

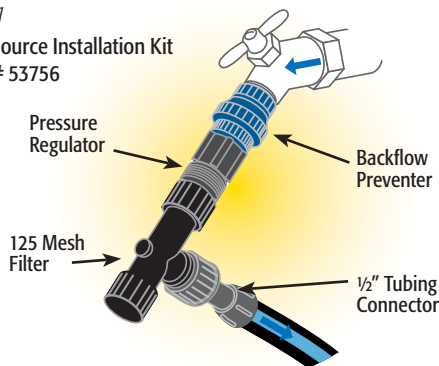
Step 1-Connect to a Water Source

The first step in planning and installing your system is to determine which type of connection to a water source is best for you. There are three ways to connect to a water source. Depending upon which option you choose, there are **Blue Stripe Drip Valve or Installation Kits** ready to supply all the parts and instructions you need:

1. Connect to an outdoor faucet. Best for watering small planters, beds, patios or pots. This method is the quickest and easiest way to connect. Simply follow the instructions included with the **Water Source Installation Kit** for an installation that looks like the sample shown.

Figure 1

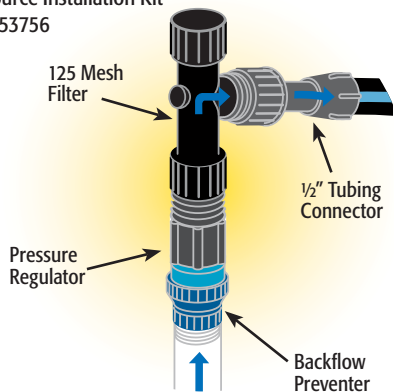
Water Source Installation Kit
Model# 53756



2. Connect to a 1/2" sprinkler riser. If you already have an underground sprinkler system installed near your garden or beds, you can easily convert one of the sprinkler head risers to a supply source for your drip irrigation system. Follow instructions with the **Water Source Installation Kit** for an installation that looks like this diagram.

Figure 2

Water Source Installation Kit
Model# 53756



3. Connect to an automatic irrigation valve. This type of connection will enable your system to be operated by an automatic timer. If you already have a valve installation, the Water Source Installation Kit contains the parts needed to retrofit either an anti-siphon or in-line valve for drip usage. If you are adding a new valve to your system, look for Toro's **Anti-Siphon Valve Kit or In-Line Valve Kit** which have been specially designed for drip use. Your local building codes will determine which type of valve kit is right for your situation.

Figure 3

Anti-Siphon Valve Kit
Model# 53749

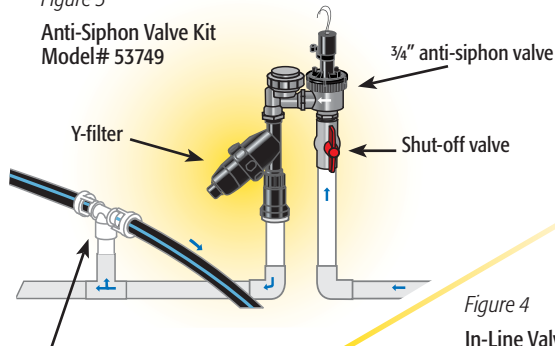
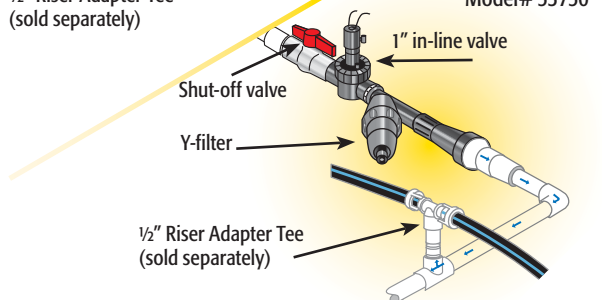


Figure 4

In-Line Valve Kit
Model# 53750

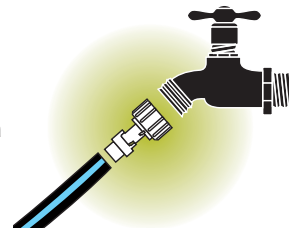


Step 2- Distribute the Water

Distributing the water means just that— laying Blue Stripe 1/2" and/or 1/4" tubing out in a network of main and branch lines to distribute the water to the plants or beds you wish to irrigate. The layout and type of tubing you select will depend on the size, spacing, location and type of plants you wish to water. The method you choose to connect to your water source will also determine how your distribution network will be put together and laid out.

