

# Hand Valve Series VH



## Specifications

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

## Semi-standard

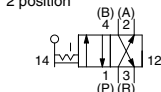
<b>Bottom ported</b>	VH300/400
<b>Panel mount</b>	VH200/300/400
<b>Handle position 180° change</b>	All models applicable *

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

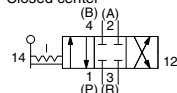
## Model

### Symbol

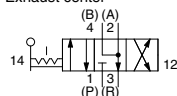
2 position



Closed center

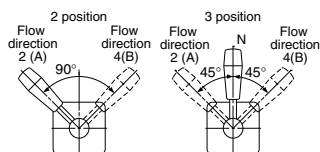


Exhaust center



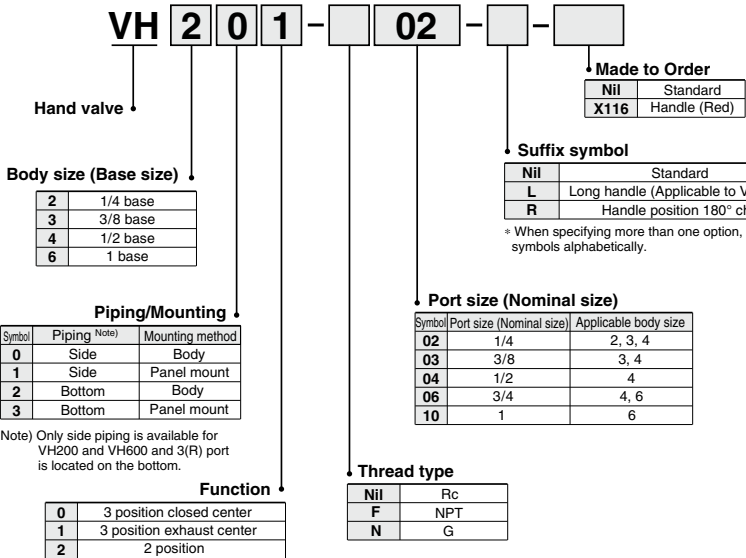
### Handle Operation Angle and Air Flow Direction

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

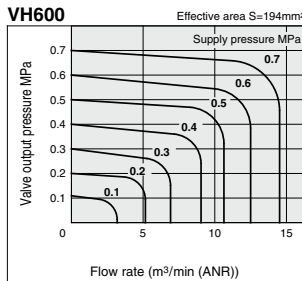
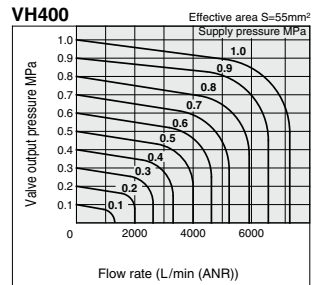
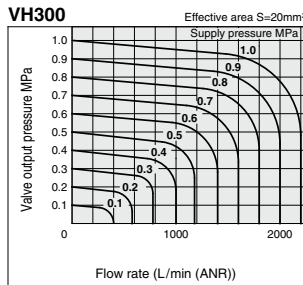
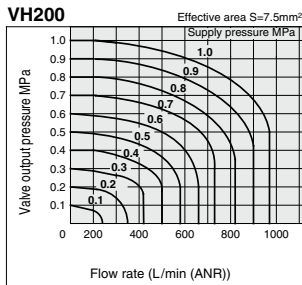


Series	Port size Rc	Number of positions	Piping direction	Model		Flow characteristics						Weight (kg)
				Body mount	Panel mount	1(P)→2(A)/4(B)			2(A)/4(B)→3(R)			
						C <sub>d</sub> (m <sup>3</sup> /s/bar)	b	Port(Cv)	C <sub>d</sub> (m <sup>3</sup> /s/bar)	b	Port(Cv)	
VH2	1/4	3 (Closed center)		VH200-02	VH210-02	2.4	0.25	0.55	2.4	0.25	0.55	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	5.4(1/4)	0.25	1.25(1/4)	5.4(1/4)	0.25	1.25(1/4)	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	4.5(1/4)	0.2	1.1(1/4)	4.5(1/4)	0.2	1.1(1/4)	
		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	14.3(1/4)	0.25	3.4(1/4)	14.3(1/4)	0.25	3.4(1/4)	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	11.9(1/4)	0.2	2.9(1/4)	11.9(1/4)	0.2	2.9(1/4)	
		3 (Exhaust center)		VH421-02 to 06	VH431-02 to 06							
		2 (Position)		VH422-02 to 06	VH432-02a to 06							
VH6	3/4, 1	3 (Closed center)		VH600-06/10	—	58.8(3/4)	0.25	14(3/4)	58.8(3/4)	0.25	14(3/4)	9.7
		3 (Exhaust center)		VH601-06/10								
		2 (Position)		VH602-06/10								

