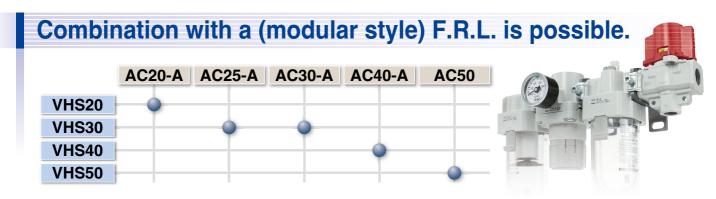
Conforming to OSHA Standard Pressure Relief 3 Port Valve New with Locking Holes







Single Action Series VHS20/30/40/50 Double Action Series VHS2510/3510/4510/5510



Single Action VHS20/30/40/50 Series Double Action VHS2510/3510/4510/5510 Series



With the indicator window



The supply/exhaust status of the air flow can be verified at a glance in the indicator window.

SUP : Supply EXH : Exhaust

Double action

Push the handle and then turn, **2-step** action prevents malfunction.



With locking holes



When in the exhaust position, the valve may be padlock secured.

OSHA standard (Occupational Safety and Health Administration Department of Labor-US standard)

For safety control, OSHA rule requires energy sources for certain equipment be turned off or disconnected and that the device either be locked or labelled with a warning tag.

GSMC

* Recommended lock shackle diameter size: ø5 or more

Shackle diameter

<section-header><section-header><section-header><section-header><section-header><complex-block>

Made to Order (-X1)

Red body is available.



Variations

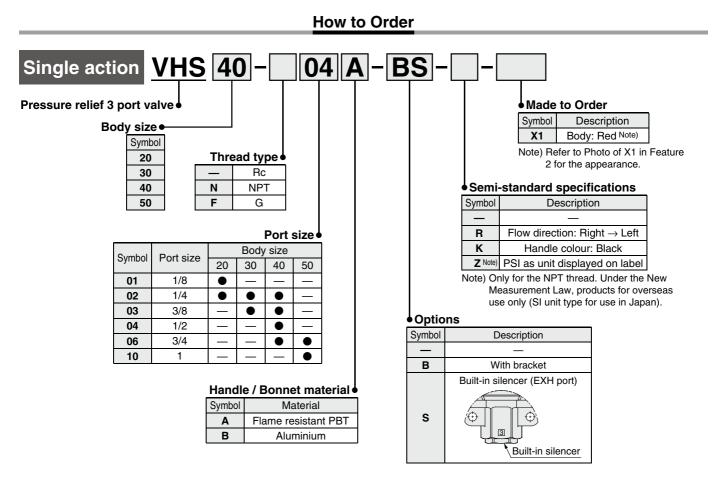
Port size 1/8, 1/4, and 3/8 are now available for double action type.

Single act	tion	VHS20	VHS20 VHS30 VHS40						
Double ac	tion	VHS2510	VHS3510	VHS4510	VHS5510				
	1/8	•							
	1/4	<u> </u>		•					
Port size	3/8			•					
(Rc, NPT, G)	1/2			•					
	3/4			•	•				
	1				•				
(Semi-standard) Handle: Black Flow direction: Right 🛛 Left									
(Option) With bracket Built-in silencer (EXH port) (Made to Order) Body: Red									



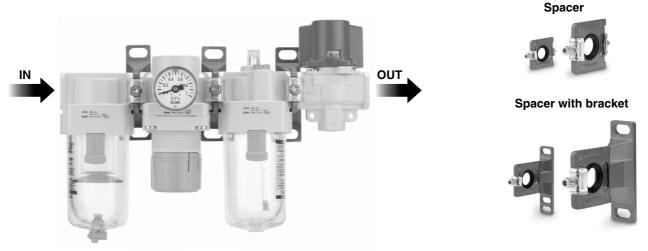
Features 2

Conforming to OSHA Standard Pressure Relief 3 Port Valve with Locking Holes (Single Action) Series VHS20/30/40/50



A spacer or spacer with bracket is required if the valve is combined with modular F.R.L. Please order it separately. VHS type can be ordered from How to Order of modular F.R.L. combination.