If connecting from an outdoor faucet:

Simply insert end of Blue Stripe Drip 1/2" Tubing or 1/2" Tubing with Pre-installed Emitters into the 1/2" Tubing Connector Swivel included with your Water Source Installation Kit.



Drip Irrigation is Easy as 1-2-3

Simple Set-up, Smart Savings, Stunning Success!

Toro Blue Stripe® Drip is the worldwide leader in drip irrigation products, the first choice of commercial installers, landscapers and agricultural growers. The same products which have been relied upon for years by professionals are also the perfect choices for your beds, gardens, planters, trees or shrubs.

Planning and installing a drip system is easy.

This straightforward guide will walk you through 3 simple planning and installation steps:

1. connect to a water source
2. distribute the water
3. water the plants

To make selecting the parts you need even easier, each Toro Blue Stripe Drip component is color-coded to match the installation step for which it should be used. Look at the packaging for each component to see at a glance how it fits within the 1-2-3 system.

TIP: Draw a sketch of the drip installation area to assist in visualizing and planning your drip system layout. You can record the components you will need on the parts list included with this guide to help you while shopping.

Realize the advantages of Blue Stripe Drip irrigation:

- Up to 70% savings in water usage due to more efficient delivery and less run-off.
- Healthier, more bountiful plants as a result of less over-watering or under-watering.
- Easy automated watering simply by adding a timer or tying into an underground irrigation valve system and controller. Eliminates the chores of hand watering.
- Reduced weed growth by limiting moisture to desirable plants only.
- Versatility on flat terrain or sloping landscapes without wasteful run-off or erosion.
- Easy system expansion to accommodate new planting areas or to retrofit an existing sprinkler system.



QUESTIONS?
Call the Toro Helpline
(800) 367-8676
www.toro.com

Let Toro design your traditional and drip irrigation. For more information refer to the *Toro Planning and Installation Guide* or visit www.ToroDesign.com

Frequently Used Terms

½" Blue Stripe Tubing— Available in 50', 100' and 500' lengths to accommodate any large or small area, ½" Tubing is typically the primary source for distributing water to beds or gardens. Blue Stripe Tubing is available *with* or *without* pre-installed emitters. Pre-installed emitters make installation especially easy— just unroll the tubing, connect to the water source and you're done.

¼" Blue Stripe Tubing—¼" Tubing is typically used to deliver water to specific plants or trees in a given area by connecting it to ½" tubing. Blue Stripe Tubing is available *with* or *without* pre-installed emitters and is also ideal for distributing water to potted plants on patios.

Anti-Siphon—Refers to a valve with a built in backflow prevention device to protect household water from potential contamination. Anti-siphon valves should be installed 6"-12" above the highest sprinkler or drip device in your landscape. *Check local codes to determine the type of valve allowable in your area.*

Emitter—Any outlet device used to control the rate at which water is applied to specific areas. Micro-sprays and foggers are also types of emitters. An emitter is also sometimes referred to as a dripper.

GPH—The abbreviation for "Gallons per Hour". GPH is used to measure flow or the rate of movement of water in drip irrigation systems.

I.D.—The abbreviation for "Inner Diameter" of drip tubing. Blue Stripe ½" Tubing has an inner diameter of 0.620 inches. ¼" Blue Stripe Tubing has an inner diameter of 0.170 inches.

In-Line—Refers to a valve that does not have a built in backflow prevention device. In-line valves must be installed along with a separate backflow preventer to protect household water from potential contamination. In-line valves can be installed below ground in a valve box. *Check local codes to determine the type of valve allowable in your area.*

O.D.—The abbreviation for "Outside Diameter" of drip tubing. Blue Stripe ½" Tubing has an outer diameter of 0.710 inches. ¼" Blue Stripe Tubing has an outer diameter of 0.250 inches.

Pressure Compensation (P.C.)—Term used to describe emitters that deliver the same precise amount of water regardless of their location in the installation. For example, a pressure compensating emitter located close to a water source will deliver the same amount of water as one located 10 feet downstream. Their consistent flow rate also makes them ideal for sloping landscapes.

