

Solenoid Valve SVA

Pilot solenoid valve with 2/3/5 ports (Stand-alone type, Manifold type)

⚠ Safety instructions for this product

Safety instructions, Common safety instructions for each product category and Detailed safety instructions for each product are in the end of this catalog and our website.

Model Designation of SVA21 Sub-base piping type (Example)

SVA	21	-	6C	8C	S	-	S	B	-	D24
(1)	(2)		(3)	(4)	(5)		(6)	(7)		(8)

(1) Solenoid Valve SVA

(2) Valve series

21: Sub-base piping type (16mm width valve)

(3) Output port size

Port style Code	mm size (mm)						inch size (inch)					
	Side			Top			Side			Top		
	6C	8C	0C	6L	8L	0L	1/4C	5/16C	3/8C	1/4L	5/16L	3/8L
Tube O.D.	ø6	ø8	ø10	ø6	ø8	ø10	ø1/4	ø5/16	ø3/8	ø1/4	ø5/16	ø3/8

(4) Intake port size

Port style Code	mm size (mm)						inch size (inch)					
	Side			Top			Side			Top		
	6C	8C	0C	6L	8L	0L	1/4C	5/16C	3/8C	1/4L	5/16L	3/8L
Tube O.D.	ø6	ø8	ø10	ø6	ø8	ø10	ø1/4	ø5/16	ø3/8	ø1/4	ø5/16	ø3/8

* When a silencer is selected for Exhaust port, port style should be side.

(5) Exhaust port size

Code	mm size (mm)			inch size (inch)			Silencer (Open-Air Exhaust)
	6	8	0	1/4	5/16	3/8	
Tube O.D.	ø6	ø8	ø10	ø1/4	ø5/16	ø3/8	—

*1. Port style of Exhaust port is the same as that of Intake port.

*2. When tube exhaust is selected and Valve type T or U for (6), do not plug the exhaust port for any reason since the pilot air is discharged through the port. Plugging of exhaust port will cause malfunction.

(6) Mounting valve type

Code	No. of ports	No. of positions	Valve type
S	5	2	Single solenoid
D			Double solenoid
E	3	2	4 (A), 2 (B) port: Normally Closed (Twin 3-way valve)
F			4 (A), 2 (B) port: Normally Open (Twin 3-way valve)
G			4 (A) port: Normally Closed, 2 (B) port: Normally Open (Twin 3-way valve)
H			4 (A) port: Normally Open, 2 (B) port: Normally Closed (Twin 3-way valve)
A	5	3	Closed Center
R			Exhaust Center
P			Pressure Center
T	2	2	Single solenoid (Vacuum-operatable valve)
U			Double solenoid (Vacuum-operatable valve)
V	3	2	Single solenoid (Vacuum-operatable valve)
W			Double solenoid (Vacuum-operatable valve)

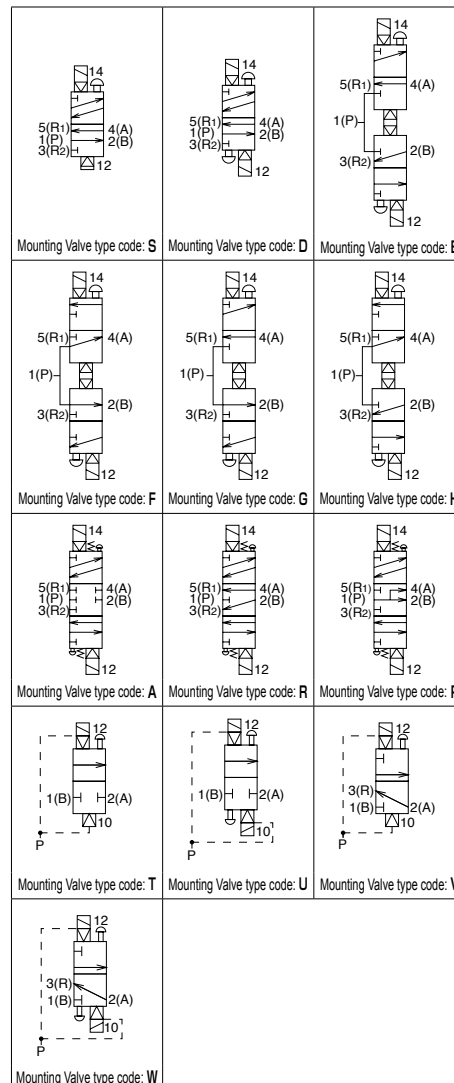
(7) Body color

B: Black

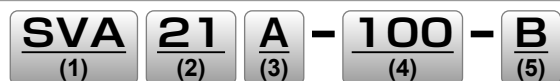
(8) Voltage

Code	D24	100
Coil voltage	24VDC	100VAC

■ Mounting Valve type JIS symbol



Model Designation of Sub-base Mounting Valve Unit (Example)



(1) Solenoid Valve SVA

(2) Valve series

21: Sub-base piping type (16mm width valve)

(3) Mounting Valve type

Code	No. of ports	No. of positions	Valve type
S	5	2	Single solenoid
D			Double solenoid
E	3	2	4 (A), 2 (B) port: Normally Closed (Twin 3-way valve)
F			4 (A), 2 (B) port: Normally Open (Twin 3-way valve)
G			4 (A) port: Normally Closed, 2 (B) port: Normally Open (Twin 3-way valve)
H			4 (A) port: Normally Open, 2 (B) port: Normally Closed (Twin 3-way valve)
A	5	3	Closed Center
R			Exhaust Center
P			Pressure Center
T	2	2	Single solenoid (Vacuum-operatable valve)
U			Double solenoid (Vacuum-operatable valve)
V	3	2	Single solenoid (Vacuum-operatable valve)
W			Double solenoid (Vacuum-operatable valve)

* Valve type JIS symbol in on the previous page.

(4) Voltage

Code	D24	100
Coil voltage	24VDC	100VAC

(5) Body color

B: Black

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Model Designation of Manifold piping type (Example)

SVA (1)	20 (2)	08 (3)	A (4)	-	8C (5)	0C (6)	A08 (7)	8 (8)	-	F (9)	B (10)	-	K (11)	-	D24 (12)	-	(13)	(14)
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(1) Solenoid Valve SVA

(2) Valve series

20: Manifold piping type (16mm width valve)

(3) No. of stations

Code	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19
No. of stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

(4) Intake & Exhaust block

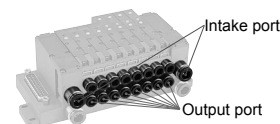
Code	A	B
Block shape	On Both sides	On One side



A: Intake & Exhaust block on Both sides B: Intake & Exhaust block on One side

(5) Output port size

Port style Code	mm size (mm)						inch size (inch)			
	Side			Top			Side		Top	
	1C	6C	8C	1L	6L	8L	1/4C	5/16C	1/4L	5/16L
Tube O.D.	Combination in different sizes		ø6 ø8	Combination in different sizes		ø6 ø8	ø1/4	ø5/16	ø1/4	ø5/16



(6) Intake port size

Port style Code	mm size (mm)						inch size (inch)					
	Side			Top			Side		Top			
	8C	0C	2C	8L	0L	2L	5/16C	3/8C	1/2C	5/16L	3/8L	1/2L
Tube O.D.	ø8	ø10	ø12	ø8	ø10	ø12	ø5/16	ø3/8	ø1/2	ø5/16	ø3/8	ø1/2

(7) Exhaust check valve

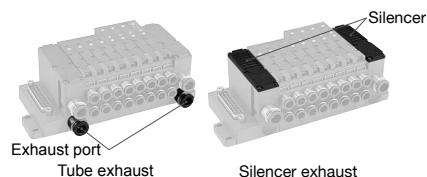
Code	A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	No code
No. of stations	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	without check valve

(8) Exhaust port size

Code	mm size (mm)			inch size (inch)			Silencer (Open-Air Exhaust)
	8	0	2	5/16	3/8	1/2	S
Tube O.D.	ø8	ø10	ø12	ø5/16	ø3/8	ø1/2	—

*1. Port style of Exhaust port is the same as that of Intake port.

*2. When tube exhaust is selected and Valve type T or U for (11), do not plug the exhaust port for any reason since the pilot air is discharged through the port. Plugging of exhaust port will cause malfunction.



(9) Wiring type

Code	D	S	F
Wiring type	Sub-D Connector	Individual Plug-in Connector	Flat cable (ribbon-cable) connector



Sub-D Connector



Individual Plug-in Connector



Flat cable (ribbon-cable) connector

(10) Body color

B: Black

(11) Mounting valve type

Code	No. of ports	No. of positions	Valve type
S	5	2	Single solenoid
D			Double solenoid
E	3	2	4 (A), 2 (B) port: Normally Closed (Twin 3-way valve)
F			4 (A), 2 (B) port: Normally Open (Twin 3-way valve)
G			4 (A) port: Normally Closed, 2 (B) port: Normally Open (Twin 3-way valve)
H			4 (A) port: Normally Open, 2(B) port: Normally Closed (Twin 3-way valve)
A	5	3	Closed Center
R			Exhaust Center
P			Pressure Center
T	2	2	Single solenoid (Vacuum-operatable valve)
U			Double solenoid (Vacuum-operatable valve)
V	3	2	Single solenoid (Vacuum-operatable valve)
W			Double solenoid (Vacuum-operatable valve)
K	Combination of Valves		
B	Blank Plate		
M	Manifold-base only		

(12) Voltage

Code	D24	100
Coil voltage	24VDC	100VAC

* No entry when mounting valve type is B (Blank plate) or M (Manifold-base only)

(13) Dual pressure option

Code	No code	P
Supply pressure	Single pressure	Double pressure ^{*1, 2}

*1. Please specify pressure separating position by an order form.

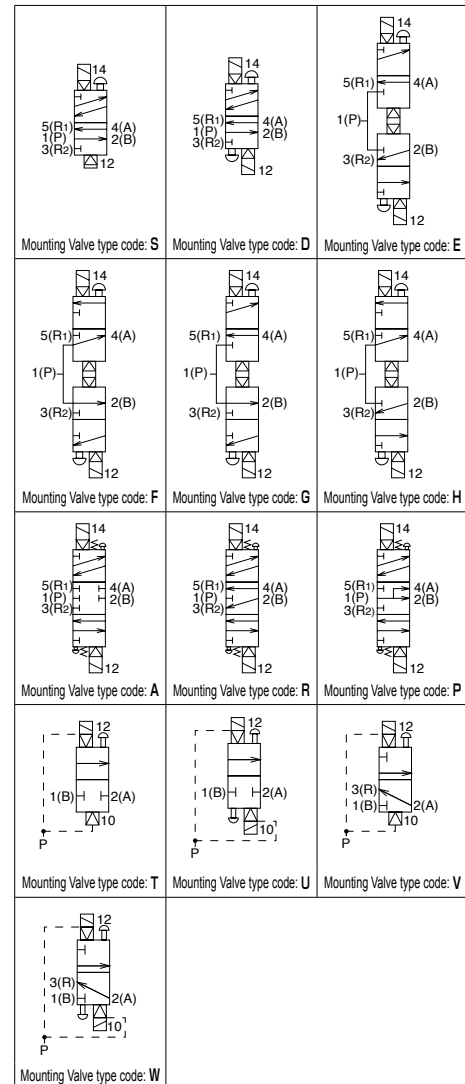
*2. Intake & Exhaust Block for Dual Pressure is "A" type (Intake & Exhaust Block on Both sides) only.

