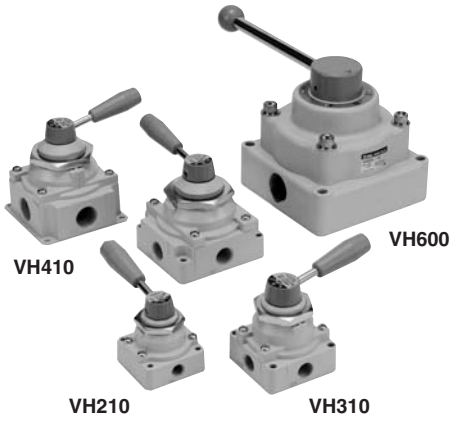
Hand Valve

Series VH



Specifications

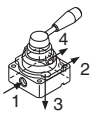
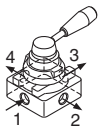
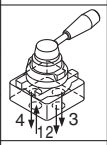
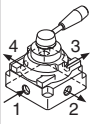
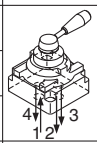
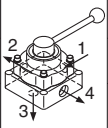
Fluid		Air
Proof pressure		1.5 MPa
Max. operating pressure	**VH200/300/400**	1.0 MPa
	VH600	0.7 MPa
Ambient temperature and operating fluid temperature		-5 to 60 °C (No freezing)
Operating angle		90°
Lubrication		Not required (Use turbine oil Class 1 ISO VG32, if lubricated.)

Semi-standard

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

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

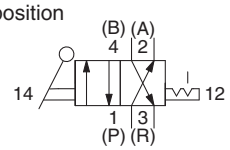
Model

Series	Port size Rc	Number of positions	Piping direction	Model: Body mount	Model: Panel mount	Flow characteristics: 1(P)→2(A)/4(B), 2(A)/4(B)→3(R) C[dm³/(s·bar)]	b	Port(Cv)	Q [l/min(ANR)]*	Weight (kg)
VH2	1/4	3 (Closed center)		VH200-02	VH210-02	2.4	0.25	0.55	592	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)	1332	0.71
		3 (Exhaust center)		VH301-02/03	VH311-02/03					
		2 (Position)		VH302-02/03	VH312-02/03	6.4(3/8)		1.5(3/8)	1578	
		3 (Closed center)		VH320-02/03	VH330-02/03	4.5(1/4)	0.2	1.1(1/4)	1078	
		3 (Exhaust center)		VH321-02/03	VH331-02/03					
		2 (Position)		VH322-02/03	VH332-02/03	5.3(3/8)		1.3(3/8)	1270	
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)	3526	1.28
		3 (Exhaust center)		VH401-02 to 06	VH411-02 to 06	15.6(3/8)		3.8(3/8)	3847	
		2 (Position)		VH402-02 to 06	VH412-02 to 06	17.5(1/2)		4.3(1/2)	4315	
		3 (Closed center)		VH420-02 to 06	VH430-02 to 06	18.4(3/4)		4.5(3/4)	4537	
		3 (Exhaust center)		VH421-02 to 06	VH431-02 to 06	11.9(1/4)	0.2	2.9(1/4)	2850	
		2 (Position)		VH422-02 to 06	VH432-02a to 06	13.0(3/8)		3.1(3/8)	3114	
						14.6(1/2)		3.5(1/2)	3497	
						15.4(3/4)		3.7(3/4)	3689	
VH6	3/4, 1	3 (Closed center)		VH600-06/10	—	58.8(3/4)	0.25	14(3/4)	14499	9.7
		3 (Exhaust center)		VH601-06/10						
		2 (Position)		VH602-06/10		61.6(1)		15(1)	15189	

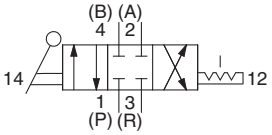
* These values have been calculated according to ISO 6358 and indicate the flow rate under standard conditions with an inlet pressure of 0.6 MPa (relative pressure) and a pressure drop of 0.1 MPa.

Symbol

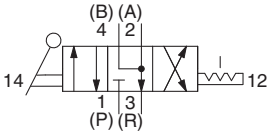
2 position



Closed center

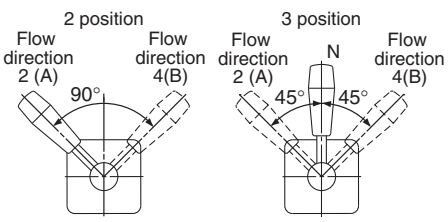


Exhaust center



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 mount
2	Bottom	Body
3	Bottom	Panel mount

Note) Only side piping is available for VH200 and VH600 and 3(R) port is located on the bottom.

Function

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

Thread type

—	Rc
F	NPT
N	G

Port size (Nominal size)

Symbol	Port size (Nominal size)	Applicable body size
02	1/4	2, 3, 4
03	3/8	3, 4
04	1/2	4
06	3/4	4, 6
10	1	6

Suffix symbol

—	Standard
L	Long handle (Applicable to VH300/400)
R	Handle position 180° change

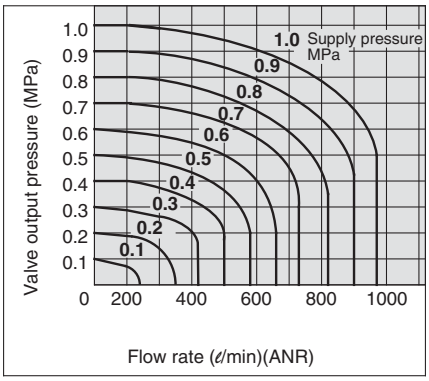
∗ When specifying more than one option, indicate symbols alphabetically.

