

V3SBPSV & V3SAPSV Series

Flanged Globe Valves, 3-Port for district Heating

Description

High quality globe valve, used for water side control of district heating systems.

Suitable in for closed and open hot-and cold-water HVAC systems from 2...180°C.

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

FlangeType ISO 7005-2.

Body material Ductile Iron QT450-10

Operational Pressure V3SBPSV... PN25 and V3SAPSV...PN16 .

Low Leakage Rate :



Order Code	Size/Thread	Kvs Value	Order Code	Size/Thread	Kvs Value
• V3SAPSV.32_16	DN32	16 m ³ /h	• V3SBPSV.32_16	DN32	16 m ³ /h
• V3SAPSV.40_25	DN40	25 m ³ /h	• V2SBPSV.40_25	DN40	25 m ³ /h
• V3SAPSV.50_40	DN50	40 m ³ /h	• V3SBPSV.50_40	DN50	40 m ³ /h
• V3SAPSV.65_63	DN65	63 m ³ /h	• V3SBPSV.65_63	DN65	63 m ³ /h
• V3SAPSV.80_100	DN80	100 m ³ /h	• V3SBPSV.80_100	DN80	100 m ³ /h
• V3SAPSV.100_160	DN100	160 m ³ /h	• V3SBPSV.100_160	DN100	160 m ³ /h
• V3SAPSV.125_250	DN125	250 m ³ /h	• V3SBPSV.125_250	DN125	250 m ³ /h
• V3SAPSV.150_350	DN150	350 m ³ /h	• V3SBPSV.150_350	DN150	350 m ³ /h

Technical data

General data

Fluid	Cold and hot water with up to 50% vol.glycol
Fluid temperature	2...180°C
Operational Pressure rating	V3SAPSV...PN16 V3SBPSV...PN25
Flow characteristic	A-AB: equal-percentage, B-AB: equal-linear
Stroke	see page 6
Rangeability	>100:1
Flange connection	Screw Flange (ISO 7005-2)
Leakage Rate	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

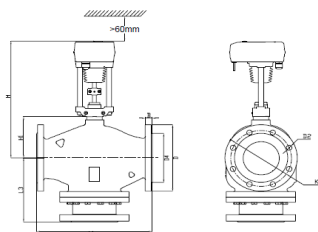
Application	Water / Steam
Installation places	Plant Rooms of Spaces

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



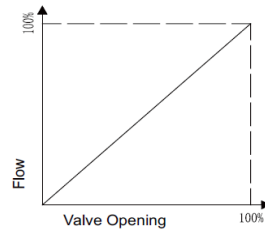
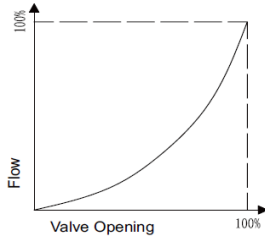
Dimension Figure for PN16 Series

DN	B (mm)	D (mm)	D2 (mm)	D4 (mm)	K (mm)	L1 (mm)	L3 (mm)	H1 (mm)	Weight kg	H 600/1000N (mm)	H 3000N (mm)
DN15	14	95	4-14	46	65	130	106	41	4	296	326
DN20	16	105	4-14	56	75	150	106	46	5	301	331
DN25	16	115	4-14	65	85	160	111	48	7	303	333
DN32	18	140	4-19	76	100	180	121	59	8.5	314	344
DN40	18	150	4-19	84	110	200	122	50	10.5	305	335
DN50	20	165	4-19	99	125	230	136	60	14	315	315
DN65	20	185	4-19	118	145	290	156	90	21	365	375
DN80	22	200	8-19	132	160	310	185	120	30	395	405
DN100	23	220	8-19	156	180	350	202	164	41	/	449
DN125	24	250	8-19	184	210	400	240	157	55.5	/	442
DN150	25	285	8-23	211	240	480	270	171	74.5	/	456
DN200	26	340	12-23	266	295	500	315	185	116	/	470
DN250	31	405	12-28	319	355	600	370	205	180	/	490
DN300	28	460	12-28	370	410	700	457	358	286	/	/
DN350	36	520	16-28	429	470	788	521	438	453	/	/

