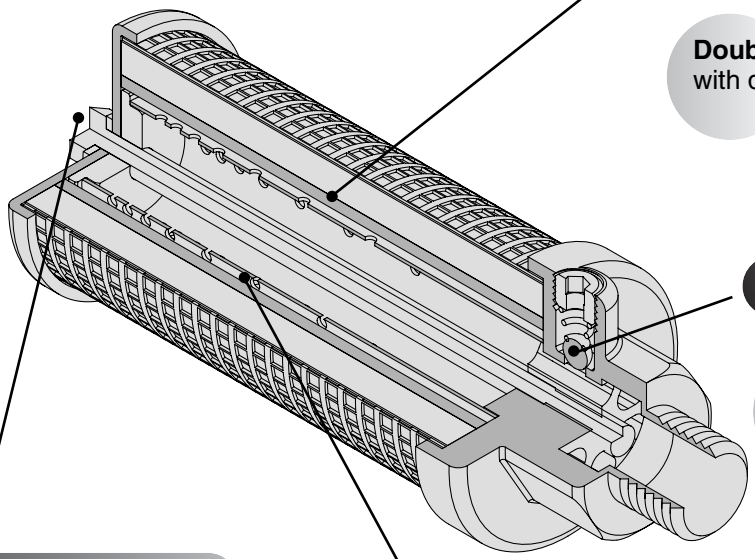
5.0 MPa Silencer
Series VCHN

35 dB(A) noise reduction

(At supply pressure of 4.0 MPa, back pressure 2.0 MPa)

∗ 45 dB(A) noise reduction model can be “Made to Order”.



1/10 Clogging reduction
(SMC comparison)

Double-layer sound absorbing material with different filtration reduces clogging.

PAT.

Standard integrated relief valve

The relief valve will activate when the silencer's internal pressure exceeds 1.8 MPa.

∗ The error indicator and the pressure switch, etc. can be mounted as “Made to Order”.

Improved maintenance

By **removing a bolt**, the sound absorbing material can be replaced without removing the silencer.

30-40% reduction in freezing
(SMC comparison) (Optional)

Freezing is reduced by a high pressure **sleeve** and quick exhaust.

