

Glossary of Terms

ARC - Describes how far around in a circular pattern a sprinkler will rotate or spray. A sprinkler with a 90° arc would spray a quarter circle.

BACKFLOW PREVENTER - A device installed between the P.O.C. and the sprinklers that is designed to prevent the backflow of contaminated water into the drinking water. Different areas of the country require different types of backflow preventers. The user should check with their Hunter dealer or local permitting agency for the type of backflow device approved for their area.

CHECK VALVE - A small device allowing water to flow in one direction only. A check valve has a spring which will hold the valve closed, and will not allow the water to flow out of the sprinkler until a pre-set pressure is achieved in the system. This spring will hold back water in a pipe that has as much as 7' to 10' change in elevation and is an excellent solution for slope applications.

CONTROLLER - Also known as a timer, the part of an automatic sprinkler system that determines when a valve will turn on and how long it will operate. The timer sends a low voltage signal to the valve, which will then open for a predetermined amount of time allowing water to flow to the sprinklers. What size timer to purchase is determined by how many zones are in the sprinkler system.

FRICTION LOSS - Water flowing through the meter, valves, pipe, and fittings has considerable drag or friction. When the velocity of water increases, the friction loss increases. The friction reduces the available static pressure.

GPM - Gallons Per Minute - The available GPM must be known before a sprinkler design can be completed. Sprinkler heads have different GPM requirements. The total GPM of all the sprinkler heads on one zone should not exceed the available GPM.

HEAD-TO-HEAD - This phrase describes the correct placement of spray heads and stream rotors. One sprinkler must be placed so that it will spray another sprinkler (or 50% of the adjusted diameter). This provides for complete coverage and prevents dry spots.

LATERAL (Lateral Line) - Non-pressure pipe running from the valve to the sprinklers.

LOW HEAD DRAINAGE - Water left in the pipe after a valve is turned off that is gently flowing out of a low elevation sprinkler head.

MAIN (MAIN LINE) - Pressurized pipe running from the P.O.C. to the zone control valves.

MANIFOLD - A group of valves.

P.O.C. - POINT OF CONNECTION - The sprinkler main line tie-in point.

POLY PIPE - Polyethylene is black, flexible pipe popular in areas that are susceptible to long freezes in the winter. An insert fitting with a hose clamp or a compression fitting is used with poly pipe.

PRECIPITATION RATE - Expressed in inches per hour, precipitation rate is the rate at which water is being applied. Matched precipitation means all of the sprinklers in the area are placing about the same amount of water on a given area. Different types of sprinklers should not be installed in the same zone. Large area sprinklers and small area sprinklers may use the same GPM, but because the size of the areas they cover is not the same, the inches per hour of water applied is very different.

PRESSURE - Measured with a pressure gauge and expressed in pounds per square inch (PSI). Static pressure is the PSI measured when no water is flowing through a closed system. Dynamic pressure is the PSI measured when the system is open, or water is flowing through.

PROGRAM - A program is information the user enters into the timer's memory that determines when the system will water. A program for an automatic sprinkler timer contains three pieces of information: what days to water, what time to start watering all zones, and how long each zone will water.

PVC PIPE - The most common type of pipe used in areas with warmer climates. Generally white in color, PVC (polyvinyl chloride) pipe is more rigid than the black poly pipe, and requires the use of PVC solvents (glue). The pipe manufacturers also recommend the use of primer just prior to the application of the solvent. Some examples and descriptions of PVC pipe are as follows:

SCH 40 - A thick-walled pipe most commonly used for main lines.

CL 200 - Piping with medium-thick walls and strength.

CL 160 - A thin-walled pipe that should only be used for lateral lines.

RADIUS - How far out from the sprinkler the water sprays. A nozzle with a 17' radius means that the water will spray out as far as 17'.

ROTORS - Gear-driven sprinklers that shoot out a solid stream of water and rotate slowly in a circular pattern, streaming out water to areas as small as 17' and as large as 75' or more. Rotors fit into the "large area sprinklers" category.

SPRAY HEADS - A sprinkler that emits a fan-type spray of small droplets of water. These heads have a radius of 17' and shorter. Spray heads fit into the category of "small area sprinklers."

STATION - A term used when discussing controllers. Sprinklers in a watering zone are connected by pipe to a valve, which is wired to a station on the controller. A 6-station controller (also called a timer) can control from one to six valves.

TIMER - See "Controller"

TRENCH - Lateral line trenches should be at least 6" to 8" deep. When digging in the yard most people will dig without concern to about a 4" depth. At 6" they begin to dig more carefully, as they know there are utilities buried in their yard. Installing the lateral pipes at 6" to 8" helps to avoid broken pipes due to weeding or the planting of annual color. The main line is usually installed before the lateral lines and should be deeper, allowing the lateral lines to be installed at the stated depth. As an added note, install the low-voltage wires in the same trench below the main line pipe to help protect the wires.

VALVE - In a sprinkler system, there are many types of valves, but really only two families of valves—sprinkler valves and shut-off valves. Within those two families are a variety of valves. When discussing a sprinkler system, the term "valve" usually refers to an automatic control valve.

SHUT-OFF VALVES

GATE VALVES have a wheel type handle. Several turns of the handle are required to turn off a gate valve. Gate valves are most commonly used on main line pipes with high water pressure or high water flow. Because several turns are required, they are easier to turn off and the potential for water hammer is reduced. Gate valves have a brass to brass seat and are not recommended for frequent use.

BALL VALVES have a single arm or lever that requires a quarter turn to turn on or off. This single action is convenient, but caution should be used and the valve should not be turned on or off too quickly while water is flowing, as damage could result. Ball valves have resilient seats and are better for frequent use applications.

SPRINKLER ZONE CONTROL VALVES

MANUAL CONTROL VALVES are not as common as they once were. The manually-controlled sprinkler system eliminates having to move a hose-end sprinkler around from area to area, but the user does not have the convenience of the automatic system.

AUTOMATIC CONTROL VALVES are used in conjunction with automatic timers and are a convenient, economical way of delivering water to lawns, plants and gardens. With an automatic system, the user does not have to worry about wasting water when they forget to turn the system off. Instead, just the right amount of water is delivered to each zone automatically.

VOLUME - Expressed in GPM (gallons per minute), volume is used to describe either the amount of water available or the amount of water used.

WATER HAMMER - The surging of pressure which occurs when a control valve is suddenly closed. In extreme conditions, this surging will cause the pipes to vibrate or create a pounding noise. Water hammer is most commonly caused by fast-closing valves or pipes that have been sized too small causing high velocity water flow.

WIRE - In an automatic sprinkler system, low voltage direct burial wire is used to connect the automatic control valves to the controller. The most frequently used wire for the home sprinkler system is multi-strand. Color-coded, multi-strand sprinkler wire has several coated wires together in one protective jacket. It is a good idea to install extra wires for future expansion of the system.

ZONE - A zone is an area to be watered by one sprinkler valve.