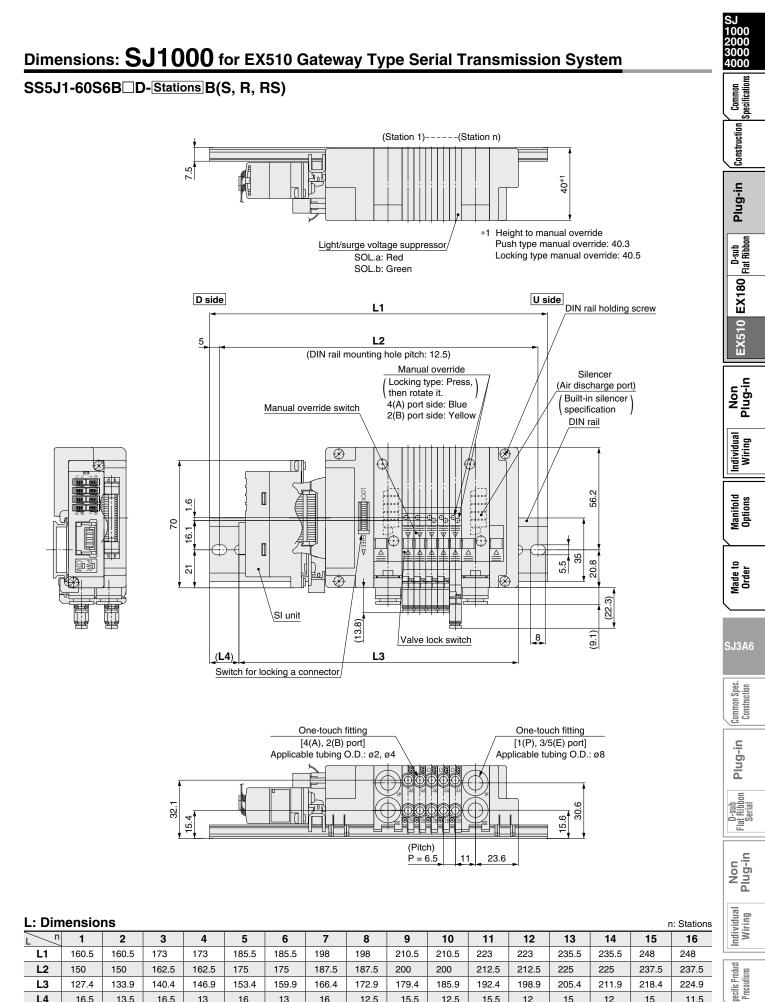
### Dimensions: SJ1000 for EX510 Gateway Type Serial Transmission System

### SS5J1-60S6BD-StationsU(S, R, RS)



L: Dim	nensio	ns													r	: Stations
L n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	135.5	148	148	160.5	173	173	185.5	185.5	198	198	210.5	210.5	223	223	235.5	235.5
L2	125	137.5	137.5	150	162.5	162.5	175	175	187.5	187.5	200	200	212.5	212.5	225	225
L3	111.9	118.4	124.9	131.4	137.9	144.4	150.9	157.4	163.9	170.4	176.9	183.4	189.9	196.4	202.9	209.4
L4	12	15	11.5	14.5	17.5	14.5	17.5	14	17	14	17	13.5	16.5	13.5	16.5	13

79



15.5

12

15

12

15

L4

16.5

13.5

16.5

13

16

13

16

12.5

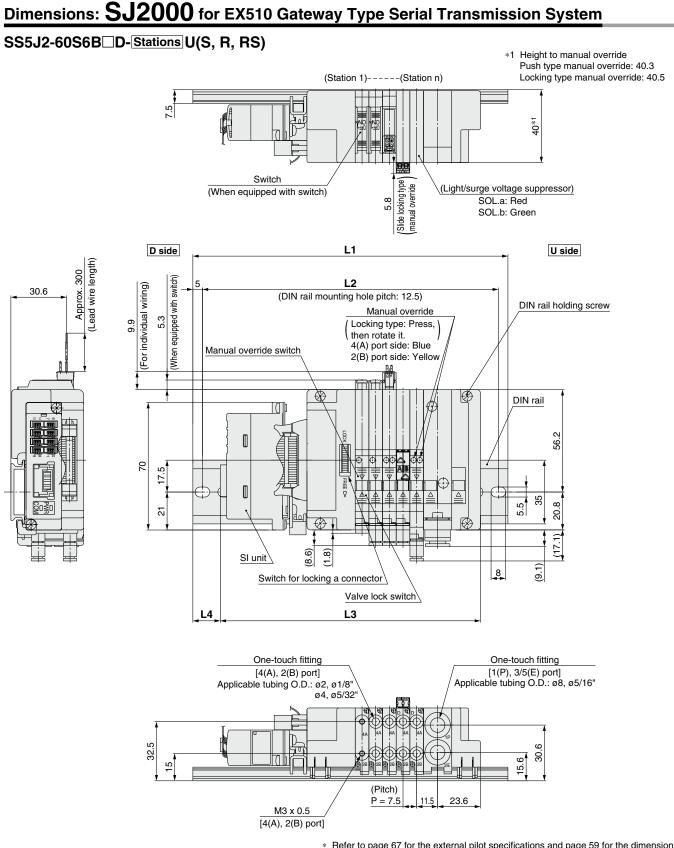
SMC

15.5

80

11.5

### SJ1000/2000/3000 Series

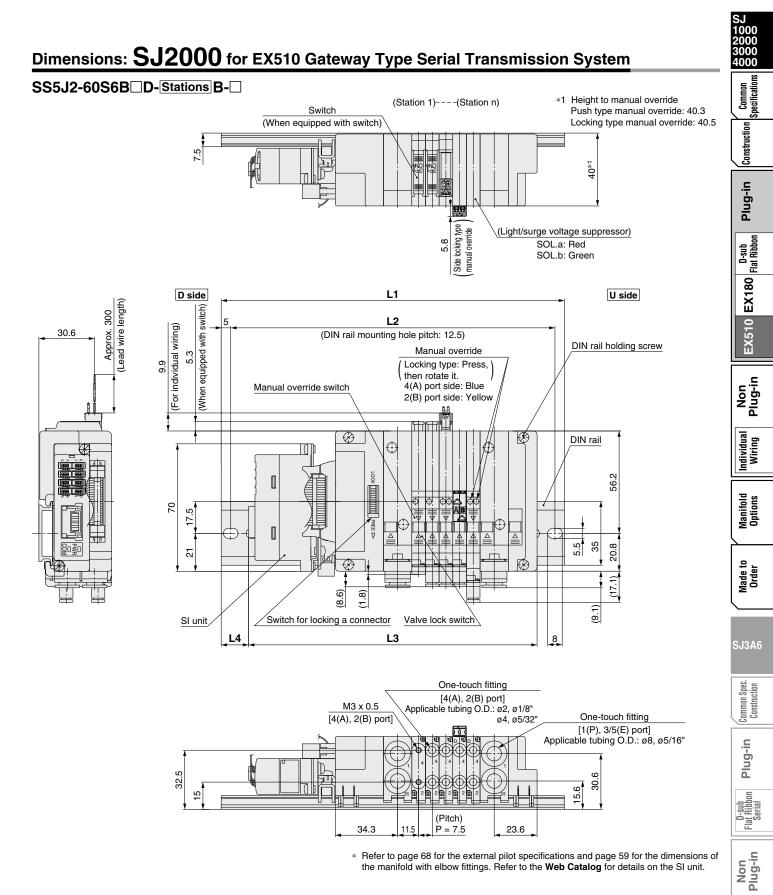


Refer to page 67 for the external pilot specifications and page 59 for the dimensions of the manifold with elbow fittings. Refer to the Web Catalog for details on the SI unit.

	D'
••	Dimensions
_	Dimensions

L: Dim	ensio	: Dimensions n: Station														
_ 	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	148	148	160.5	160.5	173	185.5	185.5	198	198	210.5	223	223	235.5	248	248	260.5
L2	137.5	137.5	150	150	162.5	175	175	187.5	187.5	200	212.5	212.5	225	237.5	237.5	250
L3	112.9	120.4	127.9	135.4	142.9	150.4	157.9	165.4	172.9	180.4	187.9	195.4	202.9	210.4	217.9	225.4
L4	17.5	14	16.5	12.5	15	17.5	14	16.5	12.5	15	17.5	14	16.5	19	15	17.5

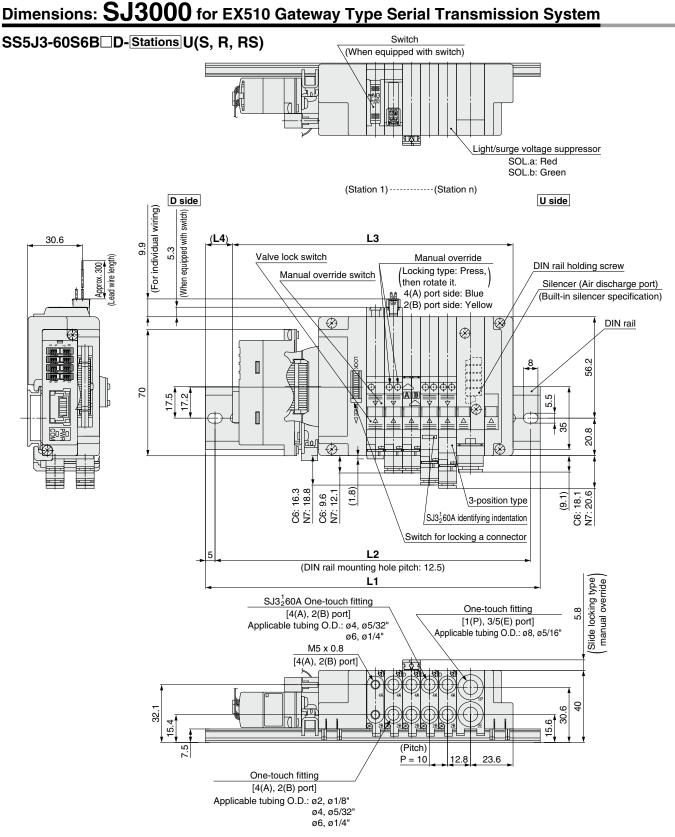




L: Din	nensio	ns													r	n: Stations	vidual iring
L	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	W
L1	160.5	160.5	173	185.5	185.5	198	198	210.5	223	223	235.5	248	248	260.5	260.5	273	
L2	150	150	162.5	175	175	187.5	187.5	200	212.5	212.5	225	237.5	237.5	250	250	262.5	Product utions
L3	128.4	135.9	143.4	150.9	158.4	165.9	173.4	180.9	188.4	195.9	203.4	210.9	218.4	225.9	233.4	240.9	
L4	16	12.5	15	17.5	13.5	16	12.5	15	17.5	13.5	16	18.5	15	17.5	13.5	16	Specific Precau

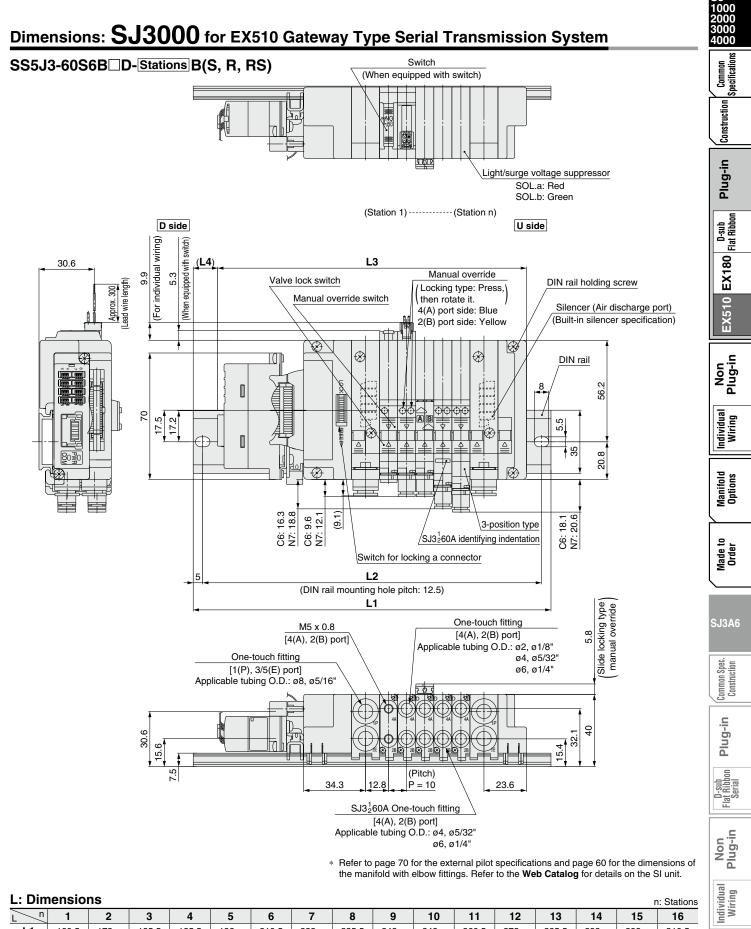
82

### SJ1000/2000/3000 Series



\* Refer to page 69 for the external pilot specifications and page 60 for the dimensions of the manifold with elbow fittings. Refer to the **Web Catalog** for details on the SI unit.

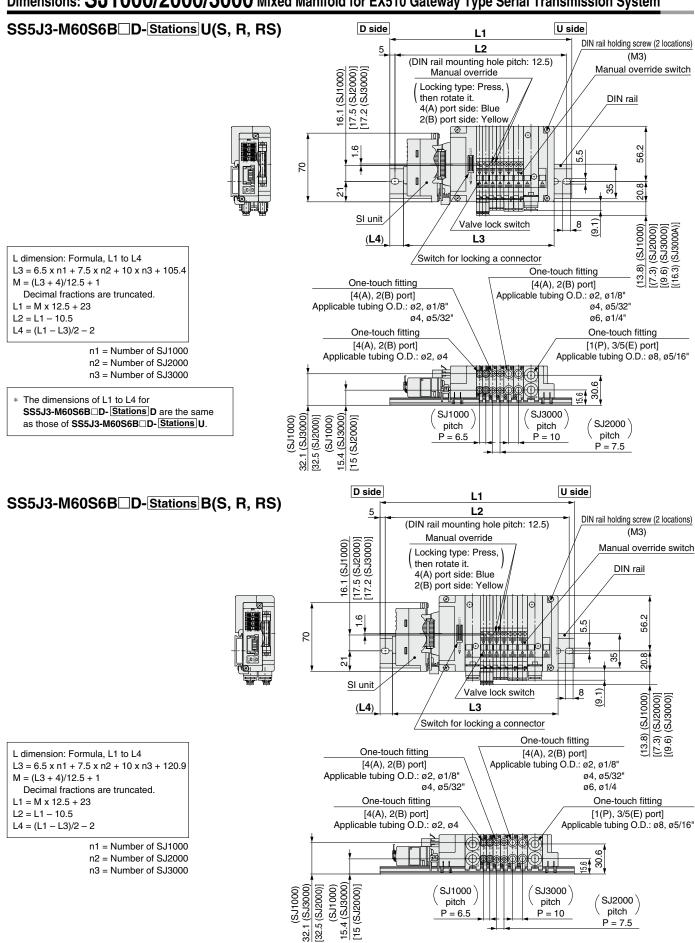
L: Dim	nensio	ns													r	n: Stations
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	148	160.5	160.5	173	185.5	198	210.5	210.5	223	235.5	248	260.5	273	273	285.5	298
L2	137.5	150	150	162.5	175	187.5	200	200	212.5	225	237.5	250	262.5	262.5	275	287.5
L3	115.4	125.4	135.4	145.4	155.4	165.4	175.4	185.4	195.4	205.4	215.4	225.4	235.4	245.4	255.4	265.4
L4	16.5	17.5	12.5	14	15	16.5	17.5	12.5	14	15	16.5	17.5	19	14	15	16.5

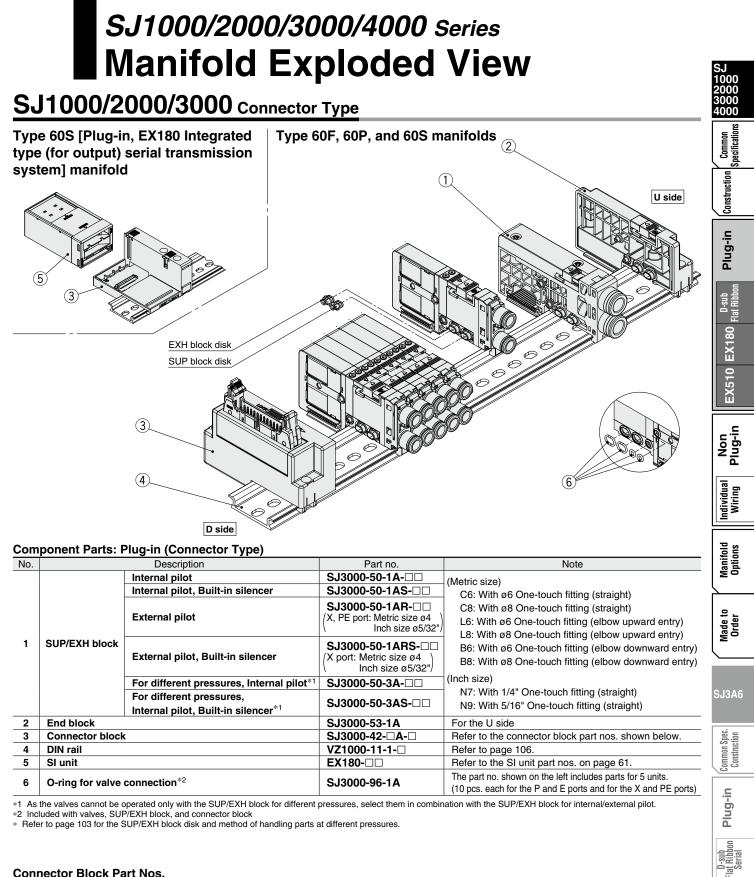


L: Dim	nensio	ns													r	: Stations
_ _	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	160.5	173	185.5	185.5	198	210.5	223	235.5	248	248	260.5	273	285.5	298	298	310.5
L2	150	162.5	175	175	187.5	200	212.5	225	237.5	237.5	250	262.5	275	287.5	287.5	300
L3	130.9	140.9	150.9	160.9	170.9	180.9	190.9	200.9	210.9	220.9	230.9	240.9	250.9	260.9	260.9	280.9
L4	15	16	17.5	12.5	13.5	15	16	17.5	18.5	13.5	15	16	17.5	18.5	13.5	15

specific Product Precautions

### SJ1000/2000/3000 Series





#### Connector Block Part Nos.

Connector specifications	Mounting position	Part no.	Note
For D-sub connector (Locking bracket: Metric size thread)		SJ3000-42-1A-□	
For D-sub connector (Locking bracket: Unified thread)	]	SJ3000-42-1AU-□	
For flat ribbon cable 26 pins		SJ3000-42-2A-□	
For flat ribbon cable 20 pins	D side	SJ3000-42-3A-□	<ul> <li>□: 1 (Connector upward)</li> <li>□: 2 (Connector lateral)</li> </ul>
For flat ribbon cable 10 pins		SJ3000-42-4A-□	
For EX180 serial wiring <sup>*1</sup>	]	SJ3000-42-20A	
For EX510 serial wiring <sup>*1</sup>	]	SJ3000-42-3A-2	

\*1 An SI unit is not included

#### **Connector Block with SI Unit**

Connector block with EX180 serial wiring	D side	S 13000-/19-90A-	For details on the □□ portion, refer to the SI unit part nos. on page 61. Example: SJ3000-42-20A-V2 (CC-Link compliant, T-branch type)		
--	--------	------------------	---	--	--



Non Plug-in

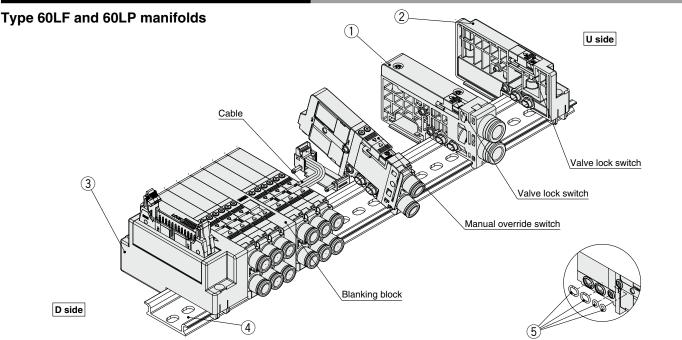
Individual Wiring

Decific Product Precautions

Specific

### SJ1000/2000/3000/4000 Series

### SJ1000/2000/3000 Cable Type



#### Component Parts: Plug-in (Cable Type)

No.		Description	Part no.	Note			
		Internal pilot	SJ3000-50-5A-□□	(Matria aiza)			
		Internal pilot, Built-in silencer	SJ3000-50-5AS-□□	<ul> <li>(Metric size)</li> <li>C6: With ø6 One-touch fitting (straight)</li> <li>C8: With ø8 One-touch fitting (straight)</li> <li>L6: With ø6 One-touch fitting (elbow upward entry)</li> <li>L8: With ø8 One-touch fitting (elbow upward entry)</li> <li>B6: With ø8 One-touch fitting (elbow downward entry)</li> <li>B8: With ø8 One-touch fitting (elbow downward entry)</li> <li>B9: With ø8 One-touch fitting (elbow downward entry)</li> </ul>			
		External pilot	<b>SJ3000-50-5AR-</b> □□ (X, PE port: Metric size ø4 Inch size ø5/32")				
1	SUP/EXH block	External pilot, Built-in silencer	SJ3000-50-5ARS-□□ (X port: Metric size ø4 Inch size ø5/32")				
		For different pressures, Internal pilot*1	SJ3000-50-6A-□□	(Inch size)			
		For different pressures, Internal pilot, Built-in silencer*1	SJ3000-50-6AS-□□	N7: With 1/4" One-touch fitting (straight) N9: With 5/16" One-touch fitting (straight)			
2	End block		SJ3000-53-1A	For the U side			
3	Connector block	(	SJ3000-42-□A-□	Refer to the connector block part nos. shown below.			
4	DIN rail		VZ1000-11-1-□	Refer to page 106.			
5	O-ring for valve	connection*2	SJ3000-96-1A	The part no. shown on the left includes parts for 5 units. (10 pcs. each for the P and E ports and for the X and PE ports			

\*1 As the valves cannot be operated only with the SUP/EXH block for different pressures, select them in combination with the SUP/EXH block for internal/external pilot.
 \*2 Included with valves, SUP/EXH block, and connector block
 \* Refer to page 103 for the SUP/EXH block disk and method of handling parts at different pressures.

SJ2000

series

#### Connector Block

Connector type

For D-sub connector

13 For flat ribbon cable 20 pins

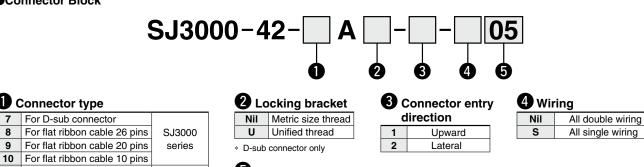
14 For flat ribbon cable 10 pins

\* All connector block mounting positions are on the D

The connector block includes the cables necessary

11 For D-sub connector 12 For flat ribbon cable 26 pins

for the number of stations.



