

4/5 Port Air Operated Valve

Series VSA4□20

Model

Valve model	Body size	Function	Port size Rc	Flow characteristics						Pilot port size	Note) Weight (kg)
				P→A/B			A/B→EA/EB				
				C[dm ³ (s·bar)]	b	Cv	C[dm ³ (s·bar)]	b	Cv		
VSA4120-01	1/4	2 position single	1/8	4.1	0.30	0.95	4.2	0.34	1.0	Rc 1/8	0.60
VSA4120-02			1/4	5.9	0.30	1.3	5.1	0.47	1.2	Rc 1/8	
VSA4120-03			3/8	6.5	0.33	1.5	5.6	0.51	1.4	Rc 1/8	
VSA4220-01	1/4	2 position double	1/8	4.1	0.30	0.95	4.2	0.34	1.0	Rc 1/8	0.70
VSA4220-02			1/4	5.9	0.30	1.3	5.1	0.47	1.2	Rc 1/8	
VSA4220-03			3/8	6.5	0.33	1.5	5.6	0.51	1.4	Rc 1/8	
VSA4320-01	1/4	3 position closed center	1/8	4.0	0.31	0.95	4.1	0.34	1.0	Rc 1/8	0.86
VSA4320-02			1/4	6.0	0.28	1.4	5.0	0.44	1.2	Rc 1/8	
VSA4320-03			3/8	6.6	0.31	1.5	5.4	0.48	1.3	Rc 1/8	
VSA4420-01	1/4	3 position exhaust center	1/8	4.0	0.31	0.96	4.3	0.33	1.1	Rc 1/8	0.86
VSA4420-02			1/4	5.8	0.30	1.3	4.7	0.48	1.2	Rc 1/8	
VSA4420-03			3/8	6.4	0.33	1.5	5.1	0.53	1.3	Rc 1/8	

Note) The table shows the valve without sub-plate. With sub-plate: Add 0.24 kg

Specifications

Max. operating pressure	1.0 MPa
Pilot air pressure	0.1 to 1.0 MPa
Ambient temperature and operating fluid temperature	-10 to 60°C (1)
Lubrication	Not required (2)
Impact/Vibration resistance (m/s ²) (3)	150/50
Enclosure	Dustproof (Enclosure class 0) (4)

Note 1) Use dry air to prevent condensation when operating at low temperature.

Note 2) Use turbine oil Class 1 (ISO VG32), if lubricated.

Note 3) Impact resistance: No malfunction from test using drop impact tester, to axis and right angle directions of main valve, each one time when pilot signal is ON and OFF. (Value in the initial stage)

Vibration resistance: No malfunction from test with 45 to 2000 Hz one sweep, to axis and right angle direction of main valve, each one time when pilot signal ON and OFF. (Value in the initial stage)

Note 4) As per JIS C0920

- Manifold possible.
- When requiring bottom piping, please specify it.

Sub-plate Assembly Part No.: VS4020-S-⁰¹/₀₂/₀₃

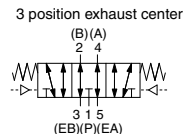
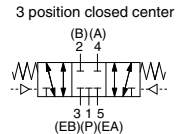
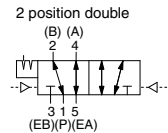
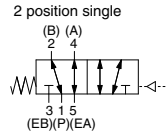
* Mounting bolt and gasket are not included.

Mounting Bolts, Gasket Part No.: BG-VS4020

How to Order



Symbol



VSA 4 1 2 0 - 02 [] [] []

Air operated valve (points to VSA)

4/5 port valve (points to 4)

Function

1	2 position single
2	2 position double
3	3 position closed center
4	3 position exhaust center

Body size

2	1/4 standard
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Piping

0	Sub-plate side ported
1*	Sub-plate bottom ported
4	Without sub-plate (For manifold)

* Semi-standard

Port size

00	Without sub-plate
01	Rc 1/8
02	Rc 1/4
03	Rc 3/8

* Bottom ported: Rc 1/8 and 1/4 only

Thread type

Nil	Rc
N*	NPT
T*	NPTF
F*	PF

* Semi-standard

Pilot

Nil	Body side
1*	Base side (Without sub-plate)

