

STAD-B



Balancing valves
For domestic water systems

STAD-B

STAD-B balancing valve for demanding requirements in domestic water systems. Deliver accurate hydronic balancing, measuring and diagnostic capabilities. Body and other parts of the valve are protected by special electrophoretic layer with high resistance against corrosion, dezincification and limescaling. Ideally suited for use as balancing valve in hot water circulation.



Key features

- > **Handwheel**
Equipped with a digital read-out, the handwheel ensures accurate and straightforward balancing. Positive shut-off function for easy maintenance.
- > **Self-sealing measuring points**
For simple, accurate balancing.
- > **Electrophoretic painting**
Ideally suited for use in hot water circulation.

Technical description

Application:

Domestic water system

Functions:

Balancing
Pre-setting
Measuring
Shut-off
Draining

Dimensions:

DN 10-50

Pressure class:

PN 25

Temperature:

Max. working temperature: 120°C.
(For higher temperatures max. 150°C, please contact the nearest sales office).
Min. working temperature: -20°C

Media:

Water or neutral fluids, water-glycol mixtures (0-57%).

Material:

Valve body and bonnet: AMETAL®
Sealing (body/bonnet): EPDM O-ring
Valve plug: AMETAL®
Seat seal: EPDM O-ring
Spindle: AMETAL®
Slip washer: PTFE
Spindle seal: EPDM O-ring
Spring: Stainless steel
Handwheel: Polyamide and TPE

Measuring points: AMETAL®
Sealings: EPDM
Caps: Polyamide and TPE

Draining: AMETAL®
Sealing: EPDM
Gaskets: Fiber-based aramid

AMETAL® is the dezincification resistant alloy of IMI Hydronic Engineering.

Surface treatment:

Electrophoretic painting.

Marking:

Body: IMI, TA, PN 25/400 WWP, DN and inch size. DN 50 also CE.
Handwheel: TA, STAD-B and DN.

Connection:

Female thread according to ISO 228.
Thread length according to ISO 7/1.

Measuring points

Measuring points are self-sealed. Remove the cap and insert the probe through the seal.

Draining

Valves with draining for G3/4 hose connection.

Sizing

When Δp and the design flow are known, use the formula to calculate the Kv value or use the diagram.

$$K_v = 0,01 \frac{q}{\sqrt{\Delta p}} \quad q \text{ l/h, } \Delta p \text{ kPa}$$

$$K_v = 36 \frac{q}{\sqrt{\Delta p}} \quad q \text{ l/s, } \Delta p \text{ kPa}$$

Kv values

Turns	DN 10	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50
0.5	-	0.0479	0.444	0.495	1.05	1.71	2.25
1	0.0408	0.118	0.658	0.948	1.93	3.17	3.83
1.5	0.0805	0.251	1.07	2.09	3.25	4.78	6.74
2	0.238	0.518	1.80	3.91	5.49	6.55	11.4
2.5	0.443	0.870	2.87	5.60	8.07	9.63	15.7
3	0.810	1.38	3.84	6.99	10.1	13.3	21.0
3.5	1.17	1.93	4.65	7.93	11.9	16.9	26.6
4	1.33	2.32	5.35	8.25	13.7	20.1	31.4

Measuring accuracy

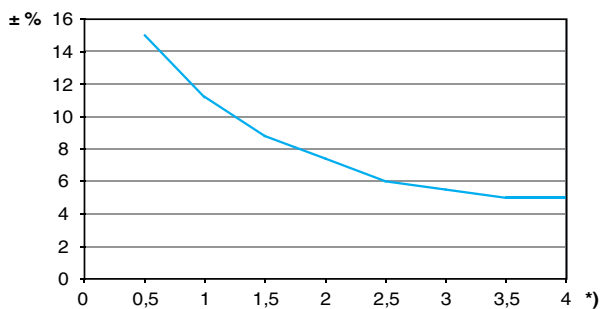
The zero position is calibrated and must not be changed.

Deviation of flow at different settings

The curve (Fig. 1) is valid for valves with normal pipe fittings (Fig. 2). Try also to avoid mounting taps and pumps, immediately before the valve.

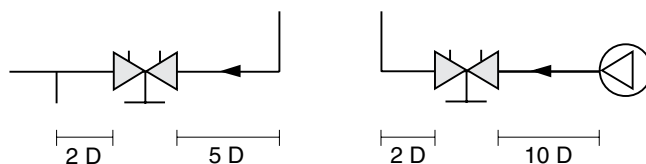
The valve can be installed with the opposite flow direction. The specified flow details are also valid for this direction although tolerances can be greater (maximum 5% more).

