

Climate
Control

IMI Flow Design

243/25 Series



Balancing Valves

Stainless Steel, for high media resistance

243/25 Series

A stainless steel balancing valve that delivers accurate hydronic performance in an impressive range of applications. 243/25 Series, is available with flanges or welding ends and is ideal for use mainly on industrial applications and for high temperature.



Key features

- > **Handle**
Equipped with a removable handle that ensures accurate and straightforward balancing
- > **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:
½" - 10"

Pressure class:
Welding ends version:
½" - 2" - 580 psi (PN40)
2½" - 10" - 362 psi (PN25)
Flanged ends version:
½" - 2" - 580 psi (PN40) with class 300 flange
2½" - 10" - 362 psi (PN25) with class 300 flange
290 psi (PN20) with class 150 flange is available upon request for 2½" to 10"

Temperature:
Max. working temperature: 392°F
Note: Not for steam
Min. working temperature: -22°F
Below -14°F contact IMI Hydronic Eng.

Media:
Clean media. Also suitable for industrial system with e.g. process water, ethanol, methanol, glycol or freezium.

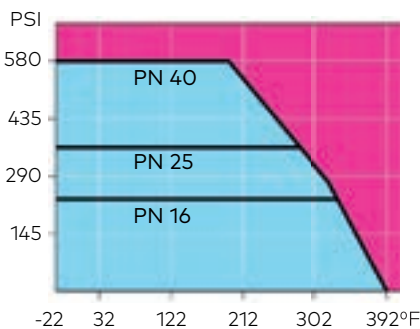
Material:
Valve body: Stainless steel (EN X2CrNiMo 17-12-2 91.4404)
Ball: Stainless steel (EN X2CrNiMo 17-12-2 91.4404)
Spindle seals: FPM and NBR
Ball seal: Hardened PTFE
Handle:
½" - 2" - Stainless steel
2½" - 6" - Zinc-plated steel
8" - 10" - with manual gear
Measuring points: Stainless steel (EN X2CrNiMo 17-12-2 91.4404)

Marking:
Body and flanges: Traceability No.
Label on body: DN, PN and CE (according to table), material, max. temperature, product No. and flow direction arrow.

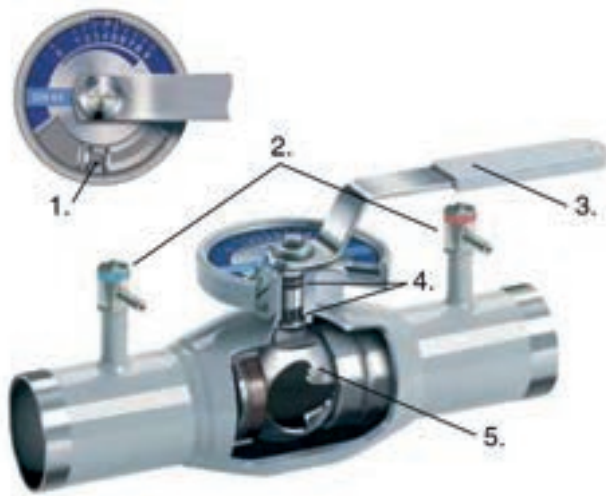
Marking	PN 40	PN 25
CE 04968*	½" - 2"	2½" - 10"

*Notified body

Flanges:
ASME



Operating Instructions

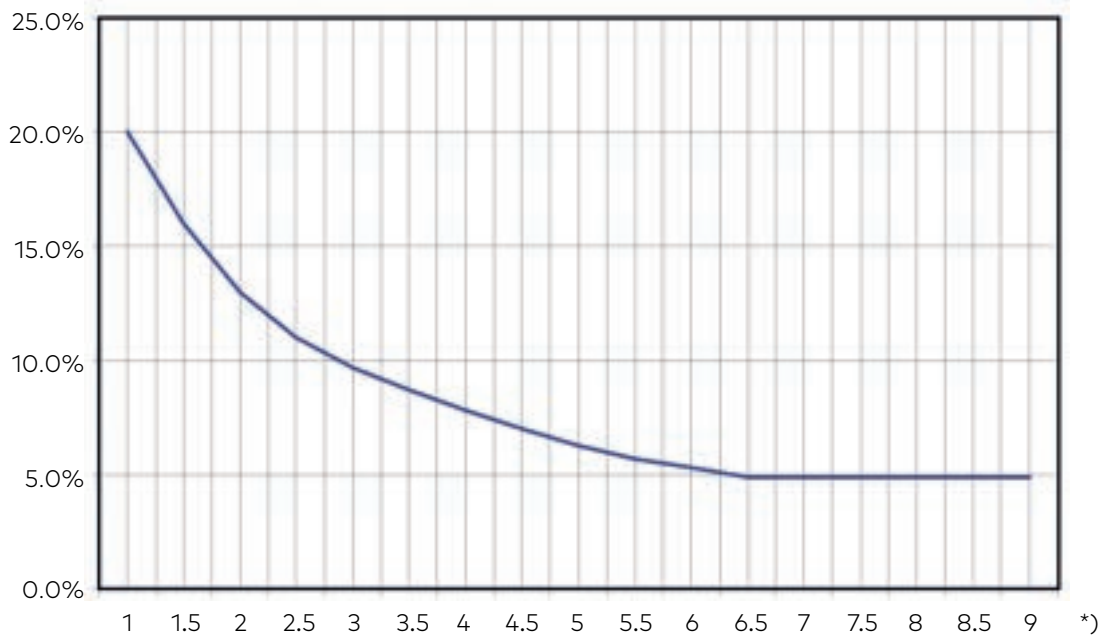


1. Locking screw
2. Measuring points
3. Removable handle
4. Two O-rings. The upper can be replaced during operation.
5. Ball with W-port. Equal percentage valve characteristic.
Starts at DN 65