(14) DIN-rail mounting bracket

Code	No code	D
DIN-rail mounting bracket	Without bracket	With DIN-rail bracket

* 1set of DIN-rail bracket contains 2pcs.

■ Mounting Valve type JIS symbol



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Model Designation of Manifold mounting valve unit alone (Example)

SVA (1) **20** (2) **D** (3) - **D24** (4) **D** (5) - **B** (6)

(1) Solenoid Valve SVA

(2) Valve series

20: Manifold piping type (16mm width valve)

(3) Mounting valve type

Code	No. of ports	No. of positions	Valve type
S	5	2	Single solenoid
D			Double solenoid
E	3	2	4 (A), 2 (B) port: Normally Closed (Twin 3-way valve)
F			4 (A), 2 (B) port: Normally Open (Twin 3-way valve)
G			4 (A) port: Normally Closed, 2 (B) port: Normally Open (Twin 3-way valve)
H			4 (A) port: Normally Open, 2 (B) port: Normally Closed (Twin 3-way valve)
A	5	3	Closed Center
R			Exhaust Center
P			Pressure Center
T	2	2	Single solenoid (Vacuum-operatable valve)
U			Double solenoid (Vacuum-operatable valve)
V	3	2	Single solenoid (Vacuum-operatable valve)
W			Double solenoid (Vacuum-operatable valve)

(4) Voltage

Code	D24	100
Coil voltage	24VDC	100VAC

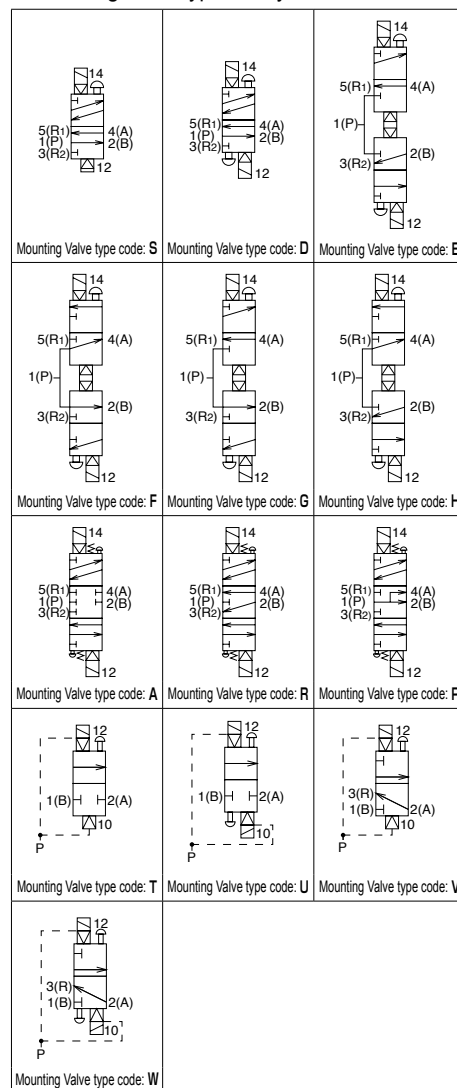
(5) Wiring type

Code	D	S
Wiring type	Concentrated wiring (Sub-D connector, Flat cable connector)	Individual wiring (Individual Plug-in Connector)

(6) Body color

B: Black

Mounting Valve type JIS symbol



Model Designation of DIN-rail mounting bracket

DRF35S (1)

(1) DIN-rail mounting bracket

Model Designation of Blank plate (Example)

SVA (1) **20** (2) **B - B**

(1) Solenoid Valve SVA

(2) Series

20 : For 20 series

Model Designation of Silencer element (Example)

SVA (1) **21** (2) **EX - E**

(1) Solenoid Valve SVA

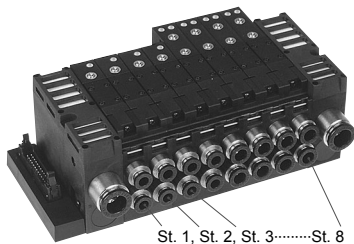
(2) Series

20: For 20 series

21: For 21 series

Example of Manifold type (20 series) Model Designation

Model (1)	Series (2)	No. of stations (3)	In. & Ex. block (4)	—	Out-port (5)	In-port (6)	Check valve (7)	Ex-port (8)	—	Wiring (9)	Color (10)	—	Valve (11)	—	Voltage (12)	—	2-press. (13)	DIN-rail (14)
SVA	20	08	A	—	1C	2C	A04	S	—	F	B	—	K	—	D24	—		



* Station No. is counted as St.1, St.2, St.3 ... St.8 from left side with the tube fittings at the front as shown in the figure above.

Station No.	Out-port	Check valve	Mounting valve type	2-press.
St. 1	6		SVA20	S
St. 2	6		SVA20	S
St. 3	6		SVA20	S
St. 4	6		SVA20	S
St. 5	8	A	SVA20	D
St. 6	8	A	SVA20	D
St. 7	8	A	SVA20	D
St. 8	8	A	SVA20	D

Cut here

SVA20 Solenoid Valve Specification Order Form

Person in charge: _____

To: NIHON PISCO Co.,Ltd. _____

Distributor/Dealer address: _____

TEL _____

Delivery address: _____

TEL _____

Customer address: _____

TEL _____

Requested EX-W PISCO Date: _____

Quantity _____

pcs. _____

Model (1)	Series (2)	No. of stations (3)	In. & Ex. block (4)	—	Out-port (5)	In-port (6)	Check valve (7)	Ex-port (8)	—	Wiring (9)	Color (10)	—	Valve (11)	—	Voltage (12)	—	2-press. (13)	DIN-rail (14)
SVA	20			—					—		B	—		—		—		

Station No.	Out-port	Check valve	Mounting valve type	2-press.
St. 1			SVA20	
St. 2			SVA20	
St. 3			SVA20	
St. 4			SVA20	
St. 5			SVA20	
St. 6			SVA20	
St. 7			SVA20	
St. 8			SVA20	
St. 9			SVA20	
St. 10			SVA20	
St. 11			SVA20	
St. 12			SVA20	
St. 13			SVA20	
St. 14			SVA20	
St. 15			SVA20	
St. 16			SVA20	
St. 17			SVA20	
St. 18			SVA20	
St. 19			SVA20	

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Characteristics

Lightweight and small-sized, yet high flow.

Effective Sectional Area of 18mm² with valve width 16mm

Various valve types are available.

2 options of intake and output port position; Top or side

Twin 3-way valve allows to control different 2 actuators simultaneously, but separately.

It contributes to save room where many 3-way valves are used with air-operated valves or single acting cylinders.

Vacuum-operatable 2/3-Port Solenoid Valve

Vacuum-operatable 2 or 3-way valve which does not require external piping.

Same in function as the external pilot system.

Single and Double solenoid types are available.

External piping is not necessary, so that mix-mounting of different valve types is possible.

* 20 series realizes easy-wiring, and piping and less room.

Manifold piping type (20 series)

Easy maintenance with a single-screw mounting mechanism.

Centralized wire harness makes manifold piping easy.

Sub-D Connector and Flat cable (ribbon-cable) connector are available.

Individual Plug-in Connector of Manifold piping is also available.



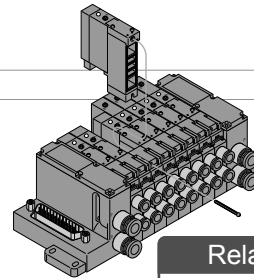
Sub-D Connector



Flat cable (ribbon-cable) connector



Individual Plug-in Connector



Related products



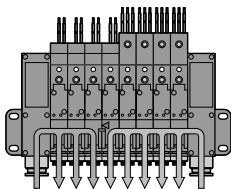
Sub-D Connector

► P.246

A check valve for each exhaust port to prevent back pressure can be installed as an option.

Dual pressure type allows 2 different pressures of supply air putting a separator between certain stations. Dual pressure type is an option.

Intake ports in a manifold are separated.



Bracket of DIN rail is available. It helps easy attachment and detachment.

With the bracket, a manifold can be firmly fixed.

Specifications

■ Sub-base Specifications

Model		SVA21	
Fluid medium		Air	
Operating pressure range		0.2 to 0.7 MPa	
Proof pressure		1.05 MPa	
Operating temp. range		5 to 50°C	
Installing direction		Universal (Conditional)	
No. of mountable main valve		1 pc.	
Tube dia.	1 (P) , 5 (R1) , 3 (R2) port	Push-in fitting (dia.)	ø6mm, ø8mm,ø10mm (*) ø1/4", ø5/16", ø3/8" (*)
	4 (A) , 2 (B) port	Push-in fitting (dia.)	ø6mm, ø8mm,10mm ø1/4", ø5/16", ø3/8"
Wiring type	Type	Individual Plug-in Connector	
	No. of pins	3 pins	
Silencer		Standard equipment only with silencer exhaust 5 (R1) and 3 (R2) port.	

■ Manifold specifications

Item	Model	SVA20-A--D	SVA20-B--D	SVA20-A--F	SVA20-B--F	SVA20-A--S	SVA20-B--S
Fluid medium		Air					
Operating pressure range		0.2 to 0.7 MPa					
Proof pressure		1.05 MPa					
Operating temp. range		5 to 50°C					
Installing direction		Universal (Conditional)					
No. of mountable main valve		max. 12pcs.		max. 19pcs.			
Tube dia.	1 (P) , 5 (R1) , 3 (R2) port	Push-in fitting (dia.)					
		ø8mm×2	ø8mm×1	ø8mm×2	ø8mm×1	ø8mm×2	ø8mm×1
		ø10mm×2	ø10mm×1	ø10mm×2	ø10mm×1	ø10mm×2	ø10mm×1
		ø12mm×2	ø12mm×1	ø12mm×2	ø12mm×1	ø12mm×2	ø12mm×1
		ø5/16"×2	ø5/16"×1	ø5/16"×2	ø5/16"×1	ø5/16"×2	ø5/16"×1
		ø3/8"×2	ø3/8"×1	ø3/8"×2	ø3/8"×1	ø3/8"×2	ø3/8"×1
		ø1/2"×2	ø1/2"×1	ø1/2"×2	ø1/2"×1	ø1/2"×2	ø1/2"×1
	4 (A) , 2 (B) port	Push-in fitting (dia.): ø6mm, ø8smm					
Wiring type	Type	Sub-D Connector		Flat cable (ribbon-cable) connector		Individual Plug-in Connector	
	No. of pins	9pins, 25pins ^(*)		10pin, 26pins, 40pins ^(*)		3 pins	
Silencer		Standard equipment only with silencer exhaust 5 (R1) and 3 (R2) port.					

*1. For 2 to 4 stations, 9 pins. For 5 to 12 stations, 25 pins.

*2. For 2 to 4 stations, 10 pins. For 5 to 12 stations, 26 pins. For 13 to 19 stations, 40 pins.

