

Take One **FREE**

How to get up
and running using
waterwise drip
irrigation.



THE DRIP GUIDE

WATER MATTERS

Water Matters with DIG

DIG provides simple and smart irrigation solutions to help your landscape thrive. Our eco-friendly technologies are designed to save you time, money and water. Before you begin setting up and implementing your water-saving drip system, we suggest that you familiarize yourself with the basics of drip.

What is drip?

Drip is a type of watering system that uses a small amount of water to keep plants healthy and hydrated. Drip slowly delivers a precise amount of water directly to plant root zones, enabling them to thrive in a healthy environment with a consistent moisture level.

Why use drip?

Drip uses 50% to 70% less water than conventional sprinklers, lowering your water bill and helping our planet! Since drip uses a small amount of water, slowly and precisely, there is very little water waste due to evaporation or ground-water runoff, which is better for both the environment and your wallet. Drip prevents overwatering and reduces the unwanted weed growth, mold and mildew that can occur with regular sprinklers. All in all, drip is a cost-effective and water-efficient way to keep your landscape green and beautiful!

The Many Advantages of Drip

Healthy plants

Flowers, trees, shrubs, vegetables and potted plants can all thrive with drip.

Efficiency

Slow, precise and consistent drip delivers water directly to plant root zones – exactly where it's needed most. With drip, less water is lost to evaporation and ground-water runoff than with regular sprinklers.

Reduced pest problems and weed growth

By applying water only to the plant root zones, drip reduces weed germination, water borne pests and fungal diseases.

Versatility

Hills, oddly shaped landscapes and plants that require varying amounts of water can all easily be accommodated with DIG's line of drip products and systems.

Easy installation

No special tools or glue are needed. Installation is simple.

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EASY TO USE COLOR CODED SYSTEM

Locate your products

DIG simplifies the buying process by using a clear, easy-to-read color coding system and descriptive categories on all box front labels as well as product bags.

5 simple color coded categories:

Water Connections™

Fittings™

Accessories™

Drippers™

Micro Sprayers™



Locator numbers **39**

Poly tubing



Water Connections

Choose from a variety of connections, whether hose or pipe thread, to start a drip system. Also, easily convert existing irrigation systems to efficient water saving drip systems with DIG's retrofit products.





Accessories

Hose ends, plugs, ball valves, clamps, punches, insertion tools, tubing holder stakes and more –whatever accessories you need to customize your drip irrigation system, DIG has got you covered!



Micro Sprayers

Conserve water and keep your landscape thriving with DIG's low volume micro sprayers, micro sprinklers and foggers.



Fittings

No clamps or glue required. Join tubing securely using our complete line of barbed compression or universal nut lock fittings.



Drillers

Precise, efficient and economical, DIG's extensive line of drip emitters provides a variety of flow rates to deliver a precise amount of water exactly where you need it!

Microtubing



WATER CONNECTIONS

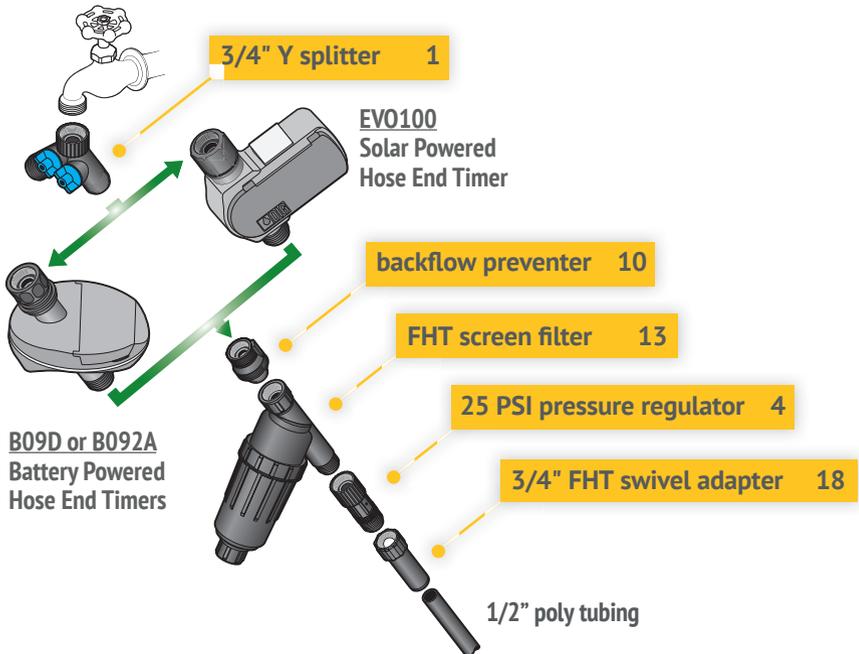
How to Start a Drip Irrigation System

A properly designed drip system begins with the drip zone head assembly which consists of a filter and a pressure regulator. The filter protects from small debris or dirt clogging the water passage to the drip emitters or micro sprinklers, and the pressure regulator reduces the incoming pressure to the appropriate operating pressure range. This assembly can be attached to a faucet, anti-siphon, manual or automatic in-line valve, or to a sprinkler riser.

In some regions, a backflow preventer is required to meet city codes. A backflow preventer keeps water from re-entering the household water supply.

Connecting drip zone head assembly to an outdoor faucet

This is the simplest way to install a drip system and can be easily automated by adding one of our battery or solar powered timers, models [RBC 7000](#), [EVO100](#), [BO9DB](#) or [BO92A](#). All models listed have “hose” type threads and should be hand tightened only.





◀ Look for this color code:

Water Connections 13

Or match locator numbers. ▲

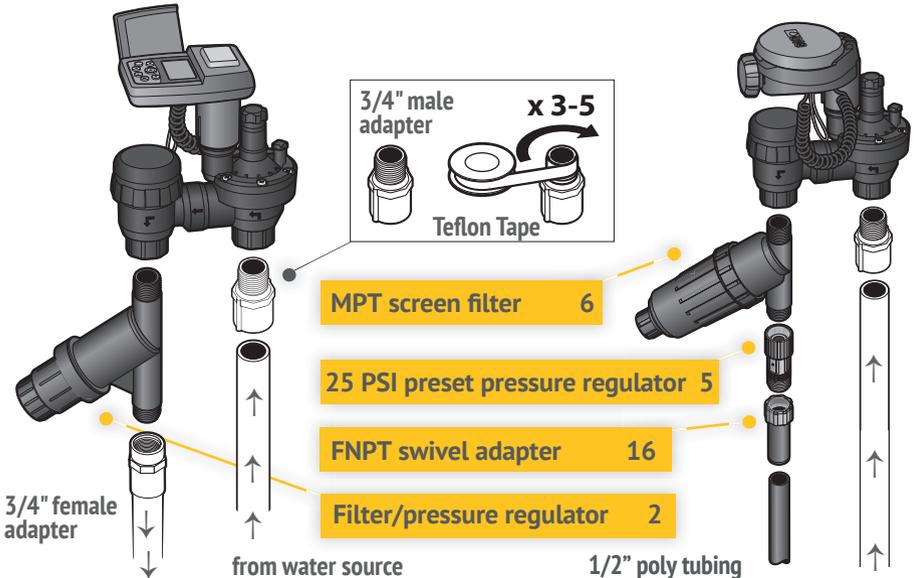


Connecting drip zone head assembly to an anti-siphon valve

This installation must be installed at least 6" above the highest point in the garden and can be automated by adding one of our battery or solar powered timers with 3/4" anti-siphon valve, models [RBC 8000](#) or [ECO1 ASV.075](#). All models listed have "pipe" type threads and generally require three to five rounds of TEFLON tape to seal; wrench tightening may be necessary.

ECO1 ASV.075
Solar Powered Timer
with 3/4" Anti-Siphon Valve

RBC 8000
Battery Powered Timer
with 3/4" Anti-Siphon Valve



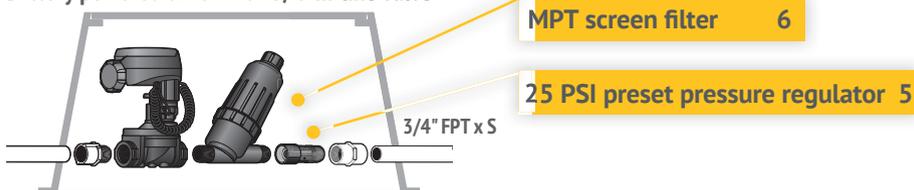
WATER CONNECTIONS

Connecting drip zone head assembly with in-line valve

This below grade, inside a valve box, installation from a PVC pipe can be automated by adding one of our battery powered timers or 24 VAC valve assemblies, models RBC 7000 or DM075. All models listed have "pipe" type threads and generally require three to five rounds of TEFLON tape to seal; wrench tightening may be necessary.

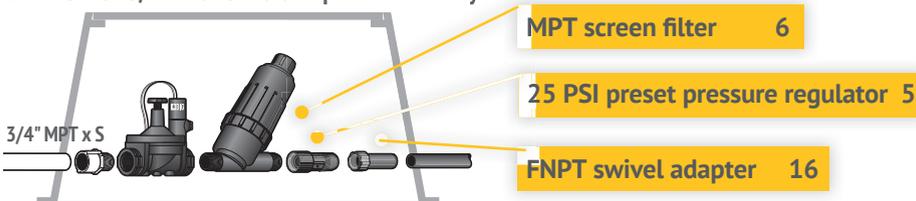
RBC 7000

Battery powered timer with 3/4" in-line valve



DM075

24 VAC with 3/4" in-line valve drip zone assembly



Connecting drip zone head assembly into 1/2" sprinkler riser

This installation retrofits a 1/2" riser into a drip system by serving as a point of connection for PC dripline or 1/2" drip tubing. Complete assembly available in model DSR. Use for above or below ground layout of dripline or drip tubing.



Connecting multi-outlet drip manifold to a 1/2" sprinkler riser

This installation retrofits a 1/2" sprinkler riser into a multi-outlet drip manifold head by removing the sprinkler head from the riser and attaching a 2, 4, 6 or 12-outlet PC drip manifold head. From the drip manifold head, extend the micro tubing to the plants and secure the end with a stake.

