

TA-BVS 140/143



Balancing valves

Balancing valves of steel

TA-BVS 140/143

A steel balancing valve that delivers accurate hydronic performance in a wide range of applications. The TA-BVS 140/143 are available with flanges or welding ends and is ideal for use on heating and cooling systems (HVAC/R) and other oxygen-free water applications.

Key features

- > **Handle**
Equipped with a removable handle that ensures accurate and straightforward balancing.
- > **Steel body**
Fully welded body construction is light weight, easy to insulate and maintenance free.
- > **Measuring points**
For simple, accurate balancing.



Technical description

Application:

Heating and cooling systems

Functions:

Balancing
Pre-setting
Measuring (DN 15-300)
Shut-off

Dimensions:

DN 15-300, DN 400

Pressure class:

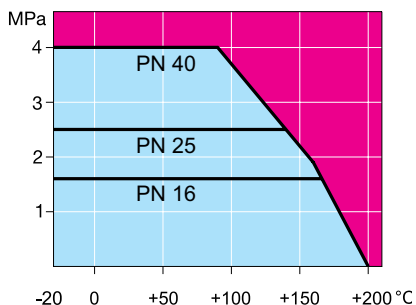
Valve body:
DN 15-50: PN 40
DN 65-300, DN 400: PN 25
Flanges:
DN 15-50: PN 40
DN 65-300, DN 400: PN 16
(PN 10, 25 and 40 on request)

Temperature:

Max. working temperature: 200°C

Note: Not for steam

Min. working temperature: -20°C
Below -20°C contact IMI Hydronic Engineering.



Media:

Clean media e.g. oxygen-free water or glycol.

Material:

Valve body: Steel P235GH (1.0345)
Ball: Stainless steel EN X5CrNi18-10 (1.4301)
Spindle: Stainless steel EN X8CrNiS18-9 (1.4305)
Spindle seal: FPM
Ball seal: Hardened PTFE
Measuring points (DN 15-300): Brass
Handle: DN 15-150 zinc-plated steel.
DN 200-300, DN 400 with manual gear.

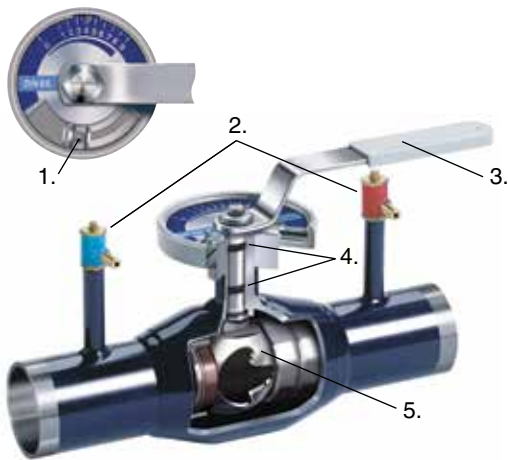
Marking:

Body and flanges: Traceability No.
Label on body: IMI TA, DN, PN, CE 0496*
(DN 40-400), material, max. temperature, product No and flow direction arrow.
) Notified body.

Flanges:

EN 1092-1, ISO 7005-1.

Operating instruction

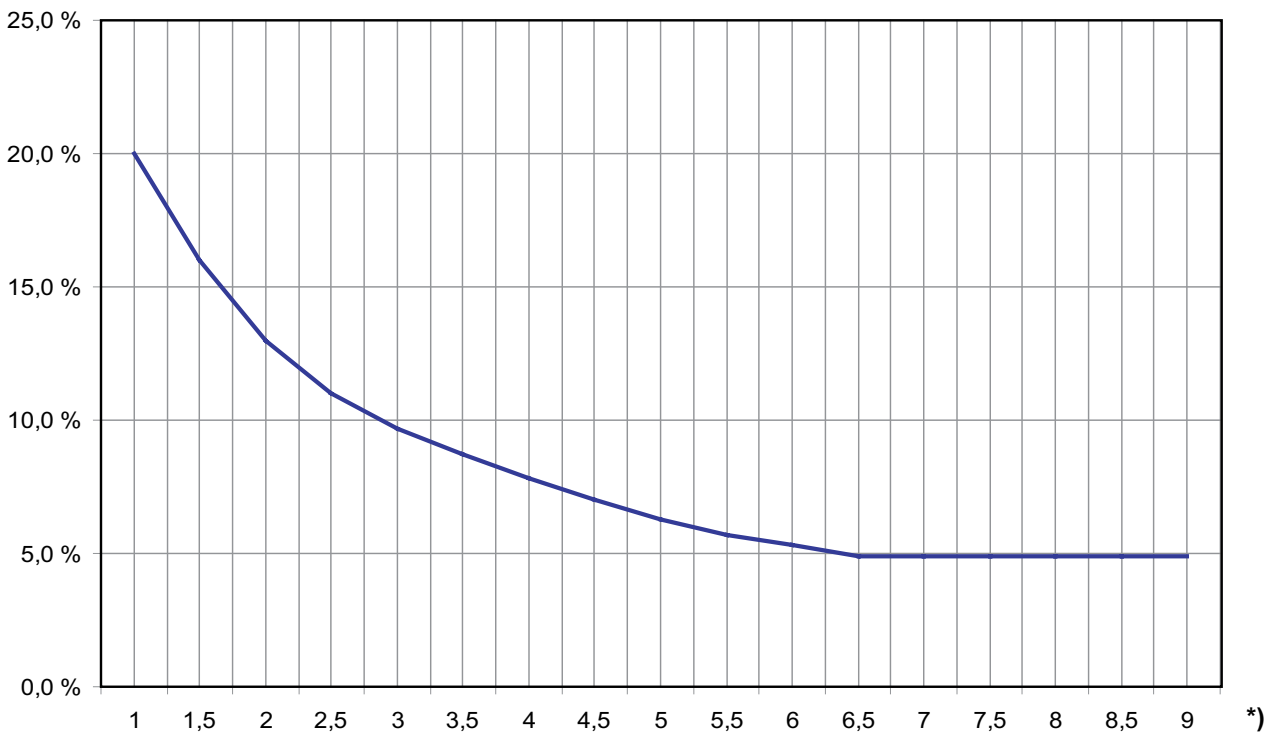


1. Locking screw
2. Measuring points
3. Removable handle
4. Two O-rings. The upper can be replaced during operation.
5. Ball with W-port. Equal percentage valve characteristic.

