Climate
Control

IMI TA

TA-BVS 240/243

Balancing valves

Of stainless steel, for high media resistance

Breakthrough
engineering for
a better world

TA-BVS 240/243

A stainless steel balancing valve that delivers accurate hydronic performance in an impressive range of applications. The TA-BVS is available with flanges or welding ends and is ideal for use mainly on industrial applications and for high temperature.

Key features

Easy to operate
DN 15-50 are equipped with a precision control handwheel and allows the balancing valve to be locked to a set value, making the valve easy to adjust. DN 65-150 are equipped with a removable handle that ensures accurate and straightforward balancing. DN 200 and up are equipped with a manual gear.

Measuring points
For simple, accurate balancing.

Stainless steel
For high media resistance and longer valve lifetime.

Technical description

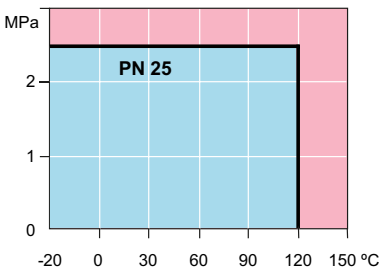
Application:
Heating and cooling systems

Functions:
Balancing
Pre-setting
Measuring
Shut-off

Dimensions:
DN 15-250

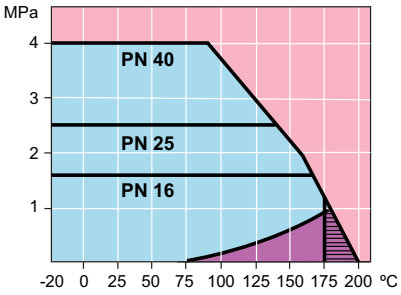
Pressure class:
Valve body:
DN 15-250: PN 25
Flanges:
DN 15-50: PN 25 (also fit PN 10, 16 and 40 flanges)
DN 65-250: PN 16 (PN 10, 25 and 40 on request)

Temperature:
DN 15-50:
Max. working temperature: 120°C
Min. working temperature: -20°C
Min. ambient temperature: -40 °C



Note: Not for steam.
Below -20°C contact IMI.

DN 65 and up:
Max. working temperature: 200°C
Min. working temperature: -20°C
Min. ambient temperature: -40 °C



Note: Not for steam.
Below -20°C contact IMI.

Water area
Steam area (not allowed)
Short-term working area

Media:
Clean media. Also suitable for industrial system with e.g. process water or glycol. For media with freezium, ethanol or methanol on request with EPDM O-rings. For more information, contact IMI.

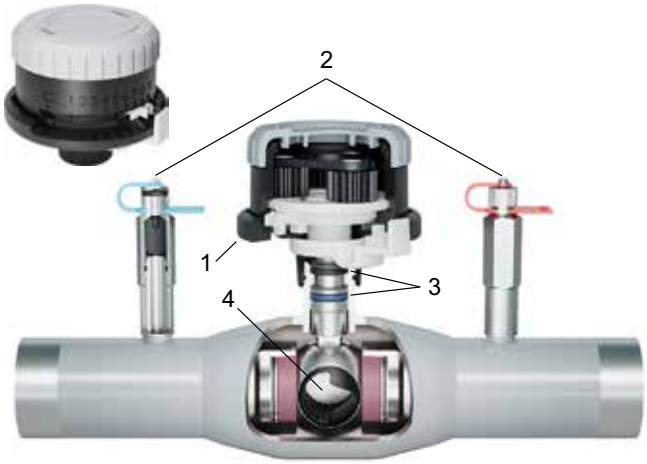
Leakage rate:
A (EN 12266-1)

Material:
Valve body: Stainless steel AISI 316L (EN 1.4404).
Flanges: Stainless steel AISI 316L (EN 1.4404).
Ball: Stainless steel AISI 316L (EN 1.4404), DN 15-50 also PA-GF30.
Ball seal: PTFE+GF.
Spindle: Stainless steel AISI 316L (EN 1.4404).
Spindle seals: FPM and NBR.
Measuring points: Stainless steel AISI 316L (EN 1.4404).
Handwheel (DN 15-50): PA-GF50.
Handle (DN 65-150): Zinc-plated steel.
DN 200-250 with manual gear.

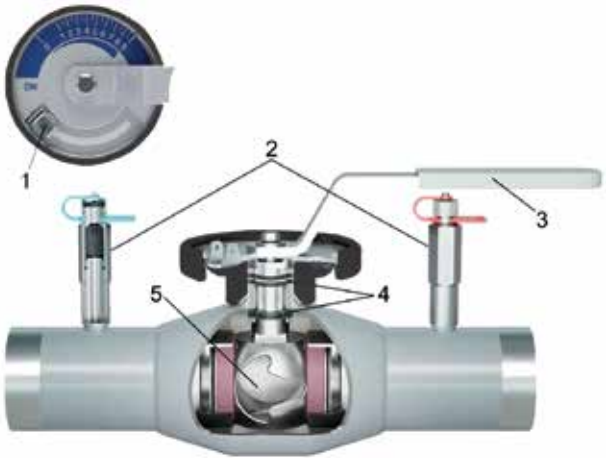
Marking:
Body and flanges: Traceability No.
Label on body: IMI TA, DN, PN, CE 0496* (DN 32-250), material, max. temperature, product No and flow direction arrow.
*) Notified body.

Flanges:
ISO 7005-1 (EN 1092-1)

Construction



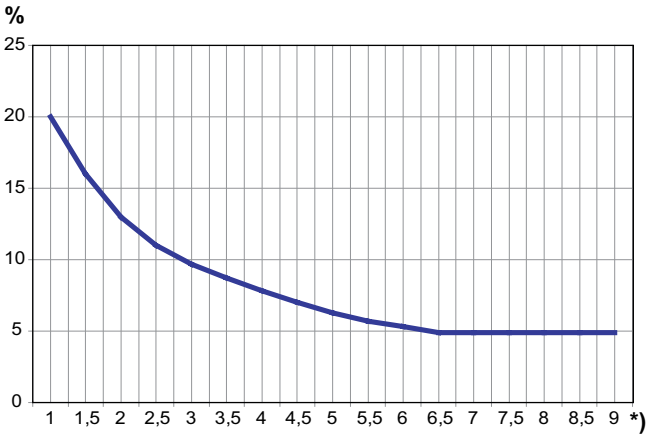
1. Precision control handwheel
2. Self-sealed measuring points
3. Two O-rings. The upper can be replaced during operation.
4. Ball with W-port flow tube. Equal percentage valve characteristic.