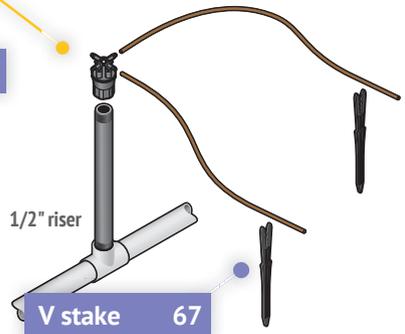


12 Outlet Maverick

12-Outlet Maverick



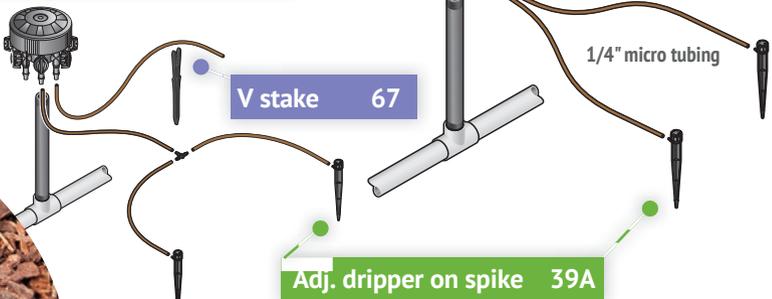
4-Outlet PC drip manifold 87 87A



6-Outlet PC drip manifold 89



2-Outlet PC drip manifold 84



kit 3

SYSTEM LAYOUT

Poly Tubing and Micro Tubing

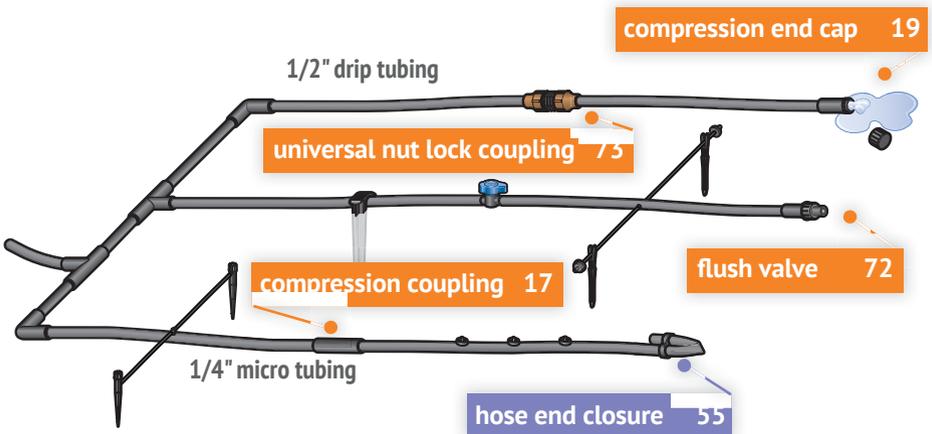
DIG's flexible poly tubing and micro tubing are installed above or below the soil's surface and are connected into the drip zone head assembly. Extruded from the highest quality linear, low density polyethylene resin (with carbon black for extra protection from the damaging effect of ultraviolet light), the drip tubing and micro tubing are designed to meet every demand of drip irrigation projects from backyard garden installations to commercial sites.



◀ Look for this color code:

Tubing

To ensure problem-free installation and use, we recommend using DIG's premium 1/2" .700 OD poly tubing. In the event that another size of tubing is used, DIG offers various sizes of compression fittings, barbs and universal fittings to complete the installation.



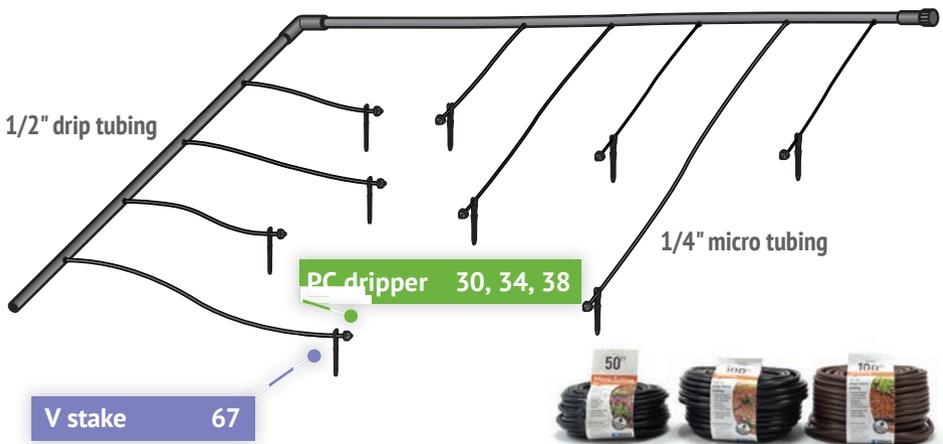
Poly Tubing

DIG's premium poly tubing is used as the primary supply line for drip irrigation into which the micro tubing, drippers, micro sprinklers, micro sprayers or dripline are linked to deliver water to the plants. The poly tubing is available in 50', 100', 200' and 500' coils and uses DIG's .700 OD compression fittings (color black). If drip tubing with .710 OD is utilized, use the .710 OD fittings with blue insert. Maximum operating pressure is 60 PSI and max. flow rate is 220 GPH (3.6 GPM).



Micro Tubing

The 1/4" micro tubing serves as the feeder line to the drippers, misters or micro sprayers, or as an extension to the plants from the 4, 6 and 12-outlet drip manifolds. It may also be used as the basis for a complete system for hanging baskets, containers, or for a patio garden (see FM01AS starter kit). The micro tubing is available in vinyl or polyethylene in 50', 100' and 500' coils and uses DIG's 1/4" barbed fittings. Maximum operating pressure is 60 PSI and maximum flow rate is 15 GPH (.25 GPM).



ASSEMBLE YOUR SYSTEM

Drip Fittings and Accessories

DIG's complete line of drip fittings and accessories make it easy to assemble and install a complete drip irrigation system; no special tools or glue are required.



◀ Look for these color codes:

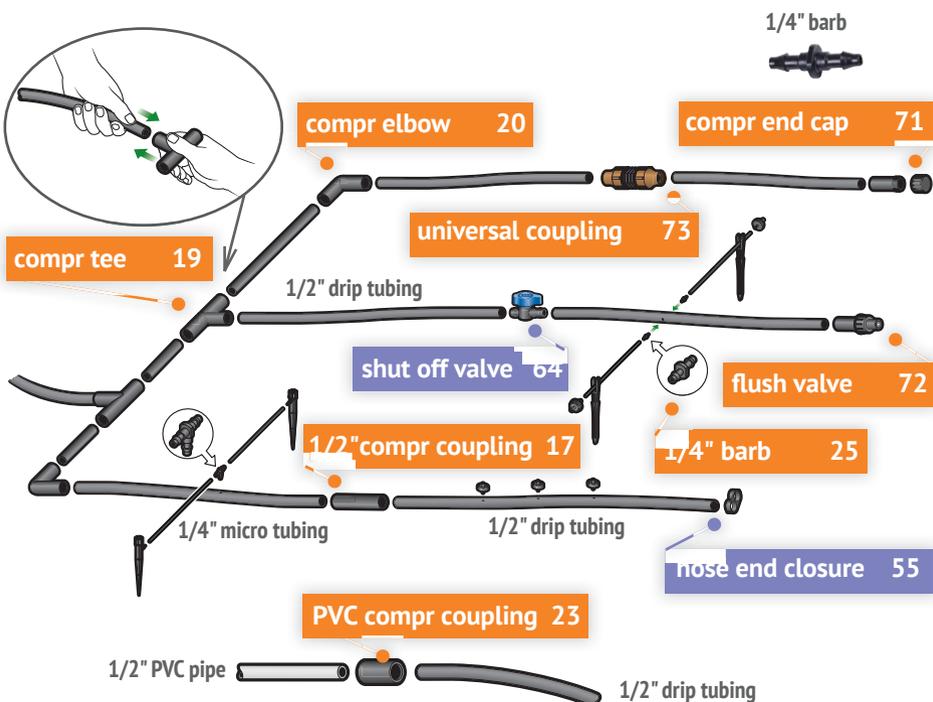
Fittings 25

Accessories 52

Or match locator numbers ▲

1/4" Fittings

1/4" barbed fittings are used to join segments of 1/4" micro tubing or dripline together, or to connect 1/4" micro tubing or dripline into 1/2" poly tubing.



1/2" Fittings

The 1/2" fittings are available in three types: **compression**, **universal** and **barbed**. **Compression fittings** fit over the poly tubing; the poly tubing is compressed when it is forced into the fittings by moving it up and down or "walking" it in. Use the compression fittings with black inserts for DIG's .700" OD poly tubing and blue inserts for .710" poly tubing. If the outside diameter of the poly tubing is not known, or if it is necessary to connect different sized of poly tubing segments together, it's best to use the **universal nut lock™ fittings**, which can be re-used and will fit all sizes of .630 to .710 OD. DIG also provides brown 1/2" **barbed fittings**, which can be used with our brown 1/2" PC drip line (B18100) or others. These fittings are installed in the same way as the 1/4" barb, by forcing the barb into the end of the 1/2" dripline.

1/2" compression



1/2" barb

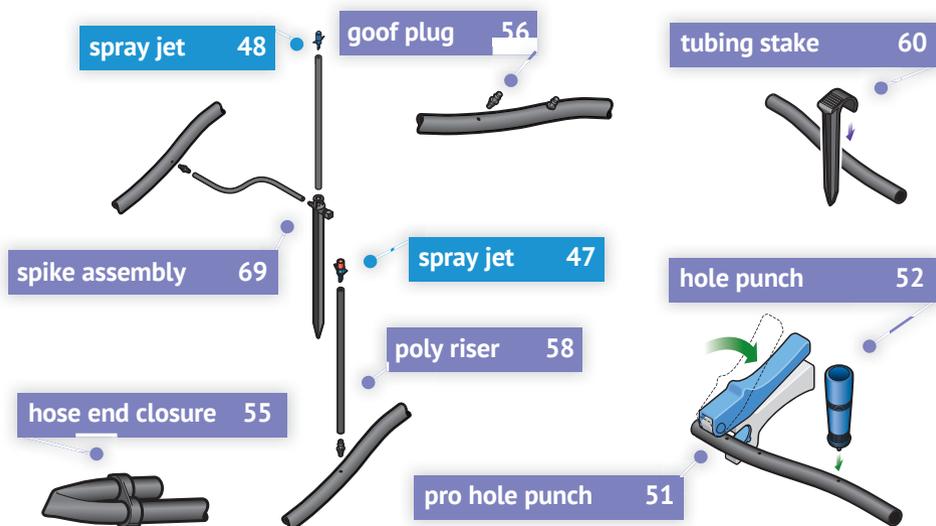


1/2" universal nut lock™



Accessories

DIG's full line of drip accessories make it easy to maintain, customize and finish off the system installation. Our line-up includes goof plugs and hose ends to close off the lines, stakes and C clamps to keep the tubing in place, and also punches and insertion tools to speed up and simplify the installation.



