

Friction Loss Coefficients – Siamesed Lines Of Equal Length

Number of Hoses and Their
Diameter (inches)
Coefficient

Two 2 ½	0.5
Three 2 ½	0.22
Two 3" with 2 ½ couplings	0.2
One 3" with 2 ½ couplings, one 2 ½	0.3
One 3" with 3" couplings, one 2 ½	0.27
Two 2 ½, one 3" with 2 ½ couplings	0.16
Two 3" with 2 ½ couplings, one 2 ½	0.12

<p>NR = 1.57 x d(2) x NP (solid stream)</p> <p>D=nozzle diameter in inches nozzle in gpm. psi.</p> <p>Np= nozzle pressure in psi.</p>	<p>NR = 0.0505 x Q x sq/NP (Fog Streams)</p> <p>Q=total flow through Np= nozzle pressure in</p>
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Friction loss equation:

$$FL = CQ(2)L$$

C = friction loss coefficient
Q = flow rate in hundreds of gpm (flow/100)
L = Hose length in hundreds of feet (length/100)

Elevation pressure equation:

$$EP = 0.5H \qquad EP = 5 \text{ psi} \times (\text{number of stories} - 1)$$

EP = elevation pressure in psi.
0.5 = a constant
h = height in feet

**Add 10 psi when flowing more than 350 gpm through gate or wye or water thief
**add 25 psi for any master stream device