Fig. 1



*) Setting, No. of turns.

Fig. 2



D = Valve DN

Setting

Setting of a valve for a particular pressure drop, e.g. corresponding to 2.3 turns on the graph, is carried out as follows:

1. Close the valve fully (Fig. 1).
2. Open the valve 2.3 turns (Fig. 2).
3. Using a 3 mm Allen key, turn the inner spindle clockwise until stop.
4. The valve is now set.

To check the setting: Close the valve, the indicator shows 0.0. Open it to the stop position. The indicator then shows the set value, in this case 2.3 (Fig. 2).

Diagrams showing the pressure drop for each valve size at different settings and flow rates are available to help determine the correct valve size and pre-setting (pressure drop).

Four turns corresponds to fully opened valve (Fig. 3). Opening it further will not increase the capacity.

Fig. 1
Valve closed



Fig. 2
The valve is set at 2.3



Fig. 3
Fully open valve



Diagram example

Wanted:

Presetting for DN 25 at a desired flow rate of 1,6 m³/h and a pressure drop of 10 kPa.

Solution:

Draw a straight line joining 1,6 m³/h and 10 kPa. This gives Kv=5. Now draw a horizontal line from Kv=5. This intersects the bar for DN 25 which gives 2,35 turns.

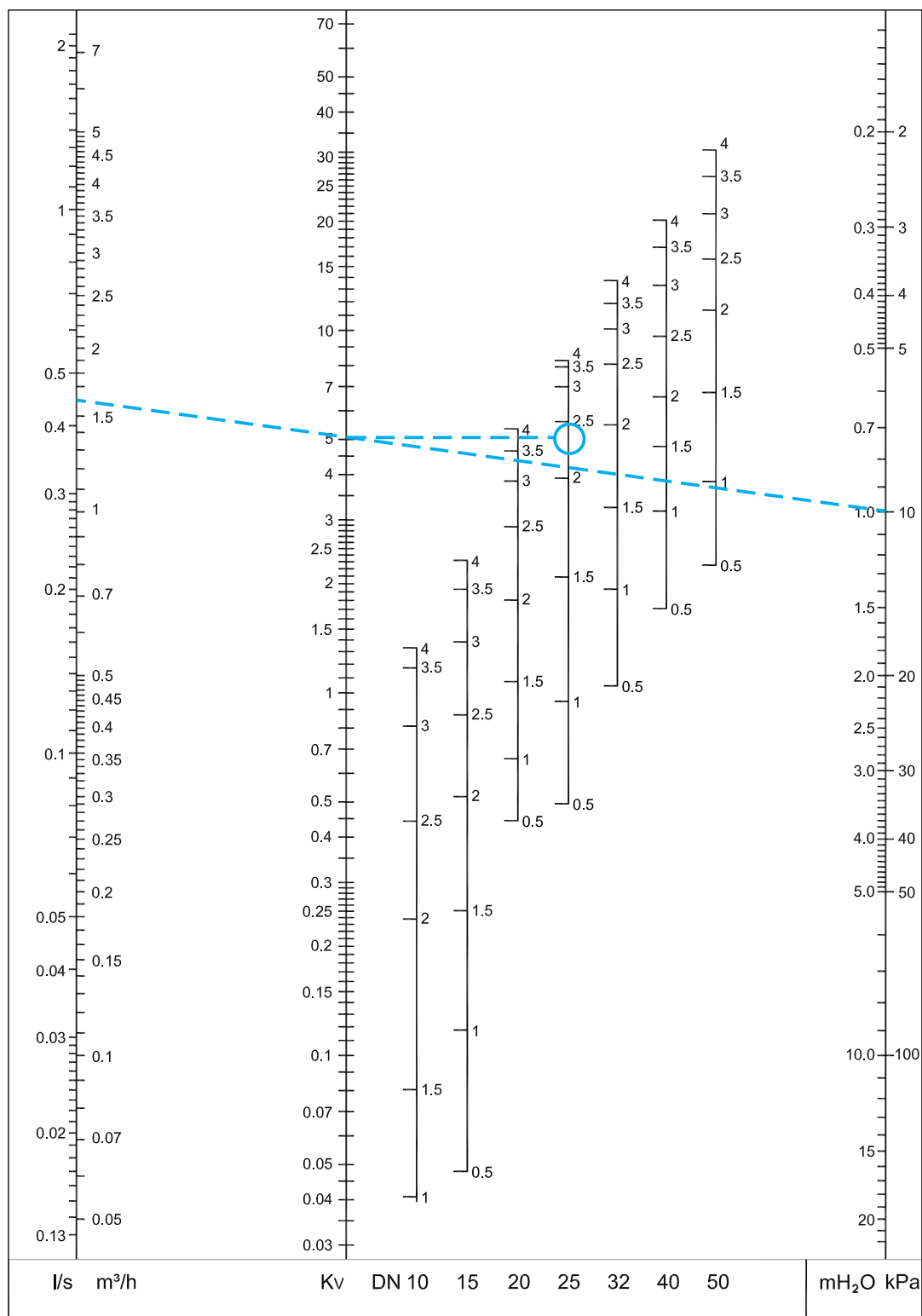
NOTE:

