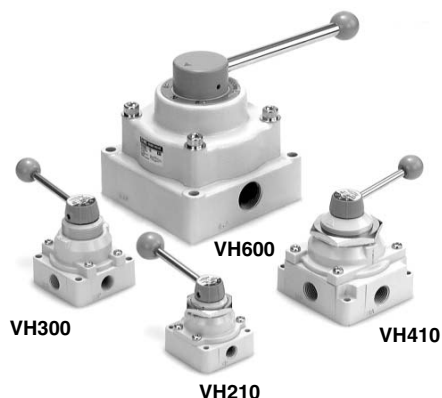


# Hand Valve Series VH



## Specifications

|                                                     |                                                                 |         |
|-----------------------------------------------------|-----------------------------------------------------------------|---------|
| Fluid                                               | Air                                                             |         |
| Proof pressure                                      | 1.5 MPa                                                         |         |
| Max. operating pressure                             | VH200/300/400                                                   | 1.0 MPa |
|                                                     | VH600                                                           | 0.7 MPa |
| Ambient temperature and operating fluid temperature | -5 to 60°C (No freezing)                                        |         |
| Operating angle                                     | 90°                                                             |         |
| Lubrication                                         | Not required (Use turbine oil Class 1 ISO VG32, if lubricated.) |         |

## Option

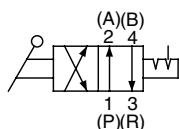
|                                            |                         |
|--------------------------------------------|-------------------------|
| Bottom ported                              | VH300/400               |
| Panel mounted                              | VH200/300/400           |
| Different P port location (On handle side) | All models applicable * |



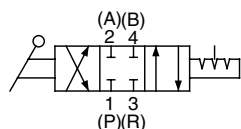
\* Note that 1(P) port of VH600 is located on handle side as standard.

## Model

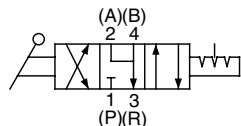
### JIS Symbol 2 position



#### Closed center

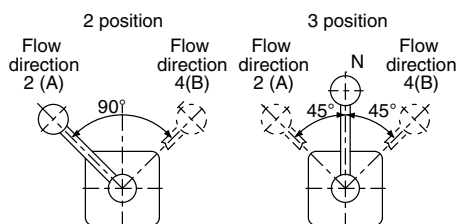


#### Exhaust center



### Handle Operation Angle and Air Flow Direction

(Refer to the figures of piping direction to the right.)



| Series | Port size<br>Rc  | Number of<br>positions | Piping direction | Model          |                | Effective<br>area<br>(mm <sup>2</sup> ) | Weight<br>(kg) |               |
|--------|------------------|------------------------|------------------|----------------|----------------|-----------------------------------------|----------------|---------------|
|        |                  |                        |                  | Body mounted   | Panel mounted  |                                         |                |               |
| VH2    | 1/4              | 3 (Closed center)      |                  | VH200-02       | VH210-02       | 7.5                                     | 0.42           |               |
|        |                  | 3 (Exhaust center)     |                  | VH201-02       | VH211-02       |                                         |                |               |
|        |                  | 2 (Position)           |                  | VH202-02       | VH212-02       |                                         |                |               |
| VH3    | 1/4, 3/8         | 3 (Closed center)      |                  | VH300-02/03    | VH310-02/03    | Rc 1/4:<br>17                           | 0.71           |               |
|        |                  | 3 (Exhaust center)     |                  | VH301-02/03    | VH311-02/03    |                                         |                |               |
|        |                  | 2 (Position)           |                  | VH302-02/03    | VH312-02/03    |                                         |                |               |
|        |                  | 3 (Closed center)      |                  | VH320-02/03    | VH330-02/03    | Rc 3/8:<br>20                           |                |               |
|        |                  | 3 (Exhaust center)     |                  | VH321-02/03    | VH331-02/03    |                                         |                |               |
|        |                  | 2 (Position)           |                  | VH322-02/03    | VH332-02/03    |                                         |                |               |
| VH4    | 1/4<br>to<br>3/4 | 3 (Closed center)      |                  | VH400-02 to 06 | VH410-02 to 06 | Rc 1/4:<br>45                           | 1.28           |               |
|        |                  | 3 (Exhaust center)     |                  | VH401-02 to 06 | VH411-02 to 06 |                                         |                | Rc 3/8:<br>49 |
|        |                  | 2 (Position)           |                  | VH402-02 to 06 | VH412-02 to 06 |                                         |                |               |
|        |                  | 3 (Closed center)      |                  | VH420-02 to 06 | VH430-02 to 06 | Rc 3/4:<br>58                           |                |               |
|        |                  | 3 (Exhaust center)     |                  | VH421-02 to 06 | VH431-02 to 06 |                                         |                |               |
|        |                  | 2 (Position)           |                  | VH422-02 to 06 | VH432-02 to 06 |                                         |                |               |
| VH6    | 3/4, 1           | 3 (Exhaust center)     |                  | VH600-06/10    | —              | Rc 3/4:<br>185<br>Rc 1:<br>194          | 9.7            |               |