### **5** Valve stations

• • • • • •		
02 to 10	For D-sub connector	All double wiring
02 to 20	For D-sub connector	All single wiring
02 to 10	For flat ribbon cable 26 pins	All double wiring
02 to 20	For hat hoboin cable 20 pins	All single wiring
02 to 09	For flat ribbon cable 20 pins	All double wiring
02 to 18	For flat fibboli cable 20 pins	All single wiring
02 to 04	For flat ribbon cable 10 pins	All double wiring
02 to 08	For hat hobor cable to pins	All single wiring

**SMC** 

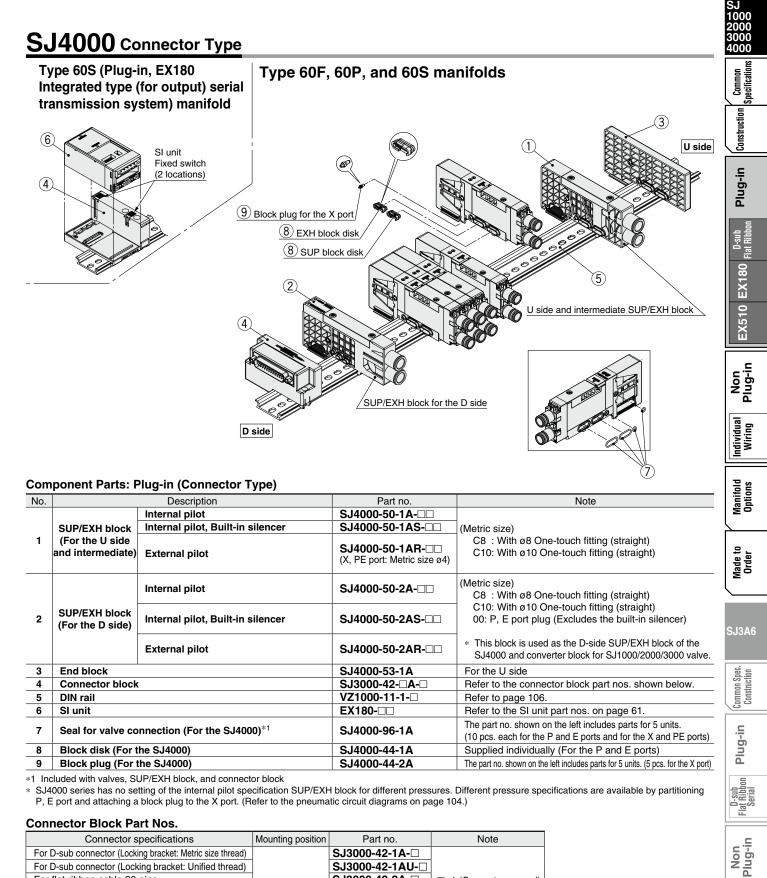
7

8

9

side.

### Manifold Exploded View SJ1000/2000/3000/4000 Series



For D-sub connector (Locking bracket: Metric size thread)		SJ3000-42-1A-□	
For D-sub connector (Locking bracket: Unified thread)		SJ3000-42-1AU-	
For flat ribbon cable 26 pins	D side	SJ3000-42-2A-□	□: 1 (Connector upward)
For flat ribbon cable 20 pins	D Side	SJ3000-42-3A-□	□: 2 (Connector lateral)
For flat ribbon cable 10 pins		SJ3000-42-4A-□	
For EX180 serial wiring <sup>*1</sup>		SJ3000-42-20A	

\*1 An SI unit is not included.

#### **Connector Block with SI Unit**

Connector block with EX180 serial wiring D side SJ3000-42-20A-



88

Individual Wiring

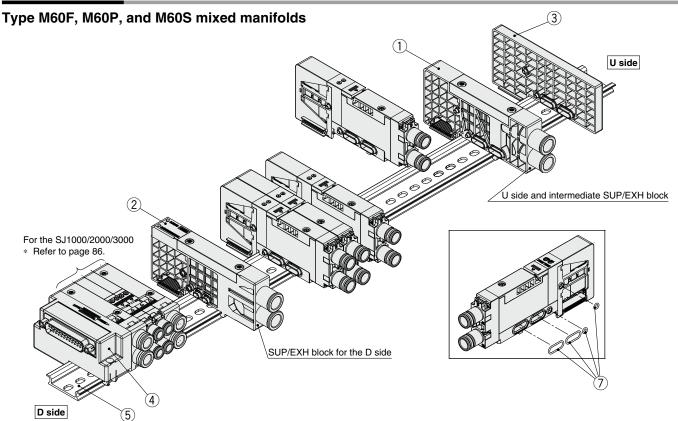
Product

pecific

recaution

# SJ1000/2000/3000/4000 Series Manifold Exploded View (Mixed Specification)

### **Connector Type**



#### Component Parts: Plug-in (Connector Type)

No.		Description	Part no.	Note			
		Internal pilot	SJ4000-50-1A-□□				
	SUP/EXH block	Internal pilot, Built-in silencer	SJ4000-50-1AS-□□	(Metric size)			
1 (For the U side and intermediate)	External pilot	<b>SJ4000-50-1AR-</b> (X, PE port: Metric size ø4)	C8 : With ø8 One-touch fitting (straight) C10: With ø10 One-touch fitting (straight)				
		Internal pilot	SJ4000-50-2A-□□	(Metric size) C8 : With ø8 One-touch fitting (straight)			
2	SUP/EXH block (For the D side)	Internal pilot, Built-in silencer	SJ4000-50-2AS-□□	C10: With ø10 One-touch fitting (straight) 00: P, E port plug (Excludes the built-in silencer)			
		External pilot	SJ4000-50-2AR-□□	* This block is used as the D-side SUP/EXH block of the SJ4000 and converter block for SJ1000/2000/3000 valve			
3	End block		SJ4000-53-1A	For the U side			
4	Connector block	1	SJ3000-42-□A-□	Refer to the connector block part nos. shown below.			
5	DIN rail		VZ1000-11-1-□	Refer to page 106.			
6	SI unit		EX180-□□	Refer to the SI unit part nos. on page 61.			
7	7 Seal for valve connection (For the SJ4000)*1		SJ4000-96-1A	The part no. shown on the left includes parts for 5 units. (10 pcs. each for the P and E ports and for the X and PE ports)			

\*1 Included with valves, SUP/EXH block, and connector block

\* Contact SMC when using SJ4000 mixed type (SS5J4-M60 type) under different pressures.

#### **Connector Block Part Nos.**

Connector specifications	Mounting position	Part no.	Note
For D-sub connector (Locking bracket: Metric size thread)		SJ3000-42-1A-□	
For D-sub connector (Locking bracket: Unified thread)	]	SJ3000-42-1AU-□	
For flat ribbon cable 26 pins		SJ3000-42-2A-□	
For flat ribbon cable 20 pins	D side	SJ3000-42-3A-□	<ul> <li>□: 1 (Connector upward)</li> <li>□: 2 (Connector lateral)</li> </ul>
For flat ribbon cable 10 pins		SJ3000-42-4A-□	
For EX180 serial wiring*1	]	SJ3000-42-20A	
For EX510 serial wiring <sup>*1</sup>		SJ3000-42-3A-2	

\*1 An SI unit is not included.

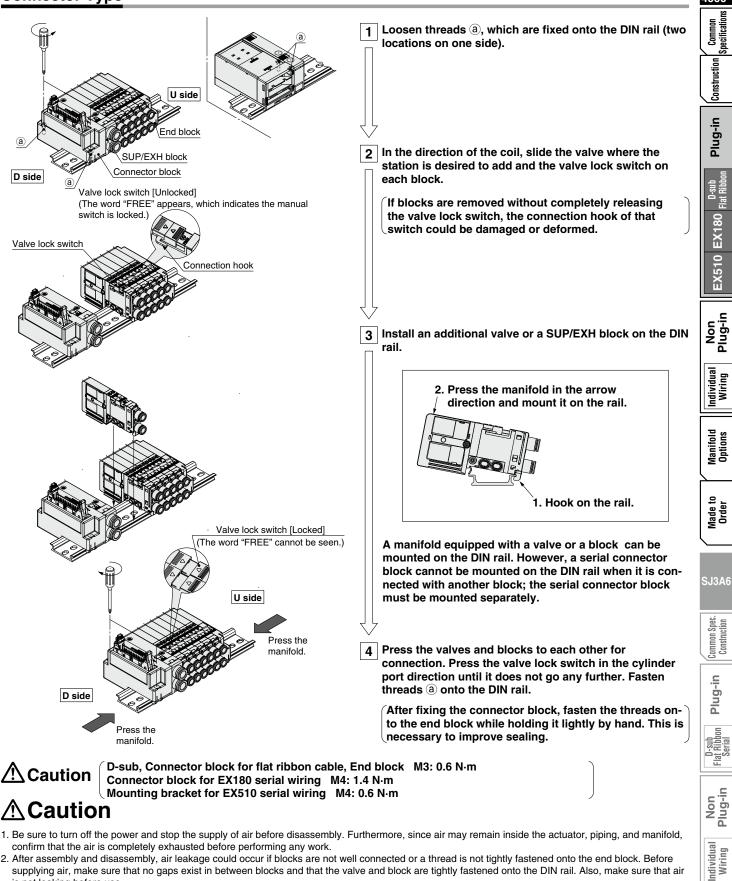
#### **Connector Block with SI Unit**

Connector block with EX180 serial wiring	D side	SJ3000-42-20A-□□	For details on the □□ portion, refer to the SI unit part nos. on page 61. Example: SJ3000-42-20A-V2 (CC-Link compliant, T-branch type)	
--	--------	------------------	---	--



# SJ1000/2000/3000 Series **How to Increase Manifold Stations**

### Connector Type



2. After assembly and disassembly, air leakage could occur if blocks are not well connected or a thread is not tightly fastened onto the end block. Before supplying air, make sure that no gaps exist in between blocks and that the valve and block are tightly fastened onto the DIN rail. Also, make sure that air is not leaking before use.

SMC

3. For the SJ3A6 series manifold with vacuum release valve with restrictor, there is no valve lock switch for connecting, so when mounting, tighten the screws after checking that there are no gaps between valves.

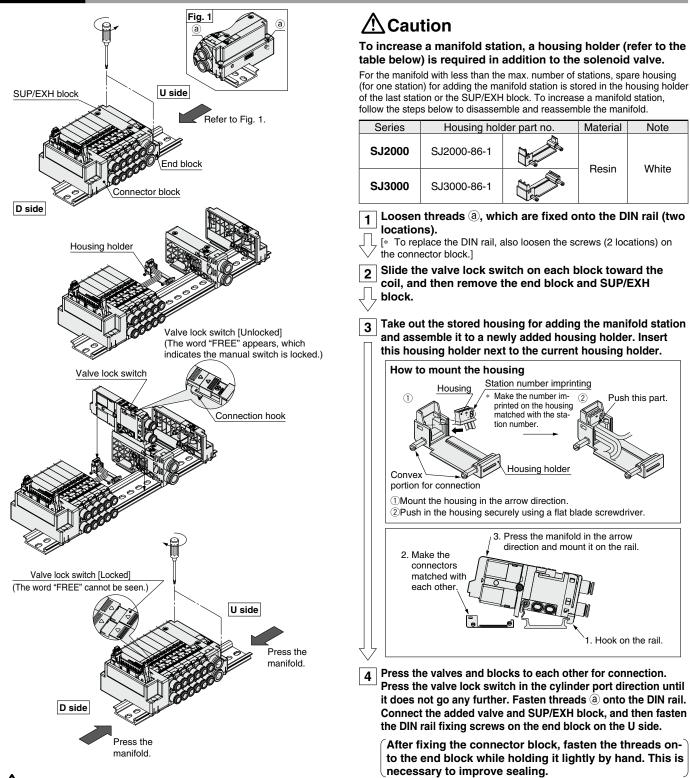


Product

<sup>2</sup>recaution: pecific

### SJ1000/2000/3000 Series

### Cable Type



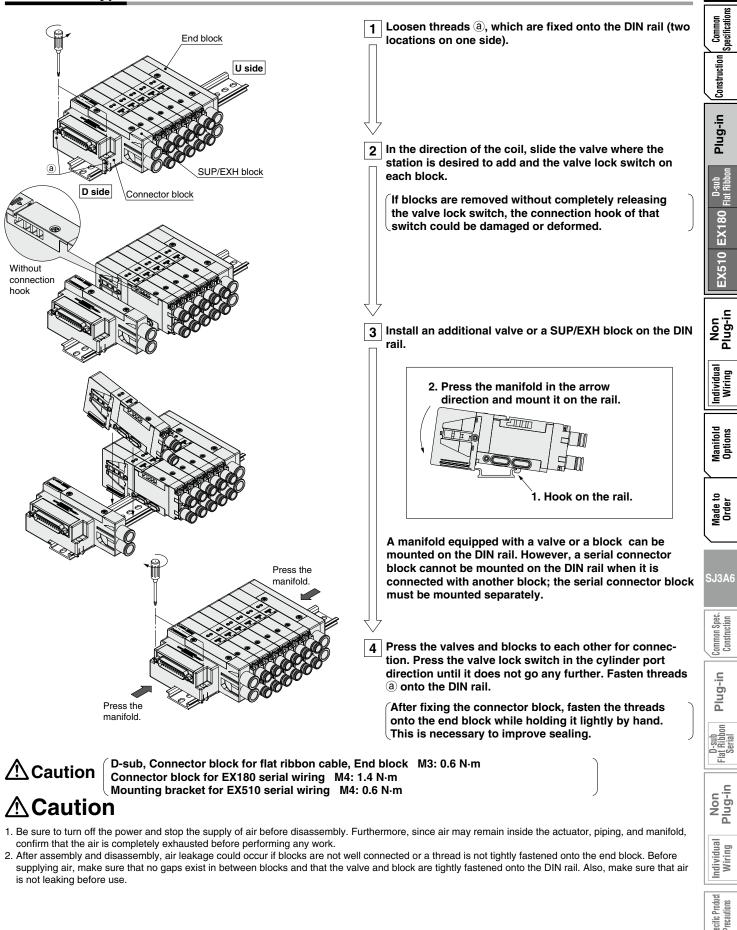
# Caution D-sub, Connector block for flat ribbon cable, End block M3: 0.6 N·m

- 1. When adding a valve and SUP/EXH block, add the valve to the U side of the last station, and then add the SUP/EXH block to its U side. The SUP/EXH block cannot be added to a position adjacent to the connector block or an intermediate position.
- 2. Be sure to turn off the power and stop the supply of air before disassembly. Furthermore, since air may remain inside the actuator, piping, and manifold, confirm that the air is completely exhausted before performing any work.
- 3. After assembly and disassembly, air leakage could occur if blocks are not well connected or a thread is not tightly fastened onto the end block. Before supplying air, make sure that no gaps exist in between blocks and that the valve and block are tightly fastened onto the DIN rail. Also, make sure that air is not leaking before use.
- 4. For the SJ3Ă6 series manifold with vacuum release valve with restrictor, there is no valve lock switch for connecting, so when mounting, tighten the screws after checking that there are no gaps between valves.



# SJ4000 Series **How to Increase Manifold Stations**

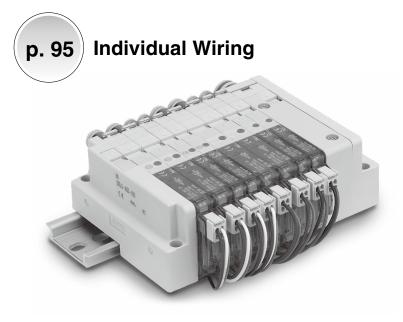
Connector Type



pecific

### Non Plug-in Individual Wiring Manifold

# SJ2000/3000 Series



SJ 1000

3000 4000

> Construction Common Specifications

Plug-in

EX510 EX180 Plat Ribbon

Non Plug-in

> Individual Wiring

Manifold Options

Made to Order

SJ3A6

Common Spec. Construction

Plug-in

D-sub Flat Ribbon Serial

Non Plug-in

Individual Wiring

Specific Product Precautions

### Non Plug-in Individual Wiring RoHS SJ2000/3000 Series

How to Order

Individual wiring manifold SS5J3 60 0 6 6 2

2 Mixed mounting type

\*2 Select "M" when SJ2000 or

SJ3000 series valves will be

mounted on the same manifold

Standard\*1

Mixed mounting' \*1 There is no need to enter anything when you operate either the SJ2000 or SJ3000 series

Nil

м

alone.

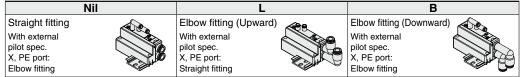
base together.

U Series							
2	SJ2000						
3	SJ3000						
3	(SJ2000/3000 mixed)						

3	Va	alv	e si	tation	S
-			-		

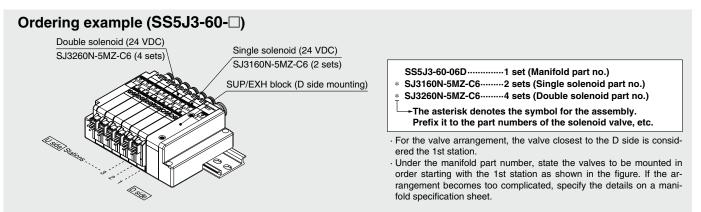
Symbol	Stations
01	1 station
:	:
20	20 stations

### 6 SUP/EXH block fitting specification



There is no need to enter anything when the SUP/EXH block mounting position "M" is selected.

### How to Order Manifold Assembly



SUP/EXH block mounting position												
U U side												
D	D side											
В	Both sides											
M <sup>*1</sup> Special specifications												

\*1 Specify the required specifications (including port sizes other than ø8) on the manifold specification sheet.

### 9 Pilot type

An order cannot be placed with only the manifold part no. Be sure to order solenoid valves for mounting at the same time while referring to the ordering example.

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

There is no need to enter anything when the SUP/EXH block mounting position "M" is selected.

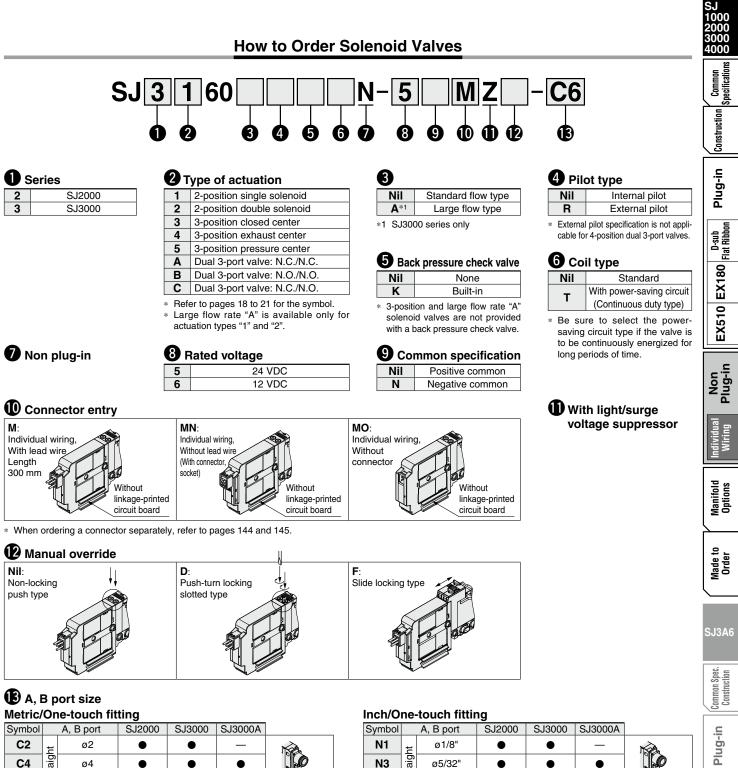
\* The 3/5(E) port is plugged for the built-in silencer type.

### DIN rail length specified

Nil		ndard length
2	2 stations	Specify a length
÷	:	longer than that of
20	20 stations	the standard rail.

Specify the number of valve stations without exceeding the max. number of stations

### Non Plug-in Individual Wiring SJ2000/3000 Series



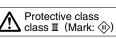
**SMC** 

62	E		02	•	•		152
C4	Straight		ø4	•	•	•	
C6	0		ø6	—	•	•	<b>~~~~</b>
L2		entry	ø2	•	•	—	K CO
L4			ø4	•	•	•	
L6	Elbow	Πpw	ø6	—	•	•	
B2	]₿	entry	ø2	•	•	—	<b>NA</b>
B4		Downward entry Upward	ø4	•	•	•	
B6		Down	ø6		•	•	

#### Thread piping

Symbol	A, B port	SJ2000	SJ3000	SJ3000A	
МЗ	M3 x 0.5	•	—	—	NR.
M5	M5 x 0.8	_	•	•	100

Symbol		~	B port	SJ2000	SJ3000	SJ3000A					
Symbol		А,	Броп	332000	333000	333000A					
N1	Ħ		ø1/8"	•	•	—	No.				
N3	Straight	ø5/32"		ø5/32"		ø5/32"		•	•	•	
N7	S.		ø1/4"	—	•	•					
LN1		entry	ø1/8"	•	•	—					
LN3			ø5/32"	●	•	•					
LN7	Elbow	Upward	ø1/4"	—	•	•					
BN1	副	entry	ø1/8"	●	•	—	No.				
BN3		Downward	ø5/32"	•	•	•					
BN7		Dowr	ø1/4"	_	•	•					