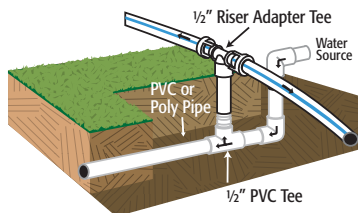
Spacing—The distance between emitters or rows of emitters. Blue Stripe ½" Tubing with Emitters contains pre-installed emitters spaced every 18". ¼" Tubing with emitters has pre-installed emitters spaced 6" apart.

Valve—The component in an irrigation system that regulates the flow of water from the main line to the sprinklers or drip system, and is activated manually, or automatically by an irrigation timer or controller.

Zone—A group of sprinklers or drip components controlled by the same valve. Zones are sometimes referred to as stations.

If connecting from an existing sprinkler riser or new valve:

You will need: PVC or Poly Pipe, PVC Riser, 1/2" PVC Tee, Blue Stripe Drip 1/2" Riser Adapter Tee, 1/2" Blue Stripe Tubing with or without pre-installed emitters.



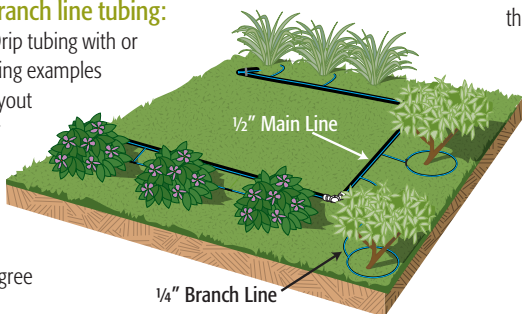
Use buried PVC (or poly pipe in climates with freezing conditions). Start from your valve and move outward toward the area you wish to water, laying connected

PVC pipe along the bottom of a trench at least 8-10" below ground level. Run pipe to the middle of the area to be drip irrigated. Install a 1/2" PVC Tee and riser to reach surface level once again. Thread 1/2" Riser Adapter Tee onto riser and connect 1/2" Blue Stripe Tubing at both ends of Tee.

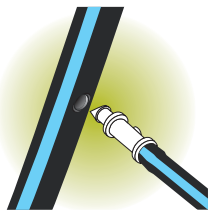
Layout main and branch line tubing:

Unroll the Blue Stripe Drip tubing with or without emitters following examples shown in the sample layout section of this guide for different plant/spacing/watering configurations.

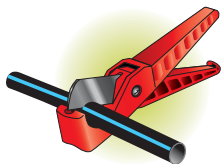
Use 1/2" Blue Stripe Fittings to create 90-degree angles as necessary.



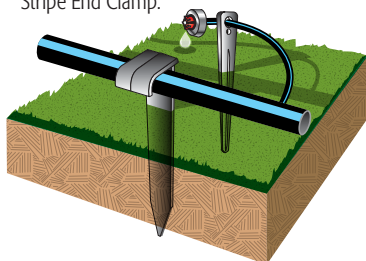
Run 1/4" tubing branch lines to individual plants that require extra water or that are not being reached by the 1/2" tubing. Simply pierce a hole with a Blue Stripe Hole Punch into the side of 1/2" tubing, insert one end of a 1/4" barbed tee, elbow or coupling, then insert the other barbed end into a length of 1/4" tubing.



Cut tubing to correct length: Once you have connected the main line tubing to your water source, you will be able to determine precisely what length of tubing you will need to supply your plants. Using scissors or a Blue Stripe Tubing Cutter, make a square cut 12 inches beyond the desired length for later use with a 1/2" Blue Stripe End Clamp.



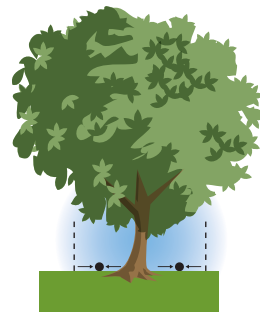
Secure Tubing: Use Toro Blue Stripe 1/2" Tie Down Stakes to anchor tubing in the ground so that it stays securely in place. Tie-Down Stakes are also available to secure 1/4" tubing.



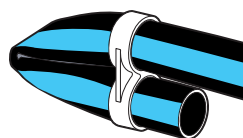
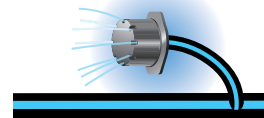
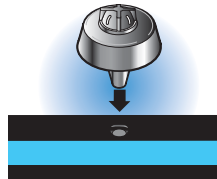
Step 3- Water the Plants

The choice of emitters, foggers or Stream Jet spray heads you install will depend upon your type of plants, their location and spacing. Several optional arrangements are provided in the sample layout section of this guide to help you select the best type of watering devices and recommended spacing for patio container plants, shrubs and landscape beds, trees, and even vegetable gardens.

