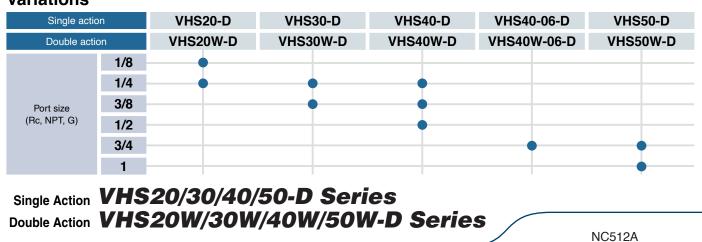


## Modular design with uniform body style to F.R.L units.

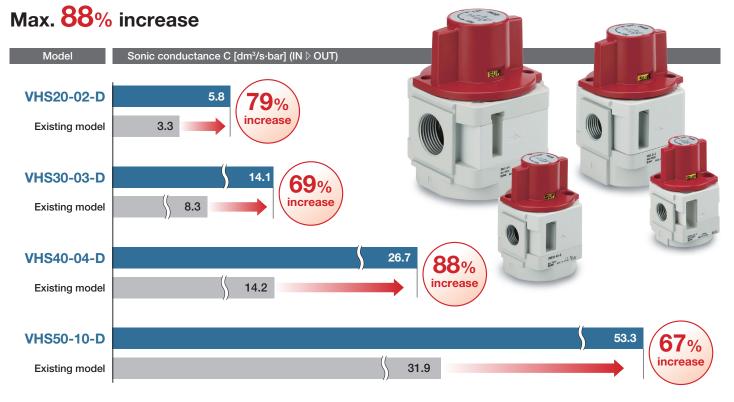
|            | AC20-D | AC30-D | AC40-D | AC40-06-D | AC50-D   |
|------------|--------|--------|--------|-----------|----------|
| VHS20-D    |        |        |        |           |          |
| VHS30-D    |        | •      |        |           |          |
| VHS40-D    |        |        |        |           |          |
| VHS40-06-D |        |        |        | •         |          |
| VHS50-D    |        |        |        |           | <b>_</b> |



### Variations

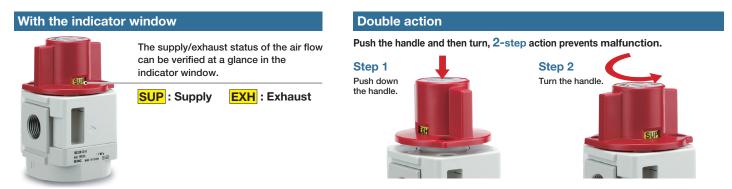


## Improved flow rate characteristics



# Safety measure

Can prevent accidents caused by inadvertent air supply problems



#### OSHA (Occupational Safety and Health Administration) standard compliant

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.

With locking holes When in the exhaust position, the valve may be padlock secured. Prevents accidental start-ups while personnel are cleaning or servicing equipment.