DRIPPERS

Drippers

DIG drippers are ideal for installations in both residential and commercial applications. They are classified into groups of **pressure compensating (PC)**, **non-compensating** (button, flag, in-line) and **adjustable**. When you are ready to install or extend your drip irrigation system, you may be surprised that there are so many different types of drippers, flow rates, and shapes. What should you use, at what flow rate, and how many will you need? This section clarifies how to select the right dripper for your garden.



◀ Look for this color code:

Drippers 29

Or match locator numbers. ▲

Pressure Compensating (PC) Drippers

The PC drippers contain a diaphragm that continuously adjusts to incoming water pressures while maintaining an even flow rate from each dripper. The PC-CV has a special water saving feature that eliminates water drainage when the system is shut off and the pressure drops below 3 PSI. Available in 1, 2 and 4 GPH on a barb, .5 and 1 GPH on a barb with built-in CV (check valve), and 1 and 2 GPH on a spike.

PC dripper 30, 34, 38

PC CV dripper 29, 30B



PC dripper 30A, 38A

button dripper 31, 32, 37

Button Drippers

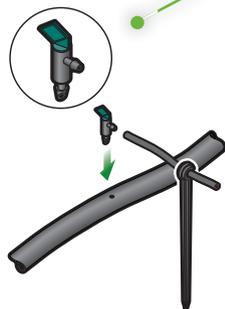
Button drippers are available in .5, 1 or 2 GPH and operate at a pressure range of 15 to 25 PSI. Use on sites with flat terrain, short distances and with gravity feed systems on any type of planting. These drippers can be taken apart for cleaning by unscrewing the outlet from the base.



Flag Drippers

Flag drippers are available in 1, 2 or 4 GPH and operate at a pressure range of 15 to 25 PSI. They are typically installed directly on top of the ½" poly tubing and the stem of the drip emitter may be twisted open for cleaning. If necessary, ¼" micro-tubing can be connected to the outlet to reach plants not adjacent to the ½" line. Used in small systems with short planting run, on flat terrain and with low pressure gravity feed systems.

flag dripper 33, 35, 36



In-line Drippers

In-line drippers are available in .5 or 1 GPH and operate at a pressure range of 15 to 25 PSI. The barbed inlet and outlet are spliced into a single ¼" line to wrap around plants or lay out in a straight line inside boxes and containers. The end of line must be closed with a goof plug.

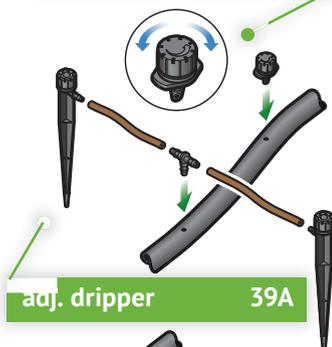
in-line drippers 31, 37



Adjustable Drippers

Adjustable stream drippers from 0 to 14 GPH @ 25 PSI offer a gentle stream pattern in 180° or 360°. The flow rate, as well as the radius of the wetted area are adjustable by rotating the cap towards the plus or minus sign to lower or increase the flow. Available with barb or on a spike, and used to water an individual shrub, planter boxes or a group of plants.

adj. dripper 39

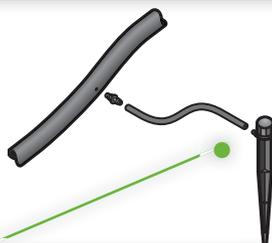


adj. dripper 39A

Adjustable Bubbler

Adjustable bubbler on spike from 0 to 28 GPH @ 25 PSI provides a gentle stream umbrella pattern. The bubbler flow rate, as well as the radius of the wetted area are adjustable by rotating the cap towards the plus or minus sign to lower or increase the flow.

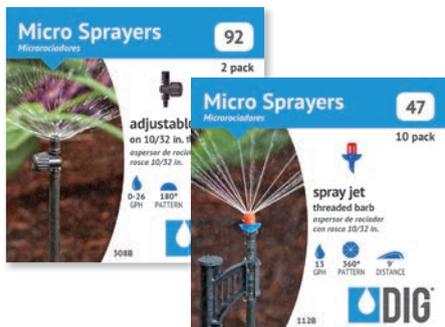
adj. bubbler 102



MICRO SPRAYERS

Micro Sprayers, Micro Sprinklers and Foggers

DIG provides a wide range of micro sprayers, micro sprinklers and foggers— all designed to provide a low-volume, water saving alternative to traditional sprinklers or for areas where drippers are not practical. These products provide a much slower application of water over typical sprinklers which allows for maximum soil absorption, helping to eliminate runoff and increase plant health.



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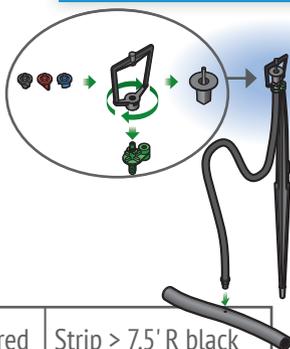
Micro Sprayers 47

Or match locator numbers ▲

Micro Sprinkler

The multi-purpose and versatile micro sprinkler with interchangeable spray heads provides gentle droplets and consistent pattern of up to 25' in full circle. It is a great choice for watering flowerbeds, groundcovers and under tree canopies. For the ideal coverage, simply install the appropriate spray head.

micro sprinkler 40

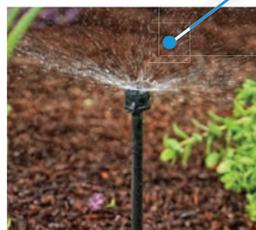


18 GPH	360° > 25'	180° > 5.3' R blue	90° > 10' R red	Strip > 7.5' R black
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Fogger/mister

The fogger/mister on threaded barb uses a vortex nozzle to create a fine and even spray pattern. Used with a universal spike, adjustable stake or poly risers. Ideal for tropical plants, flowerbeds, seed germination and planter boxes.

fogger mister 43

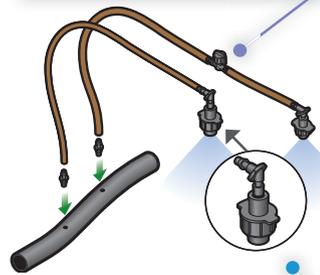


5-7 GPH	360° > 4-6'
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Pot and Basket Mister

These misters are ideal for misting or watering pots and hanging baskets. The vortex design spins the water droplets into a fine mist, producing micro-sized droplets in a small diameter area. Use it inside a pot by attaching it to a stake, or above the plants using the flex tubing mister.

shut off valve 65



pot and basket mister 46B

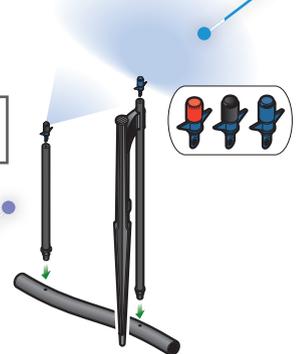
2 GPH	360° > 2'
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Micro Sprayer Jets

The sprayer jets with threaded barb, or assembled with 13" stakes, produce spray streams in a range of patterns. Use for groundcover, flowerbeds and under trees with a spacing of four to eight feet apart.

micro sprayers 47 48 49

13 GPH	360° > 18' red	180° > 7' R blue	90° > 8' R black
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poly riser 58

fan sprayer jets 47D 48D 49D

Fan Sprayer Jets

The fan sprayers, assembled with 13" stakes, produce a low angle fan spray in a range of patterns. Use for groundcover, flowerbeds, hedges, perennials and under trees; apply in spacing of three to five feet apart.



40 GPH	360° > 11' red	21 GPH	180° > 6' R green	8 GPH	90° > 4' R blue
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MICRO SPRAYERS

Adjustable Micro Sprayer Jets

The adjustable micro sprayer jets are available with 10/32 thread or assembled with 13" stakes. They produce a spray jet pattern in full, half and quarter circle. Use for groundcover, flowerbeds, hedges, perennials and under trees with spacing of five to eight feet apart.

0-26 GPH	360° > 21'	180° > 10' R	90° > 9' R
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Mini Sprinkler

The mini sprinkler is assembled with micro tubing and 13" stake. It produces a low trajectory and high uniformity spray coverage with low precipitation rate. Easy to install, the mini sprinkler is highly recommended for use in flowerbeds, seedling beds, groundcovers or under tree canopies.

22 GPH	360° > 14' green
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Fogger

The fogger with barb is ideal for misting, humidifying and cooling in residential gardens and greenhouses. The vortex design spins the water droplets into a very fine mist, producing micro-sized droplets. Use to reduce temperature, to humidify, or use where overhead watering is suggested.

2 GPH	360° > 2'
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spray jet 91, 92, 93



mini sprinkler 95



fogger 99

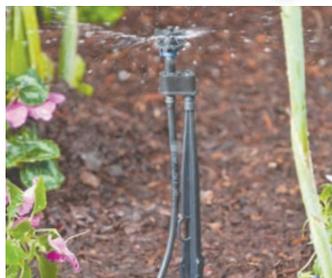


Flow Regulated Micro Sprinkler

The flow regulated micro sprinkler with micro tubing and 13" stake is designed to achieve consistent flow rates and even uniformity in areas where pressure fluctuates, such as hillsides and on difficult terrain. The insect-proof micro sprinkler operates under a wide range of pressures from 20 to 50 PSI. Use in flowerbeds, seedling beds, ground covers or under tree canopies.

7 GPH	360° > 16'
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flow reg. micro sprinkler 100

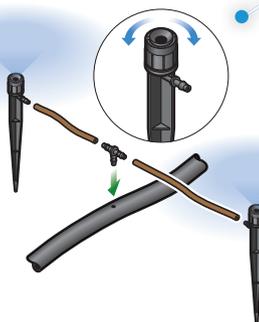


Adjustable Vortex Micro Sprayer

The adjustable micro sprayer on 6" stake produces an inverted umbrella spray pattern. The flow rate, as well as the radius of the wetted area, are easily adjusted by rotating the cap towards the plus or minus sign to lower or increase the flow. Use with shrubs, flowerbeds or between groups of plants and under small trees.