How to Order

VCHN □ 3 — 06

Option

Nil	None
F	With freeze reduction

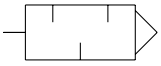
Body size

3
4

Port size

Symbol	Port size	VCHN□3	VCHN□4
06	R3/4	●	
10	R1	●	●
12	R1•1/4		●
14	R1•1/2		●

Symbol

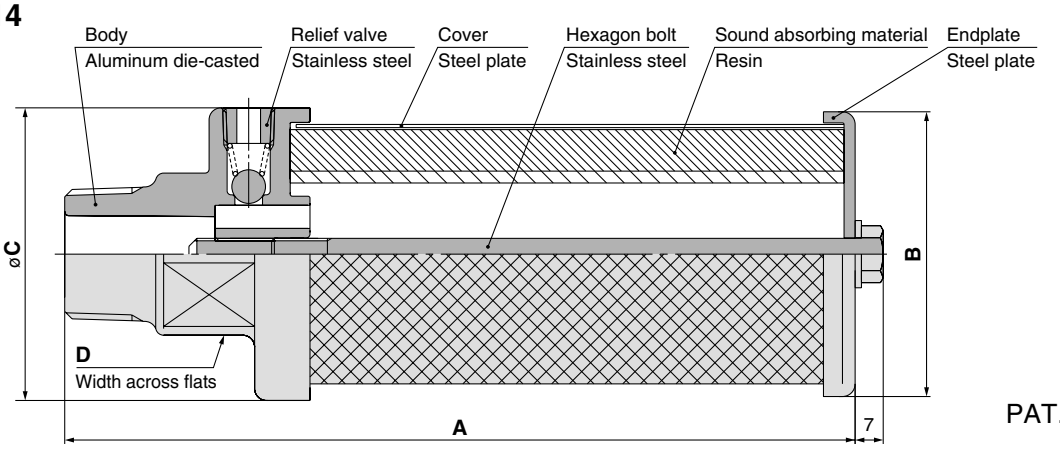


Specifications

Model	VCHN3		VCHNF3		VCHN4			VCHNF4		
Fluid	Air, Insert gas									
Max. operating pressure (MPa)	5.0 (Solenoid valve inlet pressure)									
Relief valve unlocking pressure (MPa)	1.8									
Port size	R3/4	R1	R3/4	R1	R1	R1•1/4	R1•1/2	R1	R1•1/4	R1•1/2
Effective area (mm^2)	200	280	160	180	280	370	370	180	320	320
Sound absorbing material effective area (Single) (mm^2)	420				500					
Fluid temperature (°C)	5 to 80									
Ambient temperature (°C)	5 to 80									
Noise reduction dB(A)	35 (Supply pressure 4.0 MPa, Back pressure 2.0 MPa)									

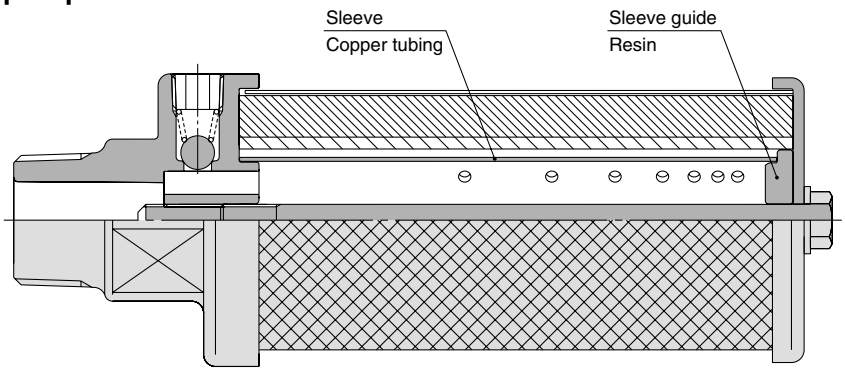
Construction/Dimensions

VCHN$\frac{3}{4}$-06 to 14



PAT.