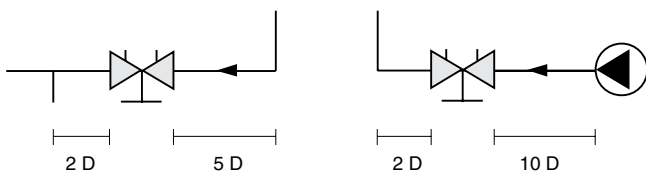
Measuring accuracy

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.

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

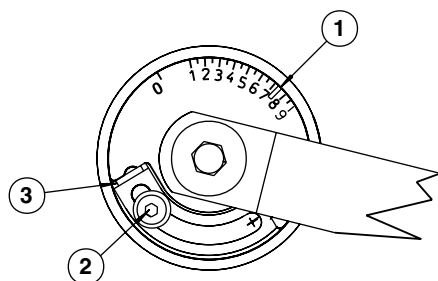
$$Kv = 36 \frac{q}{\sqrt{\Delta p}} \quad q \text{ l/s, } \Delta p \text{ kPa}$$

Kv values

Setting	DN 15/20	25	32	40	50	65	80	100	125	150	200	250	300	400
1	-	-	0,39	0,60	1,26	2,52	3,42	6,48	8,6	13,7	19,7	35,0	54,4	162
1,5	-	0,35	0,57	1,01	1,80	3,64	5,37	9,47	13,3	20,2	20,2	51,2	80,0	242
2	0,14	0,49	0,83	1,48	2,70	4,75	7,31	12,5	18,0	26,6	38,4	66,5	105	362
2,5	0,28	0,99	1,08	2,02	3,55	6,34	10,2	16,3	24,3	35,5	51,1	90,0	142	429
3	0,42	1,36	1,44	2,70	4,39	7,92	13,1	20,1	30,6	44,3	63,8	110	176	552
3,5	0,61	1,66	1,80	3,24	5,61	9,78	16,1	24,5	37,8	55,1	79,3	140	220	665
4	0,80	2,00	2,30	3,96	6,84	11,6	19,1	28,8	45,0	65,9	95,0	165	260	810
4,5	1,02	2,40	2,74	4,86	8,34	14,2	23,3	35,8	55,3	84,1	121	215	336	970
5	1,24	3,00	3,42	5,98	9,83	16,7	27,5	42,8	65,5	102	147	260	408	1194
5,5	1,64	3,50	4,21	7,18	11,9	20,9	33,2	51,8	81,7	127	183	325	510	1420
6	2,04	4,50	5,11	8,57	14,0	25,2	38,9	60,8	97,9	152	219	380	600	1744
6,5	2,64	5,10	5,97	10,2	16,9	29,5	46,3	75,4	122	197	282	500	785	2110
7	3,24	6,70	7,27	12,3	19,8	33,8	53,6	90,0	146	241	325	576	950	2636
7,5	3,84	7,30	8,64	14,4	23,4	39,8	64,6	113	177	290	417	740	1156	3380
8	4,45	9,30	10,1	17,6	27,0	45,7	75,6	137	209	338	486	866	1353	4191
8,5	5,04	10,0	11,5	20,9	30,6	53,5	91,8	169	251	400	576	1020	1594	5545
9	5,83	12,6	13,1	22,6	34,2	61,2	108	216	294	461	660	1170	1840	7159

