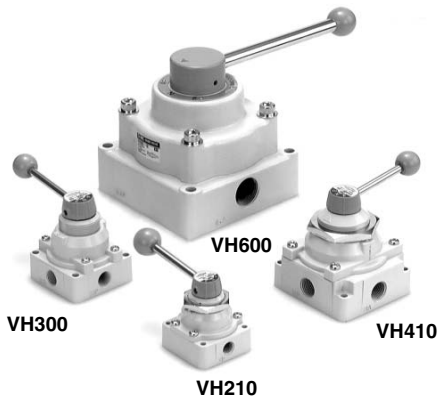
# Hand Valve
# Series VH




## Specifications

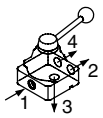
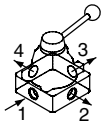
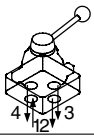
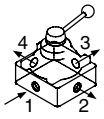
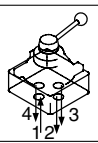
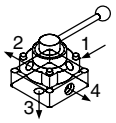
| | | |
|---|---|---|
| Fluid | | Air |
| Proof pressure | | 1.5 MPa |
| Max. operating pressure | **VH200/300/400** | 1.0 MPa |
| | **VH600** | 0.7 MPa |
| Ambient temperature and operating fluid temperature | | –5 to 60°C (No freezing) |
| Operating angle | | 90° |
| Lubrication | | Not required (Use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

## Option

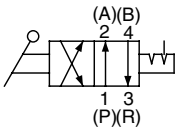
| | |
|---|---|
| Bottom ported | VH300/400 |
| Panel mounted | VH200/300/400 |
| Different P port location (On handle side) | All models applicable *□ |

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

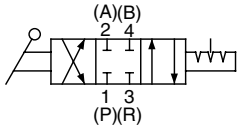
## Model

| Series | Port size Rc | Number of positions | Piping direction | Model | | Effective area (mm²) | Weight (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: 17<br>Rc 3/8: 20 | 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** | | |
| | | 3 (Exhaust center) | | **VH321-02/03** | **VH331-02/03** | | |
| | | 2 (Position) | | **VH322-02/03** | **VH332-02/03** | | |
| **VH4** | 1/4 to 3/4 | 3 (Closed center) |  | **VH400-02 to 06** | **VH410-02 to 06** | Rc 1/4: 45<br>Rc 3/8: 49<br>Rc 1/2: 55<br>Rc 3/4: 58 | 1.28 |
| | | 3 (Exhaust center) | | **VH401-02 to 06** | **VH411-02 to 06** | | |
| | | 2 (Position) | | **VH402-02 to 06** | **VH412-02 to 06** | | |
| | | 3 (Closed center) |  | **VH420-02 to 06** | **VH430-02 to 06** | | |
| | | 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: 185<br>Rc 1: 194 | 9.7 |

