

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:

1/2" - 10"

Pressure class:

Welding ends version:

1/2" - 2" - 580 psi (PN40)

2 1/2" - 10" - 362 psi (PN25)

Flanged ends version:

1/2" - 2" - 580 psi (PN40) with class 300 flange

2 1/2" - 10" - 362 psi (PN25) with class 300 flange

290 psi (PN20) with class 150 flange is available upon request for 2 1/2" 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:

1/2" - 2" - Stainless steel

2 1/2" - 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.

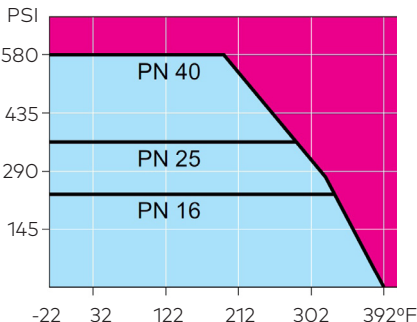
Label on body: DN, PN and CE (according to table), material, max. temperature, product No. and flow direction arrow.

Marking	PN 40	PN 25
CE 04968*	1/2" - 2"	2 1/2" - 10"

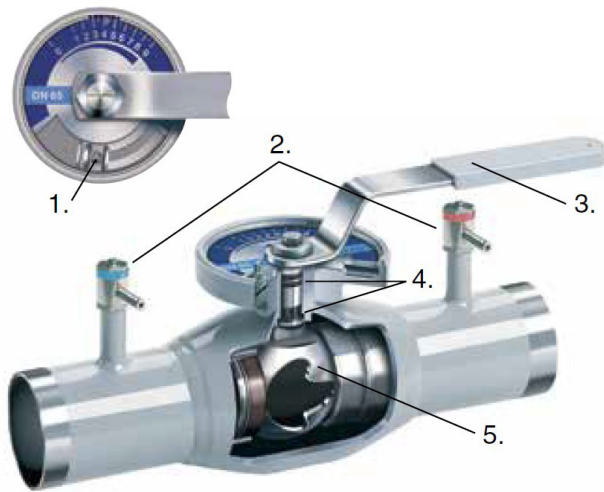
*) Notified body

Flanges:

ASME



Operating Instructions

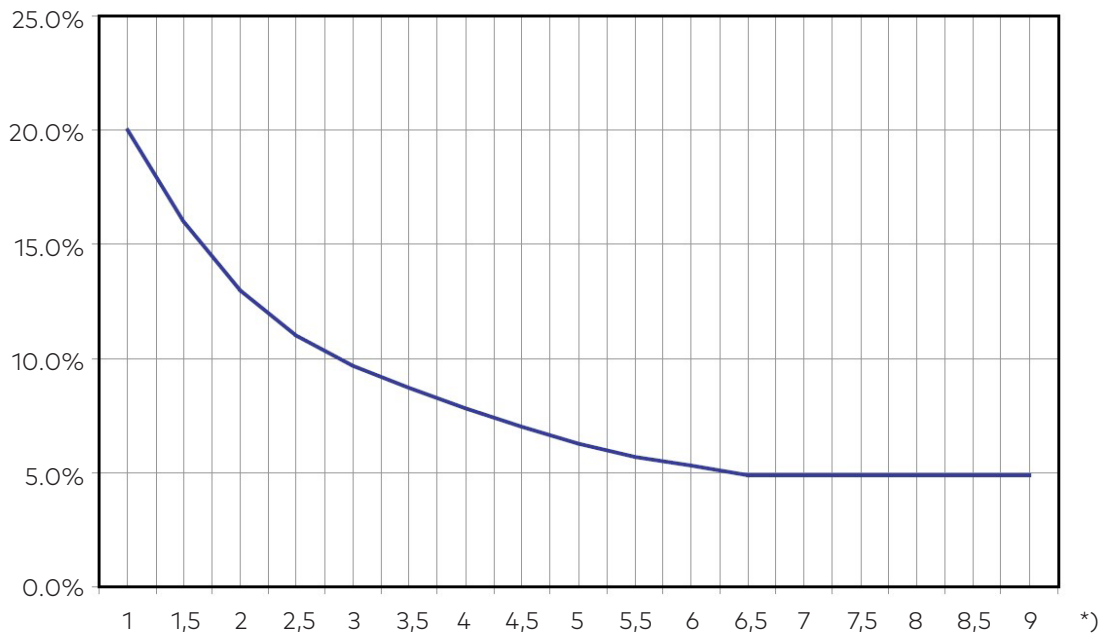


1. Locking screw
2. Measuring points
3. Removable handle
4. Two O-rings. The upper can be replaced during operation.
5. Ball with W-port. Equal percentage valve characteristic.

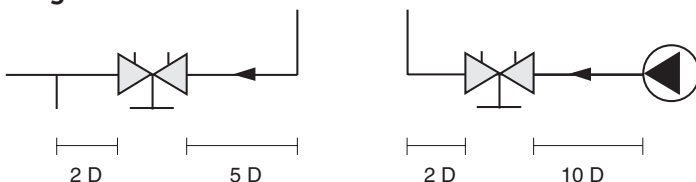
Measuring Accuracy

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



Sizing

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

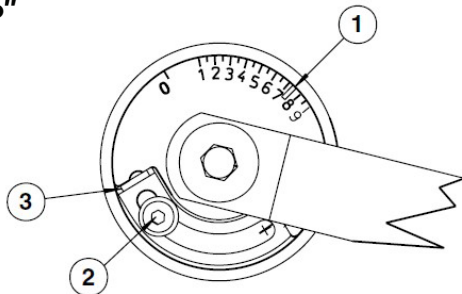
$$C_v = \frac{q}{\sqrt{\Delta p}} \quad q, \text{ gpm}, \Delta p \text{ psi}$$

