

# Glossary – Irrigation

## 'T' Filter

Though most often referring to a larger filter where the bowl containing the filter element hangs down, it can be any filter that forms a 'T' shape.

## 'Y' Filter

Though most often referring to a smaller filter where the bowl containing the filter element hangs at an angle, it can be any filter that forms a 'Y' shape.

## Adapter

A part that connects fittings and/or pipes of different sizes and/or thread types. For example, install an adapter that transforms female pipe thread to male hose thread.

## Agribon

Agribon® floating row cover is a fabric that can be used to protect young plants from frost, insects, wind, and harsh rains, yet is permeable enough to allow a portion of the light and water to pass through the fabric. Agribon™ is available in two weights for row crops, garden beds, shrubs, individual fruit trees or deck containers. Agribon is made of spun bonded polypropylene fabric

## Air Bleed Valve

A device to prevent the back suction of dirt particles upon system shut down. This can be resolved by installing air bleed valve at high points in the system. Usually installs in a "T".

## Anti-Drip Device

When using overhead (inverted) irrigation in greenhouses, each sprinkler or mister assembly can have an anti-drip device installed to prevent damage to plants directly below. Available for Micro Tubing and Mainline Tubing .

## Anti-Siphon Valve

An irrigation control valve coupled to a backflow preventer. This prevents a backflow (siphon) of irrigation water into the main household or commercial water supply. Usually made of brass or plastic, anti-siphon valves are used primarily in residential irrigation systems. They are installed 12" above the highest point of the beginning of the irrigation zone.

## Backflow

Any flow of non-drinkable water from a drip irrigation system that siphons back into a drinkable or clean water supply, the direction of flow being the reverse from that intended. See Backflow Prevention.

## Backflow Prevention

A Vacuum Breaker, Check Valve, or other Backflow Prevention device installed on an irrigation system to prevent contaminated water from flowing back into the drinkable or clean water supply.

## Ball Valve

A ball valve is simple control or shut-off fitting containing a rotating ball with a hole in the middle of it, actuated with a handle.

## Barbed Fitting

A type of fitting where the tubing slides over a barb. Barbed fittings are used to connect two or more lengths of tubing together or tubing to another fitting In systems with higher pressures these fittings require clamps.

## Branch line

Polyethylene Tubing that attaches to the mainline to bring water to a plant or a zone.

## Bug Plug

Inserted into the end of 1/4" tubing, the bug plug allows water to exit the tubing while keeping bugs from entering and clogging the line.

#### Bushing

A bushing connects pipes and fittings of different sizes. Also called a reducing bushing, the one-piece fitting has a larger male component and a smaller female component. They are available in slip, thread, or slip by thread configurations.

#### Check valve

A check valve is an inline valve that allows water to flow in one direction only, preventing contaminated water from flowing back into your drinkable or clean water source.

#### Chemigation

See Fertigation.

#### Clay soil

Consists of densely packed, evenly spaced particles that absorb water very slowly. Water tends to spread once soil is wet and runoff can occur if it is applied too quickly. Clay soil holds water well and can remain wet for several days. Choose 1/2 or 1 GPH emitters for clay soils and space them farther apart.

#### Compression Fitting

A variety of fittings used to connect two or more lengths of polyethylene together. The tubing is inserted into the compression fitting. No glue is required. Available from DripWorks in either 1/2" or 3/4" sizes.

#### Controller

A controller is an automatic timing device that sends an electric signal for valves to open or close by a set irrigation Schedule. See Timer.

#### Disc Filter

Disc Filters contain an element made up of grooved discs specifically designed to capture organic debris such as algae. The fineness of the grooves determines the particle size it captures.

#### Double Check Valve Assembly

A Double Check Valve (or double check assembly) is a backflow preventer containing two positive-seating check valves assembled in series. The benefit of the double check valve is that it does not need to be installed at the highest point in the irrigation system. Made of brass, they cost considerably more than single check valves or vacuum breakers.

#### Drain Valve

A drain valve empties your water lines upon shutdown. Installed at the lowest point of your system, it opens when the line pressure drops below an established threshold.

#### Drip Irrigation

An irrigation method that minimizes the use of water and fertilizer by slowly emitting a precise amount to the Root Zone of plants. AKA Trickle Irrigation or Micro Irrigation.

#### Dripper

See Emitter.

#### Drip Tape

Drip Tape is a thin-wall emitter tubing most often used on farms for long, straight row crop irrigation. It comes in a variety of wall thickness, emitter spacing and high and low flow rates.

#### Easy Loc Fitting

Easy Loc Fittings are reusable fittings that use a barb and collar system for water-tight joining of drip poly tubing and are available in 1/2", 3/4", and 1" sizes. Designed to be hand tightened but can be tightened further with pliers if necessary.

