

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

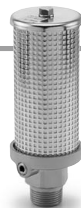
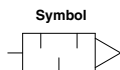
| | |
|-----|-----------------------|
| Nll | None |
| F | With freeze reduction |

Port size

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

Body size

| |
|---|
| 3 |
| 4 |

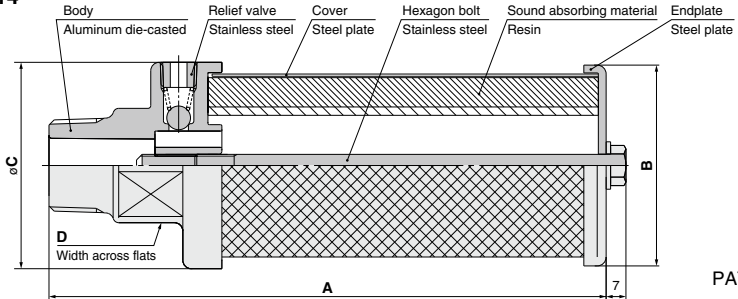


Specifications

| Model | VCHN3 | | VCHNF3 | | VCHN4 | | | VCHNF4 | | |
|---|---|-----|--------|-----|-------|--------|--------|--------|--------|--------|
| Fluid | Air, Inert 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

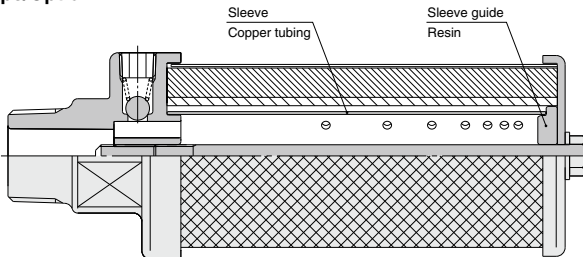
VCHN₄-06 to 14



PAT.

Freeze reduction type/Option

VCHNF₄-06 to 14



AN
VCHN
AMC
AMV
AMP

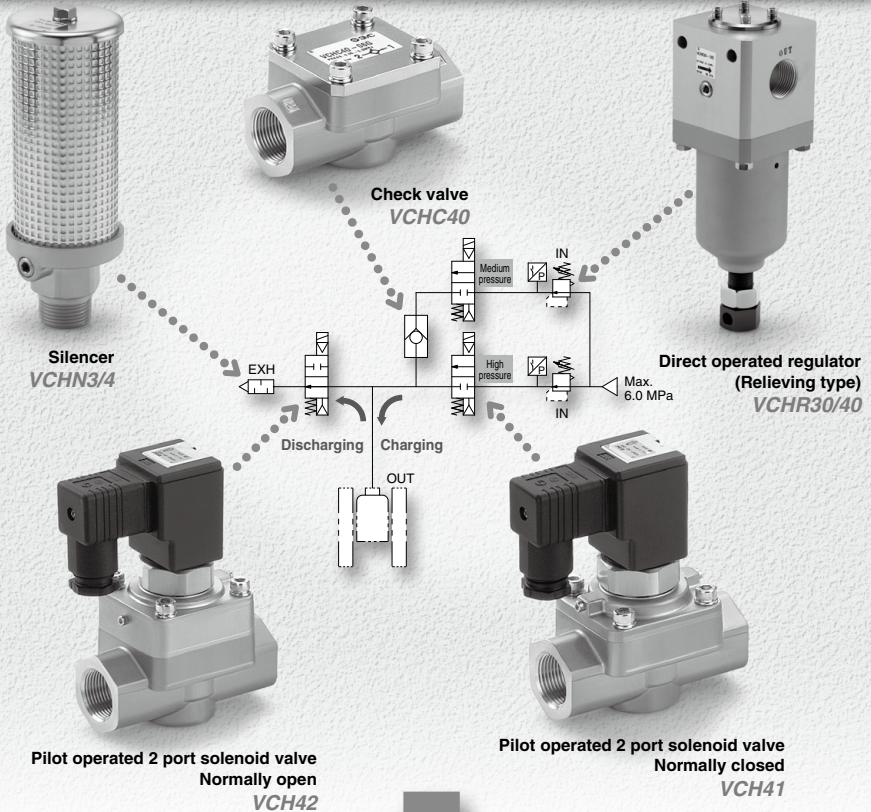
(mm)

| Model | Port size (R) | A | B | C | D | Weight (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 |