Freeze reduction type/Option
VCHNF$\frac{3}{4}$-06 to 14

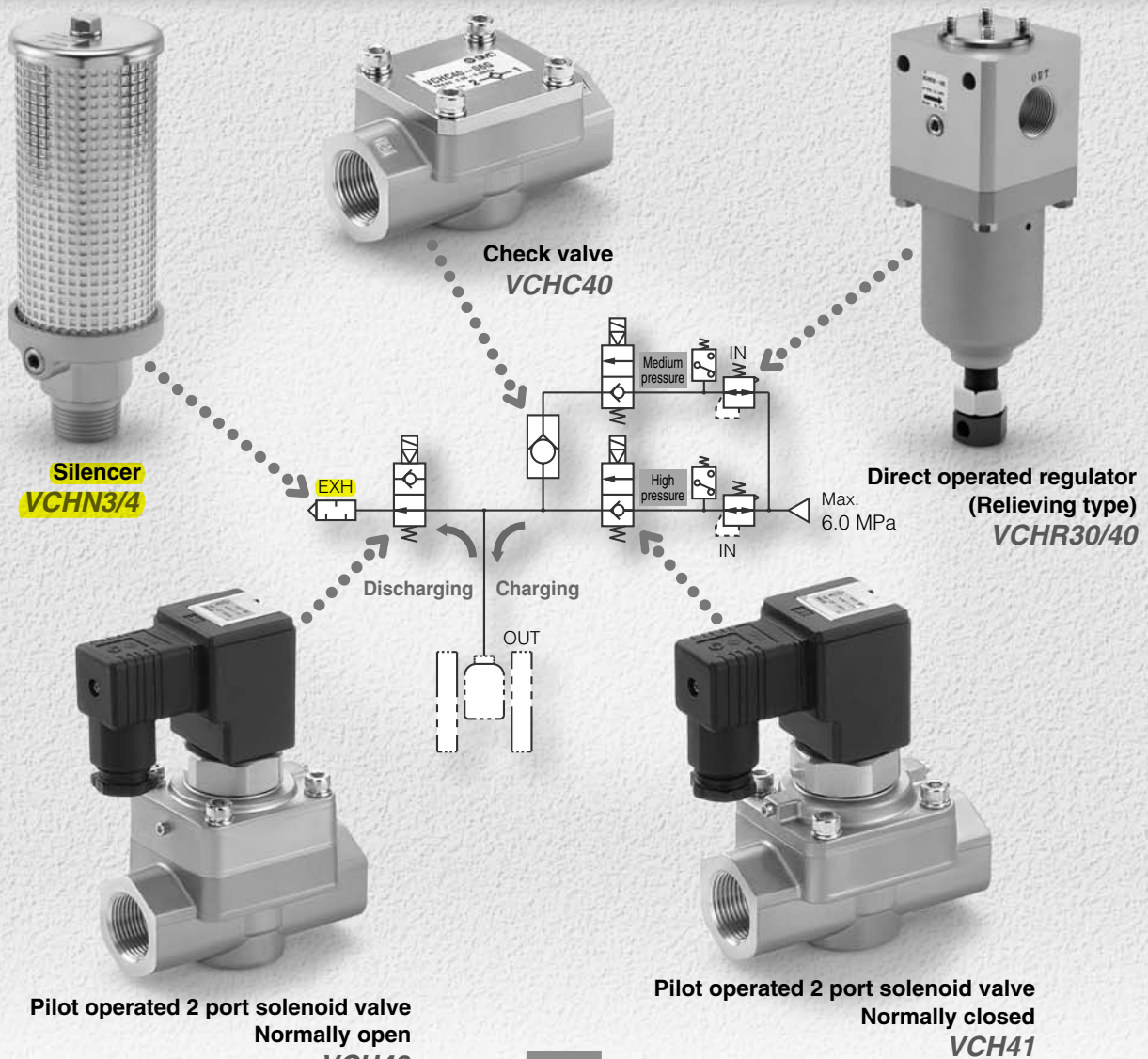


(mm)

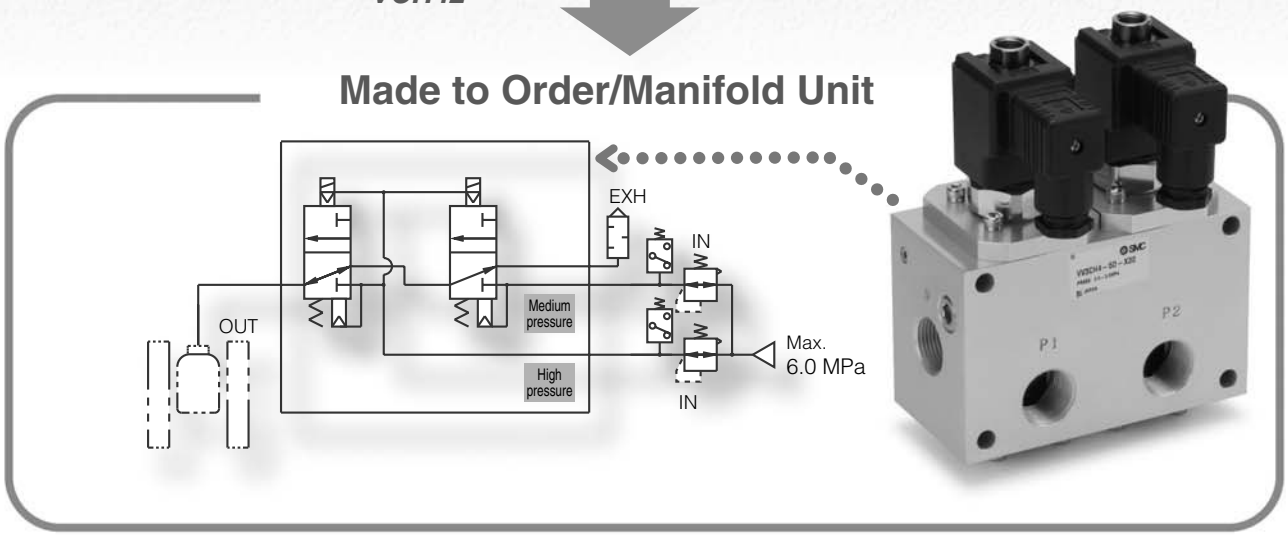
Model	Port size (R)	A	B	C	D	Mass (g)
VCHN3-06	3/4	200	ø72	ø74	41	590
VCHNF3-06	3/4	200	ø72	ø74	41	710
VCHN3-10	1	200	ø72	ø74	41	605
VCHNF3-10	1	200	ø72	ø74	41	725
VCHN4-10	1	230	ø72	ø74	41	665
VCHNF4-10	1	230	ø72	ø74	41	810
VCHN4-12	1•1/4	240	ø72	ø74	54	765
VCHNF4-12	1•1/4	240	ø72	ø74	54	910
VCHN4-14	1•1/2	240	ø72	ø74	54	790
VCHNF4-14	1•1/2	240	ø72	ø74	54	935