Made to Order

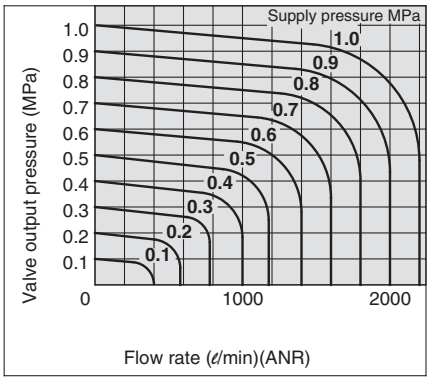
—	Standard
X116	Handle (Red)

Flow Characterisitics

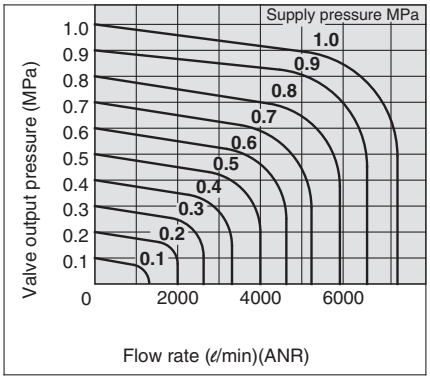
VH200



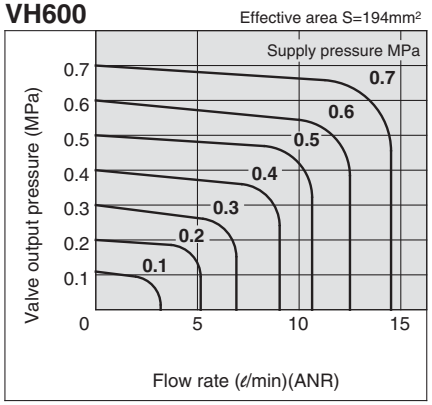
VH300



VH400

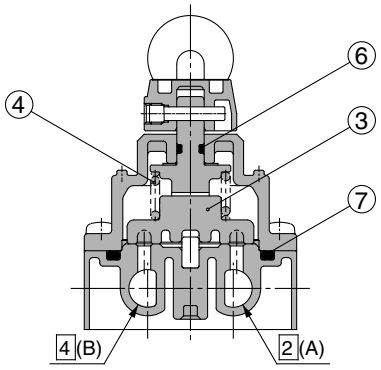


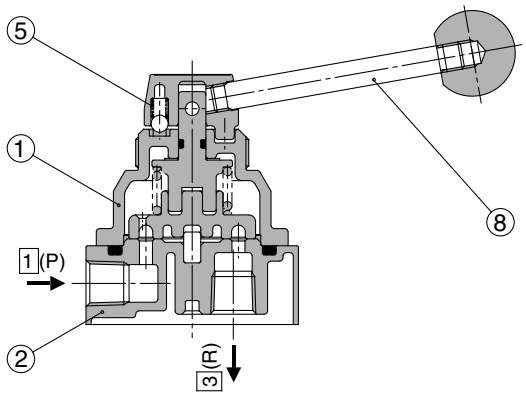
VH600



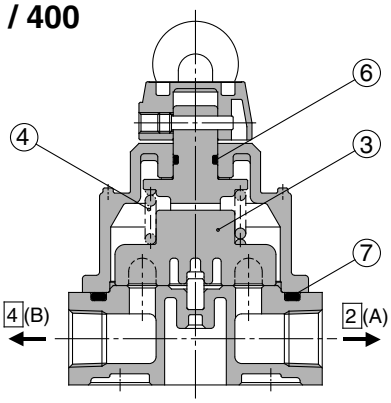
Construction

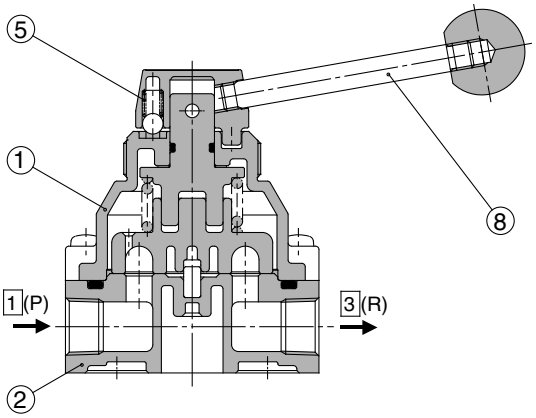
VH200



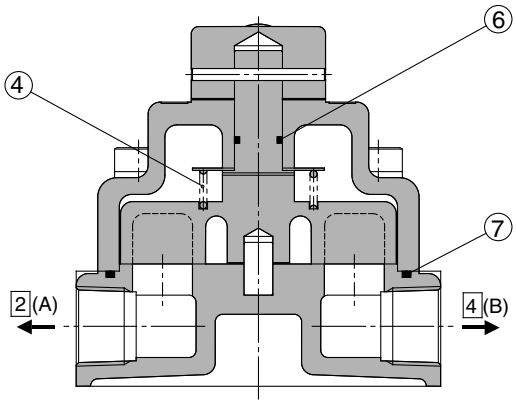


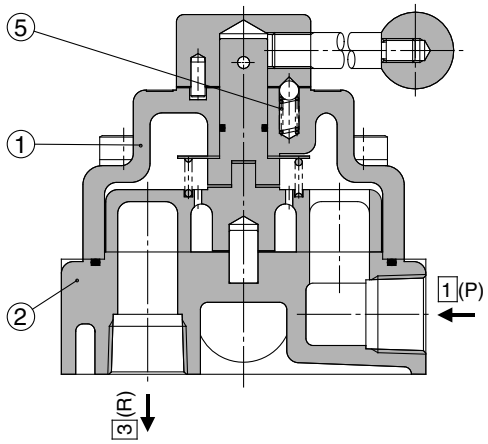
VH300 / 400





VH600





Component Parts

No.	Description	Material	
		VH200/300/400	
1	**Cover**	Zinc die cast	**VH600**
2	**Body**	Aluminium die cast	Cast iron

Replacement Parts: Seal Kits