## How to Order

**VH 2 0 1 — 02 —**

**Hand valve** •

**Body size (Base size)** •

|   |          |
|---|----------|
| 2 | 1/4 base |
| 3 | 3/8 base |
| 4 | 1/2 base |
| 6 | 1 base   |

**Piping/Mounting** •

| Symbol | Piping <sup>(Note)</sup> | Mounting method |
|--------|--------------------------|-----------------|
| 0      | Side                     | Body            |
| 1      | Side                     | Panel mounting  |
| 2      | Bottom                   | Body            |
| 3      | Bottom                   | Panel mounting  |

 Note) Only side piping is available for VH200 and VH600 and R port is located on the bottom.

**1(P) port location**

|   |                                       |
|---|---------------------------------------|
| R | 1(P) port 180° location change        |
| L | Long handle (Applicable to VH300/400) |

\* When specifying more than one option, indicate symbols alphabetically.

**Port size (Nominal size)**

|    |     |
|----|-----|
| 02 | 1/4 |
| 03 | 3/8 |
| 04 | 1/2 |
| 06 | 3/4 |
| 10 | 1   |

**Thread type**

|     |     |
|-----|-----|
| Nil | Rc  |
| N   | NPT |
| F   | G   |

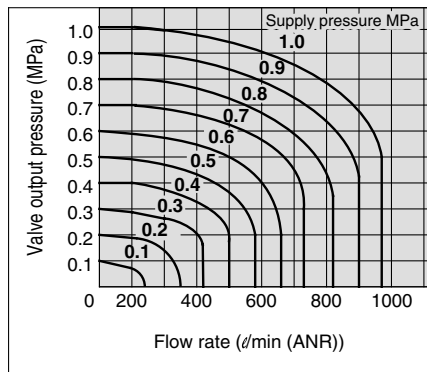
**Function** •

|   |                           |
|---|---------------------------|
| 0 | 3 position closed center  |
| 1 | 3 position exhaust center |
| 2 | 2 position                |

