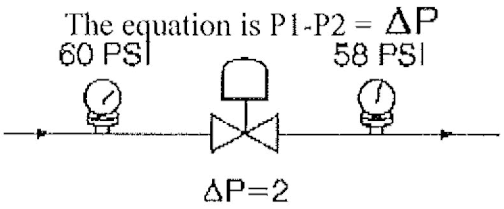
What does Cv factor mean? - The definition of Cv factor is the number of U.S. gallons per minute that will pass through a valve with a pressure drop of one (1) PSI. This 'factor' is determined by physically counting the number of gallons that pass through a valve with one (1) PSI applied pressure to the valve inlet and zero (0) pressure at the outlet. Cv is a mathematical constant. For a pressure drop other than one (1)PSI, use the formula in equation below.

How do the GPM, Cv factor, and ΔP work together to size a valve? - At least two of these elements are necessary to properly specify a valve. Here are the flow formulas.

$$GPM = C_V\sqrt{\frac{\Delta P}{G}} \qquad C_V = \sqrt{\frac{GPM}{\frac{\Delta P}{G}}} \qquad \Delta P = \left[\frac{GPM}{C_V}\right]^2 G$$

Where G = Specific Gravity of the Fluid

What is Delta P? - A commonly used term, Delta P or its symbol ΔP usually refers to the pressure drop across a piping component such as a valve or filter.
"Δ" (from the Greek Delta) is the 'change' in something; in this case a change, or drop, in pressure. To determine the Delta P across a valve, simply subtract the outlet pressure (P2) from the inlet pressure(P1).



Specific Gravity
Typical Liquids @ 68°F referred to water.

Hydraulic Oil..... 0.875
HW540 *..... 1.055
Water 1.000

* Water Glycol

Specific Gravity (S_G)
Typical Gases @ 68°F referred to water.

Acetylene..... 0.897
Air..... 1.000
Hydrogen..... 0.0695
Methane..... 0.553
Oxygen..... 1.103

Figures shown are for guidance only. Before permanent installation, test the parts under the specific conditions of your application.
For actual figures, Reference should be made to the current edition of the appropriate standards where applicable.