

FRICTION LOSS FOR WATER IN FEET PER 100 FEET OF PIPE

U.S. Gals. Per Min.	6" Pipe		8" Pipe		10" Pipe		12" Pipe		14" Pipe		16" Pipe		18" Pipe		20" Pipe		24" Pipe		30" Pipe	
	Vel. Ft. per Sec.	Loss in Feet	Vel. Ft. per Sec.	Loss in Feet	Vel. Ft. per Sec.	Loss in Feet	Vel. Ft. per Sec.	Loss in Feet	Vel. Ft. per Sec.	Loss in Feet	Vel. Ft. per Sec.	Loss in Feet	Vel. Ft. per Sec.	Loss in Feet	Vel. Ft. per Sec.	Loss in Feet	Vel. Ft. per Sec.	Loss in Feet	Vel. Ft. per Sec.	Loss in Feet
2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10	.111	.001	.064	.000	.039	.000	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
20	.222	.005	.128	.001	.078	.000	—	—	—	—	—	—	—	—	—	—	—	—	—	—
25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
30	.333	.010	.192	.002	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
40	.444	.016	.257	.004	.157	.001	—	—	—	—	—	—	—	—	—	—	—	—	—	—
45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
50	.555	.024	.321	.006	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
60	.666	.033	.385	.009	.236	.003	—	—	—	—	—	—	—	—	—	—	—	—	—	—
65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
70	.777	.044	.449	.012	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
75	.833	.051	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
80	.888	.056	.513	.015	.314	.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—
85	.944	.063	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
90	.999	.069	.577	.018	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
95	1.06	.077	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
100	1.11	.084	.641	.022	.393	.007	.287	.003	—	—	—	—	—	—	—	—	—	—	—	—
110	1.22	.101	.705	.027	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
120	1.33	.118	.770	.031	.471	.010	.344	.004	—	—	—	—	—	—	—	—	—	—	—	—
130	1.44	.138	.834	.036	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
140	1.55	.155	.898	.041	.550	.013	.401	.005	—	—	—	—	—	—	—	—	—	—	—	—
150	1.67	.179	.962	.047	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
160	1.78	.198	1.03	.052	.551	.017	.459	.007	—	—	—	—	—	—	—	—	—	—	—	—
170	1.89	.225	1.09	.058	.692	.019	—	—	—	—	—	—	—	—	—	—	—	—	—	—
180	2.00	.246	1.15	.064	.732	.021	.516	.009	—	—	—	—	—	—	—	—	—	—	—	—
190	2.11	.272	1.22	.072	.773	.024	—	—	—	—	—	—	—	—	—	—	—	—	—	—
200	2.22	.299	1.28	.078	.814	.026	.573	.011	.474	.007	—	—	—	—	—	—	—	—	—	—
220	2.44	.357	1.41	.093	.895	.031	.631	.013	—	—	—	—	—	—	—	—	—	—	—	—
240	2.66	.419	1.54	.109	.977	.036	.688	.015	—	—	—	—	—	—	—	—	—	—	—	—
260	2.89	.487	1.67	.126	1.06	.042	.745	.018	—	—	—	—	—	—	—	—	—	—	—	—
280	3.11	.56	1.80	.144	1.14	.048	.802	.020	—	—	—	—	—	—	—	—	—	—	—	—
300	3.33	.637	1.92	.163	1.22	.054	.860	.023	.711	.014	.545	.007	.430	.004	.346	.002	.239	.001	—	—
320	3.55	.719	2.05	.184	1.30	.061	.917	.026	—	—	—	—	—	—	—	—	—	—	—	—
340	3.78	.806	2.18	.206	1.38	.068	.975	.029	—	—	—	—	—	—	—	—	—	—	—	—
360	4.00	.898	2.31	.229	1.47	.076	1.03	.032	.854	.020	—	—	—	—	—	—	—	—	—	—
380	4.22	.993	2.44	.253	1.55	.084	1.09	.036	.901	.022	—	—	—	—	—	—	—	—	—	—