* Semi-standard

Option

Nil	None
PA	Non-locking manual override

⚠ Caution

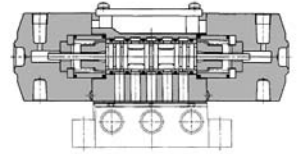
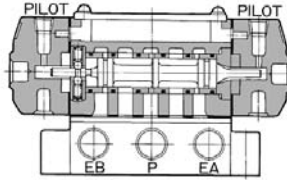
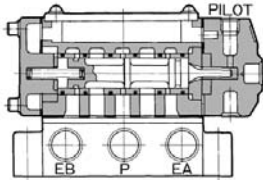
Be sure to read this before handling. Refer to front matter 53 for Safety Instructions and pages 3 to 8 for 3/4/5 Port Solenoid Valve Precautions.

Construction

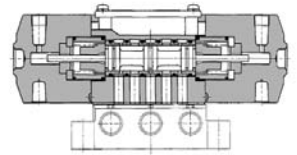
2 position single: VSA4120

2 position double: VSA4220

3 position closed center: VSA4320



3 position exhaust center: VSA4420



SYA
SYJA
VZA
VFA
VFRA
VPA4
VSA4
SYJA
VZA
VTA
VGA
VPA
VPA3

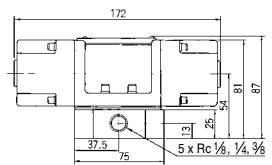
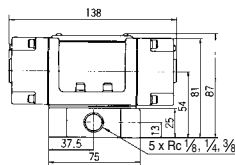
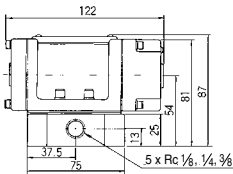
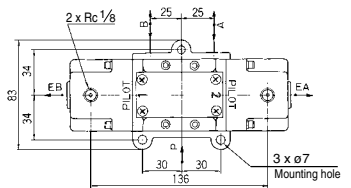
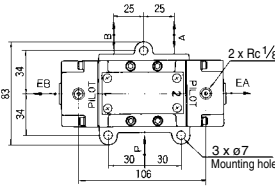
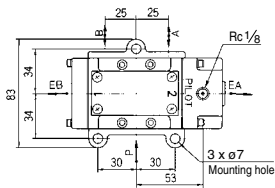
Dimensions

2 position single: VSA4120

2 position double: VSA4220

3 position closed center: VSA4320

3 position exhaust center: VSA4420



4/5 Port Air Operated Valve

Series VSA4□30

Model

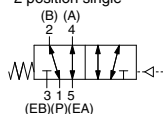
Valve model	Body size	Function	Port size Rc	Flow characteristics						Pilot port size	Note) Weight (kg)
				P→A/B			A/B→EA/EB				
				C[dm ³ (s·bar)]	b	Cv	C[dm ³ (s·bar)]	b	Cv		
VSA4130-02	3/8	2 position single	1/4	6.4	0.16	1.4	6.3	0.13	1.4	Rc 1/8	0.75
VSA4130-03			3/8	8.7	0.28	2.1	8.2	0.13	1.9	Rc 1/8	
VSA4130-04			1/2	9.2	0.14	2.2	9.6	0.17	2.4	Rc 1/8	
VSA4230-02	3/8	2 position double	1/4	6.4	0.16	1.4	6.3	0.13	1.4	Rc 1/8	0.86
VSA4230-03			3/8	8.7	0.28	2.1	8.2	0.13	1.9	Rc 1/8	
VSA4230-04			1/2	9.2	0.14	2.2	9.6	0.17	2.4	Rc 1/8	
VSA4330-02	3/8	3 position closed center	1/4	6.2	0.23	1.4	5.8	0.15	1.3	Rc 1/8	0.90
VSA4330-03			3/8	8.1	0.27	2.0	7.5	0.11	1.7	Rc 1/8	
VSA4330-04			1/2	10	0.18	2.4	9.5	0.14	2.2	Rc 1/8	
VSA4430-02	3/8	3 position exhaust center	1/4	6.6	0.24	1.5	5.5	0.15	1.2	Rc 1/8	0.90
VSA4430-03			3/8	8.9	0.25	2.2	6.7	0.14	1.5	Rc 1/8	
VSA4430-04			1/2	11	0.15	2.5	9.4	0.14	2.2	Rc 1/8	