Pressure relief 3 port valve	sure relief 3 port valve Spacer part no.		Applicable air preparation equipment		
VHS20	VHS20 Y200-A		AC20-A		
VHS30	VHS30 Y300-A		AC25-A, AC30-A		
VHS40	VHS40 Y400-A		AC40-A		
VHS40-06	Y500-A	Y500T-A	AC40-06-A		
VHS50 Y600-A		Y600T-A	AC50, AC55, AC60		

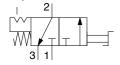


SMC

Conforming to OSHA Standard Pressure Relief 3 Port Valve with Locking Holes (Single Action) Series VHS20/30/40/50



JIS Symbol



OSHA standard (Occupational Safety and Health Administration Department of Labor - US standard) For safety control, OSHA rule requires energy sources for certain equipment be turned off or disconnected and that the device either be locked or labelled with a warning tag.

Specifications

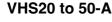
Standard specifications

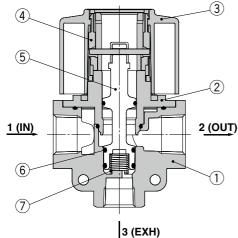
otai	idal d'specifications								
	Model	VHS20	VHS30	VHS40	VHS40-06	VHS50			
Fluic	1			Air					
Amb	ient and fluid temperature		–5 to (60°C (No fre	ezing)				
Proc	of pressure			1.5 MPa					
Oper	rating pressure range	0.1 to 1.0 MPa							
Hand	dle switching angle	90°							
Pain	t colour (Standard)	Handle: Red Body: White							
Weight	A (Handle, bonnet: Flame resistant PBT)	76 g	127 g	247 g	293 g	532 g			
weigin	B (Handle, bonnet: Aluminium)	92 g	156 g	301 g	349 g	630 g			

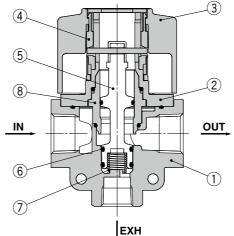
Flow-rate characteristics

	Port size		Flow-rate characteristics										
Model					OUT→EXH								
	IN, OUT	EXH	C[dm3/s·bar]	b	Cv	Q[l/min(ANR)]*1	C[dm3/s·bar]	b	Cv	Q[l/min(ANR)]*1			
VHS20	1/8	1/8	2.4	0.43	0.65	667	2.5	0.39	0.69	675			
VH520	1/4	1/0	3.3	0.40	0.88	898	3.1	0.51	0.84	919			
VHS30	1/4	1/4	6.4	0.45	1.7	1807	6.2	0.38	1.7	1663			
1000	3/8		8.3	0.41	2.3	2274	7.0	0.41	1.9	1918			
	1/4		7.3	0.49	2.0	2128	8.5	0.35	2.3	2233			
VHS40	3/8	3/8	10.9	0.45	3.0	3078	11.6	0.40	3.1	3156			
	1/2		14.2	0.39	3.8	3835	13.3	0.43	3.6	3699			
VHS40-06	3/4	1/2	18.3	0.31	5.0	4683	17.7	0.37	4.8	4714			
V/11050	3/4	1/2	23.8	0.41	6.4	6521	21.8	0.41	5.9	5973			
VHS50	1	1/2	31.9	0.33	8.6	8270	23.5	0.44	6.4	6585			

Construction

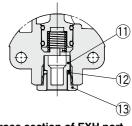






SMC

Built-in silencer (Option)

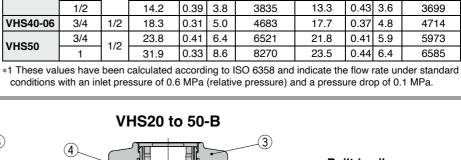


Cross section of EXH port

Component Parts

No.	Description	Mate	erial	Note
INO.	Description	VHS20 to 50-A	VHS20 to 50-B	Note
1	Body	ADO	C12	White
2	Bonnet	Flame resistant PBT (UL-94 Standard V-0 equivalent)	White	
3	Handle	Flame resistant PBT (UL-94 Standard V-0 equivalent)	ADC12	Red
4	Cam ring	PC	M	-
5	Spool	PE	ЗТ	—
6	Spool O-ring	H-N	—	
7	Spool spring	Stainles	_	
8	Ferrule	PC	DM	—

* The VHS series cannot be disassembled. Parts cannot be shipped separately.