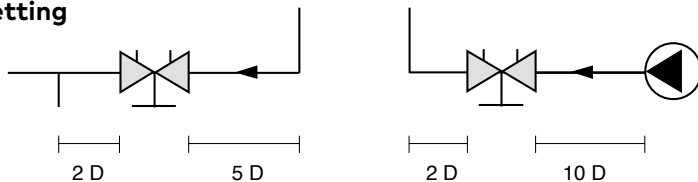
Measuring Accuracy

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



Note

D = Valve Size

Sizing

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

$$Cv = \frac{q}{\sqrt{\Delta p}} \quad q, \text{ gpm}, \Delta p \text{ psi}$$

Cv values

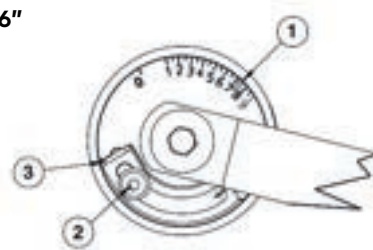
Setting	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"	10"
1		0.05	0.22	0.25	0.56	0.82	2.92	3.96	7.50	7.91	15.85	22.79	40.50
1.5	0.05	0.08	0.40	0.47	0.69	1.49	4.21	6.21	10.96	15.39	23.37	23.37	59.24
2	0.07	0.14	0.65	0.71	0.95	2.42	5.50	8.46	14.46	20.83	30.78	44.43	76.94
2.5	0.13	0.23	0.89	0.98	1.49	3.59	7.34	11.80	18.86	28.12	41.07	59.12	104.13
3	0.21	0.35	1.27	1.40	2.13	4.65	9.16	15.16	23.26	35.40	51.26	73.82	127.27
3.5	0.29	0.52	1.63	1.93	2.86	5.91	11.32	18.63	28.35	43.73	63.75	91.75	161.98
4	0.38	0.73	2.08	2.51	3.81	7.50	13.42	22.10	33.32	52.07	76.25	109.92	190.91
4.5	0.52	0.96	2.65	3.10	4.85	9.49	16.43	26.96	41.42	63.98	97.30	140.00	248.76
5	0.68	1.18	3.31	4.00	6.29	12.03	19.32	31.82	49.52	75.78	118.01	170.08	300.82
5.5	0.83	1.75	4.17	5.21	8.16	15.04	24.18	38.41	59.93	94.53	146.94	211.73	376.03
6	1.04	2.43	5.36	6.81	10.52	18.86	29.16	45.01	70.35	113.27	175.86	253.38	439.66
6.5	1.31	3.15	6.50	8.50	13.31	23.60	34.13	53.57	87.24	141.15	227.93	326.27	578.50
7	1.64	4.07	7.83	10.57	16.20	28.35	39.11	62.02	104.13	168.92	278.84	376.03	666.43
7.5	1.97	5.08	9.66	12.73	19.78	33.90	46.05	74.74	130.74	204.79	335.53	482.47	856.18
8	2.36	6.25	11.52	14.93	23.37	39.45	52.87	87.47	158.51	241.81	391.07	562.30	1001.96
8.5	2.68	7.71	13.65	17.36	26.38	42.92	61.90	106.21	195.53	290.41	462.80	666.43	1180.14
9	3.02	9.46	15.97	20.02	29.04	45.93	70.81	124.96	249.91	340.16	533.38	763.62	1353.69

Old Cv values for 1/2" – 2" valves equipped with handle.

Setting	1/2" - 3/4"	1"	1 1/4"	1 1/2"	2"
1			0.45	0.69	1.46
1.5		0.40	0.66	1.17	2.08
2	0.16	0.57	0.96	1.71	3.12
2.5	0.32	1.15	1.25	2.34	4.11
3	0.49	1.57	1.67	3.12	5.08
3.5	0.71	1.92	2.08	3.75	6.49
4	0.93	2.31	2.66	4.58	7.91
4.5	1.18	2.78	3.17	5.62	9.65
5	1.43	3.47	3.96	6.92	11.37
5.5	1.90	4.05	4.87	8.31	13.77
6	2.36	5.21	5.91	9.92	16.20
6.5	3.05	5.90	6.91	11.80	19.55
7	3.75	7.75	8.41	14.23	22.91
7.5	4.44	8.45	10.00	16.66	27.07
8	5.15	10.76	11.69	20.36	31.24
8.5	5.83	11.57	13.31	24.18	35.40
9	6.75	14.58	15.16	26.15	39.57

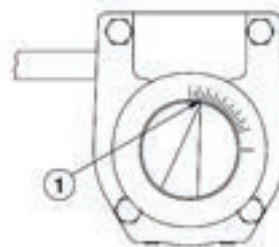
Setting

1/2" - 6"



1. Adjust 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)

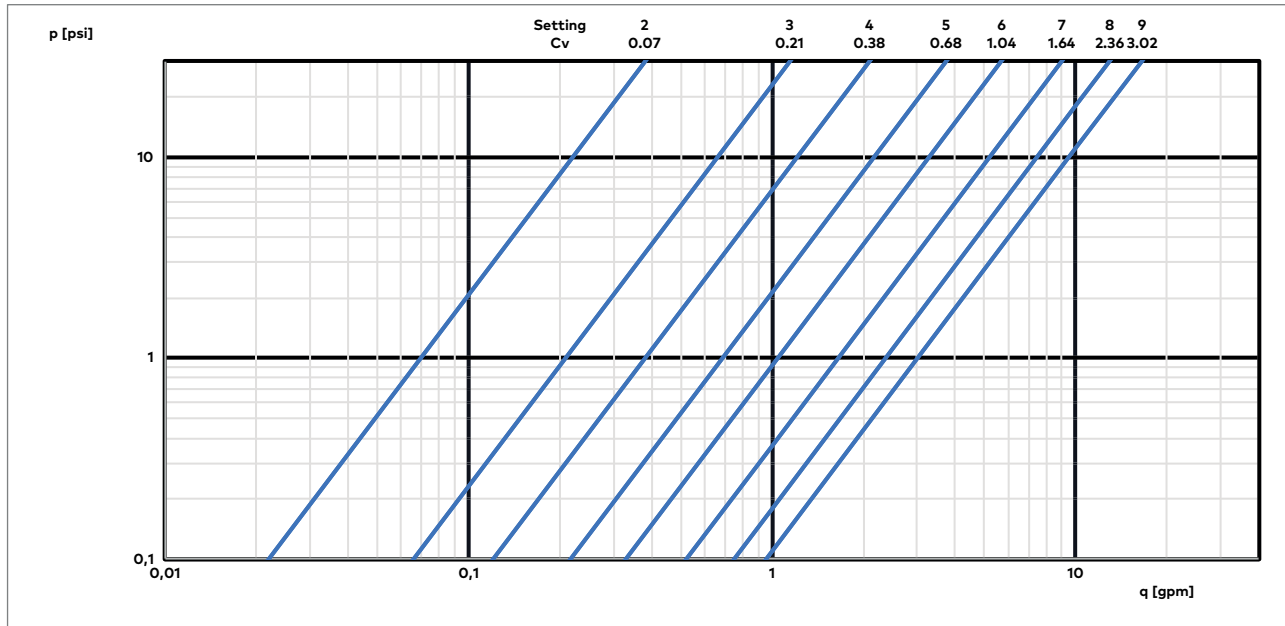
8" - 10"



