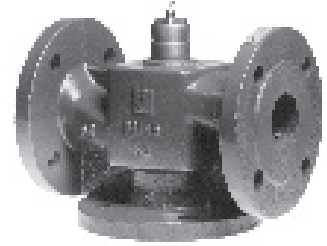


FLANGED THREE-PORT SEAT VALVES PN 16 (– 10...120 °C)



VF 3.. Eng.

- DN 15...100 : body in GG25 cast iron; brass plug; stainless steel spindle
- DN 125...150 : body in GGG 40.3 cast iron; plug in GGG 40 cast iron; stainless steel spindle
- Flanged connections PN 16 (ISO 7005/2)



1. APPLICATION

VF.. valves are designed for controlling the flow of hot or chilled water in heating or air-handling plants.
Permitted fluids: - Hot water max 120°C. – Chilled water min – 10°C (glycol max 30%).
Operated by linear actuators type CLE..., CLF..., CLG..., CLH... or CEF U16.. (with emergency closure).

2. OPERATION

The control component of the valve is an appropriately-machined plug which, operated by the linear movement of the spindle, diverts the flow between the always-open port (AB: output water) and the two controlled ports (A-B: input water).

3. MODELS

Code	DN body	Kvs ⁽¹⁾ m ³ /h	Run mm.	Suitable actuators									
				CLE 16.. 500 N 11 s/mm		CLE 10.. 300 N 7 s/mm		CLF 16.. 1,000 N 11 s/mm		CLF 04.. 600 N 3 s/mm		CEF U16.. ⁽⁴⁾ 450 N 11 s/mm	
VF 314	15	2,5	15	bar ⁽²⁾	s ⁽³⁾	bar ⁽²⁾	s ⁽³⁾	bar ⁽²⁾	s ⁽³⁾	bar ⁽²⁾	s ⁽³⁾	bar ⁽²⁾	s ⁽³⁾
VF 315	15	4,0	15	6	165	6	105	6	165	6	45	6	165
VF 320	20	6,3	15	6	165	6	105	6	165	6	45	6	165
VF 325	25	10	15	6	165	4	105	6	165	6	45	6	165
VF 332	32	16	15	6	165	2	105	6	165	6	45	3	165
VF 340	40	25	15	3	165	1	105	6	165	5	45	2,5	165
VF 340	40	25	15	2	165	–	–	6	165	3	45	2	165
VF 350	50	40	15	1	165	–	–	3	165	2	45	0,5	165
				Suitable actuators									
				CLG 32.. 2,000 N 8 s/mm		CLG 16.. 1,500 N 4 s/mm		CLH 32.. 5,000 N 8 s/mm		CLH 12.. 5,000 N 3 s/mm			
VF 365	65	63	20	bar ⁽²⁾	s ⁽³⁾	bar ⁽²⁾	s ⁽³⁾	bar ⁽²⁾	s ⁽³⁾	bar ⁽²⁾	s ⁽³⁾	bar ⁽²⁾	s ⁽³⁾
VF 380	80	100	30	4,5	160	3	80	–	–	–	–	–	–
VF 3100	100	145	30	3	240	2	120	–	–	–	–	–	–
VF 3125	125	220	40	1,5	240	1	120	–	–	–	–	–	–
VF 3150	150	320	40	1	320	0,5	160	3	320	3	120	3	120
VF 3150	150	320	40	0,5	320	0,2	160	1,5	320	1,5	120	1,5	120

4. ACCESSORIES

Code	Description
ARS 104	Spindle heater (24V~) for use with fluid temperatures – 10 ... 0 °C.

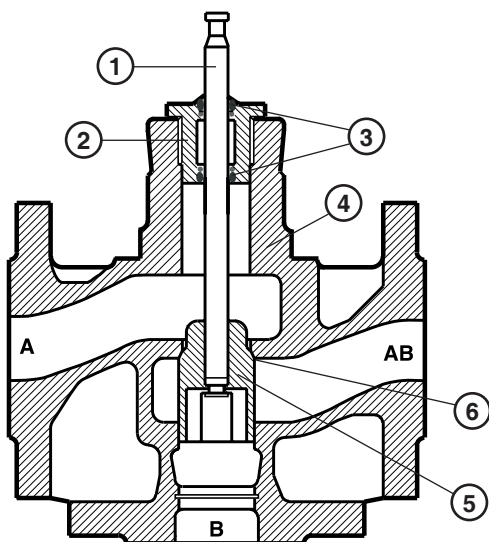
(1) : Kvs – Flow coefficient: Flow in m³/h with valve open and pressure drop of 100 kPa. 100 kPa = 10 mWG = 1 bar
 (2) : bar – Maximum differential pressure Δp max permitted by actuator.
 (3) : s – Time in seconds required by actuator to make the complete valve run.
 (4) : actuator with emergency closure.