Kv values

Setting	1/2" - 3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"	10"
1			0.45	0.69	1.46	2.91	3.95	7.49	7.91	15.84	22.77	40.46
1,5		0.40	0.66	1.17	2.08	4.21	6.21	10.95	15.37	23.35	23.35	59.19
2	0.16	0.57	0.96	1.71	3.12	5.49	8.45	14.45	20.81	30.75	44.39	76.87
2,5	0.32	1.14	1.25	2.34	4.10	7.33	11.79	18.84	28.09	41.04	59.07	104.04
3	0.49	1.57	1.66	3.12	5.07	9.16	15.14	23.24	35.37	51.21	73.75	127.16
3,5	0.71	1.92	2.08	3.75	6.49	11.31	18.61	28.32	43.70	63.70	91.67	161.84
4	0.92	2.31	2.66	4.58	7.91	13.41	22.08	33.29	52.02	76.18	109.82	190.74
4,5	1.18	2.77	3.17	5.62	9.64	16.42	26.93	41.38	63.93	97.22	139.88	248.54
5	1.43	3.47	3.95	6.91	11.36	19.31	31.79	49.48	75.72	117.91	169.93	300.56
5,5	1.90	4.05	4.87	8.30	13.76	24.16	38.38	59.88	94.45	146.81	211.55	375.70
6	2.36	5.20	5.91	9.91	16.18	29.13	44.97	70.28	113.17	175.71	253.16	439.28
6,5	3.05	5.90	6.90	11.79	19.54	34.10	53.52	87.16	141.03	227.73	325.99	578.00
7	3.75	7.75	8.40	14.22	22.89	39.07	61.96	104.04	168.78	278.60	375.70	665.86
7,5	4.44	8.44	9.99	16.65	27.05	46.01	74.68	130.63	204.61	335.24	482.05	855.44
8	5.14	10.75	11.68	20.35	31.21	52.83	87.39	158.37	241.60	390.73	561.82	1001.10
8,5	5.83	11.56	13.29	24.16	35.37	61.85	106.12	195.36	290.16	462.40	665.86	1179.12
9	6.74	14.57	15.14	26.13	39.54	70.75	124.85	249.70	339.86	532.92	762.96	1352.52

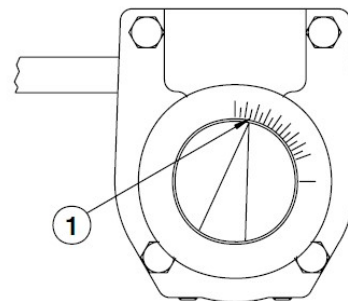
Setting

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"

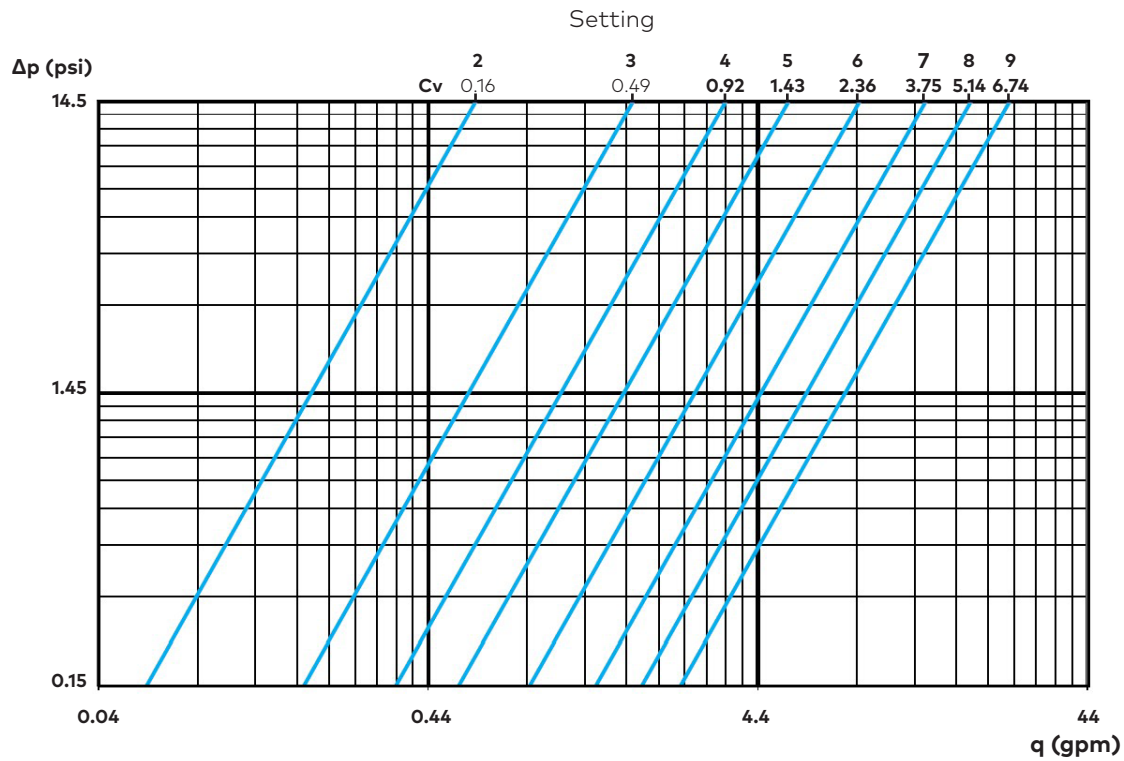


Diagram - 1"