0-20 GPH	360° > 0-12'
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micro sprayers 101



Spray Stick

The versatile spray stick with micro tubing and barb is a water saving option which is ideal for containers, pots and boxes. The flow can be stopped by inverting the spray stick and using the opposite end to plug the end of the micro tubing if moving the plants.

7 GPH	160° > up to 1'
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spray stick 103



DRIPLINE & SOAKER HOSE

Dripline and Soaker Hose

DIG's dripline and soaker hose are specifically designed to efficiently irrigate groups of plants, vegetable gardens, or individual shrubs or trees. The 1/2" dripline and soaker tape are best used for hedge rows and long runs. The 1/4" microline and porous soaker hose are ideal for watering raised beds, vegetable gardens, large containers and flower beds. All these products saturate the soil underneath the entire length of the line.



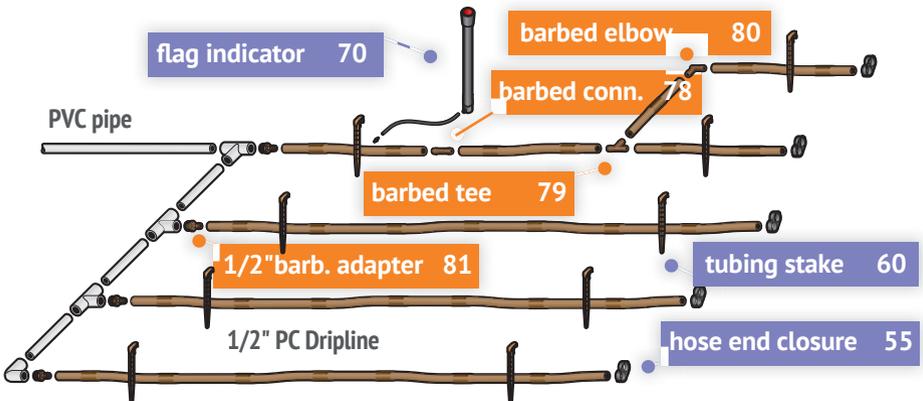
Look for this color code:

Dripline



Earthline™ Brown PC Dripline

Earthline Brown PC™ dripline has built-in 1 GPH PC (pressure compensating) drippers in the interior wall of the tubing every 18" that continuously adjust to varying incoming water pressures and ensure a constant flow rate regardless of elevation along the line. The drip emitter's self-flushing mode allows particles to flush through, providing reliable performance and longer life. Use with 1/2" barbed fittings to a maximum recommended length of 369'.



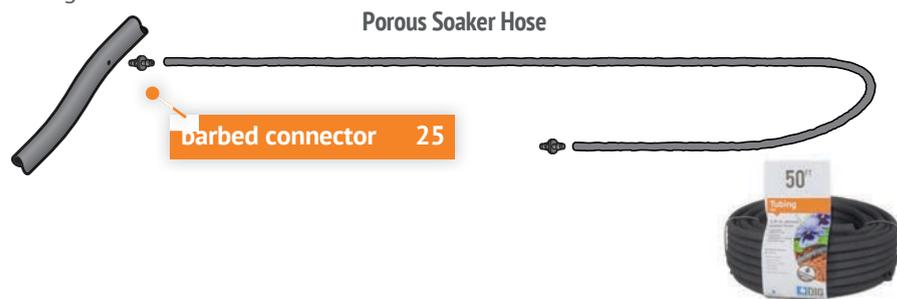
Microline™ Dripline

Microline™ dripline is 1/4" micro tubing with .6 GPH @ 25 PSI drippers built into the wall of the tubing at intervals of 6, 9 or 12 inches. Use the dripline for vegetable gardens, window boxes, narrow paths of planted area or wherever total saturation is required.



Porous Soaker Hose

1/4" porous soaker hose is made from UV-resistant recycled rubber that provides 1.3 gallon per foot @ 25 PSI. Use for very short lines of up to 15 feet for row plantings, containers or in planter boxes. Use this product with 1/4" barbed fittings.



Drip Soaker Tape

Drip soaker tape is an economical thin-walled drip soaker line designed for vegetable rows. The .6 GPH @ 25 PSI built-in drippers are spaced every 12" and used with soaker tape fittings #'s 27, 28, 29, 76, 77 to a maximum recommended length of 280'.



LAYOUT SCHEMES



Hills & slopes

Applying water to your plants only where it is needed, DIG's drip system slowly and directly waters plants' roots resulting in less water lost to runoff, evaporation and wind.

Recommended product:

1/2" brown PC dripline

Healthier vegetable gardens

DIG's drip systems target the root area, helping to reduce pests and weed growth while increasing yields.

Recommended product:

1/4" micro dripline

Shrubs & trees

A healthy root zone for your trees and shrubs is essential to their growth and stability. DIG's drip system assists in establishing strong and healthy root zones by maintaining optimum soil moisture levels while saving water.

Recommended product:

Maverick 12-outlet manifold

Flourishing flower pots

DIG's adjustable sprayers and PC drippers offer excellent solutions for controlled amounts of water for maximum soil absorption—use under canopy of large shrubs.

Recommended product:

adj. dripper 39A

PC drippers 30, 34, 38

button drippers 31, 32, 37

Creative spaces

Flower beds and border plantings can often benefit from overhead watering. DIG's micro sprayers provide a slow application of water which promotes plant health and sustainability.

Recommended product:

spray jet 47, 48, 49

adj. spray jet 91, 93

LAYOUT EXAMPLES

Grow Like a Pro

From potted plants to rose gardens, and everything in between, we're here to help you keep your plants healthy and strong. Watch your garden flourish with drip irrigation, without wasting water or breaking the bank.

Mixed plantings, roses, trees, vines and shrubs

Low application rate, pressure compensating (PC), button, flag, and adjustable drippers, and PC dripline are suited for virtually any layout with mixed plantings or oddly shaped areas and areas with high winds. These can include shrubs, groundcover, trees, vines, roses and more. Drippers and dripline are most efficiently used when plants are spaced a few feet apart or in a small group.

Ideal for this area:

- Pressure compensating (PC), button, adjustable, or flag drippers (#30 to #39)
- ½ brown PC dripline is suited for virtually any layout

A layout for mixed plantings, roses, trees, vines and shrubs



Flowerbeds, perennials and groundcover

Densely planted areas such as flowerbeds, annuals, groundcovers and plant clusters thrive with micro sprayers and micro sprinklers. These products are also perfect for slopes, narrow or curved landscapes and sites with sandy or lightly textured soil.



Ideal for this area:

- Micro sprinklers for full coverage (#40, #95, and #100)
- Adjustable micro sprayers (#91, #92 and #93) or preset micro sprayers (#43, #47, #48, #49 full range and #101) to water a selected section or area

A layout for flowerbeds, perennials and groundcover



LAYOUT EXAMPLES

Container plants, raised beds, hanging baskets, pots and window boxes

Low application rate .5 and 1 GPH button drippers, 1/4" dripline, 1/4" soaker hose or misters are highly recommended for any layout with containers, raised beds, pots, baskets and window boxes. Foggers can also be used inside greenhouses for pots and hanging baskets when above watering is desired. Potting soils are very porous and water can move downward quickly, so the correct emission device is critical, depending on plant size. We recommend dividing the containers, pots and hanging baskets into groups with similar sizes and similar watering needs. We also suggest dividing the containers, pots, baskets and window boxes into groups that are either in full sun or in shaded areas.

Ideal for this area:

- Low application rate .5 and 1 GPH button drippers (#30 to #37)
- 1/4" dripline (both porous and non-porous) with dripper spacing of 6", 9" or 12"
- 1/4" porous soaker hose
- Misters (#46, #99)
- In-line drippers (#31A, #37A)

A recommended layout for raised beds, hanging baskets, pots and window boxes



Vegetable gardens, planter boxes and row crops

Low application rate drippers, 1/4" dripline, 1/2" brown PC™ dripline and drip soaker hose are suggested for vegetable gardens, row crops, seed beds, planter boxes and fruit trees. Combining drip irrigation with raised beds and mulch can enhance crop uniformity and encourage early harvest time. These products have the drippers inserted or molded into the drip tubing in a preset spacing of 6", 9", 12" or 18." Vegetable farms and raised beds often use closely spaced driplines to achieve desired wetting patterns. This saturates the soil under the length of the dripline or soaker hose, creating uniformity and growth along the dripline. Drip irrigation can be used in certified organic production. In some instances, the certifying agency may request a water analysis. For more information, please visit the National Organic Program (NOP) at www.ams.usda.gov/NOP

Ideal for this area:

- Low application rate .5 and 1 GPH button drippers (#30, #31, #37)
- 1/4" dripline with dripper spacing of 6", 9" or 12"
- Brown PC™ dripline with 18" spacing
- Drip soaker hose

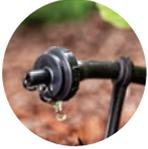
A recommended layout for vegetable gardens, planter boxes and row crops



DRIP STARTER KITS

Water-Saving Kits for Every Landscape

Any of DIG's kits can be easily automated by adding a battery or solar powered hose end timer.



G77AS, Landscape Drip Watering Kit

Perfect for first time users. Everything included for irrigating groundcover, shrubs, trees, flowers, roses, vegetable gardens and vines.



ML50, Garden Dripline Watering Kit

The vegetable garden drip irrigation kit is a perfect choice for watering vegetable gardens or any row plantings. Covers up to 150 sq. ft and is expandable.



GD50, PC Dripline Watering Kit

Dripline watering kit provides 50' of dripline with pre-inserted 1 GPH pressure compensating drippers every 18 in. for quick and easy installation.



FM01AS, Patio Drip Watering Kit

Ideal for smaller applications. Everything included to water pots, planter boxes and containers. Covers up to 15 small to medium sized pots or baskets.



PC14100, Drip Manifold Kit

The 12-Outlet High Flow Drip Manifold Kit is designed to convert an existing 1/2" sprinkler riser into a twelve-outlet drip irrigation system.



GE200, Drip & Micro Sprayer Kit

Our largest and most versatile kit that combines both drip and micro sprayers to accommodate any landscape needs. Covers up to 700 sq. ft and is expandable.



WATERING TIMERS

Automate Your System

DIG's innovative line of watering timers takes the daily hassle out of watering so less time is spent watering and more time is spent enjoying the garden. No matter how simple or intricate the watering schedule requirements, DIG has the perfect timer to suit the needs of any landscape!



