



FRICTION LOSS CHARACTERISTICS

Type "K" Copper Water Tube

Loss per 100 feet of pipe in PSI C=140



Size	½"		⅝"		¾"		1"		1¼"		1½"		2"		2½"		3"		Size	
OD	06254		0.750		0.875		1.125		1.375		1.625		2.125		2.625		3.125		OD	
ID	0.527		0.652		0.745		0.995		1.245		1.481		1.959		2.435		2.907		ID	
Wall	0.049		0.049		0.065		0.065		0.065		0.072		0.083		0.095		0.109		Wall	
Flow GPM	Velocity FPS	PSI Loss	Velocity FPS	PSI Loss	Velocity FPS	PSI Loss	Velocity FPS	PSI Loss	Velocity FPS	PSI Loss	Velocity FPS	PSI Loss	Velocity FPS	PSI Loss	Velocity FPS	PSI Loss	Velocity FPS	PSI Loss	Flow GPM	
1	1.46	1.09	0.95	0.39	0.73	0.20	0.41	0.05	0.26	0.02	0.18	0.01	0.10	0.00					1	
2	2.93	3.94	1.91	1.40	1.47	0.73	0.82	0.18	0.52	0.06	0.37	0.03	0.21	0.01					2	
3	4.40	8.35	2.87	2.97	2.20	1.55	1.23	0.38	0.78	0.13	0.55	0.05	0.31	0.01	0.20	0.00			3	
4	5.87	14.23	3.83	5.05	2.94	2.64	1.64	0.65	1.05	0.22	0.74	0.09	0.42	0.02	0.27	0.01	0.19	0.00	4	
5	7.34	21.51	4.79	7.64	3.67	3.99	2.06	0.98	1.31	0.33	0.93	0.14	0.53	0.04	0.34	0.01	0.24	0.01	5	
6	8.81	30.15	5.75	10.70	4.41	5.60	2.47	1.37	1.57	0.46	1.11	0.20	0.63	0.05	0.41	0.02	0.28	0.01	6	
7	10.28	40.11	6.71	14.24	5.14	7.44	2.88	1.82	1.84	0.61	1.30	0.26	0.74	0.07	0.48	0.02	0.33	0.01	7	
8	11.75	51.37	7.67	18.24	5.88	9.53	3.29	2.33	2.10	0.78	1.48	0.34	0.85	0.09	0.55	0.03	0.38	0.01	8	
9	13.22	63.89	8.63	22.68	6.61	11.86	3.70	2.90	2.36	0.97	1.67	0.42	0.95	0.11	0.61	0.04	0.43	0.02	9	
10	14.69	77.66	9.59	27.57	7.35	14.41	4.12	3.53	2.63	1.18	1.86	0.51	1.06	0.13	0.68	0.05	0.48	0.02	10	
11	16.15	92.65	10.55	32.89	8.08	17.19	4.53	4.21	2.89	1.41	2.04	0.61	1.16	0.16	0.75	0.05	0.53	0.02	11	
12	17.62	108.85	11.51	38.64	8.82	20.20	4.94	4.94	3.15	1.66	2.23	0.71	1.27	0.18	0.82	0.06	0.57	0.03	12	
14			13.43	51.41	10.29	26.87	5.76	6.57	3.68	2.21	2.60	0.95	1.48	0.24	0.95	0.08	0.67	0.04	14	
16			15.35	65.83	11.76	34.41	6.59	8.42	4.21	2.83	2.97	1.22	1.70	0.31	1.10	0.11	0.77	0.05	16	
18			17.27	81.88	13.23	42.80	7.41	10.47	4.73	3.52	3.34	1.51	1.91	0.39	1.23	0.13	0.86	0.06	18	
20			19.19	99.53	14.70	52.02	8.24	12.73	5.26	4.28	3.72	1.84	2.11	0.47	1.37	0.16	0.96	0.07	20	
22					16.17	62.06	9.06	15.18	5.79	5.10	4.09	2.19	2.33	0.56	1.51	0.20	1.06	0.08	22	
24					17.64	72.92	9.89	17.84	6.31	5.99	4.46	2.58	2.55	0.66	1.65	0.23	1.15	0.10	24	
26					19.11	84.57	10.71	20.69	6.84	6.95	4.83	2.99	2.76	0.77	1.78	0.27	1.25	0.11	26	
28							11.53	23.73	7.37	7.98	5.20	3.43	2.97	0.88	1.92	0.30	1.35	0.13	28	
30							12.36	26.97	7.89	9.06	5.58	3.89	3.18	1.00	2.06	0.35	1.44	0.15	30	
35							14.42	35.88	9.21	12.06	6.51	5.18	3.72	1.33	2.40	0.46	1.68	0.19	35	
40							16.48	45.95	10.52	15.44	7.44	6.63	4.25	1.70	2.75	0.59	1.93	0.25	40	
45							18.54	57.15	11.84	19.20	8.37	8.25	4.78	2.12	3.00	0.73	2.17	0.31	45	
50									13.16	23.34	9.30	10.03	5.31	2.57	3.44	0.89	2.41	0.38	50	
55									14.47	27.85	10.23	11.97	5.84	3.07	3.78	1.06	2.65	0.45	55	
60									15.79	32.71	11.16	14.06	6.37	3.60	4.12	1.25	2.89	0.53	60	
65									17.10	37.94	12.09	16.31	6.91	4.18	4.47	1.45	3.13	0.61	65	
70									18.42	43.52	13.02	18.70	7.44	4.80	4.81	1.66	3.37	0.70	70	
75									19.74	49.46	13.95	21.25	7.97	5.45	5.16	1.89	3.62	0.80	75	
80											14.88	23.95	8.50	6.14	5.50	2.13	3.86	0.90	80	
85											15.81	26.80	9.03	6.87	5.84	2.38	4.10	1.01	85	
90											16.74	29.79	9.56	7.64	6.19	2.65	4.34	1.12	90	
95											17.67	32.93	10.09	8.44	6.53	2.93	4.58	1.24	95	
100											18.60	36.21	10.63	9.28	6.88	3.22	4.82	1.36	100	
110															11.69	11.08	7.56	3.84	5.31	1.62
120															12.75	13.01	8.25	4.52	5.79	1.91
130															13.82	15.09	8.94	5.24	6.27	2.21
140															14.88	17.31	9.63	6.01	6.75	2.54
150															15.94	19.67	10.32	6.83	7.24	2.88
160															17.01	22.17	11.00	7.69	7.72	3.25
170															18.07	24.81	11.69	8.61	8.20	3.64
180															19.13	27.58	12.38	9.57	8.69	4.04
190																13.07	10.58	9.17	4.47	190
200																13.76	11.63	9.65	4.91	200
225																15.48	14.47	10.86	6.11	225
250																17.20	17.58	12.07	7.43	250
275																18.92	20.98	13.27	8.86	275
300																		14.48	10.41	300
325																		15.69	12.07	325



LONGHORN

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Note: Velocities in shaded (Red) area exceed 5 feet per second and should be used with caution