## How to Order



## Flow Characteristics

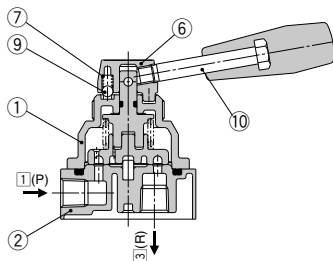
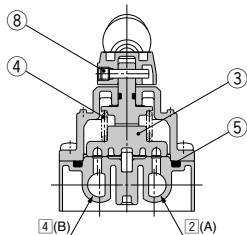


VM  
VMG  
VR  
VR51  
VHK  
VH  
VHS □  
VHS

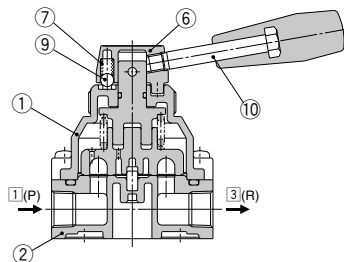
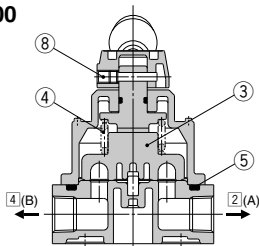
# Series VH

## Construction

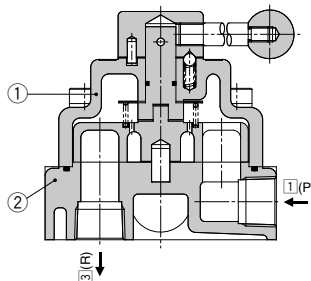
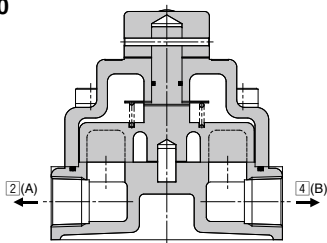
### VH200



### 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

Description	No.	Component parts	Material	Part no.		
				VH200	VH300	VH400
Maintenance and repair kit*	3	Slide ring	Resin	KT-VH2□□-N	KT-VH3□□-N	KT-VH4□□-N
	4	Slide ring spring	Piano wire			
	5	O-ring	NBR			
Handle head assembly*	6	Handle head	Zinc alloy	24403A	24413A	24413A
	7	Spring	Piano wire			
	8	Pin	Structural steel			
	9	Steel ball	SUJ			
	10	Handle	—			
Handle head assembly*	6	Handle head	Zinc alloy	244036A	244125A	244125A
	7	Spring	Piano wire			
	8	Pin	Structural steel			
	9	Steel ball	SUJ			
	10	Handle	—			
Handle	10	Standard	—	244032	244032	244032
		Long type	—	—	244127	244223
		Red	—	244035	244035	244035

Note) Replacement parts for the VH600 series are not available.

\* Including grease.

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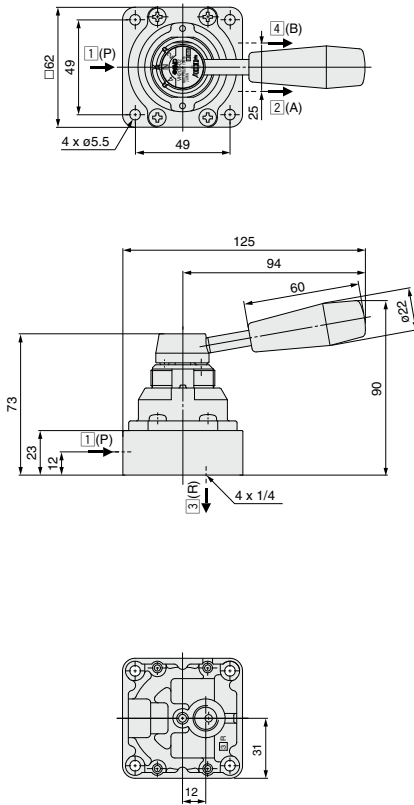
## Part No. of Lock Nut for Panel Mount

Series	Part no.
VH200	244010
VH300	24418
VH400	240258

Note) Not applicable to the VH600 series.