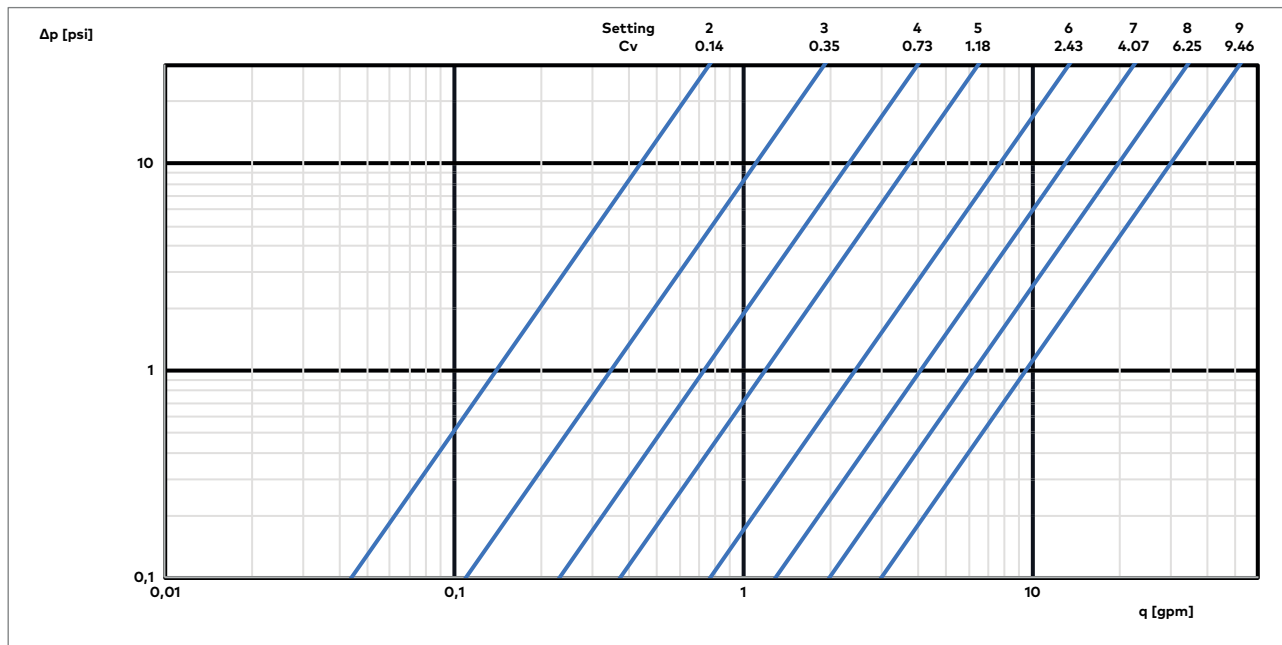
1. Adjust the desired position (1)

Diagram

1/2"



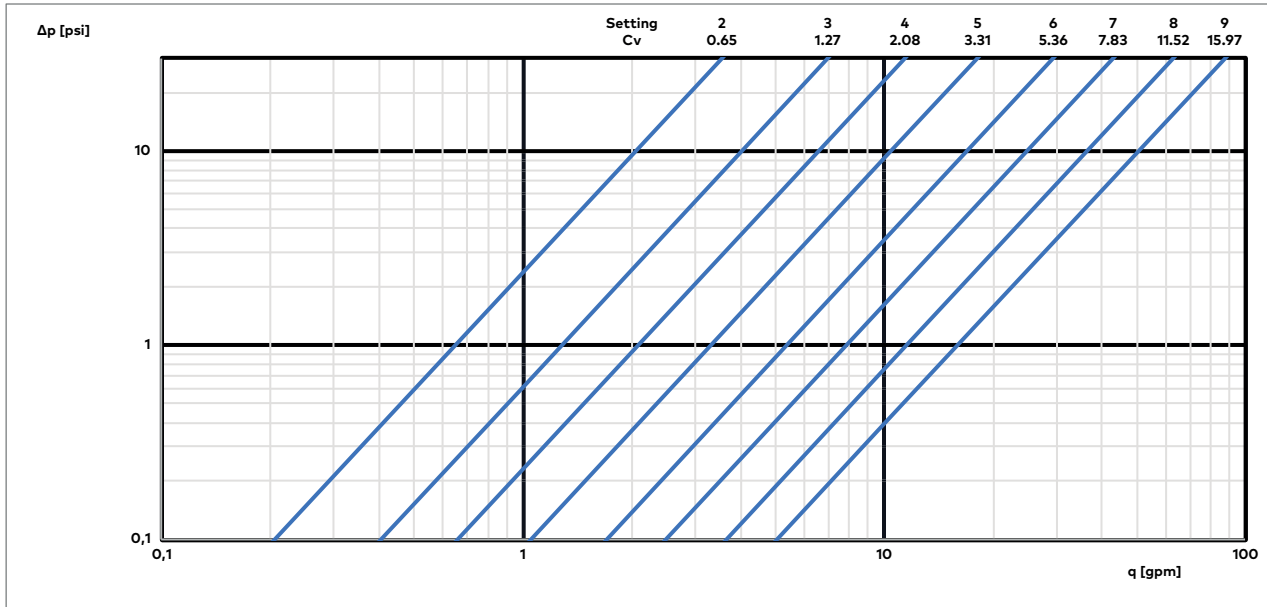
3/4"