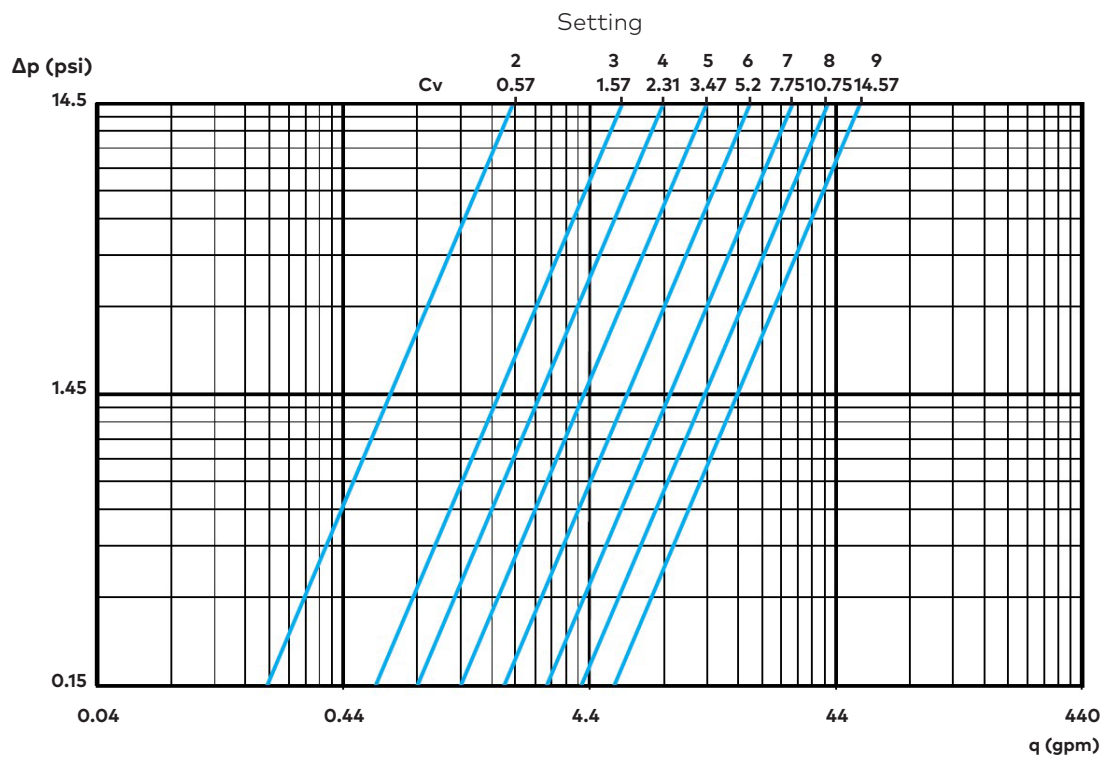


Diagram - 1-1/4"

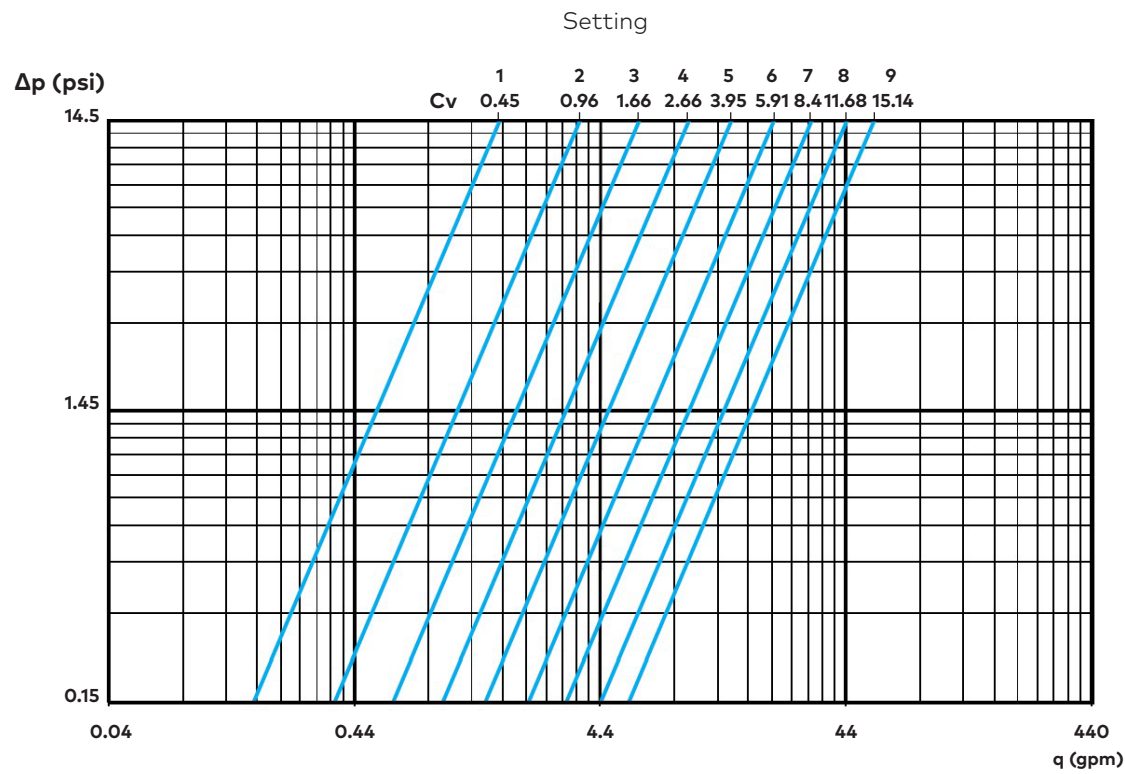


Diagram - 1-1/2"