2

Option Part No.

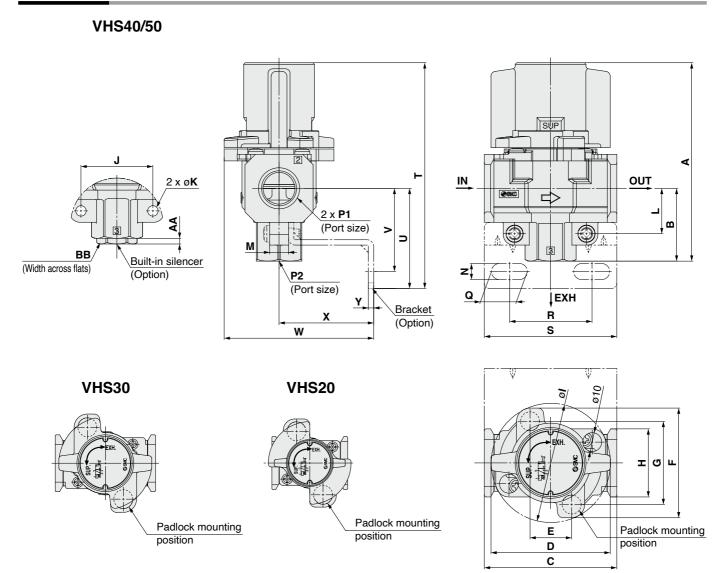
Model	Bracket assembly part no. Note 1)	Silencer assembly part no. Note 2)			
VHS20	VHS20PW-180AS	VHS20PW-190AS			
VHS30	VHS30PW-180AS	VHS30PW-190AS			
VHS40	VHS40PW-180AS	VHS40PW-190AS			
VHS40-06	VHS40PW-180-06AS	VHS40PW-190-06AS			
VHS50	VHS50PW-180AS	VHS50PW-190AS			

Note 1) Bracket/1pc., mounting screw/2pcs.

Note 2) Element (1), element O-ring (12), element cover (13) 1pc. for each.