Locate Emitters: Emitters should be placed over the plant's root zone, halfway between the plant center and the outer edge of its canopy. Emitters may be inserted directly into 1/2" Blue Stripe Tubing main lines, or at the end of 1/4" branch lines. For closely spaced bedding plants, tubing with pre-installed emitters is your easiest choice.

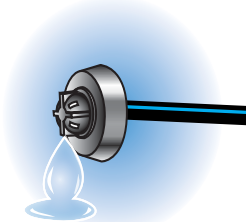


Install Emitters: To install directly into 1/2" Blue Stripe Tubing, punch a hole in the side wall of the tubing using the Blue Stripe Hole Punch, then simply insert the barbed end of an emitter or into the hole. If you make a mistake and punch a hole in the wrong spot, seal it again using a Blue Stripe Drip Hole Plug. For 1/4" tubing, push the barbed end of an emitter into the open end of a length of tubing, locating it next to an individual plant.



Flush and close off end of line:

When all emitters have been installed, turn on the water and flush out any dirt that may have gotten into the line during installation. At the ends of any open 1/2" tubing main lines, install 1/2" Blue Stripe End Clamps as shown. To terminate 1/4" Blue Stripe Tubing, you can simply install an emitter at the open end of the tubing line.



Sample Layout

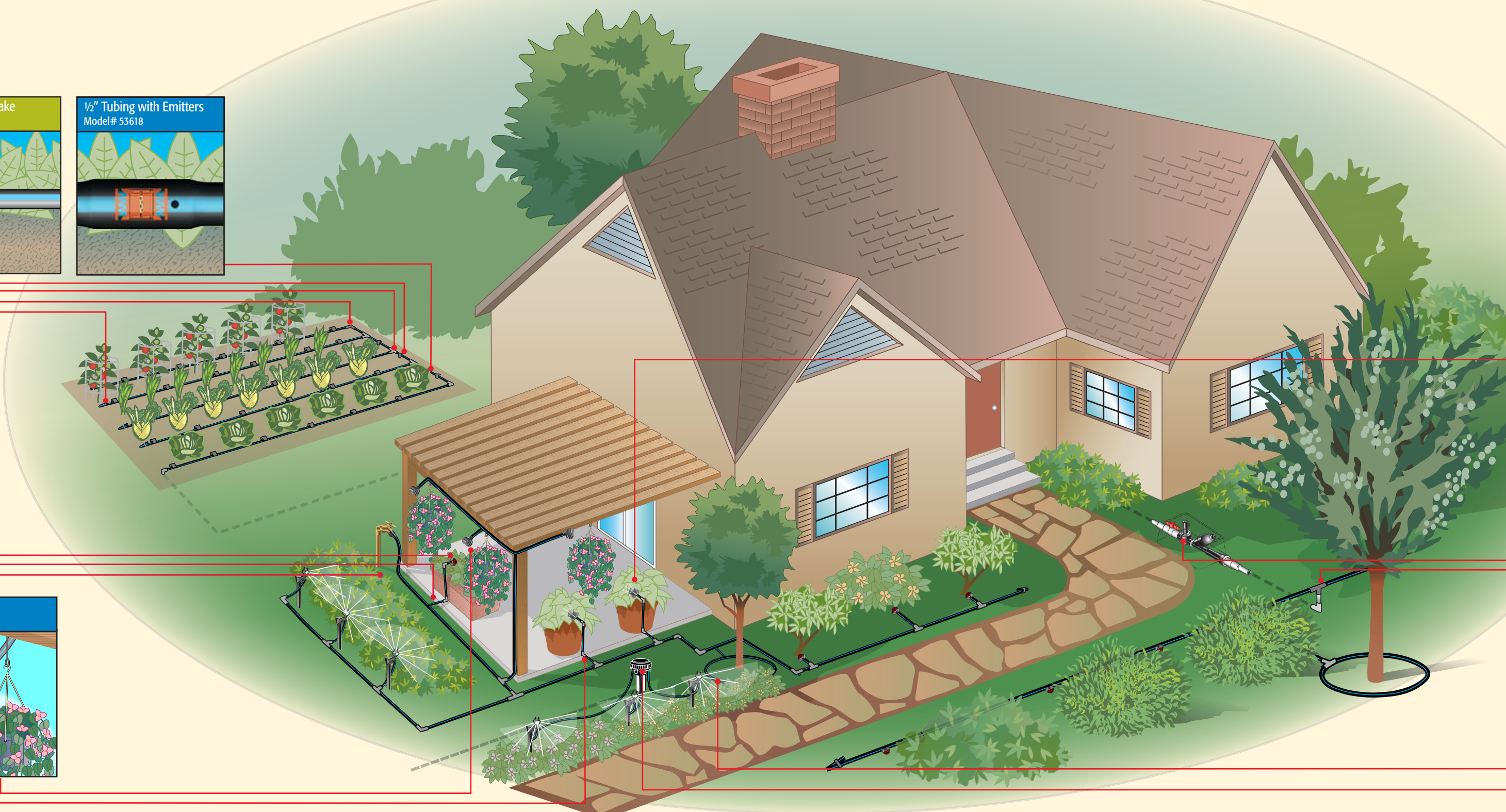
Vegetables and Gardens

- 1/2" End Clamp**
Model# 53705
- 1/2" Elbow**
Model# 53703
- 1/2" Tee**
Model# 53704
- 1/2" Tie Down Stake**
Model# 53620
- 1/2" Tubing with Emitters**
Model# 53618

Patio Plants and Containers

- 1/2" Swivel Adaptor**
Model# 53701
- 1/4" Straight Coupling**
Model# 53634
- 1.0 GPH Emitter**
Model# 53621

- 1/4" Tee**
Model# 53636
- 1/4" Tie Down Stakes**
Model# 53637
- 1/4" Elbow**
Model# 53635
- 3.0 GPH Fogger**
Model# 53651



Landscaped areas

- 1/2" Straight Coupling**