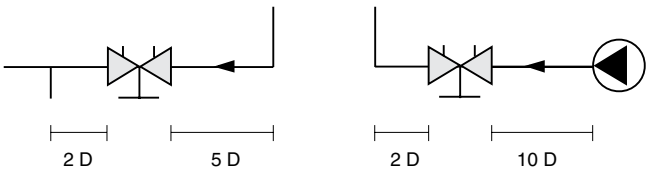
1. Locking screw
2. Self-sealed measuring points
3. Removable handle
4. Two O-rings. The upper can be replaced during operation.
5. Ball with W-port flow tube. Equal percentage valve characteristic.

Measuring accuracy

Deviation of flow at different settings
The curve is valid for valves with normal pipe fittings. Try also to avoid mounting taps and pumps, immediately before the valve.



*) Setting.



D = Valve DN

Sizing

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

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

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

Kv values

NOTE: New Kv values for valves DN 15-50 equipped with precision control handwheel. In softwares (HySelect, HyTools) and balancing instrument (TA-SCOPE) the TA-BVS, DN 15-50, is named TA-BVS*.
Kv values for DN 65 and up remain the same.

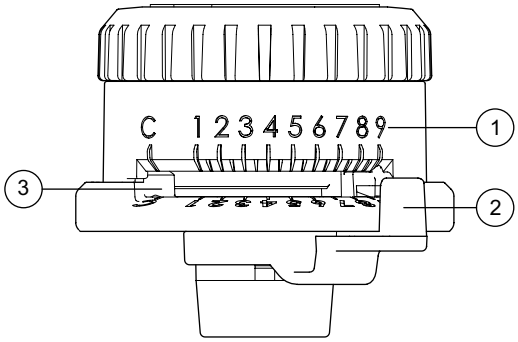
Setting	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200	DN 250
1	-	0,04	0,19	0,22	0,48	0,71	2,52	3,42	6,48	6,84	13,7	19,7	35,0
1,5	0,04	0,07	0,35	0,41	0,60	1,29	3,64	5,37	9,47	13,3	20,2	20,2	51,2
2	0,06	0,12	0,56	0,61	0,82	2,09	4,75	7,31	12,5	18,0	26,6	38,4	66,5
2,5	0,11	0,20	0,77	0,85	1,29	3,10	6,34	10,2	16,3	24,3	35,5	51,1	90,0
3	0,18	0,30	1,10	1,21	1,84	4,02	7,92	13,1	20,1	30,6	44,3	63,8	110
3,5	0,25	0,45	1,41	1,67	2,47	5,11	9,78	16,1	24,5	37,8	55,1	79,3	140
4	0,33	0,63	1,80	2,17	3,29	6,48	11,6	19,1	28,8	45,0	65,9	95,0	165
4,5	0,45	0,83	2,29	2,68	4,19	8,20	14,2	23,3	35,8	55,3	84,1	121	215
5	0,59	1,02	2,86	3,46	5,44	10,4	16,7	27,5	42,8	65,5	102	147	260
5,5	0,72	1,51	3,60	4,50	7,05	13,0	20,9	33,2	51,8	81,7	127	183	325
6	0,90	2,10	4,63	5,89	9,09	16,3	25,2	38,9	60,8	97,9	152	219	380
6,5	1,13	2,72	5,62	7,35	11,5	20,4	29,5	46,3	75,4	122	197	282	500
7	1,42	3,52	6,77	9,14	14,0	24,5	33,8	53,6	90,0	146	241	325	576
7,5	1,70	4,39	8,35	11,0	17,1	29,3	39,8	64,6	113	177	290	417	740
8	2,04	5,40	9,96	12,9	20,2	34,1	45,7	75,6	137	209	338	486	866
8,5	2,32	6,66	11,8	15,0	22,8	37,1	53,5	91,8	169	251	400	576	1020
9	2,61	8,18	13,8	17,3	25,1	39,7	61,2	108	216	294	461	660	1170

Old Kv values for DN 15-50 valves equipped with **handle**.

Setting	DN 15/20	DN 25	DN 32	DN 40	DN 50
1	-	-	0,39	0,60	1,26
1,5	-	0,35	0,57	1,01	1,80
2	0,14	0,49	0,83	1,48	2,70
2,5	0,28	0,99	1,08	2,02	3,55
3	0,42	1,36	1,44	2,70	4,39
3,5	0,61	1,66	1,80	3,24	5,61
4	0,80	2,00	2,30	3,96	6,84
4,5	1,02	2,40	2,74	4,86	8,34
5	1,24	3,00	3,42	5,98	9,83
5,5	1,64	3,50	4,21	7,18	11,9
6	2,04	4,50	5,11	8,57	14,0
6,5	2,64	5,10	5,97	10,2	16,9
7	3,24	6,70	7,27	12,3	19,8
7,5	3,84	7,30	8,64	14,4	23,4
8	4,45	9,30	10,1	17,6	27,0
8,5	5,04	10,0	11,5	20,9	30,6
9	5,83	12,6	13,1	22,6	34,2

Setting

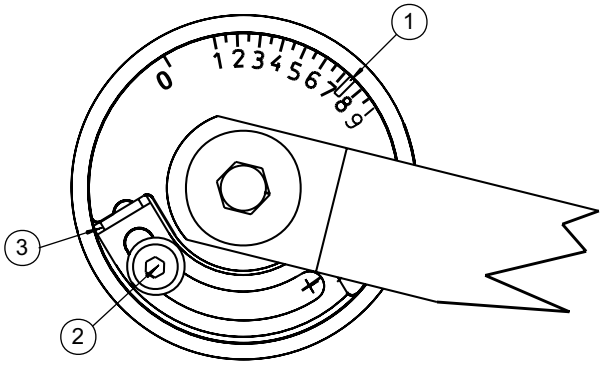
DN 15-50



1. Set the limiter (2) to the specified preset value (1).
2. Adjust the hand (3) so it rests on the edge of the limiter (2)

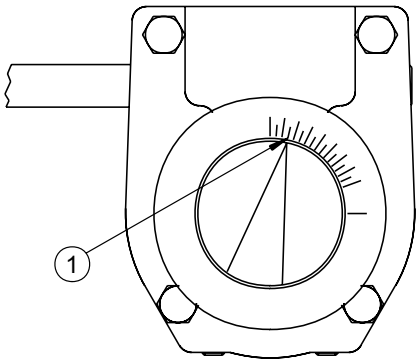
Note: If preset value **C** is selected, the valve will function as a shut-off valve.