## Flow Characteristics

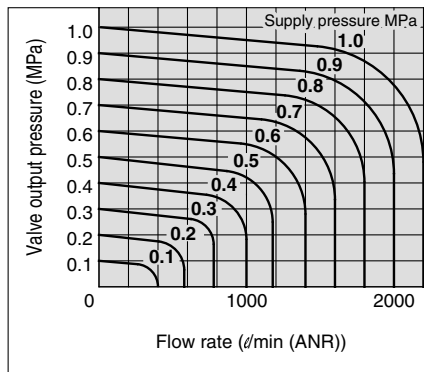
**VH200**

Effective area S = 7.5 mm<sup>2</sup>



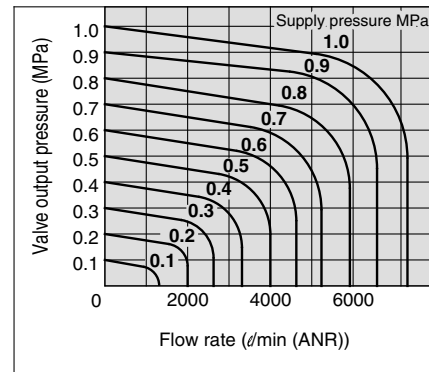
**VH300**

Effective area S = 20 mm<sup>2</sup>



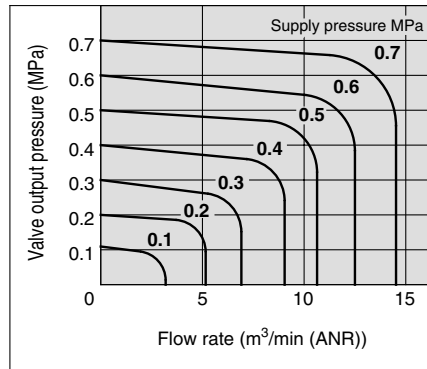
**VH400**

Effective area S = 55 mm<sup>2</sup>



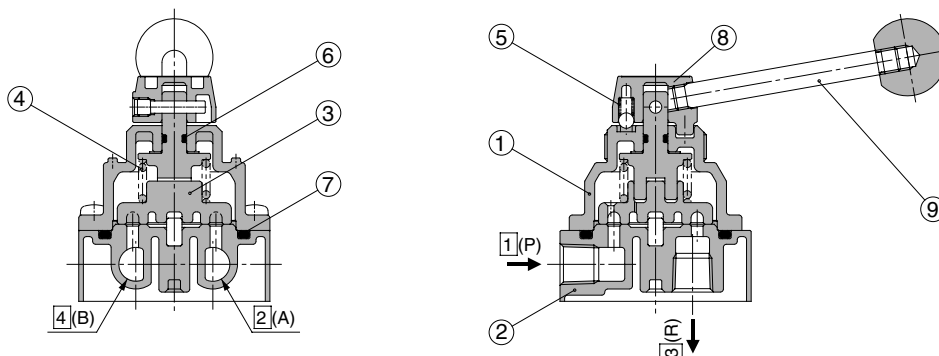
**VH600**

Effective area S = 194 mm<sup>2</sup>

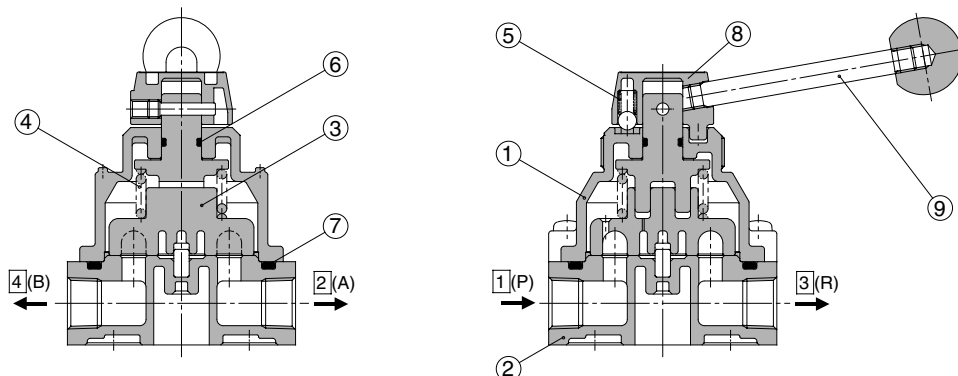


## Construction

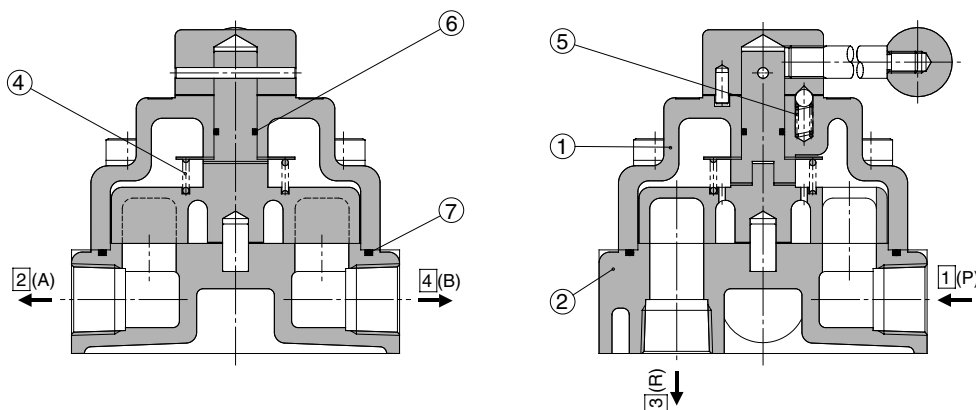
### VH200



### VH300/400



### VH600



S□A

V□A

S□A

V□A

VM

VR

**VH**

VHS

## Component Parts

| No. | Description | Material             |           |
|-----|-------------|----------------------|-----------|
|     |             | VH200/300/400        | VH600     |
| ①   | Cover       | Zinc die-casted      | Cast iron |
| ②   | Body        | Aluminium die-casted | Cast iron |

## Replacement Parts

| No. | Description         | Material   | Part no.            |                        |                        |                 |
|-----|---------------------|------------|---------------------|------------------------|------------------------|-----------------|
|     |                     |            | VH200               | VH300                  | VH400                  | VH600           |
| ③   | Slide ring          | Resin      | 244026<br>244026-1* | 244120<br>244120-1*    | 244219<br>244219-1*    | —               |
| ④   | Slide ring spring   | Piano wire | 24408-1             | 24416-3                | 24425-6                | 240417          |
| ⑤   | Check ball spring   | Piano wire | 24077               | 240359                 | 240359                 | 24047           |
| ⑥   | O-ring              | NBR        | JIS B 2401 P5       | JIS B 2401 P10         | JIS B 2401 P10         | JIS B 2401 P15  |
| ⑦   | O-ring              | NBR        | JIS B 2401 P42      | JIS B 2401 G55         | JIS B 2401 P71         | JIS B 2401 G120 |
| ⑧   | Handle head         | Zinc alloy | 24403               | 24413                  | 24413                  | —               |
| ⑨   | Handle rod assembly | —          | 2407102A            | 2407102A<br>(2407114A) | 2407102A<br>(2407114A) | —               |

