Solenoid Valve **SVA21** Series

Characteristics

- Lightweight, small and large-capacity solenoid valves. Effective sectional area: (20 series) valve width 0.63in or 16mm: 18mm² (Cv factor: 0.97)
- Maintenance is easy thanks to the single-screw clamp mechanism.
- The valves come in a wide variation.
- Air piping is led out either in the side or top direction.
- The coating color can be black or ivory.

2- and 3-ports valves which are compressed air and vacuum-operable

- Vacuum-operable 2- and 3-ports that require no external piping. (same in function as the external pilot system.)
- Choice of single solenoid or double solenoid.

Sub-base Specifications

Item \ Type		Sub-base SVA21
Fluid medium		Air
Operating pressure range		29 ~ 102psi (0.2 ~ 0.7MPa)
Proof pressure		152psi (1.05MPa)
Operating temp. range		41 ~ 122°F (5 ~ 50°C)
Mounting orientation		Free (conditional)
No. of mountable main valve		1
Tube diam.	P, R port *	ø6, ø8, ø10mm, ø1/4, ø5/16, ø3/8in.
	A, B port	ø6, ø8, ø10mm, ø1/4, ø5/16, ø3/8in.
Wiring method	Type	Individual plug-in connector
	No. of pins	2 pins
Silencer		Provided when R port is vent only

* P (air intake) port has 1 joint, while R (exhaust) port has 2.

21 Series Solenoid Valve Specifications (24VDC)

Item \ Type (SVA)		21S-D24	21D-D24	21A-D24 21R-D24 21P-D24	21E-D24 21F-D24 21G-D24 21H-D24	21T-D24	21U-D24	21V-D24	21W-D24
Pilot valve	Operating system	Direct operation							
	Valve construction	Elastic seal, poppet valve							
	Coil voltage rating	24VDC (*3)							
	Allowable voltage range	21.6 ~ 26.4VDC (*3)							
	Power consumption	1.2W (with LED)							
	Surge limiting circuit	Diode (*3)							
	Manual operation	Non-lock push system							
	Operating pressure range	29 ~ 102psi (0.2 ~ 0.7MPa)							
Main valve	Operating system	Pneumatic operation by pilot valve							
	Valve construction	Elastic seal, spool valve							
	No. of position	2 positions		3 positions	2 positions				
	No. of ports	5 ports			3 ports x 2 (*1)	2 ports		3 ports	
	Valve function	Single	Double		Single x 2	Single	Double	Single	Double
	No. of pilot points	1	2			1	2	1	2
	Response time (*2)	18m·sec	12m·sec	18m·sec		15m·sec			
	Max. operation cycle	5cycle/sec.							
	Min. excitation time		50m·sec			50m·sec			50m·sec
	Lubrication	Not required							
	Operating pressure range	29 ~ 104psi (0.2 ~ 0.7MPa)			-15 ~ 104psi (-0.1 ~ 0.7MPa)				

*1. This is a valve construction incorporating 2× 3-port valves. P is common.
*2. Values are at air pressure of 0.5MPa (72psi) and from power off to on. For 3 positions valve, the value is from neutral position of all port block (closed center) valve.
*3. Please refer to electric circuit diagram on page 339 for detail.

21 Series Solenoid Valve Specifications (100VAC)

Item \ Type (SVA)		21S-100	21D-100	21A-100 21R-100 21P-100	21E-100 21F-100 21G-100 21H-100	21T-100	21U-100	21V-100	21W-100
Pilot valve	Operating system	Direct operation							
	Valve construction	Elastic seal, poppet valve							
	Coil voltage rating	100VAC (*3)							
	Allowable voltage range	90 ~ 110VAC (*3)							
	Power consumption	1.5VA (with LED)							
	Surge limiting circuit	Diode (*3)							
	Manual operation	Non-lock push system							
	Operating pressure range	29 ~ 102psi (0.2 ~ 0.7MPa)							
Main valve	Operating system	Pneumatic operation by pilot valve							
	Valve construction	Elastic seal, spool valve							
	No. of position	2 positions		3 positions	2 positions				
	No. of ports	5 ports			3 ports x 2 (*1)	2 ports		3 ports	
	Valve function	Single	Double		Single x 2	Single	Double	Single	Double
	No. of pilot points	1	2			1	2	1	2
	Response time (*2)	18m·sec	12m·sec	18m·sec		15m·sec			
	Max. operation cycle	5cycle/sec.							
	Min. excitation time		50m·sec			50m·sec			50m·sec
	Lubrication	Not required							
	Operating pressure range	29 ~ 104psi (0.2 ~ 0.7MPa)			-15 ~ 104psi (-0.1 ~ 0.7MPa)				

*1. This is a valve construction incorporating 2× 3-port valves. P is common.
*2. Values are at air pressure of 0.5MPa (72psi) and from power off to on. For 3 positions valve, the value is from neutral position of all port block (closed center) valve.
*3. Please refer to electric circuit diagram on page 339 for detail.