Model# 53702
- Adjustable Emitter**
Model# 53681
- In-Line Valve Kit**
Model# 53750
- 1/2" Riser Adapter Tee**
Model# 53747
- 1/4" Stream Jet Micro-sprinkler**
Model# 53754
- 9-Outlet Manifold**
Model# 53755

Parts list

The packaging for Toro Blue Stripe drip components is color-coded to assist you in choosing the correct parts for your system installation. Look for the color and number which corresponds to our 3 easy steps when shopping for drip parts at your local retailer. To save time, use the handy parts guide below to make a list of what you need before you go.

connect1		
model	product	quantity
53746	Battery Operated Hose-End Timer	
53755	9-Outlet Distribution Manifold	
53749	Drip Anti-Siphon Valve Kit 3/4"	
53750	Drip In-Line Valve Kit 1"	
53756	Water Source Installation Kit	

distribute2		
model	product	quantity
53719	Blue Stripe 1/2" Tubing - 50'	
53605	Blue Stripe 1/2" Tubing -100'	
53616	Blue Stripe 1/2" Tubing - 500'	
53618	Blue Stripe 1/2" Tubing w/ Emitters 100'	
53639	Blue Stripe 1/4" Tubing -100'	
53640	Blue Stripe 1/4" Tubing w/ Emitters 100'	
53634	1/4" Straight Coupling	
53635	1/4" Elbow	
53636	1/4" Tee	
53637	1/4" Tie Down Stakes	
53620	1/2" Tie Down Stakes	
53701	1/2" Swivel Adapter	
53702	1/2" Straight Coupling	
53703	1/2" Elbow	
53704	1/2" Tee	
53705	1/2" End Clamp	
53747	1/2" Riser-Adapter Tee	
53679	Hole Punch	
53693	Tubing Cutter	
53777	Hole Plugs	

water3		
model	product	quantity
53621	1.0 GPH Emitter	
53651	3.0 GPH Fogger	
53681	Adjustable Emitter 0-10 GPH	
53690	2.0 GPH Emitter	
53754	Stream Jet w/ 12" Stake Half Circle Pattern	
53778	Stream Jet w/ 12" Stake, Quarter Circle Pattern	

drip kits		
model	product	quantity
53619	1/2" Emitter Kit	
53724	Drip Starter Kit	
53790	1/4" Fitting and Emitter Kit	