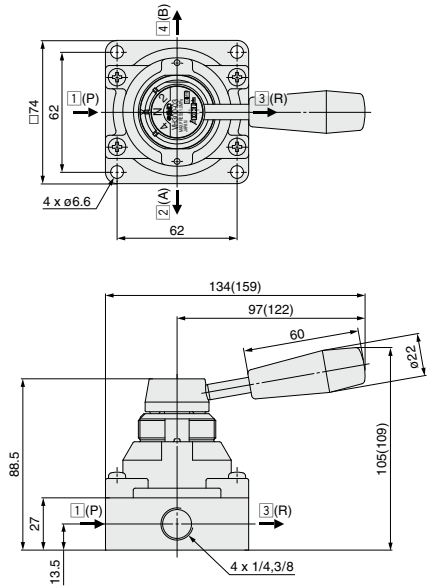
**Dimensions: Body Mount**

**VH20□-02**

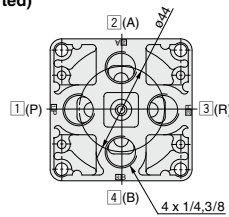


**VH30□-02/03**

( ): Long handle type



**VH32□-02/03**  
(Bottom ported)



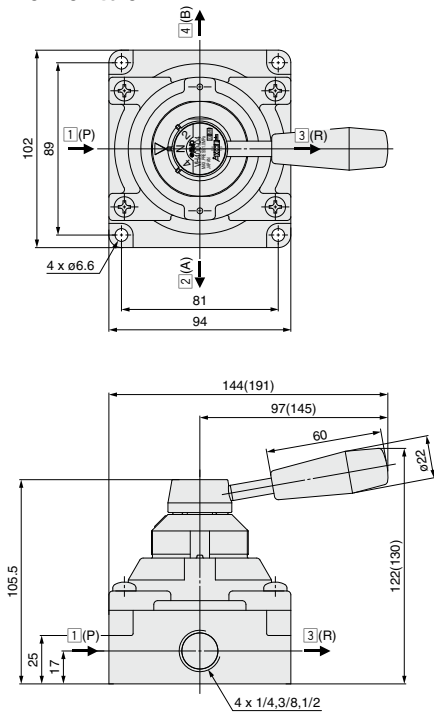
- VM
- VMG
- VR
- VR51
- VHK
- VH**
- VHS□
- VHS