-sub Ribbon Flat

Non Plug-in

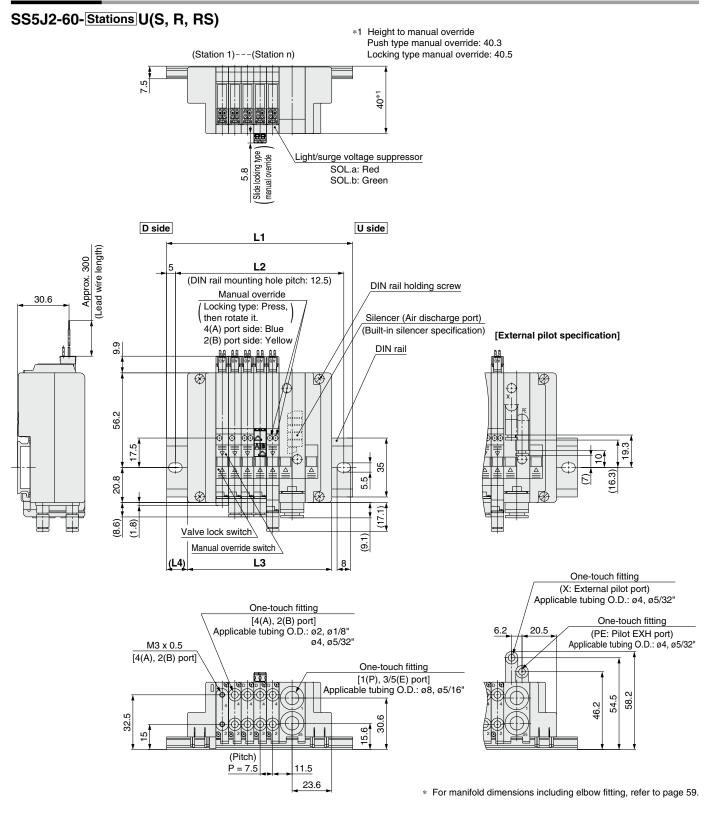
Individual Wiring

Product <sup>o</sup>recautions

Specific

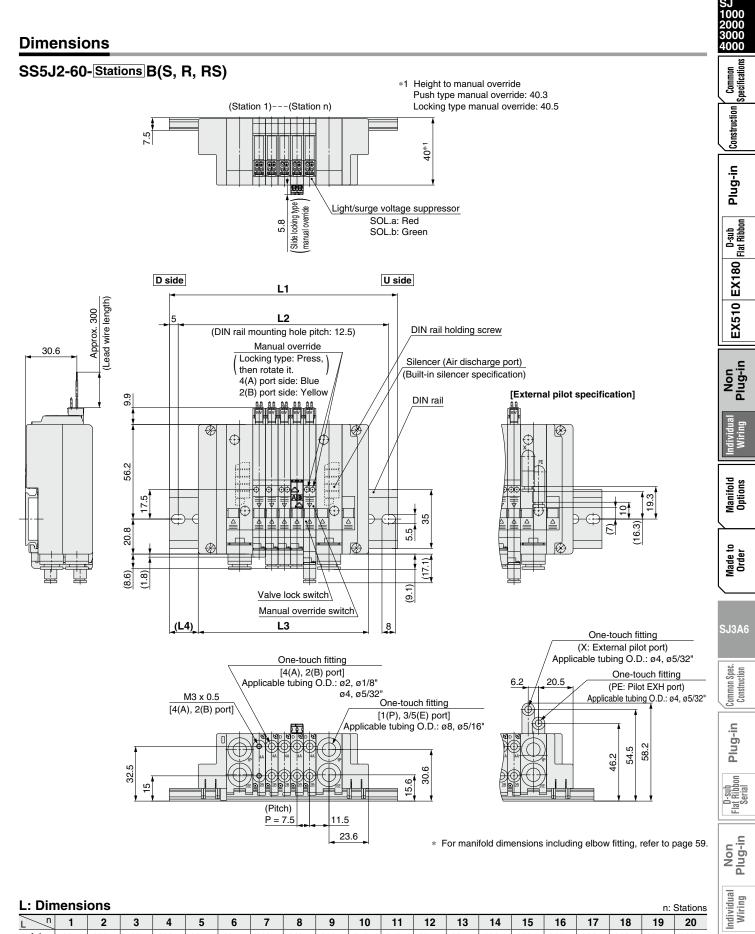
### SJ2000/3000 Series

### Dimensions



L: Din	L: Dimensions n: Si															Stations				
L n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	85.5	98	98	110.5	110.5	123	135.5	135.5	148	148	160.5	173	173	185.5	185.5	198	210.5	210.5	223	223
L2	75	87.5	87.5	100	100	112.5	125	125	137.5	137.5	150	162.5	162.5	175	175	187.5	200	200	212.5	212.5
L3	55.7	63.2	70.7	78.2	85.7	93.2	100.7	108.2	115.7	123.2	130.7	138.2	145.7	153.2	160.7	168.2	175.7	183.2	190.7	198.2
L4	15	17.5	13.5	16	12.5	15	17.5	13.5	16	12.5	15	17.5	13.5	16	12.5	15	17.5	13.5	16	12.5

### Non Plug-in Individual Wiring SJ2000/3000 Series



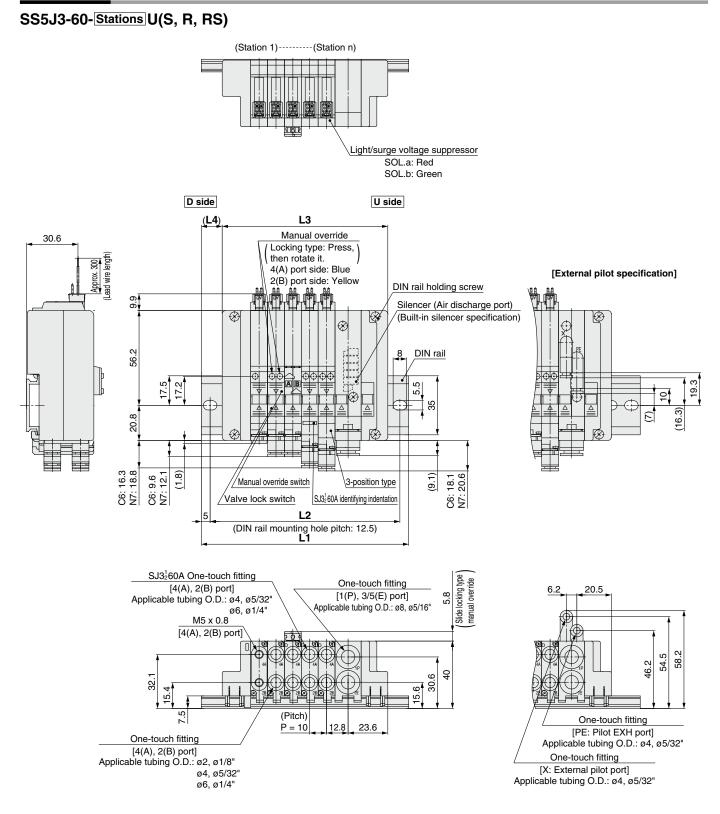
	L: Din	.: Dimensions n: Stations																			
L2         87.5         100         100         112.5         125         125         137.5         137.5         150         162.5         162.5         175         187.5         200         200         212.5         212.5         225         237.5           L3         71.2         78.7         86.2         93.7         101.2         108.7         116.2         123.7         131.2         138.7         146.2         153.7         161.2         168.7         176.2         183.7         191.2         198.7         206.2         213.7		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L3 71.2 78.7 86.2 93.7 101.2 108.7 116.2 123.7 131.2 138.7 146.2 153.7 161.2 168.7 176.2 183.7 191.2 198.7 206.2 213.7	L1	98	110.5	110.5	123	135.5	135.5	148	148	160.5	173	173	185.5	185.5	198	210.5	210.5	223	223	235.5	248
	L2	87.5	100	100	112.5	125	125	137.5	137.5	150	162.5	162.5	175	175	187.5	200	200	212.5	212.5	225	237.5
L4 13.5 16 12 14.5 17 13.5 16 12 14.5 17 13.5 16 7 14.5 17 13.5 16 12 14.5 17 13.5 16 12 14.5 17 13.5 16 12 14.5 17	L3	71.2	78.7	86.2	93.7	101.2	108.7	116.2	123.7	131.2	138.7	146.2	153.7	161.2	168.7	176.2	183.7	191.2	198.7	206.2	213.7
	L4	13.5	16	12	14.5	17	13.5	16	12	14.5	17	13.5	16	12	14.5	17	13.5	16	12	14.5	17

98

Specific Product Precautions

### SJ2000/3000 Series

### Dimensions



\* For manifold dimensions including elbow fitting, refer to page 60.

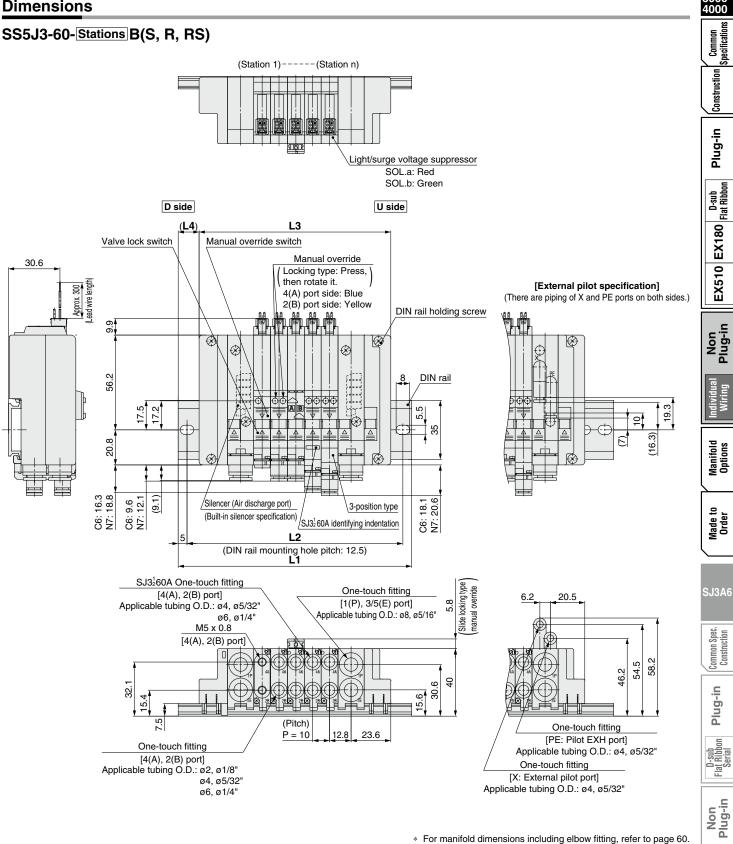
Dimonolono

L: Din	: Dimensions n: Statio															Stations				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	85.5	98	110.5	123	123	135.5	148	160.5	173	185.5	185.5	198	210.5	223	235.5	235.5	248	260.5	273	285.5
L2	75	87.5	100	112.5	112.5	125	137.5	150	162.5	175	175	187.5	200	212.5	225	225	237.5	250	262.5	275
L3	58.2	68.2	78.2	88.2	98.2	108.2	118.2	128.2	138.2	148.2	158.2	168.2	178.2	188.2	198.2	208.2	218.2	228.2	238.2	248.2
L4	13.5	14.5	16	17	12	13	14	15.5	16.5	17.5	12.5	13.5	15	16	17	12	13	14.5	15.5	16.5



### Non Plug-in Individual Wiring SJ2000/3000 Series



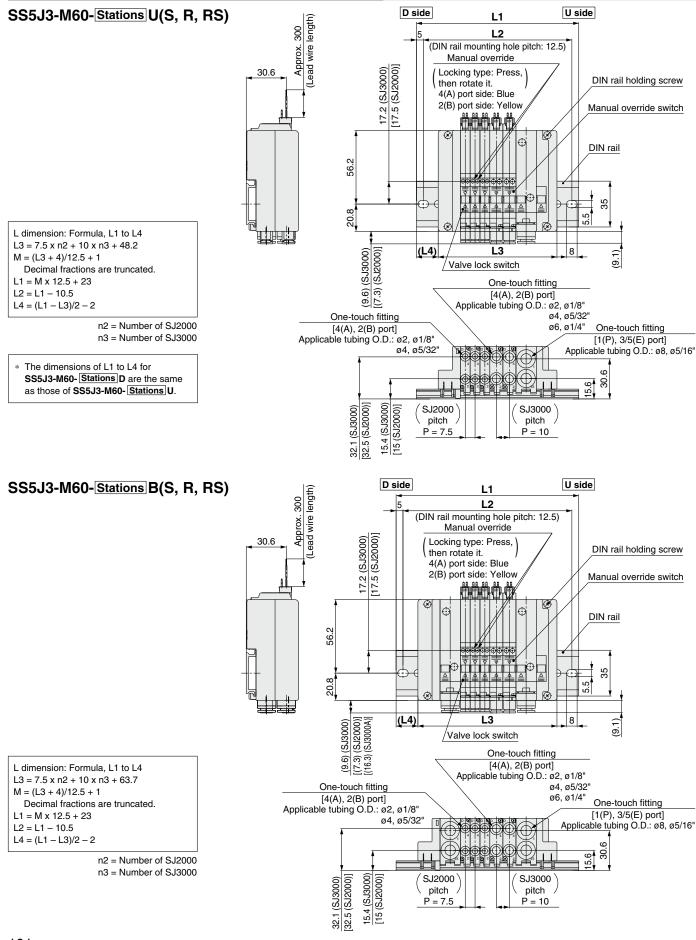


L: Din	: Dimensions n: Stations															vidual iring					
L n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Wi
L1	98	110.5	123	135.5	148	148	160.5	173	185.5	198	210.5	210.5	223	235.5	248	260.5	260.5	273	285.5	298	
L2	87.5	100	112.5	125	137.5	137.5	150	162.5	175	187.5	200	200	212.5	225	237.5	250	250	262.5	275	287.5	: Product utions
L3	73.7	83.7	93.7	103.7	113.7	123.7	133.7	143.7	153.7	163.7	173.7	183.7	193.7	203.7	213.7	223.7	233.7	243.7	253.7	263.7	cific Pr recauti
L4	12	13	14.5	15.5	16.5	11.5	12.5	14	15	16	17.5	12	13.5	14.5	15.5	17	11.5	13	14	15	Specific Precau

1000

### SJ2000/3000 Series

### Dimensions: SJ2000/3000 Mixed Manifold



# SJ2000/3000 Series **Manifold Exploded View**

### **Individual Wiring**

Type 60 individual wiring (Non plug-in) manifold

\* Refer to page 90 for "How to Increase Manifold Stations."

**Decificati** 

Ē

Construction

Plug-in

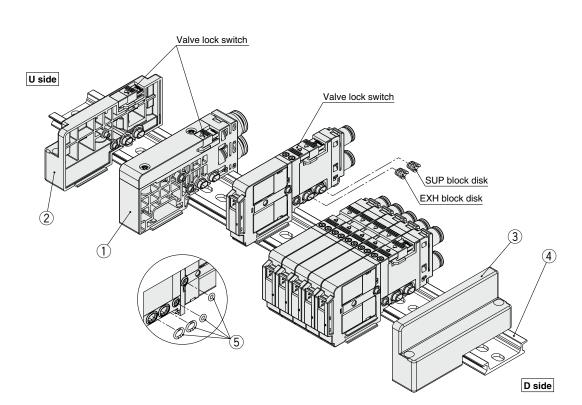
D-sub Flat Ribbon

EX510 EX180

Non Plug-in

Manifold Options

Made to Order



#### **Component Parts: Individual Wiring (Non Plug-in)**

			N	SJ3A6
	Description	Part no.	Note	
	Internal pilot	SJ3000-50-5A-□□	(Matria aiza)	
1 SUP/EXH block	Internal pilot, Built-in silencer	SJ3000-50-5AS-□□	<ul> <li>C6: With ø6 One-touch fitting (straight)</li> <li>C8: With ø8 One-touch fitting (straight)</li> <li>L6: With ø6 One-touch fitting (elbow upward entry)</li> <li>L8: With ø8 One-touch fitting (elbow upward entry)</li> <li>B6: With ø6 One-touch fitting (elbow downward entry)</li> <li>B8: With ø8 One-touch fitting (elbow downward entry)</li> <li>Clinch size)</li> </ul>	pec.
	External pilot	<b>SJ3000-50-5AR-</b> □□ (X, PE port: Metric size ø4 Inch size ø5/32")		Common Spec. Construction
	UP/EXH block External pilot, Built-in silencer For different pressures, Internal pilot*1	SJ3000-50-5ARS-□□ (X port: Metric size ø4 Inch size ø5/32")		Plug-in
		SJ3000-50-6A-□□		
	For different pressures, Internal pilot, Built-in silencer*1	SJ3000-50-6AS-□□	N7: With 1/4" One-touch fitting (straight) N9: With 5/16" One-touch fitting (straight)	D-sub Flat Ribbon Serial
End block	-	SJ3000-53-1A	For the U side	Flat
End block		SJ3000-53-2A	For the D side	
4 DIN rail		VZ1000-11-1-□	Refer to page 106.	- i
5 O-ring for valve connection*2		SJ3000-96-1A	The part no. shown on the left includes parts for 5 units. (10 pcs. each for the P and E ports and for the X and PE ports)	Non Plug-i
	End block End block DIN rail	SUP/EXH block       Internal pilot, Built-in silencer         External pilot       External pilot, Built-in silencer         For different pressures, Internal pilot*1       For different pressures, Internal pilot*1         For different pressures, Internal pilot, Built-in silencer*1       End block         End block       DIN rail	Internal pilot       SJ3000-50-5A-□         Internal pilot, Built-in silencer       SJ3000-50-5AS-□         External pilot       SJ3000-50-5AR-□         External pilot, Built-in silencer       SJ3000-50-5ARS-□         Y port: Metric size ø4       Inch size ø5/32"         For different pressures, Internal pilot*1       SJ3000-50-6A-□         For different pressures, Internal pilot*1       SJ3000-50-6AS-□         End block       SJ3000-53-1A         End block       SJ3000-53-2A         DIN rail       VZ1000-11-1-□	Internal pilot       SJ3000-50-5A-□       (Metric size)         Internal pilot, Built-in silencer       SJ3000-50-5AR-□       (Ce With ø6 One-touch fitting (straight)         External pilot       SJ3000-50-5AR-□       (Ce With ø6 One-touch fitting (straight)         SUP/EXH block       External pilot, Built-in silencer       SJ3000-50-5ARS-□       (Ce With ø6 One-touch fitting (elbow upward entry)         External pilot, Built-in silencer       SJ3000-50-5ARS-□       (X, PE port: Metric size ø4)       (Le With ø6 One-touch fitting (elbow upward entry)         B6: With ø6 One-touch fitting (elbow upward entry)       B7 different pressures, Internal pilot*1       SJ3000-50-6AR-□       (Netric size)         For different pressures, Internal pilot*1       SJ3000-50-6AS-□       (Netric size)       N7: With 1/4" One-touch fitting (straight)         End block       SJ3000-53-1A       For the U side       N9: With 5/16" One-touch fitting (straight)         DIN rail       VZ1000-11-1-□       Refer to page 106.         Orright for value connection*2       SJ3000-66-14       The part no. shown on the left includes parts for 5 units.

\*1 As the valves cannot be operated only with the SUP/EXH block for different pressures, select them in combination with the SUP/EXH block for internal/external pilot.

\*2 Included with valves, SUP/EXH block, and connector block

\* Refer to page 103 for the SUP/EXH block disk and method of handling parts at different pressures.

# SJ1000/2000/3000/4000 Series Manifold Options

### SJ1000/2000/3000 Common to Connector Type/Cable Type/Individual Wiring

#### SUP block disk

By placing a SUP block disk in a manifold valve's pressure supply passage, two different high and low pressures can be supplied to one manifold. When supplying different pressures using the manifold of the internal pilot, fill out a manifold specification sheet to place an order for a SUP/EXH block for the internal pilot specifications and another SUP/EXH block for the different pressure internal pilot specifications (Refer to Circuit Diagram 1).

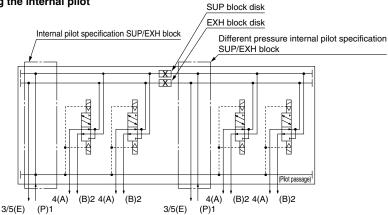
#### EXH block disk

By installing an EXH block disk in a manifold valve's exhaust passage, the valve's exhaust can be separated so that it will not affect other valves.

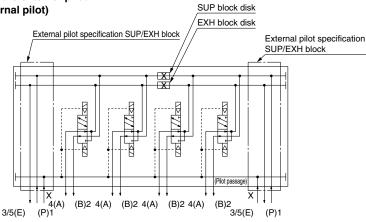
#### [Different pressure pneumatic circuit diagram]

The SJ series supplies air to the pilot port of each valve using a 1(P) port of the SUP/EXH block. When using in situations such as where there are different pressures, combine SUP/EXH blocks for internal pilot, external pilot, and different-pressure by referring to the circuit below.

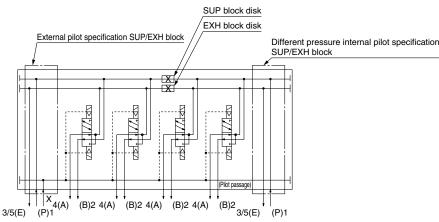
#### 1. Different-pressure specification using the internal pilot



2. Different-pressure specification using the external pilot (For using the SUP/EXH block for external pilot)



3. Different-pressure specification using the external pilot (For using the SUP/EXH block for different-pressure internal pilot specification)



- \* When operating under the different-pressure specification, supply the higher pressure to the pilot passage.
- \* If there is a need to partition the pilot passage, please contact SMC.

103



### For the SJ1000/2000/3000

The part number is for 1 pc				
Series Part no.				
SJ1000				
SJ2000	SJ3000-44-1A			
SJ3000				

### Manifold Options SJ1000/2000/3000/4000 Series

(For the SJ4000)

Series

SJ4000

### SJ4000 Connector Type

#### SUP block disk

By placing a SUP block disk in a manifold valve's pressure supply passage, two different high and low pressures can be supplied to one manifold.

#### EXH block disk

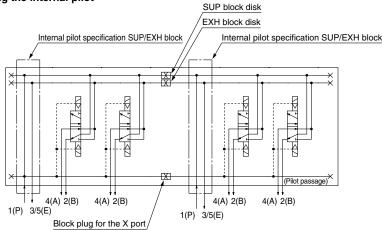
By installing an EXH block disk in a manifold valve's exhaust passage, the valve's exhaust can be separated so that it will not affect other valves.

#### ■ Block plug for the X port (For the SJ4000)

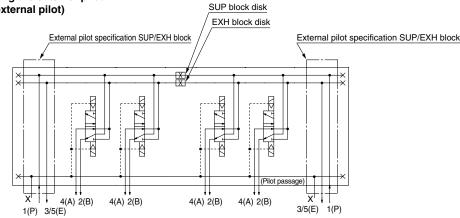
(For the SJ4000)	number is for 5 pcs.	
$\sim$	Series	Part no.
	SJ4000	SJ4000-44-2A

#### [Different pressure pneumatic circuit diagram]

- The SJ series supplies air to the pilot port of each valve using a 1(P) port of the SUP/EXH block. When using in situations such as where there are different pressures, combine block disks for the SUP/EXH port and a block plug for the X port by referring to the circuit below.
- 1. Different-pressure specification using the internal pilot



2. Different-pressure specification using the external pilot (For using the SUP/EXH block for external pilot)



\* If SJ1000/2000/3000 and SJ4000 series are mixed mounted and then the block plug is mounted on the pilot (X-port), it is available as a special order.

**SMC** 

000

4000

Common pecification

Construction

Plug-in

D-sub Flat Ribbon

EX510 EX180

Non Plug-in

Individual Wiring

SJ3A6

Individual Wiring

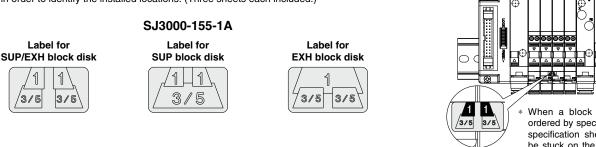
Specific Product Precautions

### SJ1000/2000/3000/4000 Series

### Common to Connector Type/Cable Type/Individual Wiring

#### ■ Label for block disk (For the SJ1000/2000/3000)

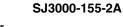
These labels are attached to manifolds in which SUP and EXH block disks have been installed, in order to identify the installed locations. (Three sheets each included.)



When a block disk is concurrently ordered by specifying on the manifold specification sheet, etc., a label will be stuck on the position where block disk is mounted.

#### ■ Label for block disk (For the SJ4000)

These labels are attached to manifolds in which SUP and EXH block disks and a block plug for the X port have been installed, in order to identify the installed locations. (Three sheets each included.)



Label for SUP/EXH block disk

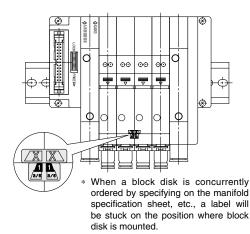
/1 1 /3/5 3/5

Label for EXH block disk







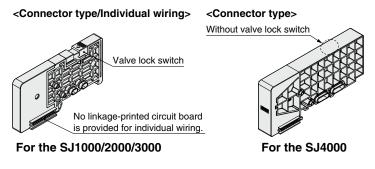


Different pressure internal pilot specification

SUP/EXH block

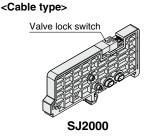
### Blanking block

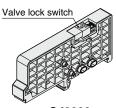
These are mounted when later addition of valves is planned, etc.



Series	Part no.	Note	Width
SJ1000 SJ2000	SJ3000-49-1A	Connector type (Single wiring)	
SJ2000 SJ3000	SJ3000-49-2A	Connector type (Double wiring)	
SJ3A6*1	SJ3000-49-2A-N	Connector type (Double wiring) 7.	
SJ2000 SJ3000	SJ3000-49-3A	Individual wiring	
SJ3A6*1	SJ3000-49-3A-N		
SJ4000*1	SJ4000-49-1A	Connector type (Single wiring)	15 mm
504000**	SJ4000-49-2A	Connector type (Double wiring)	15 mm

\*1 Valve lock switch is not available for the SJ3A6 and SJ4000.





