

The Flow Coefficient, or Cv, is a universal capacity index and is simply defined as the number of US gallons of water per minute at 60F that will flow through a valve with a pressure drop or pressure differential of 1 psi.

The formula used to calculate Cv for liquids and gases are the following:

Liquids

$$C_v = Q \sqrt{(SG / \Delta P)}$$

Gases

$$C_v = W / (2.1 \sqrt{(\Delta P (P_1 + P_2))})$$

Where:

Q = Flow rate (US gallons per minute)

SG is the specific gravity of the fluid (water = 1)

ΔP is the pressure drop across the valve (psi)

W = Flow rate (pounds per hour)

ΔP = Pressure drop across the valve (psi)

P₁ = Upstream pressure (psia)

P₂ = Downstream pressure (psia)

The table s below indicates the Cv for SVF Flow Control's latest product release of Forged Gate, Globe and Check valves found in the new Industrial Catalog "C" Series.

Forged Gate, Globe and Check valves:

Valve Size	Gate Cv (500F Series)	Globe Cv (505F Series)	Check Cv (522F Series)
1/4"	5.6	1.2	1.2
3/8"	11.5	2.4	2.4
1/2"	18	3.7	3.7
3/4"	32	6.8	6.8
1"	54	11	11
1-1/4"	79	20	20
1-1/2"	135	28	28
2"	230	48	48
2-1/2"	337	75	75
3"	454	113	113

Cast Steel Flanged Gate, Globe and Check Valves:

Valve Size	Gate Cv (400F Series)	Globe Cv (405F Series)	Check Cv (422F Series)
2"	48.2	45.5	47.5
2-1/2"	75.4	76.9	76.1
3"	109.7	116.5	108.4
4"	190.0	182.1	197.9
6"	427.5	409.6	445.2
8"	759.8	728.2	799.4
10"	1187.3	1137.8	1256.6
12"	1699.2	1638.5	1816.7

Please visit our website, www.SVF.net for more information on our "C" Series valves.