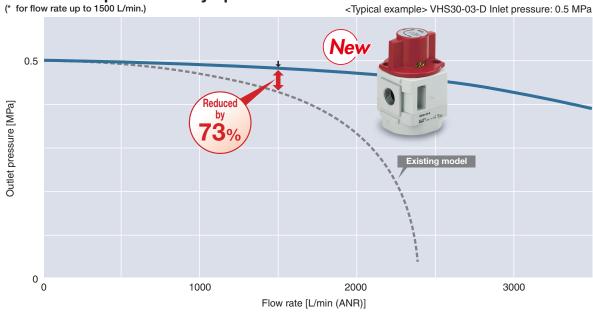
**SMC** 

\* Recommended lock shackle diameter size: ø5 or more

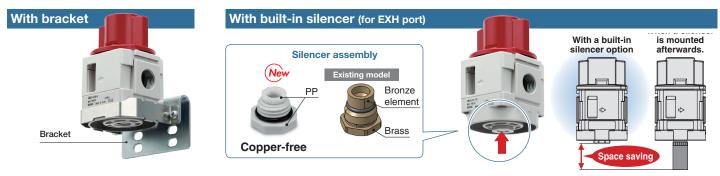


## Lower pressure drop contributing to energy saving

Pressure drop: reduced by up to 73%



# **Options**



### Semi-standard/Made to Order



#### OSHA Standard Compliant Pressure Relief 3-Port Valve with Locking Holes ( RoHS **Single Action** Symbol VHS20/30/40/50-D Series **Double Action** VHS20W/30W/40W/50W-D Series How to Order · Option/Semi-standard: Select one each for a to f. **VHS** 30 · Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order. Example) VHS30-N03-BS-RZ-D = = Made to Order (For details, refer to page 8.) 0 Symbol Description Body size 20 30 40 50 Nil Single action • . • 0 Handle operation W Double action + Nil Bc\*1 Pipe thread type Ν NPT 8 F G + 01 1/8 02 1/4 • . 03 3/8 • Port size 4 04 1/2 06 3/4 10 1 + Nil Without mounting option • • • • а Mounting В With bracket • Option + 6 Nil Without silencer . b Silencer With built-in silencer (for EXH port) S + Nil Red с Handle color Black Κ + Nil Resin Semi-standard d Handle material Metal Μ + 6 Nil Flow direction: Left to right Flow direction е R Flow direction: Right to left + Nil Product label in SI units: MPa f Pressure unit O\*3 O\*3 0\*3 **Z**\*2 ○\*3 Product label in imperial units: psi

\*1 The pipe thread type for the EXH port is G.

\*2 For the pipe thread type: NPT only. This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.) \*3 O: For the pipe thread type: NPT only

### Simple Specials System

# Simple **Decials S**ystem

### A system designed to respond quickly and easily to your special ordering needs

For modular connection units (shipped assembled), the simple specials system can be used.

Short lead times

This system enables us to respond to your special needs (additional machining, accessory assembly, or the designing of a modular unit) and deliver your personalized products as quickly as standard products.

#### **Repeat orders**

Once we receive a simple special part number from one of your previous orders, we will process the order, manufacture the product, and deliver it to you as quickly as possible.

Please contact your local sales representative for more details.



#### OSHA Standard Compliant Pressure Relief 3-Port Valve with Locking Holes VHS20/30/40/50-D Series



OSHA standard (Occupational Safety and Health Administration, U.S. Department of Labor) 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

| Model                          | VHS20-D   | VHS30-D                  | VHS40-D | VHS40-06-D | VHS50-D                        |  |  |  |  |
|--------------------------------|---|--------------------------|---------|------------|--------------------------------|--|--|--|--|
| Applicable AC size             | AC20-D  | AC30-D                   | AC40-D  | AC40-06-D  | AC50-D<br>AC60-D <sup>*1</sup> |  |  |  |  |
| Fluid                          | luid Air  |                          |         |            |                                |  |  |  |  |
| Ambient and fluid temperatures |   | -5 to 60°C (No freezing) |         |            |                                |  |  |  |  |
| Proof pressure                 | 1.5 MPa   |                          |         |            |                                |  |  |  |  |
| Max. operating pressure        |   |                          | 1.0 MPa |            |                                |  |  |  |  |
| Handle switching angle         |   |                          | 90°     |            |                                |  |  |  |  |
| Paint color                    | Handle: Red<br>Body: White<br>Body cover: White |                          |         |            |                                |  |  |  |  |
| Weight                         | 0.10 kg   | 0.18 kg                  | 0.40 kg | 0.43 kg    | 0.82 kg                        |  |  |  |  |

\*1 The VHS50 can be connected to the AC60.

