LINEAR MOTORIZED VALVES

CONTROL VALVE PN6
SERIES VLF100

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

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

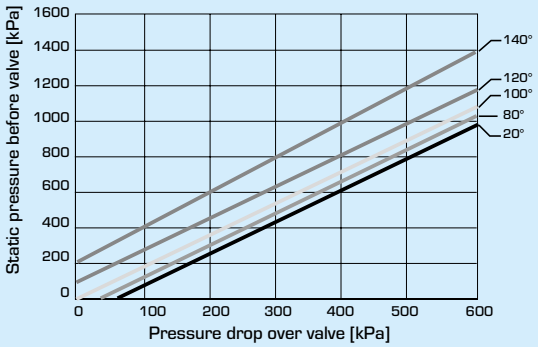
- Series ALB140
- Series ALF13x
- Series ALF26x

TECHNICAL DATA

Type: _____ 3-way plug valve
Pressure class: _____ PN 6
Flow characteristic A–AB: _____ EQM
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
Media: _____ Heating water (in accordance with VDI2035)
_____ Water / Glycol mixtures, max. 50%
_____ Water / Ethanol mixtures, max. 28%
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

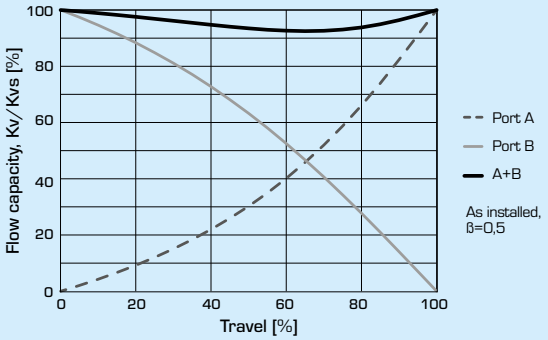
PED 2014/68/EU, article 4.3 / SI 2016 No. 1105 (UK)



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

VALVE CHARACTERISTICS

3-way valves, DN20-50



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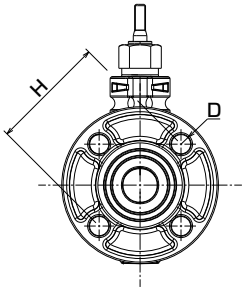

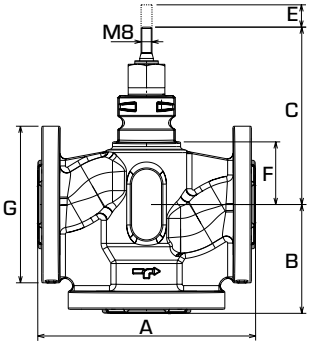

3-WAY CONTROL VALVE SERIES VLF135

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 m^3/h at a pressure drop of 1 bar.