■ Solenoid Valve Specifications (24VDC)

Model		SVA21-D24 / SVA20-D24									
Valve type		S	D	A,R,P	E,F,G,H	T	U	V	W		
Piping spec.											
Pilot valve	Operating system	Direct acting operation									
	Valve structure	Rubber seal, Poppet valve									
	Rated coil voltage	24VDC									
	Tolerance of voltage range	21.6 to 26.4 VDC									
	Power consumption	1.2 W (with LED)									
	Surge protection circuit	Diode									
	Manual override	Non-lock push button									
	Operating pressure range	0.2 to 0.7 MPa									
Main valve	Operating system	Pneumatic operation by pilot valve									
	Valve structure	Rubber seal, Spool valve									
	No. of positions	2positions		3positions		2positions					
	No. of ports	5ports			3 ports x2(*1)		2ports		3ports		
	Valve function	Single	Double		Singlex2	Single	Double	Single	Double		
	No. of pilot points	1	2			1	2	1	2		
	Response time(*2)	18msec	12msec	18msec			12msec	18msec	12msec		
	Max. operation cycle	5Hz									
	Min. excitation time			50msec				50msec			
	Lubrication	Not required									
	Operating pressure range	0.2 to 0.7 MPa					- 0.1 to 0.7 MPa				

*1. This is a valve construction incorporating 2× 3-port valves. 1(P) is common.

*2. Values are at air pressure of 0.5MPa and from power off to on. For 3 positions valve, the value is from neutral position of closed center.

■ Solenoid Valve Specifications (100VAC)

Model		SVA21-100 / SVA20-100									
Valve type		S	D	A,R,P	E,F, G,H	T	U	V	W		
Piping spec.											
Pilot valve	Operating system	Direct acting operation									
	Valve structure	Rubber seal, Poppet valve									
	Rated coil voltage	100VAC									
	Tolerance of voltage range	90 to 110 VAC									
	Power consumption	1.5 VA (with LED)									
	Surge protection circuit	Diode									
	Manual override	Non-lock push button									
	Operating pressure range	0.2 to 0.7 MPa									
Main valve	Operating system	Pneumatic operation by pilot valve									
	Valve structure	Rubber seal, Spool valve									
	No. of positions	2positions		3positions		2positions					
	No. of ports	5ports			3 ports ×2 ^(*)		2ports		3ports		
	Valve function	Single	Double		Single×2	Single	Double	Single	Double		
	No. of pilot points	1	2			1	2	1	2		
	Response time ^(*)	18msec	12msec	18msec			12msec	18msec	12msec		
	Max. operation cycle	5Hz									
	Min. excitation time			50msec				50msec		50msec	
	Lubrication	Not required									
	Operating pressure range	0.2 to 0.7 MPa				- 0.1 to 0.7 MPa					

*1. This is a valve construction incorporating 2× 3-port valves. 1(P) is common.

*2. Values are at air pressure of 0.5MPa and from power off to on. For 3 positions valve, the value is from neutral position of closed center.

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■ Flow characteristics of Sub-base type

Model		SVA21						
Piping spec.	Valve type	S	D	A,R,P	E,F,G,H	T,U	V,W	
1(P)→4(A),2(B)(ø10mm)(*)1	S(*)4	17 (0.92)	17 (0.92)	12 (0.65)	15 (0.81)	17 (0.92)	17 (0.92)	
1(P)→4(A),2(B)(ø8mm)(*)1	S(*)4	16 (0.86)	16 (0.86)	12 (0.65)	14.5 (0.78)	13 (0.7)	13 (0.7)	
1(P)→4(A),2(B)(ø6mm)(*)1	S(*)4	10.5 (0.56)	10.5 (0.56)	9.5 (0.51)	10.5 (0.56)	8.5 (0.46)	8.5 (0.46)	
4(A),2(B)(ø10 mm)→5(R ₁),3(R ₂) Without Check valve(*)2,3	S(*)4	18 (0.97)	18 (0.97)	14 (0.75)	14 (0.75)		17.5 (0.95)	
4(A),2(B)(ø8 mm)→5(R ₁),3(R ₂) With Check valve(*)2	S(*)4							
4(A),2(B)(ø8 mm)→5(R ₁),3(R ₂) Without Check valve(*)2,3	S(*)4	17 (0.92)	17 (0.92)	13.5 (0.73)	13.5 (0.73)		14 (0.76)	
4(A),2(B)(ø6 mm)→5(R ₁),3(R ₂) With Check valve(*)2	S(*)4							
4(A),2(B)(ø6 mm)→5(R ₁),3(R ₂) Without Check valve(*)2,3	S(*)4	10.5 (0.56)	10.5 (0.56)	10 (0.54)	10 (0.54)		9.5 (0.51)	

- *1. Values of valve type T/U/V/W are with the flow direction 1(B) to 2(A).
 *2. The value of open-air R port exhaust flow rate.
 *3. Values of valve type V/W are with the flow direction 2(A) to 3(R).
 *4. S: Effective sectional area S (mm² (CV))
 *5. Refer to the flow rate of dia. 6 mm for inch port size of dia. 1/4", refer to dia. 8 mm for dia. 5/16", refer to dia. 10 mm for dia. 3/8" respectively.

■ Flow characteristics of Manifold type

Model		SVA20						
Piping spec.	Valve type	S	D	A,R,P	E,F,G,H	T,U	V,W	
1(P)→4(A),2(B)(ø10mm)(*)1	S(*)4							
1(P)→4(A),2(B)(ø8mm)(*)1	S(*)4	16 (0.86)	16 (0.86)	12 (0.65)	14.5 (0.78)	13.5 (0.73)	13.5 (0.73)	
1(P)→4(A),2(B)(ø6mm)(*)1	S(*)4	10.5 (0.56)	10.5 (0.56)	9.5 (0.51)	10.5 (0.56)	9 (0.49)	9 (0.49)	
4(A),2(B)(ø10 mm)→5(R ₁),3(R ₂) Without Check valve(*)2	S(*)4							
4(A),2(B)(ø8 mm)→5(R ₁),3(R ₂) With Check valve(*)2,3	S(*)4	17 (0.92)	17 (0.92)	13(0.7)	12.5 (0.67)		14 (0.76)	
4(A),2(B)(ø8 mm)→5(R ₁),3(R ₂) Without Check valve(*)2,3	S(*)4	21(1.13)	21(1.13)	15(0.81)	13.5 (0.73)		15.5 (0.84)	
4(A),2(B)(ø6 mm)→5(R ₁),3(R ₂) With Check valve(*)2,3	S(*)4	10.5 (0.56)	10.5 (0.56)	10 (0.54)	10 (0.54)		10 (0.54)	
4(A),2(B)(ø6 mm)→5(R ₁),3(R ₂) Without Check valve(*)2,3	S(*)4	10.5 (0.56)	10.5 (0.56)	10 (0.54)	10 (0.54)		9.5 (0.51)	

- *1. Values of valve type T/U/V/W are with the flow direction 1(B) to 2(A).
 *2. The value of open-air R port exhaust flow rate.
 *3. Values of valve type V/W are with the flow direction 2(A) to 3(R).
 *4. S: Effective sectional area S (mm² (CV))
 *5. Refer to the flow rate of dia. 6 mm for inch port size of dia. 1/4", refer to dia. 8 mm for dia. 5/16", refer to dia. 10 mm for dia. 3/8" respectively.

■ Cylinder Speed Table

Cylinder speed (mm/s)	Cylinder tube bore (mm)								
	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100	ø125
100									
200									
300									
400									
500									
600									
700									
800									

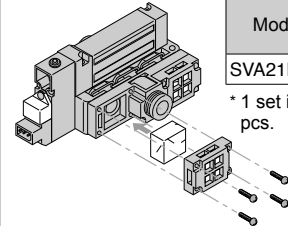
- *1. The cylinder average speed is referential at 0.5 MPa of pressure, 30% of load factor and 1 m of tube length.
 *2. The cylinder speed varies according to the configuration of piping and fittings.
 *3. The data in the above table represents the value when dia. 8 mm Push-in fitting is used on 4 (A) and 2 (B) ports of SVA20S-D24.

■ Specification of DIN-rail mounting bracket

Recommended thread fixing torque	0.3 to 0.4 N·m
Max. load capacity	100 N

RoHS2 (2011/65/EU+EU2015/863) compliant

Specification of Sub-base piping type (21 series)

Double solenoid valve		Single solenoid valve		Silencer element	
Type	Model code	Type	Model code	Model code	
Tube exhaust SVA	SVA21-345-6B-8	Tube exhaust SVA	SVA21-345-6B-8	SVA21EX-E * 1 set includes 2 pcs.	
					
Type	Model code	Type	Model code		
Silencer exhaust SVA	SVA21-34S-6B-8	Silencer exhaust SVA	SVA21-34S-6B-8		
					



Notes

- *1. Contact the nearest sales office for the price of SVA21 series.
 *2. Please select each code referring to the example of model designation from page 228 [3]: Output port size code, [4]: Intake port size code, [5]: Exhaust port size code, [6]: Valve type code and [8]: Voltage code.
 *3. The element is available only for Silencer (Open-air exhaust) type.



CAD data is available at PISCO website.



Packaging specifications
 1 pc. /bag
 Silencer element: 2 pcs/ set (=1 bag)

RoHS2 (2011/65/EU+EU2015/863) compliant

Manifold piping type (20 series)

Sub-D connector

Type	Model code	Type	Model code
In. & Ex. block on both sides (Tube exhaust) SVA 	SVA203A-5678-DB-11-12-1314	In. & Ex. block on one side (Tube exhaust) SVA 	SVA203B-5678-DB-11-12-1314
Type	Model code	Type	Model code
In. & Ex. block on both sides (Silencer exhaust) SVA 	SVA203A-5678-SB-11-12-1314	In. & Ex. block on one side (Silencer exhaust) SVA 	SVA203B-5678-SB-11-12-1314

Individual Plug-in Connector type

Type	Model code	Type	Model code
In. & Ex. block on both sides (Tube exhaust) SVA 	SVA203A-5678-SB-11-12-1314	In. & Ex. block on one side (Tube exhaust) SVA 	SVA203B-5678-SB-11-12-1314
Type	Model code	Type	Model code
In. & Ex. block on both sides (Silencer exhaust) SVA 	SVA203A-5678-SB-11-12-1314	In. & Ex. block on one side (Silencer exhaust) SVA 	SVA203B-5678-SB-11-12-1314

Flat cable (ribbon-cable) connector type

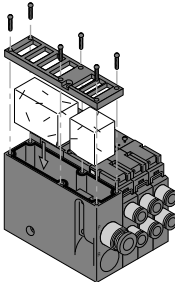
Type	Model code	Type	Model code
In. & Ex. block on both sides (Tube exhaust) SVA 	SVA203A-5678-FB-11-12-1314	In. & Ex. block on one side (Tube exhaust) SVA 	SVA203B-5678-FB-11-12-1314
Type	Model code	Type	Model code
In. & Ex. block on both sides (Silencer exhaust) SVA 	SVA203A-5678-SB-11-12-1314	In. & Ex. block on one side (Silencer exhaust) SVA 	SVA203B-5678-SB-11-12-1314

DIN-rail mounting bracket

Type	Model code
DIN-rail mounting bracket DRF 	DRF35S
Blank plate	
Type	Model code
Blank plate SVA20B-B 	SVA20B-B

Silencer element

Model code
SVA20EX-E
* 1 set includes 2 pcs.



Notes

- *1. No. of manifold stations and valve type in pictures above are just examples.
- *2. Please select each code referring to the example of model designation from page 230 to 231 [3]: No. of stations code, [5]: Output port size, [6]: Input port size, [7]: Exhaust check valve code, [8]: Exhaust port size code, [11]: Valve type code, [12]: Voltage code, [13]: Dual pressure code, and [14]: DIN-rail code.
- *3. The element is available only for Silencer (Open-air exhaust) type.

