

V3SAP and V3SBP Series

Flanged Globe Valves, 3-Port

Description

High quality globe valve, used for water side control of air handling units and heating HVAC systems.

Suitable in for closed and open hot-and cold-water HVAC systems from -25...130°C.

Valve sizes DN15 to DN150 with Kvs value 4...350m³/h.

Flange Type ISO 7005-2.

Body material Ductile Iron QT450-10 .

Operational Pressure V3SAP... PN16 and V3SBP... PN25.

Low Leakage Rate.



Order Code	Size	Kvs Value	Order Code	Size	Kvs Value
• V3SAP.15_4	DN15	4m ³ /h	• V3SBP.15_4	DN15	4m ³ /h
• V3SAP.20_6.3	DN20	6.3 m ³ /h	• V3SBP.20_6.3	DN20	6.3 m ³ /h
• V3SAP.25_10	DN25	10 m ³ /h	• V3SBP.25_10	DN25	10 m ³ /h
• V3SAP.32_16	DN32	16 m ³ /h	• V3SBP.32_16	DN32	16 m ³ /h
• V3SAP.40_25	DN40	25 m ³ /h	• V3SBP.40_25	DN40	25 m ³ /h
• V3SAP.50_40	DN50	40 m ³ /h	• V3SBP.50_40	DN50	40 m ³ /h
• V3SAP.65_63	DN65	63 m ³ /h	• V3SBP.65_63	DN65	63 m ³ /h
• V3SAP.80_100	DN80	100 m ³ /h	• V3SBP.80_100	DN80	100 m ³ /h
• V3SAP.100_160	DN100	160 m ³ /h	• V3SBP.100_160	DN100	160 m ³ /h
• V3SAP.125_250	DN125	250 m ³ /h	• V3SBP.125_250	DN125	250 m ³ /h
• V3SAP.150_350	DN150	350 m ³ /h	• V3SBP.150_350	DN150	350 m ³ /h

General data

Technical data

Fluid	Cold and hot water with up to 50% vol.glycol
Fluid temperature	-25...130°C
Operational Pressure rating	V3SAP...PN16 V3SBP...PN25
Flow characteristic	A-AB: equal-percentage, B-AB: equal-linear
Stroke	See page 6
Rangeability	>100:1
Flange connection	Flanged (ISO 7005-2)
Leakage Rate 3-Port	A-AB: ≤0.01% kvs; B-AB: ≤0.02% kvs
Life Cycles	Min. 100,000
Service	Maintenance free

Material

Body	Ductile Iron QT450-10
Stem	Stainless Steel
Valve Core	Stainless Steel
Seat	PTFE

Functional data

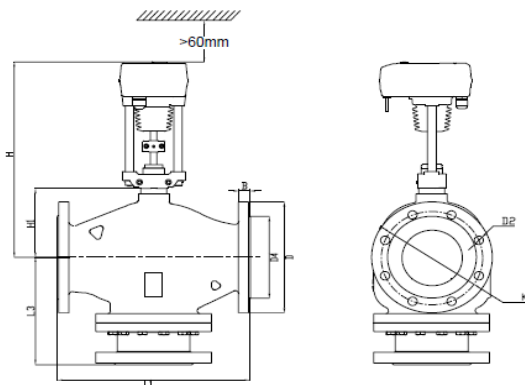
Application	Water
Installation places	Plant Rooms of Spaces

Security Notes / Disposal Notes

The valve has been designed for use in heating, ventilation and air conditioning systems.
The device is not allowed to be used outside the specified field of application, especially in airplanes.

It may only be installed by suitably trained personnel. Any legal regulations or regulations issued by authorities must be observed during assembly. When determining the flow characteristic, the accepted directives must be observed.
The device is not allowed to be disposed of as household refuse. All locally valid regulations and requirements must be observed.