#### **Flow Rate Characteristics**

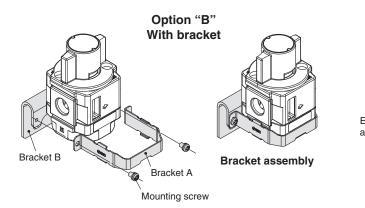
|            | Port    | size |               | F     | low rate ch | aracteristics |      |     |  |
|------------|---------|------|---------------|-------|-------------|---------------|------|-----|--|
| Model      | IN. OUT | EXH  | IN            | D OUT |             | OUT D EXH     |      |     |  |
|            | IN, 001 | EAH  | C (dm³/s⋅bar) | b     | Cv          | C (dm³/s⋅bar) | b    | Cv  |  |
| VHS20-D    | 1/8     | 1/8  | 4.0           | 0.41  | 1.1         | 3.7           | 0.42 | 1.1 |  |
| VH320-D    | 1/4     | 1/0  | 5.8           | 0.31  | 1.4         | 3.8           | 0.42 | 1.1 |  |
| VHS30-D    | 1/4     | 1/4  | 8.8           | 0.44  | 2.4         | 8.0           | 0.46 | 2.3 |  |
| VH330-D    | 3/8     | 1/4  | 14.1          | 0.28  | 3.5         | 7.8           | 0.46 | 2.2 |  |
|            | 1/4     |      | 9.5           | 0.49  | 2.8         | 13.3          | 0.47 | 3.6 |  |
| VHS40-D    | 3/8     | 3/8  | 17.2          | 0.47  | 4.8         | 13.6          | 0.47 | 3.7 |  |
|            | 1/2     |      | 26.7          | 0.29  | 6.3         | 13.4          | 0.43 | 3.7 |  |
| VHS40-06-D | 3/4     | 1/2  | 34.0          | 0.22  | 7.6         | 16.1          | 0.41 | 4.4 |  |
| VHS50-D    | 3/4     | 1/2  | 45.0          | 0.26  | 10.6        | 23.0          | 0.49 | 6.4 |  |
| VH350-D    | 1       | 1/2  | 53.3          | 0.36  | 13.5        | 22.8          | 0.49 | 6.3 |  |

#### **Option/Part Nos.**

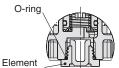
| Optional                        |              |              | Model        |              |              |
|---------------------------------|--------------|--------------|--------------|--------------|--------------|
| specifications                  | VHS20-D      | VHS30-D      | VHS40-D      | VHS40-06-D   | VHS50-D      |
| Bracket assembly <sup>*1</sup>  | VHS24P-180AS | VHS34P-180AS | VHS44P-180AS | VHS44P-180AS | VHS54P-180AS |
| Silencer assembly <sup>*2</sup> | VHS24P-190AS | VHS34P-190AS | VHS44P-190AS | VHS54P-190AS | VHS54P-190AS |

\*1 The assembly consists of a bracket A/B and 2 mounting screws.

\*2 The assembly consists of the element assembly and an O-ring.



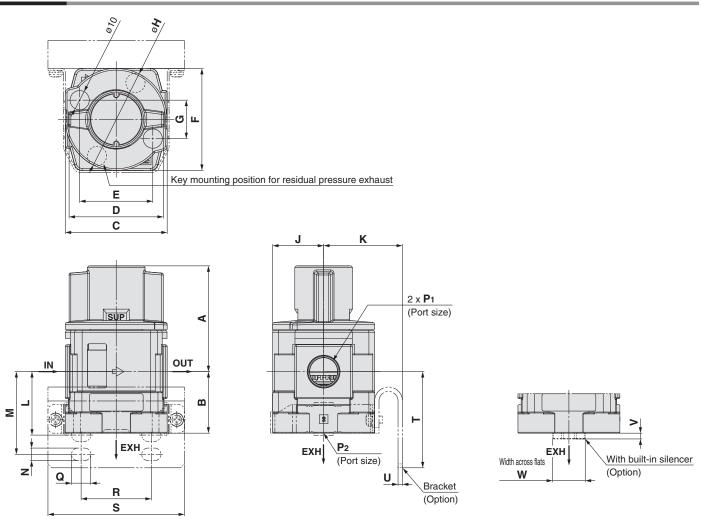
Option "S" With built-in silencer (for EXH port)