No.	Description	Material	Part No.			
			VH200	**VH300**	**VH400**	**VH600**
3	**Slide ring**	Resin	24404 (24404-1)	24414 (24414-1)	24423 (24423-1)	———
4	**Slide ring spring**	Piano wire	24408	24416	24425	240417
5	**Slide ball spring**	Piano wire	24077	240359	240359	24047
6	**O ring**	NBR	JIS B2401 P5	JIS B2401 P10	JIS B2401 P10	JIS B2401 P15
7	**O ring**	NBR	JIS B2401 P42	JIS B2401 G55	JIS B2401 P71	JIS B2401 G120
8	**Handle rod assembly**	———	2407102A	2407102A	2407102A	———

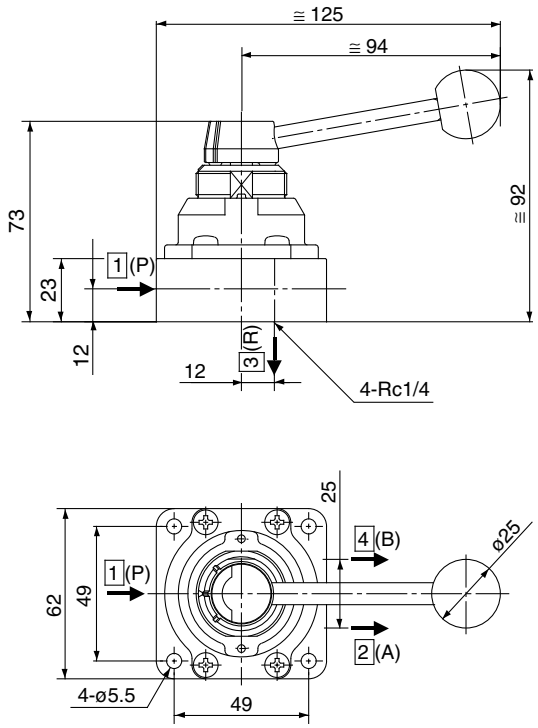
∗( ): Exhaust center

Part No. of lock nut for panel mount

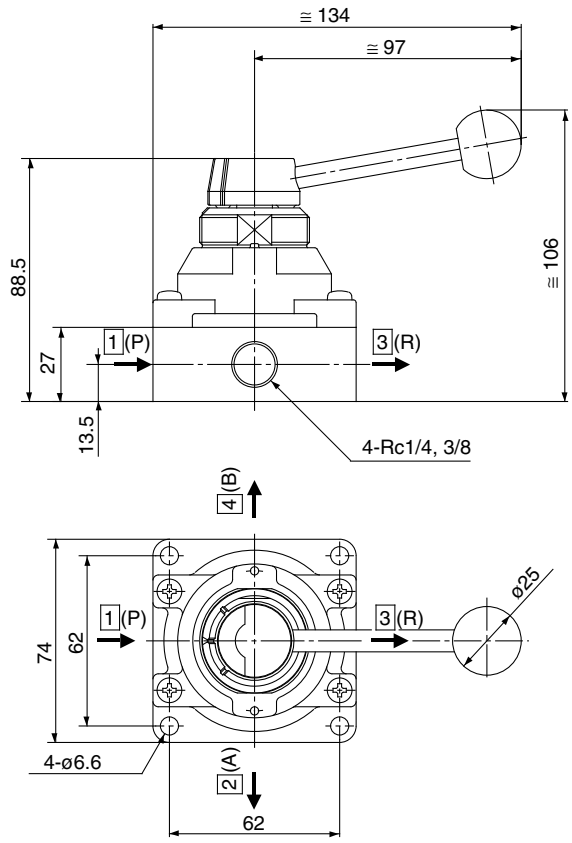
Series	Part No.
VH200	244010
VH300	24418
VH400	240258