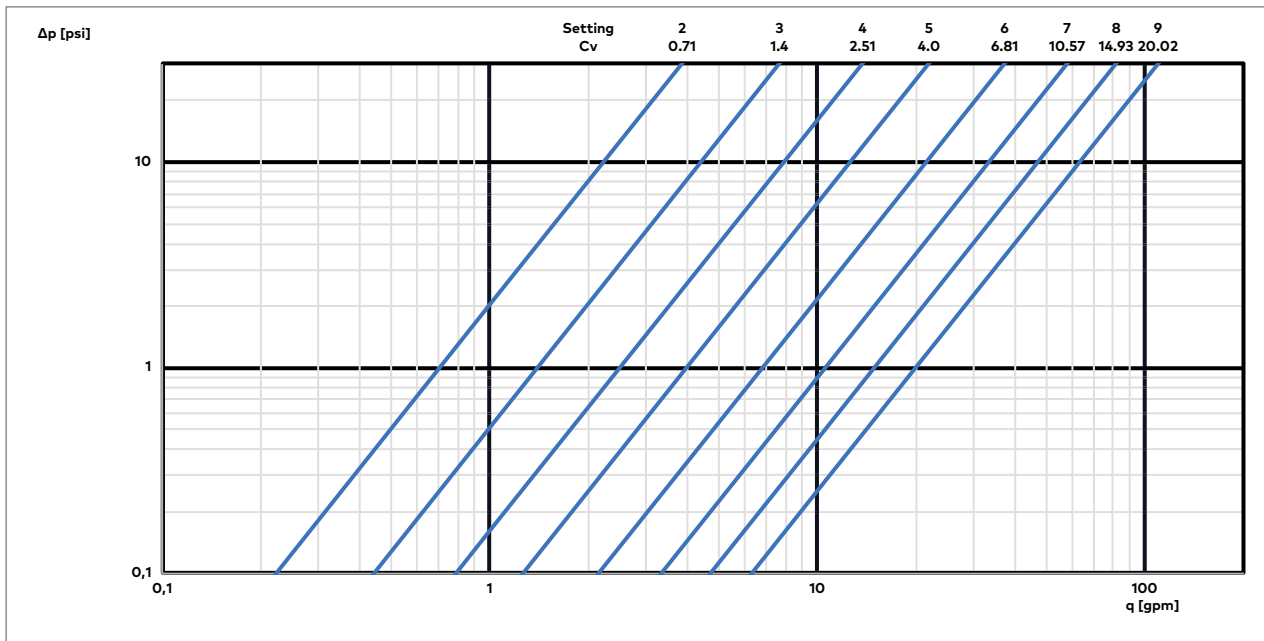
NOTE: New Cv values for valves DN 15-50 equipped with precision control handwheel. In softwares (HySelect, HyTools) and balancing instrument (TA-SCOPE) the TA-BVS, DN 15-50, is named TA-BVS*.
Cv values for DN 65 and up remain the same.

Diagram

1"



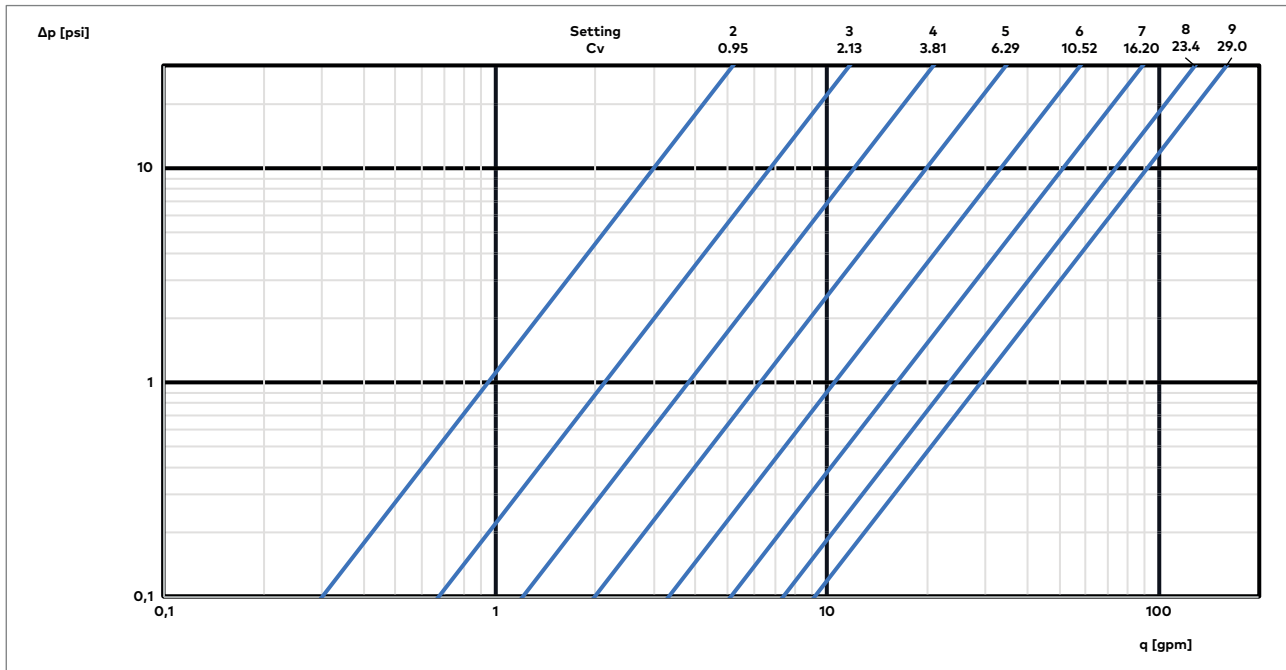
1 1/4"



