

LINEAR MOTORIZED VALVES

CONTROL VALVE PN6 SERIES VLF100

ESBE valves series VLF125 and VLF135 are 2-way and 3-way flanged valves for PN6, DN 20–50.



VLF125
Flange PN6

VLF135
Flange PN6

MEDIA

These valves can handle the following types of media:

- Hot and cold water.
- Water with antifreeze additives such as glycol.

If the valve is used for media at temperatures below 0°C (32°F), it should be equipped with a stem heater in order to prevent ice formation on the valve stem.

OPTION DN 20 - 50

Art. No. 26000700 _____ Adaptor kit, Siemens SQX

CONTROL VALVE DESIGNED FOR

- Heating
- Comfort Cooling
- Floor heating
- Solar heating
- Ventilation
- District Heating
- District Cooling

SUITABLE ACTUATORS

- Series ALB140
- Series ALF13x
- Series ALF26x

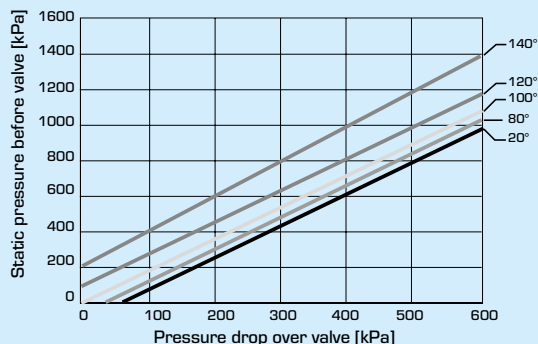
TECHNICAL DATA

Type: _____ 2- and 3-way plug valve
 Pressure class: _____ PN 6
 Flow characteristic A-AB: _____ EGM
 Flow characteristic B-AB: _____ Complementary
 Stroke: _____ 20 mm
 Rangeability Kv/Kv^{min}: _____ see table
 Leakrate A-AB: _____ Tight sealing
 Leakrate B-AB: _____ Tight sealing
 ΔP_{max}: _____ see graph
 Media temperature: _____ max. +120°C
 _____ min. -20°C
 Connection: _____ Flange, ISO 7005-2

Material

Body: _____ Nodular iron EN-JS 1030
 Stem: _____ Stainless steel SS 2346
 Plug: _____ Brass CW602N
 Seat: _____ Nodular iron EN-JS 1030
 Blind plug: _____ Brass CW602N
 Seat seal: _____ EPDM
 Packing box seal: _____ PTFE / EPDM

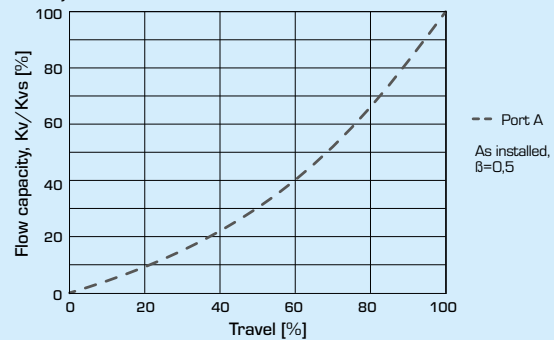
PED 2014/68/EU, article 4.3



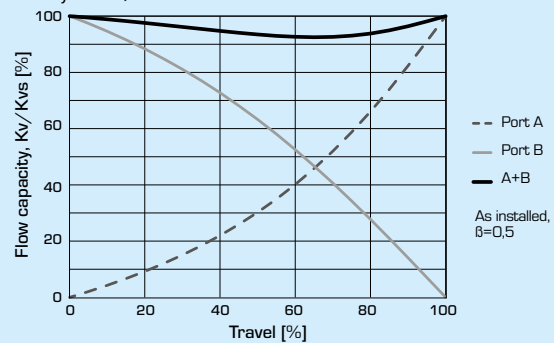
Pressure drop limit where cavitation might occur. Is dependent of valve inlet pressure and temperature of water.

