

Friction Loss Characteristics

Class 200 IPS U.S. PVC Plastic Pipe

(1120, 1220) C=150 SDR 21  
 PRESSURE LOSS PER 100 FEET OF PIPE (PSI) SIZES ¾" THRU 4"

Nominal Size	¾"	1"	1¼"	1½"	2"	2½"	3"	3½"	4"	Nominal Size			
Pipe ID	0.930	1.189	1.502	1.720	2.149	2.601	3.166	3.620	4.072	Pipe ID			
Pipe OD	1.050	1.315	1.660	1.900	2.375	2.875	3.500	4.000	4.500	Pipe OD			
Wall Thick	0.060	0.063	0.079	0.090	0.113	0.137	0.167	0.190	0.214	Wall Thick			
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	Flow GPM
1	0.47	0.06	0.29	0.02	0.18	0.01	0.14	0.00					1
2	0.94	0.22	0.58	0.07	0.36	0.02	0.28	0.01					2
3	1.42	0.46	0.87	0.14	0.54	0.04	0.41	0.02					3
4	1.89	0.79	1.15	0.24	0.72	0.08	0.55	0.04					4
5	2.36	1.19	1.44	0.36	0.90	0.12	0.69	0.06					5
6	2.83	1.67	1.73	0.51	1.09	0.16	0.83	0.08					6
7	3.30	2.23	2.02	0.67	1.27	0.22	0.97	0.11					7
8	3.77	2.85	2.31	0.86	1.45	0.28	1.10	0.14					8
9	4.25	3.55	2.60	1.07	1.63	0.34	1.24	0.18					9
10	4.72	4.31	2.89	1.30	1.81	0.42	1.38	0.22					10
12	5.66	6.04	3.46	1.83	2.17	0.59	1.65	0.30					12
14	6.60	8.04	4.04	2.43	2.53	0.78	1.93	0.40					14
15	7.08	9.13	4.33	2.76	2.71	0.89	2.07	0.46					15
16	7.55	10.29	4.62	3.11	2.89	1.00	2.21	0.52					16
18	8.49	12.80	5.19	3.87	3.26	1.24	2.48	0.64					18
20	9.43	15.56	5.77	4.71	3.62	1.51	2.76	0.78					20
22	10.38	18.56	6.35	5.62	3.98	1.80	3.03	0.93					22
24	11.32	21.81	6.93	6.60	4.34	2.12	3.31	1.09					24
25	11.79	23.52	7.22	7.12	4.52	2.28	3.45	1.18					25
26	12.27	25.29	7.50	7.65	4.70	2.45	3.59	1.27					26
28	13.21	29.01	8.08	8.78	5.06	2.82	3.86	1.46					28
30	14.15	32.96	8.66	9.97	5.43	3.20	4.14	1.65					30
32	15.10	37.15	9.24	11.24	5.79	3.61	4.41	1.86					32
34	16.04	41.56	9.81	12.58	6.15	4.03	4.69	2.09					34
35	16.51	43.86	10.10	13.27	6.33	4.26	4.83	2.20					35
36	16.98	46.21	10.39	13.98	6.51	4.48	4.96	2.32					36
38	17.93	51.07	10.97	15.45	6.87	4.96	5.24	2.56					38
40	18.87	56.16	11.54	16.99	7.23	5.45	5.52	2.82					40
42	19.81	61.47	12.12	18.60	7.60	5.97	5.79	3.08					42
44	20.76	67.00	12.70	20.27	7.96	6.50	6.07	3.36					44
45			12.99	21.13	8.14	6.78	6.21	3.51					45
46			13.28	22.01	8.32	7.06	6.34	3.65					46
48			13.85	23.82	8.68	7.64	6.62	3.95					48
50			14.43	25.69	9.04	8.24	6.90	4.26					50
55			15.87	30.65	9.95	9.83	7.59	5.08					55
60			17.32	36.00	10.85	11.55	8.27	5.97					60
65			18.76	41.76	11.76	13.39	8.96	6.93					65
70					12.66	15.36	9.65	7.95					70
75					13.56	17.46	10.34	9.03					75
80					14.47	19.67	10.38	10.17					80
85					15.37	22.01	11.72	11.38					85
90					16.28	24.47	12.41	12.65					90
95					17.18	27.05	13.10	13.99					95
100					18.09	29.74	13.79	15.38					100
110					19.89	35.48	15.17	18.35					110
120					16.55	21.56	10.60	7.30					120
130					17.93	25.00	11.48	8.46					130
140					19.31	28.68	12.37	9.71					140
150							13.25	11.03					150
175							15.46	14.67					175
200							17.67	18.79					200
225							19.88	23.37					225
250							15.08	11.22					250
275							16.58	13.39					275
300							18.09	15.73					300
350							14.25	8.04					350
400							16.28	10.29					400
450							18.32	12.80					450
500									14.01	6.67	11.07	3.76	500
550									15.57	8.11	12.30	4.57	550
600									17.12	9.67	13.53	5.46	600
700									18.68	11.36	14.76	6.41	700
800											17.22	8.53	800
											19.68	10.92	800

Shaded area represents velocities over 5 fps. Use with caution where water hammer is a concern.