5. TECHNICAL DATA

Valve body	GG 25 cast iron	Run:	DN 15...50	15 mm
DN 15...100	GGG 40 cast iron	DN 65		20 mm
DN 125...150	stainless steel	DN 80 - 100		30 mm
Spindle		DN 125 - 150		40 mm
Plug	Brass	Control features:	throughport	equal percentage
DN 15...100	GGG 40	by pass		linear
DN 125...150	O-Ring	Control ratio	DN 15...100	50:1
Spindle seals	flanged PN 16 (ISO 7005/2)	DN 125...150		30:1
Connections	16 bar (1600 kPa)	Let by:	throughport	0.05 % Kvs
Nominal pressure	- 10...130 °C	by pass		1 % Kvs
Fluid temperature				

6. CONSTRUCTION

The body of the valve is made of GG 25 cast iron, the spindle is in stainless steel and the plug in brass. The spindle is rendered watertight by two O-Rings inserted between the Teflon self-cleaning rings, these in turn being enclosed in an easily-replaceable sealing block. The top of the spindle is recessed for coupling with the actuator.

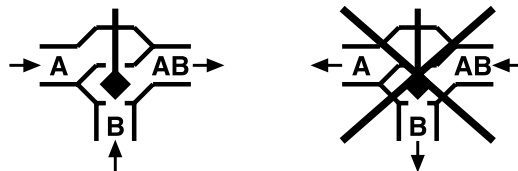


- 1 – Spindle
- 2 – Sealing block
- 3 – O-Ring seal
- 4 – Valve body
- 5 – Plug
- 6 – Seat
- AB – Port always open
- A – Troughport
- B – By pass

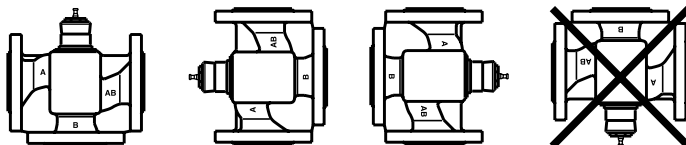
7. INSTALLATION

Before installing the valve ensure that in the pipework there is no extraneous material such as residues from welding or threading. The pipework must not be subject to vibrations and must be perfectly aligned with the valve connections in order to avoid dangerous stresses.

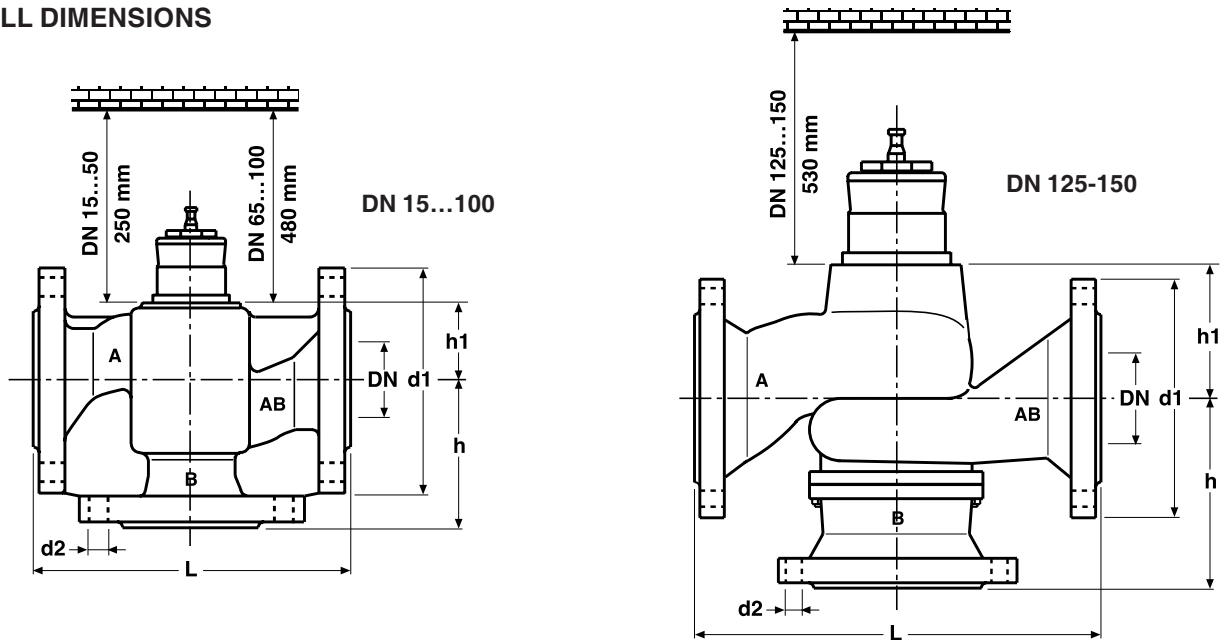
Pay careful attention to the direction of the fluid, embossed on the valve body, in relation to the hydraulic circuit controlled. To avoid vibration problems it is preferable always to mount the valve with the AB port as water outlet (see 9. Examples Of Plants)