21 Series Effective sectional area (converted Cv factor)

Item \ Type (SVA)	21S-□	21D-□	21A-□ 21R-□ 21P-□	21E-□ 21F-□ 21G-□ 21H-□	21T-□ 21U-□	21V-□ 21W-□
P → A.B (ø10) (*1)	17 (0.92)	17 (0.92)	12 (0.65)	15 (0.81)	17 (0.92)	17 (0.92)
P → A.B (ø8) (*1)	16 (0.86)	16 (0.86)	12 (0.65)	14.5 (0.78)	13 (0.7)	13 (0.7)
P → A.B (ø6) (*1)	10.5 (0.56)	10.5 (0.56)	9.5 (0.51)	10.5 (0.56)	8.5 (0.46)	8.5 (0.46)
A.B (ø10) → R without check valve (*2)	18 (0.97)	18 (0.97)	14 (0.75)	14 (0.75)	–	17.5 (0.95)
A.B (ø8) → R with check valve (*2)	–	–	–	–	–	–
A.B (ø8) → R without check valve (*2)	17 (0.92)	17 (0.92)	13.5 (0.73)	13.5 (0.73)	–	14 (0.76)
A.B (ø6) → R with check valve (*2)	–	–	–	–	–	–
A.B (ø6) → R without check valve (*2)	10.5 (0.56)	10.5 (0.56)	10 (0.54)	10 (0.54)	–	9.5 (0.51)

*1. B → A piping is applied to valve type T · U · V · W.
*2. Values for R port are those of silencer vent.
*3. Cv factor is a reference value converted by multiplying effective cross-sectional area (mm²) by 0.0542.

21 Series Cylinder Speed Table

Cylinder speed (mm/s)	Cylinder speed (in./s)	Cylinder bore (mm) ø20mm (ø0.79in.)	ø25mm (ø0.98in.)	ø32mm (ø1.26in.)	ø40mm (ø1.57in.)	ø50mm (ø1.97in.)	ø63mm (ø2.48in.)	ø80mm (ø3.15in.)	ø100mm (ø3.94in.)	ø125mm (ø4.92in.)	ø140mm (ø5.51in.)
100	3.94										
200	7.87										
300	11.81										
400	15.75										
500	19.69										
600	23.62										
700	27.56										
800	31.50										

Note). • The average speed of the cylinder represents the case where the pressure is 0.5MPa (72psi), the load factor is 30% and the piping tube length is 1m.
• The cylinder speed varies with the piping and joint configurations.
• The joint sizes of A and B ports for these data represent ø8mm quick-fitting joint. (Valves: SVA 20S-D24)

Model Designation (Example)

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

(1) Valve series

21: 21 series (16mm width valve)

(2) Output port size

	mm size (mm)					
	Lateral lead-out			Upside lead-out		
Code	6C	8C	0C	6L	8L	0L
Dia.	ø6	ø8	ø10	ø6	ø8	ø10

	inch size (in.)					
	Lateral lead-out			Upside lead-out		
Code	1/4C	5/16C	3/8C	1/4L	5/16L	3/8L
Dia.	ø1/4	ø5/16	ø3/8	ø1/4	ø5/16	ø3/8

(3) Intake port size

	mm size (mm)					
	Lateral lead-out			Upside lead-out		
Code	6C	8C	0C	6L	8L	0L
Dia.	ø6	ø8	ø10	ø6	ø8	ø10

	inch size (in.)					
	Lateral lead-out			Upside lead-out		
Code	1/4C	5/16C	3/8C	1/4L	5/16L	3/8L
Dia.	ø1/4	ø5/16	ø3/8	ø1/4	ø5/16	ø3/8

*1. Air piping lead-out directions will only be lateral lead-out if exhaust port is S (silencer).

(4) Exhaust port size

	mm size (mm)			inch size (in.)		
Code	6	8	0	1/4	5/16	3/8
Dia.	ø6	ø8	ø10	ø1/4	ø5/16	ø3/8

	Silencer (vent)
Code	S

*1. Air piping lead-out directions must be same in INTAKE & EXHAUST port.

(5) Valve type

Code	No. of ports	Solenoid valve	Type
S	5-ports	Single	2-position
D	5-ports	Double	2-position
E	3-ports	Double	2-position, A & B: Normally closed (twin 3 ports)
F	3-ports	Double	2-position, A & B: Normally open (twin 3 ports)
G	3-ports	Double	2-position, A: Normally closed, B: Normally open (twin 3 ports)
H	3-ports	Double	2-position, A: Normally open, B: Normally closed (twin 3 ports)
A	5-ports	Double	3-position, All port block
R	5-ports	Double	3-position, ABR connection
P	5-ports	Double	3-position, PAB connection
T	2-ports	Single	2-position, vacuum-operable valve
U	2-ports	Double	2-position, vacuum-operable valve
V	3-ports	Single	2-position, vacuum-operable valve
W	3-ports	Double	2-position, vacuum-operable valve

(6) Body color

Code	B	W
Color	Black	Light gray

(7) Mounted valve coil voltage

Code	D24	100
Coil voltage	24VDC	100VAC

Model Designation (mounting valve alone) (Example)

SVA **21** (1) **A** (2) - **100** (3) - **B** (4)

(1) Valve series

21: 21 series (16mm width valve)

