

Type K Copper Water Tube

C=140

psi Loss per 100 Feet of Tube (psi/100 ft.)

Sizes 1/2" through 3" Flow 1 through 600 gpm

Size	1/2"		5/8"		3/4"		1"		1 1/4"		1 1/2"		2"		2 1/2"		3"			
O.D.	0.625		0.750		0.875		1.125		1.375		1.625		2.125		2.625		3.125			
I.D.	0.5270		0.652		0.745		0.995		1.245		1.481		1.959		2.435		2.907			
Wall Thk	0.049		0.049		0.065		0.065		0.065		0.072		0.083		0.095		0.109			
Flow gpm	Velocity fps		psi Loss		Velocity fps		psi Loss		Velocity fps		psi Loss		Velocity fps		psi Loss		Velocity fps		psi Loss	
1	1.47	1.09	0.96	0.39	0.74	0.20	0.41	0.05	0.26	0.02	0.19	0.01	0.11	0.00	0.07	0.00	0.05	0.00		
2	2.94	3.94	1.92	1.40	1.47	0.73	0.83	0.18	0.53	0.06	0.37	0.03	0.21	0.01	0.14	0.00	0.10	0.00		
3	4.41	8.34	2.88	2.96	2.21	1.55	1.24	0.38	0.79	0.13	0.56	0.05	0.32	0.01	0.21	0.00	0.15	0.00		
4	5.88	14.20	3.84	5.04	2.94	2.63	1.65	0.64	1.05	0.22	0.74	0.09	0.43	0.02	0.28	0.01	0.19	0.00		
5	7.35	21.46	4.80	7.62	3.68	3.98	2.06	0.97	1.32	0.33	0.93	0.14	0.53	0.04	0.34	0.01	0.24	0.01		
6	8.83	30.06	5.77	10.67	4.42	5.58	2.48	1.36	1.58	0.46	1.12	0.20	0.64	0.05	0.41	0.02	0.29	0.01		
7	10.30	39.98	6.73	14.20	5.15	7.42	2.89	1.82	1.84	0.61	1.30	0.26	0.75	0.07	0.48	0.02	0.34	0.01		
8	11.77	51.19	7.69	18.17	5.89	9.50	3.30	2.32	2.11	0.78	1.49	0.34	0.85	0.09	0.55	0.03	0.39	0.01		
9	13.24	63.65	8.65	22.60	6.62	11.81	3.71	2.89	2.37	0.97	1.68	0.42	0.96	0.11	0.62	0.04	0.44	0.02		
10	14.71	77.35	9.61	27.46	7.36	14.35	4.13	3.51	2.64	1.18	1.86	0.51	1.06	0.13	0.69	0.05	0.48	0.02		
11	16.18	92.26	10.57	32.76	8.10	17.12	4.54	4.19	2.90	1.41	2.05	0.60	1.17	0.16	0.76	0.05	0.53	0.02		
12	17.65	108.38	11.53	38.48	8.83	20.11	4.95	4.92	3.16	1.65	2.23	0.71	1.28	0.18	0.83	0.06	0.58	0.03		
14			13.45	51.17	10.30	26.75	5.78	6.54	3.69	2.20	2.61	0.94	1.49	0.24	0.96	0.08	0.68	0.04		
16			15.38	65.51	11.78	34.24	6.60	8.38	4.22	2.82	2.98	1.21	1.70	0.31	1.10	0.11	0.77	0.05		
18			17.30	81.46	13.25	42.58	7.43	10.42	4.74	3.50	3.35	1.50	1.92	0.39	1.24	0.13	0.87	0.06		
20			19.22	98.99	14.72	51.74	8.25	12.66	5.27	4.25	3.72	1.83	2.13	0.47	1.38	0.16	0.97	0.07		
22					16.19	61.72	9.08	15.10	5.80	5.07	4.10	2.18	2.34	0.56	1.52	0.19	1.06	0.08		
24					17.66	72.50	9.90	17.74	6.33	5.96	4.47	2.56	2.55	0.66	1.65	0.23	1.16	0.10		
26					19.14	84.07	10.73	20.57	6.85	6.91	4.84	2.97	2.77	0.76	1.79	0.26	1.26	0.11		
28							11.55	23.59	7.38	7.93	5.21	3.41	2.98	0.87	1.93	0.30	1.35	0.13		
30							12.38	26.80	7.91	9.01	5.59	3.87	3.19	0.99	2.07	0.34	1.45	0.15		
35							14.44	35.65	9.22	11.98	6.52	5.15	3.73	1.32	2.41	0.46	1.69	0.19		
40							16.50	45.64	10.54	15.34	7.45	6.59	4.26	1.69	2.76	0.59	1.93	0.25		
45							18.57	56.75	11.86	19.07	8.38	8.19	4.79	2.10	3.10	0.73	2.18	0.31		
50									13.18	23.17	9.31	9.96	5.32	2.55	3.44	0.89	2.42	0.37		
55									14.49	27.64	10.24	11.88	5.85	3.05	3.79	1.06	2.66	0.45		
60									15.81	32.47	11.17	13.95	6.39	3.58	4.13	1.24	2.90	0.52		
65									17.13	37.65	12.11	16.18	6.92	4.15	4.48	1.44	3.14	0.61		
70									18.45	43.18	13.04	18.56	7.45	4.76	4.82	1.65	3.38	0.70		
75									19.77	49.06	13.97	21.08	7.98	5.41	5.17	1.88	3.63	0.79		
80											14.90	23.76	8.52	6.09	5.51	2.11	3.87	0.89		
85											15.83	26.58	9.05	6.81	5.86	2.37	4.11	1.00		
90											16.76	29.54	9.58	7.58	6.20	2.63	4.35	1.11		
95											17.69	32.65	10.11	8.37	6.55	2.91	4.59	1.23		
100											18.62	35.90	10.64	9.21	6.89	3.19	4.83	1.35		
110													11.71	10.98	7.58	3.81	5.32	1.61		
120													12.77	12.90	8.27	4.48	5.80	1.89		
130													13.84	14.96	8.96	5.19	6.28	2.19		
140													14.90	17.15	9.65	5.95	6.77	2.51		
150													15.97	19.49	10.33	6.76	7.25	2.86		
160													17.03	21.96	11.02	7.62	7.73	3.22		
170													18.10	24.57	11.71	8.53	8.22	3.60		
180													19.16	27.31	12.40	9.48	8.70	4.00		
190															13.09	10.47	9.18	4.42		
200															13.78	11.52	9.67	4.86		
225															15.50	14.32	10.88	6.05		
250															17.22	17.40	12.08	7.35		
275															18.95	20.76	13.29	8.77		
300																	14.50	10.30		
325																	15.71	11.94		
350																	16.92	13.70		
375																	18.13	15.56		
400																	19.34	17.53		
425																				
450																				
475																				
500																				
550																				

**Note:** Dark shaded area of chart indicates velocities over 5' per second. Use with caution  
 Velocity of flow values are computed from the general equation  $V = .408 \frac{Q}{D^2}$   
 Friction pressure loss values are computed from the equation:  $[hf = 0.2083 \left(\frac{100}{L}\right) 1.852 \frac{Q^{1.852}}{d^{4.866}}] \times 4.33$  for psi loss per 100' of pipe