Note) The table shows the value without sub-plate. With sub-plate: Add 0.41 kg

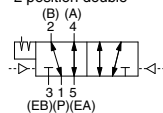


Symbol

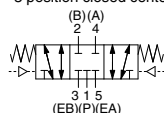
2 position single



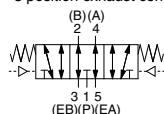
2 position double



3 position closed center



3 position exhaust center



Specifications

Max. operating pressure	1.0 MPa
Pilot air pressure	0.1 to 1.0 MPa
Ambient temperature and operating fluid temperature	-10 to 60°C (1)
Lubrication	Not required (2)
Impact/Vibration resistance (m/s ²) (3)	150/50
Enclosure	Dustproof (Enclosure class 0) (4)

Note 1) Use dry air to prevent condensation when operating at low temperature.

Note 2) Use turbine oil Class 1 (ISO VG32) if lubricated.

Note 3) Impact resistance: No malfunction from test using drop impact tester, to axis and right angle directions of main valve, each one time when pilot signal is ON and OFF.

(Value in the initial stage)

Vibration resistance: No malfunction from test with 45 to 2000 Hz one sweep, to axis and right angle direction of main valve, each one time when pilot signal ON and OFF.

(Value in the initial stage)

Note 4) As per JIS C0920

• Manifold possible.

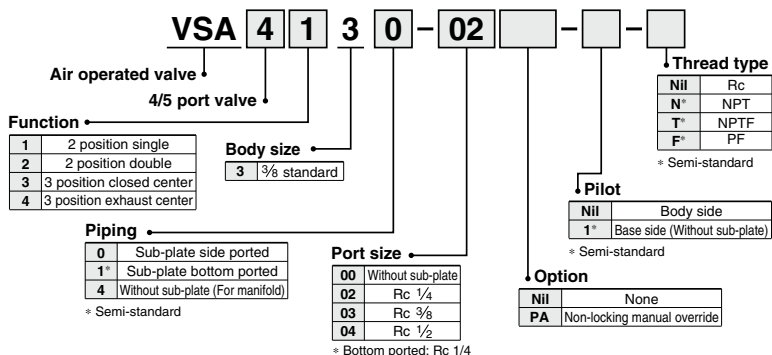
• When requiring bottom piping, please specify it.

Sub-plate Assembly Part No.: VS4030-S ⁰² ₀₃ ₀₄

* Mounting bolt and gasket are not included.

Mounting Bolts, Gasket Part No.: BG-VS4030

How to Order



⚠ Caution

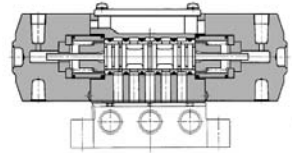
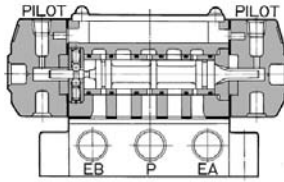
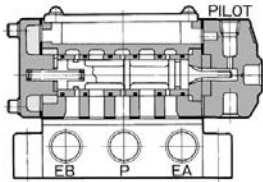
Be sure to read this before handling. Refer to front matter 53 for Safety Instructions and pages 3 to 8 for 3/4/5 Port Solenoid Valve Precautions.

Construction

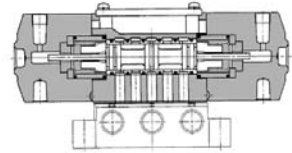
2 position single: VSA4130

2 position double: VSA4230

3 position closed center: VSA4330



3 position exhaust center: VSA4430



SYA
SYJA
VZA
VFA
VFRA
VPA4
VSA4
SYJA
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VPA
VPA3