(2) Valve type

Code	No. of ports	Solenoid valve	Type
S	5-ports	Single	2-position
D	5-ports	Double	2-position
E	3-ports	Double	2-position, A & B: Normally closed (twin 3 ports)
F	3-ports	Double	2-position, A & B: Normally open (twin 3 ports)
G	3-ports	Double	2-position, A: Normally closed, B: Normally open (twin 3 ports)
H	3-ports	Double	2-position, A: Normally open, B: Normally closed (twin 3 ports)
A	5-ports	Double	3-position, All port block
R	5-ports	Double	3-position, ABR connection
P	5-ports	Double	3-position, PAB connection
T	2-ports	Single	2-position, vacuum-operable valve
U	2-ports	Double	2-position, vacuum-operable valve
V	3-ports	Single	2-position, vacuum-operable valve
W	3-ports	Double	2-position, vacuum-operable valve

(3) Mounted valve coil voltage

Code	D24	100
Coil voltage	24VDC	100VAC

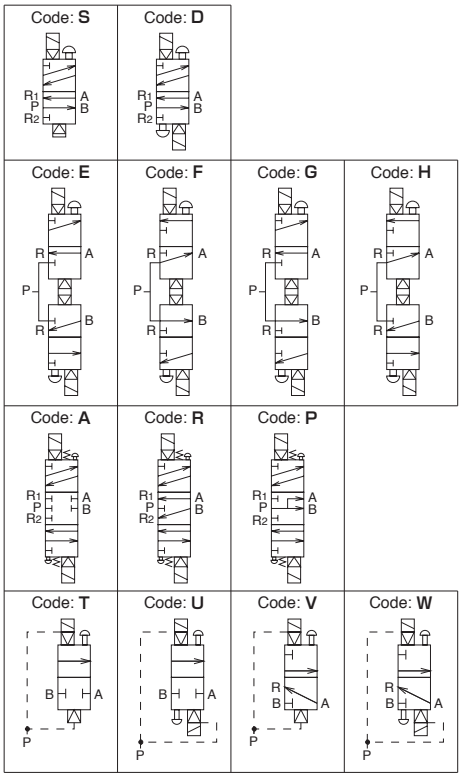
(4) Body color

Code	B	W
Color	Black	Light gray

Model Designation (silencer element) (Example)

SVA 21 EX - E

■ Mounting valve circuit diagram



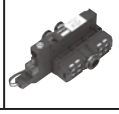
RoHS The products listed in this page are ECO-friendly products.
* Please refer to page 4 for the details of ECO-friendly products.

21 series (Sub-base)

SVA Double Solenoid Concentrated Exhaust	Model
	SVA21-[2][3][4]-[5][6]-[7]

SVA Single Solenoid Concentrated Exhaust	Model
	SVA21-[2][3][4]-[5][6]-[7]

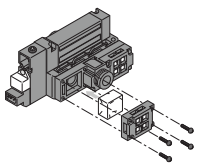
SVA Double Solenoid Silencer vent	Model
	SVA21-[2][3]S-[5][6]-[7]

SVA Single Solenoid Silencer vent	Model
	SVA21-[2][3]S-[5][6]-[7]

Cautions
*1. For [2], please select an output port size.
*2. For [3], please select an intake port size.
*3. For [4], please select an exhaust port size.
*4. For [5], please select a valve type.
*5. For [6], please select a body color.
*6. For [7], please select a coil voltage.
*7. Build-to-order production.

Package specification
1 pc. in a bag

Silencer element

	Model
	SVA21EX-E

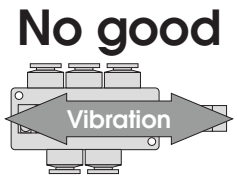
Caution
*The element is available only for vent exhaust type.

Package specification
2 pcs. in 1 set

Detailed Safety Instructions

Before using the PISCO device, be sure to read the "Safety Instructions", "Common Safety Instructions for Products Listed in This Manual" on page 13 to 15 and "Common Safety Instructions for Solenoid Valve" on page 108.

⚠Warning : 1. Where the Solenoid Valve is used with vibration of 5G or below, install it in such a way that the direction of vibration is perpendicular to the spool valve.



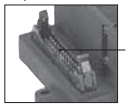
⚠Cautions : 1. Do not use a 3-position valve for center position stop of the cylinder that requires accuracy. Compressiveness of air may not allow accuracy in stop position. Also, the valve permits leakage, so that the stop position may not remain constant for a long time.
2. Do not give excessive tension or bending to the individual plug-in connector (cable). Disconnection or damage to the connector may result.
3. The cartridge joint can be disconnected by removing the lock pin. During use, however, make certain that the lock pin is properly in place.
4. Read the manual carefully for proper connection and disconnection of valves. Also, keep the manual at hand.
5. Vacuum-operable 2- or 3-ports valve.
- Basically, air (vacuum) supply is connected to B port, and actuator (suction cup) is connected to A port. The reverse connection causes a trouble.
- Please make sure to install a filter to avoid foreign particles entering into a valve.