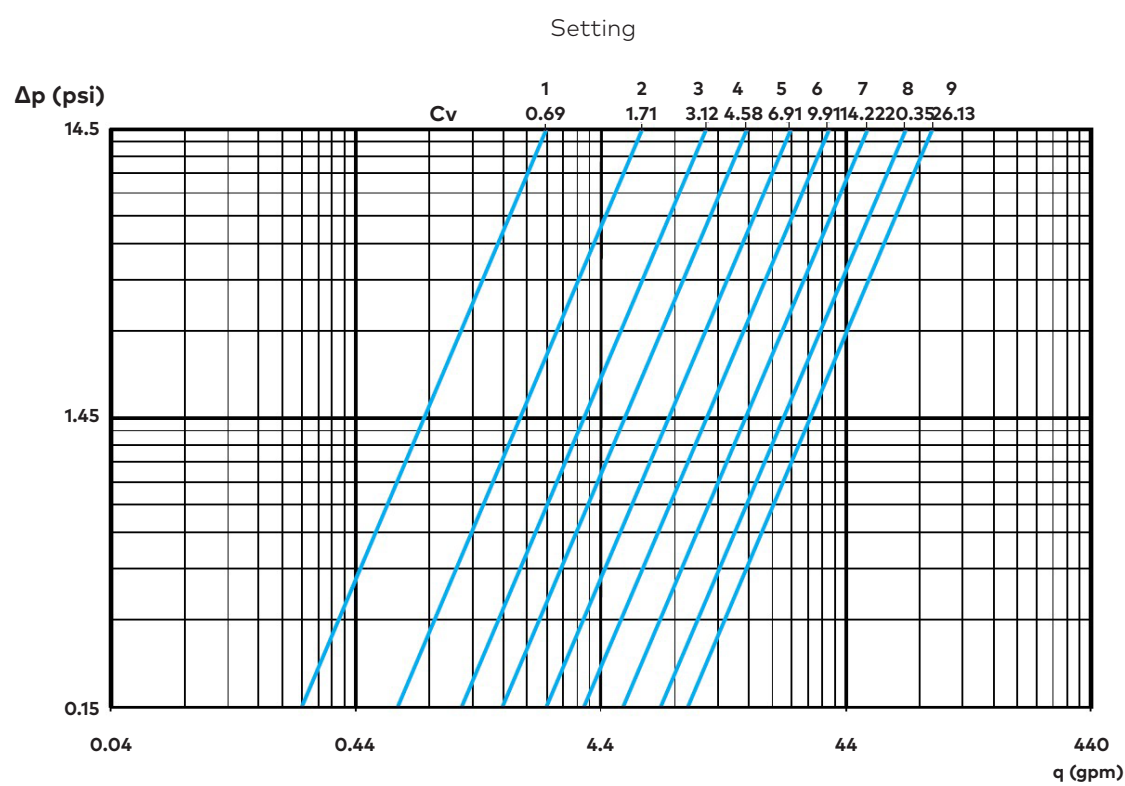


Diagram - 2"

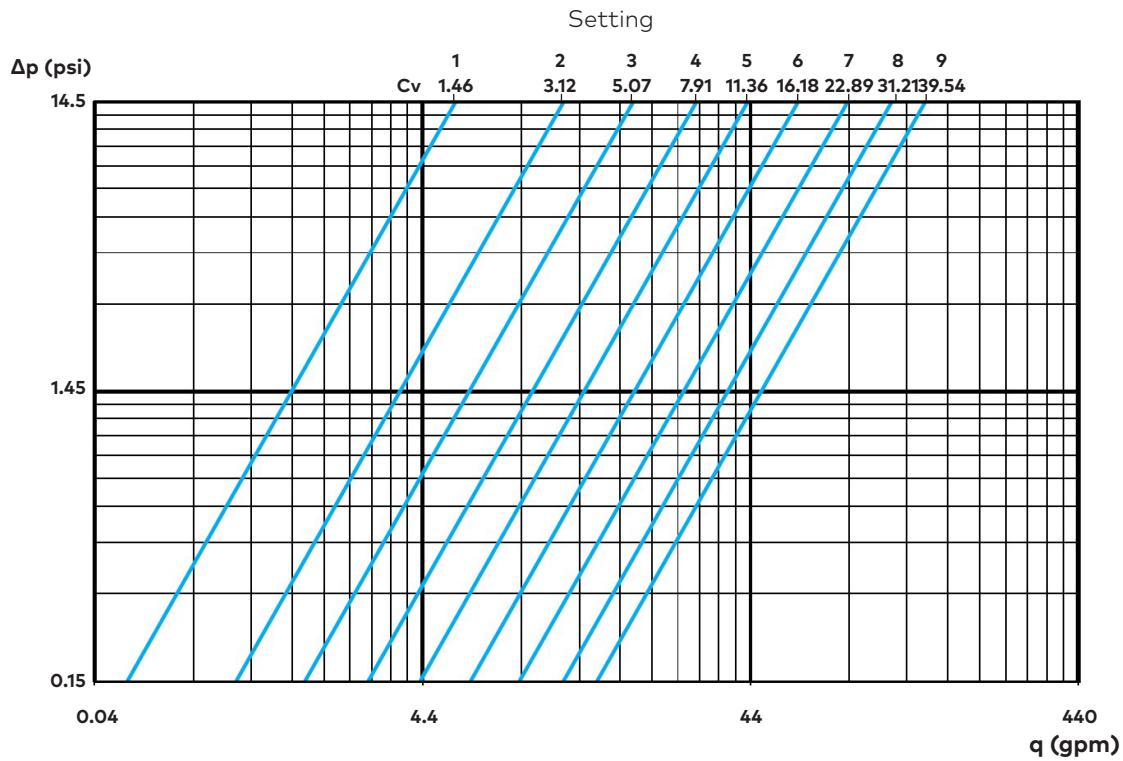


Diagram - 2-1/2"