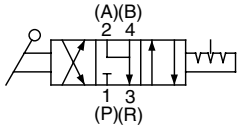
**JIS Symbol**
2 position




Closed center

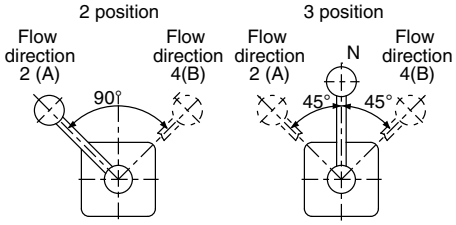



Exhaust center




**Handle Operation Angle and Air Flow Direction**

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



## 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 Note) | 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.

**Function**

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

**Thread type**

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

**Port size (Nominal size)**

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

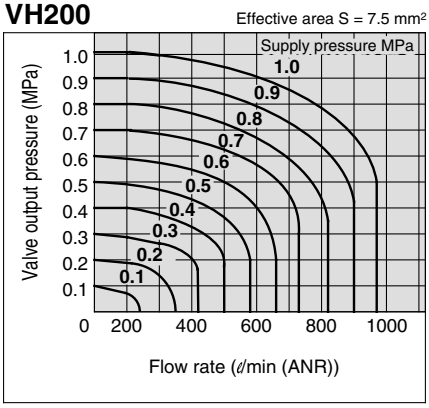
**1(P) port location**

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

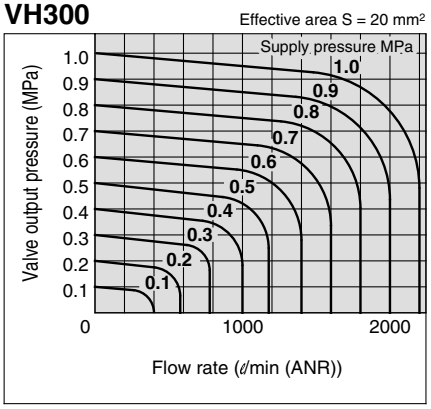
∗ When specifying more than one option, indicate symbols alphabetically.