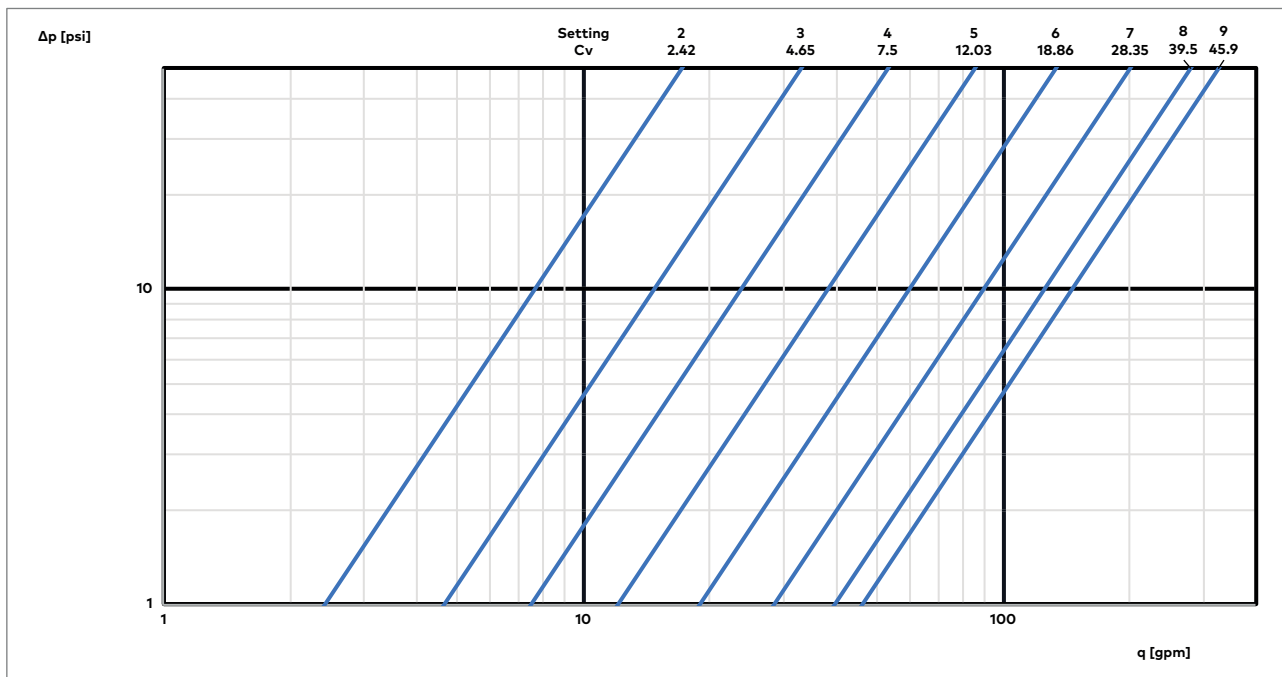
NOTE: New Cv values for valves DN 15-50 equipped with precision control handwheel. In softwares (HySelect, HyTools) and balancing instrument (TA-SCOPE) the TA-BVS, DN 15-50, is named TA-BVS*. Cv values for DN 65 and up remain the same.

Diagram

1 1/2"



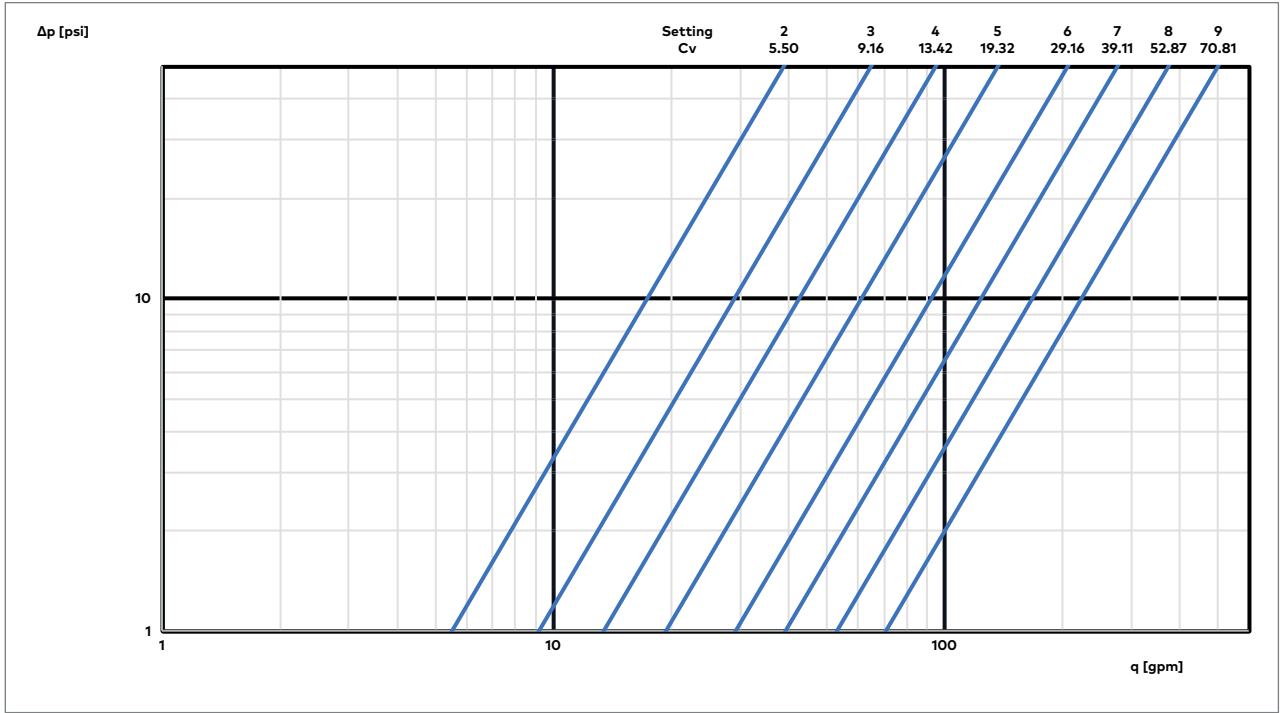
2"