Dimensions 3-Port



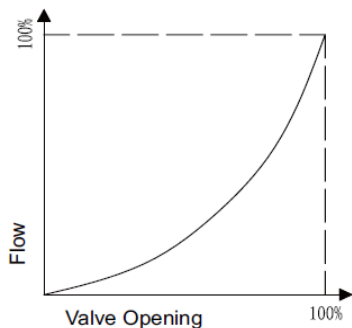
Dimension Figure for PN16 Series

DN	B (mm)	D (mm)	D2 (mm)	D4 (mm)	K (mm)	L1 (mm)	L3 (mm)	H1 (mm)	N.W. kg
DN15	14	95	4-14	46	65	130	106	41	4
DN20	16	105	4-14	56	75	150	106	46	5
DN25	16	115	4-14	65	85	160	111	48	7
DN32	18	140	4-19	76	100	180	121	59	8.5
DN40	18	150	4-19	84	110	200	122	50	10.5
DN50	20	165	4-19	99	125	230	136	60	14
DN65	20	185	4-19	118	145	290	156	90	21
DN80	22	200	8-19	132	160	310	185	120	30
DN100	23	220	8-19	156	180	350	202	164	41
DN125	24	250	8-19	184	210	400	240	157	55.5
DN150	25	285	8-23	211	240	480	270	171	74.5

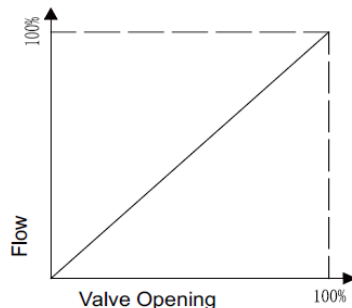
Dimension Figure for PN25 Series

DN	B (mm)	D (mm)	D2 (mm)	D4 (mm)	K (mm)	L1 (mm)	L3 (mm)	H1 (mm)	N.W. kg
DN15	14	95	4-14	46	65	130	70	41	3.5
DN20	16	105	4-14	56	75	150	106	46	5
DN25	16	115	4-14	65	85	160	111	48	7
DN32	18	140	4-19	76	100	180	121	59	8.5
DN40	18	150	4-19	84	110	200	122	50	10.5
DN50	20	165	4-19	99	125	230	136	60	14
DN65	20	185	8-19	118	145	290	156	90	21
DN80	22	200	8-19	132	160	310	185	120	30
DN100	23	235	8-23	156	190	350	202	164	41
DN125	24	270	8-28	184	220	400	240	157	55.5
DN150	25	300	8-28	211	250	480	270	171	74.5

Flow Characteristics



A-AB Equal-percentage Flow Characteristic



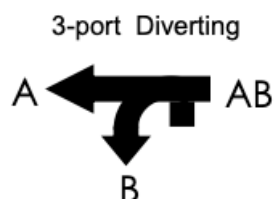
B-AB Equal-liner Flow Characteristic

$$Kvs = \frac{V}{\sqrt{\frac{\Delta P}{100}}}$$

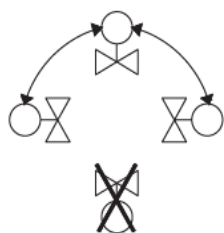
ΔP:	Differential pressure @ fully open (kPa)
V:	Flow Rating @ ΔP (m³/h)
Kvs	The Kvs value expresses the amount of flow in a regulating valve at a fully- open valve position and a pressure differential of 1 bar.

Mounting Instruction

1. Valve can be installed on the water supply pipe or return water pipe (installed on the return water pipe can control the water flow more smoothly, meanwhile the return water temperature is lower which can extend the service time of valve).
2. Filter and check valve are recommended to be installed.
3. When the medium is steam, install drain off valve in the pipe can remove the condensed water, or it will affect the service time of valve.
4. Please note that the medium flow direction in valve should be consistent with the medium of pipeline.