## Flow Characteristics

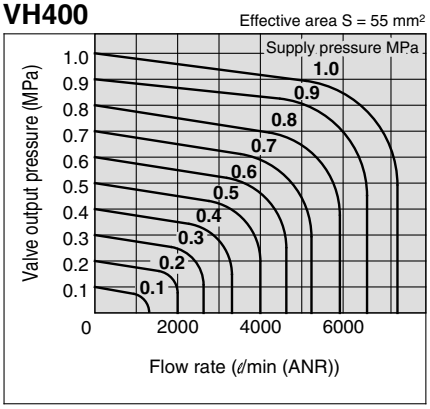
**VH200**



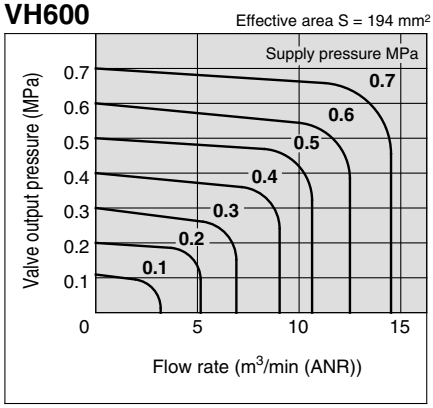

**VH300**




**VH400**

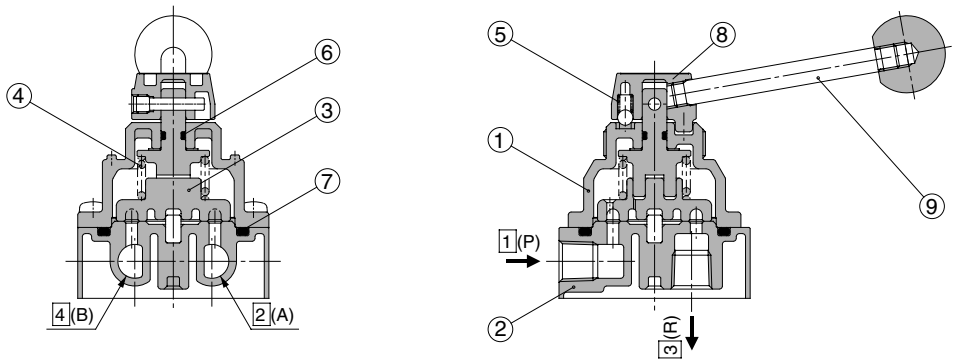



**VH600**

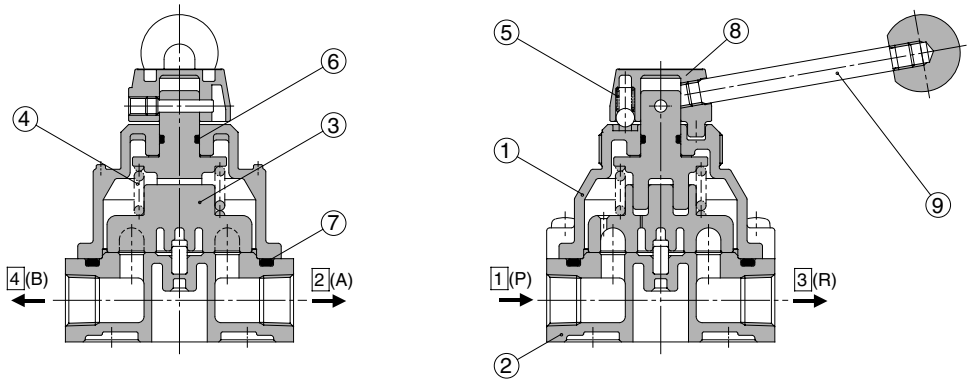


## Construction

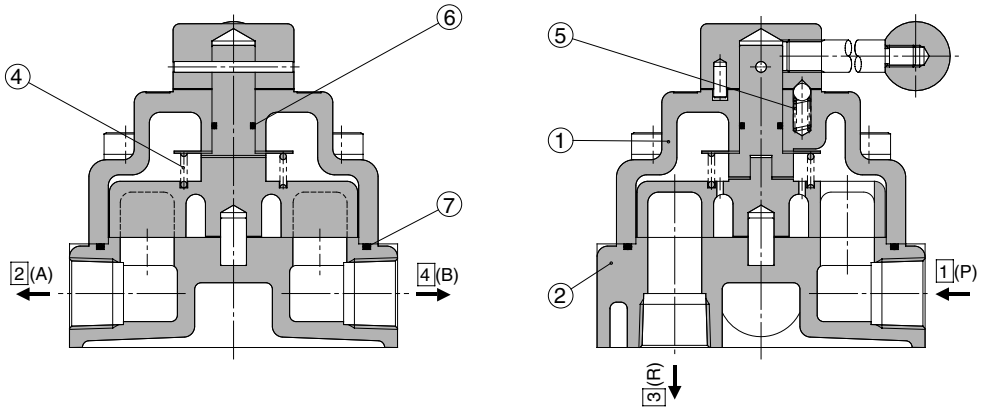
### VH200




### VH300/400




### VH600




### 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) | — |

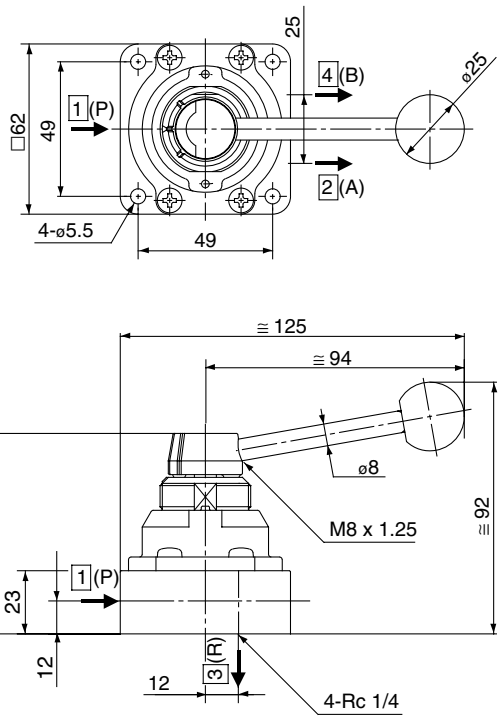
∗ In the case of the exhaust center type.
( ): Long handle type