VALVE CHARACTERISTICS

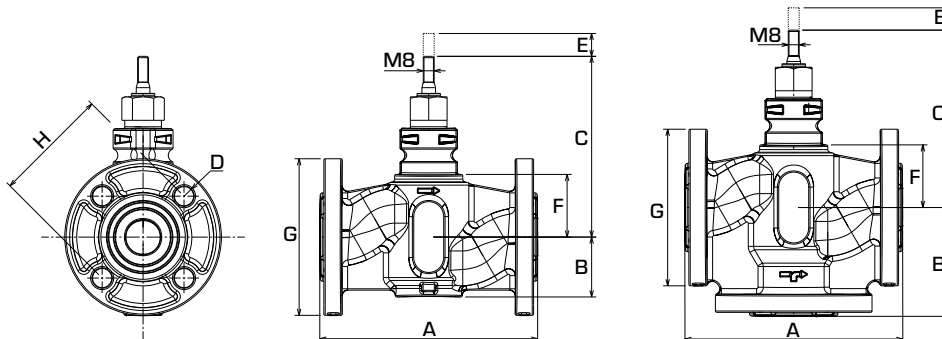
2-way valves, DN20-50



3-way valves, DN20-50



CONTROL VALVE PN6 SERIES VLF100



2-WAY CONTROL VALVE SERIES VLF125

Art. No.	Reference	DN	Kvs*	A	B	C	D	E	F	G	H	Rangeability Kv/Kv ^{min}	Weight [kg]
21000400	VLF125	20	6.3	150	44	126	4x11	20	41	90	65	>50	2.4
21000500	VLF125	25	10	160	44	131	4x11	20	46	100	75	>50	2.9
21000600	VLF125	32	16	180	58	144	4x14	20	60	120	90	>50	4.2
21000700	VLF125	40	25	200	60	146	4x14	20	61	130	100	>50	5.4
21000800	VLF125	50	38	230	74	161	4x14	20	76	140	110	>50	6.7