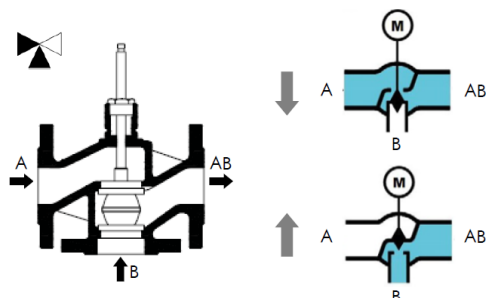


5. Please pay attention to the valve mounting orientation.



Medium is chilled/hot water
Downward installation is forbidden

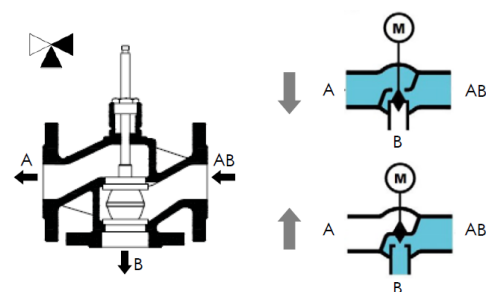
Structure Characteristic



3-Port Mixing

When actuator stem is at lower limit, the valve will be opened from A to AB and closed from B to AB.

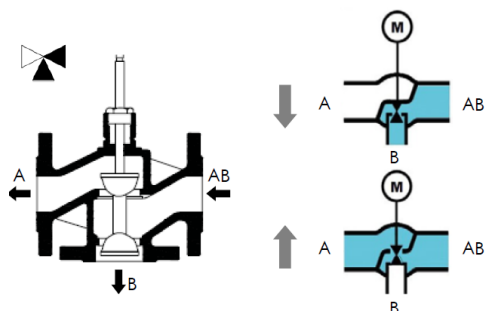
When actuator stem is at lower limit, the valve will be closed from A to AB and opened from B to AB.



3-port diverting DN15~DN65

When actuator stem is at lower limit, the valve will be opened from A to AB and closed from B to AB.

When actuator stem is at lower limit, the valve will be closed from A to AB and opened from B to AB.



3-port diverting DN80~DN150

When actuator stem is at lower limit, the valve will be closed from A to AB and opened from B to AB.

When actuator stem is at upper limit, the valve will be opened from A to AB and closed from B to AB.

Control Valve / Actuator Combinations

Control Valve (CV) for HVAC Equipment							Actuators			
Characteristic	Valve Size	Thread	Picture	Order Code	KV's Value (m³/h)	Stroke (mm)		Open/Close & Modulating Actuators		
							Fail Safe function	Non FS		
							Running Time(s)	2 - 4 s/mm		1 - 2s/mm
							Feedback signal	0...10V / 4...20mA		
							IP Rating	IP54		
							Stroke (mm)	30	50	50
							Force (N)	1000	1000	3000
							Power Supply	24 VAC/DC		
								160C-024-100	180C-024-100	180C-024-300
							Picture			
Close-Off pressure, max (MPa)										
3 - Way Valve	DN15	DN15		V3SAP.15_4 V3SBP.15_4	4	20	1.60			
	DN20	DN20		V3SAP.20_6.3 V3SBP.20_6.3	6.3		1.60			
	DN25	DN25		V3SAP.25_10 V3SBP.25_10	10		1.60			
	DN32	DN32		V3SAP.32_16 V3SBP.32_16	16		1.00			
	DN40	DN40		V3SAP.40_25 V3SBP.40_25	25	20	0.70			
	DN50	DN50		V3SAP.50_40 V3SBP.50_40	40		0.50			
	DN65	DN65		V3SAP.65_63 V3SBP.65_63	63	20	0.90			
	DN80	DN80		V3SAP.80_100 V3SBP.80_100	100	30	0.55			
	DN100	DN100		V3SAP.100_160 V3SBP.100_160	160	40	0.35			
	DN125	DN125		V3SAP.125_250 V3SBP.125_250	250		0.24			
DN150	DN150	V3SAP.150_350 V3SBP.150_350	350	0.15						