#### Elbow

This fitting is used to make a 90 or 45 degree turn in a water line. Elbows are also called "ells", "90s", or "45s".

#### Elevation

Variations in elevation will increase or decrease water pressure by 1 pound for every 2.3 feet (equal to 4.3 pounds for every 10 feet) in vertical elevation change. If pressure is too low, drip components may perform erratically or not at all. If your water source is much higher than your garden, one or more pressure regulators may be needed to reduce the pressure.

#### Emitter Tubing

1/4" or 1/2" Poly tubing with built-in emitters available in 1/4" or 1/2" sizes. The 1/4" version is a non-pressure compensating product called Soaker Dripline while the 1/2" version, called Emitter Tubing, is Pressure Compensating. Both are available with different spacing between emitters.

#### Emitter

Any of a variety of irrigation devices, usually molded from plastic, designed to deliver precise amounts of water to particular locations. An emitter is a product used in Drip Irrigation to deliver a regulated water flow from the Mainline or Branch Line tubing to the area to be irrigated. Emitters can be placed in the mainline or branch line, at the end of 1/4" branch line or pre-installed inside Emitter Tubing.

#### EPDM Rubber Pond Liner

EPDM (Ethylene Propylene Diene Monomer) is a flexible, pliable, UV stabilized material with a 20 year life expectancy in full sun.

#### Extension Hose

Used to connect timer/filter/regulator assemblies to a water source and thus take the weight off vulnerable hose-thread connections, these high pressure hose extensions are available in 3' and 5' lengths, as well as a an 8' length.

#### Fertigation

The application of fertilizers, plant nutrients, or amendments through an irrigation system.

#### Fertilizer Injector

Fertilizer Injectors are devices used to introduce liquid nutrients and agricultural additives into an irrigation system.

#### Filter

An essential part of any drip irrigation system, a filter removes particles and debris from the water supply. City water may require a SCREEN FILTER (available in home or heavy duty models) while pond or ditch water with algae and other organic particulates may require a Disc Filter.

#### Fitting

Used in drip systems to connect tubing, pipe, or other fittings together. Fittings come in wide range of shapes and sizes. Commonly used parts are elbows, tees, hose beginnings, hose ends and couplers.

#### Flow

Flow is the amount of water available for the irrigation system, expressed in gallons per hour (GPH) or gallons per minutes (GPM). The flow determines how many plants (or how large an area) can be watered at one time. To check your flow, visit our Calculators page.

#### Flush Valve

A Flush Valve is a fitting that empties your water lines upon shutdown. Installed at the lowest point of your system, it opens when the line pressure drops below an established threshold. See Drain Valve.

#### Friction Loss

A drop in pressure as water moves through tubing due to friction in the line. In long tubing runs this drop can lower the output of some emitters or sprayers, especially toward the end of the

line. Friction loss increases if the tubing goes uphill and decreases if it goes downhill. To decrease friction, tubing of a larger size can be used.

#### Geo Textile

A non-woven, puncture resistant geotextile fabric that provides a long term solution for protecting a Pond Liner . Used as an underlayment, this soft fabric protects your liner from potential punctures from sharp objects hiding in the soil. Unlike sand, this fabric will adhere to the steep sides of your excavation before, during and after liner installation. Also used as an overlayment around the pond perimeter to keep the sun from degrading the liner. It is considered smart, preventive "insurance".

#### Goof Plug

Available in a variety of sizes, the Goof Plug is used to repair relatively small holes in mainline tubing. The 1/4" size is also used as an end plug for 1/4" tubing or Soaker Dripline.

#### Gravity Irrigation

An irrigation method in which water pressure is generated by Elevation.

#### Hold Down

Designed to keep drip tubing in place, hold downs come in a variety of sizes and shapes.

#### Hose Shutoff

Attached to the downstream end of a garden hose or where needed in a system, the hose shutoff is a handy valve for regulating water flow. Available from DripWorks in several styles.

#### Hydro-Zone

A hydro-zone describes a group of plants that need watering at a similar frequency. If a plant within a hydro-zone needs more water than another it can be given an additional emitter or an emitter with a larger flow. See Zone.

#### Inline Emitter

Drip emitters connected by segments of polyethylene to form a drip line. Available in combinations of operating pressure, emission rate and output diameter.

#### Irrigation Control Valve

Also called remote control or inline valves , they operate at 24V AC or DC voltages for battery systems and are wired to an irrigation controller. With the exception of Anti-siphon Valves, they are usually placed underground in valve boxes. Backflow Preventers are installed prior to irrigation control valves to prevent back siphoning.

#### Loam Soil

An ideal mix of clay and sandy soils with organic material as a major component. Its absorption rate is greater than that of clay soil but not as fast as sandy soil. Loam soils distribute water more evenly, hold water well and dry out at a medium rate. Choose 1 & 2 GPH drip emitters when planting in loamy soils.