Series VHS20/30/40/50

Dimensions



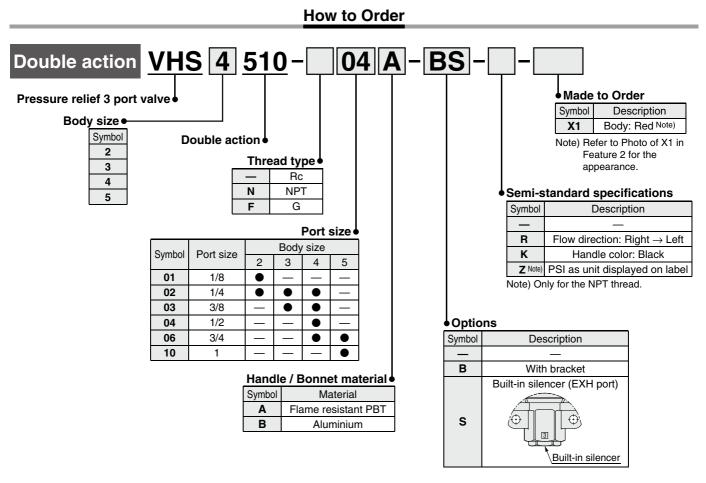
Dimensions

														[mm]
Standard specifications														
P1	P2	Α	В	С	D	Е	F	G	н	I	J	К	L	М
1/8, 1/4	1/8	66.4	22.3	40	37.5	14	46.6	33.6	28	43	24	4.5	14.8	9
1/4, 3/8	1/4	80.3	29.4	53	49	19	52	38	30	49	30	4.5	19	9
1/4, 3/8, 1/2	3/8	104.9	38.5	70	63	22	58	44	36	63	38	5.5	24	10
3/4	1/2	110.4	42	75	63	22	58	44	44	63	43	5.5	26	10
3/4, 1	1/2	134.3	53	90	76	26	76	61	53	81	50	6.5	31	12
	1/8, 1/4 1/4, 3/8 1/4, 3/8, 1/2 3/4	1/8, 1/4 1/8 1/4, 3/8 1/4 1/4, 3/8, 1/2 3/8 3/4 1/2	1/8, 1/4 1/8 66.4 1/4, 3/8 1/4 80.3 1/4, 3/8, 1/2 3/8 104.9 3/4 1/2 110.4	1/8, 1/4 1/8 66.4 22.3 1/4, 3/8 1/4 80.3 29.4 1/4, 3/8, 1/2 3/8 104.9 38.5 3/4 1/2 110.4 42	1/8, 1/4 1/8 66.4 22.3 40 1/4, 3/8 1/4 80.3 29.4 53 1/4, 3/8, 1/2 3/8 104.9 38.5 70 3/4 1/2 110.4 42 75	P1 P2 A B C D 1/8, 1/4 1/8 66.4 22.3 40 37.5 1/4, 3/8 1/4 80.3 29.4 53 49 1/4, 3/8, 1/2 3/8 104.9 38.5 70 63 3/4 1/2 110.4 42 75 63	P1 P2 A B C D E 1/8, 1/4 1/8 66.4 22.3 40 37.5 14 1/4, 3/8 1/4 80.3 29.4 53 49 19 1/4, 3/8, 1/2 3/8 104.9 38.5 70 63 22 3/4 1/2 110.4 42 75 63 22	P1 P2 A B C D E F 1/8, 1/4 1/8 66.4 22.3 40 37.5 14 46.6 1/4, 3/8 1/4 80.3 29.4 53 49 19 52 1/4, 3/8, 1/2 3/8 104.9 38.5 70 63 22 58 3/4 1/2 110.4 42 75 63 22 58	P1 P2 A B C D E F G 1/8, 1/4 1/8 66.4 22.3 40 37.5 14 46.6 33.6 1/4, 3/8 1/4 80.3 29.4 53 49 19 52 38 1/4, 3/8, 1/2 3/8 104.9 38.5 70 63 22 58 44 3/4 1/2 110.4 42 75 63 22 58 44	P1 P2 A B C D E F G H 1/8, 1/4 1/8 66.4 22.3 40 37.5 14 46.6 33.6 28 1/4, 3/8 1/4 80.3 29.4 53 49 19 52 38 30 1/4, 3/8, 1/2 3/8 104.9 38.5 70 63 22 58 44 36 3/4 1/2 110.4 42 75 63 22 58 44 44	P1 P2 A B C D E F G H I 1/8, 1/4 1/8 66.4 22.3 40 37.5 14 46.6 33.6 28 43 1/4, 3/8 1/4 80.3 29.4 53 49 19 52 38 30 49 1/4, 3/8, 1/2 3/8 104.9 38.5 70 63 22 58 44 36 63 3/4 1/2 110.4 42 75 63 22 58 44 44 63	P1 P2 A B C D E F G H I J 1/8, 1/4 1/8 66.4 22.3 40 37.5 14 46.6 33.6 28 43 24 1/4, 3/8 1/4 80.3 29.4 53 49 19 52 38 30 49 30 1/4, 3/8, 1/2 3/8 104.9 38.5 70 63 22 58 44 36 63 38 3/4 1/2 110.4 42 75 63 22 58 44 44 63 43	P1 P2 A B C D E F G H I J K 1/8, 1/4 1/8 66.4 22.3 40 37.5 14 46.6 33.6 28 43 24 4.5 1/4, 3/8 1/4 80.3 29.4 53 49 19 52 38 30 49 30 4.5 1/4, 3/8, 1/2 3/8 104.9 38.5 70 63 22 58 44 36 63 38 5.5 3/4 1/2 110.4 42 75 63 22 58 44 44 63 43 5.5	P1 P2 A B C D E F G H I J K L 1/8, 1/4 1/8 66.4 22.3 40 37.5 14 46.6 33.6 28 43 24 4.5 14.8 1/4, 3/8 1/4 80.3 29.4 53 49 19 52 38 30 49 30 4.5 19 1/4, 3/8, 1/2 3/8 104.9 38.5 70 63 22 58 44 36 63 38 5.5 24 3/4 1/2 110.4 42 75 63 22 58 44 44 63 43 5.5 26

