

## V5825B

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 M6410/M7410 (300 N) actuators as well as with ML7430/35 and ML6435 (400 N) actuators.

### FEATURES

- Pressure-balanced  $k_{vs}$  1.0...10 m<sup>3</sup>/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

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

## SIZES AND FLOW CAPACITIES

size	k <sub>vs</sub> (m <sup>3</sup> /h)	close-off pressure (kPa) with 300 N actuator	close-off pressure (kPa) with 400 N actuator	order number
DN15	0.25	1600	2500	V5825B1001
DN15	0.40	1600	2500	V5825B1019
DN15	0.63	1600	2500	V5825B1027
DN15	1.0	1600	2500	V5825B1035
DN15	1.6	1600	2500	V5825B1043
DN20	2.5	1600	2500	V5825B1050
DN20	4.0	1600	2500	V5825B1068
DN25	6.3	1600	2500	V5825B1076
DN32	10.0	1600	2500	V5825B1084

## ACTUATORS

Suitable electric actuators:

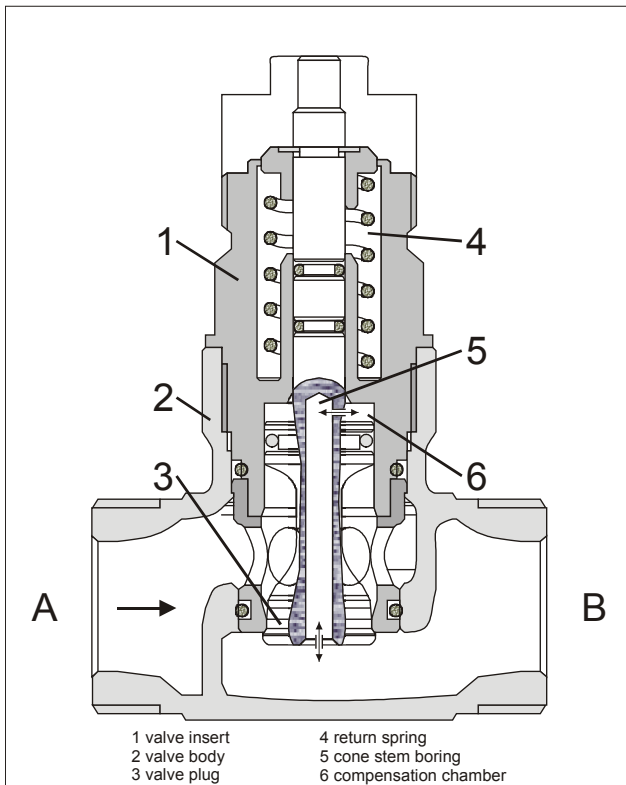
OS no.	data sheet	control signal	auxiliary switches	manual adjustment	stem force (N)	power failure position
M7410C1015	EN0B-0096GE02	24 Vac	-	valve cap	300	-
M6410C2031	EN0B-0096GE02	24 Vac	-	integrated	300	-
M6410C4037	EN0B-0096GE02	24 Vac	2	integrated	300	-
M6410L2031	EN0B-0096GE02	230 Vac	-	integrated	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

For further technical information about electric actuators, please consult Honeywell Product Data Sheets.

## APPROVAL

**NOTE:** For V5825B valves in combination with the following actuators, approval according to DIN 32730.

Actuator O.S. no.	DIN registration no.
ML6435B1008	1F15903
ML6435B1016	
ML7435E1004	



**Fig. 1. DH Compact Valve V5825B, size DN25  
(cross-sectional drawing)**

## OPERATION

DH Compact valves V5825B are available in four sizes, from DN15 through DN32. This description refers to size DN25.

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 MU1B-0224GE51).