Body Mounted/Dimensions

VH20□-02

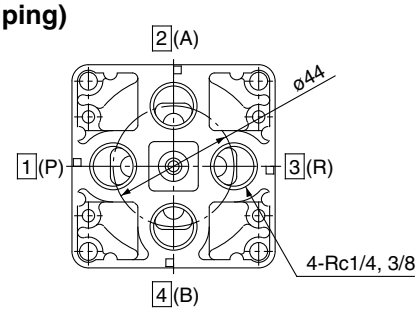


VH30□-02 to 03



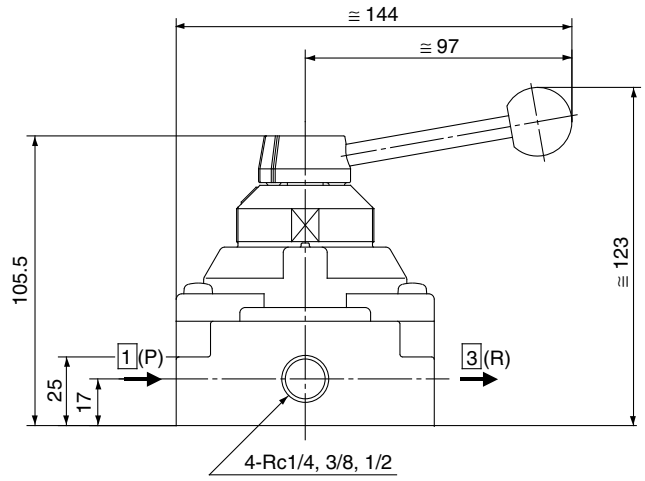
VH32□-02 to 03

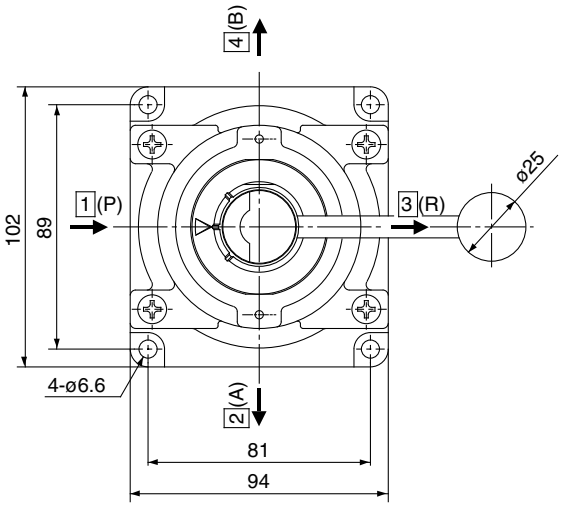
(Bottom piping)



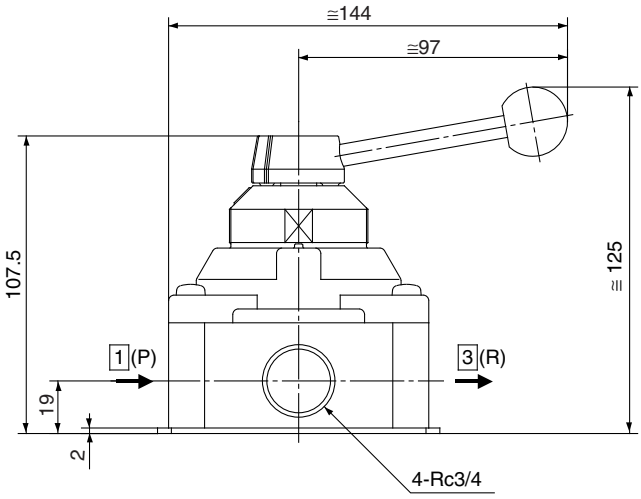
Body Mounted/Dimensions

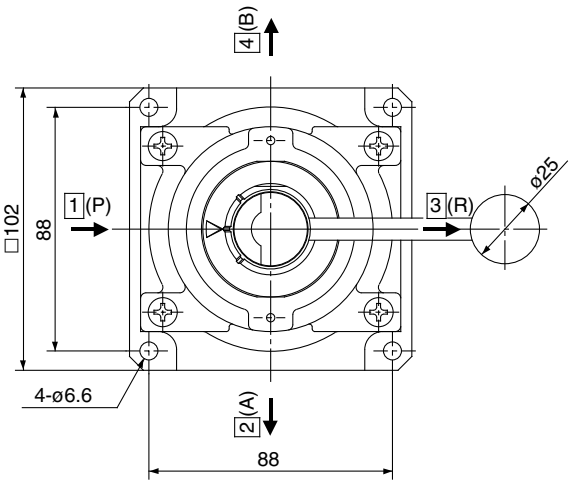
VH40□-02 to 04



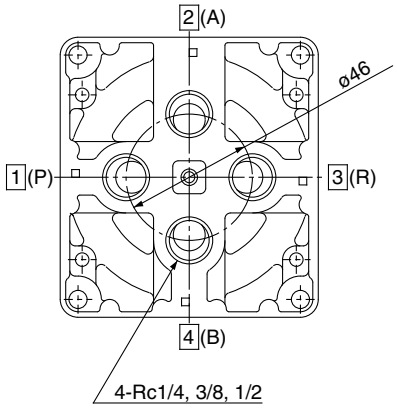


VH40□-06

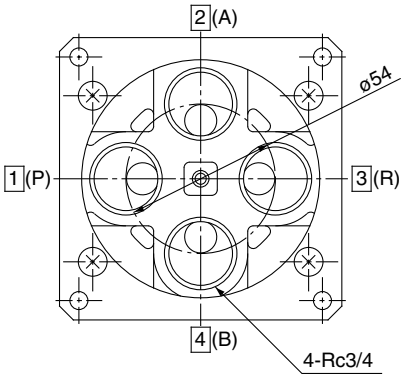




VH42□-02 to 04
(Bottom piping)