					Ор	tions sp	ecificatio	ons				
Model		With bracket									Built-in silencer	
	N	Q	R	S	Т	U	v	w	Х	Y	AA	BB
VHS20	5.4	8.4	27	40	75.4	31.3	25.3	53.3	30	2.3	3	12
VHS30	6.5	10	36.5	53	90.9	40	33	67	41	2.3	3	14
VHS40	8.5	19	43.5	70	119.4	53	44	79	50	2.8	3	19
VHS40-06	8.5	19	43.5	70	123.4	55	46	79	50	2.8	4	22
VHS50	11	27.5	49.5	90	152.3	71	60	108	70	3.2	4	22

Conforming to OSHA Standard Pressure Relief 3 Port Valve with Locking Holes (Double Action) Series VHS2510/3510/4510/5510

(RoHS)



A spacer or spacer with bracket is required if the valve is combined with modular F.R.L. Please order it separately.

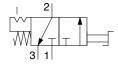
Pressure relief 3 port valve	essure relief 3 port valve Spacer part no.		Applicable air preparation equipment
VHS2510	VHS2510 Y200-A		AC20-A
VHS3510	Y300-A	Y300T-A	AC25-A, AC30-A
VHS4510	Y400-A	Y400T-A	AC40-A
VHS4510-06	Y500-A	Y500T-A	AC40-06-A
VHS5510	Y600-A	Y600T-A	AC50, AC55, AC60



Series VHS2510/3510/4510/5510



JIS Symbol



OSHA standard (Occupational Safety and Health Administration Department of Labor - US standard) For safety control, OSHA rule requires energy sources for certain equipment be turned off or disconnected and that the device either be locked or labelled with a warning tag.

Specifications

Standard specifications

otai	iuaru specifications								
	Model	VHS2510	VHS3510	VHS4510	VHS4510-06	VHS5510			
Fluid	1			Air					
Amb	ient and fluid temperature		–5 to 6	0°C°C(No fr	eezing)				
Proc	of pressure			1.5 MPa					
Оре	rating pressure range	0.1 to 1.0 MPa							
Hand	dle switching angle	90°							
Pain	t colour (Standard)	Handle: Red Body: White							
Weight	A (Handle, bonnet: Flame resistant PBT)	77 g	129 g	250 g	296 g	536 g			
weight	B (Handle, bonnet: Aluminium)	93 g	158 g	304 g	352 g	635 g			

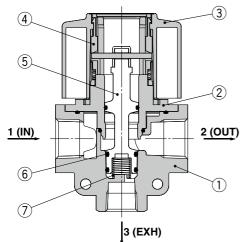
Flow-rate characteristics

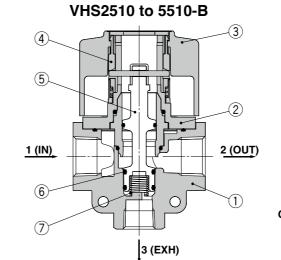
	Port size		Flow-rate characteristics										
Model	IN, OUT	EXH			OUT→EXH								
	IIN, OUT	EVU	C[dm3/s·bar]	b	Cv	Q[I/min(ANR)]*1	C[dm3/s·bar]	b	Cv	Q[l/min(ANR)]*1			
VHS2510	1/8	1/8	2.4	0.43	0.65	667	2.5	0.39	0.69	675			
1132310	1/4	1/0	3.3	0.40	0.88	898	3.1	0.51	0.84	919			
VHS3510	1/4	1/4 3/8 1/4	6.4	0.45	1.7	1807	6.2	0.38	1.7	1663			
1133310	3/8		8.3	0.41	2.3	2274	7.0	0.41	1.9	1918			
	1/4		7.3	0.49	2.0	2128	8.5	0.35	2.3	2233			
VHS4510	3/8	3/8	10.9	0.45	3.0	3078	11.6	0.40	3.1	3156			
	1/2		14.2	0.39	3.8	3835	13.3	0.43	3.6	3699			
VHS4510-06	3/4	1/2	18.3	0.31	5.0	4683	17.7	0.37	4.8	4714			
VHS5510	3/4	1/2	23.8	0.41	6.4	6521	21.8	0.41	5.9	5973			
1133310	1	1/2	31.9	0.33	8.6	8270	23.5	0.44	6.4	6585			

*1 These values have been calculated according to ISO 6358 and indicate the flow rate under standard conditions with an inlet pressure of 0.6 MPa (relative pressure) and a pressure drop of 0.1 MPa.