Solenoid Valve **SVA20** Series

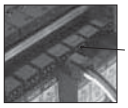
Characteristics

- Lightweight, small and large-capacity solenoid valves.
  (Effective sectional area: 20 series (valve width 16mm): 18mm²)
- Maintenance is easy thanks to the single-screw clamp mechanism.
- The valves come in a wide variation.
- Wiring is minimized by the manifold piping and concentrated wiring.
  (Sub-D connector, flat cable connector)

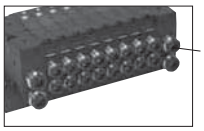

Sub-D connector

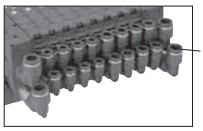

Flat-cable connector
(Ribbon-cable connector)

- Individual plug-in connectors of manifold piping are selectable.


Individual plug-in connector

- Air piping is led out either in the side or top direction.


Lateral lead-out


Upside lead-out

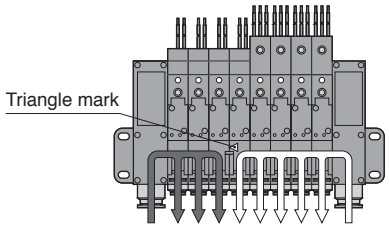
- The body color can be black or light gray.
- The manifold piping has an option of back pressure check valve for each exhaust port.

2- and 3-ports valves which are compressed air and vacuum-operable

- Vacuum-operable 2-and 3-ports that require no external piping.
  (same in function as the external piping system.)
- Elimination of external piping thus allowing these valves to be mounted along with other types of valves. This not only saves money, but wiring, piping, and space.
- Choice of single solenoid or double solenoid.

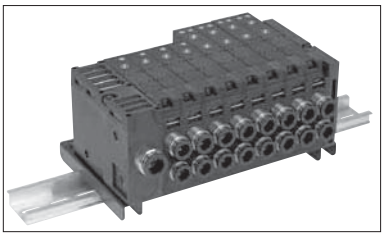
Dual-pressure-use type

- This valve features a partitioned supply air port in its manifold and enables two different pressure to be controlled at the same time.



DIN Rail Bracket

- Can be attached to and removed from 35mm-width DIN rail quickly and easily.
- Securely fix the manifold on DIN rail.



20 Series Manifold Specifications

Item \ Type (SVA)		20···A···D	20···B···D	20···A···F	20···B···F	20···A···S	20···B···S
Fluid medium		Air					
Operating pressure range		29 ~ 102psi (0.2 ~ 0.7MPa)					
Proof pressure		152psi (1.05MPa)					
Operating temp. range		42 ~ 122°F (5 ~ 50°C)					
Mounting orientation		Free (refer to the Detailed Safety Instruction on next page)					
No. of mountable main valves		Max. 12		Max. 19			
Piping port	P, R port (Quick-fitting joint)	ø8×2 / ø10×2 / ø12×2	ø5/16×2 / ø3/8×2 / ø1/2×2	ø8×1 / ø10×1 / ø12×1	ø5/16×1 / ø3/8×1 / ø1/2×1	ø8×2 / ø10×2 / ø12×2	ø5/16×2 / ø3/8×2 / ø1/2×2
		ø8×1 / ø10×2 / ø12×2	ø5/16×1 / ø3/8×1 / ø1/2×1	ø8×2 / ø10×2 / ø12×2	ø5/16×2 / ø3/8×2 / ø1/2×2	ø8×1 / ø10×1 / ø12×1	ø5/16×1 / ø3/8×1 / ø1/2×1
	A, B port	Quick-fitting joint: ø6, ø1/4, ø8, ø5/16					
Wiring method	Type	Sub-D connector		Flat cable connector		Individual plug-in connector	
	No. of pins	9 pins, 25 pins (*1)		10 pins, 26 pins, 40 pins (*2)		3 pins	
Silencer		Provided when R port is vent only					

*1. Manifolds, 2 to 4 in number, have 9 pins each, while those 5 to 12 in number have 25 pins each.
*2. Manifolds, 2 to 4 in number, have 10 pins each, while those 5 to 12 in number have 26 pins each, and 13 to 19 in number have 40 pins each.
*3. Port sizes indicated by fraction are inch sizes, others are metric.
*4. Sub-D or flat cable connector is +V common wiring standard.

20 Series Solenoid Valve Specifications (24VDC)

Item \ Type (SVA)		20S-D24	20D-D24	20A-D24 / 20R-D24 / 20P-D24	20E-D24 / 20F-D24 / 20G-D24 / 20H-D24	20T-D24	20U-D24	20V-D24	20W-D24
Pilot valve	Operating system	Direct operation							
	Valve construction	Elastic seal, poppet valve							
	Coil voltage rating	24VDC (*3)							
	Allowable voltage range	21.6 ~ 26.4VDC (*3)							
	Power consumption	1.2W (with LED)							
	Surge limiting circuit	Diode (*3)							
	Manual operation	Non-lock push system							
	Operating pressure range	29 ~ 102psi (0.2 ~ 0.7MPa)							
Main valve	Operating system	Pneumatic operation by pilot valve							
	Valve construction	Elastic seal, spool valve							
	No. of position	2 positions		3 positions	2 positions				
	No. of ports	5 ports			3 ports x 2 (*1)	2 ports		3 ports	
	Valve function	Single	Double		Single x 2	Single	Double	Single	Double
	No. of pilot points	1	2			1	2	1	2
	Response time (*2)	18m·sec	12m·sec	18m·sec		15m·sec			
	Max. operation cycle	5cycle／sec.							
	Min. excitation time		50m·sec				50m·sec		50m·sec
	Lubrication	Not required							
	Operating pressure range	29 ~ 104psi (0.2 ~ 0.7MPa)				-15 ~ 104psi (-0.1 ~ 0.7MPa)			