\* In the case of the exhaust center type.  
( ): Long handle type

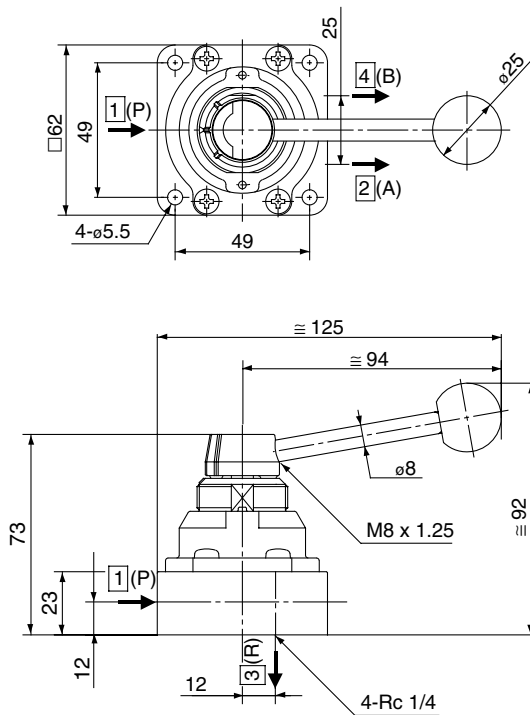
## Part No. of Lock Nut for Panel Mounting

| Series | Part no. |
|--------|----------|
| VH200  | 244010   |
| VH300  | 24418    |
| VH400  | 240258   |