Construction

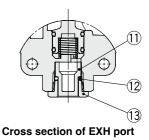
VHS2510 to 5510-A





SMC

Built-in silencer (Option)



Component Parts

001												
No.	Description	Mat	Note									
INO.	Description	VHS2510 to 5510-A	Note									
1	Body	AD	White									
2	Bonnet	Flame resistant PBT (UL-94 Standard V-0 equivalent)	White									
3	Handle	Flame resistant PBT (UL-94 Standard V-0 equivalent)	ADC12	Red								
4	Cam ring	PC	M	-								
5	Spool	PE	PBT									
6	Spool O-ring	H-N	-									
7	Spool spring	Stainle	—									
8	Ferrule	PC	M	-								

* The VHS series cannot be disassembled. Parts cannot be shipped separately.

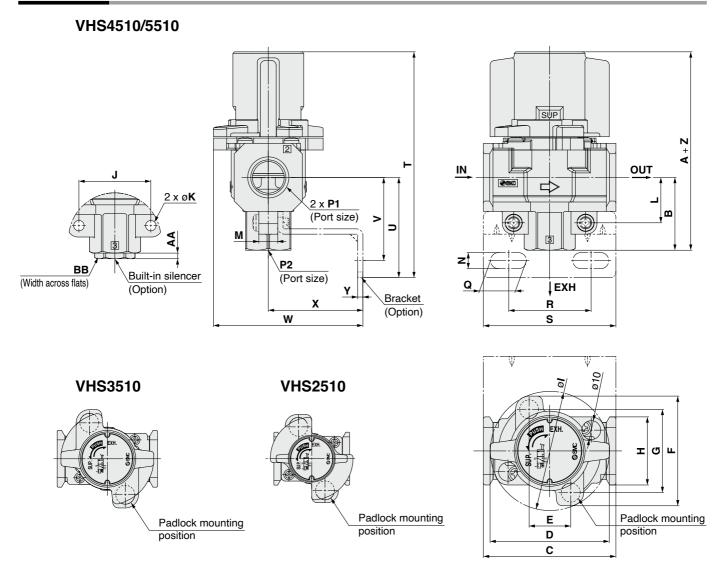
Option Part No.

Model	Bracket assembly part no. Note 1)	Silencer assembly part no. Note 2)			
VHS2510	VHS20PW-180AS	VHS20PW-190AS			
VHS3510	VHS30PW-180AS	VHS30PW-190AS			
VHS4510	VHS40PW-180AS	VHS40PW-190AS			
VHS4510-06	VHS40PW-180-06AS	VHS40PW-190-06AS			
VHS5510	VHS50PW-180AS	VHS50PW-190AS			

Note 1) Bracket/1pc., mounting screw/2pcs.

Note 2) Element (1), element O-ring (2), element cover (3) 1pc. for each.

Dimensions



Dimensions

																[]
		Standard specifications														
Model	P1	P2	A (Handle down: Locked)	в	с	D	E	F	G	н	I	J	к	L	м	A+Z (Handle up: Unlocked)
VHS2510	1/8, 1/4	1/8	66.4	22.3	40	37.5	14	46.6	33.6	28	43	24	4.5	14.8	9	69.6
VHS3510	1/4, 3/8	1/4	80.3	29.4	53	49	19	52	38	30	49	30	4.5	19	9	83.5
VHS4510	1/4, 3/8, 1/2	3/8	104.9	38.5	70	63	22	58	44	36	63	38	5.5	24	10	109.1
VHS4510-06	3/4	1/2	110.4	42	75	63	22	58	44	44	63	43	5.5	26	10	114.6
VHS5510	3/4, 1	1/2	134.3	53	90	76	26	76	61	53	81	50	6.5	31	12	138.5