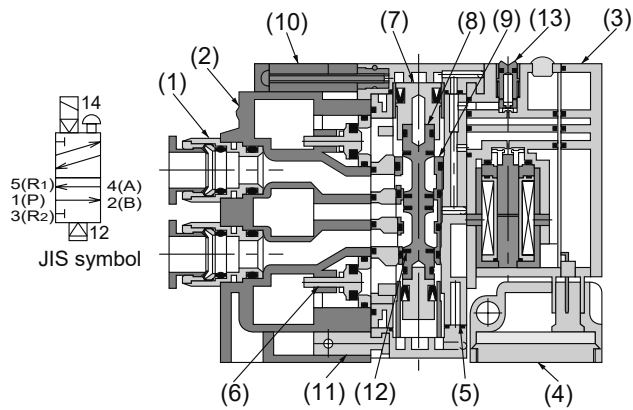
 CAD data is available at PISCO website.


Packaging specifications

1 pc. /bag
DIN-rail mounting bracket: 2 pcs/ bag
Silencer element: 2 pcs/ set (=1 bag)

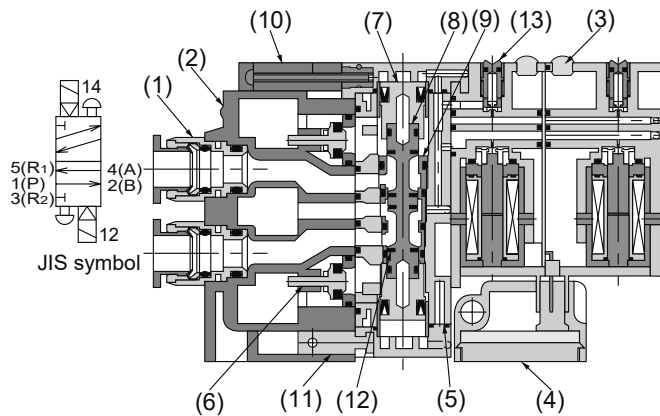
Sectional Drawings

2 positions, 5 ports, Single solenoid (SVA □ S)



No.	Parts	Material (Treatment)
1	Fitting Ass'y	
2	Manifold block	Polyamide resin
3	Pilot valve Ass'y	
4	Electrical part Ass'y	
5	Valve body	PBT
6	Check Valve Ass'y	
7	Piston	Electroless nickel-plated brass
8	Spool	Aluminum alloy
9	Sleeve	Aluminum alloy
10	Slide	POM
11	Fixing pin	Electroless nickel-plated brass
12	Spool seal rubber	NBR
13	Manual button	

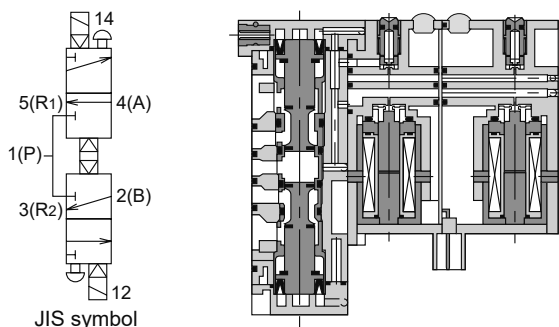
2 positions, 5 ports, Double solenoid (SVA □ D)



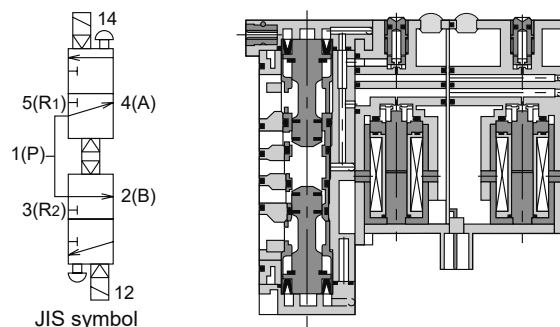
No.	Parts	Material (Treatment)
1	Fitting Ass'y	
2	Manifold block	Polyamide resin
3	Pilot valve Ass'y	
4	Electrical part Ass'y	
5	Valve body	PBT
6	Check Valve Ass'y	
7	Piston	Electroless nickel-plated brass
8	Spool	Aluminum alloy
9	Sleeve	Aluminum alloy
10	Slide	POM
11	Fixing pin	Electroless nickel-plated brass
12	Spool seal rubber	NBR
13	Manual button	

■ 2 positions, 3 ports, Valve (Twin 3-way valve)

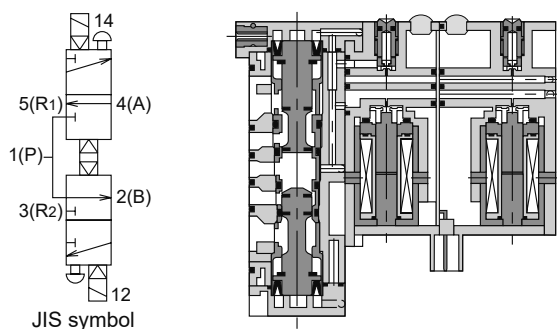
A port, B port: Normally closed (SVA□E)



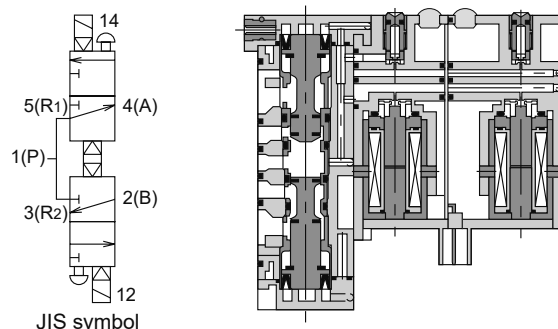
A port, B port: Normally open (SVA□F)



A port: Normally closed, B port: Normally open (SVA□G)

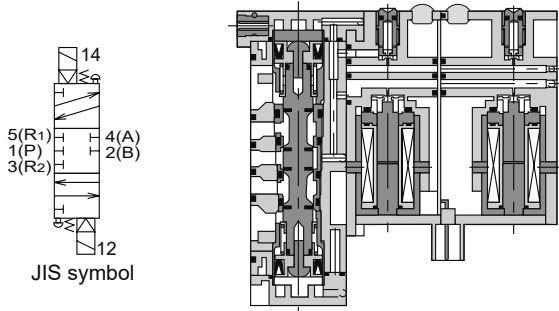


A port: Normally open, B port: Normally closed (SVA□H)

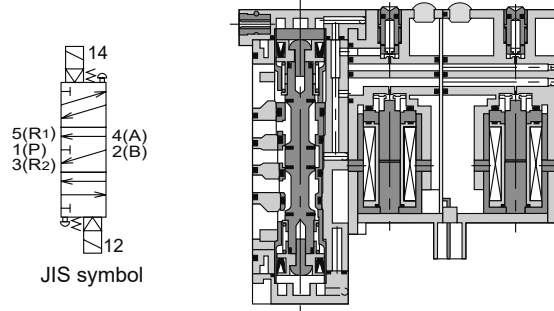


■ 3 positions, 5 ports, Double solenoid

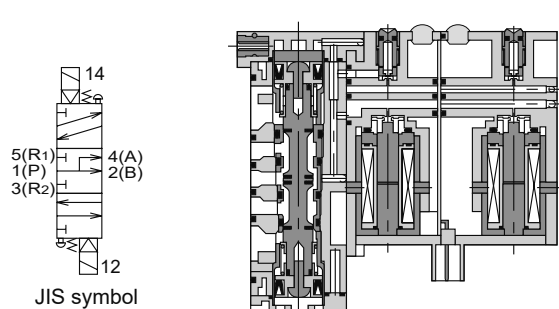
Closed center (SVA□A)



Exhaust center (SVA□R)

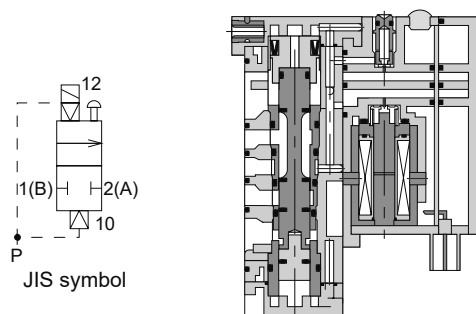


Pressure center (SVA□P)

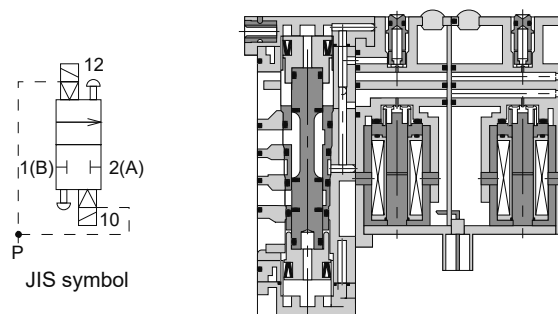


Vacuum-Operable 2- & 3-port Solenoid valve

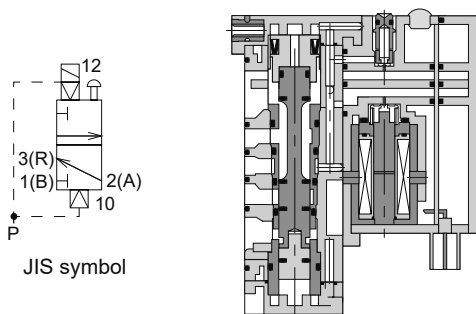
2 positions, 2 ports, Single solenoid (SVA□T)



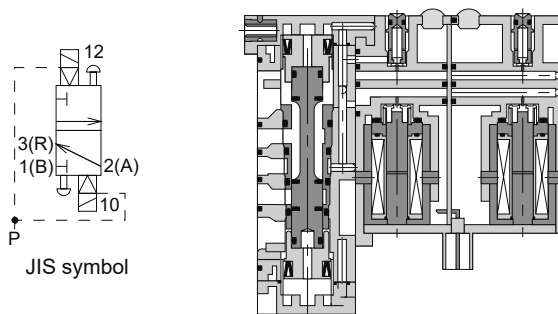
2 positions, 2 ports, Double solenoid (SVA□U)



2 positions, 3 ports, Single solenoid (SVA□V)



2 positions, 3 ports, Double solenoid (SVA□W)



Weight List

SVA20 Series

Valve type	Weight (g)
SVA 20S	85
SVA 20D	121
SVA 20E	123
SVA 20F	123
SVA 20G	123
SVA 20H	123
SVA 20A	124
SVA 20P	123
SVA 20R	123
SVA 20B	37
SVA 20T	82
SVA 20U	118
SVA 20V	80
SVA 20W	118

Manifold intermediate block	Weight per station (g)
Individual wiring	46
Concentrated wiring	48
Individual wiring with check valve	47
Concentrated wiring with check valve	49

Manifold intermediate block for dual pressure	Weight per station (g)
Individual wiring	46
Concentrated wiring	48
Individual wiring with check valve	49
Concentrated wiring with check valve	47

Connector cable type	Weight (g)
2P	3
3P	4.5

Manifold type	Exhaust type	Wiring type	Weight (g)
Block on one side	Tube exhaust	Individual wiring	155
		Sub-D 9P	179
		Sub-D 25P	185
		Flat cable 10P	174
		Flat cable 26P	175
		Flat cable 40P	179
	Silencer exhaust	Individual wiring	153
		Sub-D 9P	177
		Sub-D 25P	184
		Flat cable 10P	172
		Flat cable 26P	174
		Flat cable 40P	178
Block on both sides	Tube exhaust	Individual wiring	221
		Sub-D 9P	245
		Sub-D 25P	252
		Flat cable 10P	240
		Flat cable 26P	242
		Flat cable 40P	246
	Silencer exhaust	Individual wiring	218
		Sub-D 9P	242
		Sub-D 25P	248
		Flat cable 10P	237
		Flat cable 26P	238
		Flat cable 40P	242

Cartridge for SVA 20	Weight (g)
CJC 14-06	12
CJC 14-08	10
CJC 18-08	20
CJC 18-10	19
CJC 18-12	26
CJL 14-06	15
CJL 14-08	18
CJL 18-08	25
CJL 18-10	32
CJL 18-12	38
CJLL 14-06	31
CJLL 14-08	25
CJLL 18-08	55
CJLL 18-10	65
CJLL 18-12	86
CJP 18	6

Use the following formula to calculate the weight of SVA 20 series.