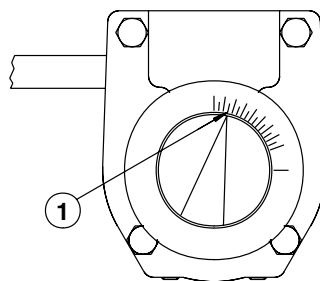
Setting

DN 15-150



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 200-300, DN 400



1. Adjust to the desired position **(1)**.

Diagram DN 15-20

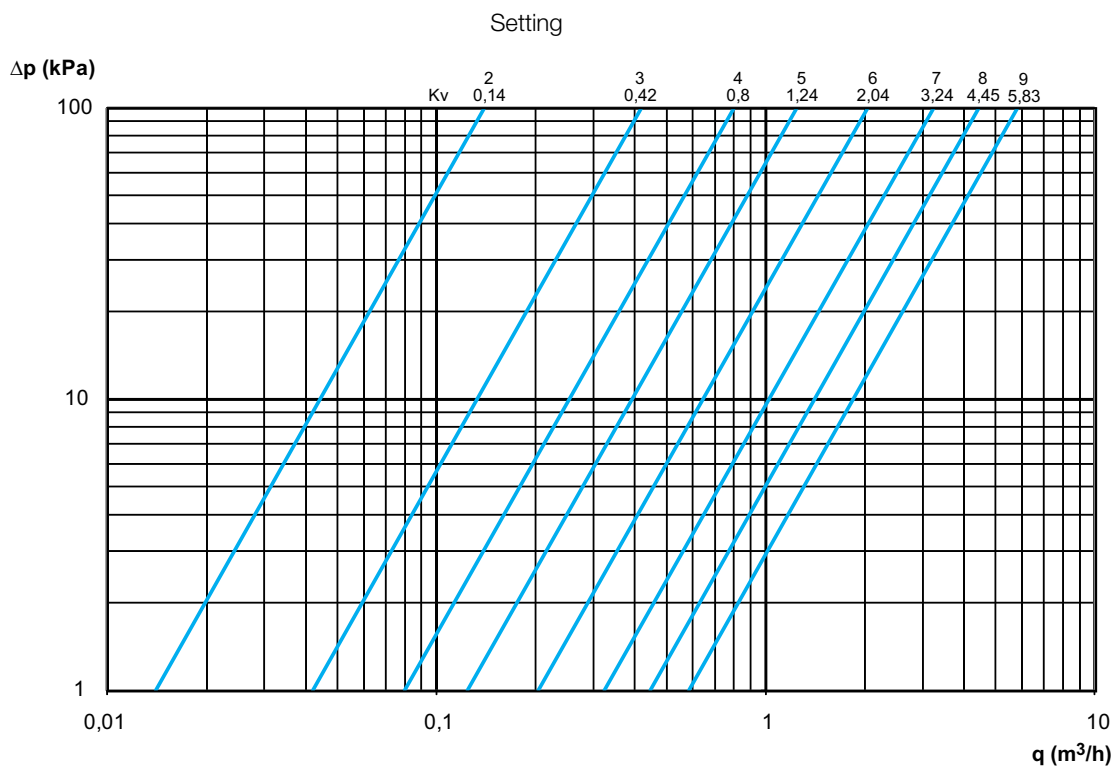


Diagram DN 25

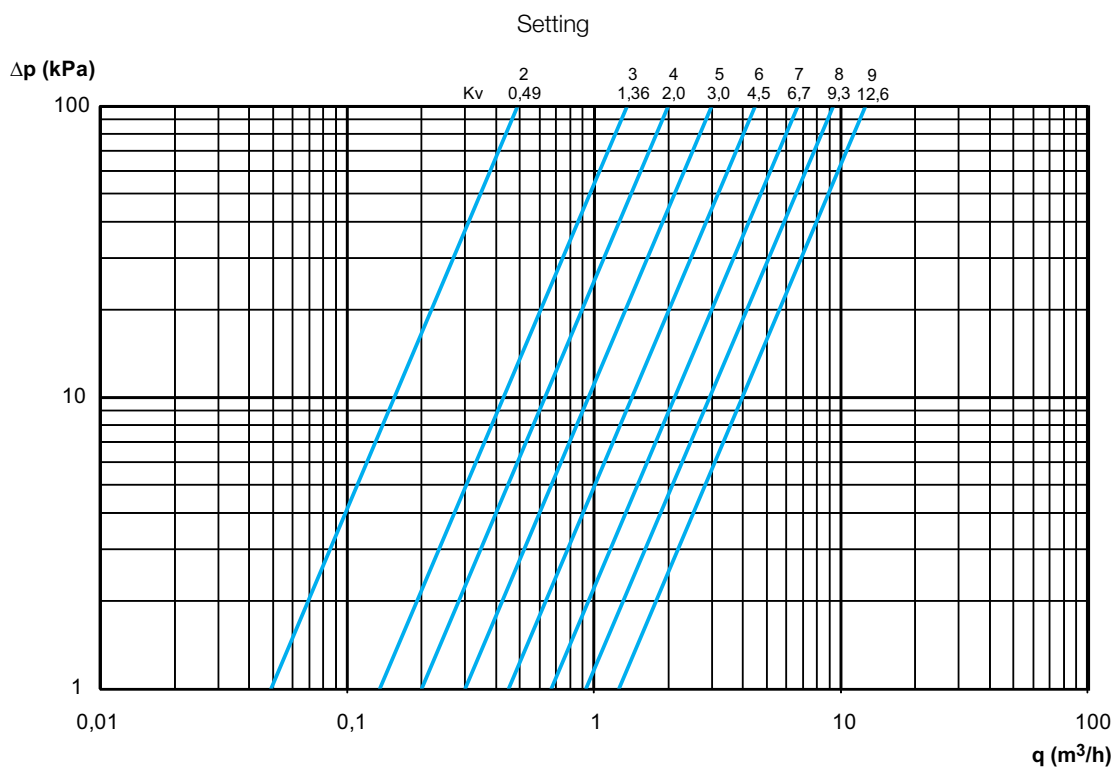


Diagram DN 32