### Part No. of Lock Nut for Panel Mounting

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

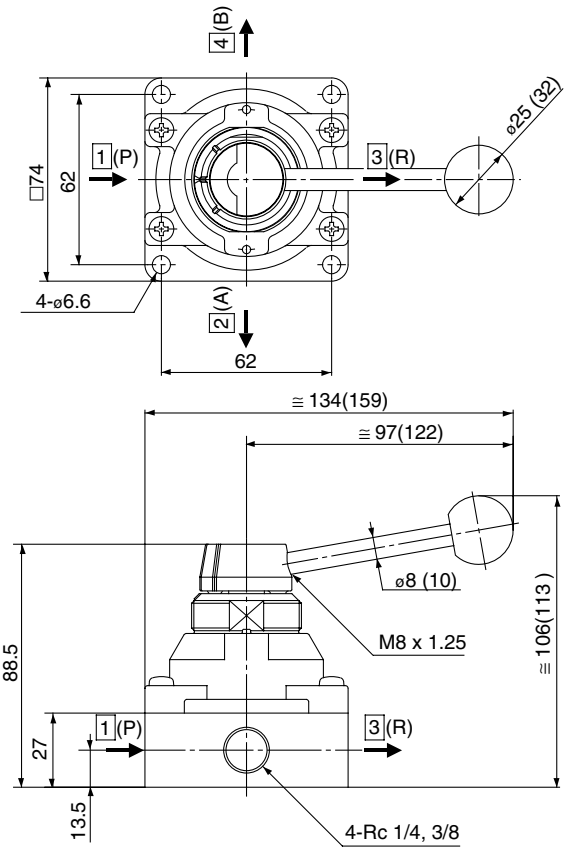
## Dimensions: Body Mounted

### VH20□-02

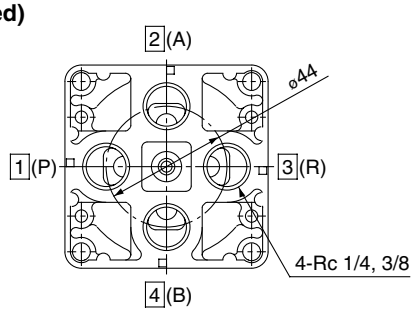



### VH30□-02/03

( ): Long handle type



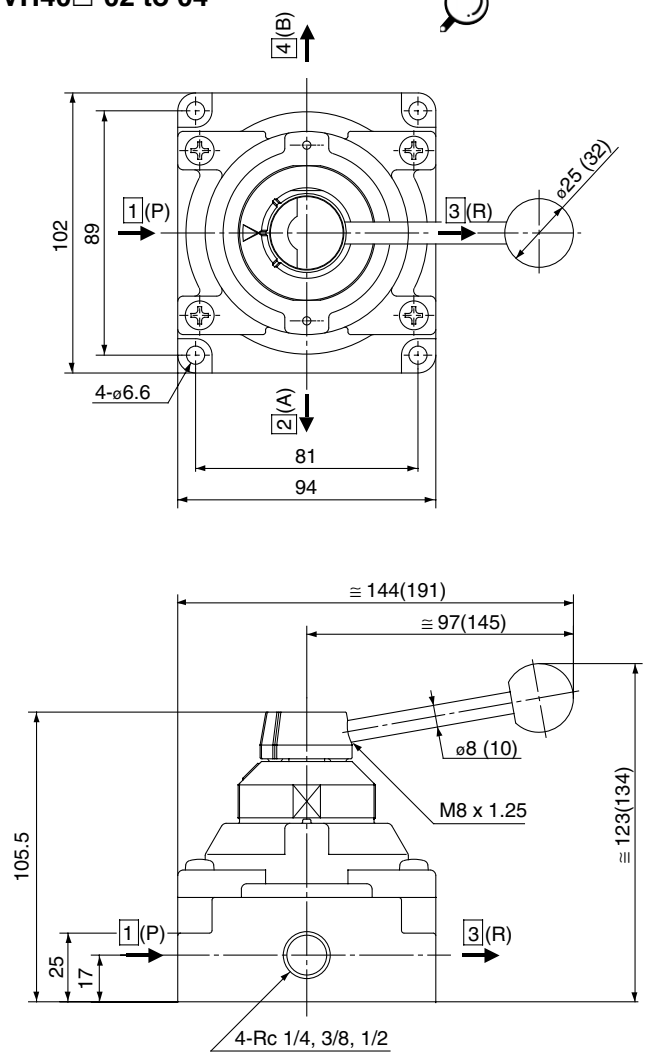