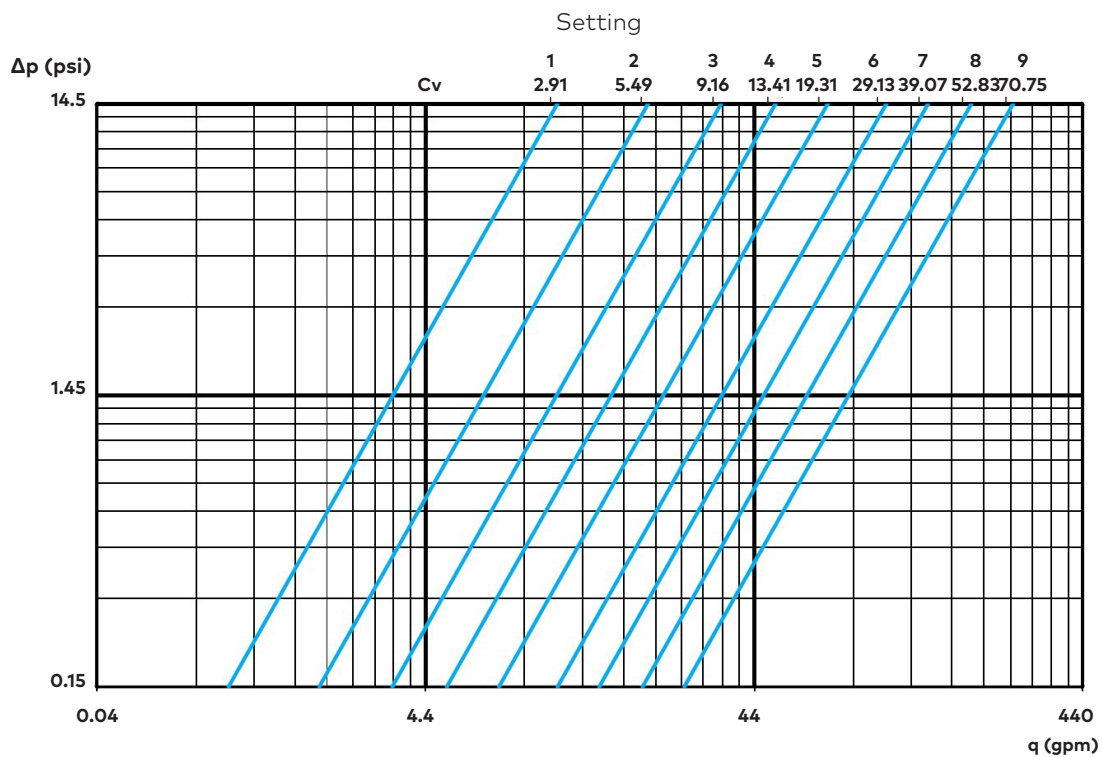


Diagram - 3"

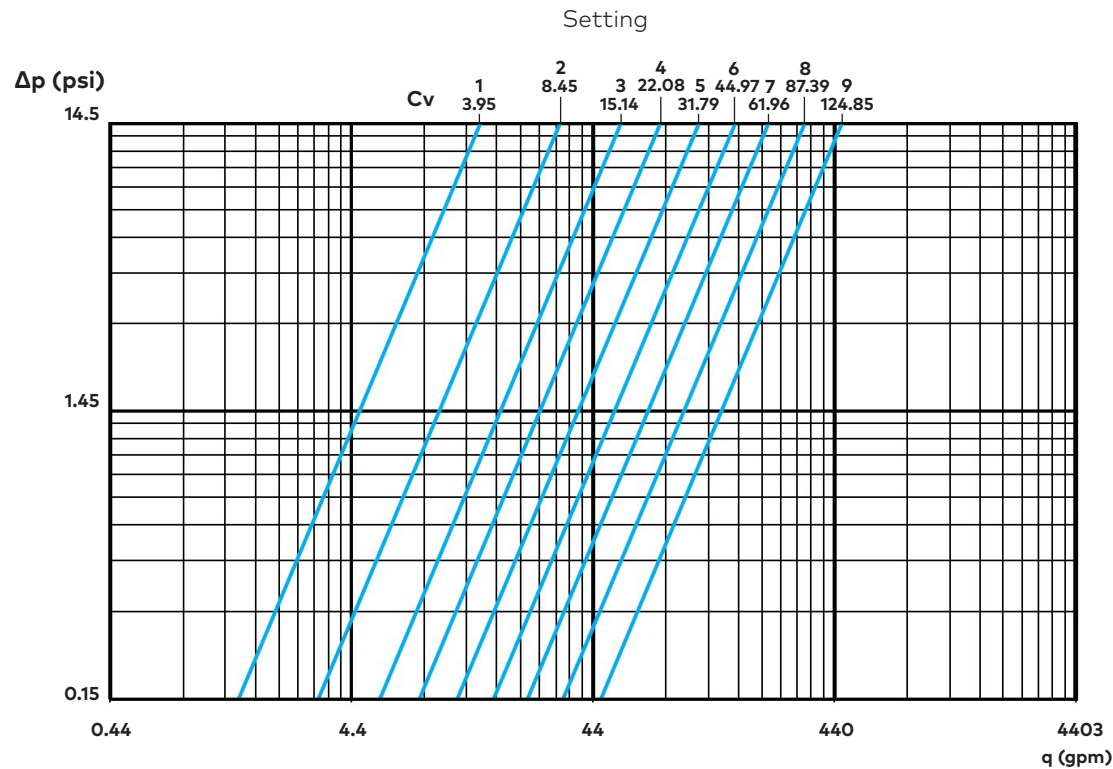


Diagram - 4"