assembly Cross section of EXH port with built-in silencer assembly

## VHS20/30/40/50-D Series

Dimensions



#### Dimensions

|            | Standard specifications |     |        |        |      |    |    |    |    |      |    |      |   |
|------------|-------------------------|-----|--------|--------|------|----|----|----|----|------|----|------|---|
| Model      | P1                      | P2  |        | A      | в    | с  | D  | E  | F  | G    | н  |      |   |
|            | FI                      | F2  | Single | Double | B    | ВС |    |    | -  | F    | ŭ  |      | J |
| VHS20-D    | 1/8, 1/4                | 1/8 | 48.5   | 51.7   | 23   | 40 | 37 | 28 | 42 | 17.5 | 40 | 21   |   |
| VHS30-D    | 1/4, 3/8                | 1/4 | 55     | 58.2   | 32   | 53 | 49 | 38 | 53 | 20   | 53 | 26.5 |   |
| VHS40-D    | 1/4, 3/8, 1/2           | 3/8 | 69.7   | 73.9   | 41.3 | 70 | 63 | 52 | 71 | 29   | 70 | 35.5 |   |
| VHS40-06-D | 3/4                     | 1/2 | 71.7   | 75.9   | 43.3 | 75 | 63 | 52 | 71 | 29   | 70 | 35.5 |   |
| VHS50-D    | 3/4, 1                  | 1/2 | 86.5   | 90.7   | 44.5 | 90 | 80 | 72 | 90 | 33   | 90 | 45   |   |

[mm]

|            |              | Options specifications |    |     |      |      |     |    |     |               |    |  |
|------------|--------------|------------------------|----|-----|------|------|-----|----|-----|---------------|----|--|
| Model      | With bracket |                        |    |     |      |      |     |    |     | With silencer |    |  |
|            | К            | L                      | М  | N   | Q    | R    | S   | Т  | U   | V             | W  |  |
| VHS20-D    | 30           | 25.3                   | 34 | 5.4 | 8.4  | 27   | 60  | 40 | 2.3 | 3             | 13 |  |
| VHS30-D    | 41           | 33                     | 43 | 6.5 | 10   | 36.5 | 71  | 50 | 2.3 | 3             | 17 |  |
| VHS40-D    | 50           | 44                     | 57 | 8.5 | 19   | 43.5 | 88  | 66 | 2.3 | 3             | 21 |  |
| VHS40-06-D | 50           | 46                     | 59 | 8.5 | 19   | 43.5 | 88  | 68 | 2.3 | 4             | 27 |  |
| VHS50-D    | 70           | 60                     | _  | 11  | 27.5 | 49.5 | 113 | 71 | 3.2 | 4             | 27 |  |

5

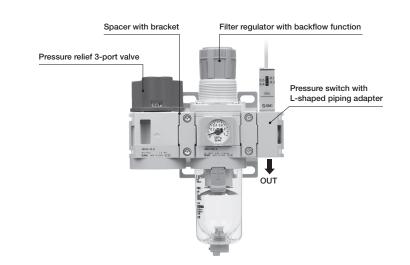
# VHS20/30/40/50-D Series Modular Connection Example

Please note that products do not come assembled. They should be ordered separately and assembled by the customer.

For modular connection units (shipped assembled), the simple specials system can be used. For details, refer to page 3.

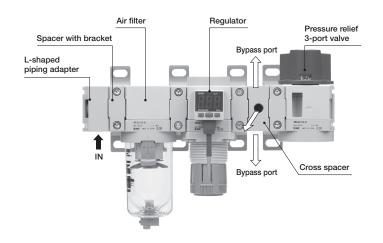
#### Combination example 0

| Pressure relief 3-port valve VHS30-03-D                    | — 1 рс.  |
|--|----------|
| Spacer with bracket Y300T-D                                | — 2 pcs. |
| Filter regulator with backflow function AW30K-03E-D        | — 1 рс.  |
| Pressure switch with L-shaped piping adapter IS10L-30-03-D | — 1 pc.  |



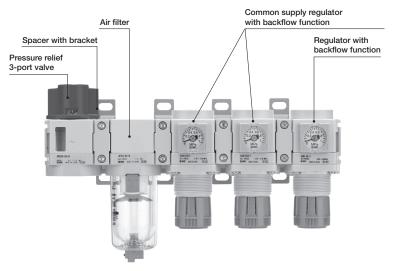
#### Combination example 0

| - 1 pc. |
|---------|
| 4 pcs.  |
| -1 pc.  |
| - 1 pc. |
| - 1 pc. |
| - 1 pc. |
|         |