RBC 7000



Solar Powered Hose End Timers

No direct sunlight needed! Easily attaches to any standard faucet for automatic watering and offers versatile programming options. Ideal for both drip and sprinkler systems.

Models: EVO 100



Digital Hose End Timers

Battery operated timer with LCD display features an instant manual irrigation cycle. Durable and weather resistant; programming options include up to four start times per day.

Models: BO9D, BO9DB



Two Dial Digital Hose End Timers

Battery operated timer with LCD display features an instant manual irrigation cycle. Durable and weather resistant; programming options include up to four start times per day.

Model: BO92A



Single Station Solar Powered Timers

No electrical wires or batteries required. With its SimpleSmart™ technology, it adjusts watering schedules monthly to help eliminate over or under watering, ensuring a healthy landscape.

Models: ECO1 ASV.75, ECO1 ILV.075



Single Station Battery Powered Timers

Ideal solution for irrigation control when AC power is not available or when adding additional valves. Fully waterproof with versatile programming options, used for both drip and sprinkler systems.

Models: RBC MVA, RBC 7000, RBC 8000

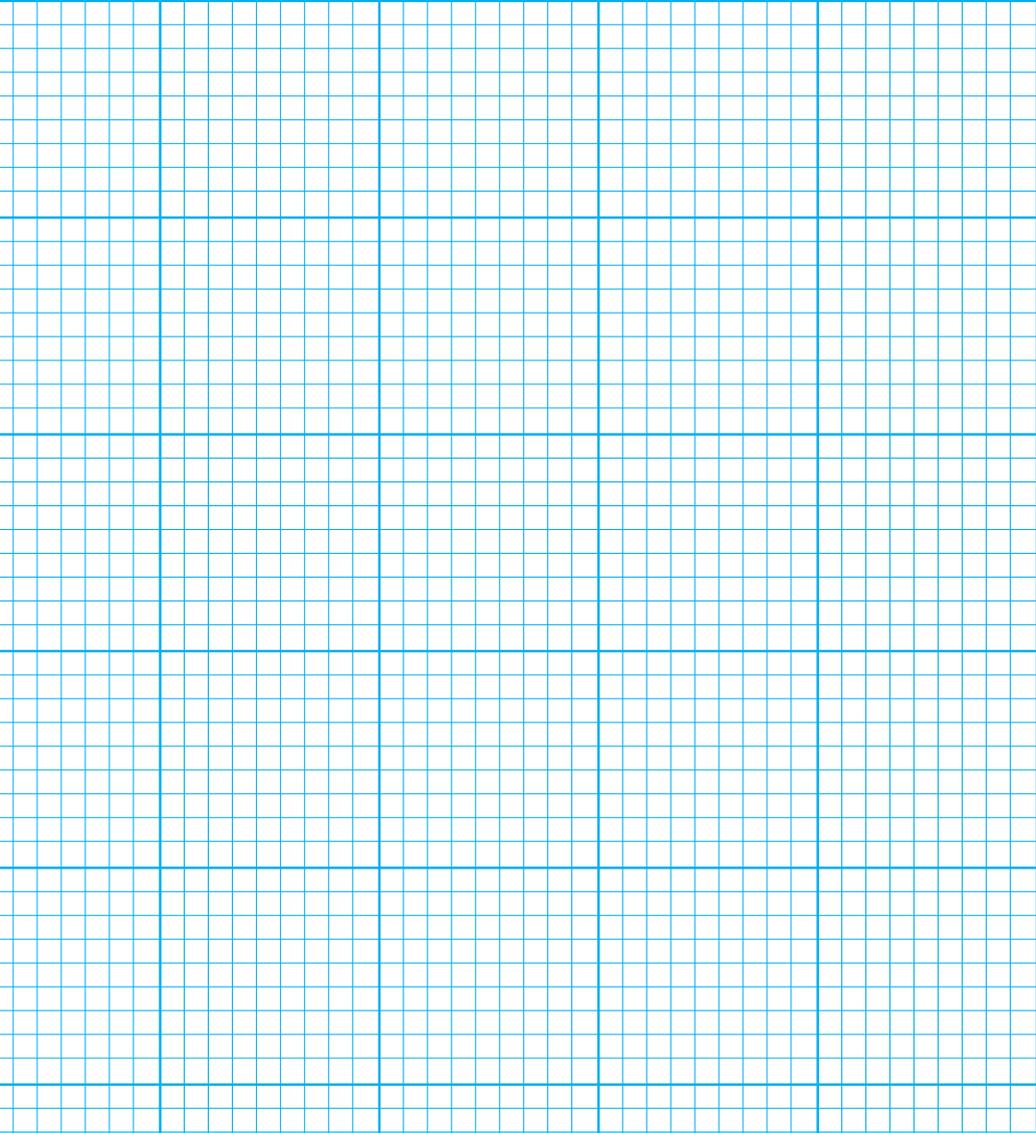
PLANNING

1 Sketch the Area

Make an accurate top view sketch of the areas to be watered. Ensure that the outline includes your home, any retaining walls, paved areas and water sources accurately and to scale. This will require measuring the area.

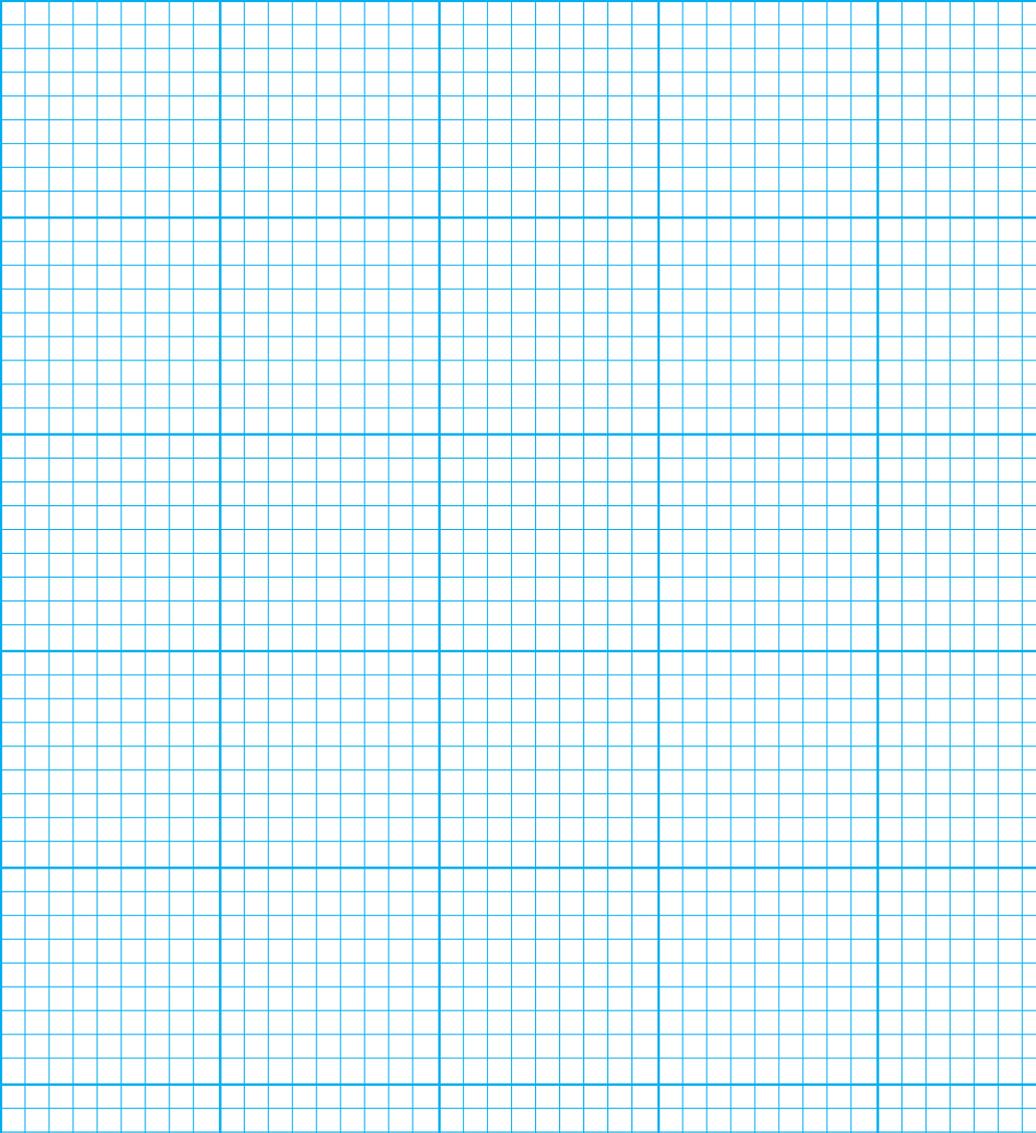
A) Go outside and measure

B) Make an accurate top view drawing of plants and your water source using your measurements



We recommend using the graph paper to make drawing to scale easier. Each small square on this manual graph can represent one foot of your property (usually appropriate for residential landscapes), or you can use 1" graph = 10' of your area.

C) Plan your system noting emission devices



Getting Started

When installing a water-saving, drip irrigation system, it's essential to plan ahead before you start the installation. To make planning as convenient as possible, we've outlined **five simple steps** to help guide you to the right products for your landscape, and ensure a successful installation.



Compared to conventional sprinkler systems, drip irrigation systems are simple to design, inexpensive, and easy to install. They can also reduce water borne pests and fungal diseases spread by water. Unlike traditional high-volume and high-pressure sprinkler systems, which require careful planning, extensive trenching and special tools, drip irrigation

systems can be easily installed above or below ground, without special tools or extensive technical knowledge.

Drip irrigation delivers water measured in gallons per hour (GPH), and applies water only where necessary. This yields big rewards by improving plant health, conserving water, and reducing weed growth! So, let's start enjoying the many rewards of drip irrigation by using the following steps as a guide.

- 1 Sketch the area (page 27 - 28)
- 2 Determine the soil type
- 3 Select the right drippers and spacing
- 4 Determine how much water is used
- 5 Determine watering frequency

2 Determine the Soil Type

The Soil and Water Relationship

A micro irrigation system is essentially a transportation system which delivers water to a point in or near the plant's root zone. The final link in this transportation system is the soil. The soil's physical and chemical properties determine its ability to transport as well as store water and nutrients.