# Series VH

## Dimensions: Body Mount

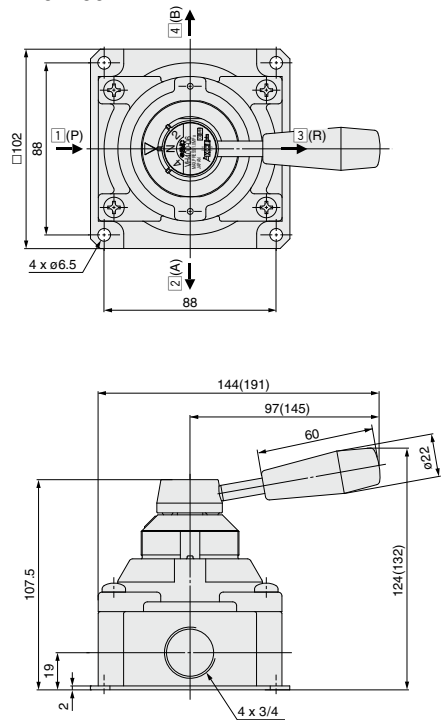
### VH40□-02 to 04

( ): Long handle type

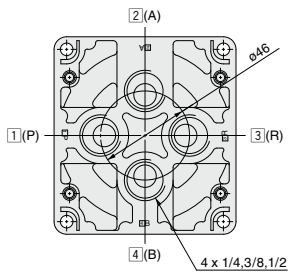


### VH40□-06

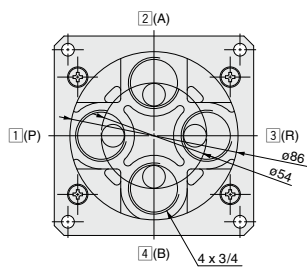
( ): Long handle type



### VH42□-02 to 04 (Bottom ported)

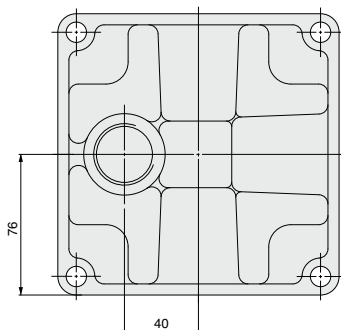
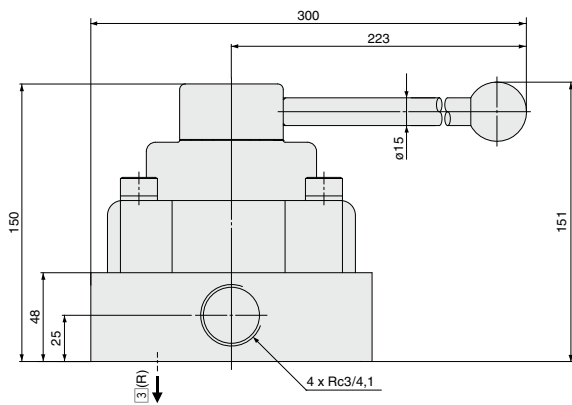
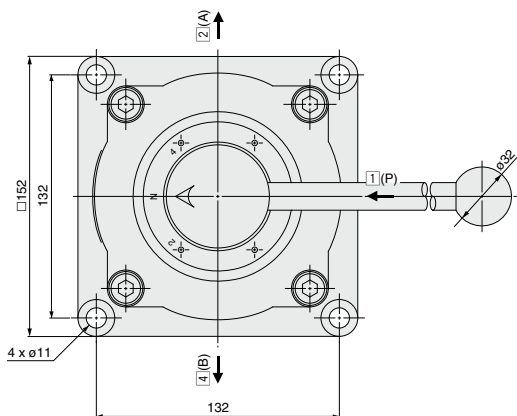


### VH42□-06 (Bottom ported)



**Dimensions: Body Mount**

VH600-06/10

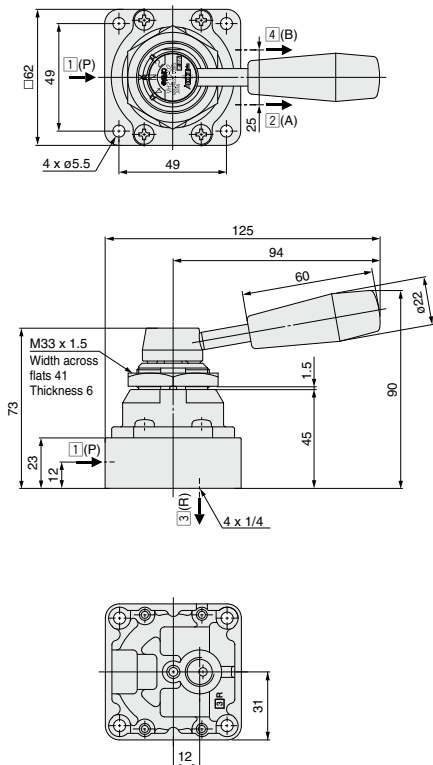


- VM
- VMG
- VR
- VR51
- VHK
- VH**
- VHS□
- VHS

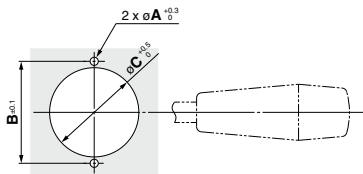
# Series VH

## Dimensions: Panel Mount

### VH21□-02



### Panel cut dimension

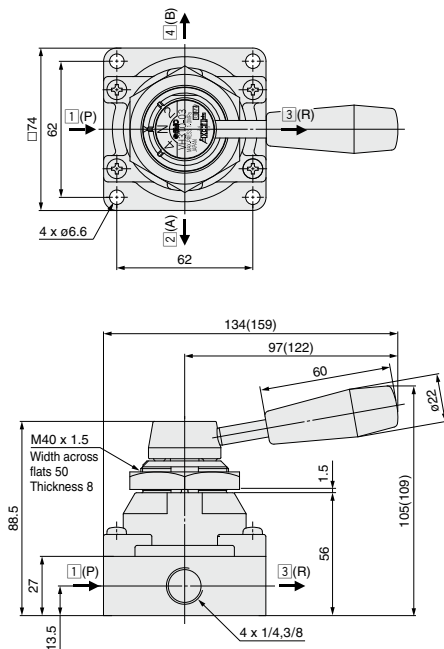


Max. panel thickness D

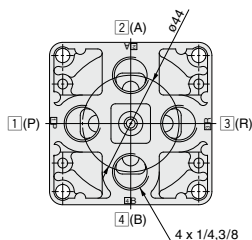
	(mm)			
	A	B	C	D
VH200	3.2	40	35	3.5
VH300	3.2	51	41	6
VH400	3.2	64	51	8