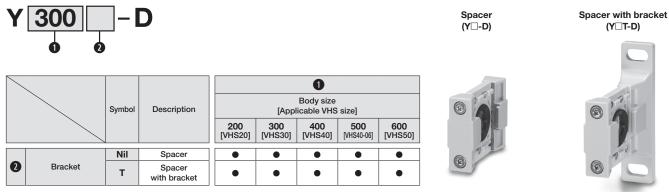
#### Combination example

| Pressure relief 3-port valve VHS30-03-D        | —— 1 pc.  |
|--|-----------|
| Spacer with bracket Y300T-D                    | — 4 pcs.  |
| Air filter AF30-03-D                           | —— 1 pc.  |
| Common supply regulator with backflow function |           |
| AR30MK-0302E-D                                 | —— 2 pcs. |
| Regulator with backflow function AR30K-03E-D   | —— 1 pc.  |



# VHS20/30/40/50-D Series Accessories Sold Separately (for Individual Parts)

#### **Spacer/Spacer with Bracket**



#### **Standard Specifications**

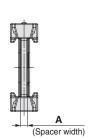
| Fluid                          | Air                      |
|--------------------------------|--------------------------|
| Ambient and fluid temperatures | -5 to 60°C (No freezing) |
| Proof pressure                 | 1.5 MPa                  |
| Max. operating pressure        | 1.0 MPa                  |

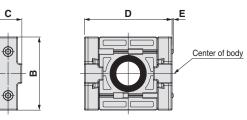
#### **Replacement Parts**

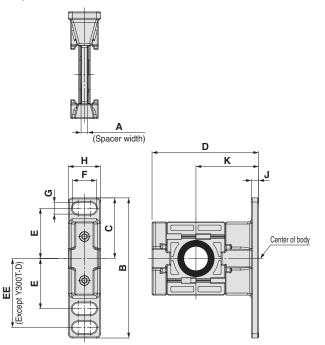
|             |          |            |            | Part number |            |            |
|-------------|----------|------------|------------|-------------|------------|------------|
| Description | Material | Y200-D     | Y300-D     | Y400-D      | Y500-D     | Y600-D     |
|             |          | Y200T-D    | Y300T-D    | Y400T-D     | Y500T-D    | Y600T-D    |
| Seal        | HNBR     | Y220P-050S | Y320P-050S | Y420P-050S  | Y520P-050S | Y620P-050S |

#### **Dimensions**

#### Spacer







| Part no. | Α   | В  | С    | D  | E   | Applicable model |
|----------|-----|----|------|----|-----|------------------|
| Y200-D   | 3.2 | 35 | 13.2 | 42 | 0.6 | VHS20-D          |
| Y300-D   | 4.2 | 43 | 16.2 | 53 | -   | VHS30-D          |
| Y400-D   | 5.2 | 51 | 19.2 | 71 | -   | VHS40-D          |
| Y500-D   | 5.2 | 54 | 21.2 | 71 | _   | VHS40-06-D       |
| Y600-D   | 6.2 | 64 | 27.2 | 90 | _   | VHS50-D          |

| Part no. | Α   | В   | С    | D    | Е  | EE | F    | G   | н    | J   | Κ  | Applicable model |  |
|----------|-----|-----|------|------|----|----|------|-----|------|-----|----|------------------|--|
| Y200T-D  | 3.2 | 67  | 29   | 51   | 24 | 33 | 11.5 | 5.5 | 15.5 | 3.5 | 30 | VHS20-D          |  |
| Y300T-D  | 4.2 | 85  | 42.5 | 67.5 | 35 | -  | 14   | 7   | 20   | 6   | 41 | VHS30-D          |  |
| Y400T-D  | 5.2 | 115 | 50   | 85.5 | 40 | 55 | 18   | 9   | 26   | 7   | 50 | VHS40-D          |  |
| Y500T-D  | 5.2 | 115 | 50   | 85.5 | 40 | 55 | 18   | 9   | 26   | 7   | 50 | VHS40-06-D       |  |
| Y600T-D  | 6.2 | 140 | 60   | 115  | 50 | 70 | 20   | 11  | 31.2 | 8   | 70 | VHS50-D          |  |