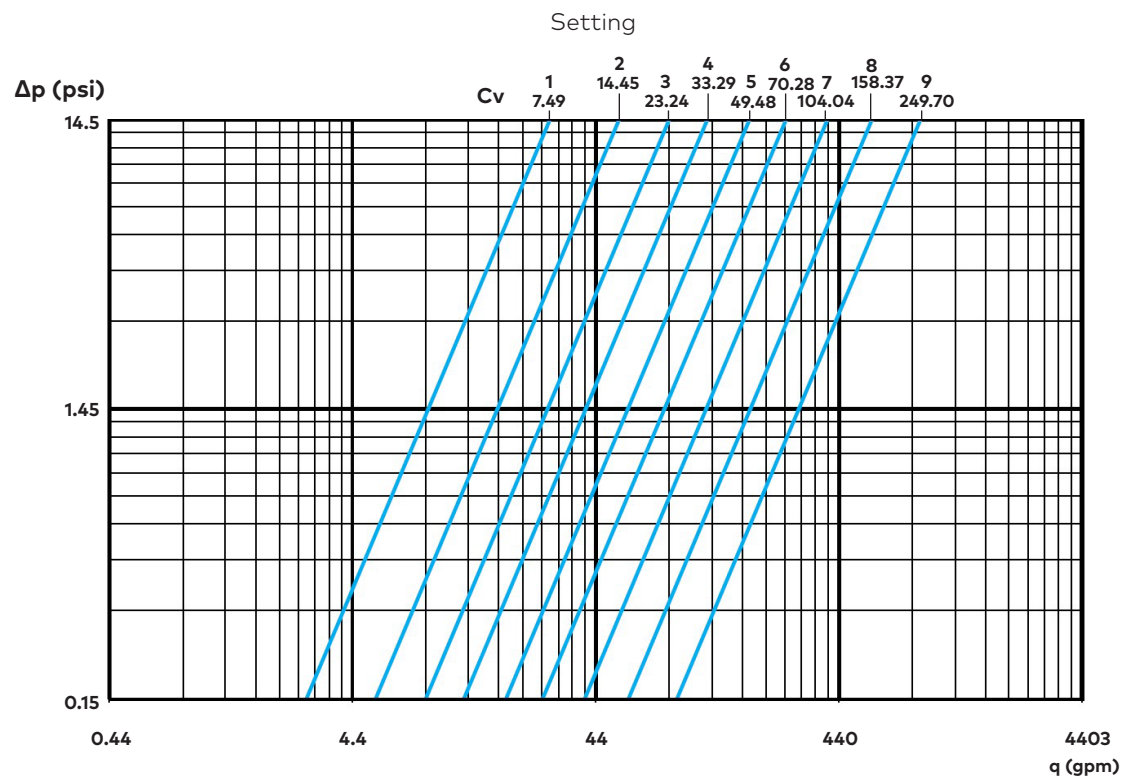


Diagram - 5"

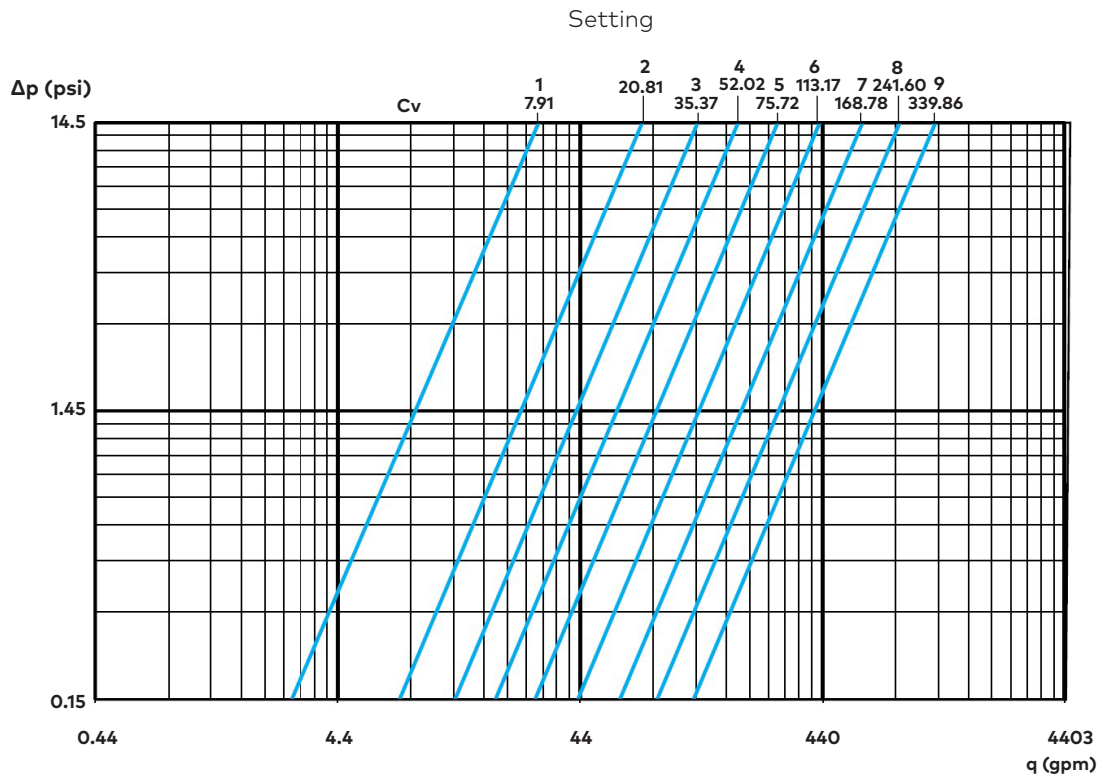


Diagram - 6"