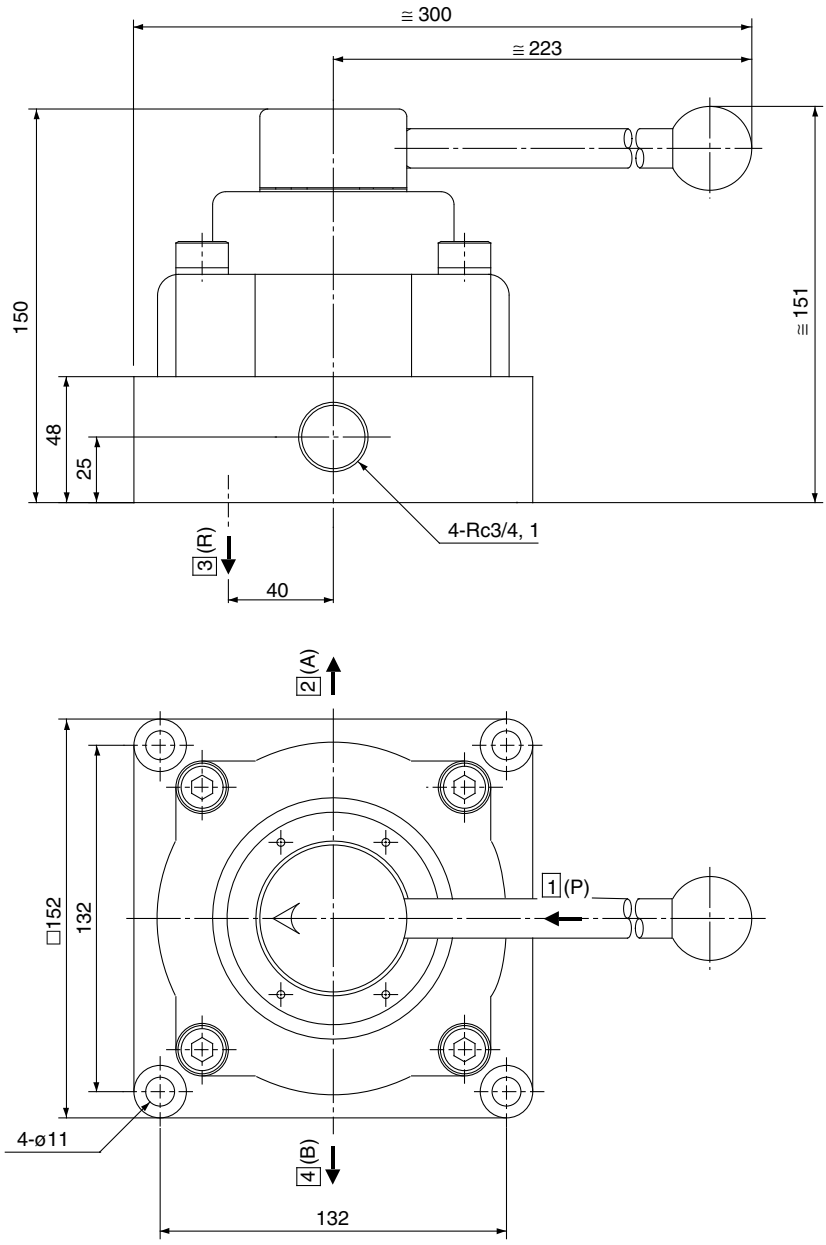


VH42□-06
(Bottom piping)



