

CALCULATOR

PRESSURE LOSS IN PIPES

SUL-13-214

Enter Input Data:

- Flow (ACFM)
- Line Pressure (psig)
- Pipe Linear Length (feet)
- Length Allowance for Fittings (feet)
- [Pipe Nominal Diameter \(1" to 6"\)](#)

Read Calculated Data:

- Mean Velocity at Flow Conditions (ft/sec)
- Gas Density at Flow Conditions (lb/cu ft)
- Pressure Loss (psi)**

Equivalent Length of Pipe (feet) for Fittings

Pipe Nominal Diameter	1 in	1 1/2 in	2 in	2 1/2 in	3 in	4 in	5 in	6 in
Globe valve	29.7	45.5	29.7	70.0	87.0	114.0	143.0	172.0
Angle Valve	13.6	19.4	13.6	29.9	37.1	48.5	61.0	73.0
Gate Valve	1.1	1.7	1.1	2.7	3.3	4.4	5.5	6.6
Swing Check Valve	11.8	18.1	11.8	27.8	34.6	45.2	57.0	68.0
Plug Cock	1.6	2.4	1.6	3.7	4.6	6.0	7.6	9.1
45 deg Elbow	1.4	2.1	1.4	3.3	4.1	5.4	6.7	8.1
90 deg Elbow	2.6	4.0	2.6	6.2	7.7	10.1	12.6	15.1
90 deg Long Radius Elbow	1.7	2.7	1.7	4.1	5.1	6.7	8.4	10.1
Run of Tee	1.7	2.7	1.7	4.1	5.1	6.7	8.4	10.1
Side Outlet of Tee	5.2	8.1	5.2	12.4	15.4	20.1	25.2	30.3

Note: A friction factor of 0.02 is used for all pipe sizes 1 inch to 6 inch, based on an absolute roughness constant of 0.00015 for commercial steel pipe.

[Click here for calculator](#)

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