



AMERICAN

Manufacturing Company, Inc.

FRICTION HEAD LOSS TABLE

Gal/ min	1/2" vel	1/2" hLoss	3/4" vel	3/4" hLoss	1" vel	1" hLoss	1-1/4" vel	1-1/4" hLoss	1-1/2" vel	1-1/2" hLoss	2" vel	2" hLoss	2-1/2" vel	2-1/2" hLoss	3" vel	3" hLoss	4" vel	4" hLoss
2	2.11	3.24	1.20	0.87														
4	4.22	11.68	2.41	3.15	1.49	1.03	0.86	0.29										
6	6.34	24.75	3.61	6.68	2.23	2.17	1.29	0.61	0.95	0.30								
8	8.45	42.17	4.81	11.39	2.97	3.70	1.72	1.03	1.26	0.50	0.76	0.16						
10	10.56	63.75	6.02	17.22	3.71	5.60	2.15	1.56	1.58	0.76	0.96	0.24						
12	12.67	89.35	7.22	24.13	4.46	7.84	2.57	2.19	1.89	1.07	1.15	0.33	0.80	0.15				
15			9.03	36.48	5.57	11.86	3.22	3.31	2.36	1.61	1.43	0.50	1.01	0.22				
18			10.83	51.13	6.68	16.62	3.86	4.64	2.84	2.26	1.72	0.71	1.21	0.31	0.78	0.11		
20			12.03	62.15	7.43	20.20	4.29	5.64	3.15	2.75	1.91	0.86	1.34	0.38	0.87	0.14		
25					9.28	30.54	5.36	8.52	3.94	4.16	2.39	1.30	1.68	0.57	1.09	0.21		
30					11.14	42.80	6.44	11.94	4.73	5.83	2.87	1.82	2.01	0.80	1.30	0.29	0.76	0.08
35					12.99	56.95	7.51	15.89	5.52	7.75	3.35	2.42	2.35	1.06	1.52	0.39	0.88	0.11
40					14.85	72.92	8.58	20.34	6.30	9.93	3.82	3.10	2.68	1.36	1.74	0.49	1.01	0.14
45							9.65	25.30	7.09	12.35	4.30	3.86	3.02	1.69	1.95	0.61	1.13	0.17
50							10.73	30.76	7.88	15.01	4.78	4.69	3.35	2.05	2.17	0.75	1.26	0.21
55							11.80	36.39	8.67	17.90	5.26	5.60	3.69	2.45	2.39	0.89	1.39	0.25
60							12.87	43.11	9.46	21.03	5.74	6.57	4.02	2.87	2.60	1.05	1.51	0.30
65									10.24	24.40	6.22	7.62	4.36	3.33	2.82	1.21	1.64	0.34
70									11.03	27.98	6.69	8.75	4.69	3.82	3.04	1.39	1.76	0.39
75									11.82	31.80	7.17	9.94	5.03	4.35	3.26	1.58	1.89	0.45
80									12.61	35.84	7.65	11.20	5.36	4.90	3.47	1.78	2.02	0.50
85											8.13	12.53	5.70	5.48	3.69	1.99	2.14	0.56
90											8.61	13.93	6.03	6.09	3.91	2.22	2.27	0.63
95											9.08	15.40	6.37	6.73	4.12	2.45	2.39	0.69
100											9.56	16.93	6.70	7.40	4.34	2.69	2.52	0.76
110											10.52	20.20	7.37	8.83	4.77	3.21	2.77	0.91
120											11.47	23.73	8.04	10.38	5.21	3.77	3.02	1.07
130											12.43	27.52	8.71	12.03	5.64	4.38	3.28	1.24
140													9.38	13.80	6.08	5.02	3.53	1.42
150													10.05	15.69	6.51	5.71	3.78	1.61
160													10.72	17.68	6.94	6.43	4.03	1.82
170													11.39	19.78	7.38	7.20	4.28	2.03
180													12.06	21.99	7.81	8.00	4.54	2.26
190													12.73	24.30	8.25	8.84	4.79	2.50
200															8.68	9.72	5.04	2.74
210															9.11	10.64	5.29	3.00
220															9.55	11.60	5.54	3.27
230															9.98	12.59	5.80	3.55
240															10.42	13.63	6.05	3.85
250															10.85	14.70	6.30	4.15
260															11.28	15.80	6.55	4.46
270															11.72	16.95	6.81	4.78
280															12.15	18.13	7.06	5.12
290															12.59	19.35	7.31	5.46
300																	7.56	5.81
325																	8.19	6.74
350																	8.82	7.74
375																	9.45	8.79
400																	10.08	9.91
425																	10.71	11.08
450																	11.34	12.32
475																	11.97	13.62
500																	12.60	14.98

*Data shown is calculated from Williams and Hazen formula; $f = 0.2083(100/C)^{1.85} (q^{1.85}) / (d^{4.8655})$
 f = friction loss per 100 ft, c = surface roughness constant = 150, d = inside diameter, q = flow in gal. per min.