Soil Matters

The soil is the reservoir for the plants' water and nutrients and the medium through which water and nutrients move. It provides the base in which the plants' roots are anchored. There are various types of soil with different characteristics, which determine the proper plantings and the appropriate drippers, micro sprayers or micro sprinklers and flow rates to use. The heavier the soil, for example, the slower the water is absorbed and lower flow rate drip emitters, such as .5 or 1 GPH at a spacing of 18" to 24", should be used. The layout, spacing, dripper selection and flow rates would be different for heavy soil than for sandy soil.

Soil Type

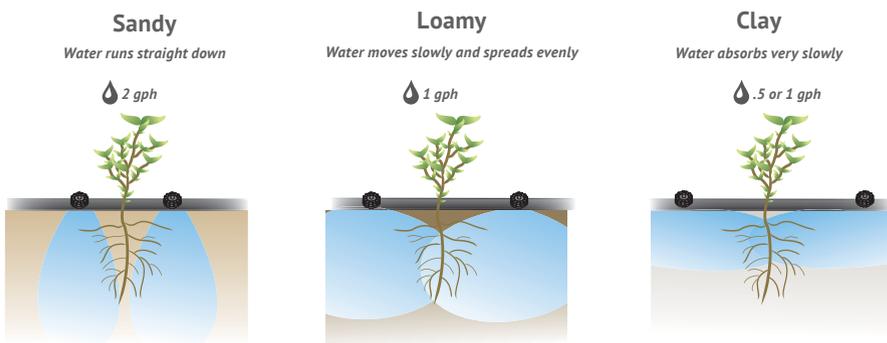
To determine the type of soil in a given area, take a handful of dry soil, grip tightly and release.

- **Sandy** (lightly textured) soil will crumble and fall apart
- **Loamy** (medium textured) soil will hold together, but then easily breaks apart
- **Clay** (heavy) soil will mold without breaking

For more precise information, consider having a soil test conducted. Many universities offer this service through their extension offices and master gardener programs.

Soil Absorption

Soil type affects water absorption. The right flow makes all the difference.

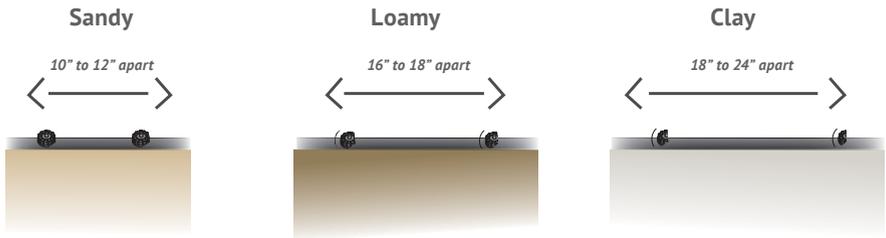


3 Select the Right Drippers and Spacing

After reviewing the soil type, select the emission devices (drippers and micro sprayers page 11-18) for your planting, and then calculate the total flow rate of your system.

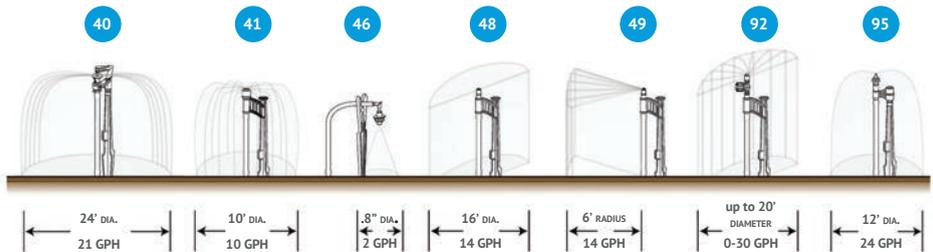
Dripper Spacing

Here's how to space your drippers in densely planted areas, based on soil type.



Note: See Chart A on page 33 for detail

Micro Sprinkler Spacing



Note: See Chart B on page 33 for detail

4 Determine how much Water is Used

To determine how much water is used in your system, you need to know the total flow for the installed area, section or zone of the installation. To start, add up the total number of drippers and their flow rates, and then use the same method for micro sprinklers and micro sprayers, if used.

Calculating the total flow rates for this system:

You have installed a system with 2, 14 GPH micro sprinklers and 40 drippers, consisting of 20, 1 GPH and 20, 2 GPH.

Calculation:

20 – 1 GPH drippers = 20 gallons per hour

20 – 2 GPH drippers = 40 gallons per hour

2 – 14 GPH micro sprinklers = 28 gallons per hour

The total flow rate for your system is 88 gallons per hour (GPH), or if dividing by 60, 1.46 Gallons Per Minute (GPM). This information allows you to select the 1/2" poly tubing as the main supply line.

Plan for future planting expansion and plant growth

When plants mature, they may require more water. Watering times can be lengthened to meet those needs, but it is recommended that more drippers should be added to cover the maturing plant roots area. Also, new plants may be added to the landscape, so leave some room in the overall design by having about 20-30% more water capacity available. 3/4" faucets and 3/4" anti-siphon valves will almost always provide more than enough water for most home landscapes and garden installation.

TIP: Did you know that the maximum recommended flow rate for a single line of 1/2" poly tubing is 220 GPH (3.6 GPM)? If you exceed this recommended flow rate in your system, add another line of 1/2" poly tubing to your zone or section to double the system size from the same water source.

TIP: Did you know that the recommended flow rate for any section or zone using a 3/4" valve is around 540 GPH (9 GPM)?

5 Determine Watering Frequency

DRIPPER WATERING SCHEDULE

TYPE OF PLANT	LENGTH OF WATERING	HOT	WARM	COOL
Flowers, vegetables	30 min - 1 hr	1-2 days	3 days	3-4 days
Small trees, shrubs	1-2 hours	1-2 days	2-3 days	3-4 days
Vines	3-6 hours	1-2 days	2-3 days	3-4 days
Medium trees, shrubs	5-7 hours	2-3 days	2-3 days	4-5 days
Large trees, shrubs	6-8 hours	1-2 days	2-3 days	5-6 days
Pots to 15"	3-5 minutes	1-2 days	2-3 days	4-5 days
Pots over 15"	5-10 minutes	1-2 days	2-3 days	4-5 days

MICRO SPRINKLER WATERING SCHEDULE

Flowerbeds, groundcover	30 min -1 hr	1-2 days	3 days	4-6 days
Small trees	1-2 hours	2-3 days	4-5 days	5-6 days
Medium trees	2-3 hours	2-3 days	4-5 days	6-7 days
Large Trees	2-5 hours	2-3 days	4-5 days	5-7 days
Greenhouses, hothouses	5-10 minutes	2-4 times/day	2 times/2 days	1 time/2 days

Chart A: Dripper Spacing

Determine where to use, number of drippers needed, and spacing (review drippers on pages 11-12)

Plant Type	Number of Drippers and Spacing Per Plant
Flowers	One dripper per plant spaced 10" to 24" apart, depending on soil type
Small shrubs & roses (up to 2')	Two drippers per plant spaced 12" to 18" apart, depending on soil type
Large shrubs & roses (2 to 4')	Two to four drippers per plant spaced 12" to 18" apart, depending on soil type
Vegetables	One dripper, or drip line, spaced 6" to 18" apart, depending on the plant and soil type
Trees	Three to six drippers per plant spaced 12" to 24" apart, depending on soil type
Small Baskets	One dripper per basket

Chart B: Micro Sprinkler, Micro Sprayer & Fogger Suggestions

Determine where to use micro sprinklers, micro sprayers or foggers depending on coverage (review on pages 13-16)

Plant Type	Locator Numbers to Use
Flowerbeds	#'s 40, 43, 95, 100 and 101
Ground Cover	#'s 40, 43, 47, 48, 49, 91, 92, 93, 95 or 100
Groups of Plants	#'s 91, 92, 93, 95 and 100
Large Trees	#'s 95, 100 and 101
Germination & Propagations	#'s 43 and 95
Cooling	#'s 65 and 99
Hanging Baskets & Boxes	#'s 65 and 103

Chart C: Dripline, Microline and Soaker Hose Suggestions

Determine where to use dripline (review on pages 17-18)

Plant Type	Number of Drippers and Spacing Per Plant
Shrubs & Roses	12" spacing, 1/4" microline drip line or 18" spacing, PC dripline, depending on plant spacing
Vegetables	6" to 12" spacing, 1/4" microline dripline or 1/4" soaker hose
Narrow Planting	12" spacing, 1/4" microline dripline or 18" spacing, PC dripline, depending on soil type
Trees	Two loops of 18" spacing, PC dripline (1 GPH) or two to three loops of microline with 6" to 12" spacing



These charts help determine the distance you can run your poly tubing based on which drippers you use, and how far they are spaced out.

Chart D: Maximum Length of 1/2" Poly Tubing with PC Drippers

Dripper Flow Rate & Locator #			Dripper Spacing				
Dripper	Locator #	Flow	1'	2'	3'	4'	5'
PC	30	1 GPH	320	530	670	820	970
PC	38	2 GPH	190	310	420	510	610
PC	34	4 GPH	120	200	250	320	450

Example: If you use PC dripper #30 (1 GPH), you can run 320 ft. of 1/2" poly tubing, spacing the drippers 1' apart.

Chart E: Maximum Length of 1/2" Poly Tubing with Button and Flag Drippers

Dripper Flow Rate & Locator #			Dripper Spacing				
Dripper	Locator #	Flow	1'	2'	3'	4'	5'
Button	31	1 GPH	140	230	310	350	400
Button	37	.5 GPH	195	320	430	525	610
Button	32	2 GPH	80	145	175	230	270
Flag	35	1 GPH	125	220	300	330	370

BASIC INSTALLATION STEPS

A micro irrigation system can start from a variety of water sources. Choose the option that best suits the sources available at the installation location.

Outdoor Faucet Connections

Connect the backflow device #10 to the faucet and attach the filter #13. Next, install a pressure regulator #4, followed by a 3/4" swivel adapter #18 (fig. 1).

If using a battery powered timer (model BO9D or BO92A), or solar powered timer (EVO100, fig. 2), install the backflow device after the timer.

If a RBC 7000 timer (fig. 3) is used, use the hose fittings included with the controller. All the "hose" type threads should be turned clockwise until "hand tight" only. Tightening with a wrench is not recommended and should not be necessary.



figure 1



figure 2



figure 3

Existing Mainline Connections

Certain DIG timers and AC valves can also be connected to PVC mainlines. If a PVC mainline is desired but not accessible, consult with a plumber to advise or install one for you. First select which type of control valve to install, AC (electric) or battery operated timer. DIG provides automated in-line valves, anti-siphon valves, or AC valves, all suitable for this type of installation. If the design calls for more than one valve or timer, install the same type for each zone. This may require building a manifold with a series of tees branching off to each valve. Install a manual shut-off valve on the mainline upstream of any valve to simplify maintenance or repairs in the future.