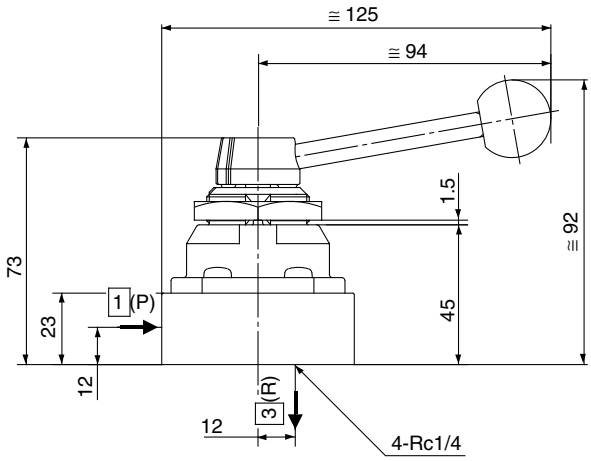
Body Mounted/Dimensions

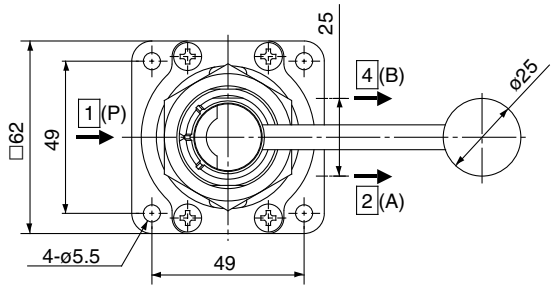
VH600-06/10



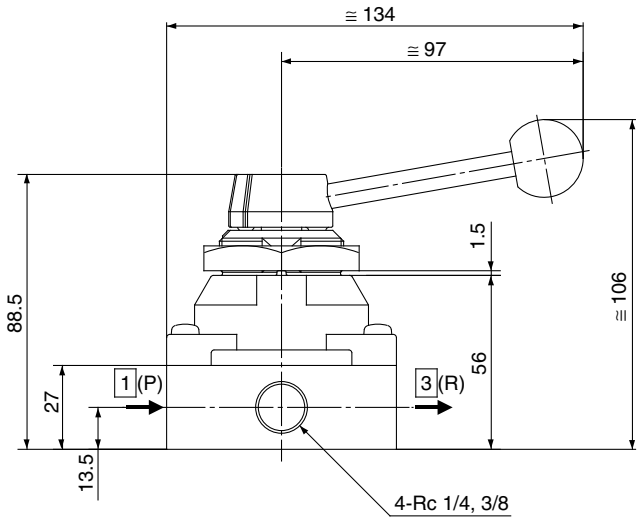
Panel Mounted/Dimensions

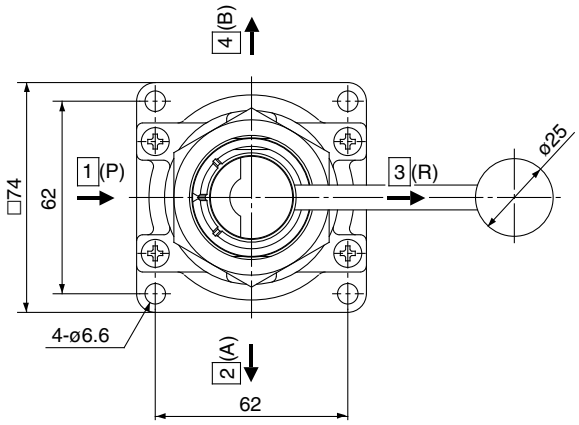
VH21□-02



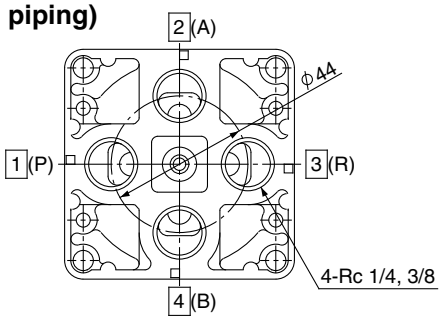


VH31□-02 to 03

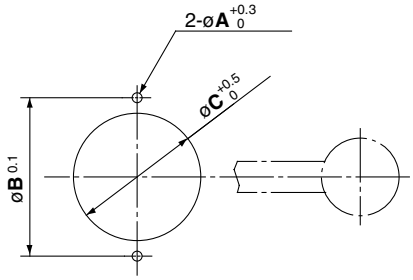




VH33□-02 to 03
(Bottom piping)



Panel cut dimension



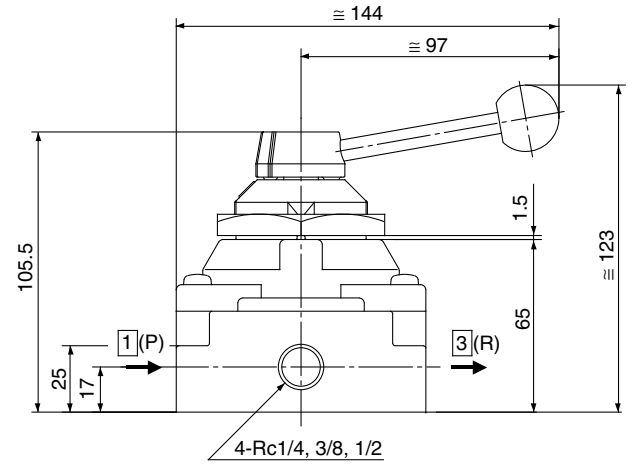
Max. panel thickness D

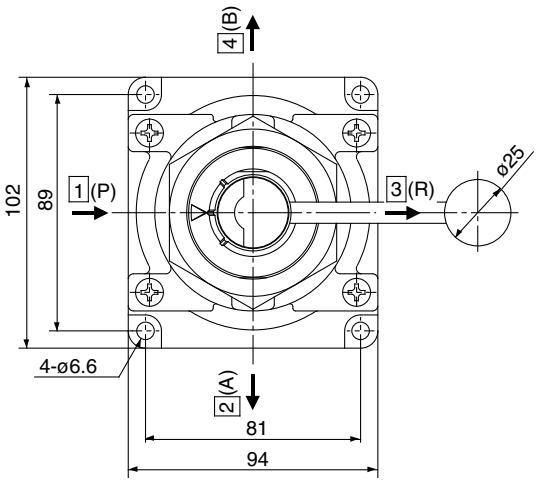
(mm)