*1. This is a valve construction incorporating 2× 3-port valves. P is common.
*2. Values are at air pressure of 0.5MPa (72psi) and from power off to on. For 3 positions valve, the value is from neutral position of all port block (closed center) valve.
*3. Please refer to electric circuit diagram on page 339 for detail.

20 Series Solenoid Valve Specifications (100VAC)

Item		20S-100	20D-100	20A-100 20R-100 20P-100	20E-100 20F-100 20G-100 20H-100	20T-100	20U-100	20V-100	20W-100
Pilot valve	Operating system	Direct operation							
	Valve construction	Elastic seal, poppet valve							
	Coil voltage rating	100VAC (*3)							
	Allowable voltage range	90 ~ 110VAC (*3)							
	Power consumption	1.5VA (with LED)							
	Surge limiting circuit	Diode (*3)							
	Manual operation	Non-lock push system							
	Operating pressure range	29 ~ 102psi (0.2 ~ 0.7MPa)							
Main valve	Operating system	Pneumatic operation by pilot valve							
	Valve construction	Elastic seal, spool valve							
	No. of position	2 positions		3 positions	2 positions				
	No. of ports	5 ports			3 ports x 2 (*1)	2 ports		3 ports	
	Valve function	Single	Double		Single x 2	Single	Double	Single	Double
	No. of pilot points	1	2			1	2	1	2
	Response time (*2)	18m·sec	12m·sec	18m·sec		15m·sec			
	Max. operation cycle	5cycle／sec.							
	Min. excitation time		50m·sec				50m·sec		50m·sec
	Lubrication	Not required							
	Operating pressure range	29 ~ 104psi (0.2 ~ 0.7MPa)				-15 ~ 104psi (-0.1 ~ 0.7MPa)			

*1. This is a valve construction incorporating 2× 3-port valves. P is common.
*2. Values are at air pressure of 0.5MPa (72psi) and from power off to on. For 3 positions valve, the value is from neutral position of all port block (closed center) valve.
*3. Please refer to electric circuit diagram on page 339 for detail.

20 Series Flow characteristics

Item		20S-□	20D-□	20A-□ 20R-□ 20P-□	20E-□ 20F-□ 20G-□ 20H-□	20T-□ 20U-□	20V-□ 20W-□
P → A.B (ø10) (*2)	C(*3)						
	S(*4)						
P → A.B (ø8) (*2)	C(*3)	3.2	3.2	2.4	2.9	2.7	2.7
	S(*4)	16 (0.86)	16 (0.86)	12 (0.65)	14.5 (0.78)	13.5 (0.73)	13 (0.7)
P → A.B (ø6) (*2)	C(*3)	2.1	2.1	1.9	2.1	1.8	1.8
	S(*4)	10.5 (0.56)	10.5 (0.56)	9.5 (0.51)	10.5 (0.56)	9 (0.49)	9 (0.49)
A.B (ø10)	C(*3)						
→ R without check valve (*1)	C(*3)						
A.B (ø8)	C(*3)	3.4	3.4	2.6	2.5		2.8
→ R with check valve (*1)	C(*3)	17 (0.92)	17 (0.92)	13 (0.7)	12.5 (0.67)		14 (0.76)
A.B (ø8)	C(*3)	4.2	4.2	3	2.7		3.1
→ R without check valve (*1)	C(*3)	21 (1.13)	21 (1.13)	15 (0.81)	13.5 (0.73)		15.5 (0.84)
A.B (ø6)	C(*3)	2.1	2.1	2	2		2
→ R with check valve (*1)	C(*3)	10.5 (0.56)	10.5 (0.56)	10 (0.54)	10 (0.54)		10 (0.54)
A.B (ø6)	C(*3)	2.1	2.1	2	2		1.9
→ R without check valve (*1)	S(*4)	10.5 (0.56)	10.5 (0.56)	10 (0.54)	10 (0.54)		9.5 (0.51)

*1. Values for R port are those of silencer vent.
*2. B → A piping is applied to valve type T · U · V · W.
*3. C: Sonic conductance (dm³/(s·bar))
*4. S: Effective sectional area S (mm² (Cv factor)). Cv factor is a reference value converted by multiplying effective cross-sectional area (mm²) by 0.0542.