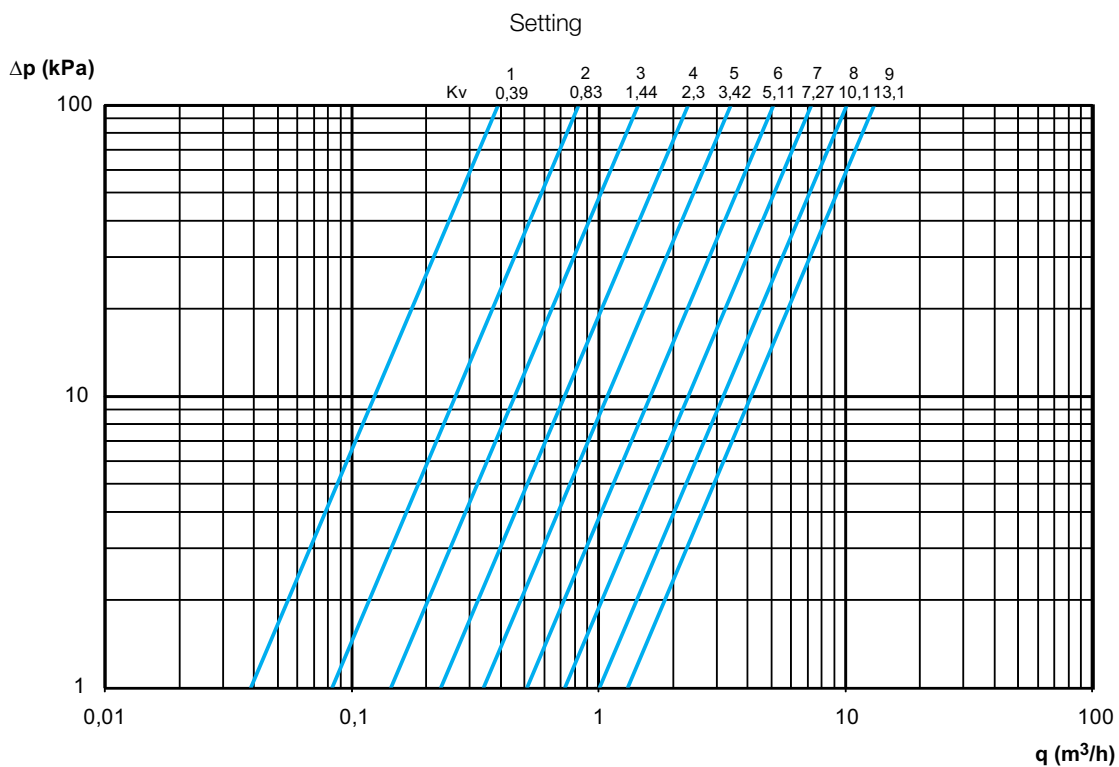


Diagram DN 40

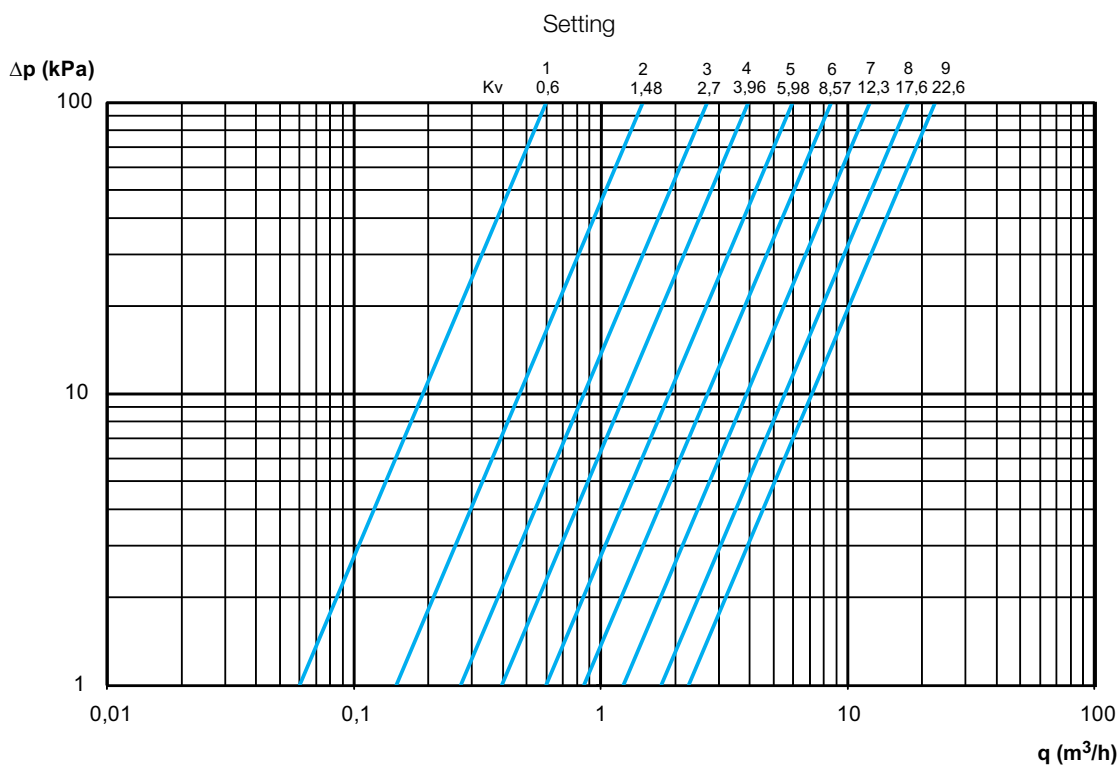


Diagram DN 50

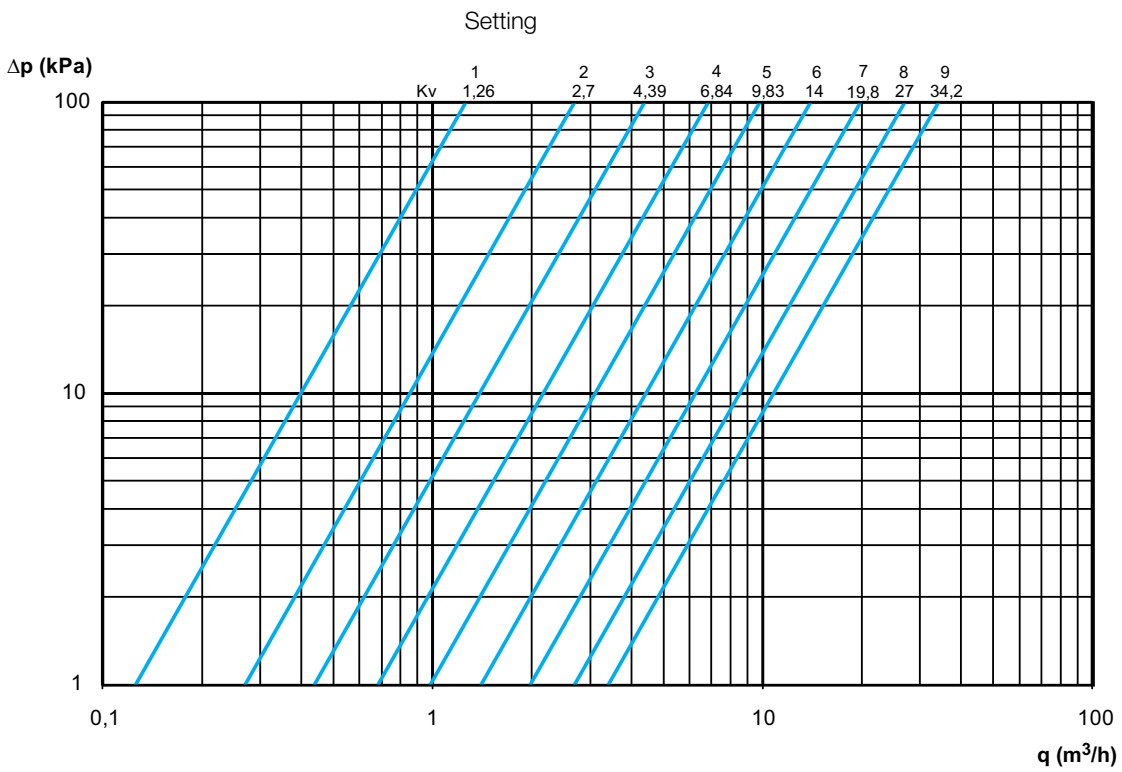