Dimension Figure for PN25 Series

DN	B (mm)	D (mm)	D2 (mm)	D4 (mm)	K (mm)	L1 (mm)	L3 (mm)	H1 (mm)	Weight kg	H 600/1000N (mm)	H 3000N (mm)
DN15	14	95	4-14	46	65	130	106	41	4	296	326
DN20	16	105	4-14	56	75	150	106	46	5	301	331
DN25	16	115	4-14	65	85	160	111	48	7	303	333
DN32	18	140	4-19	76	100	180	121	59	8.5	314	344
DN40	18	150	4-19	84	110	200	122	50	10.5	305	335
DN50	20	165	4-19	99	125	230	136	60	14	315	315
DN65	20	185	8-19	118	145	290	156	90	21	365	375
DN80	22	200	8-19	132	160	310	185	120	30	395	405
DN100	23	235	8-23	156	190	350	202	164	41	/	449
DN125	24	270	8-28	184	220	400	240	157	55.5	/	442
DN150	25	300	8-28	211	250	480	270	171	74.5	/	456
DN200	26	360	12-28	274	310	500	315	185	116	/	470
DN250	31	425	12-31	330	370	600	370	205	180	/	490
DN300	28	485	16-31	389	430	700	457	358	286	/	/
DN350	36	555	16-34	448	490	788	521	438	453	/	/

Flow Characteristics



A-AB Equal-percentage Flow Characteristic

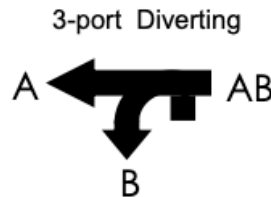
B-AB Equal-liner Flow Characteristic

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

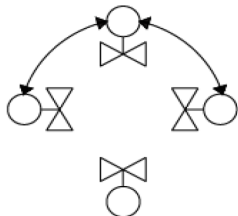
ΔP:	Differential pressure @ fully open (kPa)
V:	Flow Rating @ ΔP (m³/h)
Kvs	The Kvs value expresses the amount of flow in a regulating valve at a fully- open valve position and a pressure differential of 1 bar.

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 draw 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.

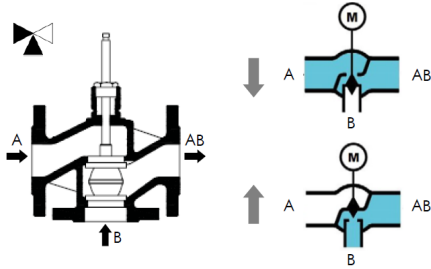


5. Please pay attention to the valve mounting orientation.



Medium is steam water
Any installation
position is OK

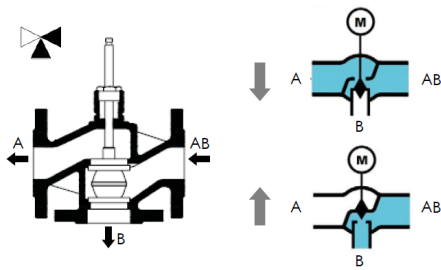
Structure Characteristic



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.

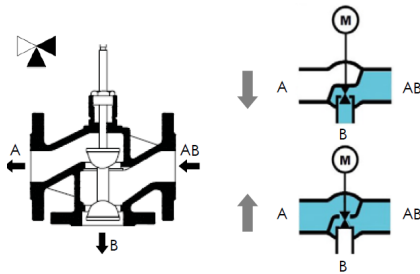
When actuator stem is at upper limit, the valve will be closed from A to AB and opened from B to AB.



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 upper 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.

Steam Valve / Actuator Combinations

Steam Valves (SV) for HVAC Equipment						Actuators			
Characteristic	Valve Size	Thread	Picture	Order Code	KV's Value (m ³ /h)	Stroke (mm)	Open/Close & Modulating Actuators		
							Fail Safe function	Non FS	
							2 - 4 s/mm	1 - 2s/mm	
							0...10V / 4...20mA		
							IP54		
							30	50	50
							1000	1000	3000
							24 VAC/DC		
							160C-024-100	180C-024-100	180C-024-300
									
							Close-Off pressure, max (MPa)		
3 - Way Valve	DN32	Screw Flanged ISO7005-2		V3SAPSV.32_16 V3SBPSV.32_16	16	20	1.00		
	DN40			V3SAPSV.40_25 V3SBPSV.40_25	25		1.00		
	DN50			V3SAPSV.50_40 V3SBPSV.50_40	40		1.00		
	DN65			V3SAPSV.65_63 V3SBPSV.65_63	63	20	1.60		
	DN80			V3SAPSV.80_100 V3SBPSV.80_100	100		1.60		
	DN100			V3SAPSV.100_160 V3SBPSV.100_160	160	1.60			
	DN125			V3SAPSV.125_250 V3SBPSV.125_250	250	40	1.60		
	DN150			V3SAPSV.150_350 V3SBPSV.150_350	350	1.60			

Copyright by GRUNER AP @2024_V1. Subject to change in technology and Design.