# Series VH

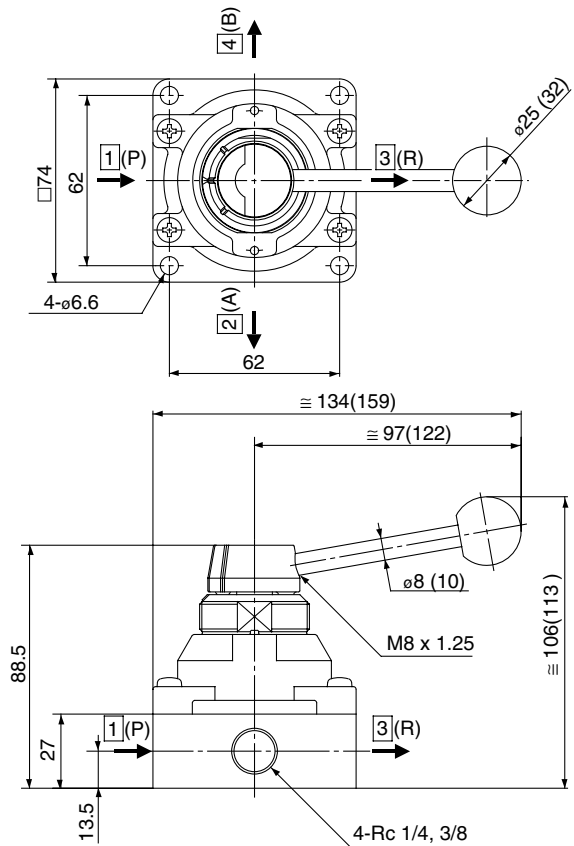
## Dimensions: Body Mounted

### VH20□-02

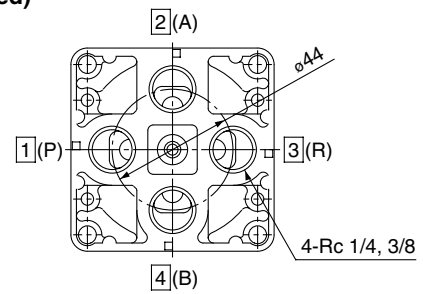


### VH30□-02/03

( ) : Long handle type

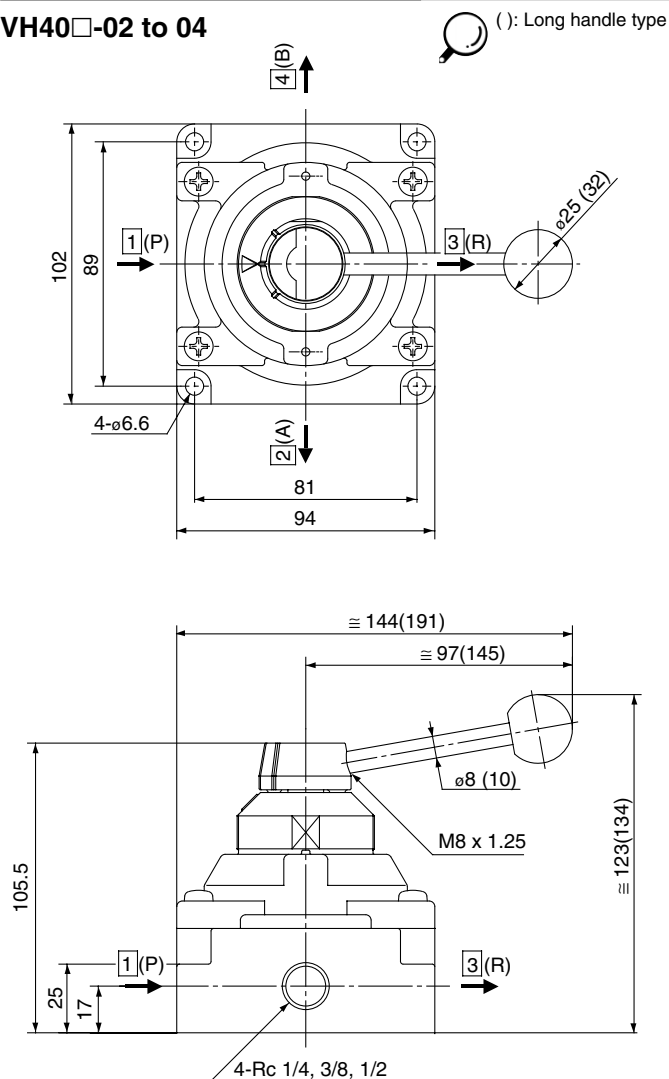


### VH32□-02/03 (Bottom ported)

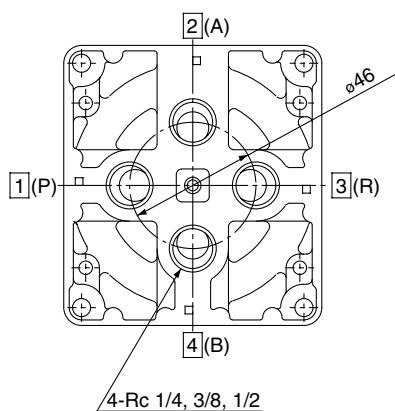


## Dimensions: Body Mounted

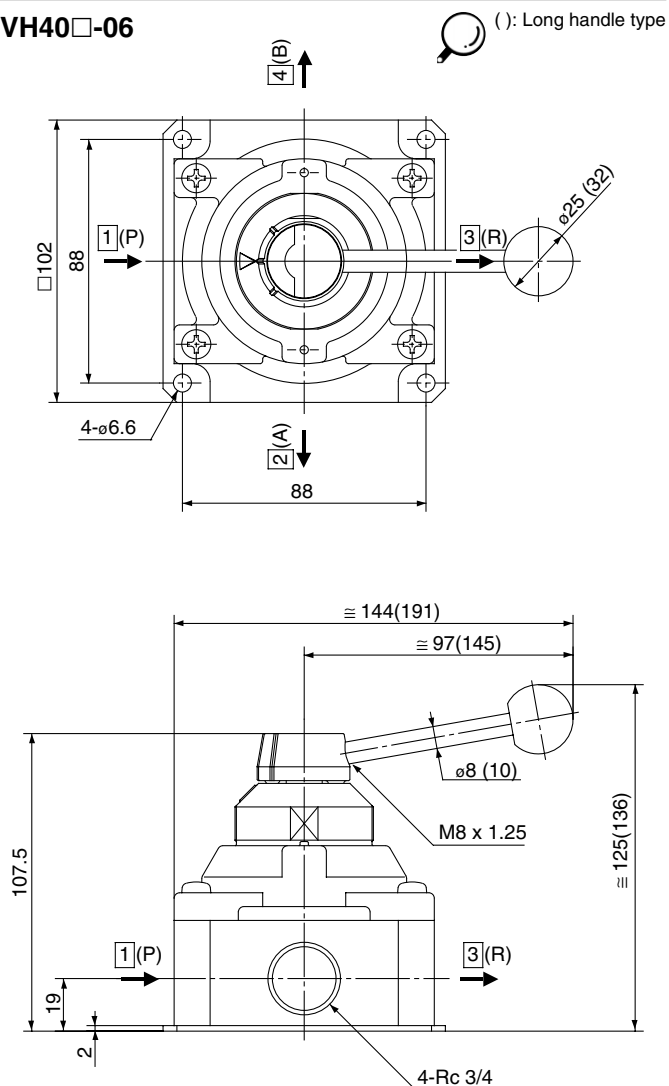
### VH40□-02 to 04



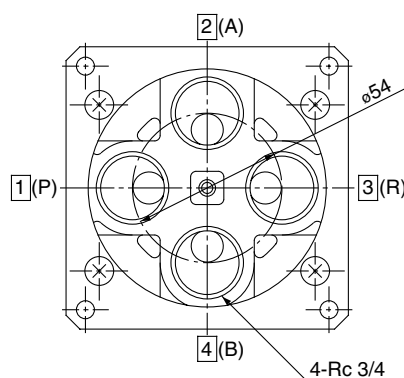
### VH42□-02 to 04 (Bottom ported)