DN 65-150



1. Adjust to the desired position (1).
2. Open the locking screw of the limiter (2).
3. Move the limiter against the edge of the scale plate (3).
4. Tighten the locking screw of the limiter (2).

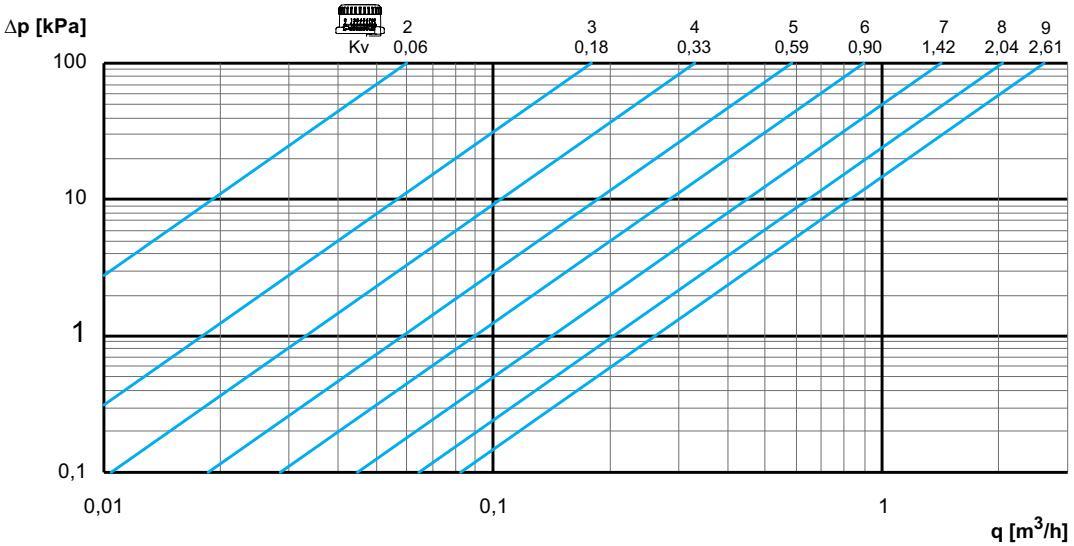
DN 200-250



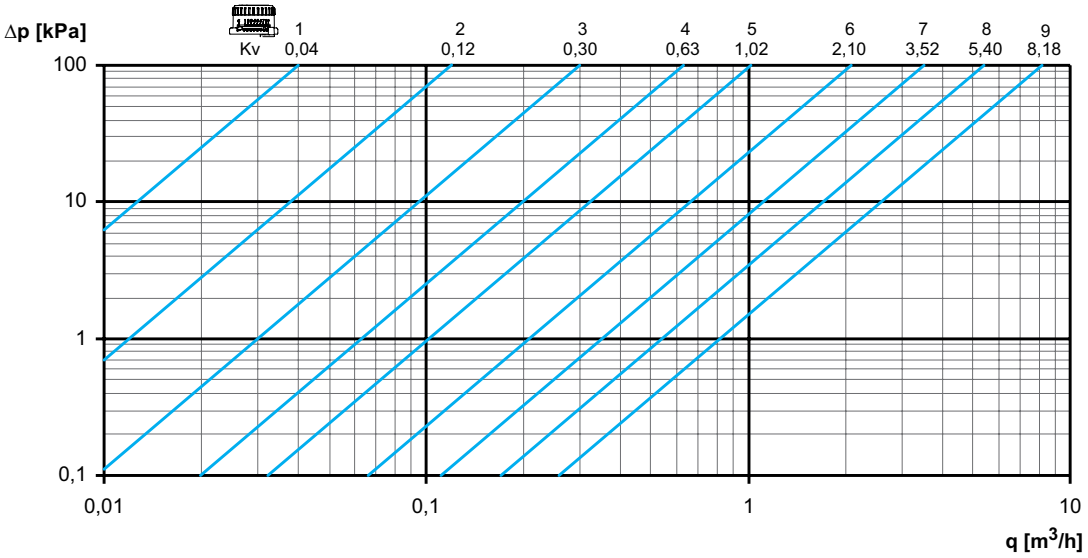
1. Adjust to the desired position (1).