20 Series Cylinder Speed Table

Cylinder speed		Cylinder bore (mm)								
		ø20mm	ø25mm	ø32mm	ø40mm	ø50mm	ø63mm	ø80mm	ø100mm	ø125mm	ø140mm
(mm／s)	(in.／s)	(ø0.79in.)	(ø0.98in.)	(ø1.26in.)	(ø1.57in.)	(ø1.97in.)	(ø2.48in.)	(ø3.15in.)	(ø3.94in.)	(ø4.92in.)	(ø5.51in.)
100	3.94										
200	7.87										
300	11.81										
400	15.75										
500	19.69										
600	23.62										
700	27.56										
800	31.50										

Note). • The average speed of the cylinder represents the case where the pressure is 0.5MPa (72psi), the load factor is 30% and the piping tube length is 1m.
• The cylinder speed varies with the piping and joint configurations.
• The joint sizes of A and B ports for these data represent ø8mm quick-fitting joint. (Valves: SVA 20S-D24)

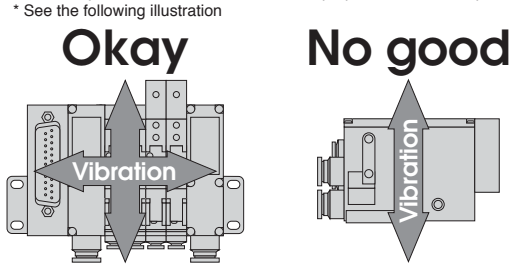
DIN Rail Bracket Specifications

Screw clamping torque	0.3 ~ 0.4N·m
Max. movable load	100N

Detailed Safety Instructions

Before using the PISCO device, be sure to read the "Safety Instructions", "Common Safety Instructions for Products Listed in This Manual" on page 13 to 15 and "Common Safety Instructions for Solenoid Valve" on page 108.

⚠Warning : 1. Where the Solenoid Valve is used with vibration of 5G or below, install it in such a way that the direction of vibration is perpendicular to the spool valve.
* See the following illustration



⚠Cautions : 1. When the valves are used as Valve Manifold, back pressure can cause malfunction of the actuator (single acting cylinder, etc.) In such a case, provide a check valve to the exhaust port.
2. Do not use a 3-position valve for center position stop of the cylinder that requires accuracy. Compressiveness of air may not allow accuracy in stop position. Also, the valve permits leakage, so that the stop position may not remain constant for a long time.
3. Do not give excessive tension or bending to the individual plug-in connector (cable). Disconnection or damage to the connector may result.
4. The cartridge joint can be disconnected by removing the lock pin. During use, however, make certain that the lock pin is properly in place.
5. Read the manual carefully for proper connection and disconnection of valves. Also, keep the manual at hand.
6. In case of wiring Sub-D connector, Individual plug-in Connector and Flat Cable, please refer to P.339 for Electric Circuit.

SVA 20 Solenoid Valve Manifold Model Designation (Example)

SVA 20 [08](1) [A](2) - [6C](3) [0C](4) [A06](5) [S](6) - [F](7) [B](8) - [K](9) [ ](10) - [D24](11) - [P](12) [D](13) [ ](14)

(1) Number of stations

(7) Wiring type

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

Possible combinations of no. & wiring

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

(2) IN & EX. block configuration

Code	Specification
A	On both side (12. dual pressure option is available)
B	On one side (left side with port face front)

(3) Output port

Code	Output port spec.
1C	Combination of cartridges straight cartridges
1L	Combination of cartridges elbow cartridges
6C	6mm straight
6L	6mm elbow (up)
8C	8mm straight
8L	8mm elbow (up)
1/4C	1/4" straight
1/4L	1/4" elbow (up)
5/16C	5/16" straight
5/16L	5/16" elbow (up)

(4) Intake port size

(6) Exhaust port size

Any size combinations possible for intake & exhaust port but port directions must be same except silencer.

Intake port spec.				Exhaust port spec.	
8C	8mm straight	5/16C	5/16" straight	S	Silencer/muffler
8L	8mm elbow (up)	5/16L	5/16" elbow (up)	8	8mm
0C	10mm straight	3/8C	3/8" straight	0	10mm
0L	10mm elbow (up)	3/8L	3/8" elbow (up)	2	12mm
2C	12mm straight	1/2C	1/2" straight	5/16	5/16"
2L	12mm elbow (up)	1/2L	1/2" elbow (up)	3/8	3/8"
				1/2	1/2"

(10) Manifold type

Code	No code	M
Output port spec.	Manifold with solenoid valve	Manifold alone w/o solenoid valve

(11) Solenoid valve current

Code	D24	100
	24VDC	100VAC

* Code is not necessary when only manifold base is ordered or when blank plate is selected for all stations.

(5) Check valve option (additional charge)

Code	
No code	No check valve
A01	1 station with check valve
A02	2 stations with check valve
A03	3 stations with check valve
A04	4 stations with check valve
A05	5 stations with check valve
A06	6 stations with check valve
A07	7 stations with check valve
A08	8 stations with check valve
A09	9 stations with check valve
A10	10 stations with check valve
A11	11 stations with check valve
A12	12 stations with check valve
A13	13 stations with check valve
A14	14 stations with check valve
A15	15 stations with check valve
A16	16 stations with check valve
A17	17 stations with check valve
A18	18 stations with check valve
A19	19 stations with check valve

* Additional charge for each valve.
* Please specify where you want have check valve on the order form.