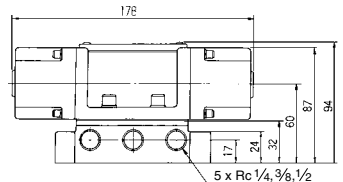
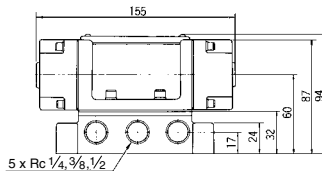
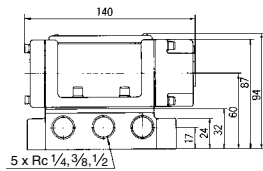
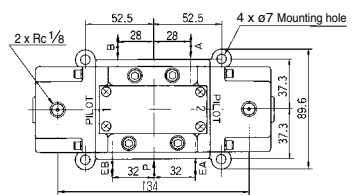
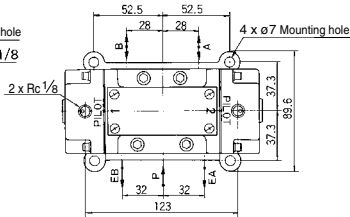
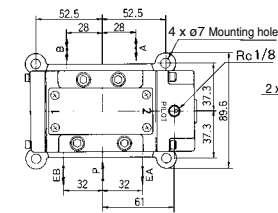
Dimensions

2 position single: VSA4130

2 position double: VSA4230

3 position closed center: VSA4330

3 position exhaust center: VSA4430



4/5 Port Air Operated Valve

Series VSA4□40

Model

Valve model	Body size	Function	Port size Rc	Flow characteristics						Pilot port size	Note) Weight (kg)
				P→A/B			A/B→EA/EB				
				C[dm ³ (s·bar)]	b	Cv	C[dm ³ (s·bar)]	b	Cv		
VSA4140-04	1/2	2 position single	1/2	12	0.15	3.0	13	0.24	3.3	Rc 1/8	1.31
VSA4140-06		single	3/4	15	0.31	4.1	16	0.32	4.2	Rc 1/8	
VSA4240-04	1/2	2 position double	1/2	13	0.15	3.0	13	0.24	3.3	Rc 1/8	1.50
VSA4240-06		double	3/4	15	0.31	4.1	16	0.32	4.2	Rc 1/8	
VSA4340-04	1/2	3 position closed center	1/2	14	0.22	3.5	13	0.26	3.2	Rc 1/8	1.73
VSA4340-06		closed center	3/4	17	0.27	4.2	16	0.25	4.2	Rc 1/8	
VSA4440-04	1/2	3 position exhaust center	1/2	15	0.18	3.6	13	0.18	3.0	Rc 1/8	1.73
VSA4440-06		exhaust center	3/4	17	0.39	4.6	17	0.30	4.3	Rc 1/8	

Note) The table shows the value without sub-plate. With sub-plate: Add 0.6 kg for Rc 1/2, 1.4 kg for Rc 3/4.



Specifications

Max. operating pressure	1.0 MPa
Pilot air pressure	0.1 to 1.0 MPa
Ambient temperature and operating fluid temperature	-10 to 60°C (1)
Lubrication	Not required (2)
Impact/Vibration resistance (m/s ²) (3)	150/50
Enclosure	Dustproof (Enclosure class 0) (4)

Note 1) Use dry air to prevent condensation when operating at low temperature.

Note 2) Use turbine oil Class 1 (ISO VG32), if lubricated.

Note 3) Impact resistance: No malfunction from test using drop impact tester, to axis and right angle directions of main valve, each one time when pilot signal is ON and OFF. (Value in the initial stage)

Vibration resistance: No malfunction from test with 45 to 2000 Hz one sweep, to axis and right angle direction of main valve, each one time when pilot signal ON and OFF. (Value in the initial stage)

Note 4) As per JIS C0920

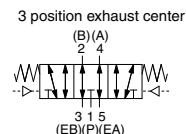
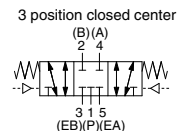
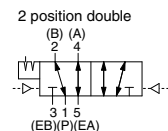
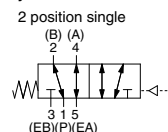
- Manifold possible.
- When requiring bottom piping, please specify it.

Sub-plate Assembly Part No.: VS4040-S⁰⁴₀₆

* Mounting bolt and gasket are not included.