5.0 MPa Pneumatic

Applications included air-blowing, charging fluid into a vessel, or discharging (Blow-molding equipment, etc.)



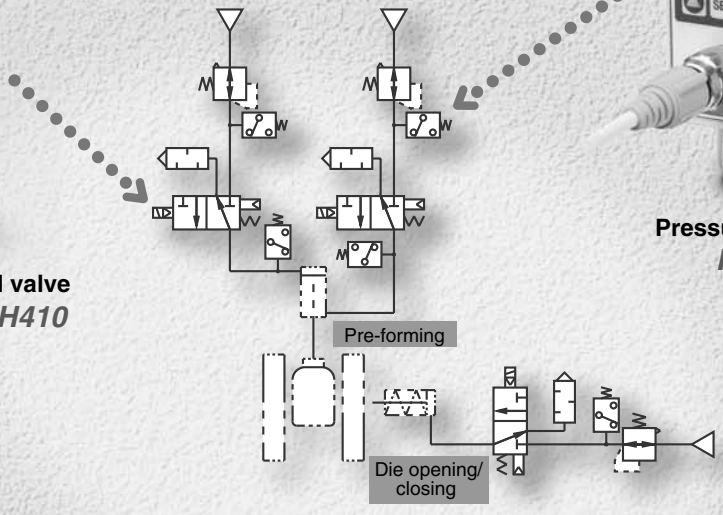
Made to Order/Manifold Unit



Equipment Variation

Example of driving a cylinder

Pilot operated 3 port solenoid valve
VCH410



Pressure switch
ISE75(H)

	Description	Features	Maximum operating pressure (MPa)	Series	Port size 1/4	1/2	3/4	1	1 1/4	1 1/2	Page
	Pilot operated 2 port solenoid valve	**Service life: 10 million cycles** Adopting a polyurethane elastomer poppet in a valve seat. Improved durability under a high pressure environment.	5.0	**VCH41(N.C.)**			●	●			Best Pneumatics No.⑦
				VCH42(N.O.)			●	●			
	Check valve		5.0	**VCHC40**			●	●			Best Pneumatics No.⑦
	Pilot operated 3 port solenoid valve		5.0	**VCH410**		●	●	●			Best Pneumatics No.⑦
	Direct operated regulator (Relieving type)		Inlet pressure 6.0 Set pressure 0.5 to 5.0	**VCHR30**			●	●			Best Pneumatics No.⑤
				VCHR40				●		●	
	Silencer	**Noise reduction 35 dB(A)** (At supply pressure 4.0 MPa, back pressure 2.0 MPa) **Clogging-reduction with double-layer construction**	5.0 (Relief valve release pressure: 1.8 MPa)	**VCHN3**			●	●			P.608
				VCHN4				●	●	●	

Related Equipment

	Pressure switch	**2-color display Metal body** (Aluminum die-cast)	10.0 15.0	**ISE75(H)**	●						P.722

Made to Order

1 6.0 MPa pilot operated regulator (Air operated type) ———  ····· Best Pneumatics No.⑤

2 22.0 MPa 2 port air operated valve ———  ····· Best Pneumatics No.⑦

Series VCHN
Specific Product Precautions

Be sure to read before handling.

