

Pipe Sizing Chart

Two Goals

Pipes in an irrigation system should be sized so that they allow water to flow through optimally. Flow is measured in GPM (gallons per minute), friction loss is measured in PSI (pounds per square inch), and velocity is measured in FPS (feet per second). There are two goals:

- 1) To ideally have the same pressure at each sprinkler in a zone*
- 2) To have low water velocity which reduces the chance of water hammer (the violent movement of water through pipes)*

There are numerous charts that assist in making these calculations. However, in residential and small commercial applications, a simple chart listing the maximum flow that a size and type of pipe will carry will suffice. The chart below takes both into consideration.

Maximum** Flow Rates (GPM)

Pipe Type	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Schedule 40	4	8	13	22	30	50
Schedule 80	3	6	11	20	26	46
Class 200	NA	10	16	26	36	55
Type L Copper	5	7	12	19	26	48
P.E. (Drip)*	4 gpm / 240 gph	8 gpm / 480 gph	13 gpm / 780 gph	NA	NA	NA

* For smaller sizes of drip: 1/8" P.E. = 10 G.P.H., 1/4" P.E. = 20 G.P.H., 3/8" P.E. = 100 G.P.H. The flow of drip tubing is generally expressed in GPH (gallons per hour). To convert GPM to GPH, simply multiply GPM by 60. (GPM X 60 = GPH)

** These flow rates are the maximum before water hammer becomes apparent. That means you can, if you choose, get more water through the pipes than shown, but you can lose pressure and cause vibration in the lines, if you do.



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