### VH32□-02/03
**(Bottom ported)**



## Dimensions: Body Mounted

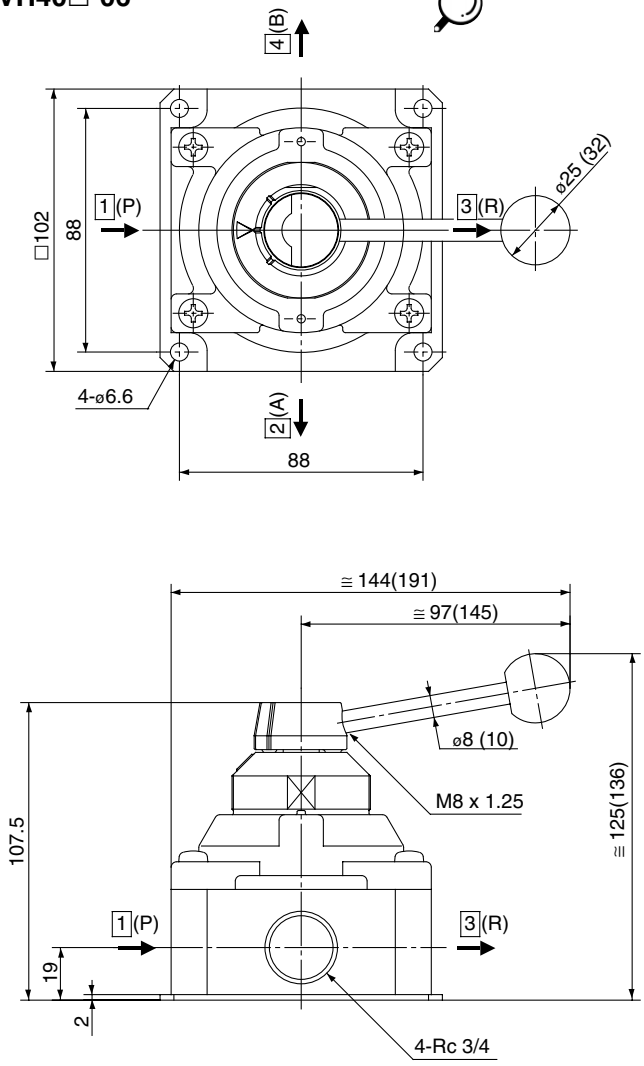
### VH40□-02 to 04

( ): Long handle type



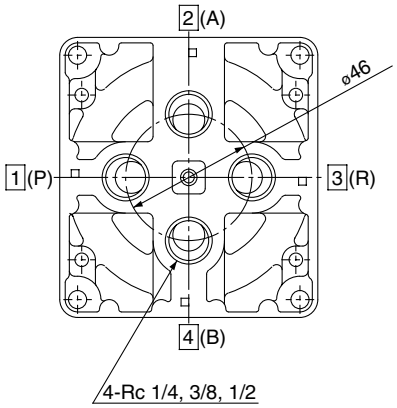

### VH40□-06

( ): Long handle type



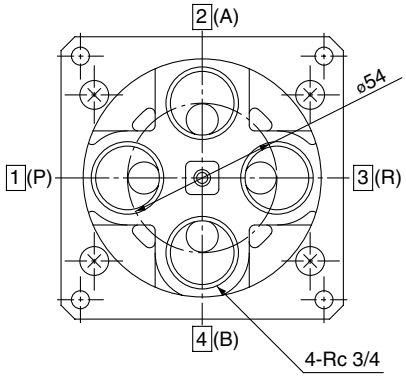

### VH42□-02 to 04

**(Bottom ported)**



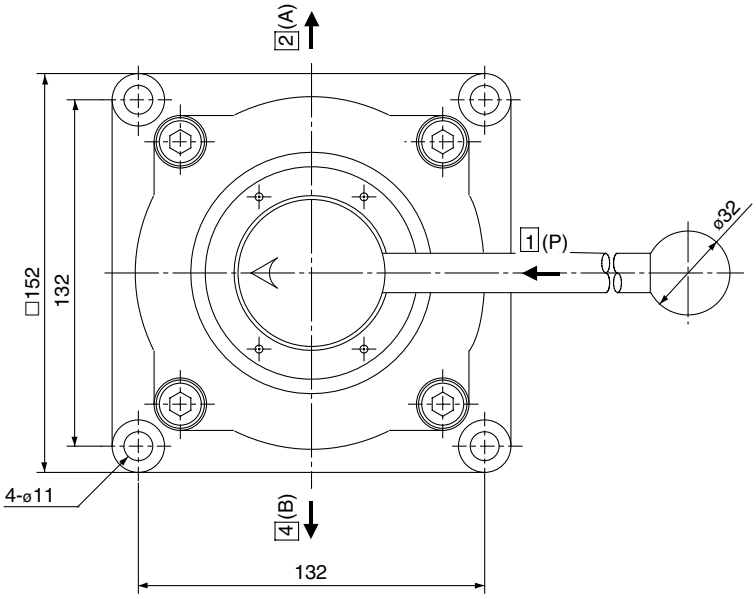