If the flow rate is out of the scale in the diagram, the reading can be made as follows:

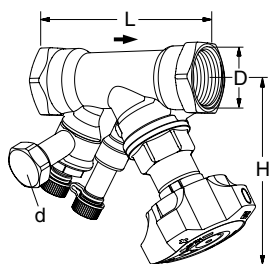
Starting with the example above, we get 10 kPa, Kv=5 and flow-rate 1.6 m³/h.

At 10 kPa and Kv=0.5 we get the flow-rate 0.16 m³/h, and at Kv=50, we get 16 m³/h. That is, for a given pressure drop, it is possible to read 10 times or 0.1 times the flow and Kv-values.

Diagram



Articles

**With drain**

Female threads.

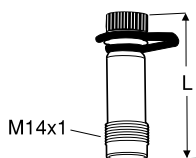
Thread according to ISO 228. Thread length according to ISO 7/1.

DN	D	L	H	Kvs	Kg	EAN	Article No
d = G3/4							
10	G3/8	73	100	1,33	0,53	5902276836183	52 751-610
15	G1/2	84	100	2,32	0,56	5902276836190	52 751-615
20	G3/4	94	100	5,35	0,64	5902276836206	52 751-620
25	G1	105	105	8,25	0,77	5902276836213	52 751-625
32	G1 1/4	121	110	13,7	1,1	5902276836220	52 751-632
40	G1 1/2	126	120	20,1	1,5	5902276836237	52 751-640
50	G2	155	120	31,4	2,1	5902276836244	52 751-650

→ = Flow direction

Kvs = m³/h at a pressure drop of 1 bar and fully open valve.

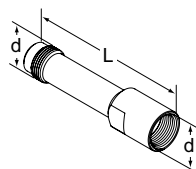
Accessories



Measuring point

Max 120°C (intermittent 150°C)
AMETAL®/EPDM

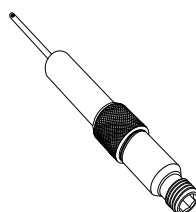
L	EAN	Article No
44	7318792813207	52 179-014
103	7318793858108	52 179-015



Extension for measuring point M14x1

Suitable when insulation is used.
AMETAL®

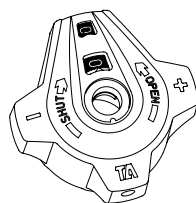
d	L	EAN	Article No
M14x1	71	7318793969507	52 179-016



Measuring point, extension 60 mm

(not for 52 179-000/-601)
Can be installed without draining of the system.
AMETAL®/Stainless steel/EPDM

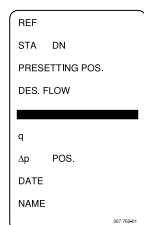
L	EAN	Article No
60	7318792812804	52 179-006



Handwheel

Complete

EAN	Article No
7318794043503	52 186-007



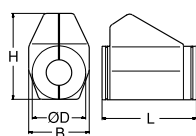
Identification tag

EAN	Article No
7318792779206	52 161-990



Allen key

[mm]	EAN	Article No
3	Pre-setting 7318792836008	52 187-103
5	Draining 7318792836107	52 187-105



Insulation

For heating/cooling
CFC-free polyurethane. Covered with grey PVC.
See catalogue leaflet "Prefab insulations" for complete details.

For DN	L	H	D	B	EAN	Article No
10-20	155	135	90	103	7318792839108	52 189-615
25	175	142	94	103	7318792839306	52 189-625
32	195	156	106	103	7318792839504	52 189-632
40	214	169	108	113	7318792839702	52 189-640
50	245	178	108	114	7318792839900	52 189-650

