

VD215-VD232

Small Linear Valve / PN25 DH Compact Valve

PRODUCT DATA



GENERAL

Single-seated 2-way valves for modulating control of hot / chilled water in heating, ventilating, and air conditioning systems.

These valves are designed especially for flow control in hydraulic systems with high temperatures and pressures, such as district heating systems. It can also be used in combination with M31C150 (heating) actuators as well as with M41A15 (domestic hot water) actuators.

FEATURES

- Pressure-balanced k_{vs} 1.0...10 m³/hr
- Normally-closed valve
- Supplied with manual adjustment cap for start-up
- Small size
- Threaded and welding connection sets
- Bronze body, stainless steel trim
- Low seat leakage rate
- Metal-to-metal seating for long life span
- Easy mounting of direct-coupled electric actuators
- Approval per DIN 32730 (in preparation)

SPECIFICATIONS

Action	valve is closed by its spring
Nominal pressure rating	PN25
Rangeability	50:1
Leakage rate:	max. 0.05% of k_{vs}
Characteristic	split characteristic / linear - equal percentage
Stroke	6.5 mm
Close-off pressure	0...1600 kPa with 300 N actuator 0...2500 kPa with 400 N actuator
Valve body	
End connections	external thread per ISO 228/1
Material	red bronze (DIN 1705)
Trim	
Seat	stainless steel (W.-No. 1.4305)
Plug	stainless steel (W.-No. 1.4305)
Stem	stainless steel (W.-No. 1.4305)
Packing	EPDM, O-ring
Medium	water; glycol/water mixture (max. 50% glycol per VDI 2035)
Medium temperature	2...130 °C
Dimensions	See Fig. 2 on page 4

Note! The valves are delivered without connections sets (have to be ordered separately).

SIZES AND FLOW CAPACITIES

size	kvs (m ³ /h)	close-off pressure (kPa) with 300 N actuator	close-off pressure (kPa) with 400 N actuator	order number
DN15	0.25	1600	2500	VD215-0.25
DN15	0.40	1600	2500	VD215-0.40
DN15	0.63	1600	2500	VD215-0.63
DN15	1.0	1600	2500	VD215-1.0
DN15	1.6	1600	2500	VD215-1.6
DN20	2.5	1600	2500	VD220-2.5
DN20	4.0	1600	2500	VD220-4.0
DN25	6.3	1600	2500	VD225-6.3
DN32	10.0	1600	2500	VD232-10

ACTUATORS

Ouman-actuators

Number	data sheet	control signal	auxiliary switches	manual adjustment	stem force (N)	power failure position
M31C150	M31C150	24 Vac	-	integrated	300	-
M41A15	M41A15	0...10 V	-	integrated	400	-

Other actuators:

OS no.	data sheet	control signal	auxiliary switches	manual adjustment	stem force (N)	power failure position
M7410C1015	EN0B-0096GE02	24 Vac	-	valve cap	300	-
M6410C2031	EN0B-0096GE02	24 Vac	-	integrated	300	-
M6410C4037	EN0B-0096GE02	24 Vac	2	integrated	300	-
M6410L2031	EN0B-0096GE02	230 Vac	-	integrated	300	-
M6410L4037	EN0B-0096GE02	230 Vac	2	integrated	300	-
M7410E1028	EN0B-0097GE02	0/2...10 V	-	valve cap	300	-
M7410E2034	EN0B-0097GE02	0/2...10 V	-	integrated	300	-
M7410E4030	EN0B-0097GE02	0/2...10 V	2	integrated	300	-
ML6435B1008	EN0B-0259GE51	24 Vac	-	valve cap	400	stem retract
ML6435B1016	EN0B-0259GE51	230 Vac	-	valve cap	400	stem retract
ML7430E1005	EN0B-0260GE51	0/2...10 V	-	integrated	400	-
ML7435E1004	EN0B-0260GE51	0/2...10 V	-	valve cap	400	stem retract

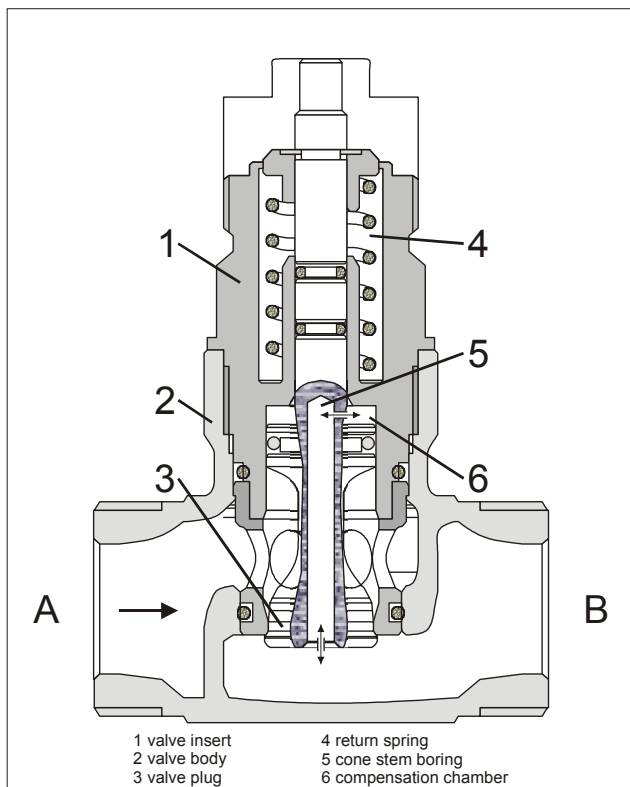


Fig. 1. VD225
(cross-sectional drawing)