### VH31□-02/03

( ): Long handle type



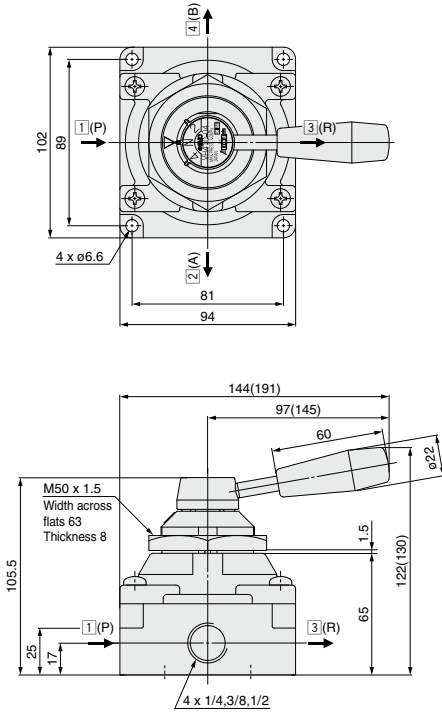
### VH33□-02/03 (Bottom ported)



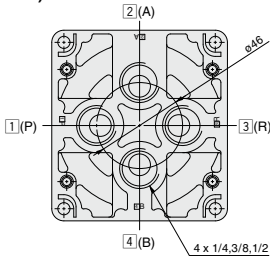
**Dimensions: Panel Mount**

**VH41□-02 to 04**

( ): Long handle type

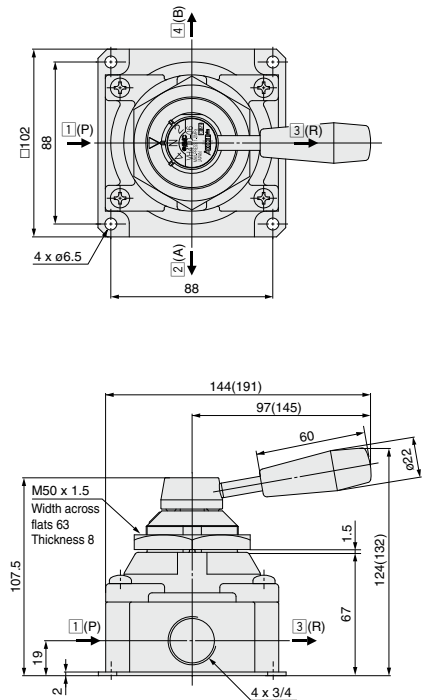


**VH43□-02 to 04**  
(Bottom ported)

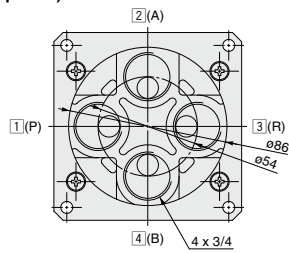


**VH41□-06**

( ): Long handle type



**VH43□-06**  
(Bottom ported)



- VM
- VMG
- VR
- VR51
- VHK
- VH**
- VHS□
- VHS





## Series VH

# Specific Product Precautions

Be sure to read before handling.

Refer to front matter 53 for Safety Instructions and pages 3 to 8 for 3/4/5 Port Solenoid Valve Precautions.

### Design

#### Warning

- 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 negative pressure.**  
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

#### Warning

- 1. Intermediate stop**  
When stopping the cylinder piston in the middle using the 3 position closed center valve, it is not possible to stop it correctly and precisely as the hydraulic equipment due to the air compressibility. Do not use this valve because it has slight air leakage and can not hold a stopping position. When it is necessary to hold a stopping position, select an equipment to prevent displacement and design the circuit.

#### 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.
- 3. Switch the valve by hand**  
If a hammer or other tools are used, or it is operated mechanically through the use of a cylinder or the like, damage could result.

### 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.

### Environment

#### Warning

- 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 air leakage.**