

Friction factors for pipe fitting in terms of equivalent feet of straight pipe						
Nominal Pipe Size	90 Elbow	45 Elbow	Tee (Thru-flow)	Tee Branch flow	Swing Check Valve	Gate Valve
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	2.0

FIGURE D

Nominal Pipe Size						
	2"		2 1/2"		3"	
GPM	Plastic	Steel	Plastic	Steel	Plastic	Steel
20	0.9	0.9				
25	1.3	1.3				
30	1.8	1.8	0.6	0.8		
35	2.4	2.4	0.8	1.0		
40	3.1	3.1	1.0	1.3		
45	3.8	3.8	1.3	1.6	0.5	0.6
50	4.7	4.7	1.6	1.9	0.7	0.7
60	6.5	6.6	2.2	2.7	0.9	0.9
70	8.6	8.8	2.9	3.6	1.2	1.2
80	11.1	11.4	3.7	4.6	1.5	1.6
90	13.8	14.3	4.6	5.8	1.9	2.0
100	16.8	17.5	5.6	7.1	2.3	2.4
125			8.3	10.9	3.6	3.6
120			12.0	15.5	4.9	5.1
175			16.4	20.9	6.4	6.9
200					8.4	8.9

FIGURE E