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

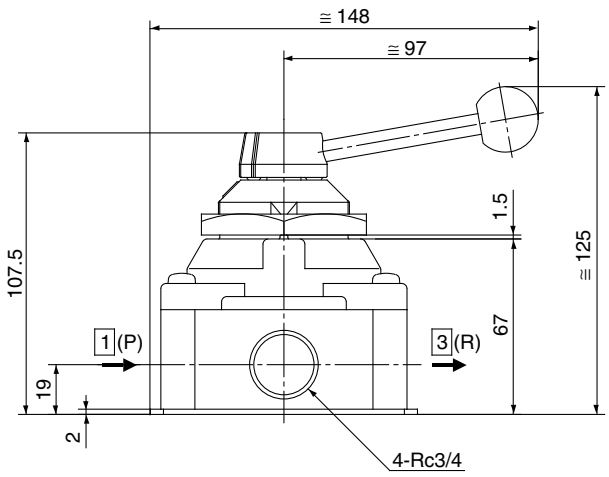
Panel Mounted/Dimensions

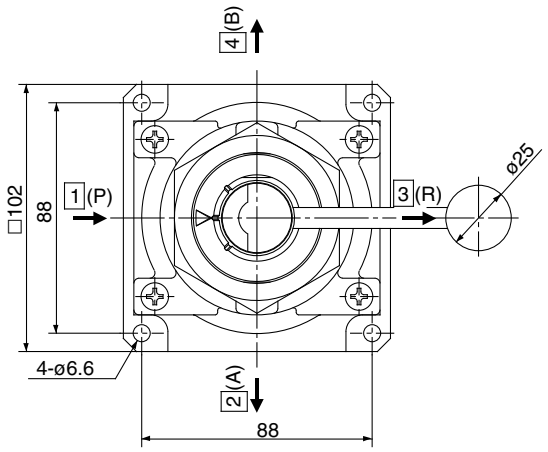
VH41□-02 to 04



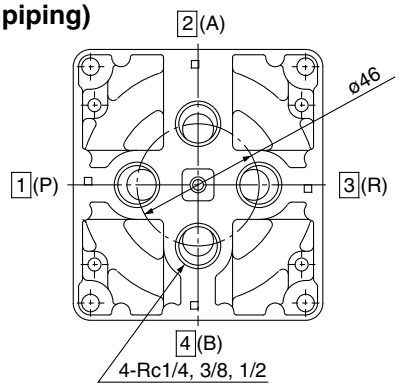


VH41□-06

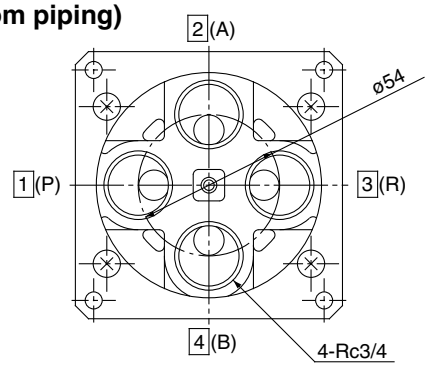




VH43□-02 to 04
(Bottom piping)



VH43□-06
(Bottom piping)



⚠ 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 vaccum applications.**
The valve can malfunction due to air leakage.

③ **Do not supply air pressure from other ports than 1(P) port.**
The valve may have air leakage when air 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**
To stop the valve midway can cause malfunction.
Switch the valve to each position quickly and firmly.

Piping

⚠ Caution

① **Ensure connection so that air is supplied to the port "1(P)"**
Valve may have air leakage when air pressure is supplied from other ports.

② **Note that in case of the option of different "1(P)" porting position, porting indication on the body and flow direction by handle operation are reversed.**

Environment

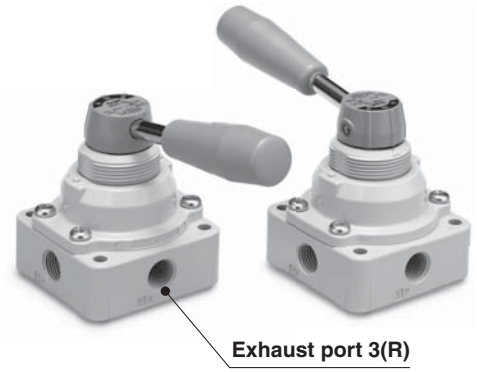
⚠ Warning

① **When the valve is installed in an atmosphere where there is a lot of dust, install a silencer into the port "3(R)".**
When dust enters the valve from the port "3(R), it may cause malfunction.

Hand Valve

Series VH24/25

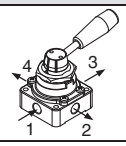
RoHS



Standard Specifications

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

Model

Series	Port size	Number of positions	Piping direction	Model		Flow rate characteristics				Weight [kg]
				Body mount	Panel mount	1(P) → 2(A)/4(B), 2(A)/4(B) → 3(R)				
						C [dm³/(s·bar)]	b	Port [Cv]	Q [l/min(ANR)] *	
VH2	1/4	3 (Closed centre)		VH240-02	VH250-02	2.4	0.25	0.55	592	0.42
		3 (Exhaust centre)		VH241-02	VH251-02					
		2 (Position)		VH242-02	VH252-02					

* These values have been calculated according to ISO 6358 and indicate the flow rate under standard conditions with an inlet pressure of 0.6 MPa (relative pressure) and a pressure drop of 0.1 MPa.

Specifications and models other than those shown above are the same as the standard product. For details, refer to the catalogue **on www.smc.eu**.