Diagram DN 65

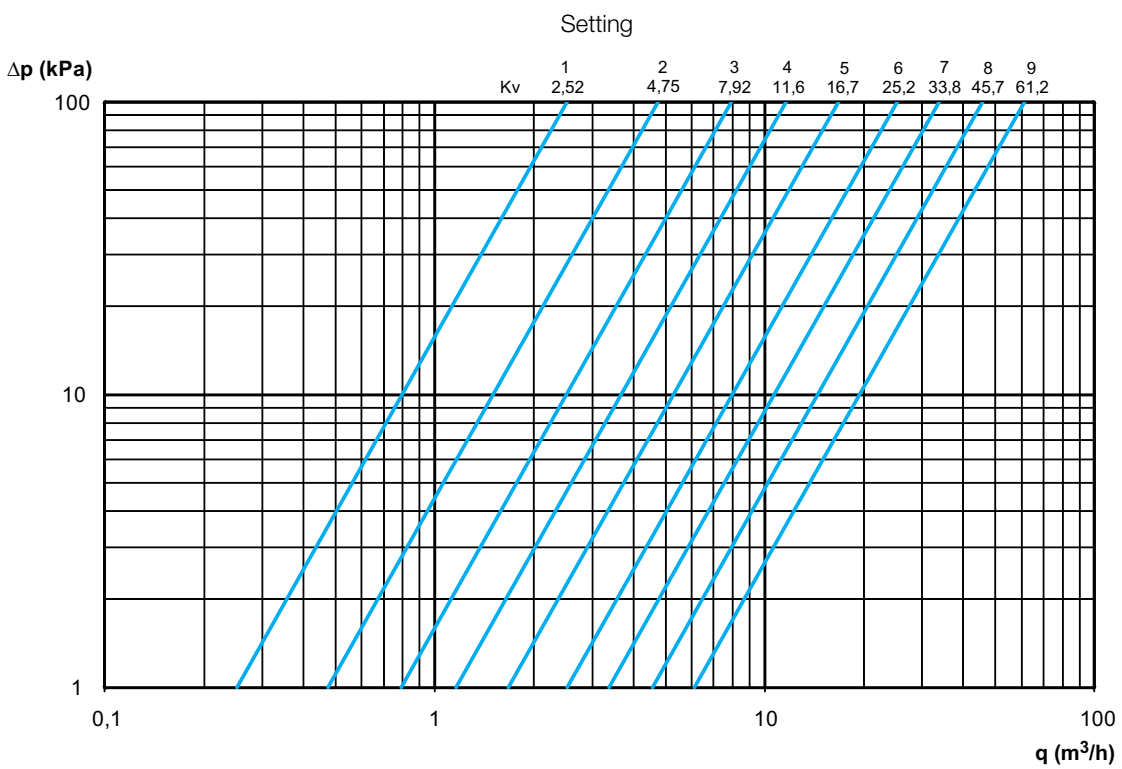


Diagram DN 80

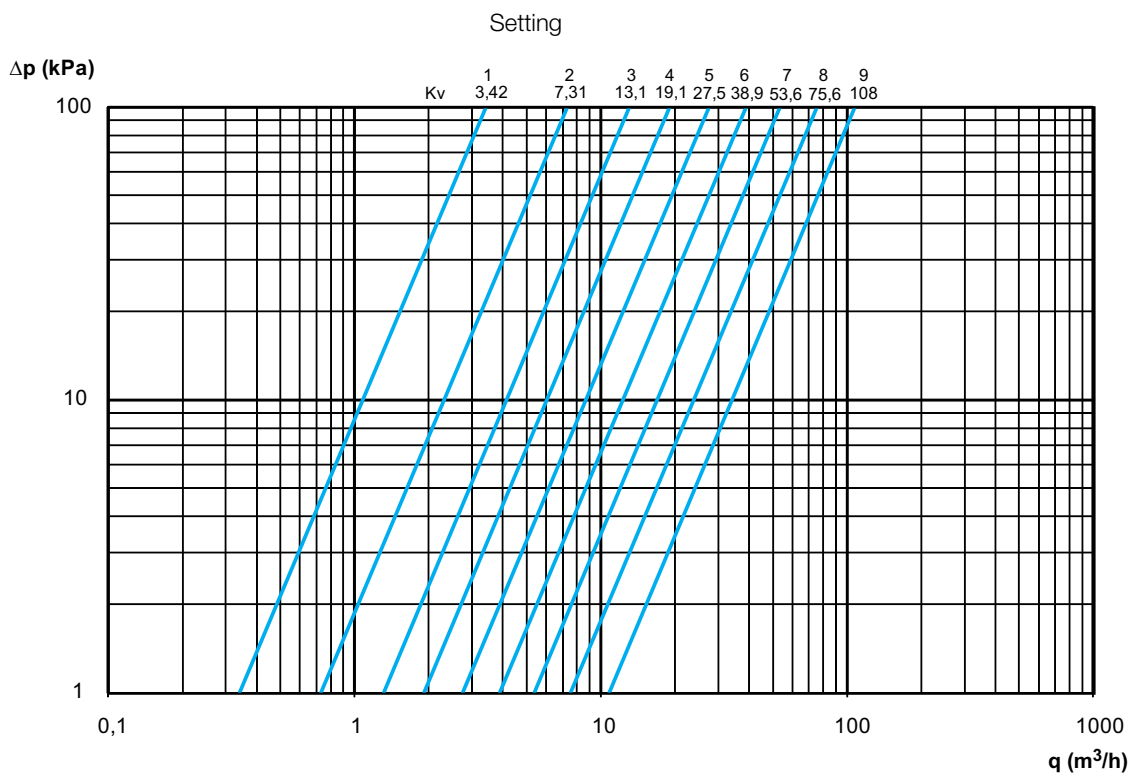


Diagram DN 100

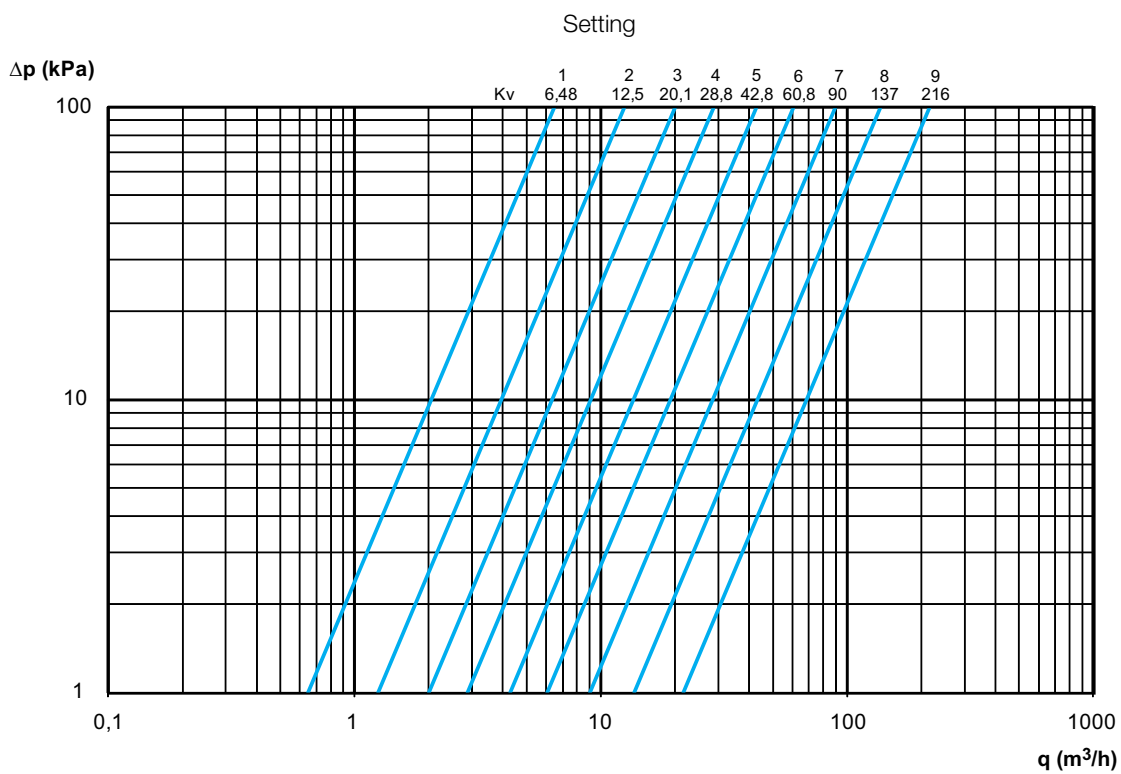