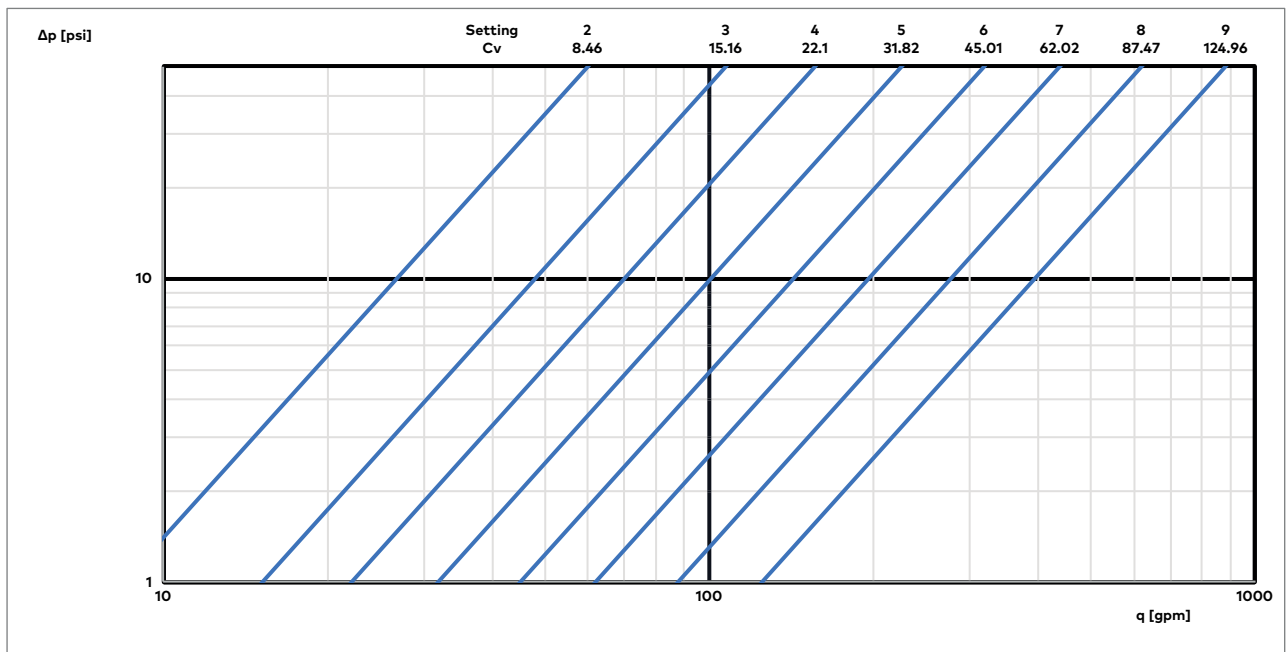
NOTE: New Cv values for valves DN 15-50 equipped with precision control handwheel. In softwares (HySelect, HyTools) and balancing instrument (TA-SCOPE) the TA-BVS, DN 15-50, is named TA-BVS*. Cv values for DN 65 and up remain the same.

Diagram

2 1/2"

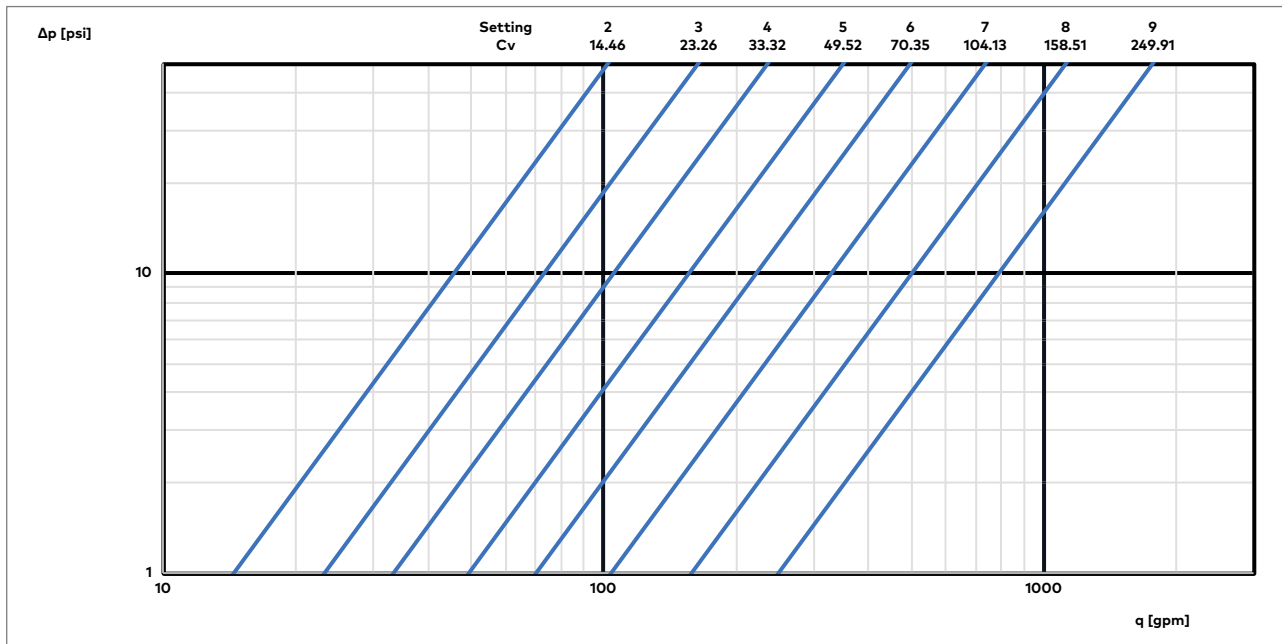


3"