**(Manifold intermediate block x Quantity) +
Manifold type + (Cartridge x Quantity) +
{Connector cable type x Quantity} +
(Valve type x Quantity)**

SVA 2005 B - 6C 8C8 - S B - S - D24
(1) (2) (3) (4) (5) (6)

$230 + 155 + 120 + 40 + 15 + 425 = 985$

(1) Manifold intermediate block: 46 g x 5 pcs.

(2) Manifold type: 155 g

(3) Output cartridge (CJC 14-06): 12 g x 10 pcs.

(4) Intake/Exhaust cartridge (CJC 18-08): 20 g x 2 pcs.

(5) Connector cable type (2P): 3 g x 5 pcs.

(6) Valve type (SVA 20S): 85 g x 5 pcs.

■ Weight List

■ SVA21 Series

Valve type	Weight (g)	Valve type	Weight (g)		Weight (g)	Cartridge	Weight (g)
SVA 21S	86	SVA 21P	131	Sub-base	53	CJC 18-06	21
SVA 21D	129	SVA 21R	131			CJC 18-08	20
SVA 21E	131	SVA 21T	82	Silencer block	Weight (g)	CJC 18-10	19
SVA 21F	131	SVA 21U	125	Intake port ø6 mm	28	CJL 18-06	23
SVA 21G	131	SVA 21V	82	Intake port ø8 mm	23	CJL 18-08	25
SVA 21H	131	SVA 21W	125	Intake port ø10 mm	27	CJL 18-10	32
SVA 21A	132						

■ Use the following formula to calculate the weight of SVA 21 series.

Sub-base + (Cartridge x Quantity) + {Silencer block} + Valve type

SVA 21 - 0C0C S - S B - D24
(1) (2) (3) (4)

$$53 + 38 + 27 + 129 = 247 \text{ g}$$

(1) Sub-base: 53 g

(2) Cartridge (CJC 18-10): 19 g x 2 pcs.

(3) Silencer block (ø10 mm): 27 g

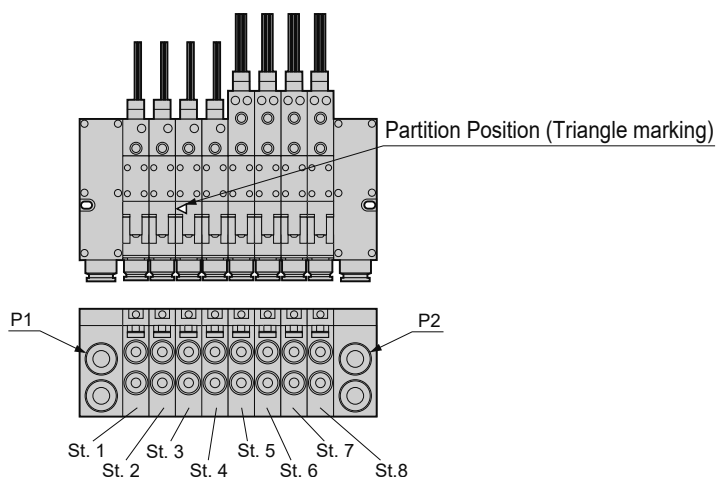
(4) Valve type (SVA 21D): 129 g

Safety Instructions for Vacuum-Operable 2- & 3-Port Solenoid Valve

- In general, connect the air supply source to 1(B) port and the actuator to 2(A) port.
Reverse connection may lead to problems.
- Be sure to place a filter to prevent foreign particles from entering the valve.

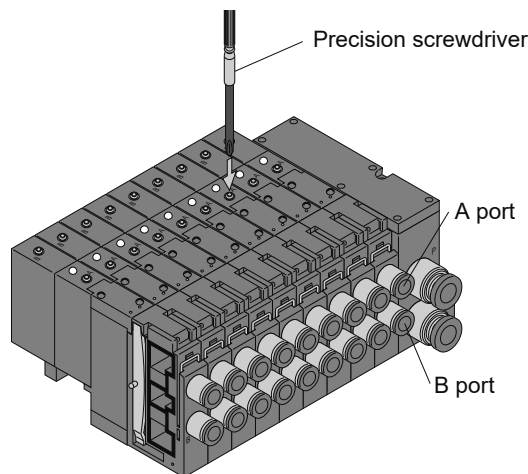
Safety Instructions for Dual Pressure Option

- Confirm the partition position with the triangle marking on the slide (refer to the right figure). P2 supplies air pressure to the partitioned right side from the triangle-marked manifold block, and P1 to the remaining left side.
(In the case of the right figure, from St. 1 to St. 2 are on the P1 side, and from St. 3 to St. 8 are on the P2 side.)
- Partition position cannot be changed after delivery.
- The selectable code for Intake/Exhaust block is only "A" (block on both sides) for the dual pressure option.

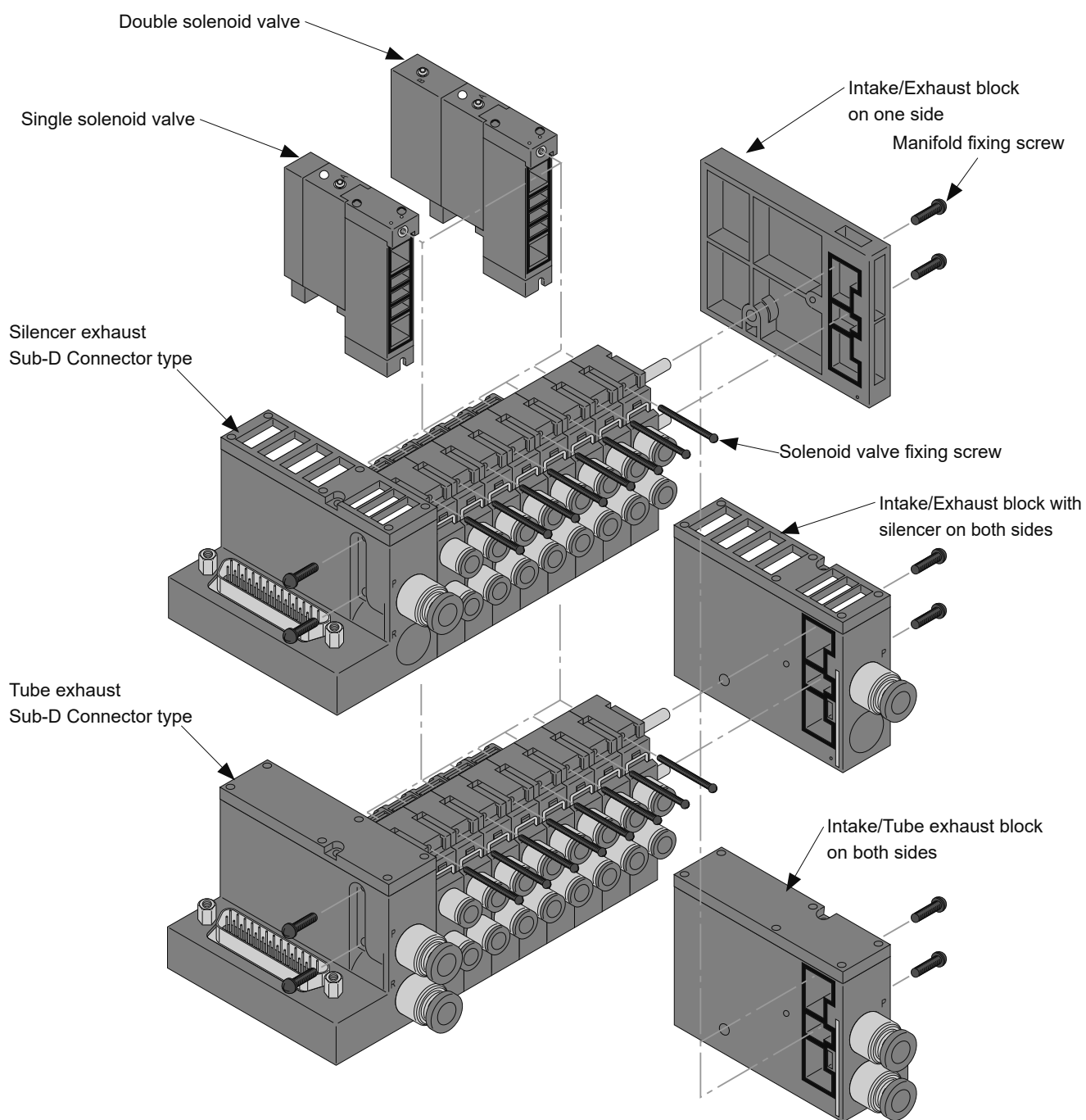


■ Manual override (SVA20 Series)