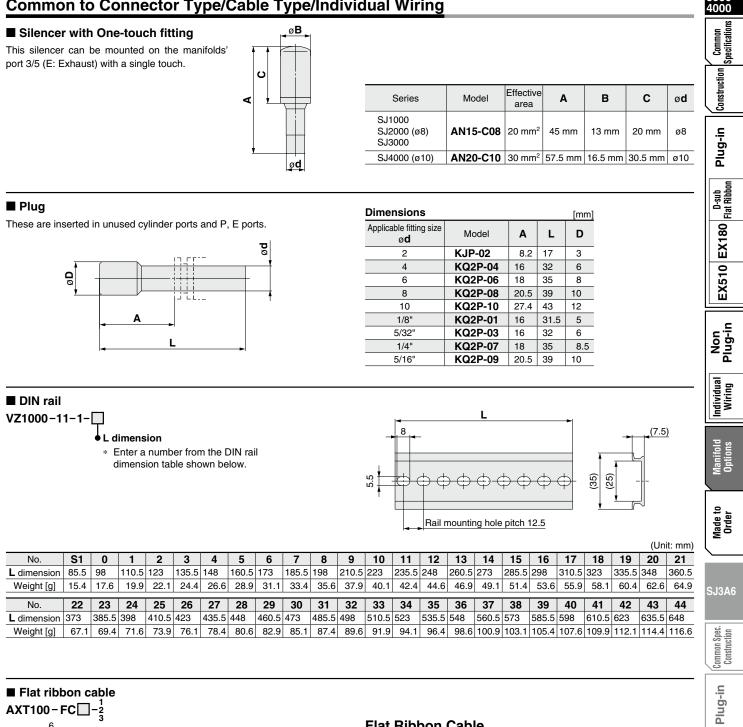
Series	Part no.	Width
SJ2000	SJ2000-49-4A	7.5 mm
SJ3000	SJ3000-49-4A	10 mm
SJ3A6*1	5*1 SJ3000-49-4A-N	

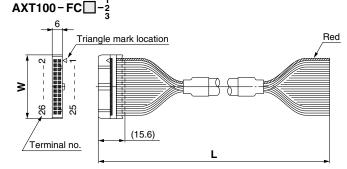
\*1 Valve lock switch is not available for the SJ3A6.

SJ3000

### Manifold Options SJ1000/2000/3000/4000 Series

### Common to Connector Type/Cable Type/Individual Wiring





### Flat Ribbon Cable

Cable length (L)	10 pins	20 pins	26 pins	
1.5 m	AXT100-FC10-1	AXT100-FC20-1	AXT100-FC26-1	
3 m	AXT100-FC10-2	AXT100-FC20-2	AXT100-FC26-2	
5 m	AXT100-FC10-3	AXT100-FC20-3	AXT100-FC26-3	
Connector width (W)	17.2	30	37.5	

\* For other commercial connectors, use a type with strain relief that conforms to MIL-C-83503.

#### **Connector manufacturers:**

- HIROSE ELECTRIC CO., LTD.
- 3M Japan Limited
- Fujitsu Limited

*∕∂*SMC

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

Flat Ribbon

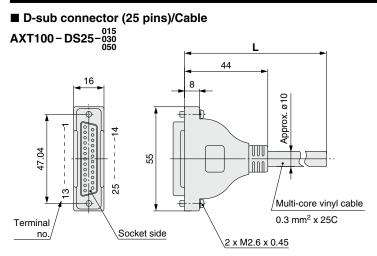
Non Plug-in

Individual Wiring

Product Precautions Specific I

### SJ1000/2000/3000/4000 Series

### Common to Connector Type/Cable Type/Individual Wiring



#### **D-sub Connector Cable**

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

\* For other commercial connectors, use a 25 pins type with female connector conforming to MIL-C-24308.

#### Connector manufacturers:

• HIROSE ELECTRIC CO., LTD.

- Fujitsu Limited
- Japan Aviation Electronics Industry, Limited

• J.S.T. Mfg. Co., Ltd.

#### **Electric Characteristics**

Item	Characteristics	
Conductor resistance Ω/km, 20°C	65 or less	
Withstand pressure VAC, 1 min	1000	
Insulation resistance MΩkm, 20°C	5 or less	

\* The min. bending radius for Dsub connector cables is 20 mm.

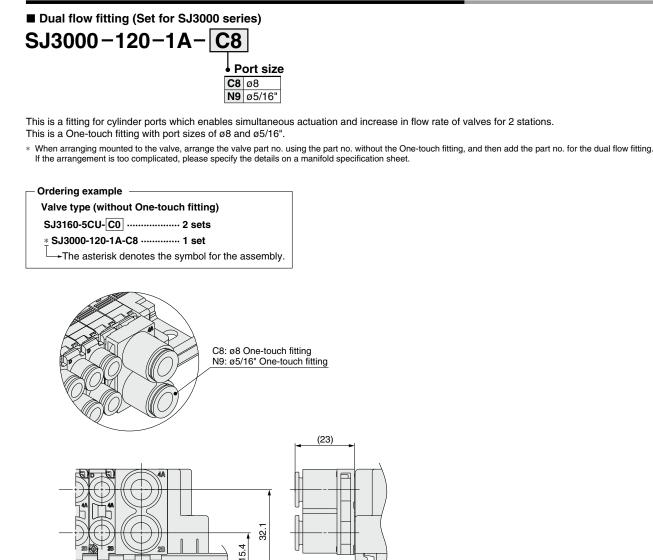
### D-sub Connector Cable Cable Color List of Each Terminal No.

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

107

# Manifold Options SJ1000/2000/3000/4000 Series

### Common to Connector Type/Cable Type/Individual Wiring



**SMC** 

SJ
1000 2000 3000 4000
Common Specifications
Construction
Plug-in
D-sub Flat Ribbon
EX180
EX510
Non Plug-in
Individual Wiring
Manifold Options
Made to Order
SJ3A6
Common Spec. Construction
Plug-in
D-sub Flat Ribbon Serial
Non Plug-in

Individual Wiring

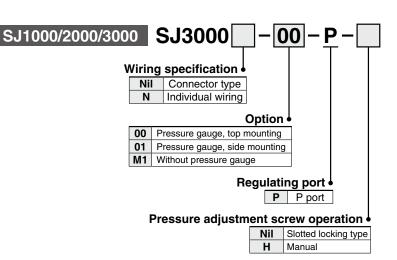
Specific Product Precautions

# SJ1000/2000/3000 Series

### For Connector Type/Individual Wiring

#### Regulator block/How to Order

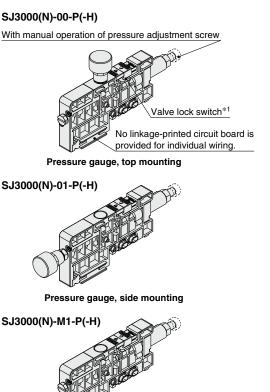
This is used to reduce the pressure supplied from the D side inside the manifold. All valves on the U side are depressurized from the regulator block.



\* Be sure to apply the pressure from the 1(P) port of the manifold before using the regulator

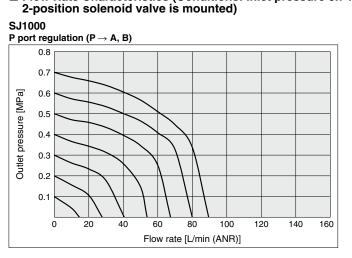
When ordering with a regulator block installed in the manifold, please order using the

Flow Rate Characteristics (Conditions: Inlet pressure 0.7 MPa when



Without pressure gauge

\*1 The valve lock switch is available only for the SJ1000/2000/3000 series.

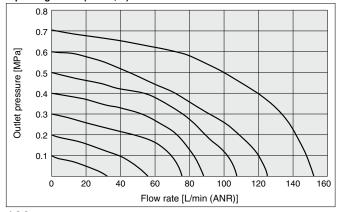


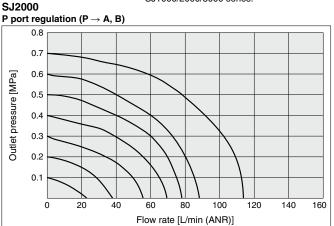
SJ3000

block.

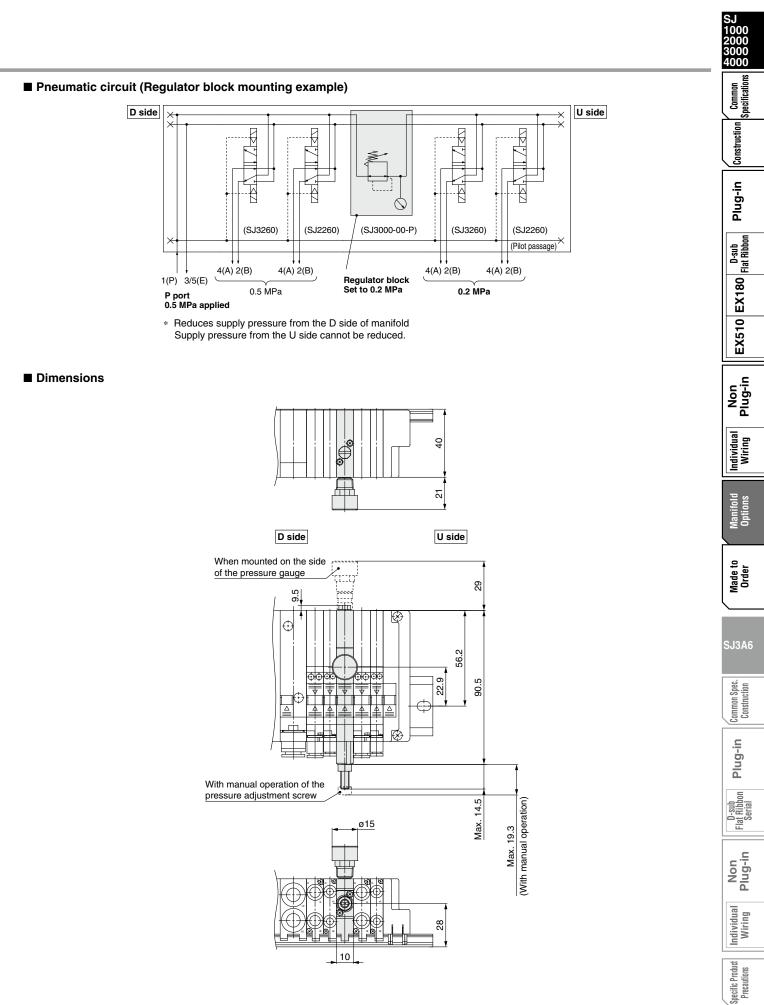
manifold specification sheet.







# Manifold Options SJ1000/2000/3000 Series



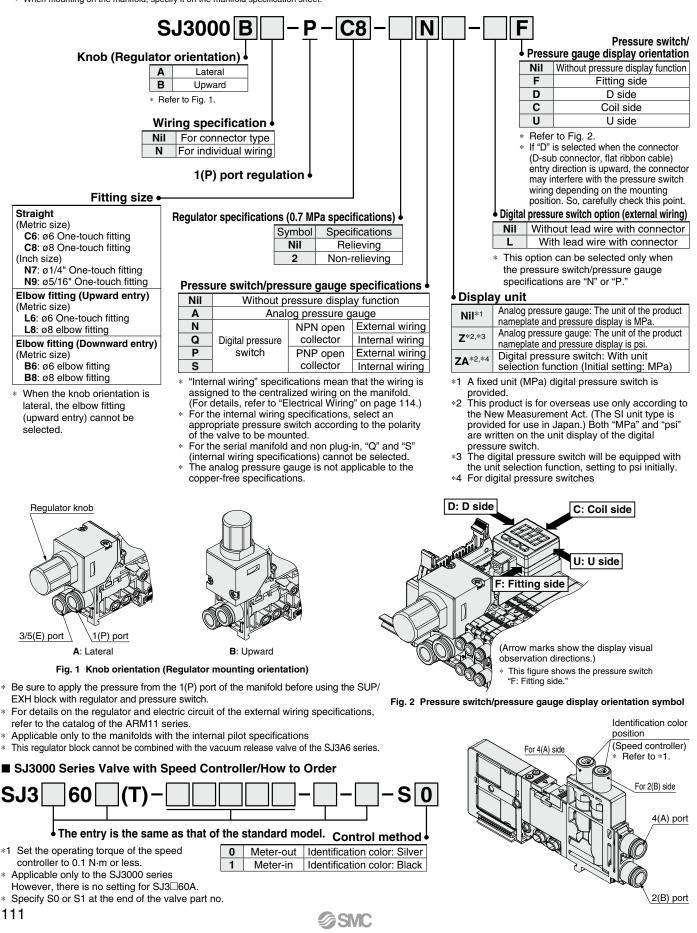


# SJ1000/2000/3000 Series

### For Connector Type/Individual Wiring

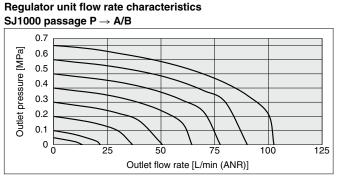
#### SUP/EXH block with regulator and pressure switch (for internal pilot manifold)/How to Order

 $\ast~$  When mounting on the manifold, specify it on the manifold specification sheet.

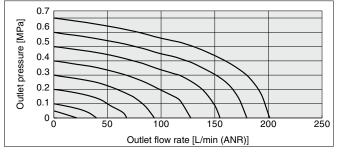


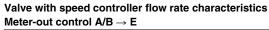
# Manifold Options SJ1000/2000/3000 Series

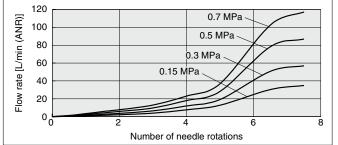
Flow rate characteristics



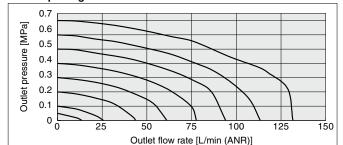




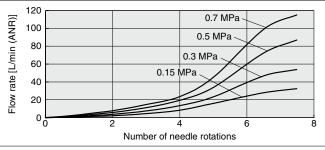




SJ2000 passage  $P \rightarrow A/B$ 



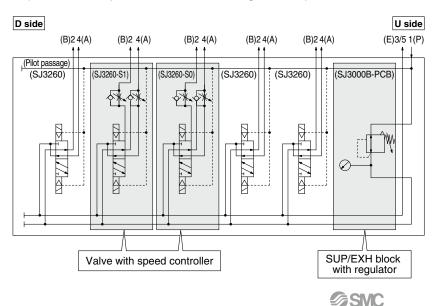
Meter-in control  $P \rightarrow A/B$ 



\* The flow rate characteristics are characteristics of each individual product. Actual values may differ depending on the piping, circuitry, pressure conditions, etc. Also, depending on product specifications, there may be variations in the zero needle rotations position of the flow rate characteristics.

#### Pneumatic circuit

(Installation example of SUP/EXH block with regulator and pressure switch, valve with speed controller)



Non Plug-in

Individual Wiring

Specific Product Precautions

1000

4000

Common

Construction

Plug-in

D-sub Flat Ribbon

EX180

EX510

Non Plug-in

> Individual Wiring

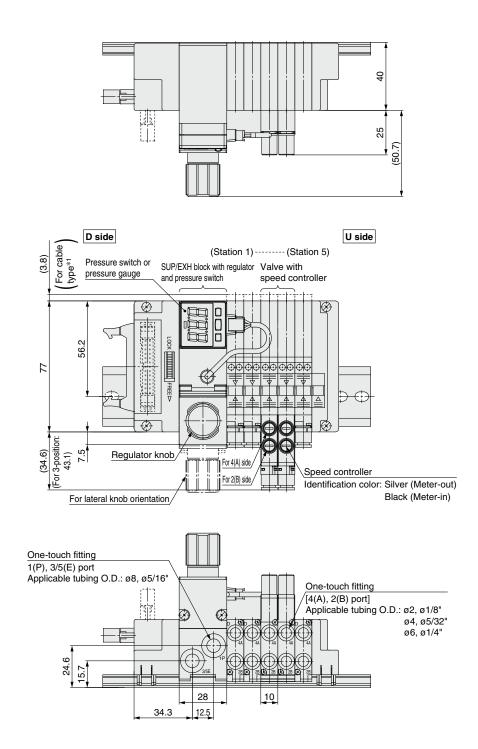
0 Dt

Made to Order

# SJ1000/2000/3000 Series

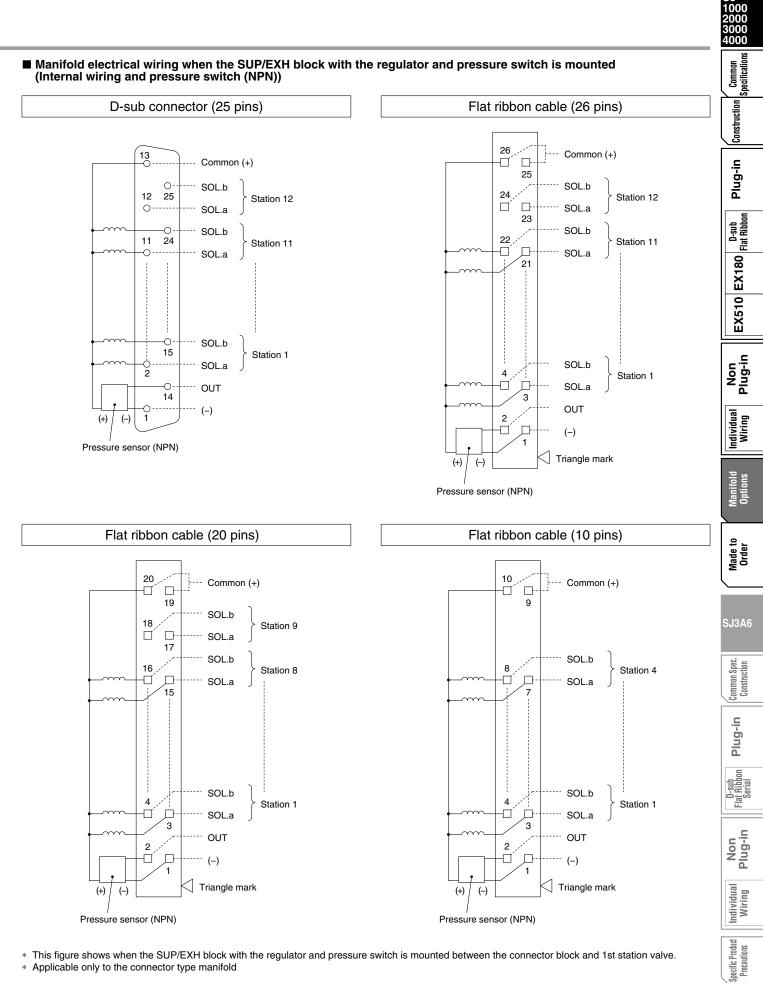
### For Connector Type/Individual Wiring

SUP/EXH block with regulator and pressure switch, valve with speed controller/Dimensions



\*1 The SUP/EXH block with regulator and pressure switch cannot be mounted on the plug-in cable type manifold.

# Manifold Options SJ1000/2000/3000 Series



\* Applicable only to the connector type manifold

# SJ1000/2000/3000 Series

### For connector type

#### Intermediate connector block

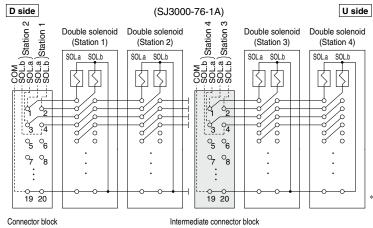
This connector block can be used by inserting it into the middle of the manifold.

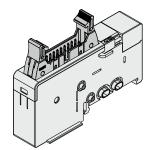
This can be used, for example, when you wish to separate electrical control of valves in the same manifold, or when the number of control points is insufficient.

Series	Part no.	Note
SJ1000 SJ2000	SJ3000-76-1A	Flat ribbon cable (20 pins)
SJ3000	SJ3000-76-4A	Flat ribbon cable (26 pins)

\* When ordering with an intermediate connector block installed in the manifold, please order using the manifold specification sheet.

#### Intermediate connector block wiring example

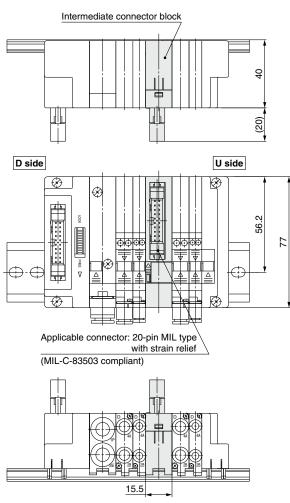




For flat ribbon cable (20 pins)

 Enables control of U side solenoid valves from the position where the intermediate connector block is installed

#### Dimensions



\* This drawing shows the SJ3000-76-1A.

**SMC** 

# SJ1000/2000/3000 Series Made to Order

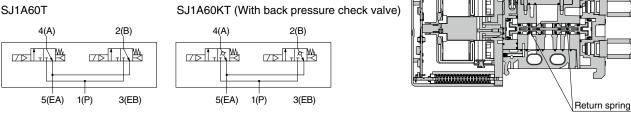
Please contact SMC for detailed dimensions, specifications, and lead times.

### Symbol 1 Main Valve Fluororubber Specification -X90 Fluororubber is used for the rubber parts of the main valve to allow for use in the following situations. 1. When a lubricant other than the recommended turbine oil is used and there is a possibility of malfunction due to swelling of the spool valve seals 2. In environments where ozone may enter or is generated in the air supply Part no. $SJ\frac{2}{3}$ 60 -X90 The entry is the same as that of the standard model. \* As fluororubber is only used for the main valve of the -X90 series, use in environments requiring heat resistance should be avoided. Symbol 2 Spring Return Specification (Dual 3-port Valve N.C./N.C.) -X110 When the supply pressure is exhausted, the main valve is forcibly returned to the OFF position by the built-in spring. Part no. SJ1A60(K)T · -X110

• The entry is the same as that of the standard model.

Response time: 20 ms Max. operating frequency: 3 Hz For other specifications, refer to the standard model.

#### Symbol



*∕∂*SMC



Specific Product Precautions

Made t Order

Construction

Plug-in

D-sub Flat Ribbon

EX510 EX180

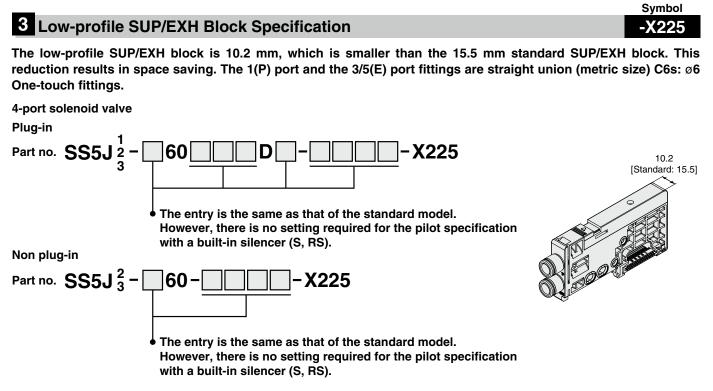
Non Plug-in

Individual Wiring

Manifold Options

SJ3A6

# SJ1000/2000/3000 Series



- \* When the flow rate is insufficient, such as during the simultaneous operation of multiple valves, select the supply/exhaust block mounting position [B (both sides)] or use the standard manifold without using the -X225.
- \* When ordering a manifold, specify the part nos. of the valves to be mounted on it. (An order cannot be placed with only the manifold part no.)
- \* Check the "How to Order Manifolds" section of each valve to be mounted.
- \* There is a made-to-order option that makes it so dual-flow fittings, etc., cannot be built into the manifold. Refer to the "Manifold Specifications Sheet" for more information.
- \* When a silencer (AN10-C6) is used, it cannot be mounted next to a 3-position valve or a speed controller.