Diagram

DN 15

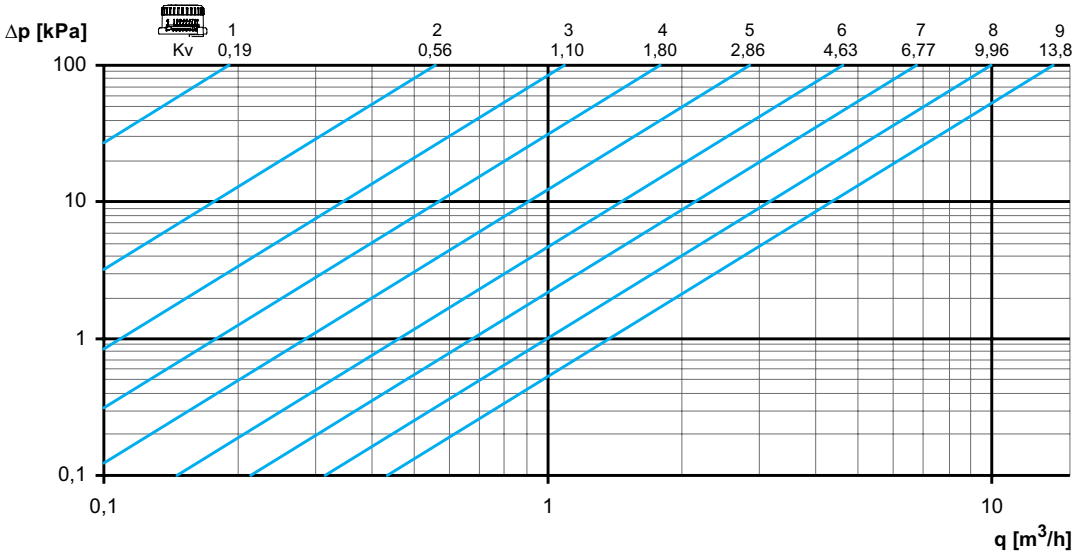


DN 20

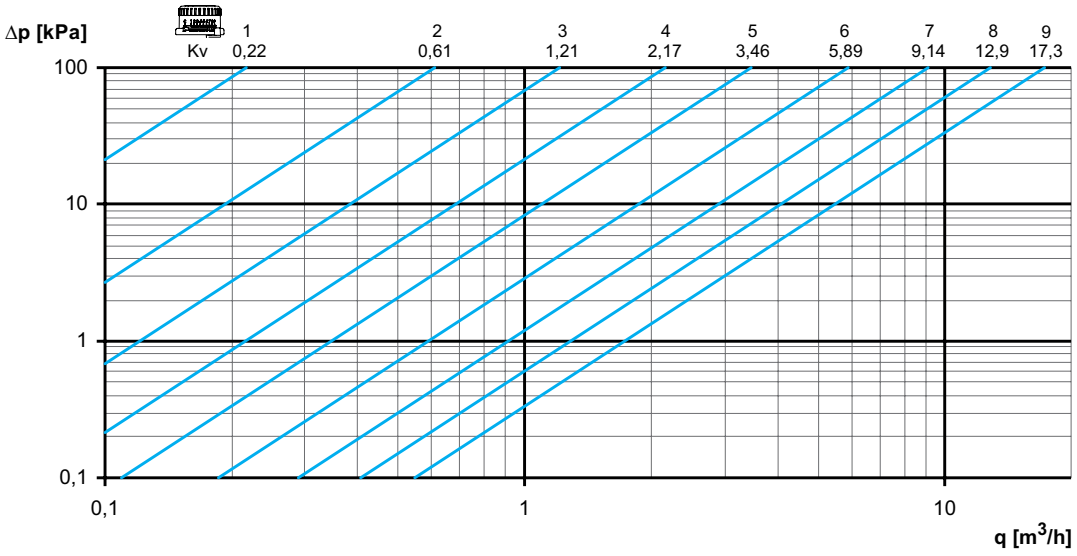


NOTE: New Kv values for valves DN 15-50 equipped with precision control handwheel. In softwares (HySelect, HyTools) and balancing instrument (TA-SCOPE) the TA-BVS, DN 15-50, is named TA-BVS*.
Kv values for DN 65 and up remain the same.

DN 25

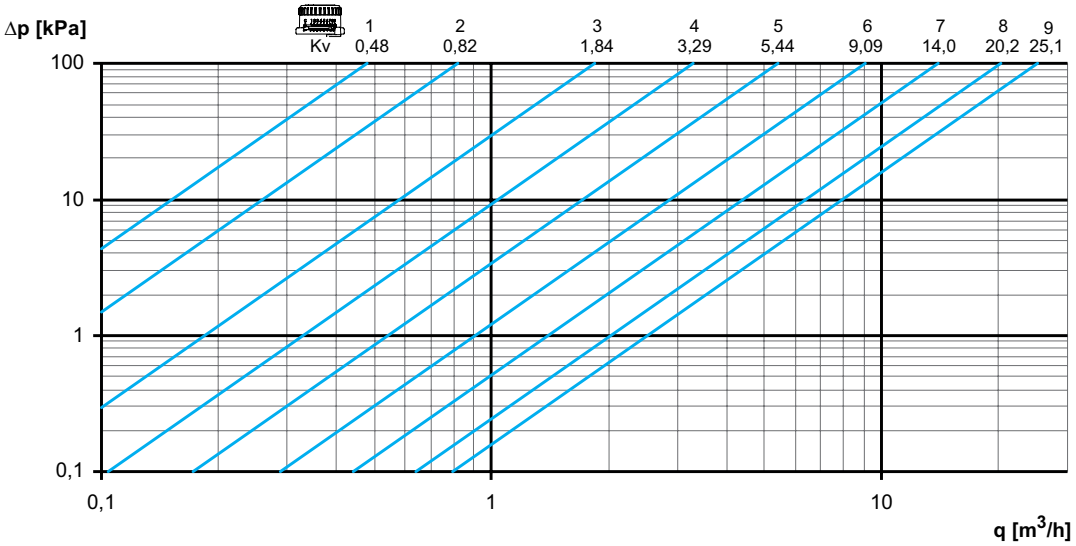


DN 32

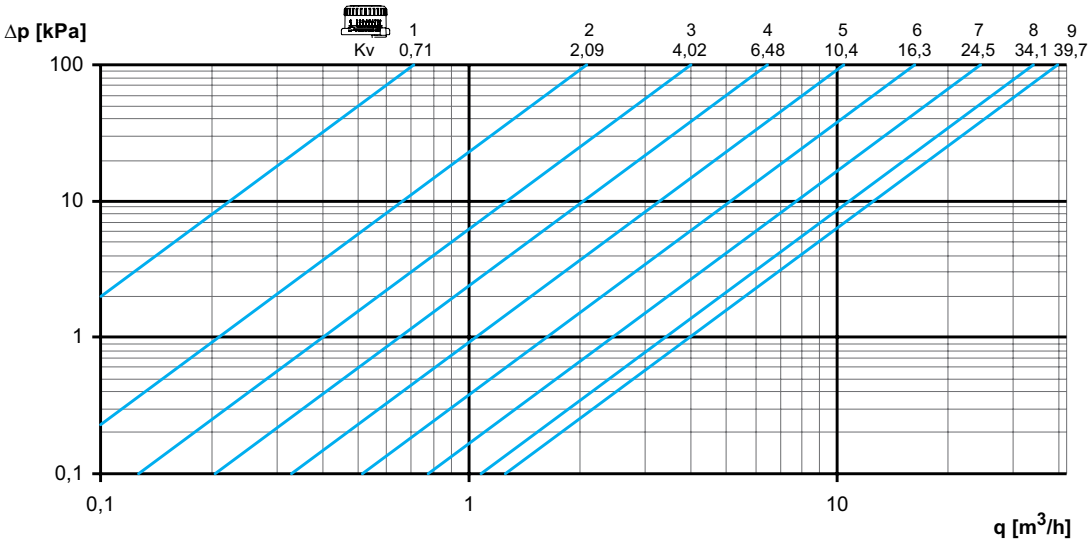


NOTE: New Kv values for valves DN 15-50 equipped with precision control handwheel. In softwares (HySelect, HyTools) and balancing instrument (TA-SCOPE) the TA-BVS, DN 15-50, is named TA-BVS*.
Kv values for DN 65 and up remain the same.