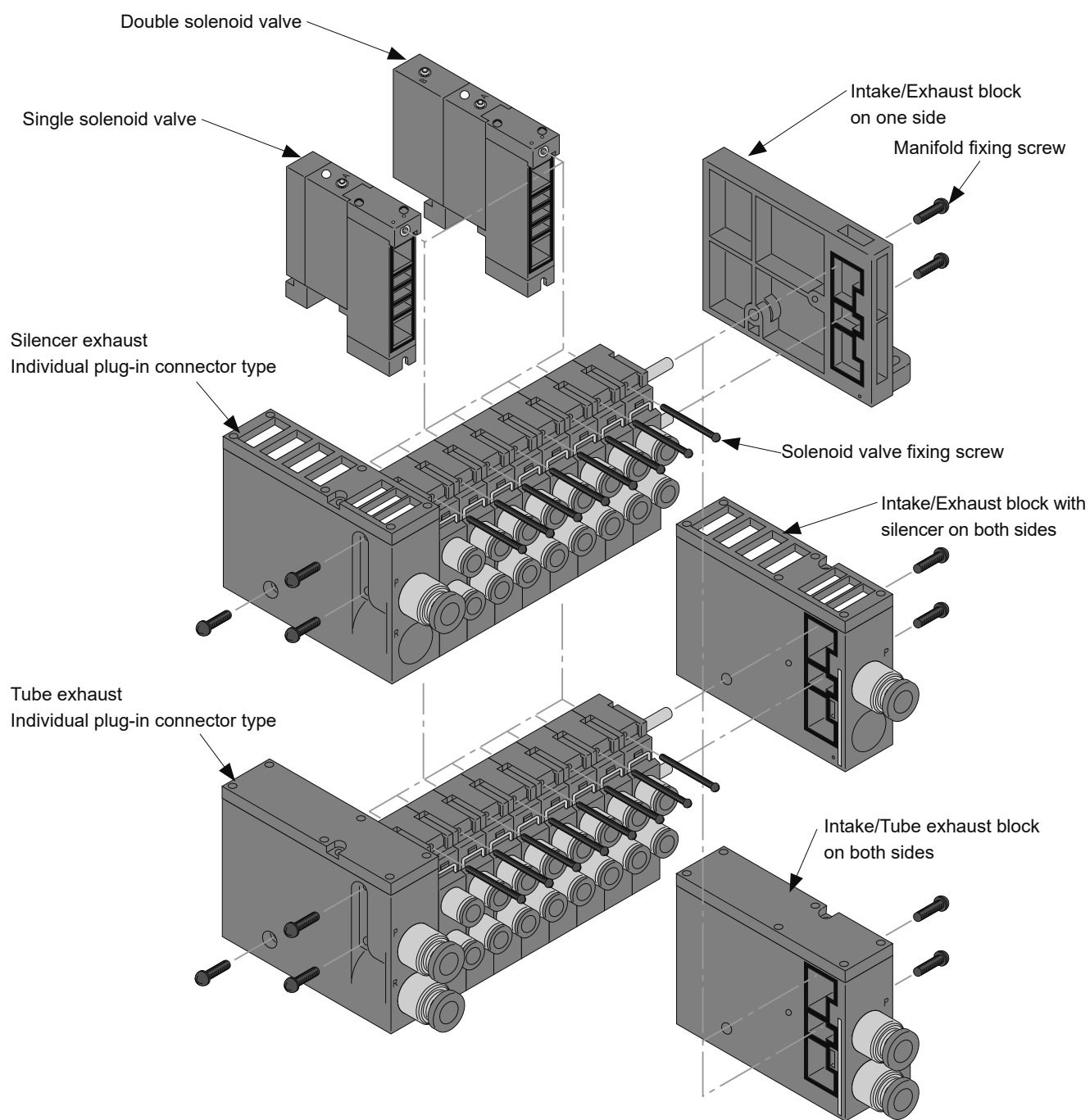
- Valves can be switched manually (activated only when pilot pressure is being supplied).
Push the button on the valve top with a precision screwdriver until it stops.
- 2-position single solenoid valve
Push A for output from A port, and release it for output from B port.
- 2-position double solenoid valve
Push A to have and retain output from A port. Push B to have and retain output from B port.



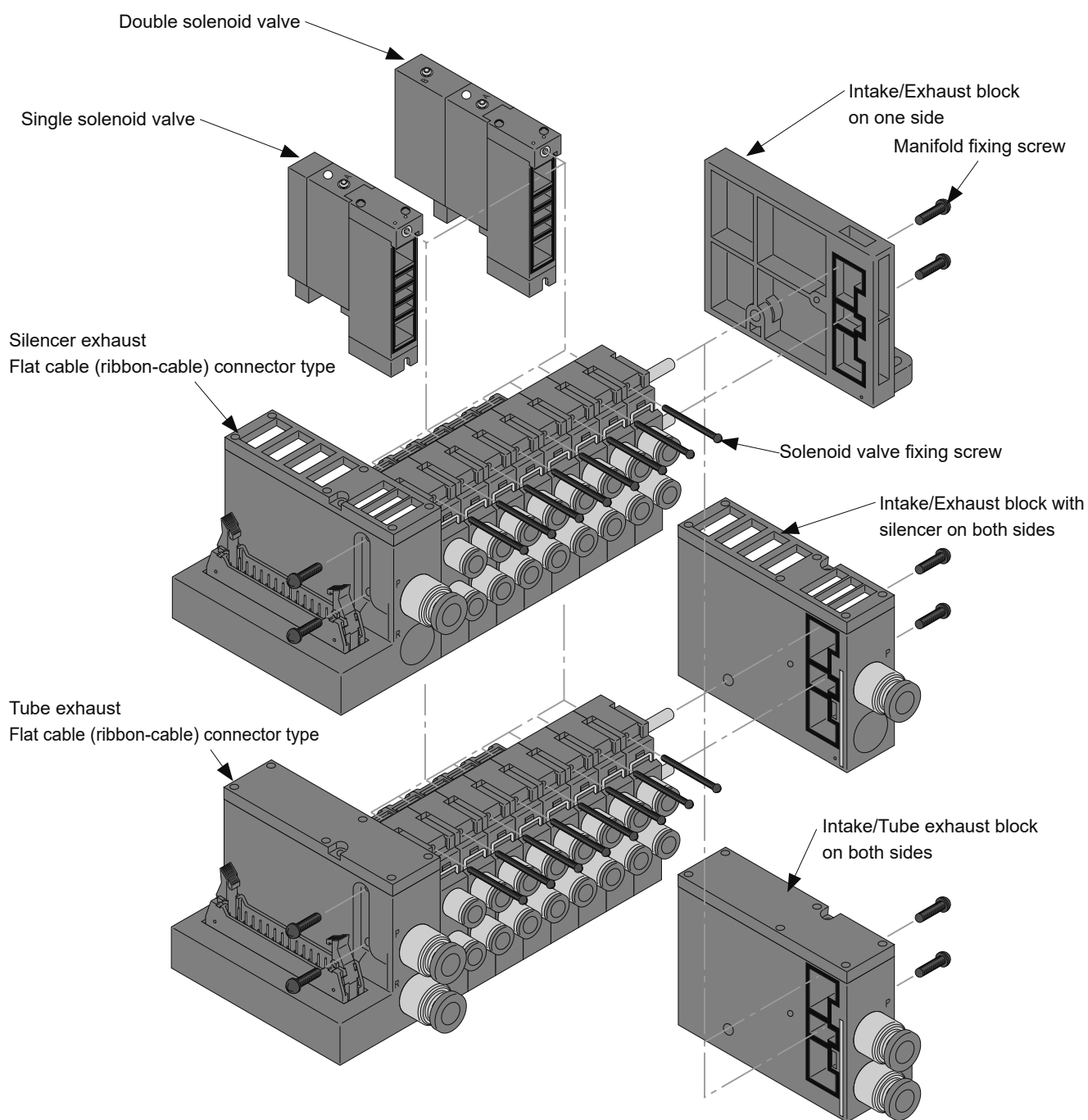
■ Construction of SVA20 Series (Manifold piping type): Sub-D Connector type



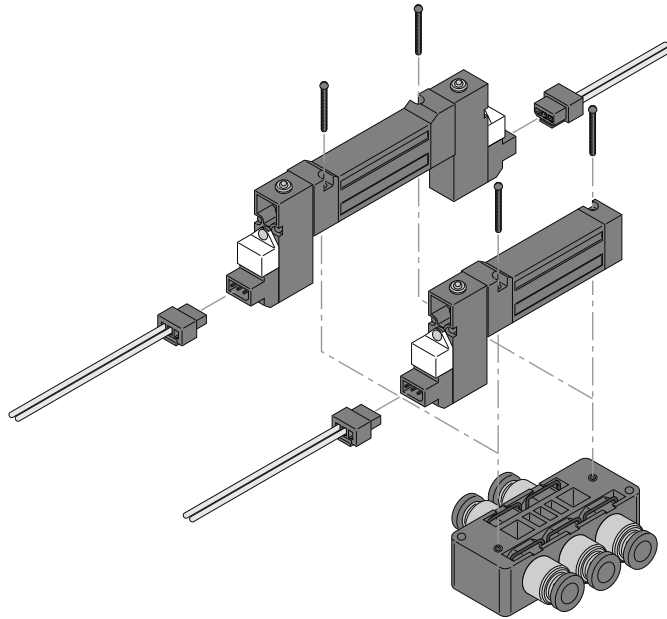
■ Construction of SVA20 Series (Manifold piping type): Individual plug-in connector type



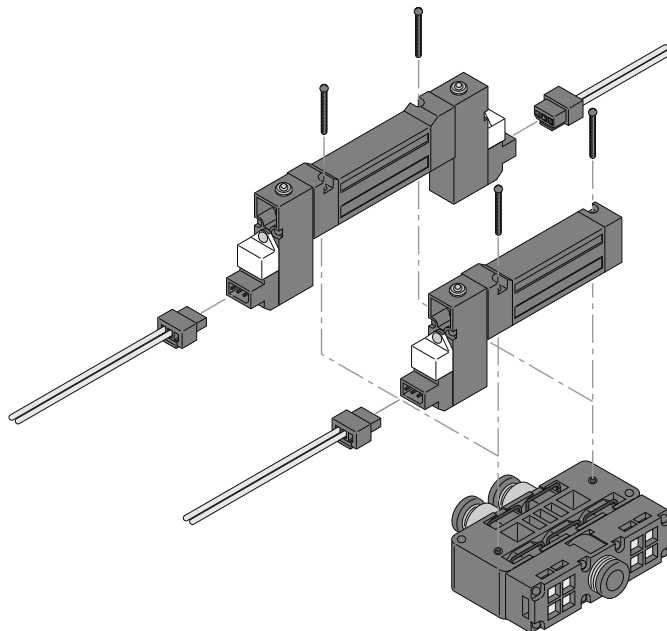
■ Construction of SVA20 Series (Manifold piping type): Flat cable (ribbon-cable) connector type



■ Construction of SVA21 Series (Stand-alone unit type) Tube exhaust



■ Construction of SVA21 Series (Stand-alone unit type) Silencer exhaust



■ Dimensional Drawings (Sub-base piping type: 21 Series)

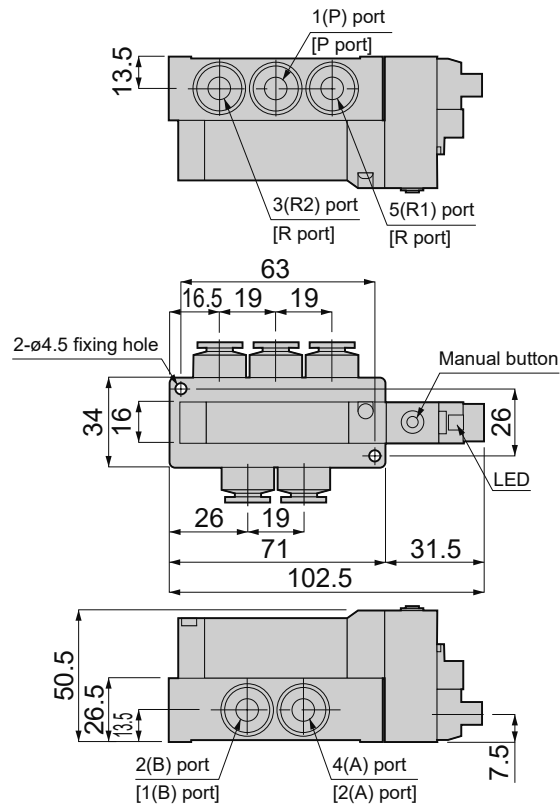
SVA

21 Series

Single solenoid valve Tube exhaust



Model code: SVA21-(3)(4)(5)-SB-(8)



*The ports for valve types T and V are indicated in [].