### VH42□-06

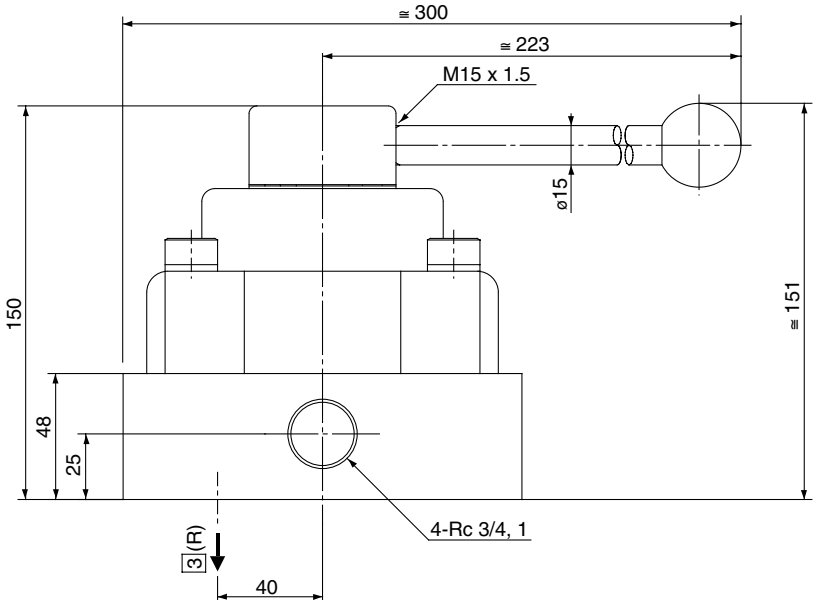
**(Bottom ported)**



## Dimensions: Body Mounted

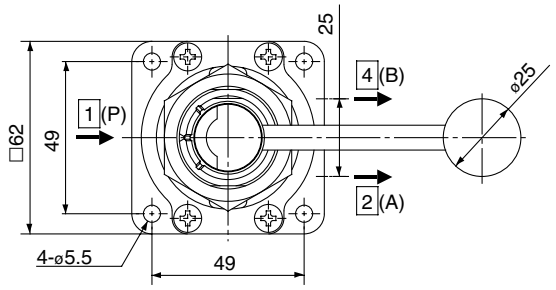
### VH600-06/10

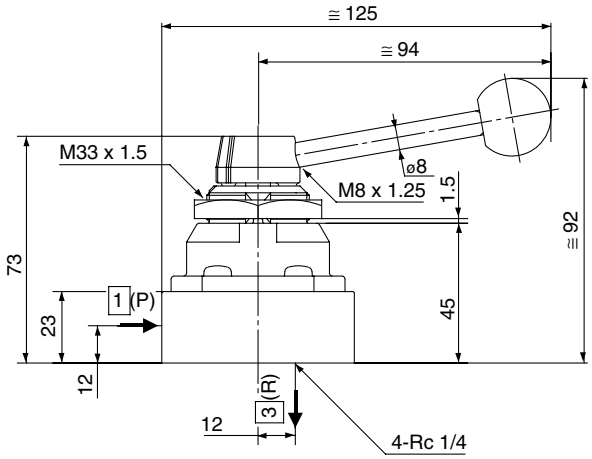


## Dimensions: Panel Mounted

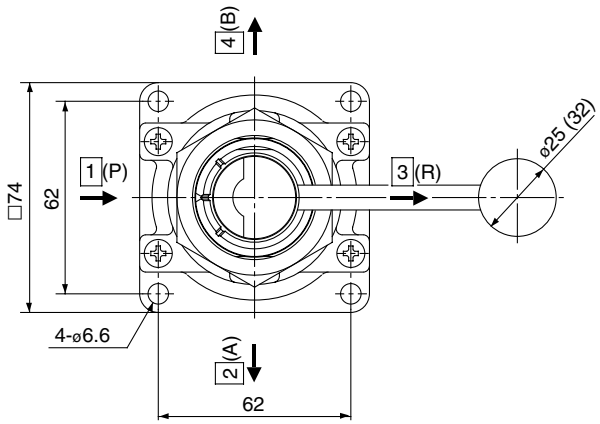