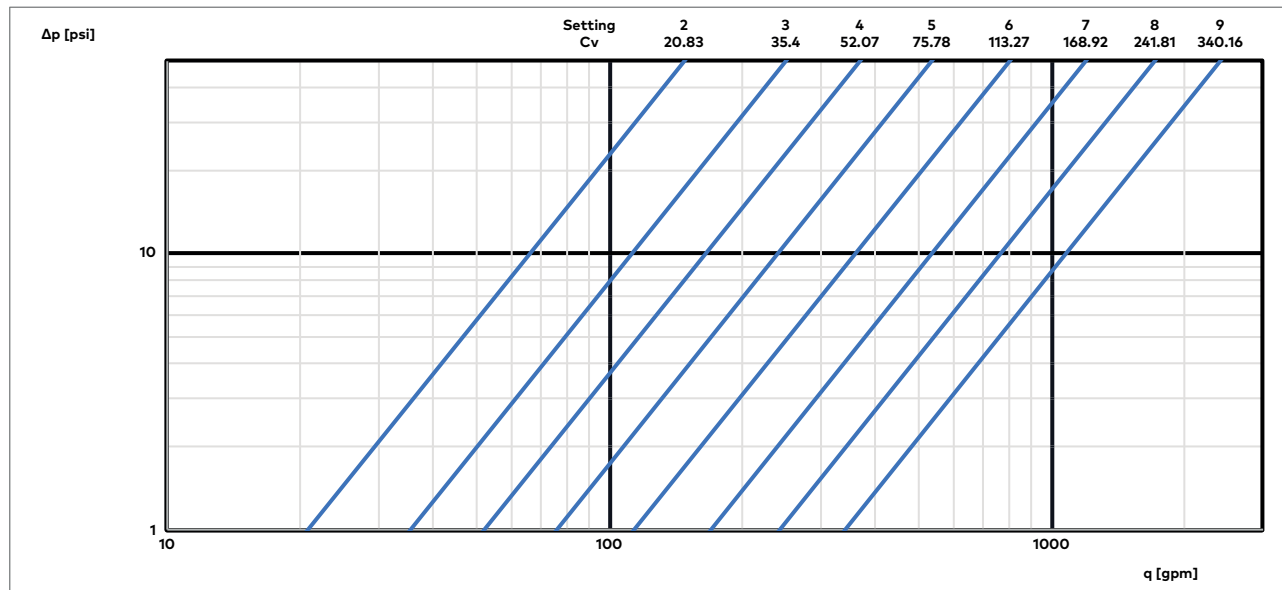


Diagram

4"

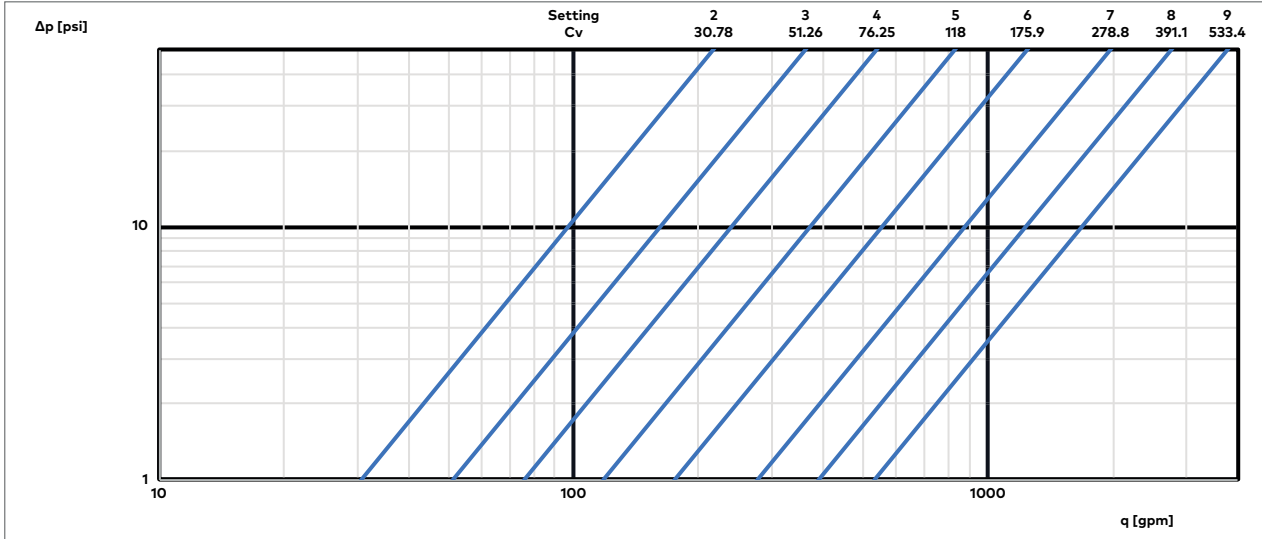


5"

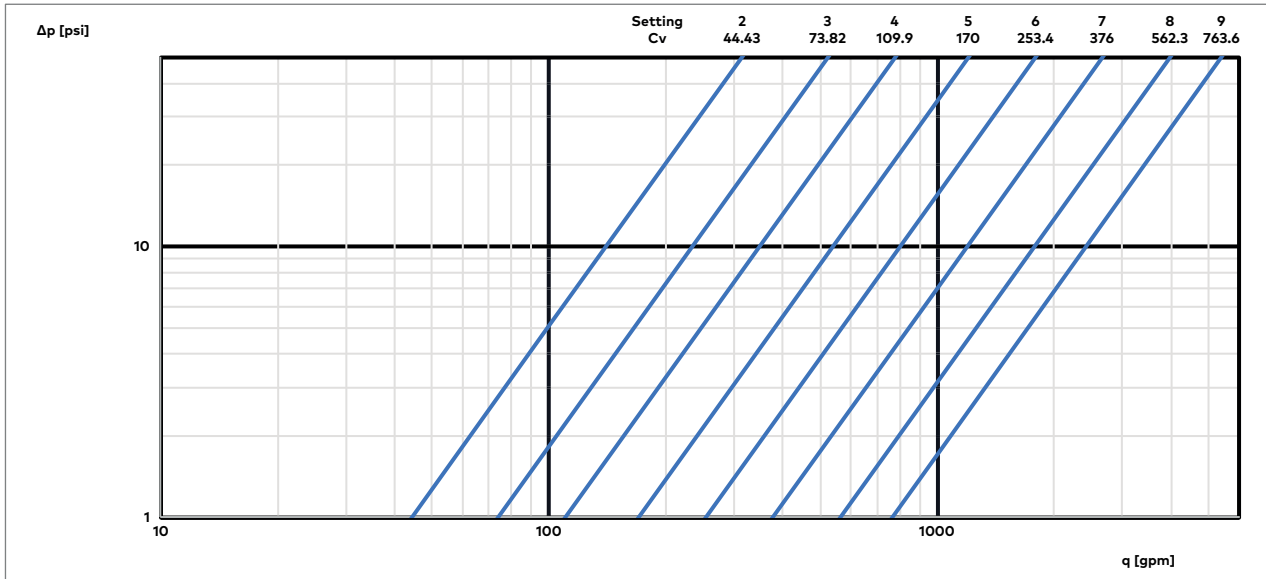


Diagram

6"