How to Order

VH 2 4 1 – □ 02 – □ – □

Body size

2	1/4 base

Piping/Mounting

Symbol	Piping	Mounting method	3(R) port direction
4	Side	Body	Side
5	Side	Panel mount	Side

Function

0	3-position closed centre
1	3-position exhaust centre
2	2-position

Thread type

—	Rc
N	NPT
F	G

Port size

Symbol	Port size
02	1/4

Suffix symbol

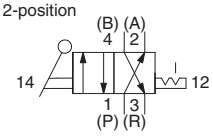
Symbol	Description
—	Standard
R	Handle position 180°

Made to order

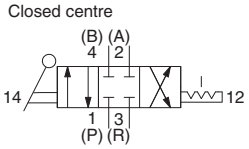
—	Standard
X116	Handle (Red)

Symbol

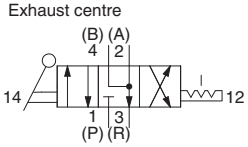
2-position



Closed centre

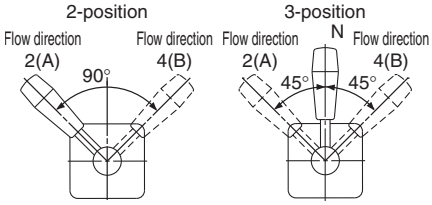


Exhaust centre



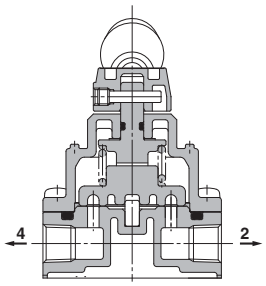
Handle Operation Angle and Air Flow Direction

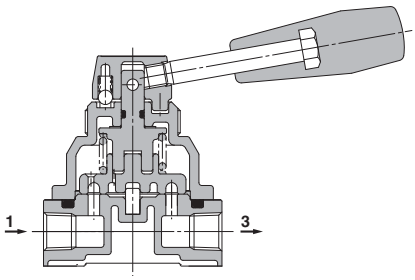
(Refer to the figure of piping direction in the table above.)



Construction

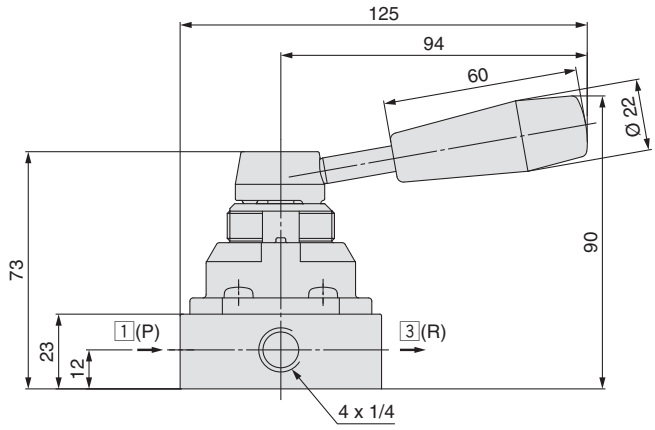
VH24/25

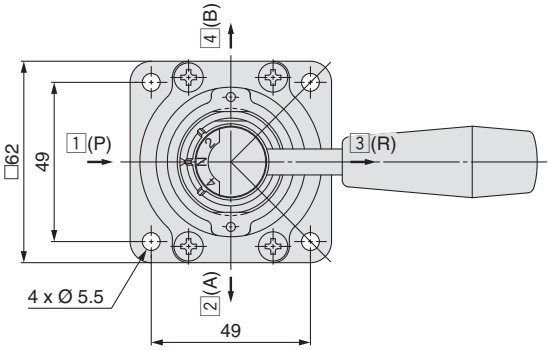




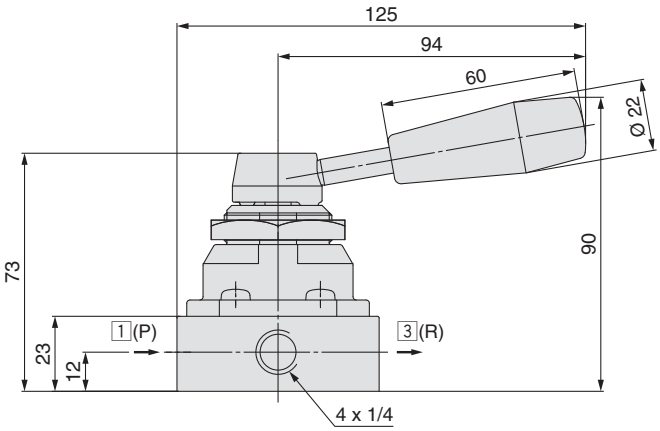
Dimensions

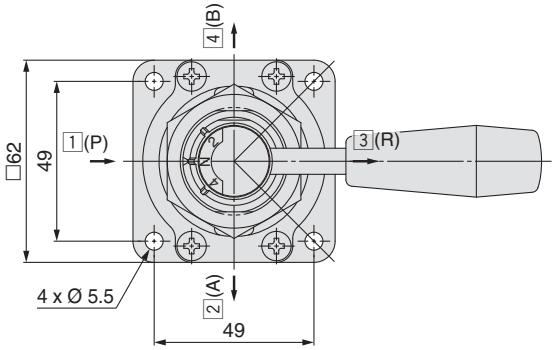
Body mount
VH24□-02



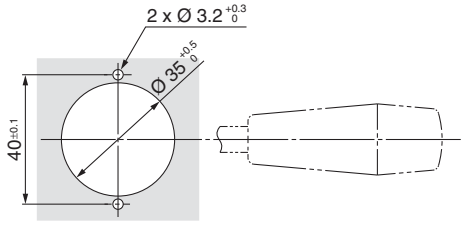


Panel mount
VH25□-02





Panel cut dimension



Max. panel thickness 3.5