	Options specifications											
Model	With bracket							Built-in silencer				
	N	Q	R	S	т	U	V	W	Х	Y	AA	BB
VHS2510	5.4	8.4	27	40	75.4	31.3	25.3	53.3	30	2.3	3	12
VHS3510	6.5	10	36.5	53	90.9	40	33	67	41	2.3	3	14
VHS4510	8.5	19	43.5	70	119.4	53	44	79	50	2.8	3	19
VHS4510-06	8.5	19	43.5	70	123.4	55	46	79	50	2.8	4	22
VHS5510	11	27.5	49.5	90	152.3	71	60	108	70	3.2	4	22

[mm]



Series VHS20/30/40/50 Series VHS2510/3510/4510/5510 Specific Product Precautions 1

Be sure to read before handling. Refer to back cover for Safety Instructions and "Handling Precautions for SMC Products" (M-E03-3) for 3/4/5 Port Solenoid Valve Precautions.

Precautions on Design

Marning

- 1. Please consult with SMC in cases where the ambient environment does not permit leakage or if fluid other than air is used.
- 2. Do not apply negative pressure. It may result in malfunction.
- 3. Do not supply air pressure from ports other than the 1 (P) port.

The valve will malfunction when air pressure is supplied from other ports.

4. We recommend using a lock with a shackle diameter of Ø5 or more. If a lock with a shackle diameter of less than Ø5 is to be used, please test it on the actual machine.

Selection

MWarning

1. In some cases, mineral oil grease used for internal parts and sealant may be carried to the output side.

Please contact SMC if this causes any inconvenience in use.

Installation and Adjustment

A Warning

1. Confirm the symbols "1" and "2" before the valve is connected. The port marked "1" is the air inlet and the port marked "2" is the outlet.

Pressurization is only possible via the inlet port (1). Reverse connection may cause malfunction. The port symbols and corresponding piping types are shown in the table below.

Piping type
Inlet
Outlet
Exhaust

≜Caution

- 1. The valve must be switched to each position instantly and securely. Stopping the knob between the extreme positions may cause malfunction.
- 2. Do not remove the mounting screws from the bonnet.

As this may cause malfunction.

3. Double action type requires two actions (push the handle + turn). Confirm that the handle is pushed properly before turning it. If the handle is not pushed properly to the end, the internal parts will be broken by turning the handle. Piping

Warning

1. Before piping is connected, the pipes should be thoroughly blown through with air (flushing) or washed to remove chips, cutting oil and other debris from inside.

Should they remain, they could cause malfunction.

- 2. When connecting pipes and fittings, etc., be sure that neither chips from the pipe threads nor sealing material get inside the valve. When using sealant tape, leave 1.5 to 2 thread ridges exposed at the end of the pipe/fitting.
- 3. When screwing a piping component into the valve, secure the female threaded side and apply the recommended tightening torque.

Under tightening may result in loosening or sealing failure while over tightening may cause damage to threads and other problems.

Recommended tightening torque Unit: N·m									
Connection thread	1/8	1/4	3/8	1/2	3/4	1			
Torque	7 to 9	12 to 14	22 to 24	28 to 30	28 to 30	36 to 38			

Air Supply

MWarning

1. Use clean air.

Do not use compressed air which contains chemicals, synthetic oils containing organic solvents, salts or corrosive gases, etc., as this can cause damage or malfunction.

2. Install an air dryer or after cooler on the upstream side of the pressure release 3 port valve because air containing excessive drainage may cause malfunction.

ACaution

- 1. Install an air filter of 5 μ m or less filtration on the inlet side.
- 2. Install a mist separator on the inlet side to remove carbon powder from the compressor or other equipment. An excessive amount of carbon dust ingress via the inlet may cause the valve to malfunction.

Refer to "SMC Air Preparation System" for further details on compressed air quality.



Series VHS20/30/40/50 Series VHS2510/3510/4510/5510 Specific Product Precautions 2

Be sure to read before handling. Refer to back cover for Safety Instructions and "Handling Precautions for SMC Products" (M-E03-3) for 3/4/5 Port Solenoid Valve Precautions.