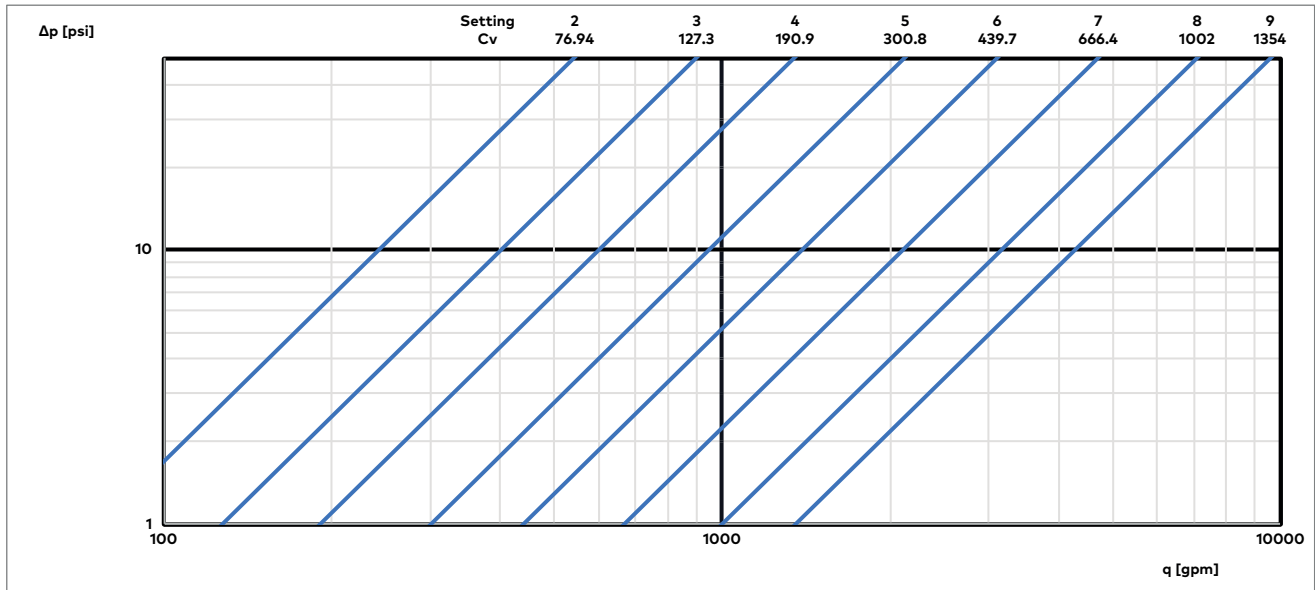


8"

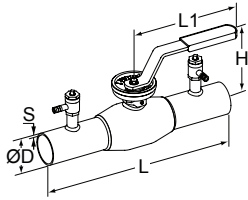


Diagram

10"



243/25 Series – Welding ends

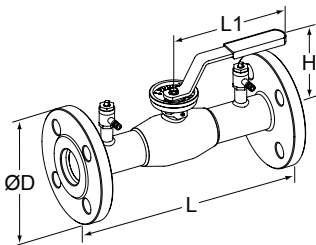


Welding ends

Size	D	L	L1	H	S	Cv	lbs.
580 psi (PN40)							
½"	0.84	9.06	-	3.98	0.08	3.02	1.54
¾"	1.06	9.06	-	4.13	0.08	9.46	1.76
1"	1.33	9.06	-	4.21	0.08	15.97	2.20
1-¼"	1.67	10.24	-	4.37	0.08	20.02	3.09
1-½"	1.90	10.24	-	4.57	0.10	29.04	4.19
2"	2.37	11.81	-	4.84	0.10	45.93	5.73
362 psi (PN25)							
2-½"	3.00	11.81	11.02	6.06	0.12	70.81	9.70
3"	3.50	11.81	11.02	6.54	0.12	124.96	11.90
4"	4.50	12.80	11.02	6.81	0.12	249.91	16.98
5"	5.50	12.80	15.75	8.70	0.16	340.16	34.17
6"	6.63	13.78	23.62	9.45	0.16	533.38	35.49
8"*	8.63	15.75	-	-	0.16	763.62	84.22
10"*	10.75	20.87	-	-	0.16	1353.69	162.26

*) Equipped with manual gear.

243/25 Series – Flanged



Flanged

Size	Number of bolt holes	D	L	L1	H	Cv	lbs.
580 psi (PN40)							
½"	4x0.63	3.75	9.84	-	3.98	3.02	4.19
¾"	4x0.75	4.62	9.84	-	4.13	9.46	6.84
1"	4x0.75	4.88	9.45	-	4.21	15.97	8.38
1-¼"	4x0.75	5.25	11.02	-	4.37	20.02	10.58
1-½"	4x0.88	6.12	10.63	-	4.57	29.04	15.21
2"	8x0.71	6.50	12.20	-	4.84	45.93	18.52
362 psi (PN25)							
2-½"	8x0.88	7.50	12.99	11.02	5.83	70.81	28.44
3"	8x0.88	8.25	13.78	11.02	6.22	124.96	36.82
4"	8x0.88	10.00	14.96	11.02	6.73	249.91	59.97
5"	8x0.88	11.00	16.14	15.75	8.70	340.16	84.66
6"	12x0.88	12.50	17.32	23.62	9.45	533.38	117.51
8"*	12x1.00	15.00	18.31	-	-	763.62	187.39
10"*	16x1.12	17.50	22.05	-	-	1353.69	315.26

Notes:

*) Equipped with manual gear.

Class 300 flange includes in standard offering.

2½" to 10" option available with 290 psi (PN20) with class 150 flange.

Model Order Designation

