

STAD-B



Balancing valves

Balancing valve for domestic water systems



Engineering
GREAT Solutions

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 systems

Functions:

Balancing
Pre-setting
Measuring
Shut-off
Draining (optional)

Dimensions:

DN 10-50

Pressure class:

PN 20

Temperature:

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

Material:

The valves are made of AMETAL®
Seat seal: Stem with EPDM O-ring
Spindle seal: EPDM O-ring
Handwheel: Polyamide and TPE

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

Surface treatment:

Electrophoretic painting.

Marking:

Body: TA, PN 20/150, DN and inch size.
Handwheel: Valve type and DN.

Approvals:

WRAS (approved for tap water system max. 16 bar and max. working temperature 85°C)

Measuring points

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

Draining

Valves with draining for G1/2 or G3/4 hose connection. Valves without draining have a sleeve. This sleeve can

temporarily be removed and a draining kit is fitted, which is available as an accessory.

Sizing

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

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

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

Kv values

Turns	DN 10/09	DN 15/14	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

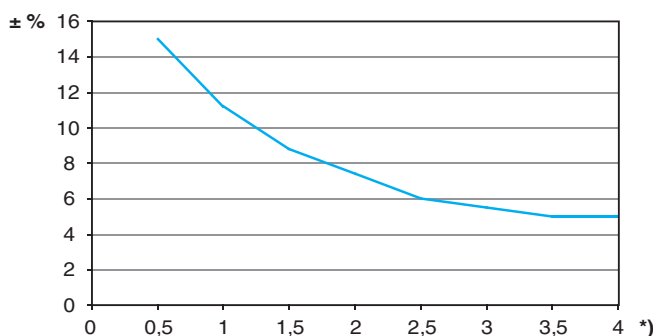
The zero position is calibrated and must not be changed.

Deviation of flow at different settings

The curve (Fig. 4) is valid for valves with normal pipe fittings (Fig. 5). Try also to avoid mounting taps and pumps, immediately before the valve.

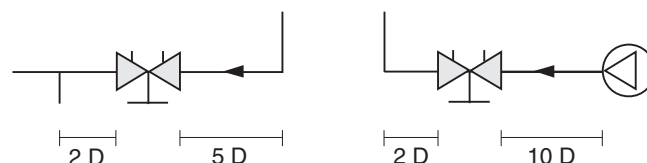
The valve can be installed with the opposite flow direction. The specified flow details are also valid for this direction although tolerances can be greater (maximum 5% more).

Fig. 4



*) Setting, No. of turns.

Fig. 5



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.

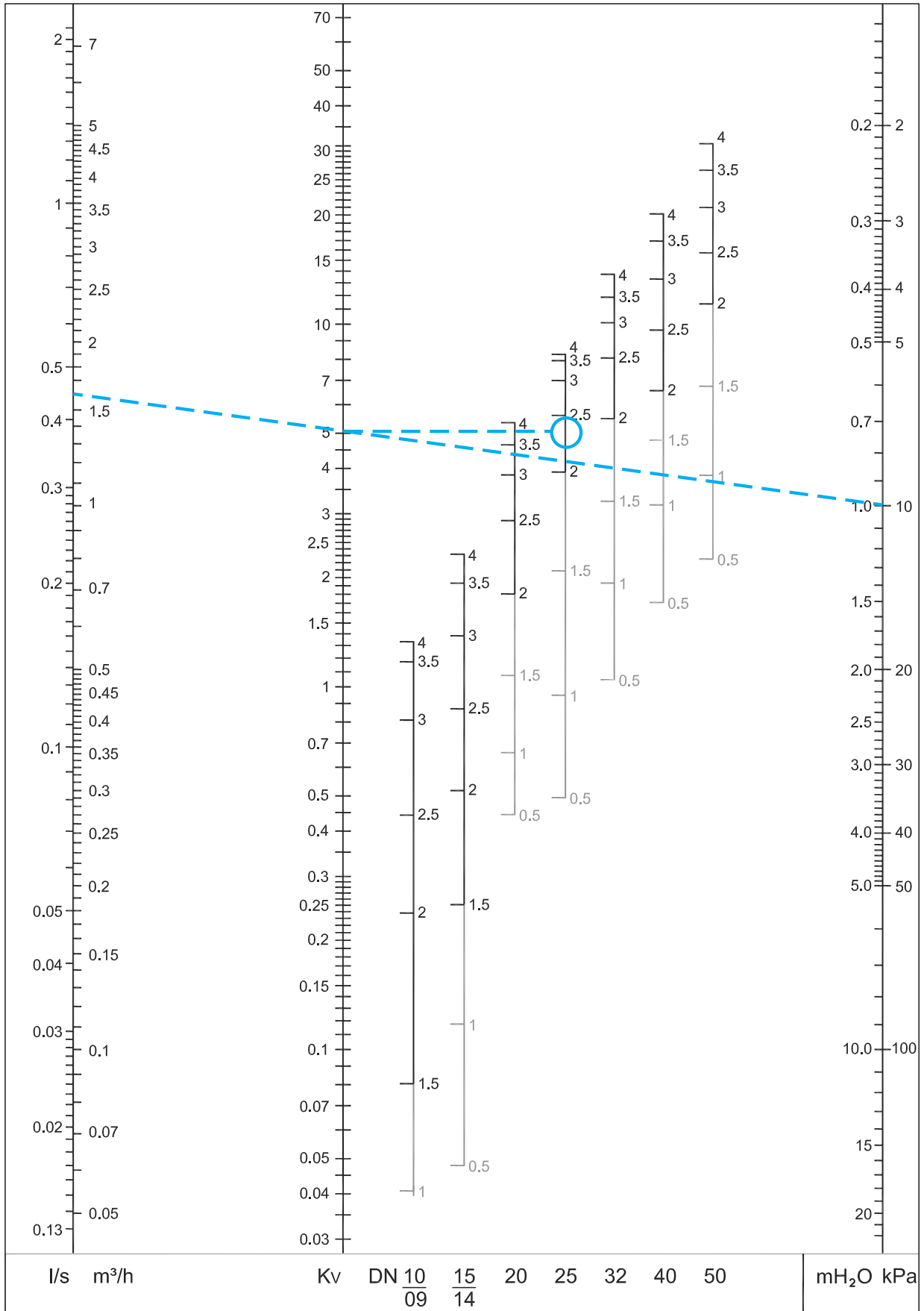
NOTE:

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

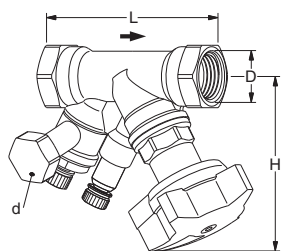
Starting with the example above, we get 10 kPa, Kv=5 and flow-rate 1.6 m³/h.

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

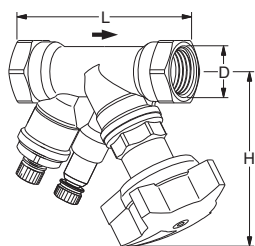


Articles

**Female threads**

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

DN	D	L	H	Kvs	Kg	EAN	Article No
d = G1/2							
10/09	G3/8	83	100	1,33	0,65	5901688827949	52 551-209
15/14	G1/2	90	100	2,32	0,68	5901688827956	52 551-214
20	G3/4	97	100	5,35	0,77	5901688827963	52 551-220
25	G1	110	105	8,25	0,93	5901688827970	52 551-225
32	G1 1/4	124	110	13,7	1,3	5901688827987	52 551-232
40	G1 1/2	130	120	20,1	1,6	5901688827994	52 551-240
50	G2	155	120	31,4	2,4	5901688828007	52 551-250
d = G3/4							
10/09	G3/8	83	100	1,33	0,65	5901688828014	52 551-609
15/14	G1/2	90	100	2,32	0,68	5901688828021	52 551-614
20	G3/4	97	100	5,35	0,77	5901688828038	52 551-620
25	G1	110	105	8,25	0,93	5901688828045	52 551-625
32	G1 1/4	124	110	13,7	1,3	5901688828052	52 551-632
40	G1 1/2	130	120	20,1	1,6	5901688828069	52 551-640
50	G2	155	120	31,4	2,4	5901688828076	52 551-650

**Female threads**

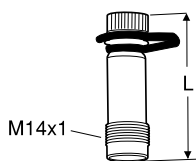
Thread according to ISO 228. Thread length according to ISO 7/1.
Without drain (can be installed during operation)

DN	D	L	H	Kvs	Kg	EAN	Article No
10/09*	G3/8	83	100	1,33	0,58	5901688823835	52 551-009
15/14*	G1/2	90	100	2,32	0,62	5901688823842	52 551-014
20*	G3/4	97	100	5,35	0,72	5901688823859	52 551-020
25	G1	110	105	8,25	0,88	5901688823866	52 551-025
32	G1 1/4	124	110	13,7	1,2	5901688823873	52 551-032
40	G1 1/2	130	120	20,1	1,4	5901688823880	52 551-040
50	G2	155	120	31,4	2,3	5901688823897	52 551-050

→ = Flow direction

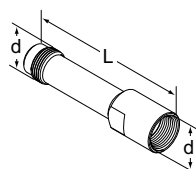
Kvs = m³/h at a pressure drop of 1 bar and fully open valve.

Accessories



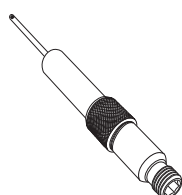
Measuring point
Max 120°C (intermittent 150°C)

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



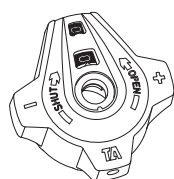
Extension for measuring point M14x1
Suitable when insulation is used.

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



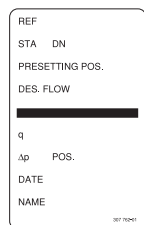
Measuring point
Extensions 60 mm (not for 52 179-000/-601)
Can be installed without draining of the system.

L	EAN	Article No
60	7318792812804	52 179-006



Handwheel
Complete

EAN	Article No
7318792834905	52 186-003



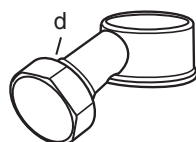
Identification tag
Incl 1 pc per valve

EAN	Article No
7318792779206	52 161-990



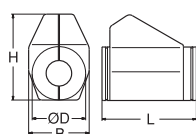
Allen key

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



Draining kit
Can be installed during operation

d	EAN	Article No
G1/2	7318792814907	52 179-990
G3/4	7318792815003	52 179-996



Insulation
For heating/cooling
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