DN 40

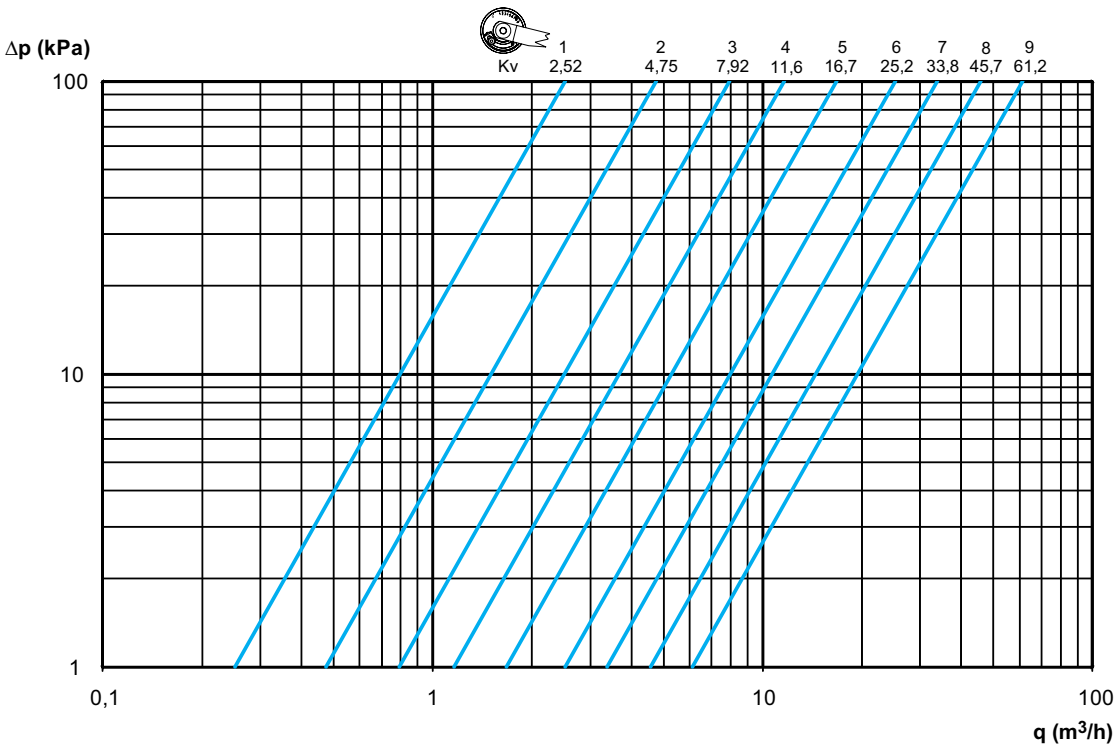


DN 50

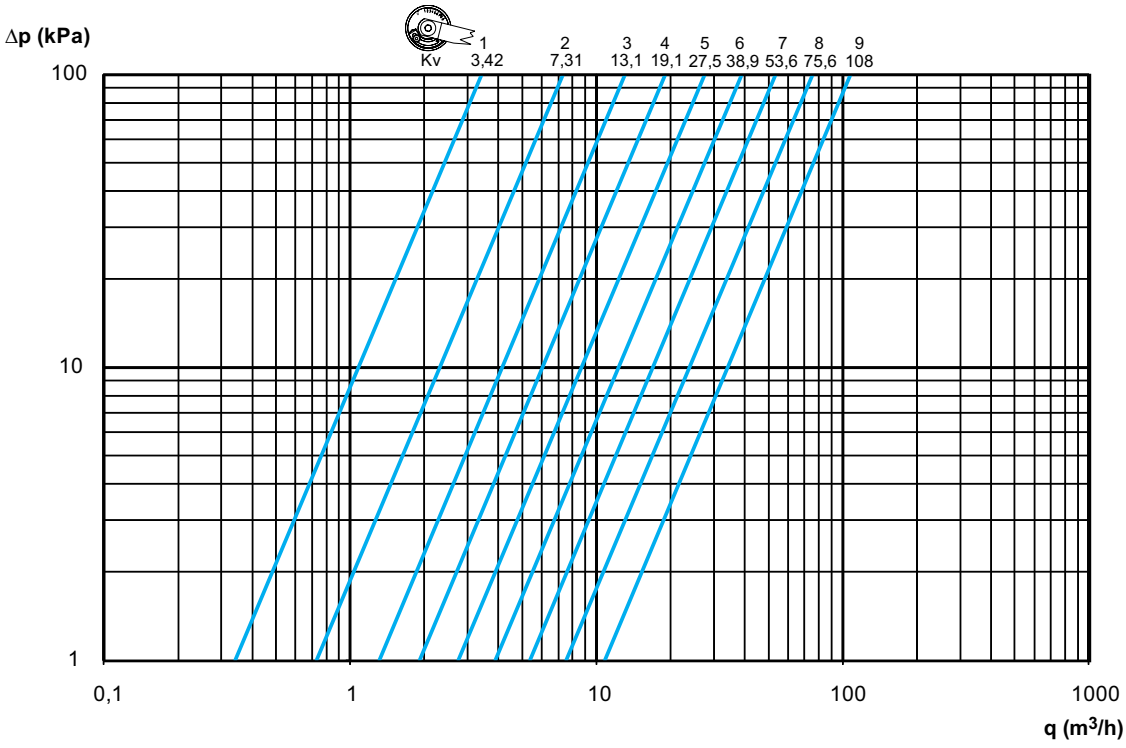


NOTE: New Kv values for valves DN 15-50 equipped with precision control handwheel. In softwares (HySelect, HyTools) and balancing instrument (TA-SCOPE) the TA-BVS, DN 15-50, is named TA-BVS*.
Kv values for DN 65 and up remain the same.