Diagram DN 125

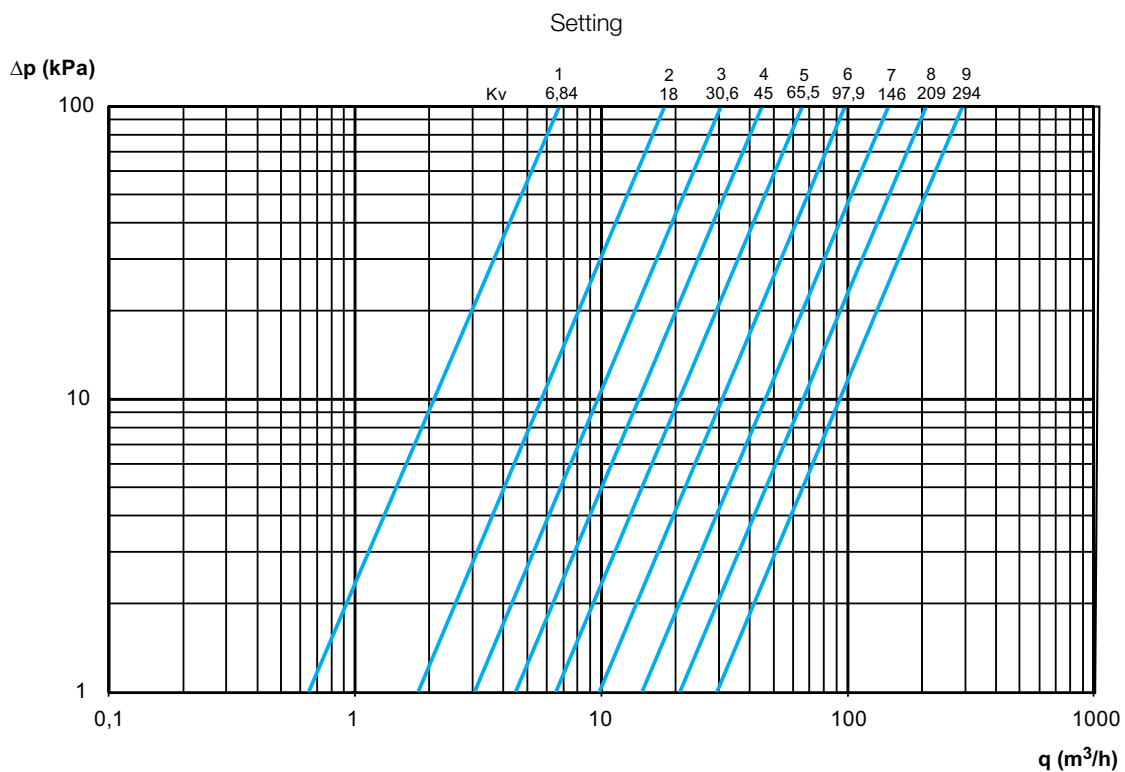


Diagram DN 150

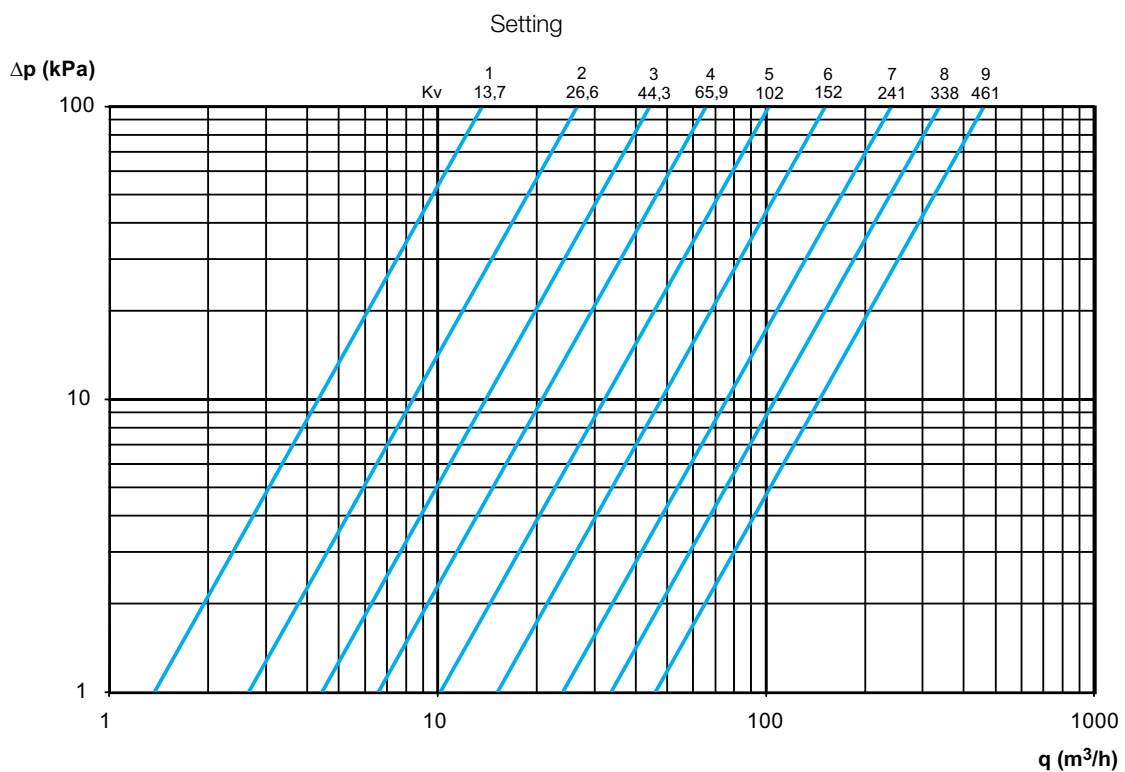


Diagram DN 200