### VH21□-02

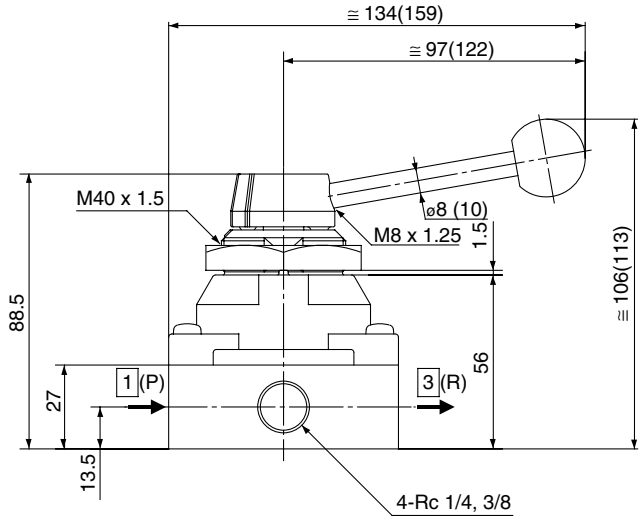


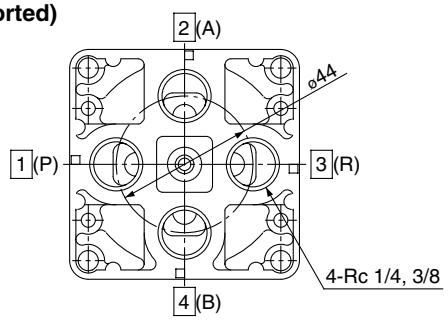

### VH31□-02/03

( ): Long handle type

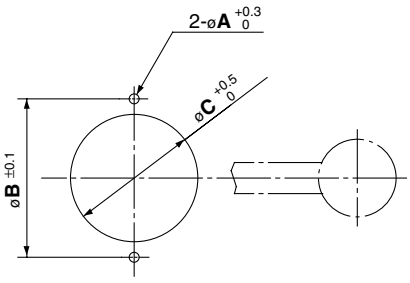



### VH33□-02/03
**(Bottom ported)**




### Panel cut dimension




Max. panel thickness D

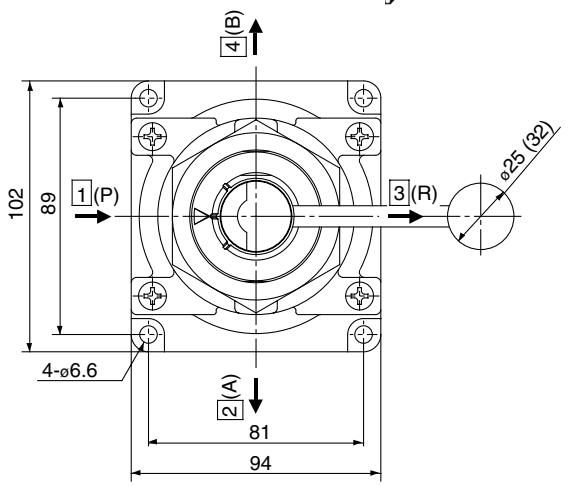
(mm)