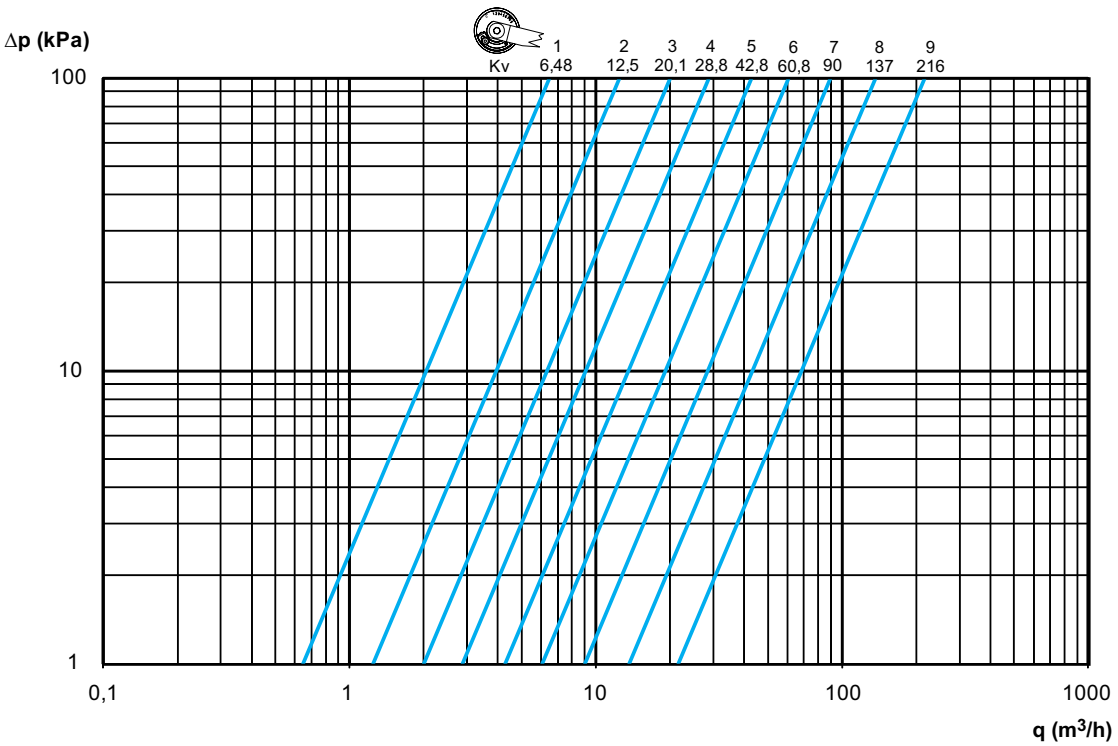
DN 65


Δp (kPa)
100
10
1
0,1
1
10
100
q (m3/h)
Kv
1 2,52
2 4,75
3 7,92
4 11,6
5 16,7
6 25,2
7 33,8
8 45,7
9 61,2

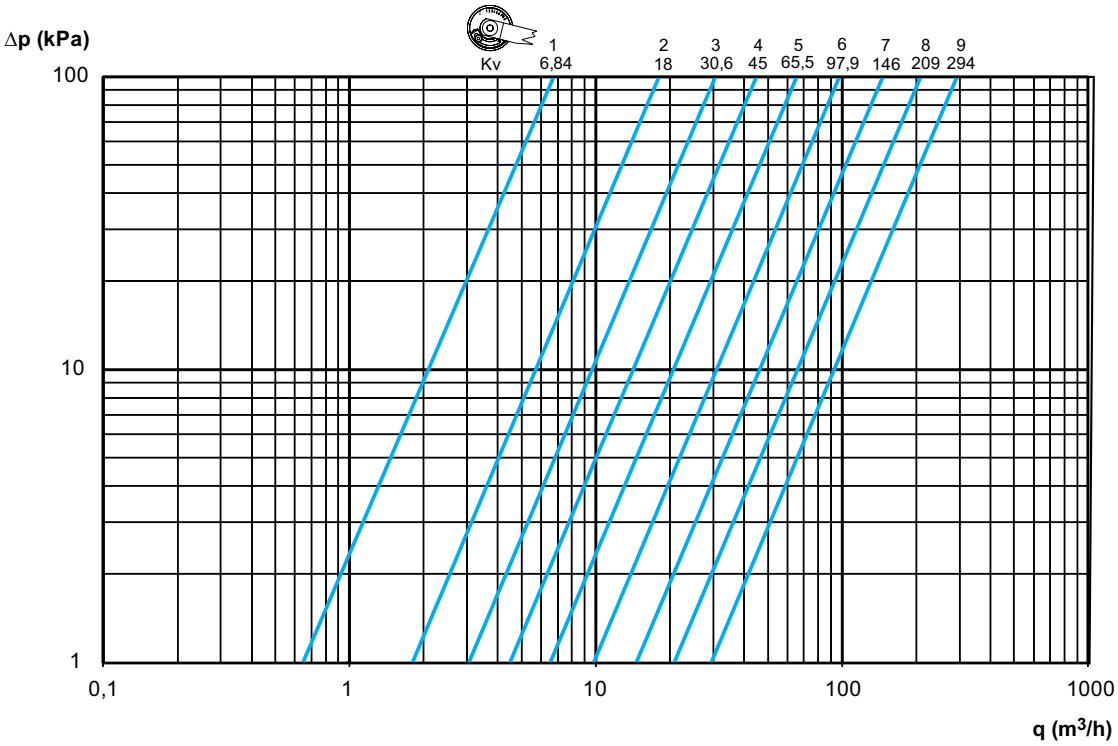
DN 80


Δp (kPa)
100
10
1
0,1
1
10
100
1000
q (m3/h)
Kv
1 3,42
2 7,31
3 13,1
4 19,1
5 27,5
6 38,9
7 53,6
8 75,6
9 108