The valve can be installed in any position except that with the spindle pointing downwards. Leave sufficient space on the spindle side for mounting the actuator (8. Overall Dimensions).

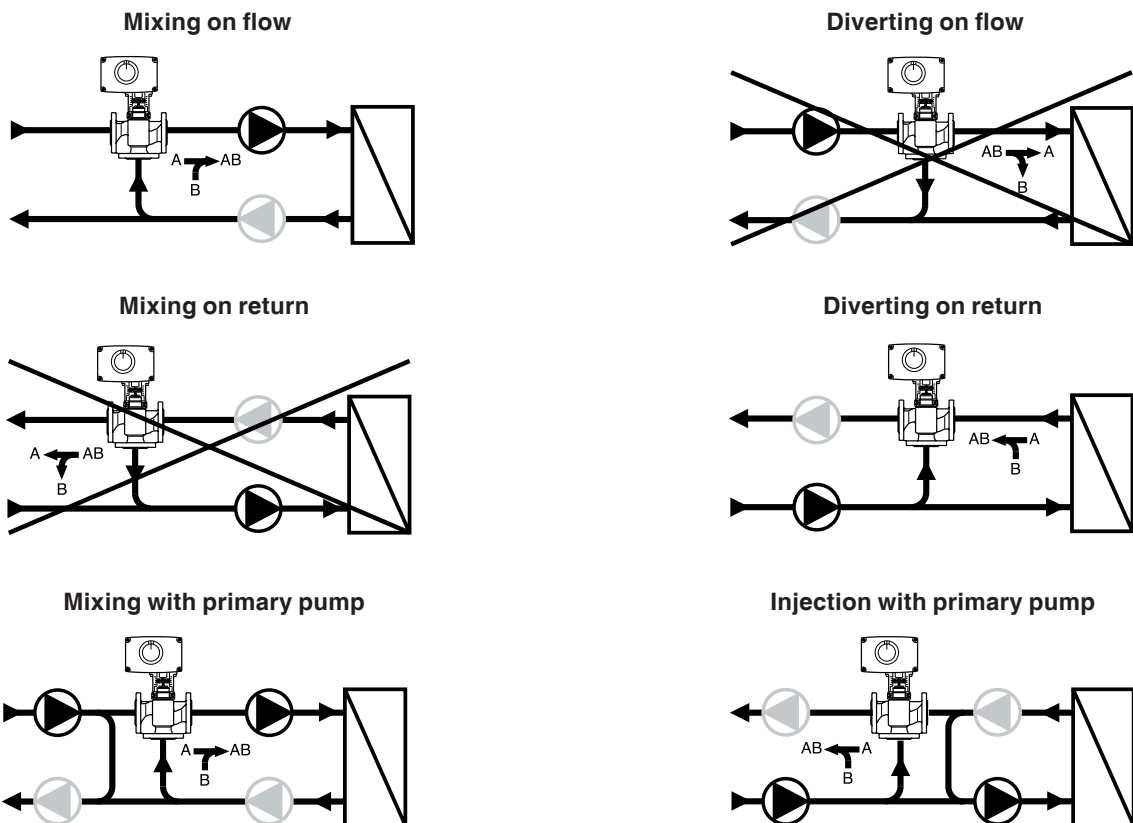


8. OVERALL DIMENSIONS

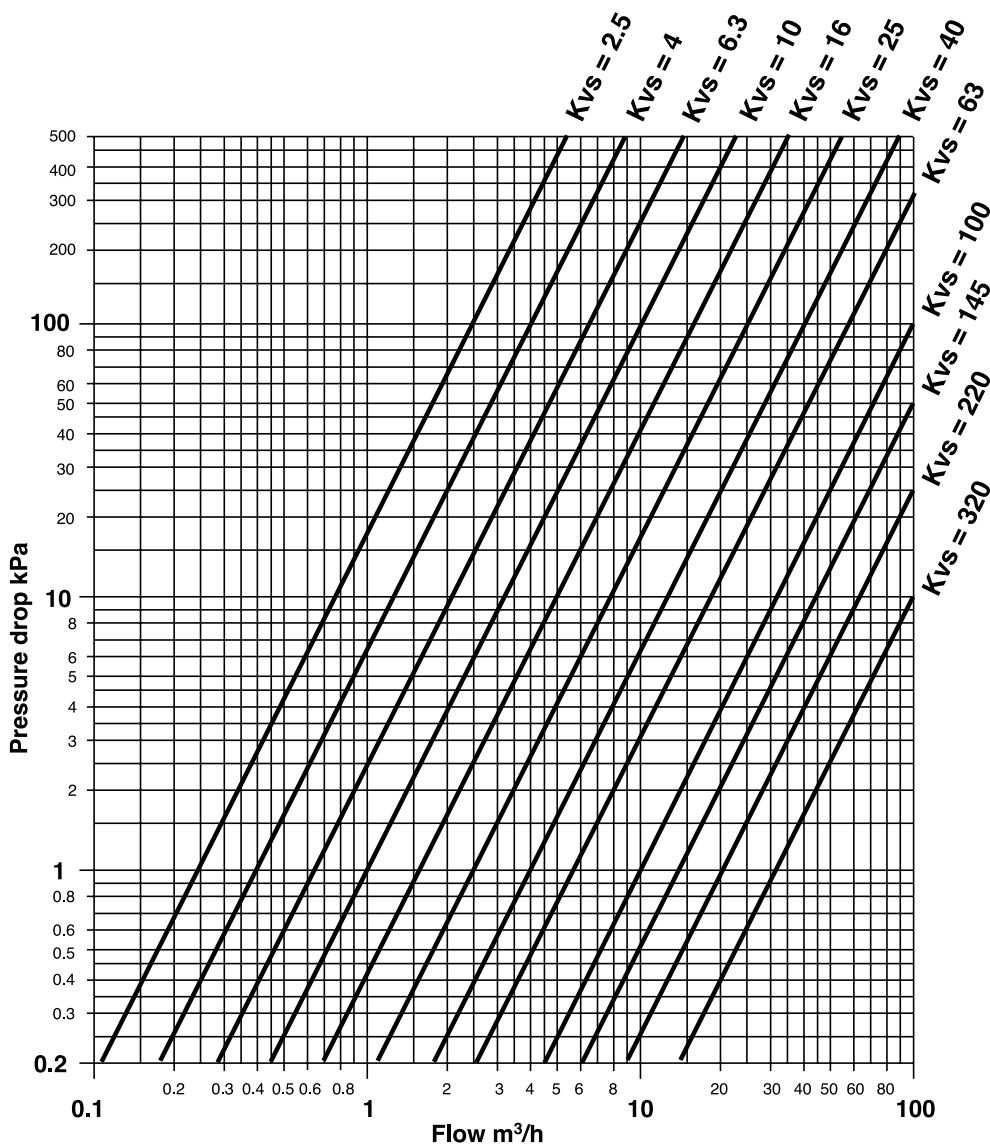


Type	DN mm	d1 mm	d2 mm	L mm	h mm	h1 mm
VF 314-315	15	95	4 x 14	130	65	40
VF 320	20	105	4 x 14	150	70	40
VF 325	25	115	4 x 14	160	75	40
VF 332	32	140	4 x 18	180	80	40
VF 340	40	150	4 x 18	200	90	51
VF 350	50	165	4 x 18	230	100	51
VF 365	65	185	4 x 18	290	120	100
VF 380	80	200	8 x 18	310	155	126
VF 3100	100	220	8 x 18	350	175	126
VF 3125	125	250	8 x 18	400	250	226
VF 3150	150	285	8 x 22	480	300	279

9. EXAMPLES OF PLANTS



10. PRESSURE DROP CHART



Kvs = Flow coefficient: Flow in m³/h with valve open and pressure drop of 100 kPa.
 100 kPa = 10 mWG = 1 bar

Amendments to data sheet

Date	Revision No.	Page	Section	Details of amendments
28.04.06 LB		2	5. TECHNICAL DATA	Amended "Connection" data
18.04.08 LB	01	3	8. OVERALL DIMENSION	Amended table ("d1" data)



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