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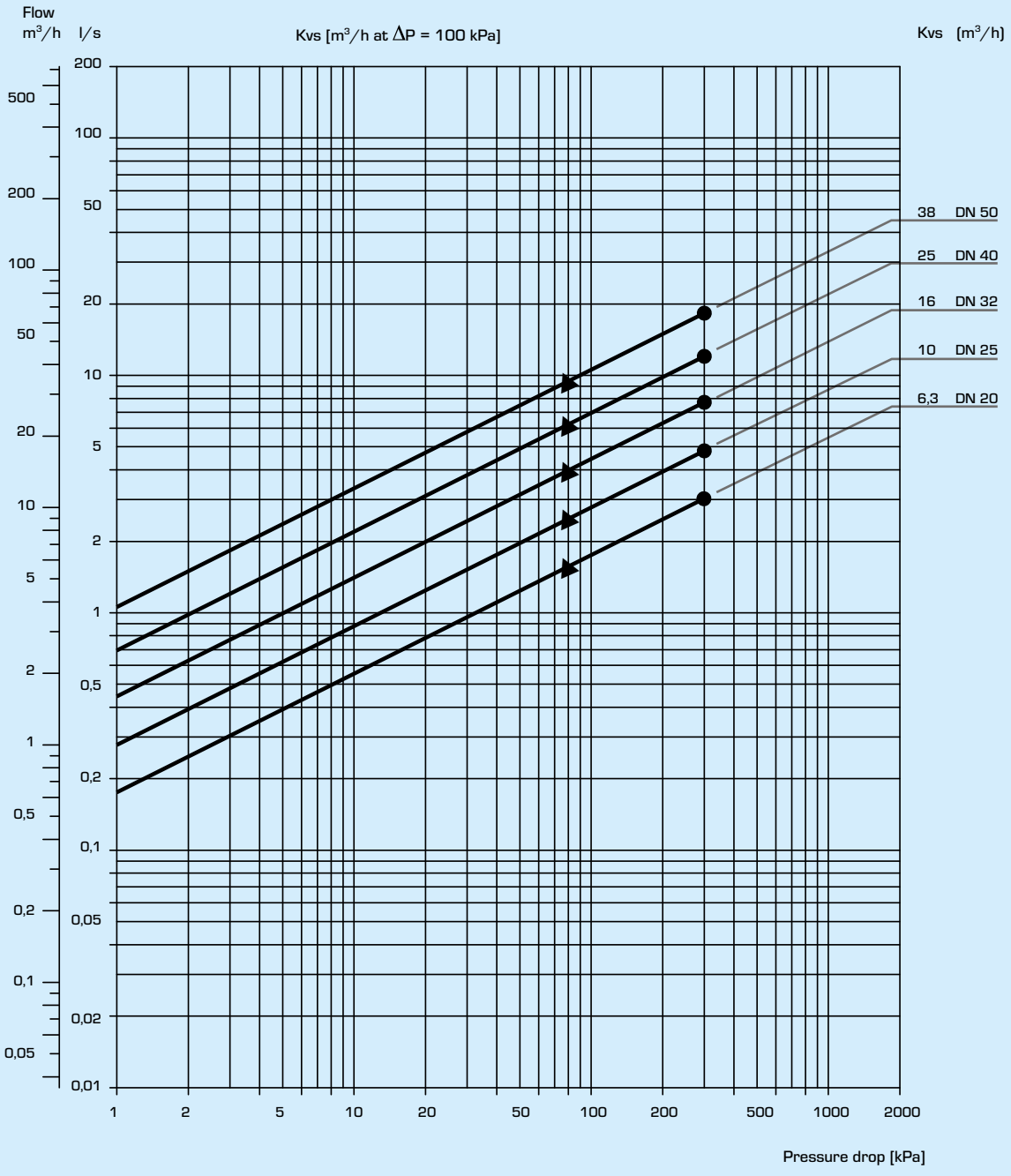
FLOW CHART



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.

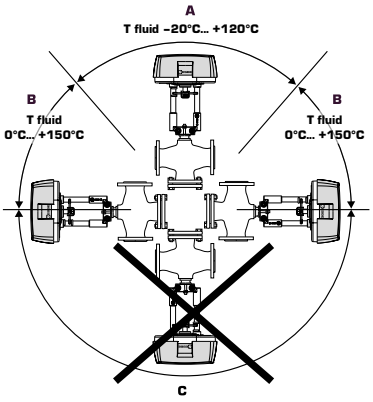
Mounting positions:

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

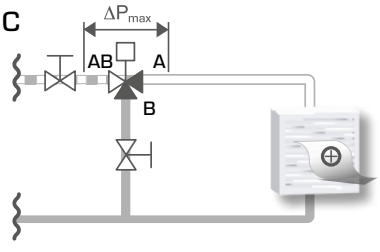
a) 3-way valve

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

INSTALLATION EXAMPLES

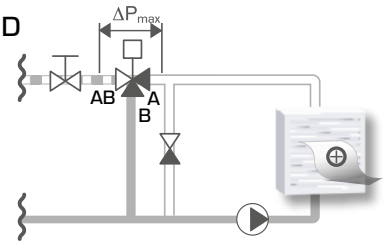
3-WAY CONTROL VALVES

C



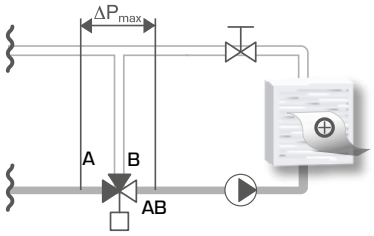
Circuit without local circulation pump

D



Circuit with local circulation pump

E



Circuit with local circulating pump