### VH40□-06



### VH42□-06 (Bottom ported)

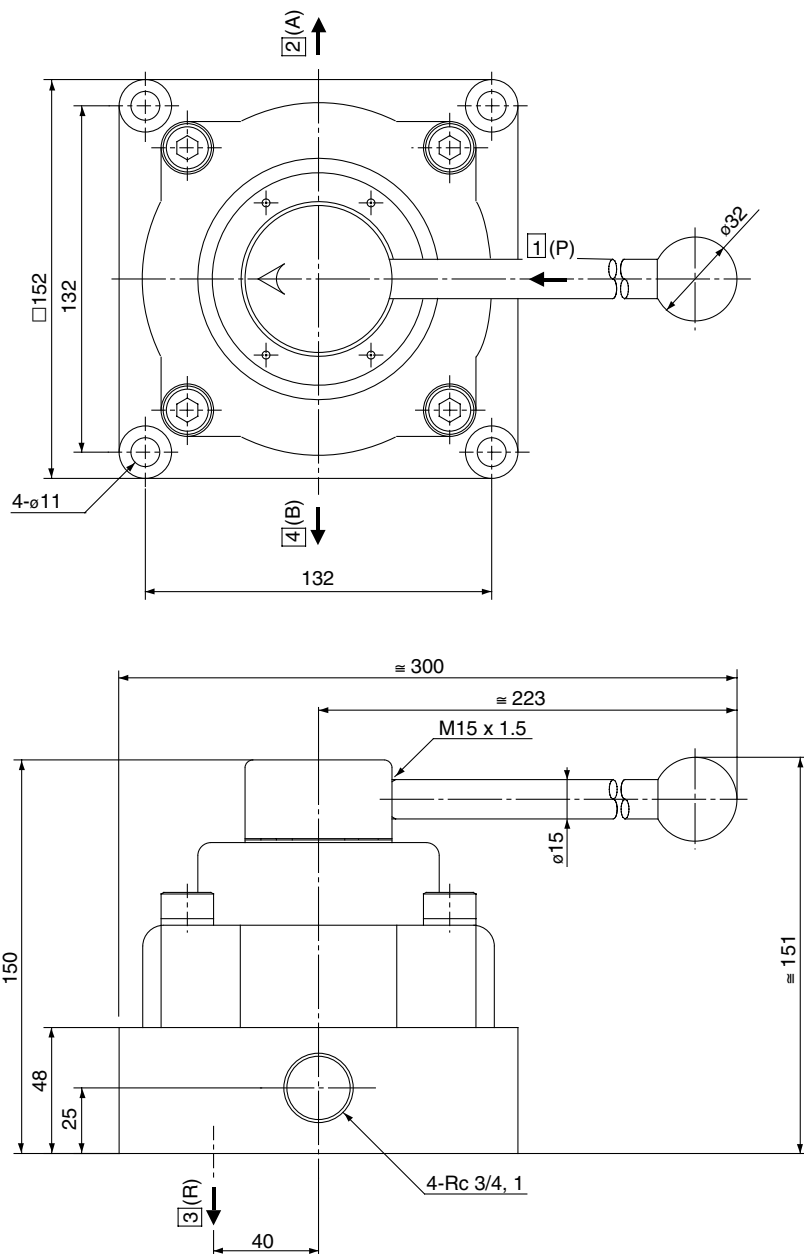


|           |
|-----------|
| S□A       |
| V□A       |
| S□A       |
| V□A       |
| VM        |
| VR        |
| <b>VH</b> |
| VHS       |