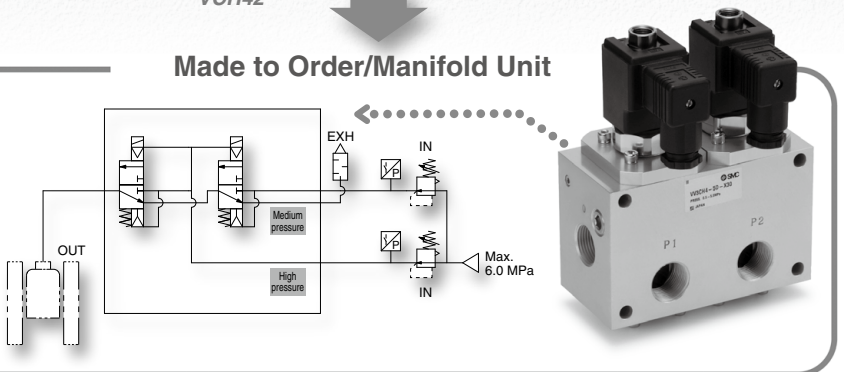
5.0 MPa

Pneumatic

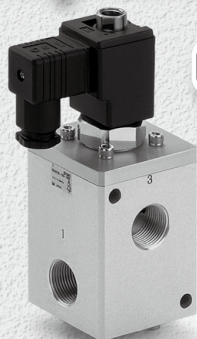
Applications included air-blowing, charging fluid into a vessel, or discharging (Blow-molding equipment, etc.)



Made to Order/Manifold Unit

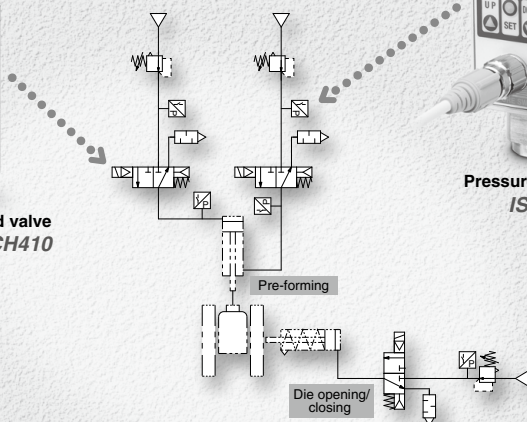


Equipment Variation



Pilot operated 3 port solenoid valve
VCH410

Example of driving a cylinder



Pressure switch
ISE75(H)

| | Description | Features | Maximum operating pressure (MPa) | Series | Port size | | | | | | Page | |
|--|--|--|---|-------------|-----------|-----|-----|---|-------|-------|----------------------|----------------------|
| | | | | | 1/4 | 1/2 | 3/4 | 1 | 1 1/4 | 1 1/2 | | |
| | 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 |
| | 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.680 | |
| | | | | VCHN4 | | | | ● | ● | ● | | |

AN
VCHN
AMC
AMV
AMP

Related Equipment

| | | | | | | | | | | | |
|--|-----------------|--|--------------|----------|---|--|--|--|--|--|-------|
| | Pressure switch | 2-color display Metal body (Aluminum die-cast) | 10.0 15.0 | ISE75(H) | ● | | | | | | P.813 |
|--|-----------------|--|--------------|----------|---|--|--|--|--|--|-------|

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.

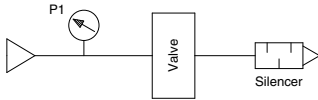
Consider design safety to avoid malfunctions of the entire system. Also, under conditions conducive to freezing, use a freeze-reduction model. (VCHNF series)

⚠ 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

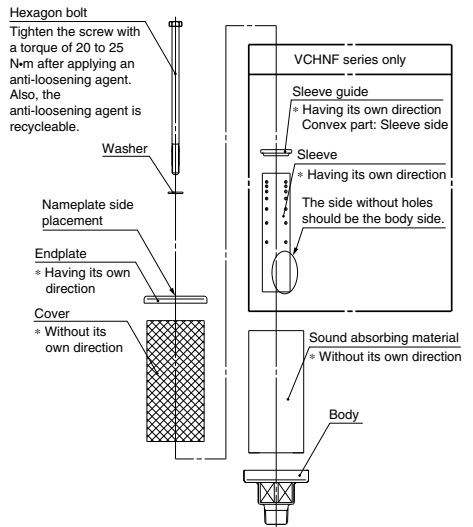
1. When exhaust speed begins to slow from clogging and system functionality begins to degrade, replace with a new silencer or sound-absorbant material.

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 |