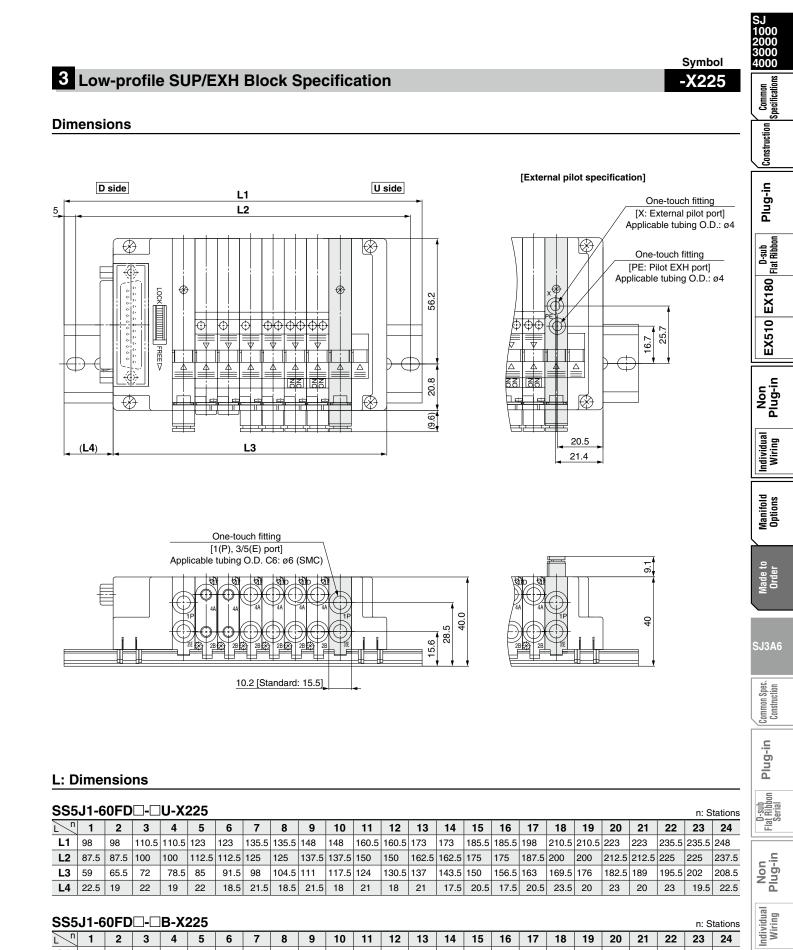
#### Flow Rate Characteristics

	Port	size			Flow rate ch	aracteristics		
Series	1(P)	4, 2	$1 \rightarrow 4/$	2 (P $\rightarrow$ A/B)		$4/2 \rightarrow 3$	$8/5 (A/B \rightarrow E)$	
	3/5(E)	(A, B)	C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv
SJ1000	C6	C2	0.12	0.54	0.04	0.13	0.49	0.04
531000	0	C4	0.26	0.29	0.07	0.30	0.23	0.08
		C2	0.13	0.55	0.04	0.13	0.53	0.04
SJ2000	C6	C4	0.30	0.31	0.08	0.34	0.33	0.08
		M3	0.18	0.48	0.06	0.20	0.26	0.06
		C2	0.13	0.66	0.04	0.14	0.60	0.04
SJ3000	C6	C4	0.38	0.17	0.10	0.45	0.15	0.11
303000		C6	0.45	0.19	0.12	0.51	0.19	0.12
		M5	0.40	0.26	0.11	0.45	0.18	0.11

\* The values are for an individually operated 2-position type manifold base with 5 stations.

\* Excludes the SJ3000A (large flow type) and SJ4000

# Made to Order SJ1000/2000/3000 Series



SS5J	1-60FD	□-□B-X225	5
------	--------	-----------	---

SS5	5J1-6	0FD	<b></b> _	B-X	225																		n: S	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	110.5	110.5	123	123	135.5	135.5	148	148	160.5	160.5	173	173	185.5	185.5	198	198	210.5	210.5	223	223	235.5	235.5	248	248	
L2	100	100	112.5	112.5	125	125	137.5	137.5	150	150	162.5	162.5	175	175	187.5	187.5	200	200	212.5	212.5	225	225	237.5	237.5	
L3	69.2	75.7	82.2	88.7	95.2	101.7	108.2	114.7	121.2	127.7	134.2	140.7	147.2	153.7	160.2	166.7	173.2	179.7	186.2	192.7	199.2	205.7	212.2	218.7	
L4	23.5	20.5	23.5	20	23	20	23	19.5	22.5	19.5	22.5	19	22	19	22	18.5	21.5	18.5	21.5	18	21	18	21	17.5	l

**SMC** 

118

Specific Product Precautions

# SJ1000/2000/3000 Series

### 3 Low-profile SUP/EXH Block Specification

#### L: Dimensions

#### 

SS5	J1-6	0PD		U-X	225																		n: S	Stations
L	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	98	98	110.5	110.5	123	123	135.5	135.5	148	148	160.5	160.5	173	185.5	185.5	198	198	210.5	210.5	223	223	235.5	235.5	248
L2	87.5	87.5	100	100	112.5	112.5	125	125	137.5	137.5	150	150	162.5	175	175	187.5	187.5	200	200	212.5	212.5	225	225	237.5
L3	59	65.5	72	78.5	85	91.5	98	104.5	111	117.5	124	130.5	137	143.5	150	156.5	163	169.5	176	182.5	189	195.5	202	208.5
L4	23	19.5	22.5	19.5	22.5	19	22	19	22	18.5	21.5	18.5	21.5	24.5	21	24	21	24	20.5	23.5	20.5	23.5	20	23

Symbol

-X225

n: Stations

n: Stations

n: Stations

n: Stations

#### SS5J1-60PD --- B-X225

<u>ر</u> ا	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	110.5	110.5	123	123	135.5	135.5	148	148	160.5	160.5	173	173	185.5	185.5	198	198	210.5	210.5	223	223	235.5	235.5	248	260.5
L2	100	100	112.5	112.5	125	125	137.5	137.5	150	150	162.5	162.5	175	175	187.5	187.5	200	200	212.5	212.5	225	225	237.5	250
L3	69.2	75.7	82.2	88.7	95.2	101.7	108.2	114.7	121.2	127.7	134.2	140.7	147.2	153.7	160.2	166.7	173.2	179.7	186.2	192.7	199.2	205.7	212.2	218.7
L4	24	20.5	23.5	20.5	23.5	20	23	20	23	19.5	22.5	19.5	22.5	19	22	19	22	18.5	21.5	18.5	21.5	18	21	24

#### SS5J1-60SV/QDD-U-X225

L	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	123	123	135.5	135.5	148	148	160.5	160.5	173	173	185.5	185.5	198	198	210.5	210.5
L2	112.5	112.5	125	125	137.5	137.5	150	150	162.5	162.5	175	175	187.5	187.5	200	200
L3	89.4	95.9	102.4	108.9	115.4	121.9	128.4	134.9	141.4	147.9	154.4	160.9	167.4	173.9	180.4	186.9
L4	17	13.5	16.5	13.5	16.5	13	16	13	16	12.5	15.5	12.5	15.5	12	15	12
L	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
L <sup>n</sup> L1	<b>17</b> 223	<b>18</b> 223	<b>19</b> 235.5	<b>20</b> 248	<b>21</b> 248	<b>22</b> 260.5	<b>23</b> 260.5	<b>24</b> 273	<b>25</b> 273	<b>26</b> 285.5	<b>27</b> 285.5	<b>28</b> 298	<b>29</b> 298	<b>30</b> 310.5	<b>31</b> 310.5	<b>32</b> 323
L		-	-	-			-		-	-		-	-		-	
L1	223	223	235.5	248	248	260.5	260.5	273	273	285.5	285.5	298	298	310.5	310.5	323

#### SS5J1-60SV/QDD-B-X225

L	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	123	135.5	148	148	160.5	160.5	173	173	185.5	185.5	198	198	210.5	210.5	223	223
L2	112.5	125	137.5	137.5	150	150	162.5	162.5	175	175	187.5	187.5	200	200	212.5	212.5
L3	99.6	106.1	112.6	119.1	125.6	132.1	138.6	145.1	151.6	158.1	164.6	171.1	177.6	184.1	190.6	197.1
L4	11.5	14.5	17.5	14.5	17.5	14	17	14	17	13.5	16.5	13.5	16.5	13	16	13
L	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
L1	235.5	235.5	248	248	260.5	260.5	273	273	285.5	285.5	298	310.5	310.5	323	323	335.5
L2	225	225	237.5	237.5	250	250	262.5	262.5	275	275	287.5	300	300	312.5	312.5	325
L3	203.6	210.1	216.6	223.1	229.6	236.1	242.6	249.1	255.6	262.1	268.6	275.1	281.6	288.1	294.6	301.1
L4	16	12.5	15.5	12.5	15.5	12	15	12	15	11.5	14.5	17.5	14.5	17.5	14	17

#### SS5J1-60S6B D-U-X225

SS5J1	I-60S6	BDD-	_U-X2	25											r	: Stations
_ ∕_	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	135.5	148	148	160.5	160.5	173	173	185.5	185.5	198	198	210.5	210.5	223	223	235.5
L2	125	137.5	137.5	150	150	162.5	162.5	175	175	187.5	187.5	200	200	212.5	212.5	225
L3	106.6	113.1	119.6	126.1	132.6	139.1	145.6	152.1	158.6	165.1	171.6	178.1	184.6	191.1	197.6	204.1
L4	14.5	17.5	14	17	14	17	13.5	16.5	13.5	16.5	13	16	13	16	12.5	15.5

#### SS5J1-60S6BDD-B-X225

L	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	148	148	160.5	160.5	173	173	185.5	185.5	198	210.5	210.5	223	223	235.5	235.5	248
L2	137.5	137.5	150	150	162.5	162.5	175	175	187.5	200	200	212.5	212.5	225	225	237.5
L3	116.8	123.3	129.8	136.3	142.8	149.3	155.8	162.3	168.8	175.3	181.8	188.3	194.8	201.3	207.8	214.3
L4	15.5	12.5	15.5	12	15	12	15	11.5	14.5	17.5	14.5	17.5	14	17	14	17



# Made to Order SJ1000/2000/3000 Series

Symbol	

1000

Common Specifications

Construction

Plug-in

D-sub Flat Ribbon

EX510 EX180

Non Plug-in

Individual Wiring

Manifold Options

Aade to Order

SJ3A6

Common Spec. Construction

Plug-in

n: Stations

-X225

n: Stations

#### L: Dimensions

### 

L	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	98	98	110.5	123	123	135.5	135.5	148	160.5	160.5	173	173	185.5	198	198	210.5	210.5	223	235.5	235.5	248	248	260.5	273
L2	87.5	87.5	100	112.5	112.5	125	125	137.5	150	150	162.5	162.5	175	187.5	187.5	200	200	212.5	225	225	237.5	237.5	250	262.5
L3	60	67.5	75	82.5	90	97.5	105	112.5	120	127.5	135	142.5	150	157.5	165	172.5	180	187.5	195	202.5	210	217.5	225	232.5
L4	22	18	20.5	23	19.5	22	18	20.5	23	19.5	22	18	20.5	23	19.5	22	18	20.5	23	19.5	22	18	20.5	23

#### SS5J2-60FD ---- B-X225

SS	5J2-6	0FD	<b></b>	B-X	225																		n: S	tations
<u> </u>	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	110.5	110.5	123	123	135.5	148	148	160.5	160.5	173	185.5	185.5	198	198	210.5	223	223	235.5	235.5	248	260.5	260.5	273	273
L2	100	100	112.5	112.5	125	137.5	137.5	150	150	162.5	175	175	187.5	187.5	200	212.5	212.5	225	225	237.5	250	250	262.5	262.5
L3	70.2	77.7	85.2	92.7	100.2	107.7	115.2	122.7	130.2	137.7	145.2	152.7	160.2	167.7	175.2	182.7	190.2	197.7	205.2	212.7	220.2	227.7	235.2	242.7
L4	23	19.5	22	18	20.5	23	19.5	22	18	20.5	23	19.5	22	18	20.5	23	19.5	22	18	20.5	23	19.5	22	18

#### 

SS5	5J2-6	0PD		U-X	225																		n: S	tations
L _ u	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	98	98	110.5	123	123	135.5	135.5	148	160.5	160.5	173	173	185.5	198	198	210.5	210.5	223	235.5	235.5	248	248	260.5	273
L2	87.5	87.5	100	112.5	112.5	125	125	137.5	150	150	162.5	162.5	175	187.5	187.5	200	200	212.5	225	225	237.5	237.5	250	262.5
L3	60	67.5	75	82.5	90	97.5	105	112.5	120	127.5	135	142.5	150	157.5	165	172.5	180	187.5	195	202.5	210	217.5	225	232.5
L4	22.5	18.5	21	23.5	20	22.5	18.5	21	23.5	20	22.5	18.5	21	23.5	20	22.5	18.5	21	23.5	20	22.5	18.5	21	23.5

#### SS5J2-60PD ---- B-X225

SS5	J2-6	0PD		B-X	225																		n: S	Stations
∠_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	110.5	110.5	123	123	135.5	148	148	160.5	160.5	173	185.5	185.5	198	198	210.5	223	223	235.5	235.5	248	260.5	260.5	273	273
L2	100	100	112.5	112.5	125	137.5	137.5	150	150	162.5	175	175	187.5	187.5	200	212.5	212.5	225	225	237.5	250	250	262.5	262.5
L3	70.2	77.7	85.2	92.7	100.2	107.7	115.2	122.7	130.2	137.7	145.2	152.7	160.2	167.7	175.2	182.7	190.2	197.7	205.2	212.7	220.2	227.7	235.2	242.7
L4	23.5	19.5	22	18.5	21	23.5	19.5	22	18.5	21	23.5	19.5	22	18.5	21	23.5	19.5	22	18.5	21	23.5	19.5	22	18.5

#### SS5J2-60SV/QDD-U-X225

L	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	123	123	135.5	148	148	160.5	160.5	173	185.5	185.5	198	198	210.5	223	223	235.5
L2	112.5	112.5	125	137.5	137.5	150	150	162.5	175	175	187.5	187.5	200	212.5	212.5	225
L3	90.4	97.9	105.4	112.9	120.4	127.9	135.4	142.9	150.4	157.9	165.4	172.9	180.4	187.9	195.4	202.9
L4	16.5	12.5	15	17.5	14	16.5	12.5	15	17.5	14	16.5	12.5	15	17.5	14	16.5
L	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
L n L1	<b>17</b> 235.5	<b>18</b> 248	<b>19</b> 260.5	<b>20</b> 260.5	<b>21</b> 273	<b>22</b> 273	<b>23</b> 285.5	<b>24</b> 298	<b>25</b> 298	<b>26</b> 310.5	<b>27</b> 310.5	<b>28</b> 323	<b>29</b> 335.5	<b>30</b> 335.5	<b>31</b> 348	<b>32</b> 348
L n L1 L2							-					-	-		-	-
	235.5	248	260.5	260.5	273	273	285.5	298	298	310.5	310.5	323	335.5	335.5	348	348

#### SS5J2-60SV/QDD-B-X225

SS5J2	2-60SV	//Q□D	-□В-Х	225											r	: Stations	<b>–</b>
L n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	pou
L1	135.5	135.5	148	148	160.5	173	173	185.5	185.5	198	210.5	210.5	223	223	235.5	248	D-sub lat Ribbon Serial
L2	125	125	137.5	137.5	150	162.5	162.5	175	175	187.5	200	200	212.5	212.5	225	237.5	Ela
L3	100.6	108.1	115.6	123.1	130.6	138.1	145.6	153.1	160.6	168.1	175.6	183.1	190.6	198.1	205.6	213.1	
L4	17.5	13.5	16	12.5	15	17.5	13.5	16	12.5	15	17.5	13.5	16	12.5	15	17.5	<u>-</u> -
ln	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Ing
 L1	248	260.5	260.5	273	285.5	285.5	298	298	310.5	323	323	335.5	335.5	348	360.5	360.5	<b>–</b>
L2	237.5	250	250	262.5	275	275	287.5	287.5	300	312.5	312.5	325	325	337.5	350	350	a a
L3	220.6	228.1	235.6	243.1	250.6	258.1	265.6	273.1	280.6	288.1	295.6	303.1	310.6	318.1	325.6	333.1	vidua iring
L4	13.5	16	12.5	15	17.5	13.5	16	12.5	15	17.5	13.5	16	12.5	15	17.5	13.5	Wi

Individual Wiring Specific Product Precautions

# SJ1000/2000/3000 Series

### **3** Low-profile SUP/EXH Block Specification

#### L: Dimensions

#### SS5J2-60S6B D-U-X225

L	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	135.5	148	148	160.5	173	173	185.5	185.5	198	210.5	210.5	223	235.5	235.5	248	248
L2	125	137.5	137.5	150	162.5	162.5	175	175	187.5	200	200	212.5	225	225	237.5	237.5
L3	107.6	115.1	122.6	130.1	137.6	145.1	152.6	160.1	167.6	175.1	182.6	190.1	197.6	205.1	212.6	220.1
L4	14	16.5	12.5	15	17.5	14	16.5	12.5	15	17.5	14	16.5	19	15	17.5	14

Symbol

-X225

n: Stations

n: Stations

n: Stations

n: Stations

n: Stations

#### SS5J2-60S6BDD-B-X225

L	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	148	160.5	160.5	173	173	185.5	198	198	210.5	210.5	223	235.5	235.5	248	260.5	260.5
L2	137.5	150	150	162.5	162.5	175	187.5	187.5	200	200	212.5	225	225	237.5	250	250
L3	117.8	125.3	132.8	140.3	147.8	155.3	162.8	170.3	177.8	185.3	192.8	200.3	207.8	215.3	222.8	230.3
L4	15	17.5	14	16.5	12.5	15	17.5	14	16.5	12.5	15	17.5	14	16.5	19	15

#### SS5J2-60-DU-X225

SS5	J2-60	)-□U·	X225																n:	Stations
L _ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	85.5	85.5	98	98	110.5	123	123	135.5	135.5	148	160.5	160.5	173	173	185.5	198	198	210.5	210.5	223
L2	75	75	87.5	87.5	100	112.5	112.5	125	125	137.5	150	150	162.5	162.5	175	187.5	187.5	200	200	212.5
L3	50.4	57.9	65.4	72.9	80.4	87.9	95.4	102.9	110.4	117.9	125.4	132.9	140.4	147.9	155.4	162.9	170.4	177.9	185.4	192.9
L4	17.5	14	16.5	12.5	15	17.5	14	16.5	12.5	15	17.5	14	16.5	12.5	15	17.5	14	16.5	12.5	15

#### SS5J2-60-DB-X225

SS5	J2-60	)-□B-	-X225																n:	Stations
L _ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	85.5	98	110.5	110.5	123	123	135.5	148	148	160.5	160.5	173	185.5	185.5	198	198	210.5	223	223	235.5
L2	75	87.5	100	100	112.5	112.5	125	137.5	137.5	150	150	162.5	175	175	187.5	187.5	200	212.5	212.5	225
L3	60.6	68.1	75.6	83.1	90.6	98.1	105.6	113.1	120.6	128.1	135.6	143.1	150.6	158.1	165.6	173.1	180.6	188.1	195.6	203.1
L4	12.5	15	17.5	13.5	16	12.5	15	17.5	13.5	16	12.5	15	17.5	13.5	16	12.5	15	17.5	13.5	16

#### 

L	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	98	110.5	123	123	135.5	148	160.5	173	185.5	185.5	198	210.5	223	235.5	235.5	248	260.5	273	285.5	285.5	298	310.5	323	335.5
L2	87.5	100	112.5	112.5	125	137.5	150	162.5	175	175	187.5	200	212.5	225	225	237.5	250	262.5	275	275	287.5	300	312.5	325
L3	62.5	72.5	82.5	92.5	102.5	112.5	122.5	132.5	142.5	152.5	162.5	172.5	182.5	192.5	202.5	212.5	222.5	232.5	242.5	252.5	262.5	272.5	282.5	292.5
L4	20.5	22	23	18	19	20	21.5	22.5	23.5	18.5	19.5	21	22	23	18	19	20.5	21.5	22.5	17.5	18.5	20	21	22

#### SS5J3-60FD ---- B-X225

<u>ر</u> ا	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	110.5	123	123	135.5	148	160.5	173	185.5	185.5	198	210.5	223	235.5	235.5	248	260.5	273	285.5	285.5	298	310.5	323	335.5	348
L2	100	112.5	112.5	125	137.5	150	162.5	175	175	187.5	200	212.5	225	225	237.5	250	262.5	275	275	287.5	300	312.5	325	337.5
L3	72.7	82.7	92.7	102.7	112.7	122.7	132.7	142.7	152.7	162.7	172.7	182.7	192.7	202.7	212.7	222.7	232.7	242.7	252.7	262.7	272.7	282.7	292.7	302.7
L4	22	23	18	19	20	21.5	22.5	23.5	18.5	19.5	21	22	23	18	19	20.5	21.5	22.5	17.5	18.5	20	21	22	23

#### 

SS5	J3-6	<b>OPD</b>		<b>U-X</b>	225																		n: S	tations
L _ u	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	98	110.5	123	123	135.5	148	160.5	173	185.5	185.5	198	210.5	223	235.5	235.5	248	260.5	273	285.5	298	298	310.5	323	335.5
L2	87.5	100	112.5	112.5	125	137.5	150	162.5	175	175	187.5	200	212.5	225	225	237.5	250	262.5	275	287.5	287.5	300	312.5	325
L3	62.5	72.5	82.5	92.5	102.5	112.5	122.5	132.5	142.5	152.5	162.5	172.5	182.5	192.5	202.5	212.5	222.5	232.5	242.5	252.5	262.5	272.5	282.5	292.5
L4	21	22	23.5	18	19.5	20.5	21.5	23	24	19	20	21	22.5	23.5	18.5	19.5	20.5	22	23	24	19	20	21.5	22.5

#### SS5J3-60PD ---- B-X225

L	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	110.5	123	123	135.5	148	160.5	173	185.5	185.5	198	210.5	223	235.5	235.5	248	260.5	273	285.5	298	298	310.5	323	335.5	348
L2	100	112.5	112.5	125	137.5	150	162.5	175	175	187.5	200	212.5	225	225	237.5	250	262.5	275	287.5	287.5	300	312.5	325	337.5
L3	72.7	82.7	92.7	102.7	112.7	122.7	132.7	142.7	152.7	162.7	172.7	182.7	192.7	202.7	212.7	222.7	232.7	242.7	252.7	262.7	272.7	282.7	292.7	302.7
L4	22	23.5	18	19.5	20.5	21.5	23	24	19	20	21	22.5	23.5	18.5	19.5	20.5	22	23	24	19	20	21.5	22.5	23.5