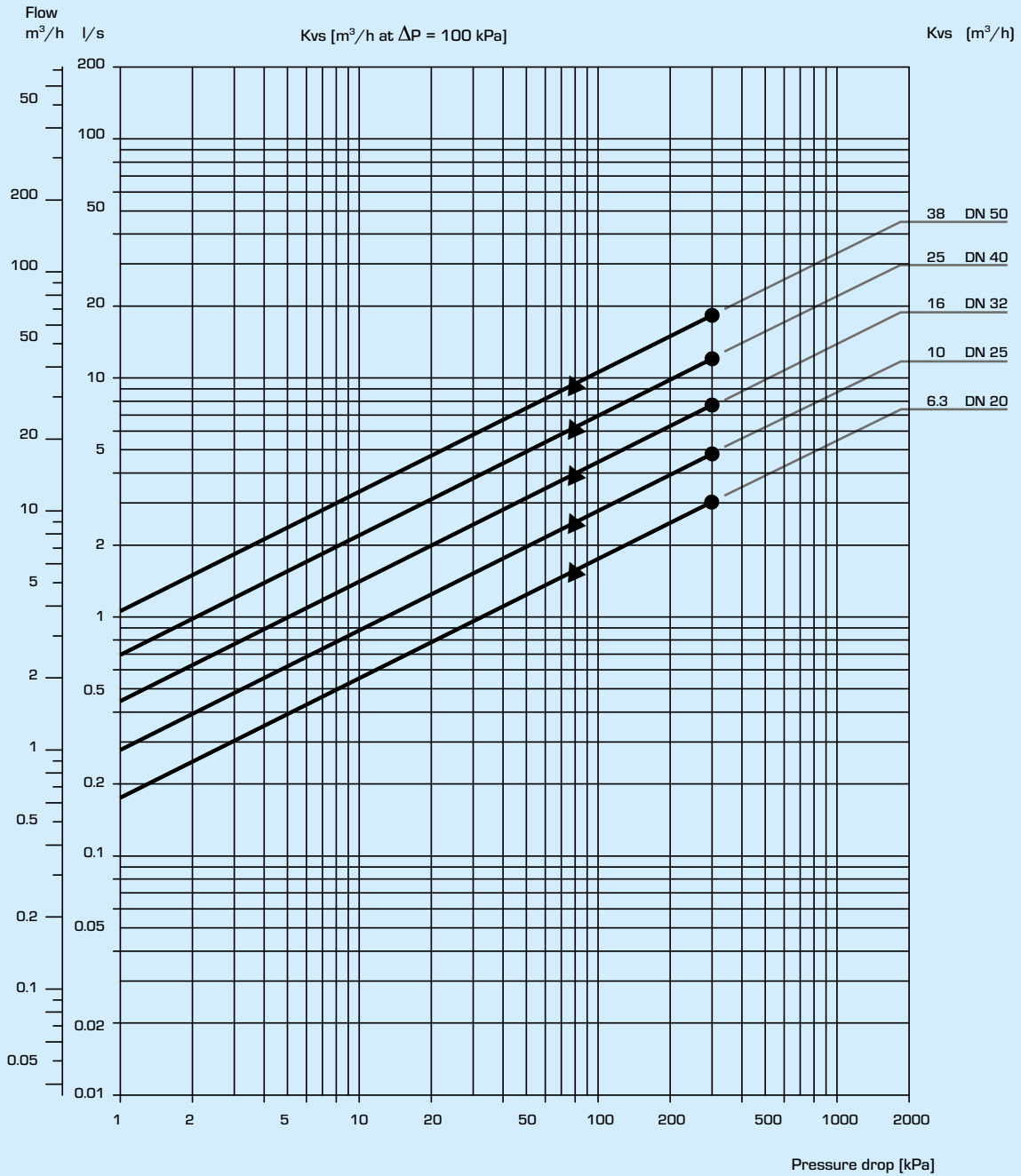
3-WAY CONTROL VALVE SERIES VLF135

Art. No.	Reference	DN	Kvs*	A	B	C	D	E	F	G	H	Rangeability Kv/Kv ^{min}	Weight [kg]
21001200	VLF135	20	6.3	150	75	126	4x11	20	41	90	65	>50	2.9
21001300	VLF135	25	10	160	80	131	4x11	20	46	100	75	>50	3.4
21001400	VLF135	32	16	180	90	144	4x14	20	60	120	90	>50	6.0
21001500	VLF135	40	25	200	100	146	4x14	20	61	130	100	>50	6.5
21001600	VLF135	50	38	230	115	161	4x14	20	76	140	110	>50	8.2

* Kvs-value in m³/h at a pressure drop of 1 bar.

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FLOW CHART



- = max differential pressure drop allowed in mixing function
- ▲ = max differential pressure drop allowed in diverting function

To be considered: As both the viscosity and the thermal conduction are affected when glycol is added to the system water, this fact has to be considered when dimensioning the valve. A good rule is to choose one size higher Kv-value when 30 - 50% glycol is added. A lower concentration of glycol may be disregarded. N.B.! Maximum 50% glycol for freezing protection and oxygen absorbing compounds are allowed as additives.

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INSTALLATION

The valve should be mounted with flow direction in accordance with the valve marking.

If possible, the valve should be installed in the return pipe, in order to avoid exposing the actuator to high temperatures.

The valve must not be installed with the actuator mounted below the valve.

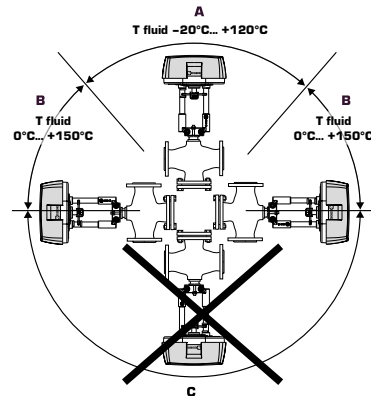
Mounting positions:

A = Allowed mounting position with fluid temperature between -20°C to +120°C.

B = Allowed mounting position with fluid temperature between 0°C to +150°C.

C = Not allowed mounting position.

To ensure that suspended solids will not become jammed between the valve plug and seat, a filter should be installed upstream of the valve, and the pipe system should be flushed before the valve is installed.



VALVE AUTHORITY [β]

Δp_v - pressure losses over the valve [bar]

Δp_{sys} - pressure losses over the system with variable flow [bar]

Δp_{inst} - pressure losses over the installation [bar]

Recommendation : Valve authority [β] shall be between 0.3 to 0.7

a) 2-way valve

$$\beta = \frac{\Delta p_v}{\Delta p_v + \Delta p_{inst}}$$

b) 3-way valve

$$\beta = \frac{\Delta p_v}{\Delta p_v + \Delta p_{sys}}$$

INSTALLATION EXAMPLES

2-WAY CONTROL VALVES

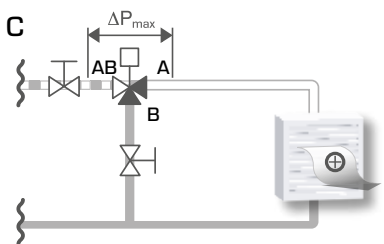


Installation without local circulating pump

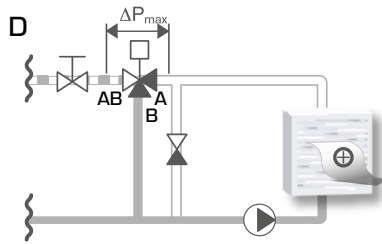


Installation with local circulating pump

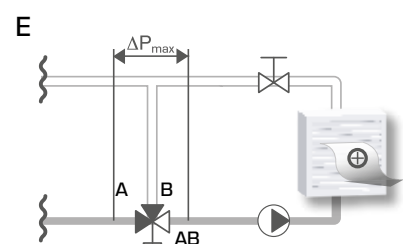
3-WAY CONTROL VALVES



Circuit without local circulation pump



Circuit with local circulation pump



Circuit with local circulating pump