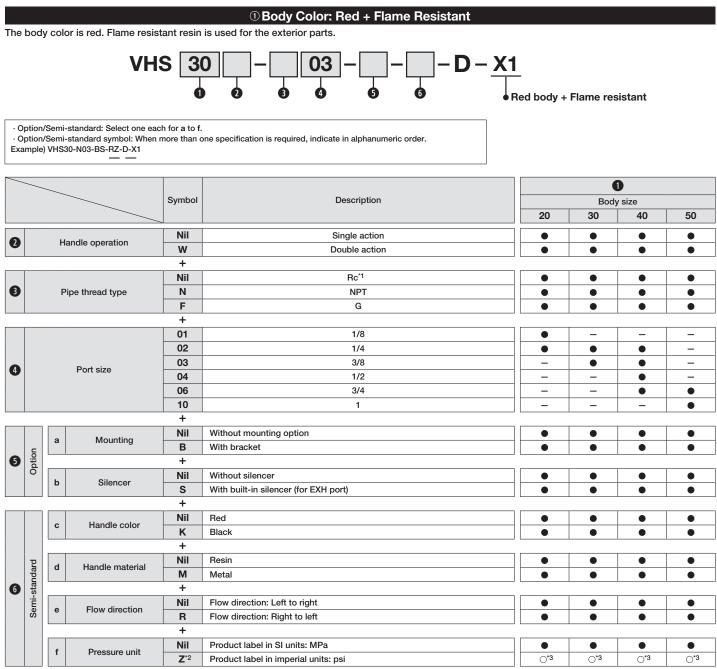




# VHS20/30/40/50-D Series

# Made to Order

Please contact SMC for detailed dimensions, specifications, and delivery times.



\*1 The pipe thread type for the EXH port is G.

\*2 For the pipe thread type: NPT only. This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.)

\*3  $\bigcirc$ : For the pipe thread type: NPT only





## VHS20/30/40/50-D Series Specific Product Precautions 1

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

Precautions on Design

## 🕂 Warning

1. 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.

2. 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.

Installation and Adjustment

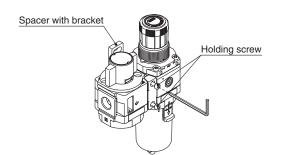
## **A** Caution

- 1. The valve must be switched to each position instantly and securely. Stopping the handle between the extreme positions may cause a malfunction.
- 2. Double action type requires two actions (push the handle and turn it). 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.
- 3. Tighten the 2 holding screws on the spacer with bracket or spacer evenly.

Tighten them to the recommended tightening torque.

Insufficient tightening torque may result in loosening or sealing failure. Excessive tightening torque may damage the thread, etc.

| Recommended Tightening Torque Unit: N·r |                             |              |                 |                       |                      |  |  |  |  |
|---|-----------------------------|--------------|-----------------|-----------------------|----------------------|--|--|--|--|
| Applicable<br>model                     | VHS20 VHS30<br>[AC20] [AC30 |              | VHS40<br>[AC40] | VHS40-06<br>[AC40-06] | VHS50<br>[AC50/AC60] |  |  |  |  |
| Spacer with bracket part number         | Y200T-D                     | Y300T-D      | Y400T-D         | Y500T-D               | Y600T-D              |  |  |  |  |
| Spacer part number                      | Y200-D                      | Y300-D       | Y400-D          | Y500-D                | Y600-D               |  |  |  |  |
| Torque                                  | 0.36<br>±0.036              | 1.2<br>±0.05 | 1.2<br>±0.05    | 1.4<br>±0.05          | 2.0<br>±0.1          |  |  |  |  |





## A Warning

#### 1. Piping load and moment

Avoid any torsional or bending moments other than those caused by the equipment's own weight as failure to do so may result in damage. Support external piping separately.

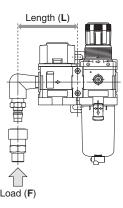
If moment application is unavoidable during operation, the moment should be lower than the max. moment shown below.