Design

⚠ Warning

1. The exhaust port can clog due to a clogged or frozen silencer.

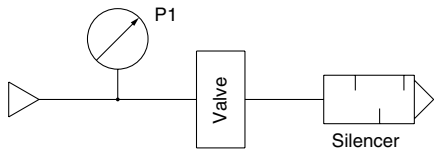
Consider design safety to avoid malfunctions of the entire system. Also, under conditions conducive to freezing, use a freeze-reduction model. (VCHNF series)

⚠ Caution

1. A silencer reduces compressed air exhaust noise from the pneumatic equipment.

Noise other than that generated by the exhaust assembly (noise generated inside piping, due to equipment vibration, solenoid valve switching, etc.) cannot be reduced. As for noise generated by sources other than the exhaust, locate the cause and take measures.

2. Silencer inlet side pressure shows the solenoid valve supply pressure (P1). (See below.)



3. Noise reduction may vary, depending on the pneumatic circuit or pressure, etc. exhausted from solenoid valves.

Selection

⚠ Caution

1. Select a silencer with a larger effective area (including the synthetic effective area) than the solenoid valve.

Mounting

⚠ Caution

1. Tighten the silencer, using an appropriate wrench on the width across flats, within the range of the recommended tightening torque as shown below.

Do not use a pipe wrench. Otherwise, the silencer will be damaged.

Recommended Tightening Torque (Unit: N•m)

Connecting thread	3/4	1	1•1/4	1•1/2
Torque	28 to 30	36 to 38	40 to 42	48 to 50

2. Do not apply a lateral load on the main body during or after mounting.

3. When the silencer has loosened due to vibrations from the mounted equipment, mount the silencer after applying an anti-loosening agent to the thread.

Maintenance

⚠ Caution

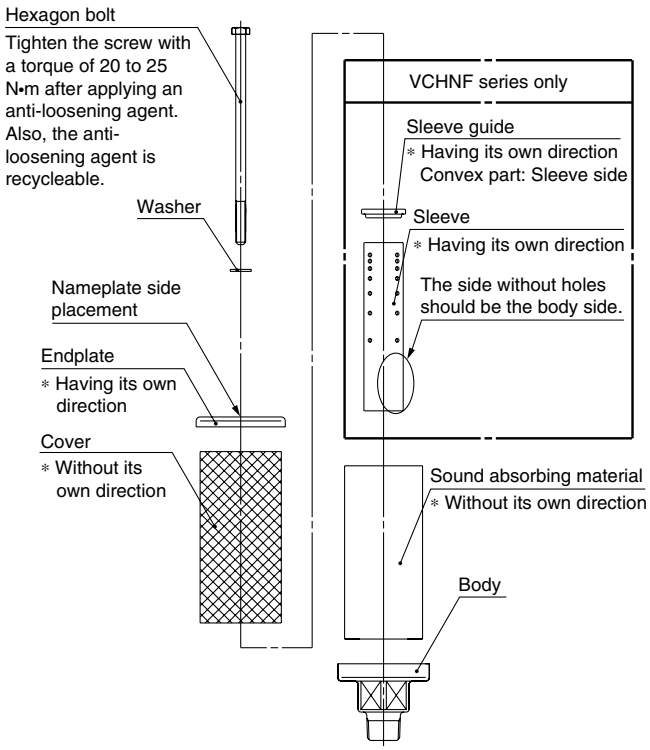
1. When exhaust speed begins to slow from clogging and system functionality begins to degrade, replace with a new silencer or sound-absorbant material.

Also, be sure to confirm the actuator's operation status once per day.

How to Replace the Sound Absorbing Material

⚠ Caution

1. When replacing the sound absorbing material, please follow the instructions below.



Replacement Parts

Sound Absorbing Material Part No.

Part no.	Description	Applicable model
VCHN3-EL	Sound absorbing material	For VCHN(F)3
VCHN4-EL	Sound absorbing material	For VCHN(F)4