In-line Below Ground Connections

Installation below ground using in-line battery operated timer, model RBC 7000 (Fig. 4) or in-line 24 VAC (electric) valves assembly, model DM075 (fig. 5). Install the controller or the valve assembly inside a standard rectangular irrigation valve box and complete the head assembly by attaching first a Y filter #3, then a pressure regulator #5. Use swivel adapter #16 to connect the poly tubing to the assembly. If PVC pipe is used, use a 3/4" PVC female adapter. Please note that AC valve installations will involve running underground control wires back to an electric controller.



figure 4



figure 5

Above Ground Connections

Valve/timer options include model RBC MVA connected into a plastic or brass manual anti-siphon valve, battery operated timer with anti-siphon valve, model RBC 8000 (fig. 6), or solar powered timer with anti-siphon valve model ECO 1ASV.075 (fig. 7). Install the anti-siphon valve into a 3/4" riser that is 7-10" above grade and 6-8" above the highest dripper, sprayer or sprinkler on the zone. Complete the assembly by connecting a 3/4" Y filter #3, and a pressure regulator #5, or pressure regulating filter #2 to the downstream outlet. Attach a 3/4" swivel adapter #16 (if using poly tubing), or 3/4" PVC female adapter if using PVC pipe.



figure 6



figure 7

BASIC INSTALLATION STEPS

Fitting Installation Using 1/2" Poly Tubing

The most common fittings used to connect the 1/2" (.700 OD) poly tubing are the compression fittings (black) which fit over the outside of the tubing. DIG compression fittings are color coded by size to fit the different outside diameters (OD) of 1/2" poly tubing. To connect the 1/2" poly, hold the fitting in one hand and the tubing in the other and force the end of the tubing into the fitting by "walking" or "wiggling" it in until the end is about 1/2" inside the fitting (fig. 8). To connect various sizes of 1/2" poly tubing with different ODs, use our reducer coupling #15A (fig. 9) for TORO Blue Stripe™ (.710 OD) and (#15) for Raindrip™ (.620 OD) or use Universal Nut Lock™ fittings #73, #74, and #75 (fig. 10) to connect any size of 1/2" tubing. To use the Universal Nut Lock™ fittings, remove and insert the nut over the poly tubing. Insert the barb side of the nut lock into the inside of the poly tubing, and insert the other side of the barb into the nut lock housing. Then thread the nut lock onto the housing to secure. In addition, DIG's 17 mm brown barbed fittings, can be used with the Brown PC dripline and with the poly tubing.



figure 8



figure 9



figure 10

Punch Tools

DIG offers different punches used to "punch" the holes in the 1/2" poly tubing for the installation of 1/4" barbs, drippers, micro sprinklers, micro tubing, etc. Both are easy to use. When installing a small number of drippers, use the basic punch #52 (fig. 11).

figure 11



For large number of drippers and for ease of installation, use the deluxe punch #51 (fig. 12) that provides greater leverage and more accuracy. To use the basic punch, hold the poly tubing in one hand. Hold the punch in the free hand and press the tip into the tubing while twisting the tool creating a hole in the poly tubing. To use the large deluxe punch, first insert the poly tubing into the punch. Then squeeze the handles together to create the hole.



figure 12

Dripper Installation

The drippers are installed using one of the two methods; either directly into the 1/2" poly tubing or at the end of the micro tubing.

Directly into Poly Tubing:

When plants are close to the mainline, install drippers directly into 1/2" poly tubing. Punch a hole in the 1/2" poly tubing. Snap the barb side of the dripper into the poly tubing. Make sure that the minimum spacing between the drippers is not less than 10".



At End of Micro Tubing:

Install the drippers at the ends of the micro tubing to reach plants that are not adjacent to the 1/2" poly tubing, or are in a container. First, attach a barb to one end of the micro tubing. Second, insert the barb into the punched hole in the 1/2" poly tubing. Cut the micro tube to length and insert the dripper into the end of the micro tubing and place it close to the plant. Secure the dripper in place with a #57 or #67 micro tubing holder stake.



BASIC INSTALLATION STEPS

Micro Sprinkler, Micro Sprayer and Fogger Installation

Mini sprinklers and micro sprinklers are available in 360° patterns, and are pre-assembled with 13" spike, and 24" micro tubing with barb for maximum flexibility. They offer uniform coverage with a 10-25' wetting diameter. To install simply punch a hole in the 1/2" poly tubing and snap the 1/4" barb into the hole in the poly tubing. The micro sprinklers should be elevated a minimum of 8" above the ground for optimal uniformity and coverage.



Micro sprayers are available with various spray patterns such as 90°, 180° or 360°, for details see page 13-16. They are pre-assembled with 13" spike, micro tubing with barb for maximum flexibility. They can be used with PE riser assembly #58, poly riser assembly #58A, universal spike assembly #69 or riser assembly with 1/2" male base #84. To install either one, punch a hole in the 1/2" poly tubing and insert the 1/4" barb or thread at the end of the micro tubing into the poly tubing or use the thread option on PVC pipe. The micro sprayers should be raised a minimum of 4-8" above the ground for the best uniformity and coverage.



Adjustable micro sprayers are available in 90°, 180° and 360° spray patterns with an adjustable flow range of 0-26 GPH with wetting diameter of up to 20'. Consider using them along the perimeter of pathways, on flowerbeds, or groundcovers. To install, punch a hole in the 1/2" poly tubing and snap the 1/4" barb of the assembly into the poly tubing.



Foggers & Misters emit water in fine droplets with low flow rates (.8-7 GPH). This makes them ideal for slowly saturating the soil in baskets, large pots, or containers so the water is more evenly absorbed. They are available with a thread #43, stake #46, memory-flex tubing #46, and with barb #99. Fogger #99 is also used on patios and around pools for cooling. To install, first insert a barb into a 1/4" micro tubing. Punch a hole in the poly tubing and insert the barb. Then, run the micro tubing to the plant, cut it and attach the fogger and secure with a stake. To use the 1/4" micro tubing as the mainline, run the 1/4" micro tubing to the plant, and secure using 1/4" C-clamp #54. Cut the micro tubing and connect a 1/4" tee #26.

To the tee connect a length of micro tubing and lay it out into the container. Attach a fogger into the micro tubing and secure it to the pot or basket.



Earthline Brown PC™ Dripline Installation

The PC dripline is recommended to be installed on the soil surface and it can be covered with mulch to make it less conspicuous and blend in with the landscape. Earthline Brown PC™ Dripline can be installed in planters, islands, or on any landscaped areas. To connect the dripline to the 1/2" poly tubing, use the brown barbs fittings #78, barb tee #79 or elbow #80, and to close the end of the dripline use end cap #71 or figure "8" hose end #55. To start the Earthline Brown PC™ dripline from a 1/2" riser, use sprinkler #3 riser to drip conversation or conversion elbow #63 with pressure regulator #4 and swivel adapter #18. Connect the dripline to the swivel adapter and lay the dripline out to water the plants next to the tube. We recommend using dripline in 12" spacing between the lines on sandy soil, 12-18" between the lines on loamy soil and 18" to 24" on clay soil for the best coverage.



BASIC INSTALLATION STEPS

Microline™ Dripline Installation

The 1/4" dripline is available in 6", 9" and 12" spacing and it is a great choice for use in vegetable gardens or flowerbeds. To install it, DIG recommends using the 1/2" poly tubing as the main supply line, running perpendicular to the garden rows. Connect a barb connector #25 into the end of the 1/4" dripline. Punch a hole in the 1/2" poly tubing at the connection point of each row, and insert the open end of the barb connector. After running the 1/4" dripline down the row use a goof plug #56 to close the end and secure the dripline using #62 or #62B stake. For vegetable rows, more than 2' apart, run one line of micro dripline per row. If the rows are less than 2' apart, place the 1/4" dripline between every two rows. We highly recommend the use of a 25 PSI pressure regulator with this system.



Pop-up Flag Indicator

The Pop-Up Flag Indicator is a simple solution that solves a common criticism of drip irrigation which is not being able to clearly see when the system is running. The Flag Indicator presents a visual confirmation from a distance that your drip irrigation system is on and operating. The red flag indicator "pops up" and provides a visual signal that the drip system is operating, and it retracts when the system is off.

Retrofit Drip Riser Adapter Installations

The drip riser adapter #90 provides a simple way to connect 1/4" dripline or micro tubing to an existing sprinkler system. This option is perfect for irrigating container plants, groundcover or shrubs that are not covered by the nearby standard spray head. Any plant that needs supplemental irrigation will benefit from this system. The existing spray head or pop-up nozzle can be reconnected to the 1/2" male pipe threads on top of the drip riser adapter, without affecting the sprinkler's performance. To install, unscrew spray nozzle from top of riser and momentarily open system valve to flush the line. Connect the drip

riser adapter #90 until hand tight. Reattach the spray head to the top of the drip riser adapter. Lay out the 1/4" micro tubing from the riser to the plant(s) and cut to the desired length. Push the end of the micro tubing onto the outlet barb on the riser adapter. At the end of the micro tubing, install the appropriate emission device.



Initial System Start-Up

Before running your drip system for the first time, it is highly recommended to flush out the lines. To do so, leave all ends of the 1/2" poly tubing open, turn the water on, and open the system valve for a minute or two. This will flush out any debris that may be in the system. Close the end of the line by using either the figure "8" hose end #55 or end cap #71. Check to see that the drippers and micro sprinklers are operating correctly and that there are no leaks. If leakage occurs on the 1/2" poly tubing at the base of a dripper or micro sprinkler, remove that dripper/micro sprinkler, and insert a goof plug #56 to close the hole. Then punch a new hole nearby and reinsert the dripper or micro sprinkler barb into the new hole.



System Maintenance

Inspect the system periodically to ensure that the drippers or micro sprinklers are not clogged, and that there are no breaks or leaks that can decrease pressure. Filter screens should be flushed and cleaned from time to time, depending on water quality. Checking the filter one week after the installation would give you an idea on how often to schedule a filter cleaning. During freezing weather, we recommend draining the poly tubing, or rolling it up and storing it. Remove the end caps and open the hose ends to flush the line once a year. As the landscape matures, you may need to add, change, raise or remove drippers or micro sprinklers.