(8) Body color

Code	B	W
Body color	Black	Light gray

(9) Valve

Code		No. of port	Solenoid valve	Type
Solenoid valve	S	5-ports	Single	2 position
	D	5-ports	Double	2 position
	E	3-ports	Double	2 position, A & B: normally closed (twin 3 ports)
	F	3-ports	Double	2 position, A & B: normally open (twin 3 ports)
	G	3-ports	Double	2 position, A: normally closed, B: normally open (twin 3 ports)
	H	3-ports	Double	2 position, A: normally open, B: normally closed (twin 3 ports)
	A	5-ports	Double	2 position, all port block
	R	5-ports	Double	2 position, ABR connection
	P	5-ports	Double	2 position, PAB connection
	T	2-ports	Single	2 position, vacuum operatable valve
	U	2-ports	Double	2 position, vacuum operatable valve
	V	2-ports	Single	2 position, vacuum operatable valve
	W	2-ports	Double	2 position, vacuum operatable valve
B		SVA20 B-: Blank plate		
K		Combination of valve/blank plate. * Please specify on the order form.		
M		Manifold base only		

(12) Dual pressure option (additional charge)

Code	No code	P
	Standard single pressure type	Dual pressure separation with 'A' (both) type of In & Ex. block configuration

* If duel pressure option (P) is selected, IN & EX block configuration must be A.

(13) DIN-rail mounting bracket option (additional charge)

Code	No code	D
	Standard type without DIN-rail bracket	With DIN-rail bracket. DRF35S

* DIN-rail bracket comes with 2 pcs./set.

(14) Negative Common Wiring (custom-made, build to order production)

No code: Positive common (standard)

MC: Negative common

* Not available for individual plug-in connector.

SVA 20 Mounting Valve Model Designation (Example)

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

(1) Solenoid valve

Code	No. of port	Solenoid valve	Type
S	5-ports	Single	2 position
D	5-ports	Double	2 position
E	3-ports	Double	2 position, A & B: normally closed (twin 3 ports)
F	3-ports	Double	2 position, A & B: normally open (twin 3 ports)
G	3-ports	Double	2 position, A: normally closed, B: normally open (twin 3 ports)
H	3-ports	Double	2 position, A: normally open, B: normally closed (twin 3 ports)
A	5-ports	Double	2 position, all port block
R	5-ports	Double	2 position, ABR connection
P	5-ports	Double	2 position, PAB connection
T	2-ports	Single	2 position, vacuum operatable valve
U	2-ports	Double	2 position, vacuum operatable valve
V	2-ports	Single	2 position, vacuum operatable valve
W	2-ports	Double	2 position, vacuum operatable valve

(2) Solenoid valve current

Code	D24	100
	24VDC	100VAC

(3) Wiring type

Code	Wiring type
S	Individual plug-in connector
D	Sub-D connector, Flat cable (ribbon-cable) connector

(4) Body color

Code	B	W
Body color	Black	Light gray

(5) Negative common wiring (Custom-made, build to order production)

No code: Positive common (standard)
MC: Negative common
* Not available for individual plug-in connector

SVA 20 Blank Plate Model Designation (Example)

SVA 20 B - B(1)

(1) Body color

Code	B	W
Body color	Black	Light gray

SVA 20 Silencer Element Model Designation

SVA 20 EX - E

SVA 20 DIN Rail Bracket Model Designation

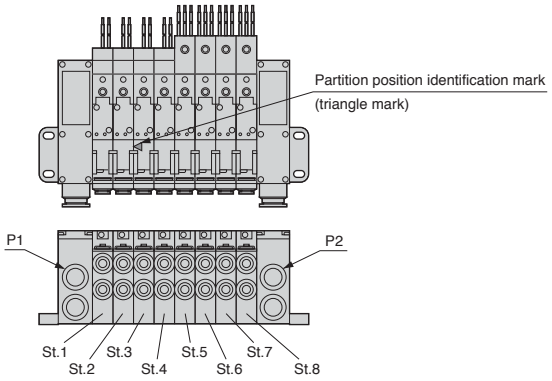
DRF35S

Caution of Optional Type

Dual-pressure-use Type (Single manifold controls two different supply pressure)

1. Partition position confirmation is made by checking the position of the triangle on the side of the unit (see Fig. 1). The right side, including the triangle-marked manifold block, is for P2 supply pressure. The left side is for P1 supply pressure. (In the case of Fig. 1, St.1 to St.2 are for P1 and St.3 to St.8 are for P2)
2. Please note that alteration of the partition position cannot be accepted after the ex-works.
3. Available intake and exhaust block configuration is A type (on both sides) only.

Fig. 1



2-and 3-port Valves (Vacuum-operable)

1. Connect the air supply source with the B port, and the actuator with the A port. Connecting any other way may result in malfunctions.
2. Be sure to provide an air filter not admit dust or any other foreign substance into the valve.

DIN-rail blacket

1. Be sure to clamp the screw with specified torque.
2. Do not place any item whose weight exceeds the max. movable load.
3. Avoid fitting where vibriations are extremely strong.