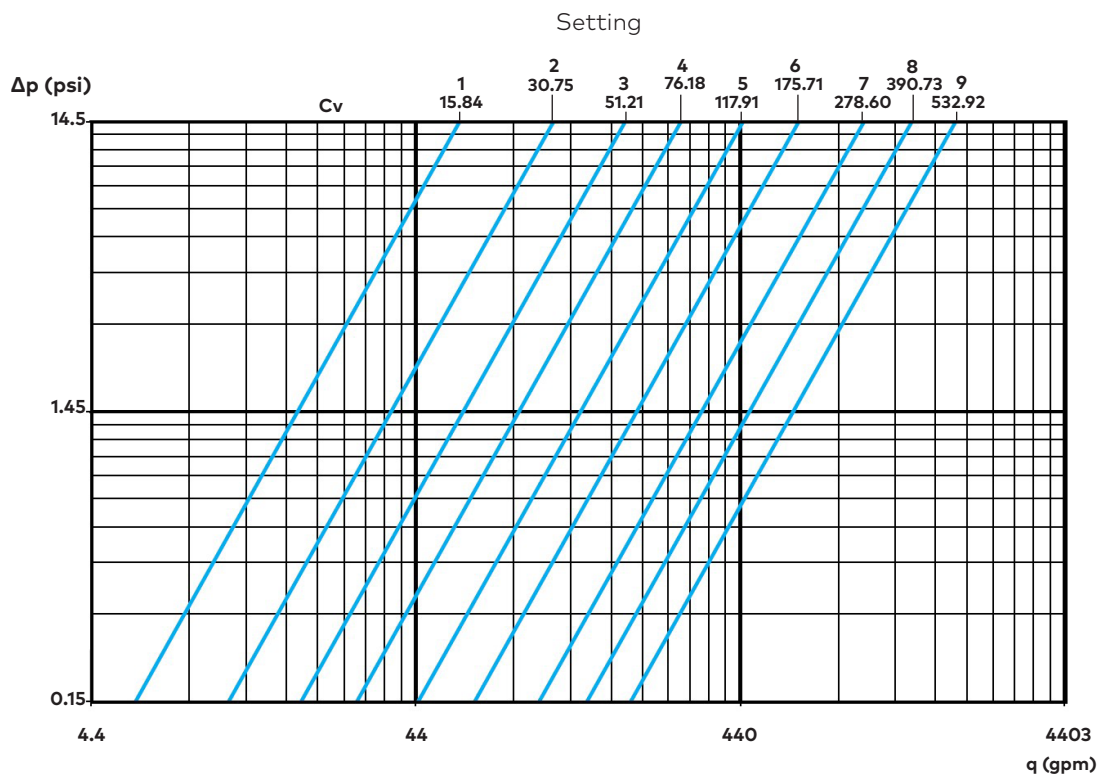


Diagram - 8"