# Made to Order SJ1000/2000/3000 Series

### **3** Low-profile SUP/EXH Block Specification

#### L: Dimensions

																	<u>~~~</u>
<u>SS5J3</u>	3-60SV	//Q⊡D	-□U-X	225											r	n: Stations	Construction
L	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
L1	123	135.5	148	148	160.5	173	185.5	198	198	210.5	223	235.5	248	260.5	260.5	273	
L2	112.5	125	137.5	137.5	150	162.5	175	187.5	187.5	200	212.5	225	237.5	250	250	262.5	<u> </u>
L3	92.9	102.9	112.9	122.9	132.9	142.9	152.9	162.9	172.9	182.9	192.9	202.9	212.9	222.9	232.9	242.9	Plug-in
L4	15	16	17.5	12	13.5	14.5	15.5	17	11.5	13	14	15	16.5	17.5	12.5	13.5	Ē
L	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	D-sub Flat Ribbon
L1	285.5	298	310.5	310.5	323	335.5	348	360.5	373	373	385.5	398	410.5	423	423	435.5	t Rib
L2	275	287.5	300	300	312.5	325	337.5	350	362.5	362.5	375	387.5	400	412.5	412.5	425	Ela
L3	252.9	262.9	272.9	282.9	292.9	302.9	312.9	322.9	332.9	342.9	352.9	362.9	372.9	382.9	392.9	402.9	8
L4	14.5	16	17	12	13	14	15.5	16.5	17.5	12.5	13.5	15	16	17	12	13	EX180
SS5J3	3-60SV	//Q□D	-□В-Х	225											r	n: Stations	EX510
Ln	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Û
L1	135.5	148	148	160.5	173	185.5	198	198	210.5	223	235.5	248	260.5	260.5	273	285.5	
L2	125	137.5	137.5	150	162.5	175	187.5	187.5	200	212.5	225	237.5	250	250	262.5	275	<u>ج</u> ہے
L3	103.1	113.1	123.1	133.1	143.1	153.1	163.1	173.1	183.1	193.1	203.1	213.1	223.1	233.1	243.1	253.1	Non Plug-in
L4	16	17.5	12	13.5	14.5	15.5	17	11.5	13	14	15	16.5	17.5	12.5	13.5	14.5	
<u> </u>	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	_
L L1	298	310.5	310.5	323	335.5	348	360.5	373	373	385.5	398	410.5	423	423	435.5	448	Individual Wiring
L1 L2	290	300	300	312.5	325	337.5	350.5	362.5	362.5	375	387.5	400	423	423	435.5	440	Wir
1.2	207.0	072.1	300	312.5	323	212.1	202.1	302.0	302.5	375	367.5	400	412.0	412.0	420	437.5	5

#### SS5J3-60S6BDD-U-X225

273.1

17

283.1

12

293.1

13

303.1

14

313.1

15.5

323.1

16.5

L3

L4

263.1

16

SS5J3	8-60S6	BDD-	_U-X2	25											r	: Stations
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	135.5	148	160.5	173	185.5	185.5	198	210.5	223	235.5	235.5	248	260.5	273	285.5	298
L2	125	137.5	150	162.5	175	175	187.5	200	212.5	225	225	237.5	250	262.5	275	287.5
L3	110.1	120.1	130.1	140.1	150.1	160.1	170.1	180.1	190.1	200.1	210.1	220.1	230.1	240.1	250.1	260.1
L4	12.5	14	15	16.5	17.5	12.5	14	15	16.5	17.5	12.5	14	15	16.5	17.5	19

333.1

17.5

343.1

12.5

353.1

13.5

363.1

15

373.1

16

383.1

17

393.1

12

403.1

13

413.1

n: Stations

14.5

Manifold Options

Order

Plug-in

D-sub Flat Ribbon Serial

Plug-in

#### SS5J3-60S6BDD-B-X225

<u>SS5J3</u>	3-60S6	BUD-L	_B-X2	25											r	n: Stations	SJ3A6
/ ∕_	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
L1	148	160.5	173	185.5	185.5	198	210.5	223	235.5	235.5	248	260.5	273	285.5	298	298	
L2	137.5	150	162.5	175	175	187.5	200	212.5	225	225	237.5	250	262.5	275	287.5	287.5	Spec. ction
L3	120.3	130.3	140.3	150.3	160.3	170.3	180.3	190.3	200.3	210.3	220.3	230.3	240.3	250.3	260.3	270.3	non Struc
L4	14	15	16.5	17.5	12.5	14	15	16.5	17.5	12.5	14	15	16.5	17.5	19	14	Common

#### SS5J3-60-DU-X225

SS5	5 <b>J</b> 3-60	)-□U-	-X225	;															n:	Stations
L	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	85.5	98	98	110.5	123	135.5	148	148	160.5	173	185.5	198	210.5	210.5	223	235.5	248	260.5	260.5	273
L2	75	87.5	87.5	100	112.5	125	137.5	137.5	150	162.5	175	187.5	200	200	212.5	225	237.5	250	250	262.5
L3	52.9	62.9	72.9	82.9	92.9	102.9	112.9	122.9	132.9	142.9	152.9	162.9	172.9	182.9	192.9	202.9	212.9	222.9	232.9	242.9
L4	16	17.5	12.5	13.5	14.5	15.5	17	12	13	14	15	16.5	17.5	12.5	13.5	14.5	16	17	12	13

SS5	j3-60	)-⊟B·	-X225	;															n:	Stations	l ul
L _ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	No
L1	98	98	110.5	123	135.5	148	148	160.5	173	185.5	198	210.5	210.5	223	235.5	248	260.5	260.5	273	285.5	
L2	87.5	87.5	100	112.5	125	137.5	137.5	150	162.5	175	187.5	200	200	212.5	225	237.5	250	250	262.5	275	la l
L3	63.1	73.1	83.1	93.1	103.1	113.1	123.1	133.1	143.1	153.1	163.1	173.1	183.1	193.1	203.1	213.1	223.1	233.1	243.1	253.1	irin
L4	17.5	12.5	13.5	14.5	15.5	17	12	13	14	15	16.5	17.5	12.5	13.5	14.5	16	17	12	13	14	W

Specific Product Precautions

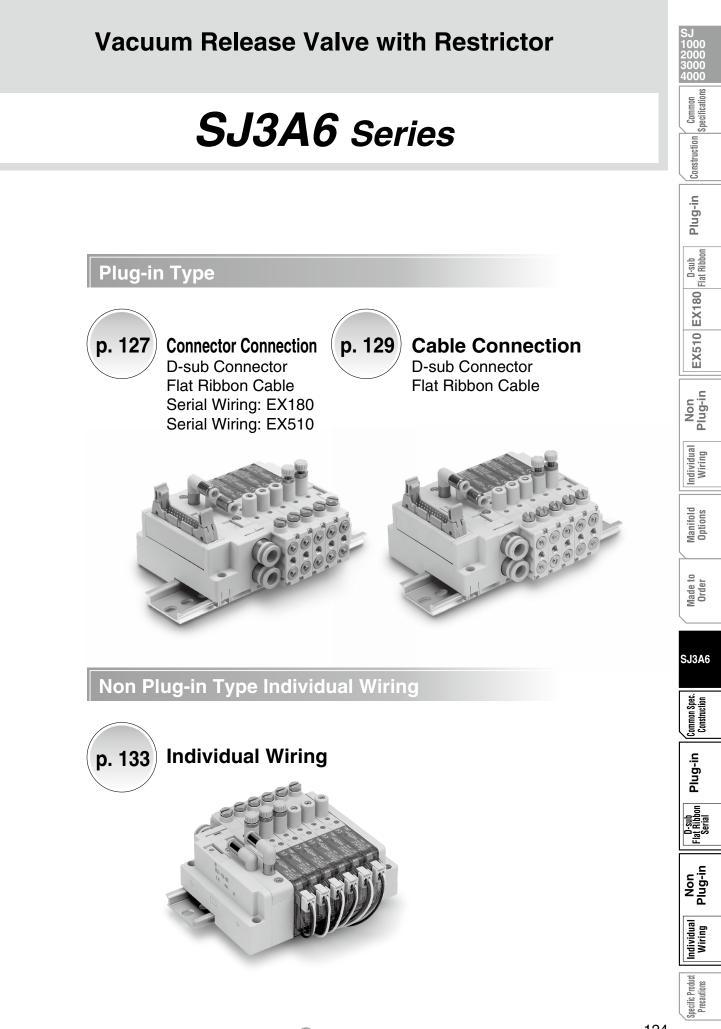
000

4000

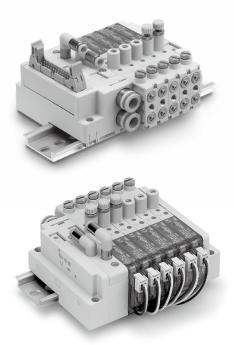
Common Specifications

Symbol

-X225



# Vacuum Release Valve with Restrictor *SJ3A6 Series* **Common Specifications**



1(P)

Release

pressure port

PS port

### Manifold Valve Specifications

Valve construct	tion	3-position 3-port valve with restrictor
Fluid		Air
Operating	Release pressure port 1(P)	0.25 to 0.7
pressure	Vacuum pressure port 3/5(E)	-100 kPa to 0.7*1
range [MPa]	Pilot X port	0.25 to 0.7*2
Ambient and flu	uid temperatures [°C]	-10 to 50 (No freezing)
Max. operating	frequency [Hz]	3
Manual avarrid	e (Manual operation)	Non-locking push type
Manual overno	e (Manual Operation)	Push-turn locking slotted type
Bootristor oper	ation	Manual
Restrictor operation	ation	Slotted locking type
Pilot method		External pilot/Pilot valve individual exhaust
Lubrication		Not required
Mounting orien	tation	Unrestricted
Impact/Vibratio	n resistance [m/s <sup>2</sup> ]*3	150/30
Enclosure		Dustproof

\*1 Can be used with positive pressure to suit the application

\*2 Please use with pilot X port pressure equal to or higher than the release port 1(P) pressure.
 \*3 Impact resistance : No malfunction occurred when it is tested with a drop tester in the axial direction and at the right angles to the main valve and armature in both energized and de-energized

states every once for each condition. (Value in the initial state) Vibration resistance: No malfunction occurred in one sweep test between 45 and 2000 Hz in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states for each condition. (Value in the initial state)

### **Solenoid Specifications**

Coil rated voltage		24 VDC, 12 VDC
Allowable voltage	fluctuation	±10% of rated voltage*1
Damar	Standard	0.4
Power consumption [W]	With power-saving circuit (Continuous duty type)	0.15 <sup>*2</sup> [Starting 0.4, Holding 0.15]
Surge voltage sup	pressor	Diode
Indicator type		LED

\*1 For the allowable voltage fluctuation for Z/T type (with power-saving circuit), please observe the following range because they have voltage drop due to internal circuit.

Z type 24 VDC: -7% to +10% 12 VDC: -4% to +10%

T type 24 VDC: -5% to +10%

12 VDC: -6% to +10%

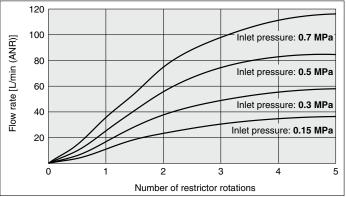
\*2 Refer to page 140 for details.

### **Flow Rate Characteristics**

Flow Rate Characteristic	cs (When restrictor is fully	open)

Valve model	Fluid passage	1(P)	$\rightarrow$ 2(B)		2(B) -	→ 3/5(E)	
valve model	2(B) Port size	C [dm3/(s·bar)]	b	Cv	C [dm3/(s·bar)]	b	Cv
SJ3A6-□□-□	M5	0.24	0.19	0.05	0.40	0.18	0.10

#### Restrictor Flow Rate Characteristics [Fluid passage: 1(P) $\rightarrow$ 2(B)]



## Response Time

2(B)

Vacuum pad port

Valve model	Response time [ms] (at 0.5 MPa)
SJ3A6-□□-□	19

#### Weight

Symbol

 $\succ$ 

3/5(E)

Vacuum

pressure port

Valve model	Weight [g]
SJ3A6-□□-P	79



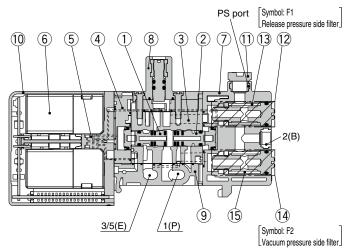
# SJ3A6 Series Construction/Circuit Example

Cable type

(10) (6) (5)

### Construction

#### **Connector type**



#### **Component Parts**

No.	Description	Material	Note	
1	Spool valve	Resin/HNBR	A side (for release pressure switching)	
2	Spool valve	Resin/HNBR	B side (for vacuum pressure switching)	
3	Body	Zinc die-cast	—	
4	Adapter plate	Resin	White	
5	Pilot adapter	Resin	White	
6	Pilot valve	—	—	
7	End cover	Resin	White	
8	Restrictor block*1	Resin	White	
9	Bottom cover	Resin	White	
10	Light cover	Resin	Light blue	

\*1 Set the operating torque of the restrictor of the restrictor block to 0.3 N·m or less.

#### **Component Parts**

N.L.	Description	Deuters	Number
No.	Description	Part no.	Note
11	Plug	M-5P	PS port with plug
12	12 Filter assembly SJ3000-110-1A		1 µm White <release pressure="" side=""></release>
13	13 Filter SJ3000-107-1A		1 µm White <release pressure="" side="">, 5 pcs. included</release>
14	14 Filter assembly SJ3000-110-2A		30 µm Light purple <vacuum pressure="" side=""></vacuum>
15	Filter	SJ3000-107-2A	30 µm Light purple <vacuum pressure="" side="">, 5 pcs. included</vacuum>

#### <Filter replacement instructions>

 $(\mathbf{4})$ 

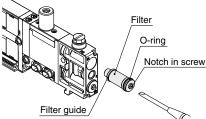
If there are situations such as filter clogging, a drop in suction force, or slow response time, stop operation and replace the filter.

/1(P)

- 1. Using a precision driver, remove the filter assembly (12 or 13) from the main unit.
- 2. Turn the filter guide by hand and remove.

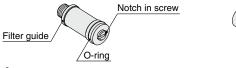
3/5(E

- Replace the filter (<sup>3</sup>) or <sup>5</sup>) and gently hand tighten the filter guide. At this time, check that there is no foreign matter on the O-ring of the filter assembly.
- 4. Return the filter assembly to the main unit. (Tightening torque: 0.12 N·m)

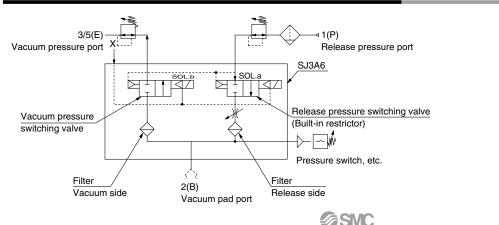


After tightening the plug (M-5P) with a tightening torque of 1 N-m, or manually tightening, use the tightening tool and tighten it by 1/4 turn.

#### 1219 Filter assembly (with filter) 1315 Filter (5 pcs. included)



### Adsorbing and Transferring System Circuit Example



EX510 EX180 Fiat Ribbon

**becificatic** 

Construction

Symbol: F1

(13)

Release pressure side filter

2(B)

Symbol: F2

(14)(Shaded area)

Vacuum pressure side filter

(12)(Shaded area)

PS port

(9)

(15)

(2)

3

(8)

Non Plug-in

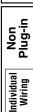
Individual Wiring

Manifold Options

Made to Order

### SJ3A6

Flat Ribbon Plug-in Commo



pecific Product Precautions

# Plug-in Connector Type (E CA CNU Vacuum Release Valve with Restrictor RoHS SJ3A6 Series

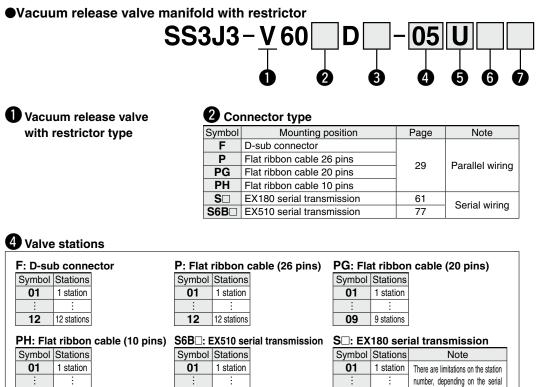
How to Order

16

16 stations

type. Refer to page 61 for details.

An order cannot be placed with only the manifold part no. Be sure to order solenoid valves for mounting at the same time while referring to the ordering example.



\* This number also includes the blanking block. For the blanking block, please select double wiring specifications.

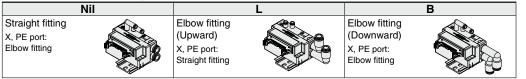
8 stations

08

### **6** SUP/EXH block fitting specification

4 stations

04



\* There is no need to enter anything when the SUP/EXH block mounting position "M" is selected. Also, this manifold comes standard with external pilot specifications.

### How to Order Manifold Assembly

### Ordering example (SS3J3-V60PD2-□) Individual wiring, lead wire length 300 mm, with plug (24 VDC) SJ3A6-5MZ-P (1 set) SJ3A6-5CJ-IP (1 set) Non-polar type, with plug (24 VDC) SJ3A6-5CU-DP (4 sets) SUP/EXH block (D side mounting) (D side mounting)

\* SJ3A6-5CZJ-P ...... 1 set (With switch, plug part no.) \* SJ3A6-5MZ-P ...... 1 set (Individual wiring, lead wire length 300 mm, with plug part no.) • The asterisk denotes the symbol for the assembly. Prefix it to the part numbers of the solenoid valve, etc.

SS3J3-V60PD2-06D...... 1 set (Manifold part no.)

For the valve arrangement, the valve closest to the D side is considered the 1st station.

SJ3A6-5CU-DP ...... 4 sets (Non-polar type, with plug part no.)

- Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.
- \* When ordering a manifold, specify the part nos. of the valves to be mounted on it (An order cannot be placed with only the manifold part no.)

### Connector entry

With parallel wiring specifications, it is necessary to select the connector entry direction (1: upward, 2: lateral). For details, refer to page 29.

### 5 SUP/EXH block

mounting position		
U U side		
D D side		
В	Both sides	
M*1	1*1 Special specifications	

\*1 Specify the required specifications (including port sizes other than ø8) on the manifold specification sheet.

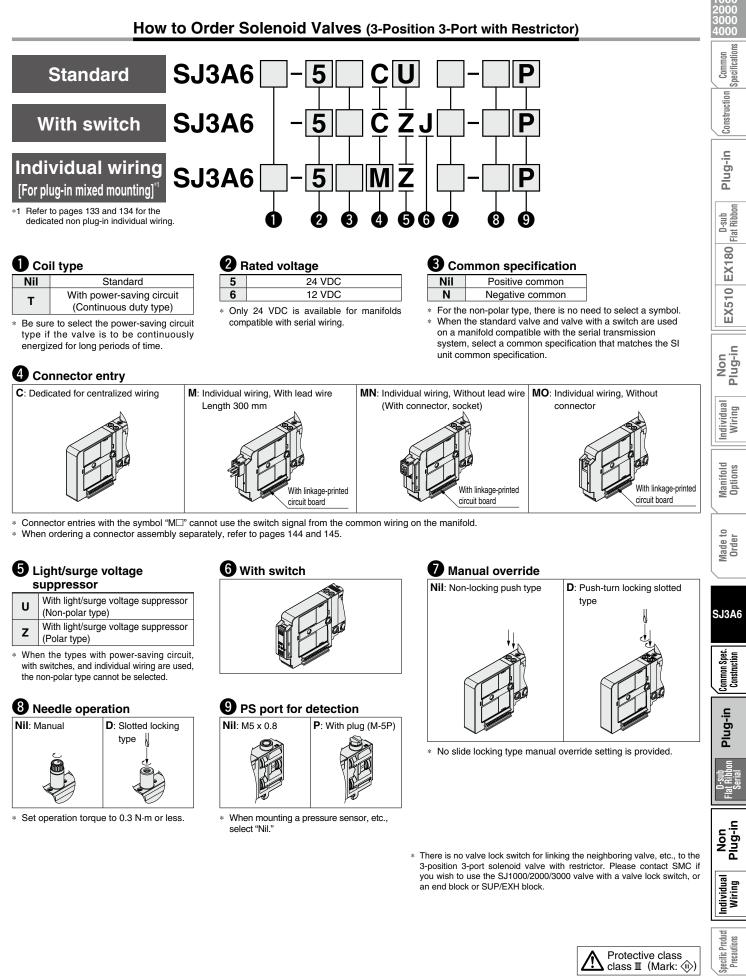
 DIN rail length specified
 Nil Standard le

NII	Standard length		
2	2 stations	Specify a length	
÷		longer than that of	
16	16 stations	the standard rail.	

Specify the number of valve stations without exceeding the max. number of stations.

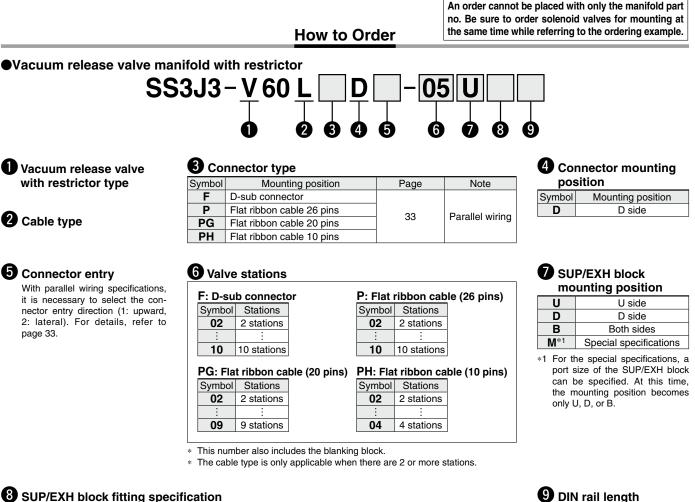
127



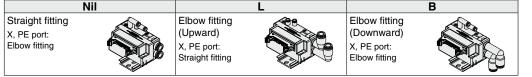


**SMC** 

# Plug-in Cable Type CECA CNUS RoHS **Vacuum Release Valve with Restrictor** SJ3A6 Series

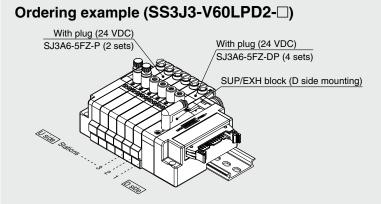


### **8** SUP/EXH block fitting specification



There is no need to enter anything when the SUP/EXH block mounting position "M" is selected. Also, this manifold comes standard with external pilot specifications.

### How to Order Manifold Assembly



:	SS3J3-V60LPD2-06D1 set (Manifold part no.)
* 5	SJ3A6-5FZ-DP4 sets (With plug part no.)
<u>*</u> \$	SJ3A6-5FZ-P2 sets (With plug part no.)
	The asterisk denotes the symbol for the assembly.

specified

ber of stations

Standard length

3 stations Specify a length

When specifying a length longer

than that of the standard rail. se-

lect the number of valve stations without exceeding the max. num-

longer than that of 10 stations the standard rail.