OPERATION

VD-valves are available in four sizes; DN15, DN20, DN25 and DN32.

A built-in return spring (4) produces the closing force on the port A to port B. The valve is supplied with a screwed-on valve cap for manual operation and for protection of the system. This allows the system to be filled and set up for the initial heating / cooling during the building construction phase without the use of a controller or actuator.

The medium flows through the valve from port A to port B, in the direction of the arrow mark on the valve body.

The flow rate is limited by the setting of the valve plug (3), which is positioned either using the manually adjustable valve cap or by an actuator. Maximum stroke means maximum flow rate.

In order to be able to close precisely against high pressure differences, the valve compensates pressure differences by means of a cone stem boring (5) connecting to a compensation chamber (6).

Some specific actuators automatically retract the stem in the event of a power failure in order to close the valve and stop the flow of medium (refer to section "Actuators" on page 2).

INSTALLATION

When installing the valve, ensure that the flow direction corresponds with the arrow direction on the valve body (see Installation Instructions VD215-VD232).

- The valve must not be mounted with the stem pointing below the horizontal.
- The valve should be installed stress-free. External threaded or welding connection sets are available (refer to section "Accessories" on page 5).
- The installation of a strainer is strongly recommended; in district heating systems, it is obligatory.
- Make sure that water hammers are avoided.
- For pressure test, the valve (with actuator) must be open.
- The adjustment cap must be removed from the valve only when an actuator is fitted.
- The water must not contain more than 50% glycol according to VDI 2035 requirements.

MAINTENANCE

In case of leakage or heavy soiling of the valve, the complete valve insert (1) can be replaced (see section "Spare Parts" on page 6).

