

FRICITION LOSS CHART

FRICITION LOSS PER 100 FEET OF PLASTIC PIPE

PIPE DIAMETER																				
	1/2 in.		3/4 in.		1 in.		1 1/4 in.		1 1/2 in.		2 in.		2 1/2 in.		3 in.		4 in.		5 in.	
GPM	SCH 40	SCH 80	SCH 40	SCH 80	SCH 40	SCH 80	SCH 40	SCH 80	SCH 40	SCH 80	SCH 40	SCH 80	SCH 40	SCH 80	SCH 40	SCH 80	SCH 40	SCH 80	SCH 40	SCH 80
1	2.08	4.02	0.51	0.86	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	4.16	8.03	1.02	1.72	0.55	0.88	0.14	0.21	0.07	0.10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5	23.44	45.23	5.73	9.67	1.72	2.75	0.44	0.66	0.22	0.30	0.066	0.10	0.038	0.05	0.015	0.02	N/A	N/A	N/A	N/A
7	43.06	83.07	10.52	17.76	3.17	5.04	0.81	1.21	0.38	0.55	0.11	0.15	0.051	0.07	0.021	0.028	N/A	N/A	N/A	N/A
10	82.02	N/A	20.04	33.84	6.02	9.61	1.55	2.30	0.72	1.04	0.21	0.29	0.09	0.12	0.03	0.04	N/A	N/A	N/A	N/A
15	N/A	N/A	42.46	71.70	12.77	20.36	3.28	4.87	1.53	2.20	0.45	0.62	0.19	0.26	0.07	0.09	N/A	N/A	N/A	N/A
20	N/A	N/A	72.34	N/A	21.75	34.68	5.59	8.30	2.61	3.75	0.76	1.06	0.32	0.44	0.11	0.15	0.03	0.04	N/A	N/A
25	N/A	N/A	N/A	N/A	32.88	52.43	8.45	12.55	3.95	5.67	1.15	1.60	0.49	0.67	0.17	0.22	0.04	0.06	N/A	N/A
30	N/A	N/A	N/A	N/A	46.08	73.48	11.85	17.59	5.53	7.95	1.62	2.25	0.68	0.94	0.23	0.31	0.06	0.08	0.02	0.03
35	N/A	N/A	N/A	N/A	N/A	N/A	15.76	23.40	7.36	10.58	2.15	2.99	0.91	1.25	0.31	0.42	0.08	0.11	0.03	0.04
40	N/A	N/A	N/A	N/A	N/A	N/A	20.18	29.97	9.43	13.55	2.75	3.83	1.16	1.60	0.40	0.54	0.11	0.14	0.03	0.04
45	N/A	N/A	N/A	N/A	N/A	N/A	25.10	37.27	11.73	16.85	3.43	4.76	1.44	1.99	0.50	0.67	0.13	0.17	0.04	0.06
50	N/A	N/A	N/A	N/A	N/A	N/A	30.51	45.30	14.25	20.48	4.16	5.79	1.75	2.42	0.60	0.81	0.16	0.21	0.05	0.07
60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	19.98	28.70	5.84	8.12	2.46	3.39	0.85	1.14	0.22	0.30	0.07	0.10
70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.76	10.80	3.27	4.51	1.13	1.51	0.30	0.39	0.10	0.13
75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.82	12.27	3.71	5.12	1.28	1.72	0.34	0.45	0.11	0.14
80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.94	13.83	4.19	5.77	1.44	1.94	0.38	0.50	0.13	0.16
90	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12.37	17.20	5.21	7.18	1.80	2.41	0.47	0.63	0.16	0.20
100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	15.03	20.90	6.33	8.72	2.18	2.93	0.58	0.76	0.19	0.24
125	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.58	13.21	3.31	4.43	0.88	1.16	0.29	0.37
150	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	13.41	18.48	4.63	6.20	1.22	1.61	0.40	0.52
175	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.16	8.26	1.63	2.15	0.54	0.69
200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.88	10.57	2.08	2.75	0.69	0.88
250	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11.93	16.00	3.15	4.16	1.05	1.34
300	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.41	5.83	1.46	1.87
350	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.87	7.76	1.95	2.49
400	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.52	9.93	2.49	3.19
450	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.09	3.97
500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.76	4.82

This chart gives friction losses for your given flow rate per 100 feet of pipe. Example: if you have 60 gallons per minute and you're using 2 inch schedule 80 pipe and you have a 160 feet of pipe, your friction loss is $8.12 \times 1.6 = 12.99$ feet. **NOTE:** It is best to keep your friction loss (per 100 feet of pipe) to less than 5 feet.

FRICITION LOSS IN PVC FITTINGS IN EQUIVALENT FEET OF STRAIGHT PIPE

Normal Pipe Size (in)	1/2 in.	3/4 in.	1 in.	1 1/4 in.	1 1/2 in.	2 in.	2 1/2 in.	3 in.	4 in.
90° Elbow, Standard	1.5	2.0	2.25	4.0	4.0	6.0	8.0	8.0	12.0
45° Elbow, Standard	0.75	1.0	1.4	1.75	2.0	2.5	3.0	4.0	5.0
Insert Coupling	0.5	0.75	1.0	1.25	1.5	2.0	3.0	3.0	4.0
Gate Valve	0.3	0.4	0.6	0.8	1.0	1.5	1.6	2.0	3.0
Male-female Adapters	1.0	1.5	2.0	2.75	3.5	4.5	N/A	6.5	9.0
Tee-Flow Through Run	1.0	1.4	1.7	2.3	2.7	4.3	5.1	6.3	8.3
Tee-Flow Through Branch	4.0	5.0	6.0	7.0	8.0	12.0	15.0	16.0	22.0