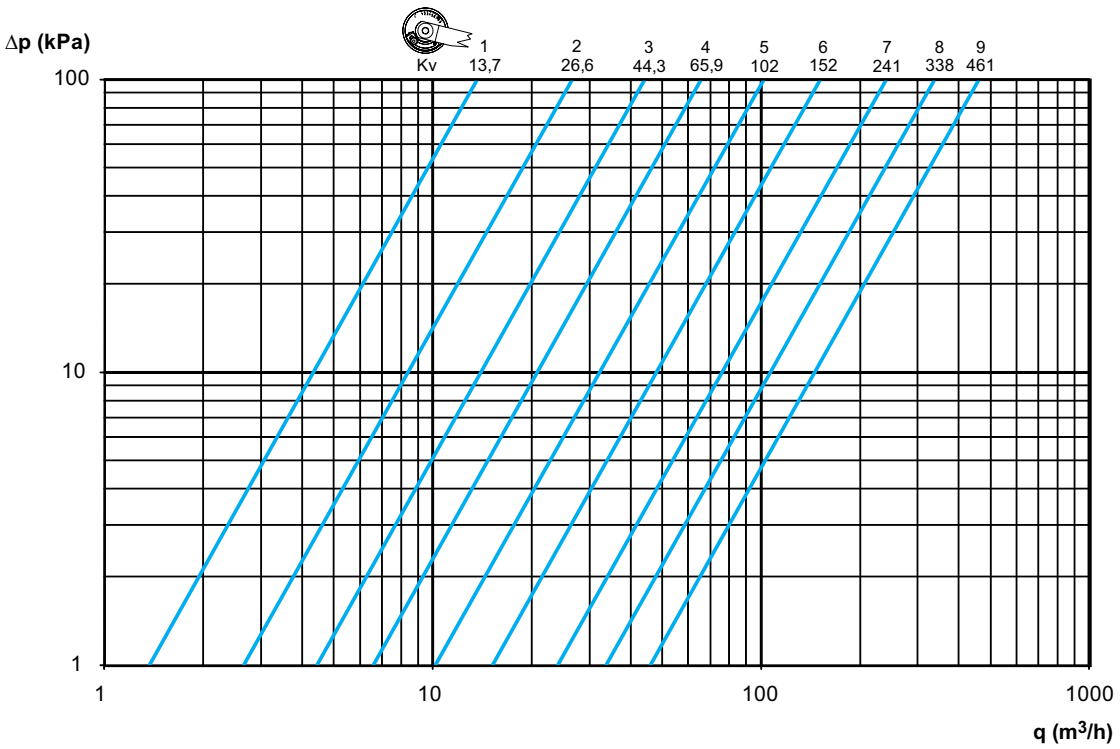
DN 100


Δp (kPa)
100
10
1
0,1
1
10
100
1000
q (m3/h)
Kv
1 6,48
2 12,5
3 20,1
4 28,8
5 42,8
6 60,8
7 90
8 137
9 216

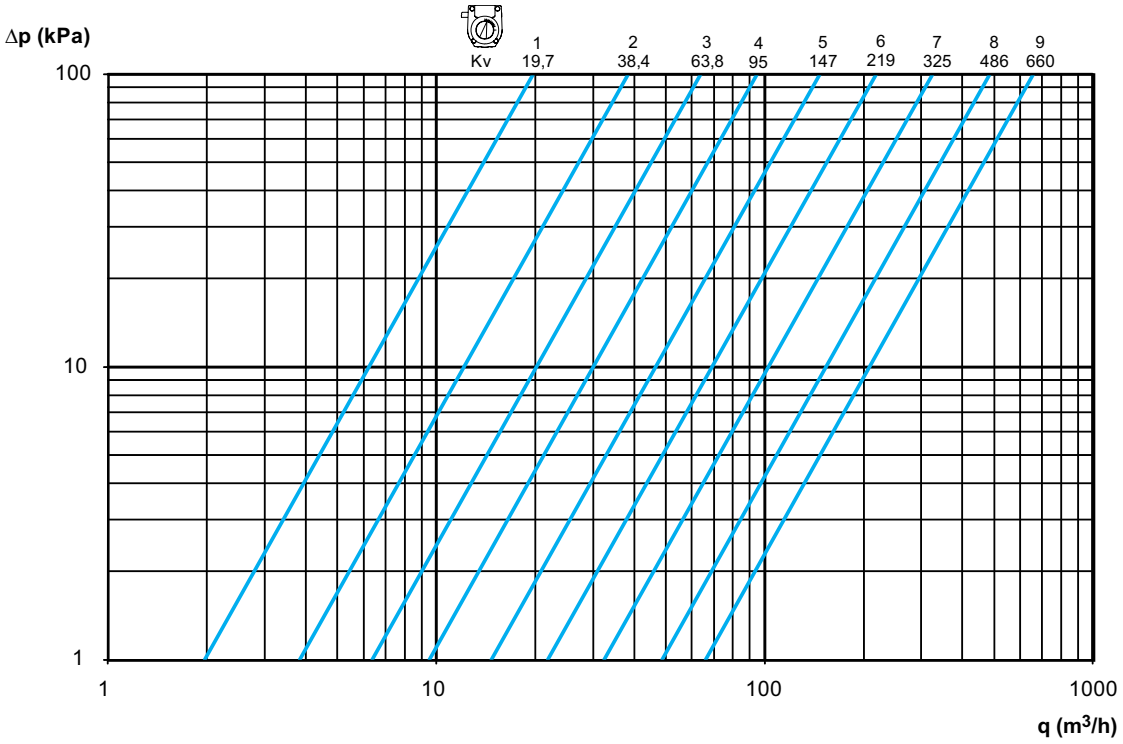
DN 125


Δp (kPa)
100
10
1
0,1
1
10
100
1000
q (m3/h)
Kv
1 6,84
2 18
3 30,6
4 45
5 65,5
6 97,9
7 146
8 209
9 294

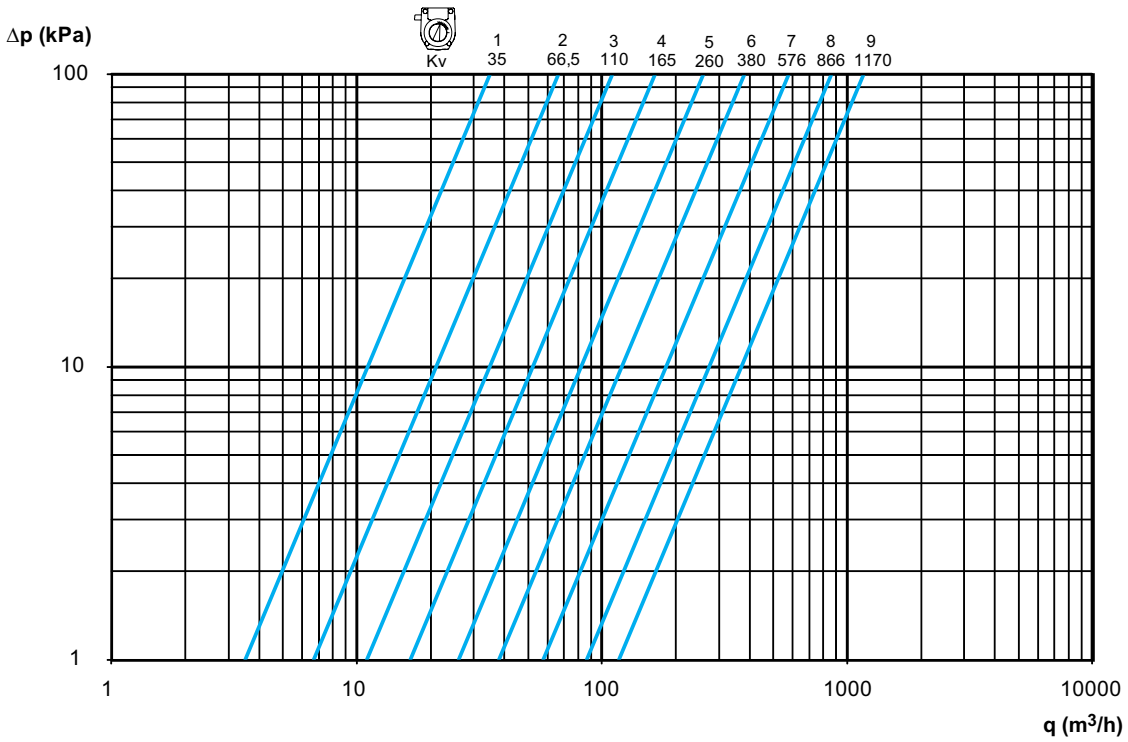
DN 150


Δp (kPa)
100
10
1
Kv
1 13,7
2 26,6
3 44,3
4 65,9
5 102
6 152
7 241
8 338
9 461
1
10
100
1000
q (m3/h)

