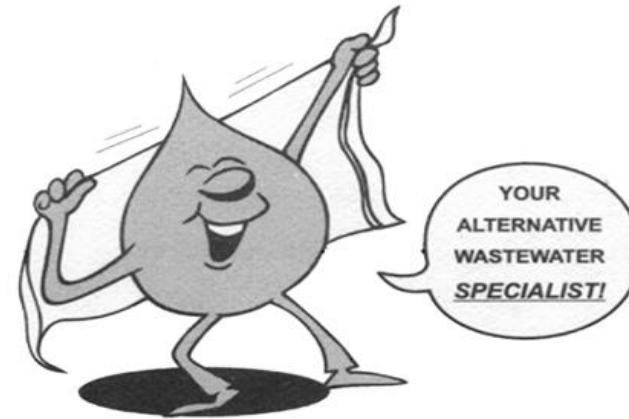




**12800 Second St.- P.O. BOX 248
Grandview, MO 64030
816-966-8885 fax:816-966-8778**



Friction Loss & Flow Velocity for Schedule 40 PVC

GPM	1 Inch		1 1/4 Inch		1 1/2 Inch		2 Inch		2 1/2 Inch		3 Inch	
	Velocity (ft / sec)	Fric Head (ft / 100 ft)	Velocity (ft / sec)	Fric Head (ft / 100 ft)	Velocity (ft / sec)	Fric Head (ft / 100 ft)	Velocity (ft / sec)	Fric Head (ft / 100 ft)	Velocity (ft / sec)	Fric Head (ft / 100 ft)	Velocity (ft / sec)	Fric Head (ft / 100 ft)
2	0.8	0.6	0.4	0.1	0.3	0.1						
5	1.9	1.7	1.1	0.4	0.8	0.2	0.5	0.07	0.3	0.04	0.2	0.02
7	2.7	3.2	1.6	0.8	1.1	0.4	0.7	0.1	0.5	0.05	0.3	0.02
10	3.9	6.0	2.2	1.6	1.6	0.7	1.0	0.2	0.7	0.1	0.4	0.03
15	5.8	12.8	3.3	3.3	2.4	1.5	1.5	0.5	1.0	0.2	0.7	0.07
20	7.7	21.8	4.4	5.6	3.2	2.6	2.0	0.8	1.4	0.3	0.9	0.1
25	9.7	32.9	5.5	8.5	4.0	4.0	2.4	1.2	1.7	0.5	1.1	0.2
30	11.6	46.1	6.6	11.9	4.9	5.5	2.9	1.6	2.1	0.7	1.3	0.2
35			7.7	15.8	5.7	7.4	3.4	2.2	2.4	0.9	1.6	0.3
40			8.8	20.2	6.5	9.4	3.9	2.8	2.7	1.2	1.8	0.4
45			9.9	25.1	7.3	11.7	4.4	3.4	3.1	1.4	2	0.5
50			11.1	30.5	8.1	14.3	4.9	4.2	3.4	1.8	2.2	0.6
55					9.7	20.0						
60							5.9	5.8	4.1	2.5	2.7	0.9

Friction Factors for Pipe Fittings- Equivalent Feet of Straight Pipe

Pipe Size	90 Elbow	45 Elbow	Tee/ Flow	Tee / Turn	Swing Ck	Gate Valve
1 1/4"	3.5	1.8	2.3	6.9	11.5	0.9
1 1/2"	4	2.2	2.7	8.1	13.4	1.1
2"	5.2	2.8	3.5	10.3	17.2	1.4
2 1/2"	6.2	3.3	4.1	12.3	20.6	1.7
3"	7.7	4.1	5.1	15.3	25.5	2