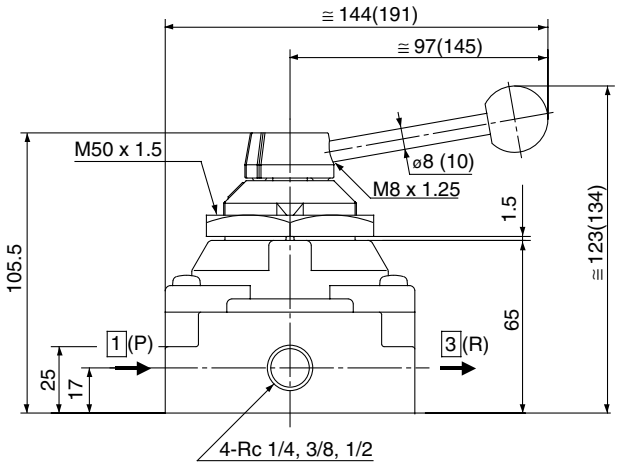
| | A | B | C | D |
|---|---|---|---|---|
| **VH200** | 3.2 | 40 | 35 | 3.5 |
| **VH300** | 3.2 | 51 | 41 | 6 |
| **VH400** | 3.2 | 64 | 51 | 8 |

## Dimensions: Panel Mounted

### VH41□-02 to 04

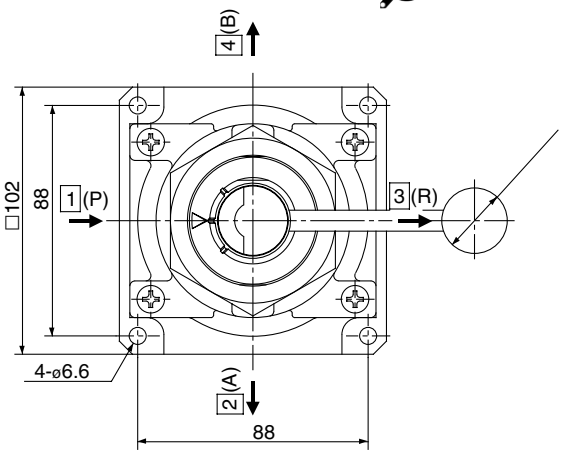
( ): Long handle type

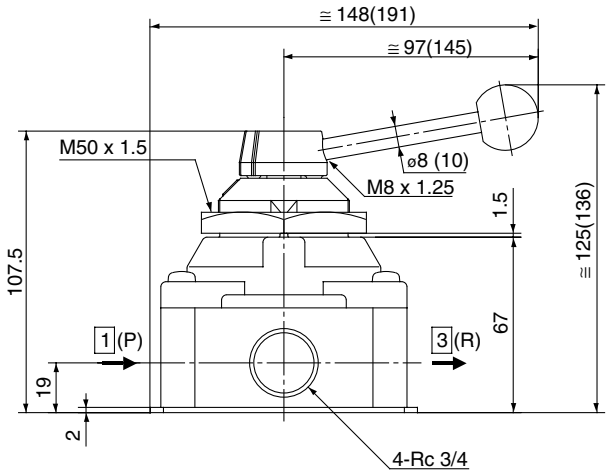


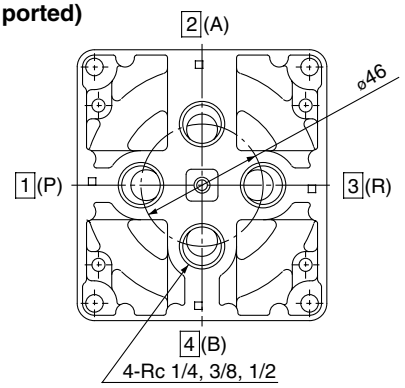

### VH41□-06

( ): Long handle type

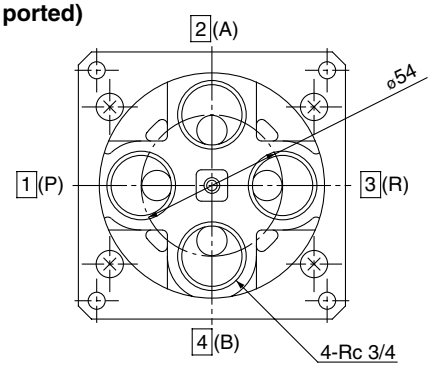



### VH43□-02 to 04
**(Bottom ported)**




### 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 vaccum 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°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.**