400	4.44	1.09	2.57	.279	1.63	.092	1.15	.039	.948	.025	.726	.013	.574	.007	.462	.004	.319	.001	.194	.000
450	5.00	1.37	2.89	.348	1.83	.114	1.29	.048	1.07	.031	—	—	—	—	—	—	—	—	—	—
500	5.55	1.66	3.21	.424	2.03	.139	1.43	.059	1.19	.037	.908	.019	.717	.011	.577	.006	.399	.002	.243	.001
550	6.11	1.99	3.53	.507	2.24	.165	1.58	.070	1.30	.045	—	—	—	—	—	—	—	—	—	—
600	6.66	2.34	3.85	.597	2.44	.193	1.72	.082	1.42	.052	1.09	.027	.861	.015	.692	.009	.479	.003	.291	.001
650	7.22	2.73	4.17	.694	2.65	.224	1.86	.095	1.54	.061	1.18	.031	—	—	—	—	—	—	—	—
700	7.77	3.13	4.49	.797	2.85	.257	2.01	.109	1.66	.068	1.27	.035	1.00	.020	.808	.011	.559	.005	.340	.001
750	8.33	3.57	4.81	.907	3.05	.292	2.15	.124	1.78	.079	1.36	.040	—	—	—	—	—	—	—	—
800	8.88	4.03	5.13	1.020	3.26	.329	2.29	.140	1.90	.087	1.45	.045	1.15	.025	.923	.015	.638	.006	.389	.002
850	9.44	4.53	5.45	1.147	3.46	.370	2.44	.156	2.02	.098	1.54	.051	—	—	—	—	—	—	—	—
900	9.99	5.05	5.77	1.27	3.66	.412	2.58	.173	2.13	.108	1.63	.056	1.29	.032	1.039	.019	.718	.007	.437	.002
950	10.5	5.60	6.09	1.41	3.87	.456	2.72	.191	2.25	.120	1.72	.062	1.36	.035	—	—	—	—	—	—
1,000	11.1	6.17	6.41	1.56	4.07	.502	2.87	.210	2.37	.131	1.82	.068	1.43	.038	1.15	.023	.798	.009	.486	.003
1,100	12.2	7.41	7.05	1.87	4.48	.600	3.15	.251	2.61	.157	2.00	.082	1.58	.046	—	—	—	—	—	—
1,200	13.3	8.76	7.70	2.20	4.88	.704	3.44	.296	2.85	.185	2.18	.095	1.72	.054	1.38	.032	.958	.013	.583	.004
1,300	14.4	10.2	8.34	2.56	5.29	.819	3.73	.344	3.08	.215	2.36	.111	1.86	.063	—	—	—	—	—	—
1,400	15.5	11.8	8.98	2.95	5.70	.945	4.01	.395	3.32	.247	2.54	.127	2.01	.072	1.62	.042	1.12	.017	.680	.005
1,500	16.7	13.5	9.62	3.37	6.10	1.08	4.30	.450	3.56	.281	2.72	.144	2.15	.082	1.73	.048	—	—	—	—
1,600	17.8	15.4	10.3	3.82	6.51	1.21	4.59	.509	3.79	.317	2.90	.163	2.30	.092	1.85	.054	1.28	.022	.777	.006
1,800	20.0	19.4	11.5	4.79	7.32	1.53	5.16	.636	4.27	.395	3.27	.203	2.58	.114	2.08	.066	1.44	.027	.874	.008
2,000	22.2	23.8	12.8	5.86	8.14	1.86	5.73	.776	4.74	.483	3.63	.248	2.87	.139	2.31	.081	1.60	.033	.971	.010
2,200	24.4	28.8	14.1	7.02	8.95	2.24	6.31	.930	5.22	.581	3.99	.296	3.16	.167	2.54	.099	—	—	—	—
2,400	26.6	34.2	15.4	8.31	9.77	2.65	6.88	1.093	5.69	.681	4.36	.350	3.44	.196	2.77	.113	1.92	.047	—	—
2,600	28.9	39.9	16.7	9.70	10.6	3.08	7.45	1.28	6.16	.795	4.72	.408	3.73	.228	3.00	.132	2.08	.053	—	—
2,800	31.1	46.1	18.0	11.2	11.4	3.55	8.03	1.47	6.64	.915	5.08	.468	4.02	.262	3.23	.151	2.23	.061	—	—
3,000	33.3	52.8	19.2	12.8	12.2	4.07	8.60	1.68	7.11	1.04	5.45	.535	4.30	.297	3.46	.174	2.39	.070	1.46	.020
3,200	35.5	59.9	20.5	14.5	13.0	4.60	9.17	1.90	7.59	1.19	5.81	.606	4.59	.335	3.69	.196	2.55	.079	—	—
3,500	38.9	71.1	22.4	17.3	14.2	5.50	10.0	2.26	8.30	1.40	6.35	.718	5.02	.397	4.04	.232	2.79	.093	1.70	.027
3,600	42.2	84.1	24.4	20.5	15.5	6.46	10.9	2.63	9.01	1.65	6.90	.840	5.45	.469	4.39	.272	3.03	.109	1.85	.032
4,200	—	—	26.9	24.7	17.1	7.84	12.0	3.19	9.96	2.00	7.63	1.02	6.02	.569	4.85	.326	3.35	.132	2.04	.039
4,500	—	—	28.9	28.5	18.3	8.93	12.9	3.65	10.7	2.27	8.17	1.15	6.45	.639	5.19	.372	3.59	.149	2.19	.044
5,000	—	—	32.1	35.1	20.3	10														