#### Mainline Tubing

Polyethylene tubing used to carry the water from your source to your drip irrigation system. There are 2 commonly used sizes: 1/2" and 3/4". 1/2" mainline tubing has a capacity of around 240 GPH. 3/4" mainline tubing has capacity of around 480 GPH.

#### Manifold

A collection of inline valves and associated parts used to distribute water to multiple zones.

#### Master Valve

A valve installed upstream from a Manifold (group of irrigation valves). Electric master valves are wired to the irrigation controller and open at the same time the first Zone valve is opened and close after all zone valves have been turned off.

#### Micro Irrigation

An irrigation method that minimizes the use of water and fertilizer by slowly emitting a precise amount to the Root Zone of plants. AKA Trickle Irrigation or Drip Irrigation.

#### Micro Sprayer

See Sprayers.

#### Micro Tubing

1/4" or 1/8" micro tubing (AKA "spaghetti tubing") can be used to carry water over short distances for small deck/flower-pot installations, but is more often used as a lateral or Branch line off 1/2" poly mainline to carry water to Emitters, Sprayers, and Sprinklers. Also referred to as "distribution tubing," it is available in polyethylene or the more flexible vinyl.

#### Mister

Misters are specialize emitters designed to "atomize" the water into a fog or heavy mist. Excellent for seed propagation, foliar feeding, or cooling a greenhouse or outdoor patio but not for heavier watering chores.

#### Pond Liner

A waterproof membrane for lining a catchment basin. Pond liners are available in two varieties: EPDM - A flexible, pliable, UV stabilized material made from Ethylene Propylene Diene Monomer with a 20 year life expectancy in full sun, and Reinforced Polyethylene - The most durable liners available with extremely high puncture resistance and tear strength.

#### Press-Fit

The Press-Fit is a friction fitting comprised of male and female tapered elements that press together to form a connection. No glue is required.

#### Pressure (PSI)

Pressure is the force pushing your water flow expressed in PSI (pounds per square inch).

#### Pressure Compensating

Refers to the ability of an emitter or sprayer to deliver a consistent amount of water over a specified range of pressures even in situations where tubing runs are long or the terrain is uneven.

#### Pressure Regulator

A pressure regulator is used to reduce the incoming pressure(PSI) which can be too high for a drip system.

#### Pressure Vacuum Breaker

See Vacuum Breaker.

#### Pump Start Relay

The Pump Start Relay is a switch that allows your irrigation timer to actuate a pump supplying water to your irrigation system.

#### Punch

The punch is a tool designed to cut or poke a hole in a mainline or supply line allowing the insertion of a transfer barb, emitter, or other fitting to redirect a portion of the flow.

#### PVC

A hard plastic (Poly Vinyl Chloride) used for molding irrigation fittings and pipe. While DripWorks does *not* carry PVC pipe, it does carry a number of the more common PVC Fittings required to assemble a drip irrigation system.

#### Rain Sensor

The Rain Sensor is an electro-mechanical device that senses the presence of rain water and communicates with an irrigation controller to reduce or eliminate watering cycles during rain events.

#### Reinforced Polyethylene Liner

See Pond Liner.

### Root Zone

Area of the soil around the base of a plant from which the roots draw water and nutrients.

### Sandy Soil

A very loose soil with plenty of space for water or air. Water is absorbed very quickly and runoff is minimal. When wet, water tends to move straight down through sandy soil. Sandy soils have poor water retention and can dry out very quickly. Choose 2 & 4 GPH drip emitters and space them closer together in sandy soil.

### Screen Filter

Filters utilizing fine mesh screens to remove particles from flowing water. Best for use with sediments and non-organic debris. Screens are available in polyester or stainless steel and in sizes for light to medium or heavy duty use.

### Shutoff Valve (Main)

A device to connect the main water supply to a drip irrigation system, it turns the water on and off and controls the rate of flow.

### Shutoff Valve

Any valve installed on a line to control the flow of water.

### Slip Fitting

Another word for a Socket Fitting. Receives a PVC pipe end or Spigot Fitting.

### Soaker Dripline

Soaker dripline has emitters inserted into the 1/4" tubing at 6, 9 or 12 inch spacing. Best used for short row crops, vegetable gardens, or around trees and shrub plantings. NOT to be confused with soaker hose.

### Socket Fitting

Another word for a Slip Fitting. Receives a PVC pipe end or Spigot Fitting.

### Soil Type

Drip irrigation focuses on three soil types, Clay, Loam, and Sand, each containing the same elements though at different densities. These differences affect the type of emitters that will work best with your drip system. Clay Soil: Low flow emitters are recommended. If a high flow emitter is used, it may exceed the soil's ability to absorb water, resulting in runoff. Loam Soil: Requires closer emitter spacing compared to clay soil. Medium flow emitters are recommended. Sandy Soil: Closer emitter spacing is required in order to uniformly wet the soil profile. High frequency irrigation can be used to achieve similar results.