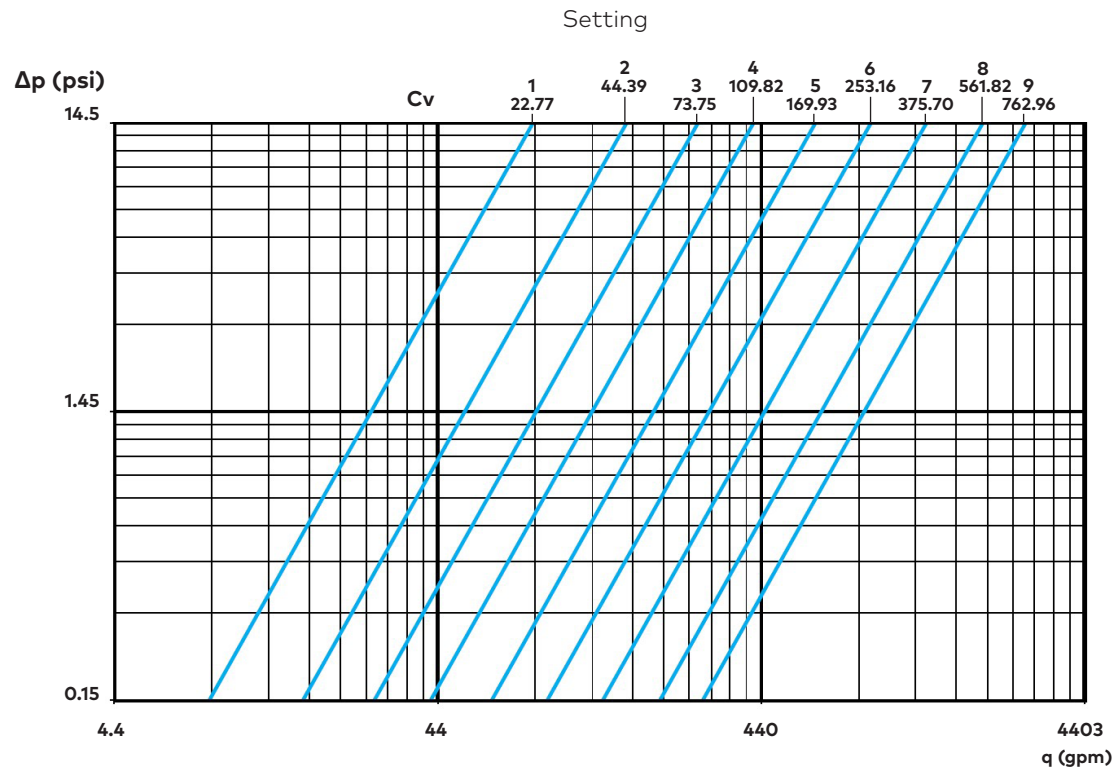
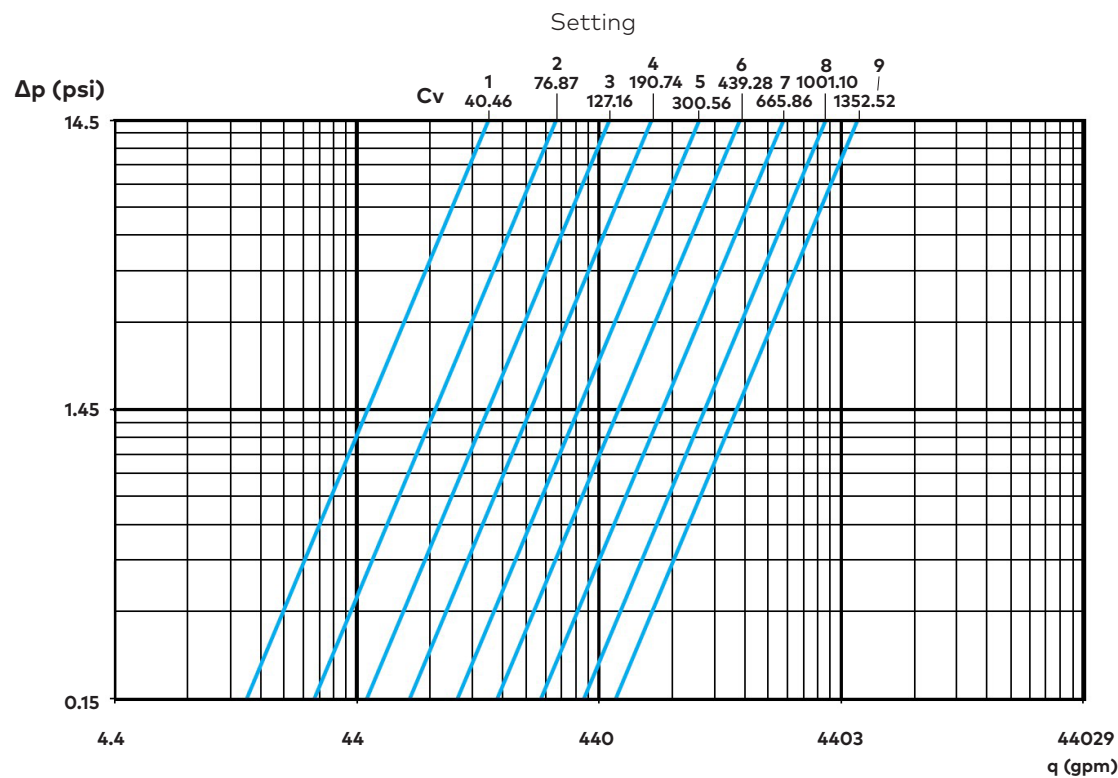
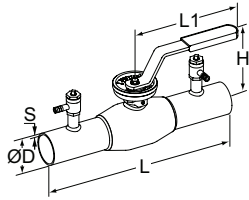


Diagram - 10"



243/25 Series – Welding ends

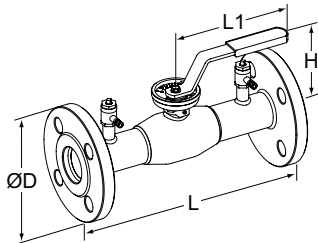


Welding ends

Size	D	L	L1	H	S	Cv	lbs.
580 psi (PN40)							
½"	0.84	9.06	5.71	4.13	0.08	6.74	1.9845
¾"	1.06	9.06	5.71	4.13	0.08	6.74	1.9845
1"	1.33	9.06	5.71	4.45	0.08	14.57	2.4255
1-¼"	1.67	10.24	5.71	4.61	0.08	15.14	2.8665
1-½"	1.90	10.24	7.40	4.49	0.10	26.13	5.0715
2"	2.37	11.81	7.40	4.76	0.10	39.54	6.8355
362 psi (PN25)							
2-½"	3.00	11.81	11.02	6.06	0.12	70.75	9.702
3"	3.50	11.81	11.02	6.54	0.12	124.85	11.907
4"	4.50	12.80	11.02	6.93	0.12	249.70	16.9785
5"	5.50	12.80	15.75	8.70	0.16	339.86	34.1775
6"	6.63	13.78	23.62	9.45	0.16	532.92	35.5005
8"*	8.63	15.75	-	-	0.16	762.96	84.231
10"*	10.75	20.87	-	-	0.16	1352.52	162.288

*) Equipped with manual gear.

243/25 Series – Flanged



Flanged

Size	Number of bolt holes	D	L	L1	H	Cv	lbs.
580 psi (PN40)							
½"	4x0.55	3.74	9.84	5.71	4.13	6.74	4.6305
¾"	4x0.55	4.13	9.84	5.71	4.13	6.74	5.733
1"	4x0.55	4.53	9.45	5.71	4.45	14.57	6.8355
1-¼"	4x0.71	5.51	11.02	5.71	4.61	15.14	10.3635
1-½"	4x0.71	5.91	10.63	7.40	4.49	26.13	13.23
2"	4x0.71	6.50	12.20	7.40	4.76	39.54	17.8605
362 psi (PN25)							
2-½"	8x0.71	7.28	12.20	11.02	6.30	70.75	22.2705
3"	8x0.71	7.87	12.20	11.02	6.81	124.85	26.46
4"	8x0.71	8.66	13.78	11.02	6.81	249.70	35.0595
5"	8x0.71	9.84	13.98	15.75	8.70	339.86	56.448
6"	8x0.86	11.22	14.57	23.62	9.45	532.92	66.15
8"*	12x0.86	13.39	16.73	-	-	762.96	125.0235
10"*	12x1	15.94	21.65	-	-	1352.52	229.32

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.