Piping materials without flexibility, such as steel tube piping, are prone to being affected by excess moment loads or vibrations from the piping side. Use flexible tubing in between to avoid such effects.

| Unit: N·n |
|-----------|
|-----------|

|                     |                 |                 |                 |                       | onia nin             |
|---------------------|-----------------|-----------------|-----------------|-----------------------|----------------------|
| Applicable<br>model | VHS20<br>[AC20] | VHS30<br>[AC30] | VHS40<br>[AC40] | VHS40-06<br>[AC40-06] | VHS50<br>[AC50/AC60] |
| Max. moment<br>(M)  | 14.5            | 16              | 19.5            | 35                    | 45                   |

Max. moment (M) = Length (L) x Load (F)



2. 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 a malfunction.

3. 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.

4. Connect piping/fittings using the recommended torque while holding the female thread side tightly.

Insufficient tightening torque can result in loose piping or sealing failure. Over tightening may break the thread. If the female side is not held while tightening, excessive force will be applied to the bracket directly, resulting in breakage.

| Recommended Tightening Torque |        |          |          |          |          |          |  |  |  |
|-------------------------------|--------|----------|----------|----------|----------|----------|--|--|--|
| 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 |  |  |  |

9





## VHS20/30/40/50-D Series Specific Product Precautions 2

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For 3/4/5-port solenoid valve precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

#### Piping

## A Warning

5. When an SMC One-touch fitting is used, refer to the operation manual for the One-touch fitting.

#### 6. Silencer is recommended in the exhaust port.

When mounting a built-in resin silencer (VHS series/optional), tighten it by hand, and then use a tool on the width across flats of the octagonal part to tighten it additionally until it is attached firmly on the end. When mounting the resin silencers (AN series), use a tool on the width across flats of the hexagonal part to tighten it an additional 1/4 turn after tightening the silencer by hand.

When installing One-touch fittings (KQ2 series), add a 1/2 turn after tightening it by hand. Excess tightening torque may damage the resin silencers or the threads of the exhaust port.

Air Supply

## \land Warning

1. Air containing a large amount of drainage can cause a malfunction. Install an air dryer or aftercooler on the inlet side of the product.

## A Caution

- 1. Use an air filter with 5  $\mu$ m or less filtration rating on the inlet side to avoid any damage to the seat caused by dust.
- 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.

#### **Operating Environment**

### A Warning

- 1. Do not use in an atmosphere containing corrosive gases, chemicals, sea water, water, water steam, or where there is direct contact with any of these.
- 2. Do not use in explosive atmospheres.
- 3. Do not use in locations subject to vibration or impact.
- 4. A protective cover should be used to shield the product from direct sunlight.
- 5. Remove any sources of excessive heat.
- 6. Employ suitable protective measures in locations where there is contact with water droplets, oil, welding spatter, etc.
- 7. Install a silencer into exhaust port to prevent the ingress of dust if there is a lot of dust in the atmosphere.

If dust enters the valve via exhaust port, it may cause air leakage.

If any ambient environments from 1 to 7 mentioned above are true for your operating conditions, select the metal handle type for your safety.

Maintenance

## \land Warning

 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.

2. Do not disassemble the product.

It will cause damage to the product and result in operation failure.

|     |      | unit            | conversion | result          |             | unit  | conversion       | result         |
|-----|------|-----------------|------------|-----------------|-------------|-------|------------------|----------------|
| ler | ngth | m               | x 3.28     | ft              | pressure    | MPa   | x 145            | psi            |
|     |      | mm              | x 0.04     | in              |             | kPa   | ÷ 6.895          | psi            |
| m   | ass  | g               | x 0.04     | oz              | temperature | °C    | x1.8 then add 32 | °F             |
| vo  | lume | cm <sup>3</sup> | ÷ 16.387   | in <sup>3</sup> | torque      | N∙m   | x 0.738          | ft <b>-l</b> b |
|     |      | L               | x 61.024   | in <sup>3</sup> | force       | Ν     | ÷ 4.448          | lbf            |
| sp  | beed | mm/s            | ÷ 25.4     | in/s            | flow        | L/min | ÷ 28.317         | cfm            |
|     |      |                 |            |                 |             |       |                  |                |

#### UNIT CONVERSIONS



### ▲ Safety Instructions

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**" or "**Danger**." They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)<sup>\*1</sup>, and other safety regulations.

