

**Friction Loss in Pipe Fitting in Terms of Equivalent Length of Feet in Straight Pipe**

Pipe Size	Gate Valve	90 Degree Elbow	Long Rad. 90 or 45	Std. Tee Thru Flow	Std. Tee Branch Flow	Butterfly Valve
1"	0.7	2.62	1.4	1.75	5.25	
1.25"	0.92	3.45	1.84	2.3	6.9	
1.5"	1.07	4.03	2.15	2.68	8.05	
2"	1.38	5.17	2.76	3.45	10.3	7.75
2.5"	1.65	6.17	3.29	4.12	12.3	9.26
3"	2.04	7.67	4.09	5.11	15.3	11.5
4"	2.68	10.1	5.37	6.71	20.1	15.1
6"	4.04	15.2	8.09	10.1	30.3	22.7
8"	5.32	20	10.6	13.3	39.9	29.9
10"	6.68	25.1	13.4	16.7	50.1	29.2
12"	7.96	29.8	15.9	19.9	59.7	34.8
14"	8.75	32.8	17.5	21.8	65.6	38.3