RoHS The products listed in this page are ECO-friendly products.
* Please refer to page 4 for the details of ECO-friendly products.

Sub-D Connector Specification

SVA Double-side Intake & Exhaust port (Concentrated Exhaust)

Model
SVA20①A-③④⑤⑥-D⑧-⑨-⑪-⑫⑬

SVA Single-side Intake & Exhaust port (Concentrated Exhaust)

Model
SVA20①B-③④⑤⑥-D⑧-⑨-⑪-⑫⑬

SVA Double-side Intake & Exhaust port (Silencer vent)

Model
SVA20①A-③④⑤S-D⑧-⑨-⑪-⑫⑬

SVA Single-side Intake & Exhaust port (Silencer vent)

Model
SVA20①B-③④⑤S-D⑧-⑨-⑪-⑫⑬

Individual Plug-in Connector Specification

SVA Double-side Intake & Exhaust port (Concentrated Exhaust)

Model
SVA20①A-③④⑤⑥-S⑧-⑨-⑪-⑫⑬

SVA Single-side Intake & Exhaust port (Concentrated Exhaust)

Model
SVA20①B-③④⑤⑥-S⑧-⑨-⑪-⑫⑬

SVA Double-side Intake & Exhaust port (Silencer vent)

Model
SVA20①A-③④⑤S-S⑧-⑨-⑪-⑫⑬

SVA Single-side Intake & Exhaust port (Silencer vent)

Model
SVA20①B-③④⑤S-S⑧-⑨-⑪-⑫⑬

Flat Cable Connector Specification

SVA Double-side Intake & Exhaust port (Concentrated Exhaust)

Model
SVA20①A-③④⑤⑥-F⑧-⑨-⑪-⑫⑬

SVA Single-side Intake & Exhaust port (Concentrated Exhaust)

Model
SVA20①B-③④⑤⑥-F⑧-⑨-⑪-⑫⑬

SVA Double-side Intake & Exhaust port (Silencer vent)

Model
SVA20①A-③④⑤S-F⑧-⑨-⑪-⑫⑬

SVA Single-side Intake & Exhaust port (Silencer vent)

Model
SVA20①B-③④⑤S-F⑧-⑨-⑪-⑫⑬

Cautions
*1. For ① , please select a number of stations.
*2. For ③ , please select an output port size.
*3. For ④ , please select an intake port size.
*4. For ⑤ , please select a check valve option.
*5. For ⑥ , please select an exhaust port size.
*6. For ⑧ , please select a body color.
*7. For ⑨ , please select a mounting valve type.
*8. For ⑪ , please select a voltage of valve.
*9. For ⑫ , please select a dual pressure option.
*10. For ⑬ , please select a DIN-rail bracket option.
*11. Please order with Order Form on next page if
- all output port sizes are not same
- all valve types are not same
- check valve option is selected.
- dual pressure option is selected.

*12. Build-to-order production

Package specification
1 pc. in a bag

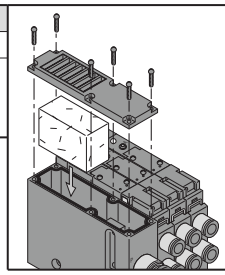
DIN Rail Bracket

DRF

Model
DRF35S

Package specifications
2 pcs. in a bag (DIN-rail Bracket only)
1 pc. in a bag

Silencer Element

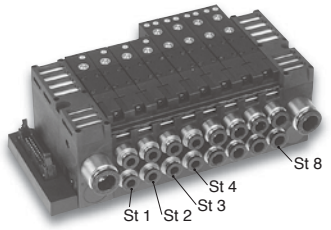


Model
SVA20EX-E

Package specification
2 pcs./set
* You need 2 sets for both side of intake & exhaust block.

Order Example

	Series	No. (1)	Type (2)	Output (3)	Intake (4)	Check valve (5)	Exhaust port (6)	Wiring (7)	Color (8)	Valve (9)	Manifold (10)	Coil vol. (11)	Dual-P (12)	DIN rail (13)	Common (14)
SVA	20	08	A	1C	0C	A03	S	F	B	K		D24	P		MC



* Valve mounting order, with joint side to the front as shown is numbered 1 through 8 from left to right.

Station No.	Output	Check valve	Valve type		Dual pressure
St 1	6		SVA20	S	
St 2	6		SVA20	S	
St 3	6		SVA20	S	
St 4	6		SVA20	S	✓
St 5	8		SVA20	D	
St 6	8	A	SVA20	D	
St 7	8	A	SVA20	D	
St 8	8	A	SVA20	D	

SVA Solenoid Valve Specification Order Form

To: PISCO

From:

Sign:

Order No.:

Date

Model type (Check where applicable)

Quantity pcs. Requesting delivery date

Model Designation

	Series	No. (1)	Type (2)	Output (3)	Intake (4)	Check valve (5)	Exhaust port (6)	Wiring (7)	Color (8)	Valve (9)	Manifold (10)	Coil vol. (11)	Dual-P (12)	DIN rail (13)	Common (14)
4 7	"														

Station No.	Output	Check valve	Valve type		Dual pressure
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		
St 20			SVA20		