-----\*1) ISO 4414: Pneumatic fluid power - General rules relating to systems. Caution: Caution indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury. ISO 4413: Hydraulic fluid power - General rules relating to systems. IEC 60204-1: Safety of machinery - Electrical equipment of machines. (Part 1: General requirements) Marning: Warning indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury. ISO 10218-1: Manipulating industrial robots - Safety. etc. Danger indicates a hazard with a high level of risk which, Danger : Danger indicates a nazard with a might even of the if not avoided, will result in death or serious injury. \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ **∧**Caution 🗥 Warning 1. The compatibility of the product is the responsibility of the 1. The product is provided for use in manufacturing industries. person who designs the equipment or decides its The product herein described is basically provided for peaceful use in manufacturing industries. specifications. If considering using the product in other industries, consult SMC beforehand Since the product specified here is used under various operating conditions, and exchange specifications or a contract if necessary. its compatibility with specific equipment must be decided by the person who If anything is unclear, contact your nearest sales branch. designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance Limited warranty and Disclaimer/ of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously **Compliance Requirements** review all specifications of the product referring to its latest catalog The product used is subject to the following "Limited warranty and Disclaimer" and information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment. "Compliance Requirements". Read and accept them before using the product. 2. Only personnel with appropriate training should operate Limited warranty and Disclaimer machinery and equipment. The product specified here may become unsafe if handled incorrectly. The 1. The warranty period of the product is 1 year in service or 1.5 years after assembly, operation and maintenance of machines or equipment including the product is delivered, whichever is first.\*2) our products must be performed by an operator who is appropriately trained Also, the product may have specified durability, running distance or and experienced. replacement parts. Please consult your nearest sales branch 3. Do not service or attempt to remove product and machinery/ 2. For any failure or damage reported within the warranty period which is clearly our equipment until safety is confirmed. responsibility, a replacement product or necessary parts will be provided. 1. The inspection and maintenance of machinery/equipment should only be This limited warranty applies only to our product independently, and not to any performed after measures to prevent falling or runaway of the driven other damage incurred due to the failure of the product. objects have been confirmed. 3. Prior to using SMC products, please read and understand the warranty terms 2. When the product is to be removed, confirm that the safety measures as and disclaimers noted in the specified catalog for the particular products. mentioned above are implemented and the power from any appropriate \*2) Vacuum pads are excluded from this 1 year warranty. source is cut, and read and understand the specific product precautions A vacuum pad is a consumable part, so it is warranted for a year after it is delivered. of all relevant products carefully. Also, even within the warranty period, the wear of a product due to the use of the vacuum pad 3. Before machinery/equipment is restarted, take measures to prevent or failure due to the deterioration of rubber material are not covered by the limited warranty. unexpected operation and malfunction. **Compliance Requirements** 4. Contact SMC beforehand and take special consideration of 1. The use of SMC products with production equipment for the manufacture of safety measures if the product is to be used in any of the weapons of mass destruction (WMD) or any other weapon is strictly prohibited. following conditions. 2. The exports of SMC products or technology from one country to another are 1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight. 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, 2. Installation on equipment in conjunction with atomic energy, railways, air assure that all local rules governing that export are known and followed. navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press ▲ Caution applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog. SMC products are not intended for use as instruments for legal 3. An application which could have negative effects on people, property, or metrology. animals requiring special safety analysis. Measurement instruments that SMC manufactures or sells have not been 4. Use in an interlock circuit, which requires the provision of double interlock qualified by type approval tests relevant to the metrology (measurement) laws for possible failure by using a mechanical protective function, and of each country. Therefore, SMC products cannot be used for business or periodical checks to confirm proper operation. certification ordained by the metrology (measurement) laws of each country. **SMC Corporation of America** 10100 SMC Blvd., Noblesville, IN 46060 www.smcusa.com SMC Automation (Canada) Ltd. www.smcautomation.ca

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