# Series VH

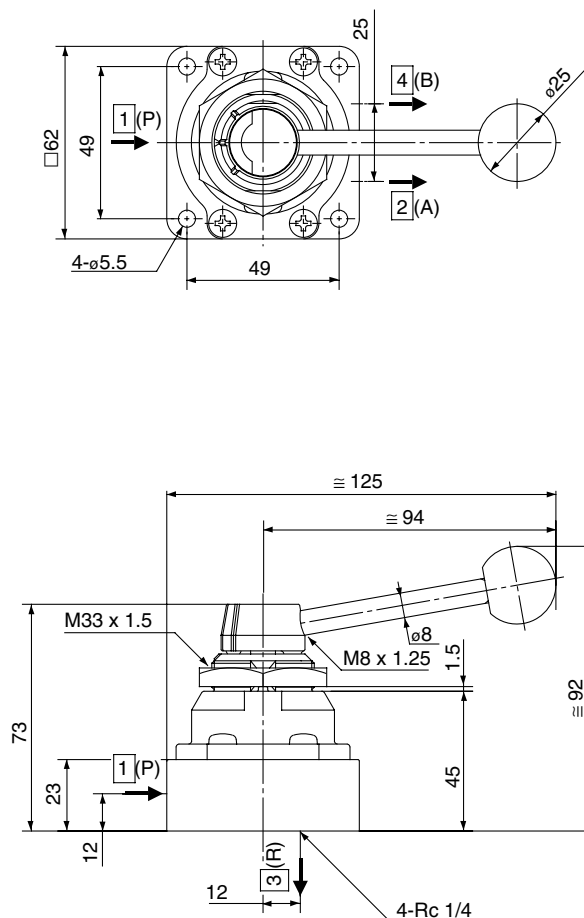
## Dimensions: Body Mounted

VH600-06/10



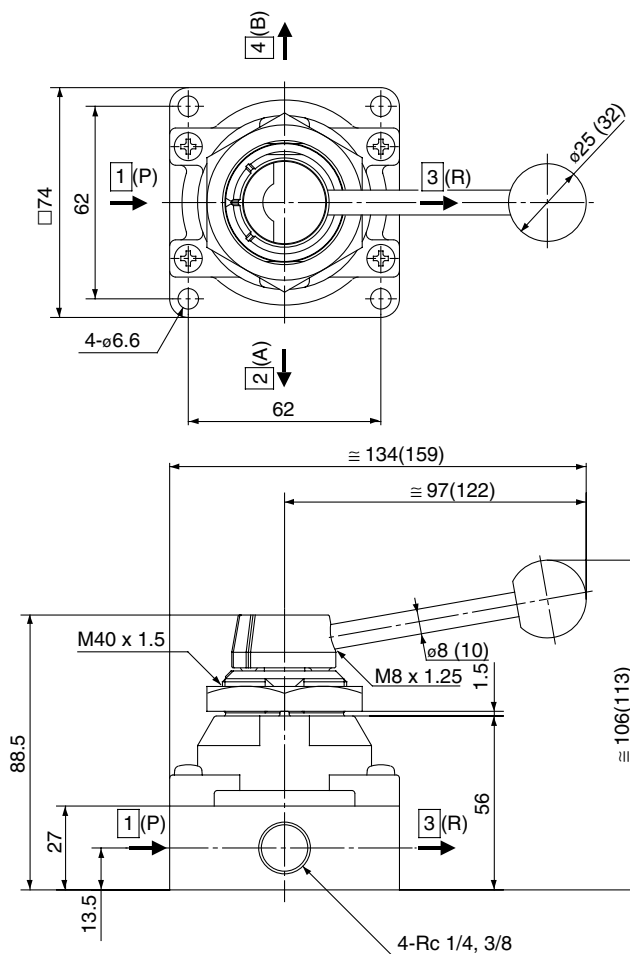
## Dimensions: Panel Mounted

### VH21□-02



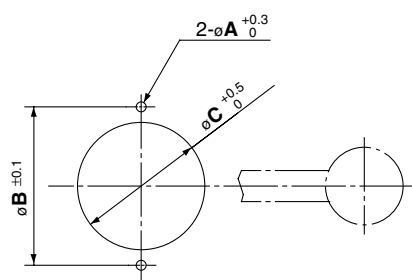
### VH31□-02/03

( ): Long handle type



S□A  
V□A  
S□A  
V□A  
VM  
VR  
VH  
VHS

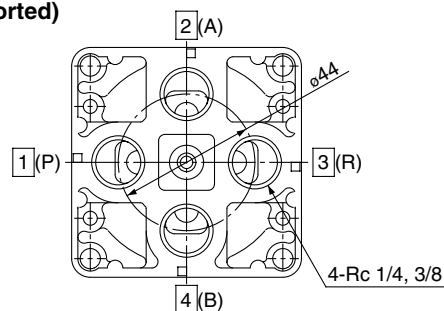
## Panel cut dimension



Max. panel thickness D

|       | A   | B  | C  | D (mm) |
|-------|-----|----|----|--------|
| VH200 | 3.2 | 40 | 35 | 3.5    |
| VH300 | 3.2 | 51 | 41 | 6      |
| VH400 | 3.2 | 64 | 51 | 8      |