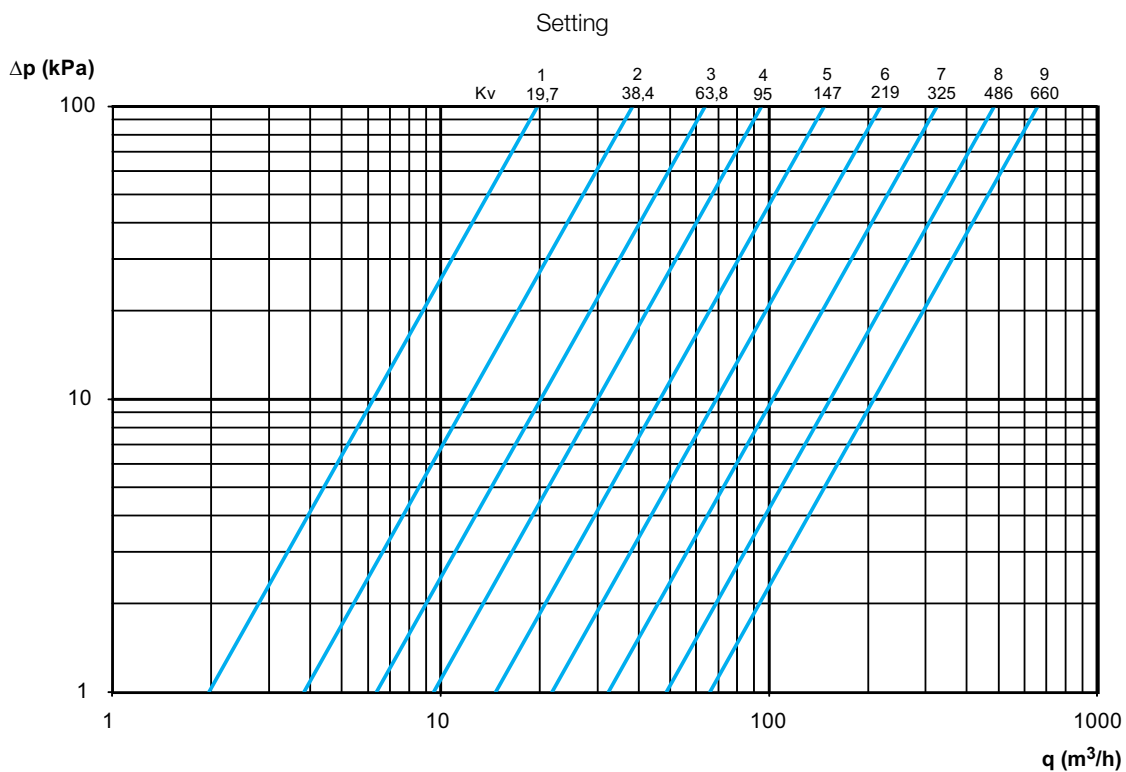


Diagram DN 250

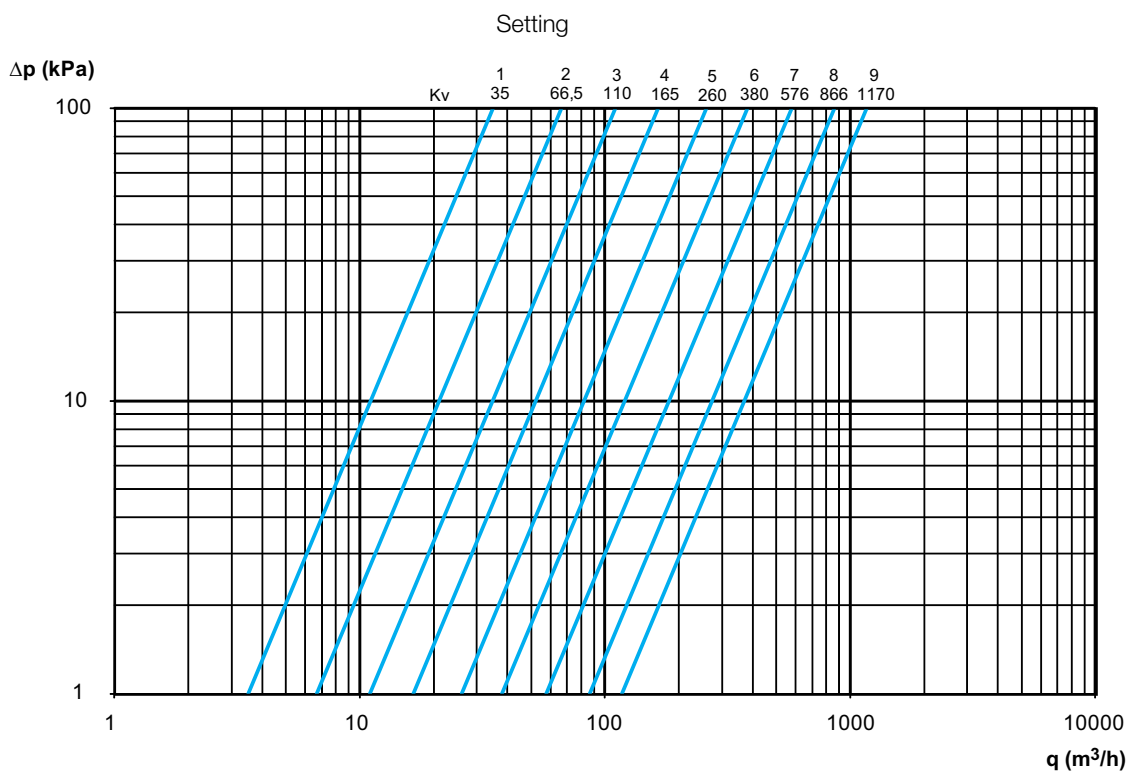


Diagram DN 300

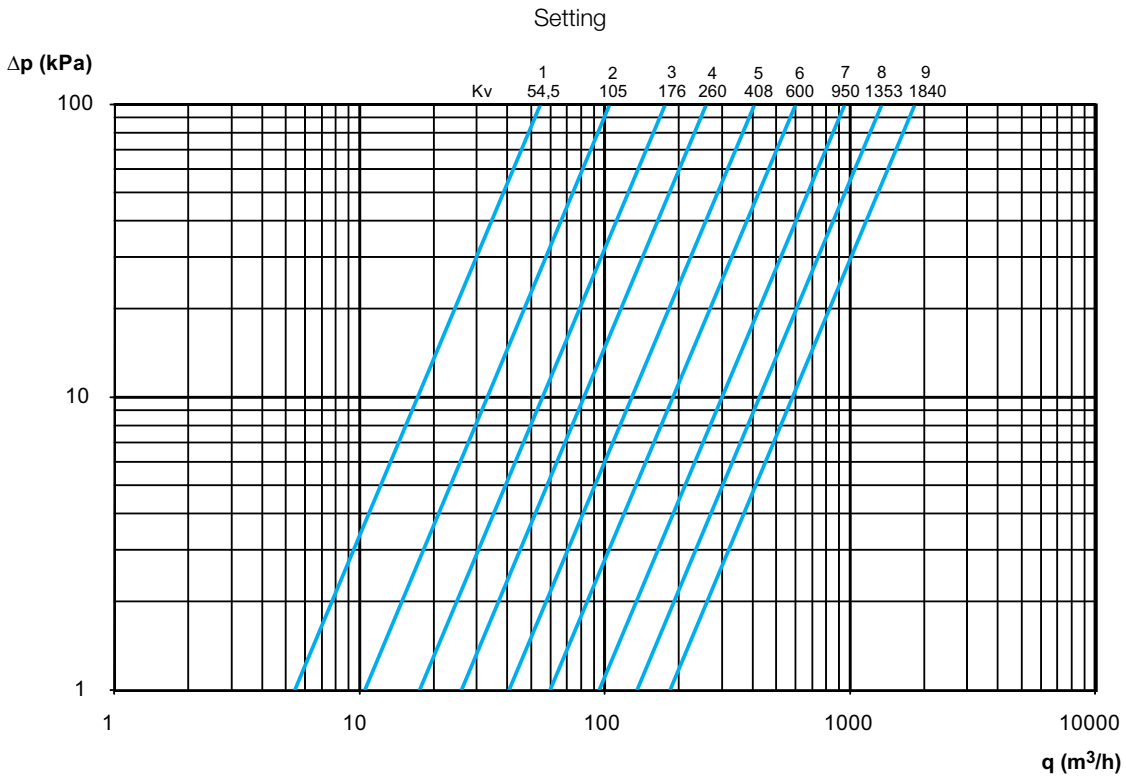


Diagram DN 400