Nil

3

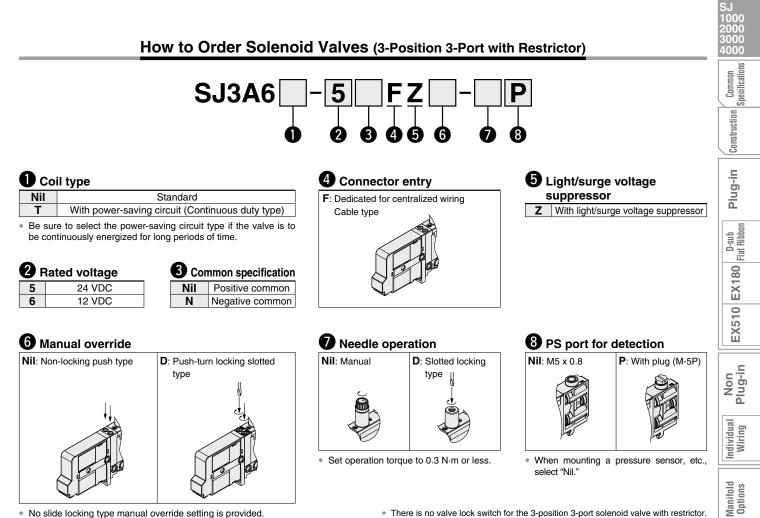
10

- Prefix it to the part numbers of the solenoid valve, etc.
- For the valve arrangement, the valve closest to the D side is considered the 1st station.

Under the manifold part number, state the valves to be mounted in order starting with the 1st station as shown in the figure. If the arrangement becomes too complicated, specify the details on a manifold specification sheet.



# Plug-in Cable Type Vacuum Release Valve with Restrictor SJ3A6 Series



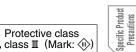
\* There is no valve lock switch for the 3-position 3-port solenoid valve with restrictor.

SJ3A6





Individual Wiring

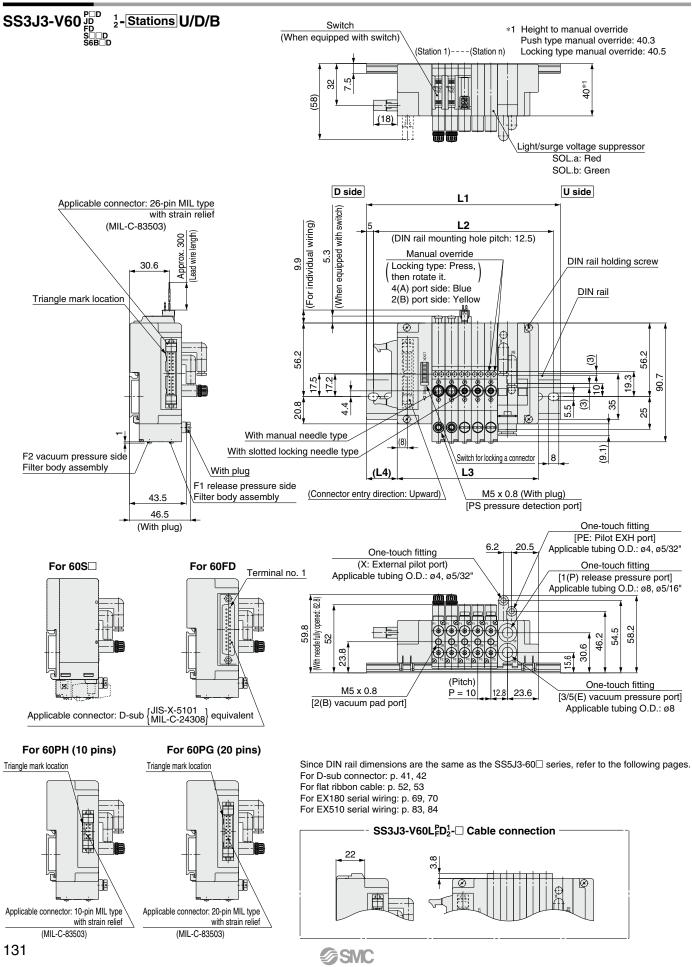




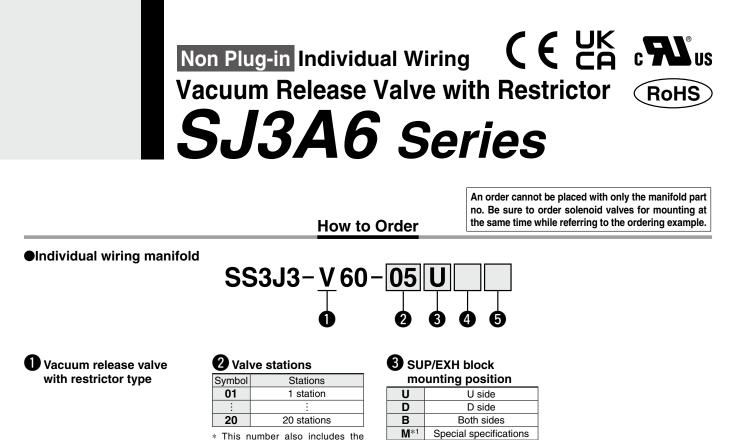
\* No slide locking type manual override setting is provided.

# SJ3A6 Series

Dimensions



SJ 1000 2000 3000 4000	
Common Specifications	
Construction	
Plug-in	
D-sub Flat Ribbon	
EX180	
EX510	
Non Plug-in	
Individual Wiring	
Manifold Options	
Made to Order	
SJ3A6	
Common Spec. Construction	
Plug-in	
D-sub Flat Ribbon Serial	
Non Plug-in	
Individual Wiring	
Specific Product Precautions	



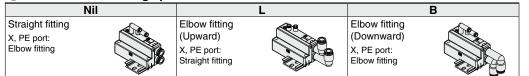
\*1

cation sheet.

Specify the required specifica-

tions (including port sizes other than ø8) on the manifold specifi-

#### **4** SUP/EXH block fitting specification



blanking block.

\* There is no need to enter anything when the SUP/EXH block mounting position "M" is selected. Also, this manifold comes standard with external pilot specifications.

#### 2 2 stations Specify a length : : longer than that of

number of stations

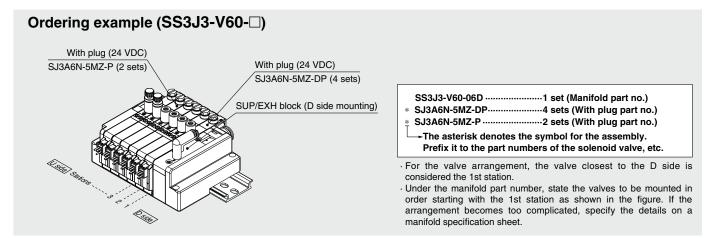
Nil

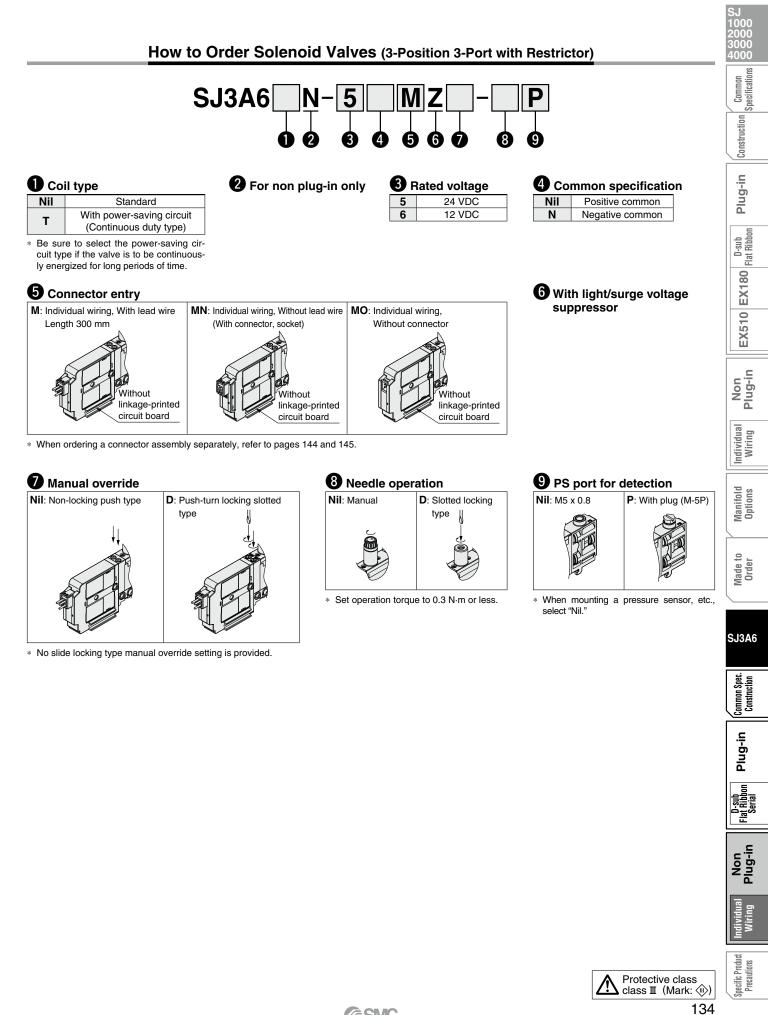
20	10 stations	the stand	dard rail.	
Specify	y the nur	nber of	valve sta-	•
tions v	vithout ex	ceeding	the max.	

DIN rail length specified

Standard length

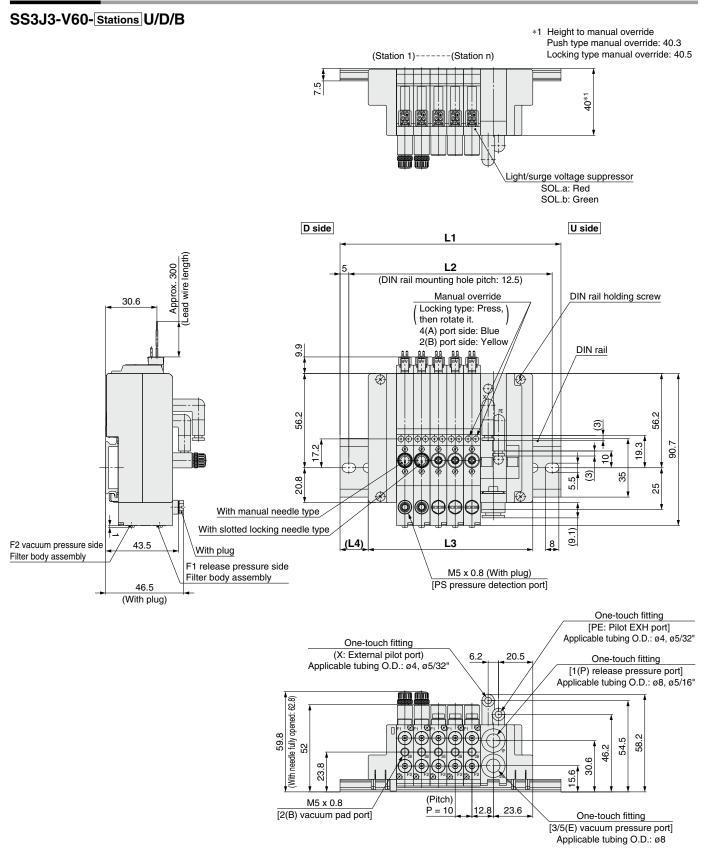
### How to Order Manifold Assembly





# SJ3A6 Series

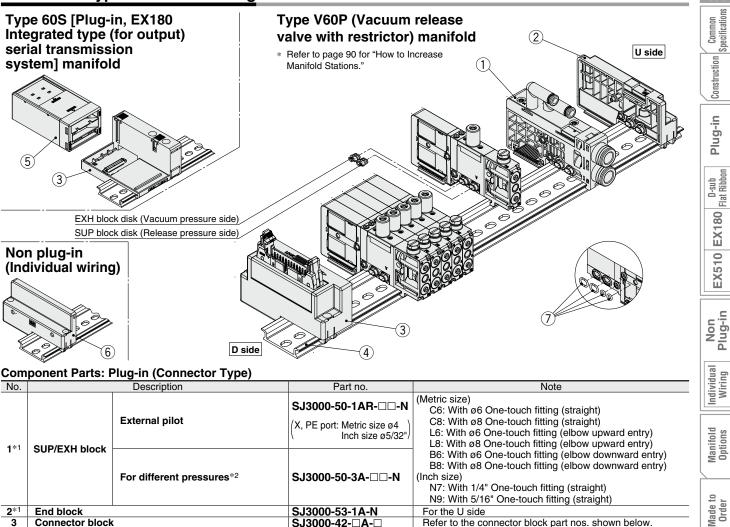
#### Dimensions



Since DIN rail dimensions are the same as the SS5J3-60-□ series, refer to pages 99 and 100.

# SJ3A6 Series Manifold Exploded View

#### **Connector Type/Individual Wiring**



			N7: With 1/4" One-touch fitting (straight)
			N9: With 5/16" One-touch fitting (straight)
<b>2</b> *1	End block	SJ3000-53-1A-N	For the U side
3	Connector block	SJ3000-42-□A-□	Refer to the connector block part nos. shown below.
4	DIN rail	VZ1000-11-1-□	Refer to page 106.
5	SI unit	EX180-□□	Refer to the SI unit part nos. on page 61.
7	O-ring for valve connection*3	SJ3000-96-1A	The part no. shown on the left includes parts for 5 units.
1	O-ring for valve connection.**	5J3000-90-TA	(10 pcs. each for the P and E ports and for the X and PE ports)

#### Connector Block Part Nos.

\_

Connector specifications	Mounting position	Part no.	Note
For D-sub connector (Locking bracket: Metric size thread)		SJ3000-42-1A-	
For D-sub connector (Locking bracket: Unified thread)		SJ3000-42-1AU-	
For flat ribbon cable 26 pins		SJ3000-42-2A-	□: 1 (Connector upward)
For flat ribbon cable 20 pins	D side	SJ3000-42-3A-	
For flat ribbon cable 10 pins		SJ3000-42-4A-	□: 2 (Connector lateral)
For EX180 serial wiring*4		SJ3000-42-20A	
For EX510 serial wiring*4		SJ3000-42-3A-2	

\*4 An SI unit is not included.

#### Component Parts: Non plug-in (Individual Wiring)

No.	Description		Part no.	Note
1*1	External pilot	External pilot	SJ3000-50-5AR-□□-N (X, PE port: Metric size ø4 Inch size ø5/32")	C8: With $\sigma$ 8 One-touch fitting (straight) C8: With $\sigma$ 8 One-touch fitting (straight)
1*1	SUP/EXH block	For different pressures*2	SJ3000-50-6A-□□-N	B6: With ø6 One-touch fitting (elbow downward entry) B8: With ø8 One-touch fitting (elbow downward entry) (Inch size) N7: With 1/4" One-touch fitting (straight) N9: With 5/16" One-touch fitting (straight)
<b>2</b> *1	End block		SJ3000-53-1A-N	For the U side
4	DIN rail		VZ1000-11-1-□	Refer to page 106.
6	End block		SJ3000-53-2A	For the D side
7	O-ring for valve connection*3		SJ3000-96-1A	The part no. shown on the left includes parts for 5 units. (10 pcs. each for the P and E ports and for the X and PE ports)

\*1 For the SJ3A6 series, valve lock and manual switches are not available.

\*2 As the valves cannot be operated only with the SUP/EXH block for different pressures, select them in combination with the SUP/EXH block for external pilot.

\*3 Included with valves, SUP/EXH block, and connector block

\* Refer to page 103 for the SUP/EXH block disk and method of handling parts at different pressures.



SJ3A6

Common Spec Construction

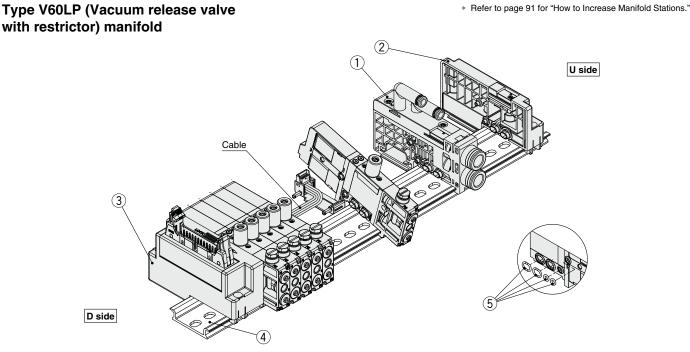
Plug-in

Non Plug-in

pecific Product Precautions

# SJ3A6 Series

### Cable Type



#### **Component Parts: Plug-in (Cable Type)**

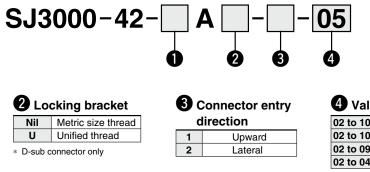
No.	Description		Part no.	Note
<b>1</b> *1	SUP/EXH block	External pilot	SJ3000-50-5AR-□□-N (X, PE port: Metric size ø4 Inch size ø5/32"	(Metric size) C6: With ø6 One-touch fitting (straight) C8: With ø8 One-touch fitting (straight) L6: With ø6 One-touch fitting (elbow upward entry) L8: With ø8 One-touch fitting (elbow upward entry)
1	SUP/EXH DIOCK	For different pressures*2	SJ3000-50-6A-□□-N	<ul> <li>B6: With ø6 One-touch fitting (elbow downward entry)</li> <li>B8: With ø8 One-touch fitting (elbow downward entry)</li> <li>(Inch size)</li> <li>N7: 1/4" One-touch fitting (straight)</li> <li>N9: 5/16" One-touch fitting (straight)</li> </ul>
<b>2</b> *1	End block		SJ3000-53-1A-N	
3	Connector block		SJ3000-42-□A-□	Refer to the connector block part nos. shown below.
4	DIN rail		VZ1000-11-1-□	Refer to page 106.
5	O-ring for valve connection*3		SJ3000-96-1A	The part no. shown on the left includes parts for 5 units. (10 pcs. each for the P and E ports and for the X and PE ports)

\*1 For the SJ3A6 series, valve lock and manual switches are not available.

\*2 As the valves cannot be operated only with the SUP/EXH block for different pressures, select them in combination with the SUP/EXH block for external pilot.

\*3 Included with valves, SUP/EXH block, and connector block
 \* Refer to page 103 for the SUP/EXH block disk and method of handling parts at different pressures.

#### Connector Block



#### **4** Valve stations

02 to 10 D-sub connector			
02 to 10	Flat ribbon cable 26 pins		
	Flat ribbon cable 20 pins		
02 to 04	Flat ribbon cable 10 pins		

0	) (	or	n	e	ctor	ty	p	e
7 D-sub connect					ect	or		
								_

8 Flat ribbon cable 26 pins					
9 Flat ribbon cable 20 p					
10	Flat ribbon cable 10 pins				

\* All connector block mounting

positions are on the D side.

The connector block includes the cables necessary for the number of stations.

137



Be sure to read this before handling the products. Refer to the back cover for safety instructions. For 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

#### **Manual Override Switch Operation**

# **M**Warning

For manual override operation, move the manual override switch to a position where letters A and B can be seen. [Manual override switch release status (refer to the figure below)] Operation with the manual override switch in a locked status can cause damage to the manual override and air leakage, so be sure to release the manual override switch before use. After manual override operation, lock the manual switch for use (when the manual override of the push-turn locking slotted type is locked, a manual override switch cannot be locked).



Manual override switch slide direction

Manual override switch locked status

Manual override switch unlocked status

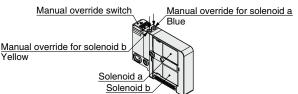
#### Manual Override Operation

# **M**Warning

When the manual override is operated, connected equipment will be actuated. Confirm safety before operating.

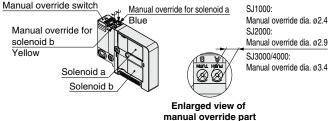
#### Non-locking push type

Press in the direction of the arrow.



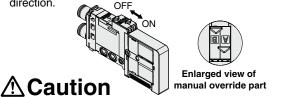
#### Push-turn locking slotted type

While pressing, turn in the direction of the arrow (90° clockwise). If it is not turned, it can be used in the same way as the nonlocking push type.



#### Slide locking type (manual override)

Slide the manual override all the way to the ON side in the arrow direction. The manual override is then locked. To unlock the manual override, slide it toward the OFF side in the arrow direction.



When you operate the D type with a screw driver, turn it gently using a watchmaker's screw driver. [Torque: under 0.05 N·m] When you lock the manual override of the D type, be sure to push it before turning. [Load: 10 N or less] Turning without pushing can cause damage to the manual override and trouble such as air leakage, etc.

#### Valve with Switch

### **≜** Warning

When turning OFF the valve using the switch, move it to the position where the valve is locked. If the switch is at an improper position and is energized, equipment connected to the valve could be actuated.

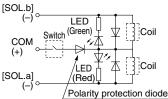
Also, if the switch is turned OFF on the valve in the energized state, be careful because any actuators connected to a single solenoid, a dual 3-port valve, or a 3-position valve will actuate.

ON position OFF position

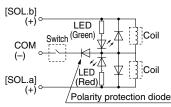
Normal operation: The valve is switched according to electric signals from the connector on the manifold side. The valve coil is kept in a deenergized state even when there is an electric signal from the connector on the manifold side.

### Electric circuit diagram

(with positive common and light/surge voltage suppressor)



#### (with negative common and light/surge voltage suppressor)



#### Built-in Back Pressure Check Valve Type

### ▲Caution

 Valves with built-in back pressure check valve is to protect the back pressure inside a valve. For this reason, use caution the valves with external pilot specification cannot be pressurized from exhaust port [3/5(E)].

As compared with the types which do not integrate the back pressure check valve, C value of the flow rate characteristics (sonic conductance) goes down. For details, please contact SMC.

2. Do not switch valves when A or B port is open to the atmosphere, or while the actuators and air operated equipment are in operation. The back pressure prevention seal may be peeled off, which may cause air leakage or malfunctions. Use caution especially when performing a trial operation or maintenance work.

#### **Exhaust Throttle**

### **▲**Caution

SMC

The SJ series pilot valve and main valve share a common exhaust inside the valve. Therefore, do not block the exhaust port when arranging the piping.

EX510

Plug-in



Individual Wiring



Be sure to read this before handling the products. Refer to the back cover for safety instructions. For 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

#### Used as a 3-Port Valve

## ▲ Caution

#### When using a 4-port valve as a 3-port valve

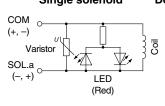
The SJ1000/2000/3000/4000 series can be used as normally closed (N.C.) or normally open (N.O.) 3-port valves by closing one of the cylinder ports 4(A) or 2(B) with a plug. However, they should be used with the exhaust ports kept open. They are convenient at times when a double solenoid type 3-port valve is required.

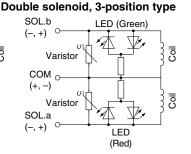
Plug position		2(B) port	4(A) port	
Type of actuation		N.C.	N.O.	
solenoids	Single	(A)4 2(B) (R1)5 1 3(R2) (P)	(A)4 2(B) T T (R1)5 1 3(R2) (P)	
		(A)4 2(B) (R1)5 1 3(R2) (P)	(A)4 2(B) T T (R1)513(R2) (P)	

#### Light/Surge Voltage Suppressor

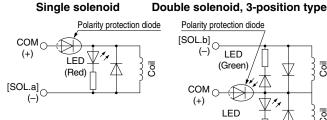
### ▲ Caution

Non-polar type Single solenoid





#### Positive common Single solenoid





Double solenoid, 3-position type

Polarity protection diode

LED

(Green)

I FD

(Red)

Coil

Coil

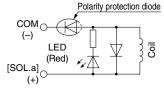
[SOL.b]

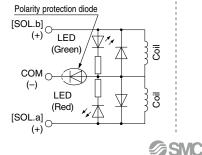
(-)

COMC

(+)

[SOL.a]  $\cap$ (-)





#### **Continuous Duty**

### Caution

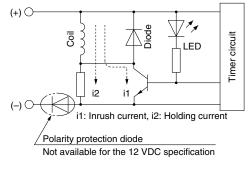
If a valve is energized continuously for long periods of time, the rise in temperature due to heat-up of the coil assembly may cause a decline in valve performance, reduce the service life, or have adverse effects on peripheral equipment. If the valve is energized continuously for long periods of time, be sure to use a valve with power-saving circuit (continuous duty type). In particular, if three or more adjacent stations on the manifold are energized simultaneously for extended periods of time or if the valves on A side and B side are energized simultaneously for long periods of time, take special care as the temperature rise will be greater.