Operating Environment

Marning

- 2. Do not use in an explosive atmosphere.
- 3. Do not use in locations subject to vibration or impact. Confirm the specifications for each series.
- 4. A protective cover should be used to shield valves from direct sunlight.
- 5. Shield valves from radiated heat generated by nearby heat sources.
- 6. Employ suitable protective measures in locations where there is contact with water droplets, oil, or welding spatter.
- 7. Install a silencer into port 3 (R) to prevent the ingress of dust if there is a lot of dust in the atmosphere.

If dust enters the valve via port 3 (R) , it may cause air leakage.

Maintenance

AWarning

1. Perform maintenance procedures as shown in the instruction manual.

If handled improperly, malfunction or damage of machinery or equipment may occur.

2. Do not disassemble the product.

Improper handling will cause malfunction or breakage of the machinery or equipment.

3. When equipment is to be removed, first confirm that measures are in place to prevent dropping of driven objects and run-away of equipment, etc. Then cut the supply air pressure and electric power, and exhaust all compressed air from the system using its residual pressure release function.

When the equipment is to be started again after remounting or replacement, first confirm that measures are in place to prevent lurching of actuators and then confirm that equipment operates normally.

≜Caution

1. Once a lubricant is introduced, be sure to continue lubrication.

If it is discontinued, malfunction may result due to loss of the initial lubricant. Apply class 1 turbine oil (ISO VG32) as a lubricant. Use of other lubricants may cause malfunction.

Built-in Silencer (Option) Bronze Sintered Metal Element

≜Caution

Products made of bronze may contain uneven colour due to the oxidization process of the atmosphere.

However, this oxidization process occurs in the limited range of less than $1\mu m$ of thickness and is so thin as to not affect the product characteristics.

The uneven colour occurs depending on the storage duration before utilization (stock as a product, stock in customer)

* If this is a problem, please contact SMC so that SMC can pre-treat them with nickel plating.

\land	Safety I	nstructions	These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of					
			"Caution," "Warning" of followed in addition to Ir	or "Danger." They are all important notes for safety and must be nternational Standards (ISO/IEC) ¹⁾ , and other safety regulations.				
\wedge	Danger:	Danger indicates a hazard wit which, if not avoided, will resu injury.	0	 ISO 4414: Pneumatic fluid power – General rules and safety requirements for systems and their components. ISO 4413: Hydraulic fluid power – General rules and safety requirements for systems and their components. 				
	Warning:	Warning indicates a hazard w which, if not avoided, could re injury.		IEC 60204-1: Safety of machinery – Electrical equipment of machine (Part 1: General requirements) ISO 10218-1: Robots and robotic devices - Safety requirements for industrial robots - Part 1: Robots.				
\wedge	Caution:	Caution indicates a hazard w which, if not avoided, could re injury.		etc.				

▲ Warning

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

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

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

- 3. Do not service or attempt to remove product and machinery/ equipment until safety is confirmed.
 - 1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
 - 2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
 - 3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.
- Our products cannot be used beyond their specifications. Our products are not developed, designed, and manufactured to be used under the following conditions or environments. Use under such conditions or environments is not covered.
 - 1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
 - 2. Use for nuclear power, railways, aviation, space equipment, ships, vehicles, military application, equipment affecting human life, body, and property, fuel equipment, entertainment equipment, emergency shut-off circuits, press clutches, brake circuits, safety equipment, etc., and use for applications that do not conform to standard specifications such as catalogues and operation manuals.
 - Use for interlock circuits, except for use with double interlock such as installing a mechanical protection function in case of failure. Please periodically inspect the product to confirm that the product is operating properly.

∧ Caution

We develop, design, and manufacture our products to be used for automatic control equipment, and provide them for peaceful use in manufacturing industries. Use in non-manufacturing industries is not covered.

Products we manufacture and sell cannot be used for the purpose of transactions or certification specified in the Measurement Act.

The new Measurement Act prohibits use of any unit other than SI units in Japan.

Limited warranty and Disclaimer/Compliance Requirements

The product used is subject to the following "Limited warranty and Disclaimer" and "Compliance Requirements".Read and accept them before using the product.

Limited warranty and Disclaimer

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

Compliance Requirements

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

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