

TECHNICAL DATA

TYPICAL C_v VALUES

SIZE (NPS)	GATE		GLOBE			CHECK		
	Reduced Port	Full Port	Reduced Port	Full Port	Y-Pattern	Reduced Port	Full Port	Y-Pattern
1/4	3.9	3.9	1.0	2.0	3.0	0.5	1.6	3.5
3/8	7.2	9.1	2.0	2.2	6.0	1.0	2.0	5.5
1/2	7.2	16	2.0	2.2	6.0	1.0	2.0	5.5
3/4	12	33	2.5	5.0	8.0	2.0	4.0	8.5
1	27	70	5.0	9.0	12	4.0	7.0	12
1 1/4	53	151	10	15	35	7.3	11	35
1 1/2	65	155	15	21	35	11	16	35
2	113	253	23	35	51	18	27	51

FOR FLOW COEFFICIENT C_v

<Nomenclature>

C_v : Flow coefficient for valves or piping components

d : Internal diameter (inch)

K : Resistance coefficient

Q : Rate of flow (gpm)

ΔP : Differential pressure between inlet pressure and outlet pressure (lb/in², psig)

ρ : Weight density of fluid (lb/ft³)

The C_v coefficient of a valve is defined as the flow of water at 60°F, in gallons per minute, at pressure drop of one pound per square inch across the valve.

By the substitution of appropriate equivalent units in Darcy equation, it can be shown that,

$$C_v = \frac{29.9d^2}{\sqrt{K}}$$

Also, the quantity in gallons per minute of liquids of low viscosity that flow through the valve can be determined from:

$$Q = C_v \sqrt{\Delta P \left(\frac{62.4}{\rho} \right)}$$

$$Q = 7.9 C_v \sqrt{\frac{\Delta P}{\rho}}$$

and the pressure drop can be computed from the same formula arranged as follows:

$$\Delta P = \frac{\rho}{62.4} \left(\frac{Q}{C_v} \right)^2$$

Figure 1 illustrates typical flow characteristics. All flow characteristics are available on Globe valve when required.

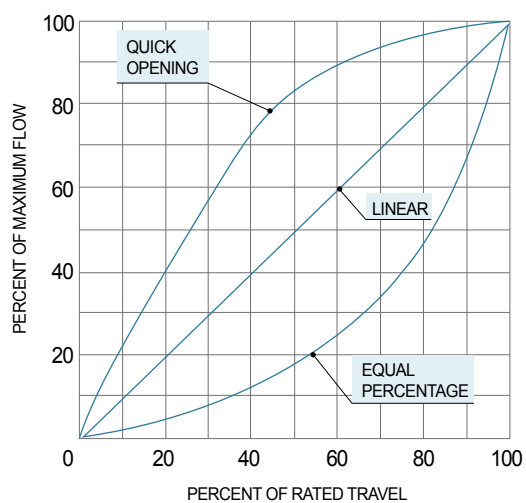


Fig.1 Inherent Flow Characteristics Curves