



How to test flow (gpm) and pressure (psi)

It is necessary to test for flow and pressure of your water service when sizing and/or designing an irrigation system. Overestimating either will result in an irrigation system that does not perform properly, or at all. A simple test can be done with an inexpensive hose wye, a pressure gauge, and some miscellaneous fittings (Less than \$20). You will also need a 5 gallon bucket and a stopwatch.

To get as accurate of a test result as possible the test should be taken from a mainline source before the plumbing reduces in size. Ideally you would want to test from the point of connection for your irrigation system. Knowing that the point of connection is not always present prior to planning we can test from available hose bibs, preferably as close to the water source as possible (meter or pump).

Due to the fact that most hose bibs are restrictive and will not allow the full available flow through them, it may be necessary to utilize two hose bibs at the same time for the test. At one hose bib we will install the hose wye with pressure gauge and this is where we will be filling the 5 gallon bucket. Run a garden hose from another available hose bib to the one with the gauge.

Using both hose bibs, open them to allow water to flow. (If you are on a well we will want to let the water flow for approx. 20 minutes prior to the following test to account for drawdown and want to make sure the pump is on while performing the test) Slowly close the valves and/or hose bibs until the gauge reads 50 psi. When we are able to hold steady at 50 pounds of pressure begin filling the five gallon bucket with both the hose bib and hose simultaneously and time how long it takes to fill the bucket. Once we know how long it takes to get 5 gallons at 50 psi we can use simple math to determine our gallons per minute at 50 pounds of pressure.

15 seconds = 20 gallons per minute
20 seconds = 15 gallons per minute
25 seconds = 12 gallons per minute
30 seconds = 10 gallons per minute
35 seconds = 8.5 gallons per minute

40 seconds = 7.5 gallons per minute
45 seconds = 6.5 gallons per minute
50 seconds = 6 gallons per minute
55 seconds = 5.5 gallons per minute
60 seconds = 5 gallons per minute

As an added simple test for another piece of information about your water supply you can perform an “open discharge” flow test at this time. Simply repeat the above test, but open the valves and hose bibs all the way, allowing the gauge to drop to 0 pounds. This test will give you your flow at zero pounds pressure, or open discharge.

You can also perform a static pressure test by closing valves to not allow water to flow. Making sure there is no valve closed prior to the gauge read the pressure on the gauge. That reading is your static water pressure, or the max pressure available with no water flowing. (If on a well or pump system your static pressure should be very close to the shut off pressure of your pump pressure switch.)