If the continuously energized time exceeds three hours, please contact SMC.

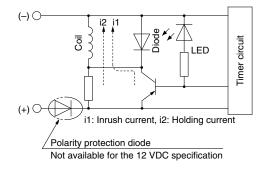
#### With power-saving circuit

Power consumption is decreased to approx. 1/3 (for SJ3D60(A)T and SJ4D60T) compared with the standard model by reducing the wattage required to hold the valve in an energized state. (Effective energizing time is over 67 ms at 24 VDC.)

#### Electric circuit diagram (with power-saving circuit) In case of positive common, single solenoid



#### In case of negative common, single solenoid



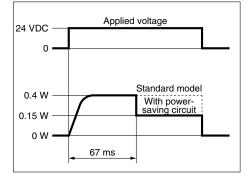


Be sure to read this before handling the products. Refer to the back cover for safety instructions. For 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

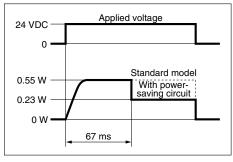
#### **Working Principle**

The circuit shown on page 139 reduces the power consumption for holding in order to save energy. Refer to the electrical power waveform as shown below.





#### Electrical power waveform of the power-saving type (SJ1D60T, SJ2D60T)



- The 12 VDC specification with power-saving circuit does not have the polarity protection diode. Do not make a mistake with the polarity.
- Since the voltage will drop by approx. 0.5 V due to the transistor, pay attention to the allowable voltage fluctuation. (For details, refer to the solenoid specifications of each type of valve.)

#### Countermeasure for Surge Voltage Intrusion

1000

Common Specificatio

Construction

Plug-in

D-sub Flat Ribbon

EX180

EX510

Non Plug-in

Individual Wiring

Manifold Options

Made to Order

#### Surge voltage intrusion

With non-polar type valves, at times of sudden interruption of the loading power supply, such as emergency shutdown, surge voltage intrusion may be generated from loading equipment with a large capacity (power consumption), and a valve in a de-energized state may switch over (see Fig. 1). When installing a breaker circuit for the loading power supply, consider using a valve with polarity (with polarity protection diode), or install a surge absorption diode between the loading equipment COM line and the output equipment COM line (see Fig. 2).

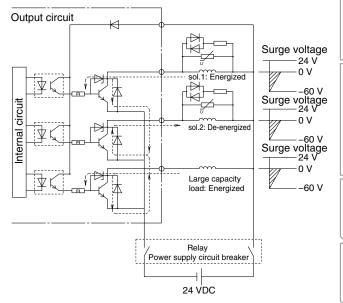
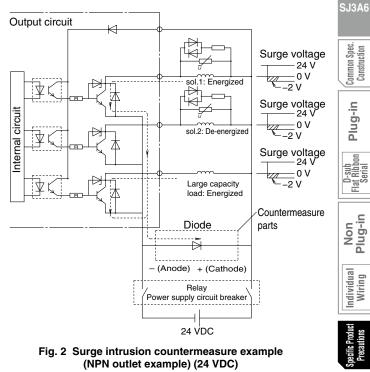


Fig. 1 Surge intrusion circuit example (NPN outlet example) (24 VDC)



140

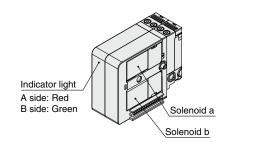


Be sure to read this before handling the products. Refer to the back cover for safety instructions. For 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

#### Light Indication

# **A**Caution

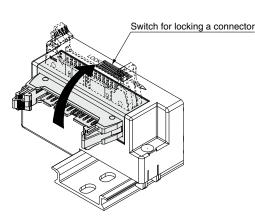
When equipped with light/surge voltage suppressor, the light window turns red when solenoid a is energized, and it turns green when solenoid b is energized.



Changing the Connector Entry Direction

### **A**Caution

To change the connector's entry direction, set the switch on the top of the connector block to the FREE position, before turning the connector. Make sure to set the switch back to the LOCK position before connecting the connector. (When the switch is difficult to slide, move the connector a little so that it will slide easier.) If an excessive force is applied on the connector in the LOCK position, the connector block may be damaged. Also, using in such a way that the connector floats in the FREE position, it may cause the lead wire, etc., to break. Thus, refrain from using in these ways.



#### **Manifold Mounting**

When attaching a manifold to a mounting surface, etc., with bolts, if the entire bottom surface of the DIN rail contacts the mounting surface in a horizontal mounting, it can be used by simply securing both ends of the DIN rail. However, for any other mounting method or for side facing and rear facing, etc., secure the DIN rail with bolts at uniform intervals using the following as a guide: 2 to 5 stations at 2 locations, 6 to 10 stations at 3 locations, 11 to 15 stations at 4 locations, 16 to 20 stations at 5 locations, 21 to 25 stations at 6 locations, 26 to 30 stations at 7 locations, and more than 30 stations at 8 locations.

In addition, even in the case of a horizontal mounting, if the mounting surface is subject to vibration, etc., take the same measures indicated above. If secured at fewer than the specified number of locations, warping or twisting may occur in the DIN rail and manifold, causing trouble such as air leakage.



Be sure to read this before handling the products. Refer to the back cover for safety instructions. For 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

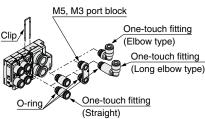
#### **Fitting Replacement**

### Caution

By replacing a valve's fitting, it is possible to change the port size of the 4(A), 2(B), 1(P), and 3/5(E) ports. When replacing it, pull out the fitting after removing the clip with a flat blade screw driver, etc. To mount a new fitting, insert it into place and then fully reinsert the clip.

Inch Sizo

#### <For the SJ1000/2000/3000>





#### **One-touch Fitting Part Nos.**

#### **Metric Size**

		Part no.
SJ1000	ø2 One-touch fitting (Straight)	KQSY10-C2
4(A), 2(B)	ø4 One-touch fitting (Straight)	KQSY10-C4-X1336
	ø2 One-touch fitting (Straight)	KJH02-C1
	ø4 One-touch fitting (Straight)	KJH04-C1
SJ2000	ø2 One-touch fitting (Elbow type)	KJL02-C1
4(A)	ø4 One-touch fitting (Elbow type)	KJL04-C1-N
2(B)	ø2 One-touch fitting (Long elbow type)	KJW02-C1
	ø4 One-touch fitting (Long elbow type)	KJW04-C1-N
	M3 port block	SJ2000-56-1A
	ø2 One-touch fitting (Straight)	KJH02-C2
	ø4 One-touch fitting (Straight)	KJH04-C2
	ø6 One-touch fitting (Straight)	KJH06-C2
0.10000	ø2 One-touch fitting (Elbow type)	KJL02-C2
SJ3000	ø4 One-touch fitting (Elbow type)	KJL04-C2
4(A) 2(B)	ø6 One-touch fitting (Elbow type)	KJL06-C2-N
2(2)	ø2 One-touch fitting (Long elbow type)	KJW02-C2
	ø4 One-touch fitting (Long elbow type)	KJW04-C2
	ø6 One-touch fitting (Long elbow type)	KJW06-C2-N
	M5 port block	SJ3000-56-1A
SJ4000	ø4 One-touch fitting (Straight)	KQSY30-C4
4(A)	ø6 One-touch fitting (Straight)	KQSY30-C6
2(B)	ø8 One-touch fitting (Straight)	KQSY30-C8
	ø6 One-touch fitting (Straight)	VVQ1000-51A-C6
SJ1000	ø6 One-touch fitting (Elbow type)	SZ3000-74-1A-L6
SJ2000 SJ3000	ø6 One-touch fitting (Long elbow type)	SZ3000-74-2A-L6
1(P)	ø8 One-touch fitting (Straight)	VVQ1000-51A-C8
3/5(E)	ø8 One-touch fitting (Elbow type)	SZ3000-74-1A-L8
0, 0 (L)	ø8 One-touch fitting (Long elbow type)	SZ3000-74-2A-L8
SJ4000 1(P)	ø8 One-touch fitting (Straight)	KQSY31-C8
3/5(E)	ø10 One-touch fitting (Straight)	KQSY31-C10-X1336

Port	Port size	Part no.
	ø1/8" One-touch fitting (Straight)	KJH01-C1
	ø5/32" One-touch fitting (Straight)	KJH03-C1
SJ2000	ø1/8" One-touch fitting (Elbow type)	KJL01-C1
4(A) 2(B)	ø5/32" One-touch fitting (Elbow type)	KJL03-C1
2(0)	ø1/8" One-touch fitting (Long elbow type)	KJW01-C1
	ø5/32" One-touch fitting (Long elbow type)	KJW03-C1
	ø1/8" One-touch fitting (Straight)	KJH01-C2
	ø5/32" One-touch fitting (Straight)	KJH03-C2
	ø1/4" One-touch fitting (Straight)	KJH07-C2
SJ3000	ø1/8" One-touch fitting (Elbow type)	KJL01-C2
4(A)	ø5/32" One-touch fitting (Elbow type)	KJL03-C2
2(B)	ø1/4" One-touch fitting (Elbow type)	KJL07-C2
	ø1/8" One-touch fitting (Long elbow type)	KJW01-C2
	ø5/32" One-touch fitting (Long elbow type)	KJW03-C2
	ø1/4" One-touch fitting (Long elbow type)	KJW07-C2
1(P)	ø1/4" One-touch fitting (Straight)	VVQ1000-51A-N7
3/5(E)	ø5/16" One-touch fitting (Straight)	VVQ1000-51A-N9

SJ3A6

000

Common becificatic

Construction

Plug-in

D-sub Flat Ribbon

EX180

EX510

Non Plug-in

Individual Wiring

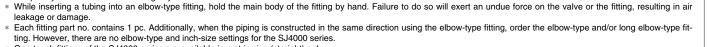
Manifold Options

Aade t Order

D-sub Flat Ribb Serial



ndividua Wiring



To change the port size of the 1(P), 3/5(E) ports into the port sizes other than ø8 (straight) for the SJ1000/2000/3000 and ø10 (straight) for the SJ4000, specify the change on

When removing a straight-type fitting from a valve, after removing the clip, attach tubing or a plug (KJP-02, KQ2P-DD) to the One-touch fitting, and pull it out while holding the

\* Be sure to turn off the power and stop the supply of air before disassembly. Furthermore, since air may remain inside the actuator, piping, and manifold, confirm that the air is

\* One-touch fittings of the SJ4000 series are available in metric size (straight) only.

Be careful to avoid damage or contamination to the O-rings, as this can cause air leakage.

#### Clip Part Nos.

the manifold specification sheet.

completely exhausted before starting any work.

	Par	Note		
SJ1000	SJ2000	SJ3000	SJ4000	Note
SJ1000-CL-1	SJ2000-CL-1	SJ3000-CL-1	JSY31M-19P-1A	These part numbers contain 10 pcs. each.

tubing or plug. If it is pulled out while holding the release button of the fitting (resin part), the release button may be damaged.



Be sure to read this before handling the products. Refer to the back cover for safety instructions. For 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

#### **One-touch Fittings**

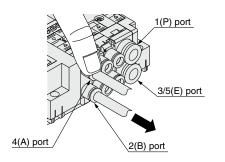
# **≜**Caution

The pitch of the SJ series piping ports (A, B, etc.) has been set assuming the use of KJ series One-touch fittings. Therefore, when using fittings with an M3 or M5 port block, there may be some interference between fittings, depending on the type and size, so please use after checking dimensions in the catalog for the pipe fitting being used.

#### 1. Tube attachment/detachment for One-touch fittings

#### 1) Tube attachment

- (1) Take a tube having no flaws on its periphery and cut it off at a right angle. When cutting the tube, use tube cutters TK-1, 2, or 3. Do not use pinchers, nippers, scissors, etc. If cutting is done with tools other than tube cutters, the tube may be cut diagonally or become flattened, etc., making a secure installation impossible, and causing problems such as the tube pulling out after installation or air leakage.
  - Allow some extra length in the tube.
- (2) Grasp the tube and push it in slowly, inserting it securely all the way into the fitting.
- (3) After inserting the tube, pull on it lightly to confirm that it will not come out. If it is not installed securely all the way into the fitting, this can cause problems such as air leakage or the tube pulling out.
- 2) Tube detachment
  - (1) The 4(A) and 2(B) ports use the KJ series, so the tube can be removed by pressing on part of the release button. However, for the 1(P) and 3/5(E) ports, please press the release button evenly as before.
  - (2) Pull out the tube while holding down the release button so that it does not come out. If the release button is not pressed down sufficiently, there will be increased bite on the tube and it will become more difficult to pull it out.
  - (3) When the removed tube is to be used again, cut off the portion which has been chewed before reusing it. If the chewed portion of the tube is used as is, this can cause trouble such as air leakage or difficulty in removing the tube.



Hold down part of the release button with your finger or a similar tool, as shown in the diagram, and pull out in the direction indicated by the arrow.

#### Other Tube Brands

### **▲**Caution

- 1. When using other than SMC brand tube, confirm that the following specifications are satisfied with respect to the tube outside diameter tolerance.
  - 1) Nylon tube

within ±0.1 mm be within ±0.1 mm

2) Soft nylon tube within  $\pm 0.1$ 

3) Polyurethane tube within +0.15 mm, within -0.2 mm Do not use tube which does not meet these outside diameter tolerances. It may not be possible to connect them, or they may cause other trouble, such as air leakage or the tube pulling out

#### How to Use Plug Connector

### **≜**Caution

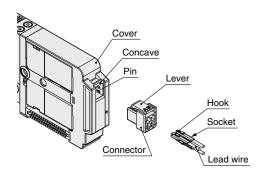
after connection.

When attaching and detaching a connector, first shut off the electric power and the air supply.

Also, crimp the lead wires and sockets securely.

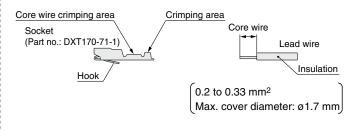
#### 1. Connector attachment/detachment

- To attach a connector, hold the lever and connector unit between your fingers and insert straight onto the pins of the solenoid valve so that the lever's pawl is pushed into the groove and locks.
- To detach a connector, remove the pawl from the groove by pushing the lever downward with your thumb, and pull the connector straight out.



#### 2. Crimping of lead wires and sockets

Peel 3.2 to 3.7 mm of the tip of the lead wire, enter the core wires neatly into a socket and crimp it with a special crimp tool. Be careful so that the cover of the lead wire does not enter into the crimping part. (Please contact SMC for the dedicated crimping tools.)







Be sure to read this before handling the products. Refer to the back cover for safety instructions. For 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

#### How to Use Plug Connector

### **A**Caution

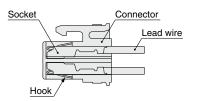
#### 3. Lead wires with sockets attachment/detachment

#### Attachment

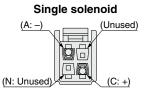
Insert the sockets into the square holes of the connector (with A, B, C, and N indication), and continue to push the sockets all the way in until they lock by hooking into the seats in the connector. (When they are pushed in, their hooks open, and they are locked automatically.) Next, confirm that they are locked by pulling lightly on the lead wires.

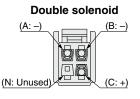
#### Detachment

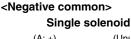
To detach a socket from a connector, pull out the lead wire while pressing the socket's hook with a stick having a thin tip (approx. 1 mm). If the socket is used again, spread the hook outward.

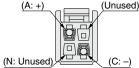


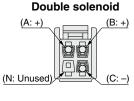
#### <Positive common>











#### Plug Connector Lead Wire Length

### **▲**Caution

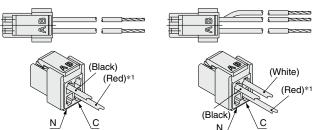
Single solenoid

Plug connector lead wires have a standard length of 300 mm, however, the following lengths are also available.

#### **Connector Part Nos.**

### Double solenoid,

3-position type, 4-position type SJ3000-46-S(for positive common) SJ3000-46-D(for positive common) SJ3000-47-S(for negative common) SJ3000-47-D(for negative common)



\*1 In case of negative common, the lead wire changes from red to yellow.

Lead wire length For single solenoid: SJ3000-46-S-Nil 6 1000 mm 10 For double solenoid 15 1500 mm For 3-position type : SJ3000- 46 -D-20 2000 mm For 4-position type 25 2500 mm Common specifications 30 3000 mm 46 For positive common 50 5000 mm 47 For negative common

For single solenoid

Without lead wire: SJ3000-46-S-N (positive/negative common) (Connector, Socket x 2 pcs. only)

#### For double solenoid

Without lead wire: SJ3000-46-D-N (positive/negative common) (Connector, Socket x 3 pcs. only)

#### How to Order

Include the connector assembly part number together with the part number for the plug connector's solenoid valve without connector.

(Example) In case of lead wire length 2000 mm and positive common

SJ3160-5MOZ-C6 SJ3000-46-S-20

Connector for Manifolds (for Junction Common)

### 

SMC

Using the connector (for junction common) for solenoid valves installed in the manifold reduces the labor involved in wiring work because common wiring for all solenoid valves is integrated into a single wire. 000

Individual Wiring



Be sure to read this before handling the products. Refer to the back cover for safety instructions. For 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

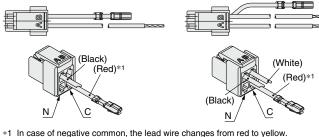
#### Connector (for Junction Common) Part Nos.

#### Single solenoid

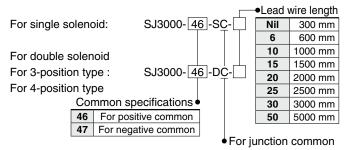
Double solenoid,

SJ3000-46-SC- (for positive common) SJ3000-47-SC- (for negative common)

3-position type, 4-position type SJ3000-46-DC- (for positive common) SJ3000-47-DC- (for negative common)



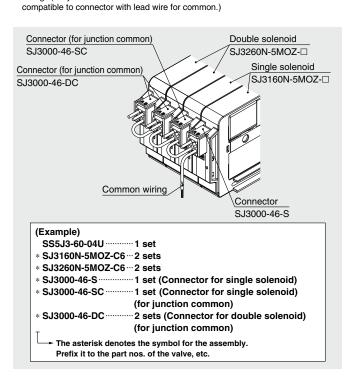
\*1 In case of negative common, the lead wire changes from red to yellow.



#### How to Order

Indicate the part no. of the connector for the manifold and valve. If the arrangement is too complicated, please specify the details on a manifold specification sheet.

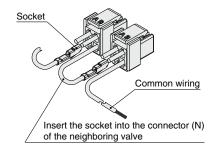
- Applications like connectors not wired to a valve are not possible
- For the valve, please designate "No connector (MOZ)" for the connector type. Connector with lead wire for place where the signals are transmitted to the common wiring. (Only the valves of the first station and/or last station of the manifold are



#### Wiring Instructions for Connector (for Junction Common)

### /!\ Caution

If only connector (for junction common) is ordered, please wire according to the instructions in the diagram below.





Be sure to read this before handling the products. Refer to the back cover for safety instructions. For 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

#### **One-touch Fittings**

# **A**Caution

When fittings are used, they may interfere with one another depending on their types and sizes. Therefore, the dimensions of the fittings to be used should first be confirmed in their respective catalogs.

Fittings whose compliance with the SJ series is already confirmed are stated below. If the fitting within the applicable range is selected, there will not be any interference.

#### Applicable Fittings: KQ2H, KQ2S Series K.IH, K.IS Series

	<b>КЈП, КЈЗ З</b> Е	nes																				
Series	Model	Dining part	Port size Fitting		Applicable tubing O.D.																	
Series	Iviodei	Piping port	Port size	Filling	ø2	ø3.2	ø4	ø6														
				KQ2H																		
SJ3000	SJ3⊡60-□□-M5	4A, 2B	M5	KJH																		
(10 mm pitch)		4A, 2D	CIVI	KQ2S																		
				KJS																		
	SJ2□60-□□-M3 4A, 28			KQ2H KJH																		
SJ2000		44.00	M3																			
(7.5 mm pitch)		4A, 2D	KQ2S KJS																			
				KQ2H																		
SJ3A6	<b>SJ3A6-</b> □□ 2B	0.0	M5	KJH														KJH				
(10 mm pitch)		28		KQ2S																		
(				KJS			[															
	1	1		_	1		1															



1000

000

000

Common Specification

Construction

Spec





Flat Ri Seri

Individual Non Wiring Plug-in

ecific Produ

### ▲ Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of "**Caution**," "**Warning**" or "**Danger**." They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)<sup>\*1</sup>, and other safety regulations.

- Caution: indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.
- Warning: Warning indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

**Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

### **A**Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

- 3. Do not service or attempt to remove product and machinery/ equipment until safety is confirmed.
  - The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
  - 2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
  - 3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

# 4. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.

- 1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
- 2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog.
- 3. An application which could have negative effects on people, property, or animals requiring special safety analysis.
- 4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

- \*1) ISO 4414: Pneumatic fluid power General rules relating to systems.
  - ISO 4413: Hydraulic fluid power General rules relating to systems. IEC 60204-1: Safety of machinery – Electrical equipment of machines. (Part 1: General requirements)
  - ISO 10218-1: Manipulating industrial robots Safety. etc.

### 

 The product is provided for use in manufacturing industries. The product herein described is basically provided for peaceful use in manufacturing industries. If considering using the product in other industries, consult SMC beforehand

and exchange specifications or a contract if necessary. If anything is unclear, contact your nearest sales branch.

#### Limited warranty and Disclaimer/ Compliance Requirements

The product used is subject to the following "Limited warranty and Disclaimer" and "Compliance Requirements".

Read and accept them before using the product.

#### Limited warranty and Disclaimer

- The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first.\*2) Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
- 2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided. This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
- Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.
  - 2) Vacuum pads are excluded from this 1 year warranty. A vacuum pad is a consumable part, so it is warranted for a year after it is delivered. Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

#### **Compliance Requirements**

- 1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
- 2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

### 

### SMC products are not intended for use as instruments for legal metrology.

Measurement instruments that SMC manufactures or sells have not been qualified by type approval tests relevant to the metrology (measurement) laws of each country. Therefore, SMC products cannot be used for business or certification ordained by the metrology (measurement) laws of each country.

Revision H	istory
A regulator block and an intermediate connector block have been added as options.     The SJ3A6 series vacuum release valve with restrictor has been added.     Number of pages has been increased from 48 to 96.     LZ	* A slide locking type manual override has been added.       * Number of pages has been increased from 96 to 112.       RQ         dition D       * The SJ1000 series has been added.       * A low-profile SUP/EXH block has been added as an option.       * Number of pages has been increased from 112 to 120.       AR         dition E       * The SJ3000A and SJ4000 series have been added.       * Number of pages has been increased from 120 to 148.       AA
Safety Instructions Be sure to read the "Handling Precautions SMC Corporation Akihabara UDX 15F, 4-14-1, Sotokanda, Chiyoda-ku, Tokyo 101-0021, JAPAN Phone: 03-5207-8249 Fax: 03-5298-5362 https://www.smcworld.com © 2023 SMC Corporation All Rights Reserved Consideration on which the phone without prior patient	s for SMC Products" (M-E03-3) and "Operation Manual" before use.