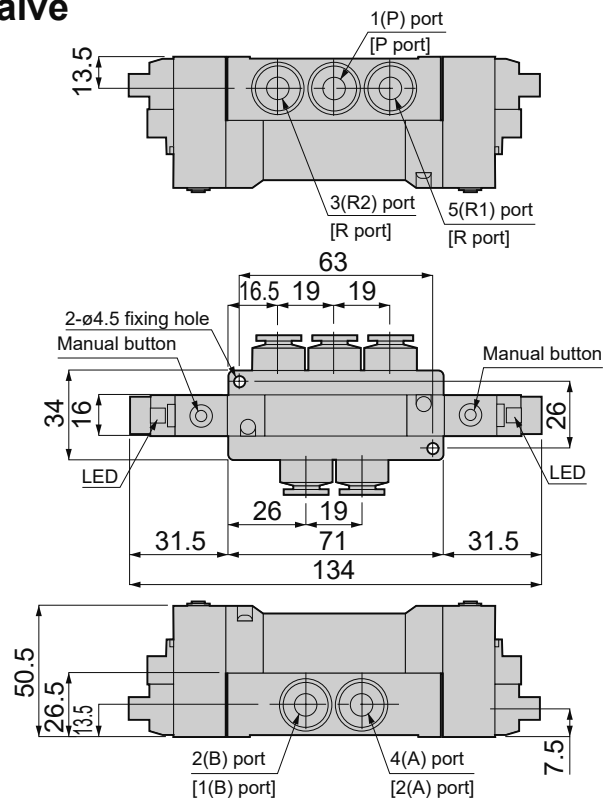
SVA

21 Series

Double solenoid valve Tube exhaust



Model code: SVA21-(3)(4)(5)-(6)B-(8)



*The ports for valve types U and W are indicated in [].

Common Notes for This Page

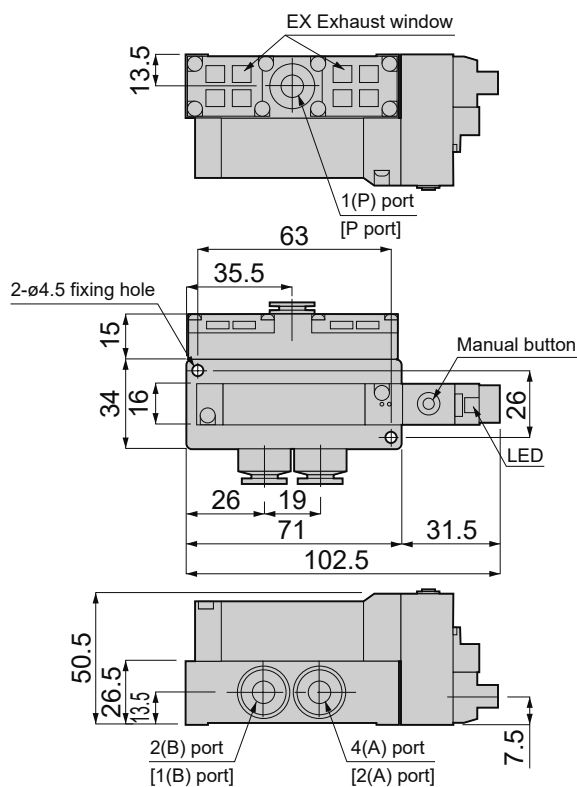
Fitting part dimensions can be found on the latter page after the "Dimensional Drawings" section.

SVA **Single solenoid valve**
21 Series **Silencer exhaust**



Exhaust port with silencer

Model code: SVA21-(3)(4)S-(6)B-(8)



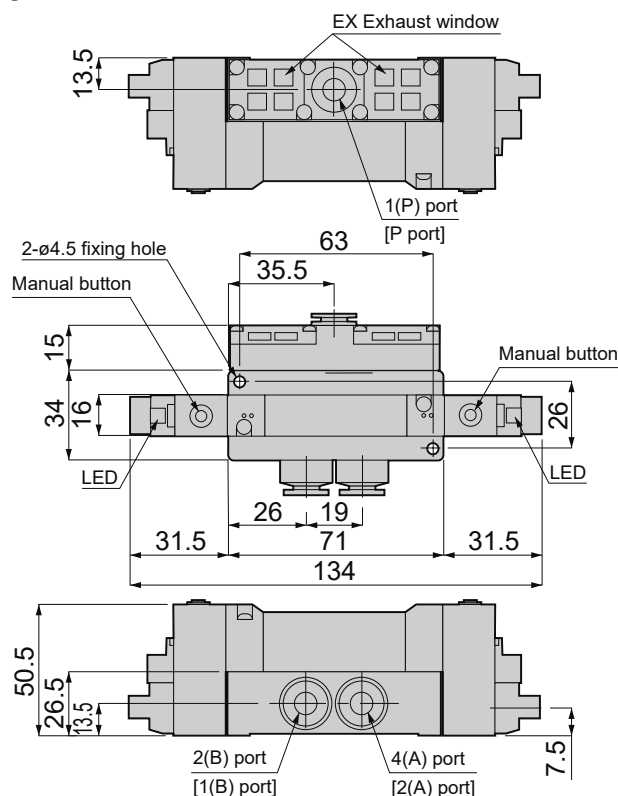
*The ports for valve types T and V are indicated in [].

SVA **Double solenoid valve**
21 Series **Silencer exhaust**



Exhaust port with silencer

Model code: SVA21-(3)(4)S-(6)B-(8)



*The ports for valve types U and W are indicated in [].

■ Dimensional Drawings (Manifold piping type: 20 Series)

SVA

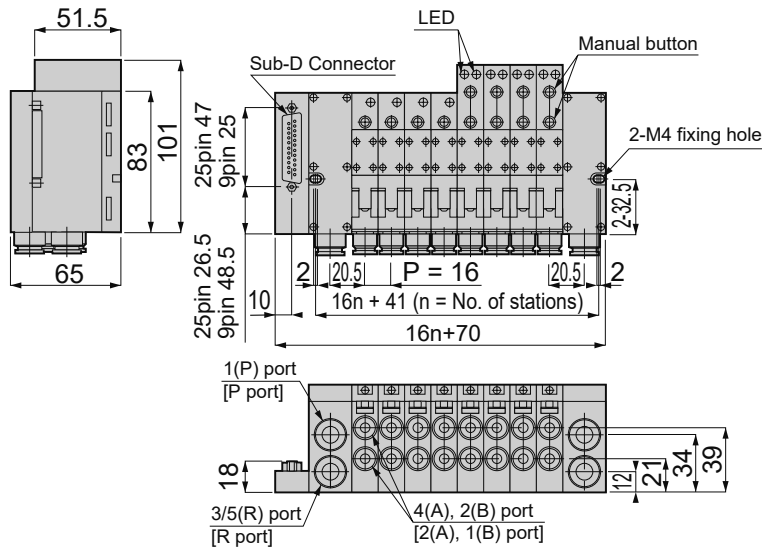
20 Series

Sub-D Connector Tube exhaust



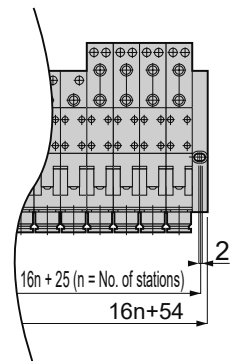
Intake/Exhaust block on both sides

Model code: SVA20(3)A-(5)(6)(7)(8)-DB-(11)-(12)-(13)(14)



Intake/Exhaust block on one side

Model code: SVA20(3)B-(5)(6)(7)(8)-DB-(11)-(12)-(13)(14)



SVA

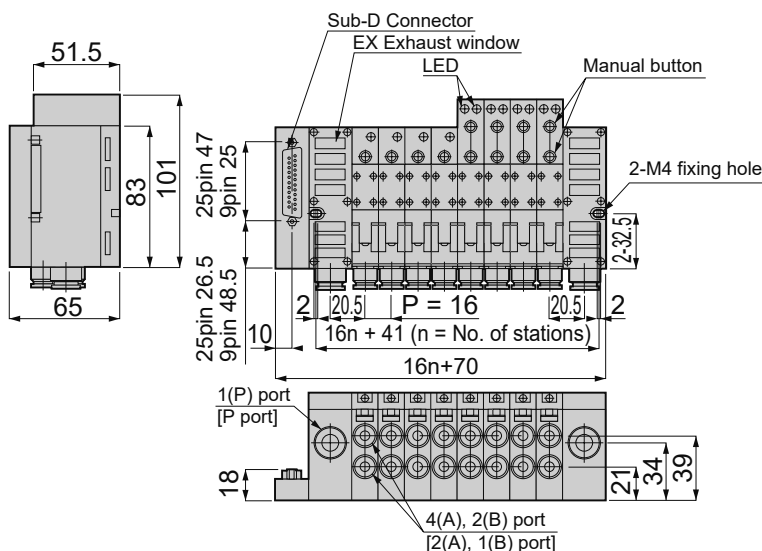
20 Series

Sub-D Connector Silencer exhaust



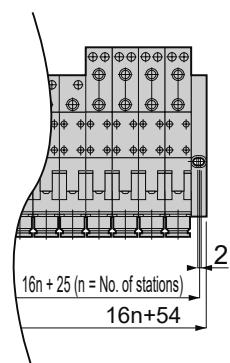
Intake/Exhaust block on both sides

Model code: SVA20(3)A-(5)(6)(7)S-DB-(11)-(12)-(13)(14)



Intake/Exhaust block on one side

Model code: SVA20(3)B-(5)(6)(7)S-DB-(11)-(12)-(13)(14)



Common Notes for This Page

*1. The ports for valve types T, U, V, and W are indicated in [].

*2. Fitting part dimensions can be found on the latter page after the "Dimensional Drawings" section.

SVA

20 Series

Flat cable (ribbon-cable) connector type Tube exhaust

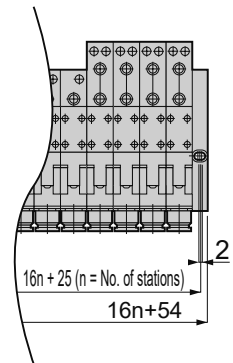
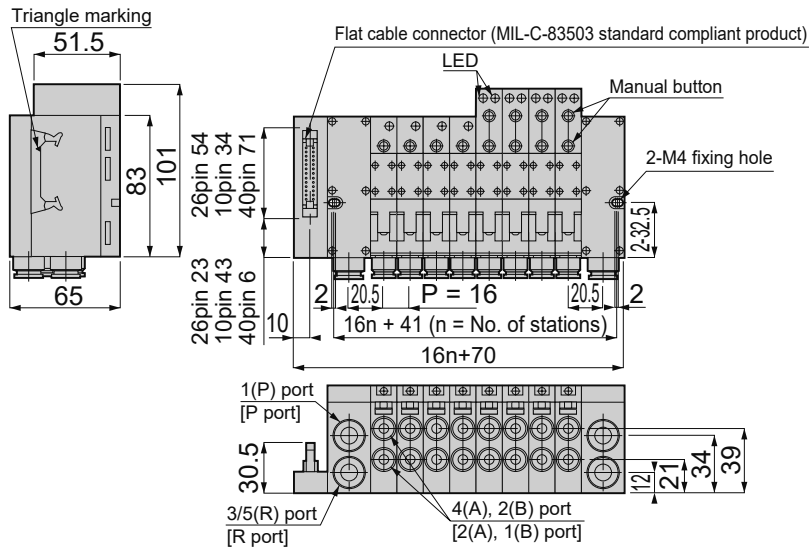
Intake/Exhaust block on both sides

Model code: SVA20(3)A-(5)(6)(7)(8)-FB-(11)-(12)-(13)(14)



Intake/Exhaust block on one side

Model code: SVA20(3)B-(5)(6)(7)(8)-FB-(11)-(12)-(13)(14)