Mounting Bolts, Gasket Part No.: BG-VS4040

Symbol



Function

1	2 position single
2	2 position double
3	3 position closed center
4	3 position exhaust center

Piping

0	Sub-plate side ported
1*	Sub-plate bottom ported
4	Without sub-plate (For manifold)

* Semi-standard

How to Order

VSA 4 1 4 0 - 04 [] - [] - []

Function → 4/5 port valve

Body size → 4 1/2 standard

Piping → 0 Sub-plate side ported, 1* Sub-plate bottom ported, 4 Without sub-plate (For manifold)

Port size → 00 Without sub-plate, 04 Rc 1/2, 06 Rc 3/4

Thread type

Nil	Rc
N*	NPT
T*	NPTF
F*	PF

* Semi-standard

Pilot

Nil	Body side
1*	Base side (Without sub-plate)

* Semi-standard

Option

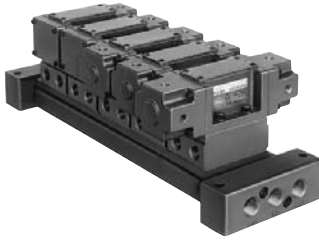
Nil	None
PA	Non-locking manual override

⚠ Caution

Be sure to read this before handling. Refer to front matter 53 for Safety Instructions and pages 3 to 8 for 3/4/5 Port Solenoid Valve Precautions.

Series VSA4□□0

Manifold Specifications 1



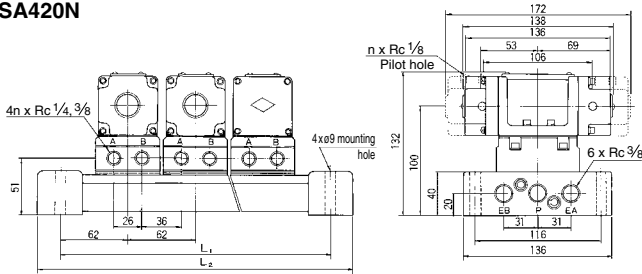
Specifications

Manifold type	Type E	Valve manifold with the same body size *
	Type N	Valve manifold with the same body size
	Type V	Valve manifold with the different body sizes
Stations	2 to 10 stations (Standard)	
EXH port	Common EXH, Individual EXH	
Piping	Side piping, Bottom piping	

* Type E is available only for common EXH and side piping.

Manifold: Type N

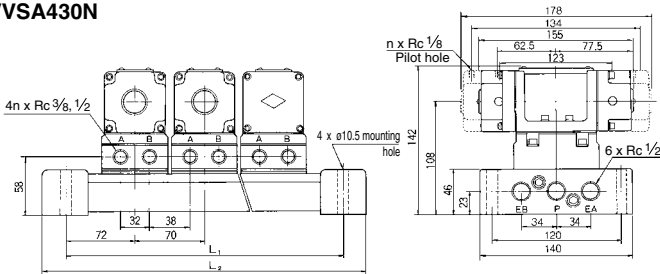
VVSA420N



n	L	Dimensions (mm)	
		L ₂	L ₁
2 stations		226	186
3 stations		288	248
4 stations		350	310
5 stations		412	372
n stations		62n + 102	62n + 62
Applicable valve		VSA4120, VSA4220 VSA4320, VSA4420	

Manifold weight general equation
M = 0.66n + 0.75 (kg) n: Station

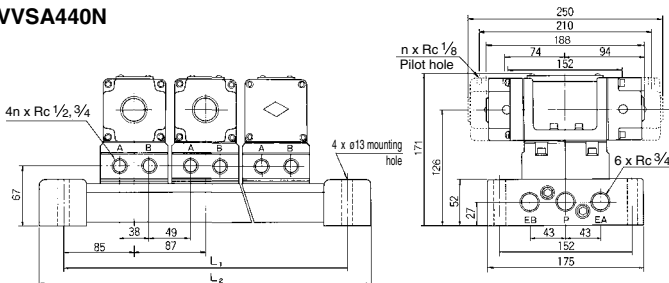
VVSA430N



n	L	Dimensions (mm)	
		L ₂	L ₁
2 stations		256	214
3 stations		326	284
4 stations		396	354
5 stations		466	424
n stations		70n + 116	70n + 74
Applicable valve		VSA4130, VSA4230 VSA4330, VSA4430	