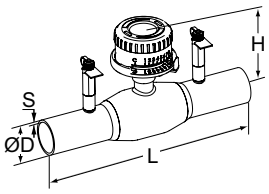
DN 200


Δp (kPa)
100
10
1
Kv
1 19,7
2 38,4
3 63,8
4 95
5 147
6 219
7 325
8 486
9 660
1
10
100
1000
q (m3/h)

DN 250


Δp (kPa)
Kv
1 35
2 66,5
3 110
4 165
5 260
6 380
7 576
8 866
9 1170
100
10
1
1
10
100
1000
10000
q (m3/h)

Articles

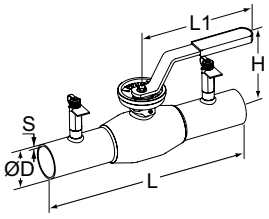


Welding ends – DN 15-50
Equipped with a precision control handwheel.
With measuring points.

PN 25

DN	ØD	L	H	S	Kvs	Kg	EAN	Article No
15	21,3	230	101	2,0	2,61	0,7	6415840116424	6-52 250-015
20	26,9	230	105	2,0	8,18	0,8	6415840116431	6-52 250-020
25	33,7	230	107	2,0	13,8	1,0	6415840116448	6-52 250-025
32	42,4	260	111	2,0	17,3	1,4	6415840116455	6-52 250-032
40	48,3	260	116	2,6	25,1	1,9	6415840116462	6-52 250-040
50	60,3	300	123	2,6	39,7	2,6	6415840116479	6-52 250-050

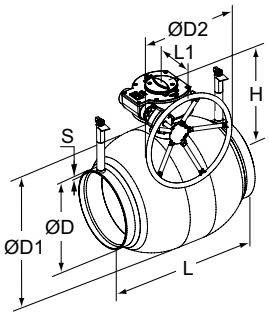
NOTE: New Kv values for valves DN 15-50 equipped with precision control handwheel. In softwares (HySelect, HyTools) and balancing instrument (TA-SCOPE) the TA-BVS, DN 15-50, is named TA-BVS*.
Kv values for DN 65 and up remain the same.



Welding ends – DN 65-150
Equipped with a removable handle.
With measuring points.

PN 25

DN	ØD	L	L1	H	S	Kvs	Kg	EAN	Article No
65	76,1	300	280	154	3,0	61,2	4,4	6415840183877	6-52 240-065
80	88,9	300	280	166	3,0	108	5,4	6415840183884	6-52 240-080
100	114,3	325	280	173	3,0	216	7,7	6415840183891	6-52 240-090
125	139,7	325	400	221	4,0	294	15	6415840183907	6-52 240-091
150	168,3	350	600	240	4,0	461	16	6415840183914	6-52 240-092

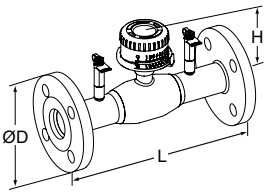


Welding ends – DN 200-250
Equipped with manual gear.
With measuring points.

PN 25

DN	ØD	ØD1	ØD2	L	L1	H	S	Kvs	Kg	EAN	Article No
200	219,1	273	250	400	268	293	4,0	660	38	6415840183921	6-52 240-093
250	273,0	356	300	530	301	345	4,0	1170	74	6415840183938	6-52 240-094

Kvs = m^3/h at a pressure drop of 1 bar and fully open valve.

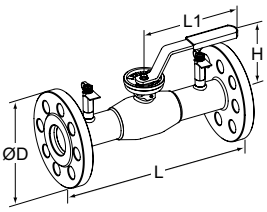


Flanged – DN 15-50
Equipped with a precision control handwheel.
With measuring points.

PN 25

DN	Number of bolt holes	ØD	L	H	Kvs	Kg	EAN	Article No
15	4x14	95	250	101	2,61	1,9	6415840426769	6-52 253-015
20	4x14	105	250	105	8,81	2,5	6415840426776	6-52 253-020
25	4x14	115	240	107	13,8	3,0	6415840426783	6-52 253-025
32	4x18	140	280	111	17,3	4,8	6415840426790	6-52 253-032
40	4x18	150	270	116	25,1	5,8	6415840426806	6-52 253-040
50	4x18	165	310	123	39,7	7,7	6415840426813	6-52 253-050

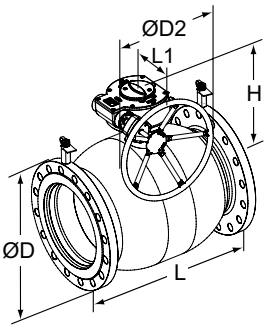
NOTE: New Kv values for valves DN 15-50 equipped with precision control handwheel. In softwares (HySelect, HyTools) and balancing instrument (TA-SCOPE) the TA-BVS, DN 15-50, is named TA-BVS*.
Kv values for DN 65 and up remain the same.



Flanged – DN 65-150
Equipped with a removable handle.
With measuring points.

PN 16

DN	Number of bolt holes	ØD	L	L1	H	Kvs	Kg	EAN	Article No
65	8x18	185	310	280	160	61,2	10	6415840116875	6-52 243-065
80	8x18	200	310	280	173	108	12	6415840116882	6-52 243-080
100	8x18	220	350	280	173	216	16	6415840116899	6-52 243-090
125	8x18	250	355	400	221	294	26	6415840116905	6-52 243-091
150	8x22	285	370	600	240	461	30	6415840116912	6-52 243-092



Flanged – DN 200-250
Equipped with manual gear.
With measuring points.

PN 16

DN	Number of bolt holes	ØD	ØD2	L	L1	H	Kvs	Kg	EAN	Article No
200	12x22	340	250	425	268	293	660	57	6415840116929	6-52 243-093
250	12x26	405	300	550	301	345	1170	104	6415840116936	6-52 243-094

Kvs = m^3/h at a pressure drop of 1 bar and fully open valve.

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