DIMENSIONS

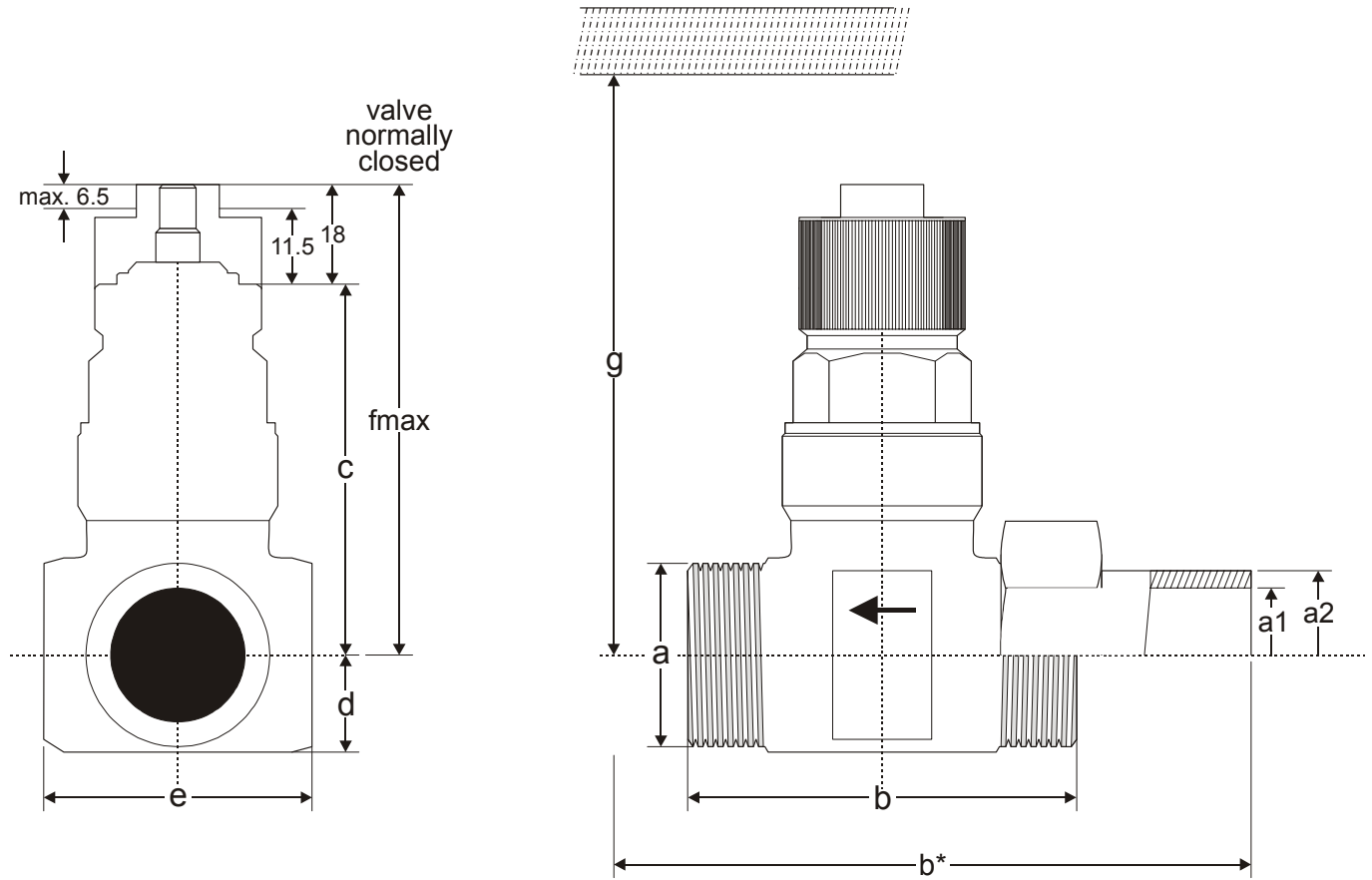


Fig. 2. Dimensions (mm)

DN	a	dimensions in mm									
		b	threaded connection		welding connection		c	d	e	f	g
			b*	a2	b*	a1					
15	G¾"	65	125	R½"	175	16∅	59	18	35	77	270
20	G1"	70	138	R¾"	184	20∅	67	18	36	85	280
25	G1½"	75	154	R1"	180	27∅	69	23	46	87	280
32	G1½"	100	192	R1¼"	264	32∅	89	25	57	107	300

ACCESSORIES

Connection Sets

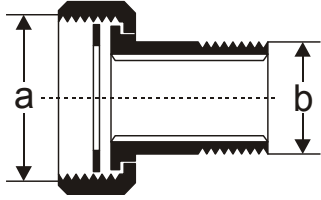


Fig. 3. External threaded connection

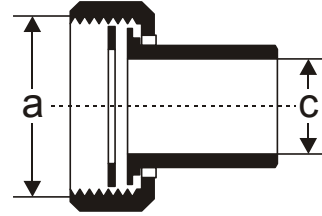


Fig. 4. Welding connection

Two connection sets are necessary

connection	pipe size	DN	order no.	connection set	description	a	b	c
external thread	R1½"	15	L15UK		threaded connection (consisting of 1 union nut, 1 tailpiece, and 1 gasket)	G¾"	R½"	-
	R¾"	20	L20UK			G1"	R¾"	-
	R1"	25	L25UK			G1¼"	R1"	-
	R1¼"	32	L32UK			G1½"	R1¼"	-
welding	½"	15	L15HI		welding connection (consisting of 1 union nut, 1 tailpiece, and 1 gasket)	G¾"	-	16Ø
	¾"	20	L20HI			G1"	-	20Ø
	1"	25	L25HI			G1¼"	-	27Ø
	1¼"	32	L32HI			G1½"	-	32Ø

SPARE PARTS

Table 1. Valve inserts

k_{vs}	order no.
0.25	0903809
0.40	0903810
0.63	0903811
1.0	0903812
1.6	0903813
2.5	0903814
4.0	0903815
6.3	0903816
10.0	0903817

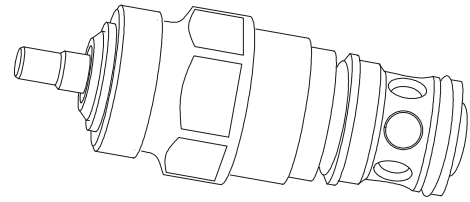


Fig. 5. Typical valve insert

Table 2. Adapter for replacing OUV5872B-valve with VD-valve

valve type to be replaced	new valve model	k_{vs}	order no. of valve adapter kit
V5872B1003	VD215-0.25	0.25	AK15-15
V5872B1011	VD215-0.40	0.40	AK15-15
V5872B1029	VD215-0.63	0.63	AK15-15
V5872B1037	VD215-1.0	1.0	AK15-15
V5872B1045	VD215-1.6	1.6	AK15-15
V5872B1052	VD220-2.5	2.5	AK20-15
V5872B1060	VD220-4.0	4.0	AK20-25
V5872B1078	VD225-6.3	6.3	AK25-25
V5872B1086	VD232-10	10.0	n.a.

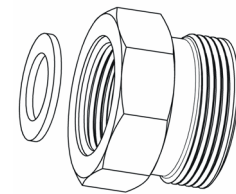


Fig. 6. Valve adapter

NOTE: The valve adapter kit contains all of the components required to replace one OUV5872B valve with the VD- valve



Fig. 7. VD-valve and AK-adapter