Manifold weight general equation
M = 0.87n + 0.95 (kg) n: Station

VVSA440N



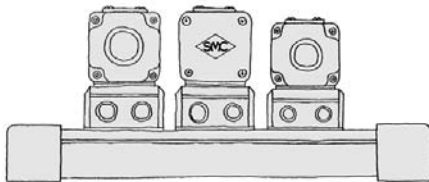
n	L	Dimensions (mm)	
		L ₂	L ₁
2 stations		307	257
3 stations		394	344
4 stations		481	431
5 stations		568	518
n stations		87n + 133	87n + 83
Applicable valve		VSA4140, VSA4240 VSA4340, VSA4440	

Manifold weight general equation
M = 1.56n + 1.73 (kg) n: Station

Series VSA4□□0

Manifold Specifications 2

Manifold: Type V



Type E/Valve Manifold with the Same Body Size

Manifold base size	Applicable valve	EXH port	Port size Rc		
			P	A, B	EA, EB
1/4 standard	VSA4□20	Common EXH	3/8	1/8, 1/4, 3/8	3/8
3/8 standard	VSA4□30	Common EXH	1/2	3/8, 1/2	1/2

Piping specifications/Side ported is only available.

Type N/Valve Manifold with the Same Body Size

Manifold base size	Applicable valve	EXH port	Port size Rc		
			P	A, B	EA, EB
1/4 standard	VSA4□20	Common EXH	3/8	1/8, 1/4, 3/8	3/8
		Individual EXH			1/4, 3/8
3/8 standard	VSA4□30	Common EXH	1/2	3/8, 1/2	1/2
		Individual EXH			3/8, 1/2
1/2 standard	VSA4□40	Common EXH	3/4	1/2, 3/4	3/4
		Individual EXH			1/2, 3/4

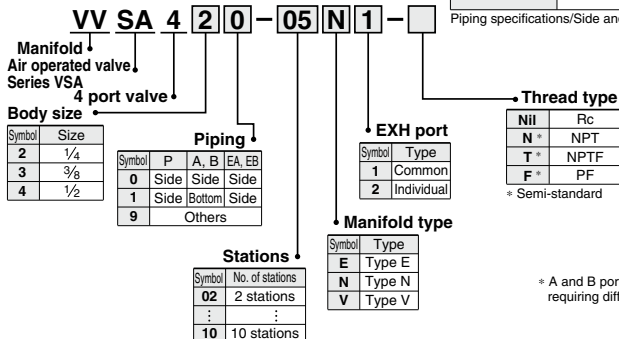
Piping specifications/Side and bottom ported.

Type V/Body Size

Manifold base size	Applicable valve	EXH port	Valve size	Port size Rc		
				P	A, B	EA, EB
3/8 standard	VSA4□20	Common EXH	1/4	1/2	1/4, 3/8	1/2
			3/8			
	VSA4□30	Individual EXH	1/4	1/2	1/4, 3/8	1/4
			3/8			3/8, 1/2
1/2 standard	VSA4□30	Common EXH	3/8	3/4	3/8, 1/2	3/4
			1/2			
	VSA4□40	Individual EXH	3/8	3/4	3/8, 1/2	3/8
			1/2			1/2, 3/4

Piping specifications/Side and bottom ported.

How to Order



Manifold Optional Parts

Option	Body size	Assembly part no.	Attached parts
Blanking plate	1/4	XT015-4A	Gasket, Bolt
	3/8	XT016-5A	
	1/2	XT038N-4A	
Interface speed control	1/4	AXT394A	Gasket, Bolt
	3/8	AXT393A	
	1/2	AXT396A	

Indicate valve and option number with the manifold base number.

<Example>

(Manifold base) **VVSA430-05N1** 1
 (2 position single) VSA4134-00 3
 (2 position double) VSA4234-00 1
 (Blanking plate) XT016-5A 1

SYA

SYJA

VZA

VFA

VFRA

VPA4

VSA4

SYJA

VZA

VTA

VGA

VPA

VPA3

* A and B port sizes are same as port sizes in standard body size. When requiring different port size, contact SMC.