### Solenoid

An electromagnetic device that is wired to an irrigation controller and facilitates the opening and closing of an irrigation control valve. DripWorks carries replacement solenoids for the DC and AC valves we sell.

### Spigot

A hose-thread Shutoff Valve that provides a Point of Connection (POC) from which an irrigation system may originate. Also called a hose bib, faucet, tap, or hydrant. Different than a Spigot Fitting used with PVC pipe.

### Spigot Fitting

Fits into a Socket Fitting or Slip Fitting.

### Splitter

A hose-thread fitting to divide the flow into more than one direction.

### Sprayer

A broad category (AKA Micro Sprayers) comprised of spray heads, bases and fixed and adjustable sprayers that are small and designed to operate with drip irrigation systems. Used in flower and vegetable gardens and landscapes to water larger areas.

### Sprinkler

Sprayers variety of emission devices designed to cover broad areas by spraying water in fine droplets or streams.

### Supply

Refers to a spigot, faucet, hose bib, or hydrant but can also indicate the Source of water such as municipal, well, pond, etc.

### Supply Line

Supply line carries water from the Source to your drip irrigation system. This can be PVC, metal pipe, or a hose, but generally indicates poly tubing ranging from 1/2" to 2" (or larger).

### Support Clamp

These tubing clamps feature stainless steel nails for attaching 1/4" or 1/2" tubing to wood surfaces such as the sides of raised and framed garden beds, deck gardens, or uprights in a greenhouse overhead watering system.

### Support Stake

Stakes for raising misters, sprayers, sprinklers and emitters above foliage for unobstructed watering.

### Swing Joint

The Swing Joint is an underground sprinkler system connection that consists of two hard plastic elbow joints joined by flexible poly tubing. The threaded elbows swivel to absorb impact from foot traffic, preventing damage to the unit or the connecting pipe and allowing adjustment of sprinkler head placement.

### Tee

A T-shaped pipe or tubing fitting used to create a branch (or lateral) line from a mainline.

### Threads

For drip irrigation purposes, threads fall into two categories, pipe and hose. Male pipe threads are often abbreviated as MPT and female pipe threads as FPT. Similarly, male hose threads are represented as MHT and female hose threads as FHT. Pipe threads require thread sealant tape or pipe dope to create a water- or air-tight seal, whereas hose threads generally use a washer housed in the FHT. Hose thread and pipe thread are NOT compatible. Adapters are available to fit the two thread types together.

### Timer

A Timer is an automatic timing device that sends an electric signal to open or close valves by a set Irrigation Schedule. See Controller.

### Transfer Barb

A double-ended barbed fitting available in 1/8" or 1/4" for connecting two lengths of micro tubing or Soaker Dripline to each other, or to connect these types of tubing to 1/2" or larger mainline tubing.

### Trickle Irrigation

An irrigation method that minimizes the use of water and fertilizer by slowly emitting a precise amount to the Root Zone of plants. AKA Micro Irrigation or Drip Irrigation.

### Tubing Stakes & Risers

Stakes and Risers are used to raise emitters and water above plants, shrubs or ground cover.

### Union

A PVC fitting similar to a coupler that can be taken apart again if needed. In plastic unions the seal is created using an O-ring embedded in one side of the fitting. Available from DripWorks in slip or threaded options.

### Union Ball Valve

The Union Ball Valve is a fitting that combines the features of a ball valve & union into one economical and easy to install fixture. The valve body is easily removable for maintenance or replacement.

#### Vacuum Breaker

A backflow preventer that allows air into the system to break any potential backflow into the main water supply should a siphon begin to form. Vacuum Breakers should be installed a minimum of 6" above the highest point in the system.

#### Valve Box

A Valve Box is a rigid plastic container that covers and protects underground Irrigation Control Valves. It has an access lid for maintenance.

#### Valve

A manual or electric irrigation device used to control the flow of water.

#### Water Pressure (PSI)

Water pressure describes the force behind the water in a line and is expressed in Pounds per Square Inch (PSI). In drip systems, the pressure is commonly limited to 30 PSI with a Pressure Regulator. With non-pressure compensating emitters and sprayers, the higher the pressure the more water will be put out in a given period of time.

#### Water Source

This can be a municipal system, a well, a pond, an irrigation ditch, a barrel or wherever your water originates. The quality of the water source will dictate the type of Filter necessary for your system.

#### Zone

A subdivision of a drip irrigation system (AKA Hydro Zone) controlled by a single irrigation valve. Useful for watering groups of plants at the same rate or dividing a drip irrigation system whose overall watering demand exceeds the available flow.