

Irrigation Design Information

Water Meters:

When designing a residential or commercial irrigation using domestic metered water you should keep these standards in mind.

NEVER use more than **75%** of the **Safe Maximum Flow** rating of the water meter.

IE: The SMF of a 5/8" water meter is 20 GPM, so your system should never flow more than 15 GPM on any one zone.

Another way to size the zone flow in your system is not to lose more than 10% of the static pressure through the water meter.

IE: If your static pressure is 55 psi then you would attempt to keep the pressure loss in the meter to 5.5 psi loss, with a 5/8" meter that would keep the zone flow rate between 12 and 13 GPM. See chart below.

Flow GPM	5/8"	3/4"	1"	1 1/2"	2"
1	0.2	0.1			
2	0.3	0.2			
3	0.4	0.3			
4	0.6	0.5	0.1		
5	0.9	0.6	0.2		
6	1.3	0.7	0.3		
7	1.8	0.8	0.4		
8	2.3	1.0	0.5		
9	3.0	1.3	0.6		
10	3.7	1.6	0.7	0.1	
11	4.4	1.9	0.8	0.2	
12	5.1	2.2	0.9	0.2	
13	6.1	2.6	1.0	0.3	
14	7.2	3.1	1.1	0.3	
15	8.3	3.6	1.2	0.4	
16	9.5	4.1	1.4	0.4	
17	10.7	4.6	1.6	0.5	
18	12.0	5.2	1.8	0.6	
19	13.4	5.8	2.0	0.7	
20	15.0	6.5	2.2	0.8	0.4
25		10.3	3.7	1.3	0.5
30		15.0	5.3	1.8	0.7
35			7.3	2.6	1.0
40			9.6	3.3	1.3
50			15.0	4.9	1.9
60				7.2	2.7
70				9.8	3.7
80				12.8	4.9
90				16.1	6.2
100				20.0	7.8
110					9.5
120					11.3
130					13.1
140					15.0
150					17.3
160					20.0

Typical Water Meter Chart

The column on the left is the flow rate in the meter expressed in GPM (gallons per minute).

Across the top are the various meter sizes in inches.

The numbers under the meter sizes are the pressure losses for a particular size meter at a given flow rate.

A 3/4" meter flowing 15 GPM will have a pressure loss of 3.6 psi

Remember: Just because you have a high static pressure doesn't mean that you can flow more through the meter. In new areas the pressure may be high at first but after the area fills up the pressure will drop because of various reasons.

This chart is the AWWA (American Water Works Association) standard, however you should get the manufacturers charts for their particular meter.



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