**SVA**

20 Series

Flat cable (ribbon-cable) connector type Silencer exhaust

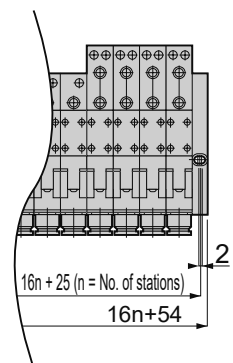
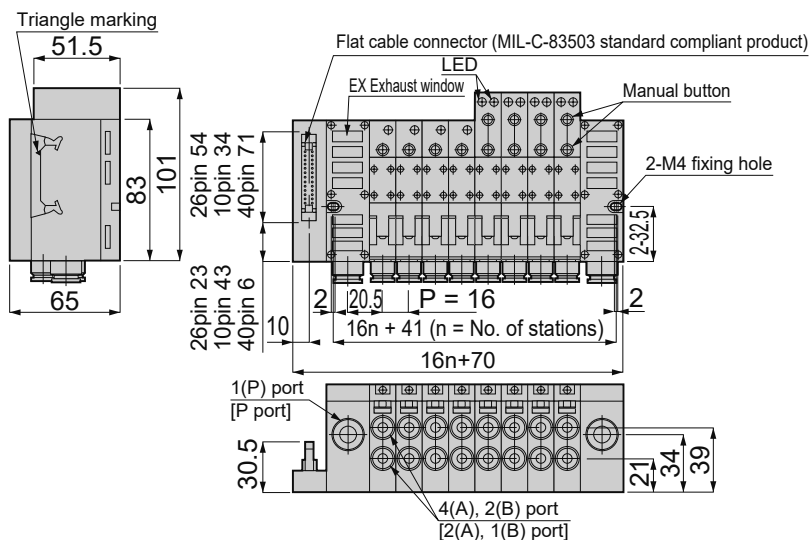
Intake/Exhaust block on both sides

Model code: SVA20(3)A-(5)(6)(7)S-FB-(11)-(12)-(13)(14)



Intake/Exhaust block on one side

Model code: SVA20(3)B-(5)(6)(7)S-FB-(11)-(12)-(13)(14)



Common Notes for This Page

*1. The ports for valve types T, U, V, and W are indicated in [].

*2. Fitting part dimensions can be found on the latter page after the "Dimensional Drawings" section.

SVA

20 Series

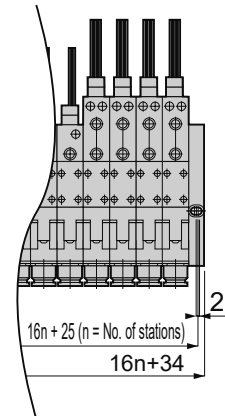
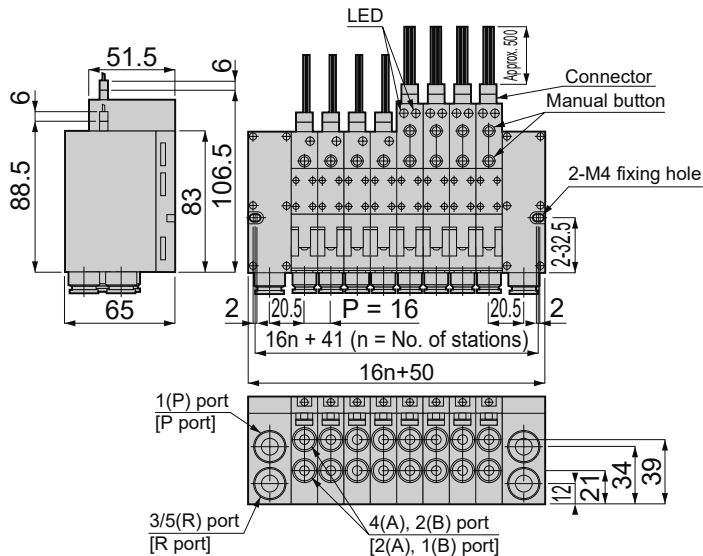
Individual plug-in connector type Tube exhaust

Intake/Exhaust block on both sides

Model code: SVA20(3)A-(5)(6)(7)(8)-SB-(11)-(12)-(13)(14)

Intake/Exhaust block on one side

Model code: SVA20(3)B-(5)(6)(7)(8)-SB-(11)-(12)-(13)(14)

**SVA**

20 Series

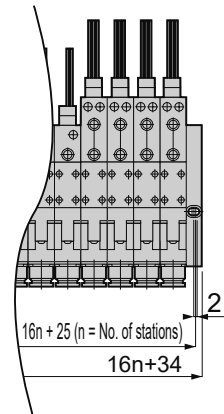
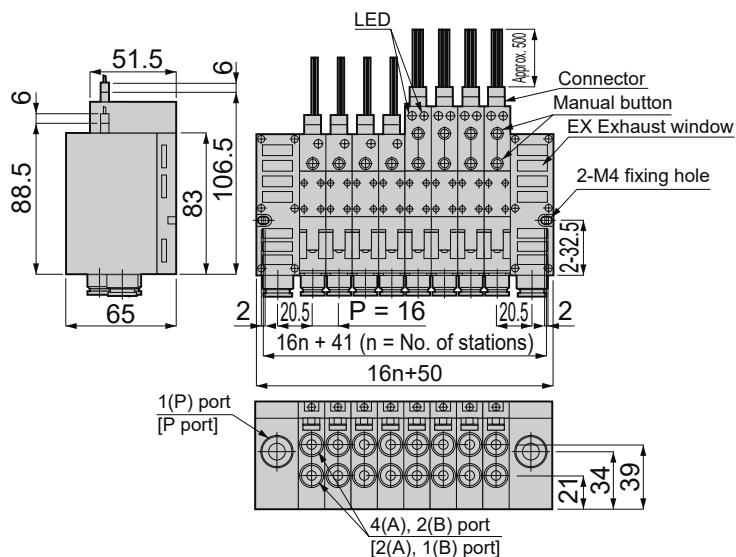
Individual plug-in connector type Silencer exhaust

Intake/Exhaust block on both sides

Model code: SVA20(3)A-(5)(6)(7)S-SB-(11)-(12)-(13)(14)

Intake/Exhaust block on one side

Model code: SVA20(3)B-(5)(6)(7)S-SB-(11)-(12)-(13)(14)



Common Notes for This Page

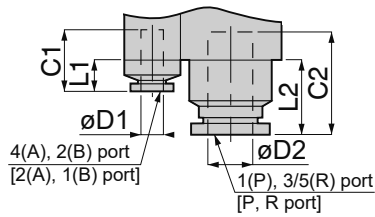
*1. The ports for valve types T, U, V, and W are indicated in [].

*2. Fitting part dimensions can be found on the latter page after the "Dimensional Drawings" section.

■ Fitting Part Dimensions

■ SVA20 Series

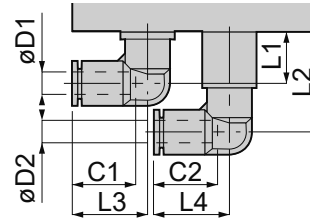
Fitting type: Straight



Unit: mm

	Tube O.D. øD1	C1	L1	Tube O.D. øD1	C2	L2
4(A) port	6(1/4)	17	12	-	-	-
2(B) port	8(5/16)	18.5	13.5	-	-	-
1(P) port 3/5(R) port	-	-	-	8(5/16)	18.5	12.5
	-	-	-	10(3/8)	21	15
	-	-	-	12(1/2)	23.5	19

Fitting type: Elbow



Unit: mm

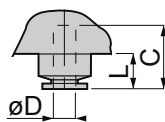
	Tube O.D. øD1/øD1	C1/C2	L1	L2	L3/L4
4(A) port	6(1/4)	17	14	27	20
2(B) port	8(5/16)	18.5	17	30	23
1(P) port 3/5(R) port	8(5/16)	18.5	17	30	23
	10(3/8)	20.5	21	35.5	26.5
	12(1/2)	23.5	23	37.5	29.5

*The ports for valve types T, U, V, and W are indicated in [].

■ SVA21 Series

Fitting type: Straight

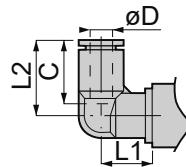
4(A), 2(B) port,
1(P), 5(R1), 3(R2) port
(Tube exhaust)



Tube O.D. øD	L	C
6(1/4)	11	17
8(5/16)	12.5	18.5
10(3/8)	15	21

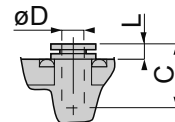
Fitting type: Elbow

4(A), 2(B) port,
1(P), 5(R1), 3(R2) port
(Tube exhaust)



Tube O.D. øD	L1	L2	C
6(1/4)	14	20	17
8(5/16)	17	23	18.5
10(3/8)	21	26.5	20.5

1(P) Port, Silencer
(Silencer exhaust)



Tube O.D. øD	L	C
6(1/4)	7	17
8(5/16)	5	18.5
10(3/8)	5.5	20.5

■ How to install and remove DIN-rail Mounting Bracket

(1) Fix the product on DRF35S with screws. (*)

*Use screws of the designated size.

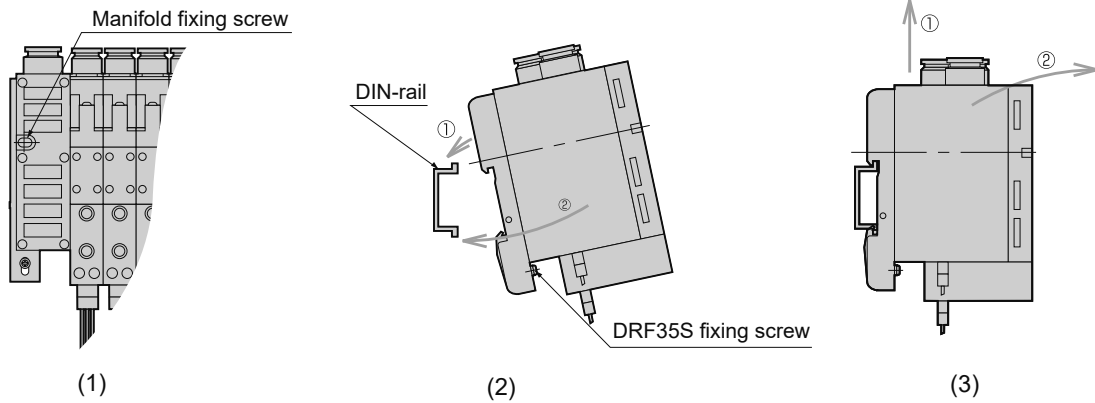
· SVA20...M4 × 0.7 (ℓ = 62 to 64)

(2) Mount DRF35S on the DIN-rail and tighten the fixing screws of DRF35S at the tightening torque in the table below.

■ Table: Tightening Torque

Fixing screw tightening torque	0.3 to 0.4 N·m
Max. load capacity	100 N

(3) Loosen the fixing screws of DRF35S, and tip the product to you after lifting it up to remove it from the Din-rail.



⚠ Safety Instructions for DIN-rail Mounting Bracket

- Be sure to tighten the fixing screws at the appropriate torque.
- Do not place anything that exceeds the maximum load on DIN-rail Mounting Bracket and the DIN-rail.
- Do not install DIN-rail Mounting Bracket on a place with extreme vibration (9.8 m/s² or less).