- 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

Valve V5825B

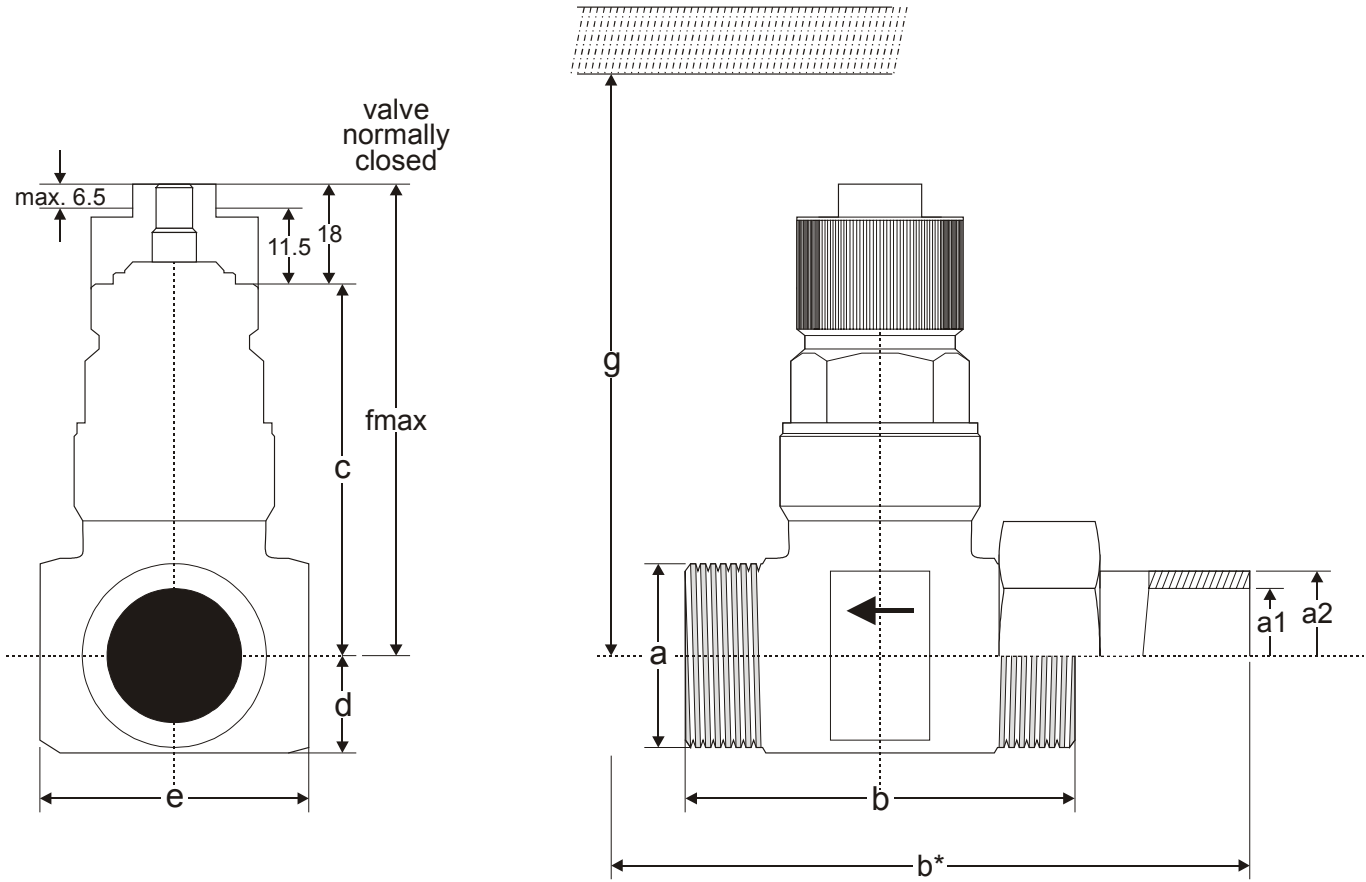


Fig. 2. V5825B Dimensions (mm)

DN	a	b	dimensions in mm								
			threaded connection		welding connection		c	d	e	f	g
			b*	a2	b*	a1					
15	G¾"	65	125	R½"	175	16Ø	59	18	35	77	270
20	G1"	70	138	R¾"	184	20Ø	67	18	36	85	280
25	G1¼"	75	154	R1"	180	27Ø	69	23	46	87	280
32	G1½"	100	192	R1¼"	264	32Ø	89	25	57	107	300

## ACCESSORIES

### Connection Sets

For threaded connections according to ISO 7/1 for steel pipes or malleable iron, refer to Fig. 3 (ACS-...T) or Fig. 4 (ACS-...W).

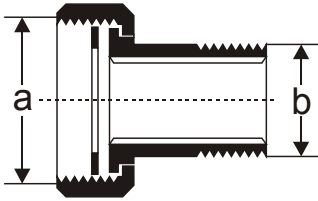


Fig. 3. External threaded connection

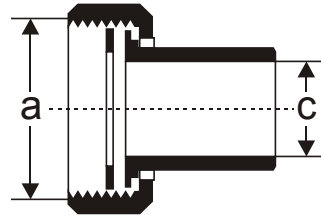


Fig. 4. Welding connection

Two connection sets are necessary

connection	pipe size	DN	order no.	connection set	description	a	b	c
external thread	R1/2"	15	ACS-15T		threaded connection (consisting of 1 union nut, 1 tailpiece, and 1 gasket)	G3/4"	R1/2"	-
	R3/4"	20	ACS-20T			G1"	R3/4"	-
	R1"	25	ACS-25T			G1 1/4"	R1"	-
	R1 1/4"	32	ACS-32T			G1 1/2"	R1 1/4"	-
welding	1/2"	15	ACS-15W		welding connection (consisting of 1 union nut, 1 tailpiece, and 1 gasket)	G3/4"	-	16Ø
	3/4"	20	ACS-20W			G1"	-	20Ø
	1"	25	ACS-25W			G1 1/4"	-	27Ø
	1 1/4"	32	ACS-32W			G1 1/2"	-	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

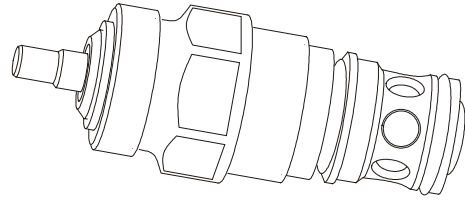


Fig. 5. Typical valve insert

Table 2. Adapter for Salina

valve type to be replaced	new valve model	$k_{vs}$	order no. of valve adapter kit
V5872B1003	V5825B1001	0.25	AK15-15
V5872B1011	V5825B1019	0.40	AK15-15
V5872B1029	V5825B1027	0.63	AK15-15
V5872B1037	V5825B1035	1.0	AK15-15
V5872B1045	V5825B1043	1.6	AK15-15
V5872B1052	V5825B1050	2.5	AK20-15
V5872B1060	V5825B1068	4.0	AK20-25
V5872B1078	V5825B1076	6.3	AK25-25
V5872B1086	V5825B1084	10.0	n.a.

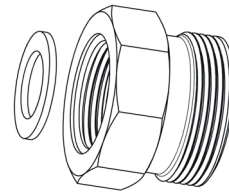


Fig. 6. Valve adapter

**NOTE:** The valve adapter kit contains all of the components required to replace one V5872B valve with the V5825B.

**Honeywell**

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