Recommendations



Place the ½" poly tubing in direct sunlight to keep the tubing warm, which makes it easier to install.

¼" barbed fittings may be difficult to insert into cold ¼" micro tubing; warm the end of the micro tubing by dipping it in a cup of hot water.



- Install a 150-mesh or higher filter on each zone to protect the system.
- Install a 25 PSI pressure regulator after the filter for each zone.
- Program the controller to water in the early morning hours for the best results.
- Limit irrigation to a few days per week and for the appropriate time period for your soil type and plant sizes.
- Root growth is confined to moist soil. If the drippers' wetted areas are too small, the plants will become root-bound. Adding more drippers to large plants will help ensure proper root growth.
- When setting your watering schedule, daylight conditions are: full sun, more than six hours per day; partial sun, less than six hours per day; shaded areas, less than four hours per day.
- Place drippers on the outer edge of the plant canopy.

GLOSSARY

Anti-siphon valve

Manual or electric valves with built-in backflow prevention.

Application rate

The volume of water applied to a landscape during a specific time.

Backflow Preventer

A device that prevents the reverse flow of water.

Dripper

A small irrigation device utilized in a drip irrigation system which delivers water at an extremely low rate (measured in gallons per hour) and operating pressure.

Emission Device

Drippers, micro sprayers, micro sprinklers, foggers, misters, spray sticks and sprayer jets.

Flow control

A valve which modifies flow to maintain a set rate without dramatically altering pressure.

GPH

Gallons per hour.

GPM

Gallons per minute.

Operating pressure

The pressure at which a system operates.

Polyethylene (PE) tubing

A pipe which is flexible and often used in irrigation systems.

Pressure regulator

An irrigation device which maintains a consistent downstream operating pressure.

PSI

Pressure level measure in pounds – per square inch.

Run-off

Water not absorbed during a cycle which flows into another location.

Uniformity

How evenly water is distributed over a given area.

Valve

Similar to a faucet, this device opens and closes to control water flow and often responds to commands from a controller.



QUICK REFERENCE INDEX

WATER CONNECTIONS™			WATER CONNECTIONS™		
Model	Product Description	Locator #	Model	Product Description	Locator #
 D52	Y Hose Splitter 3/4 in. hose thread	1	 D45	Backflow Preventer 3/4 in. hose thread	10
 D54	Filter/Pressure Regulator 3/4 in. pipe thread 155 mesh - 25 PSI	2	 D57A	Swivel Screen Filter 3/4 in. hose thread 155 - mesh	13
 DSR	Sprinkler Riser to Drip Conversion 1/2" FPT x 700 OD tee	3	 50001	Swivel Compression Adapter 3/4 in. pipe thread x .700 OD	16
 D46	Pressure Regulator 3/4 in. hose thread 25 psi	4	 C34 & C44	Swivel Compression Adapter 3/4" hose thread	18 18A
 PR-30-HOSE	Pressure Regulator 3/4 in. hose thread 30 psi	4A	 C37B	Micro Tubing Compression Adapter 3/4 in. hose thread x 1/4 in. micro tubing	21
 D46P	Pressure Regulator 3/4 in. pipe thread 25 PSI	5	 C38	Swivel Compression Tee 3/4 in. hose thread x .700 OD	22
 HDP25	25 PSI Heavy Duty Preset Pressure Reg. 3/4 in. FPT pipe thread	5A	 Q59	Conversion Elbow 1/2 in. pipe thread x 3/4 in. hose thread	63
 PR-30-PIPE	Pressure Regulator 3/4 in. pipe thread 30 PSI	5B	 A2	2 Outlet PC Drip Manifold 1/2 in. female pipe thread	84
 D55	Screen Filter 3/4 in. pipe thread 155 - mesh	6	 AD6	6 Outlet Adjustable Drip Manifold 1/2 in. pipe thread	86
 50007	Swivel Conversion Adapter 3/4 in. hose thread x 3/4 in. pipe thread	7	 A4 & A4-12	4 Outlet Drip Manifold 1/2 in. pipe thread	87 87A
 PRV075	Adjustable Pressure Regulator 3/4 in. pipe thread 28-60 PSI	8	 A6	6 Outlet Drip Manifold 1/2 in. pipe thread	89
 D49	Nipple 3/4 in. pipe thread x 3/4 in. hose thread	9	 R67	Drip Riser Adapter 1/2 in. pipe thread x 1/4 in. micro tubing	90

FITTINGS™		
Model	Product Description	Locator #
 D50G & D50B	1/2 in. Compression Reducing Coupling .620 OD to .700 OD .710 OD to .700 OD	15 15A
 C33 & C43	1/2 in. Compression Coupling .700 OD and .710 OD	17 17A
 C35 & C45	1/2 in. Compression Tee .700 OD and .710 OD	19 19A
 C36 & C46	1/2 in. Compression Elbow .700 OD and .710 OD	20 20A
 D48	1/2 in. PVC to Poly Compression Adapter .700 OD	23
 H84B	1/4 in. Barbed Elbow	24
 H80A	1/4 in. Barbed Connector	25
 H82A	1/4 in. Barbed Tee	26
 Q58 & Q60	1/2 in. Compression End Cap .700 OD and .710 OD	71 71A
 Q70	1/2 in. Compression End Cap with Flush Valve .700 OD	72
 C53	1/2 in. Universal Nut Lock™ Coupling .620-710 OD tubing	73
 C55	1/2 in. Universal Nut Lock™ Tee .620-710 OD tubing	74

FITTINGS™		
Model	Product Description	Locator #
 C56	1/2 in. Universal Nut Lock™ Elbow .620-.710 OD tubing	75
 CB73	1/2 in. Barbed Connector 1/2 in. dripline	78
 CB75	1/2 in. Barbed Tee 1/2 in. dripline	79
 CB76	1/2 in. Barbed Elbow 1/2 in. dripline	80
 CB77	1/2 in. Barbed Adapter 1/2 in. MPT x 17 mm barb	81
 D5010	Self Piercing 1/4 in. insert connector for 1/2 in. tubing	82
 C30	1/2 in. Compression Adapter 3/4 in. pipe thread x .700 OD	83
DRIPPERS™		
Model	Product Description	Locator #
 PC-CV-6 & PC-CV-1	PC Drip Emitter with Built-in Check Valve .58 GPH and 1 GPH	29B 30B
 B221B, B224B & B222B	Pressure Compensating Dripper 1 GPH, 4 GPH and 2 GPH	30 34 38
 W221A, W222A & W2205A	Button Dripper 1 GPH, 2 GPH and .5 GPH	31 32 37
 FN2A, FN2A, FN2A & FN4A	Flag Dripper 1 GPH (black), 2 GPH (green), 4 GPH (red)	33 35 36

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DRIPPERS™			MICRO SPRAYERS™		
Model	Product Description	Locator #	Model	Product Description	Locator #
 WL0510B, WL110B	In-Line Dripper .5 GPH (red), 1 GPH (black)	31A 37A	 7760F	Mister with Memory-flex™ Tubing 1/4 in. Barb, 2 GPH	46B
 B301, B302	Pressure Compensating Dripper on Spike 1 GPH (black), 2 GPH (green)	30A 38A	 112B, 111B & 110B	Spray Jet Threaded Barb 13 GPH	47 48 49
 B05B	Adjustable Dripper 0-14 GPH	39	 112-1B, 111-1B & 110-1B	Spray Jet Assembly on Spike 13 GPH	47A 48A 49A
 BA1B	Adjustable Dripper on Spike 0-14 GPH	39A	 107-1B, 108-1B & 109-1B	Fan Spray Jet Assembly on spike 40 GPH, 21 GPH, 8 GPH	47D 48D 49D
 BT5B	Adjustable Dripper on 10/32 Thread 0-14 GPH	39E	 300B & 300-1B	Adjustable Spray Jet (360°) on 10/32 in. thread & on spike, 0-26 GPH	91 91A
 AD5	Adjustable Dripper 1/2 in. pipe thread 0-14 GPH	85	 308B & 308-1B	Adjustable Spray Jet (180°) on 10/32 in. thread & on spike, 0-26 GPH	92 92A
 BU5SB	Adjustable Bubbler on spike 0-28 GPH	102	 309B & 309-1B	Adjustable Spray Jet (90°) on 10/32 in. thread & on spike, 0-26 GPH	93 93A
MICRO SPRAYERS™			 8824-1B	Mini Sprinkler Assembly on Spike 22 GPH	95
 8855-5GB	Multi-Head Micro Sprinkler on spike 18 GPH	40	 8825BB	Fogger on barb .8 GPH	99
 9950BB	Multi-Head Jet Sprayer on 1/4 in. threaded barb 10 GPH	41	 507-1B	Flow Regulated Micro Sprinkler assembly on spike , 7 GPH	100
 7750BB	Fogger Mister 1/4 in. Threaded Barb 5-7 GPH	43	 410B	Adjustable Vortex Sprayer on spike, 0-20 GPH	101
 7790BB	Pot and Basket Mister with stake 2 GPH	46	 9802-2	Spray Stick Assembly with 24 in. of 1/8 in. micro tubing	103

ACCESSORIES™			ACCESSORIES™		
Model	Product Description	Locator #	Model	Product Description	Locator #
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 16-066R	Barb Insertion Tool for 1/4 in. micro tubing	51A	 R64B	Heavy Duty Tubing Stake 1/2 in. - brown	60B
 PNC-CUT	Tubing Cutter, Punch and Insertion Tool	51B	 R61B & P32B	Galvanized Tubing Stake 1/2 in. and 1/4 in.	61 62
 D44	Hole Punch	52	 P31B	Heavy Duty Micro Tubing Stake 1/4 in.	62A
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 D474B	Micro Tubing "C" Clamp 1/4 in. - with nail	54	 D33A	1/4 in. In-Line Shut Off Valve	65
 F68B	Figure "8" Hose End Closure	55	 R66	Ray Spike	66
 G79B	Goof Plugs	56	 P35B	Micro Tubing Stabilizer Stake 1/4 in.	67
 P33B	Micro Tubing Stake 1/4 in.	57	 R63	Universal Spike Assembly	68
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 P12B	12 in. Poly Riser with Self-Piercing Threaded Barb	58A	 DPF1-8	Drip System Flag Indicator extends when system is pressurized	70
 R60	Tubing Stake 1/2 in.	60	 R73	8 in. PE Riser Adapter 1/2 in. pipe thread	84



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