### VH33□-02/03 (Bottom ported)

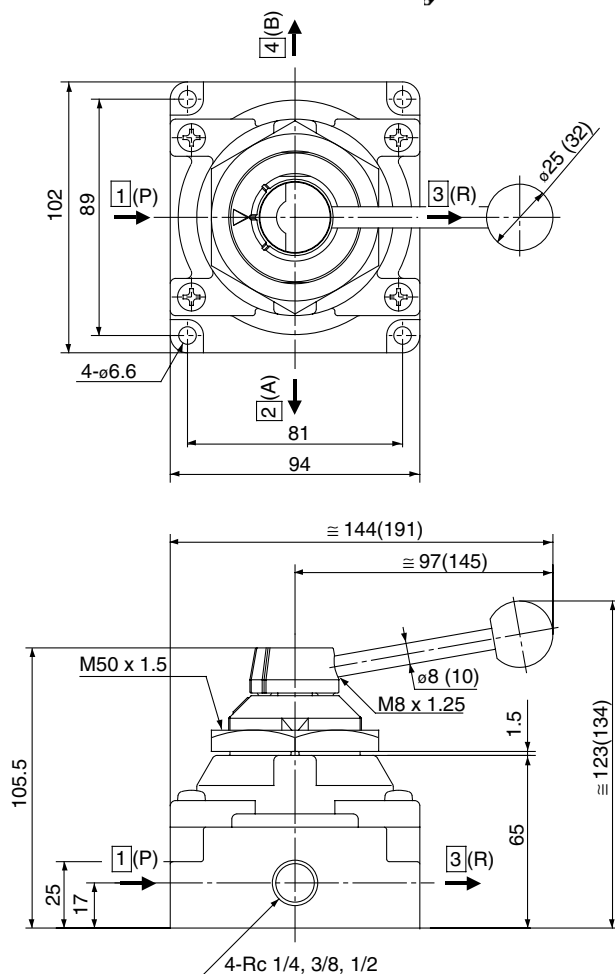


# Series VH

## Dimensions: Panel Mounted

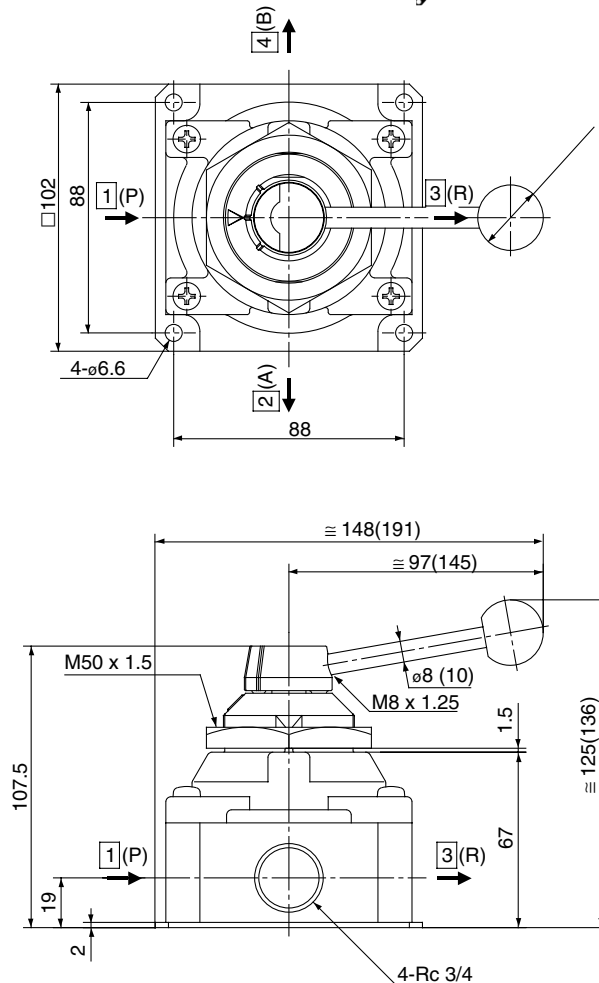
### VH41□-02 to 04

( ): Long handle type

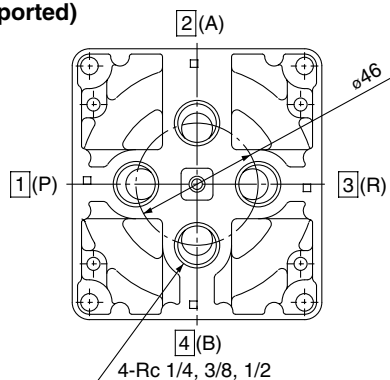


### VH41□-06

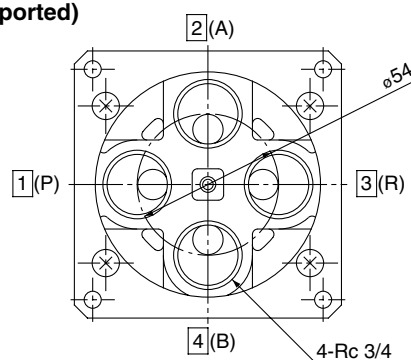
( ): Long handle type



### VH43□-02 to 04 (Bottom ported)



### VH43□-06 (Bottom ported)





## ⚠ Precautions

Be sure to read before handling. Refer to pages 5-11-2 to 6 for Safety Instruction and Solenoid Valve Precautions.

### Design

#### ⚠ Caution

1. **Not suitable for use as a selector valve or a divider valve.**  
The valve can malfunction due to air leakage.
2. **Not suitable for vacuum applications.**  
The valve can malfunction due to air leakage.
3. **Do not supply air pressure from other ports than 1(P) port.**  
Air leakage may occur when the pressure is supplied from other ports.

### Selection

#### ⚠ Caution

1. **Use in low temperature environments**  
The valve can be used at a temperature down to  $-5^{\circ}\text{C}$ . Take appropriate measures to avoid freezing of drainage, moisture, etc.
2. **Operation method**  
The valve must be switched to each position instantly and securely. Stopping the handle halfway between the extreme positions may cause malfunction.

### Piping

#### ⚠ Caution

1. **Ensure connection so that air is supplied to the port "1(P)" port.**  
Air leakage may occur when the pressure is supplied from other ports.
2. **Note that in the case of the option of different "1(P)" porting position, porting indication on the body and flow direction by handle operation are reversed.**

### Environment

#### ⚠ Caution

1. **When the valve is exposed to a large amount of dust, install a silencer into the port "3(R)".** When dust enters the valve from the port "3(R)", it may cause malfunction.

S□A

V□A

S□A

V□A

VM

VR

**VH**

VHS