

Solar Irrigation Kit

This water conserving, solar-powered drip irrigation system delivers pinpoint irrigation just when your plants require it most—during the hot sunny part of the day. The system can water up to 20 plants at a time. Just fill a bucket with water up to 15 inches deep and place the submersible pump into the bottom of the bucket. A photo voltaic solar panel powers the pump, distributing water to your plants through ¼-inch irrigation tubing and drippers.

This bulletin explains how to use the Drip Irrigation Kit with the Solar Panel and Pump. It is easy to set-up and use. The only tool you'll need is a pair of scissors to cut the micro tubing. You'll want to experiment a bit to determine the right number of drippers per plant, but we provide lots of tubing, connectors and drippers.

New plantings, expensive perennials, shrubs and small trees can greatly benefit from additional watering on hot, sunny days shortly after transplanting to insure their survivability. This irrigation system is ideal because it doesn't require long lengths of hose and can be set up anywhere there is sun available.

We recommend this irrigation system for outdoor use only.

The Solar Irrigation Kit includes the following components:

- 4 x 4 inch solar panel with a 15 foot cord and 24 gallon/hr DC pump.
- 75 feet of ¼ inch tubing, 20 drippers, 2 barbed connectors, 15 support stakes and 10 mounting clamps.

You will also need to provide:

- A water reservoir no higher than 15" (this is the maximum height for the pump to operate correctly). A five gallon bucket, or one of our Tub Trugs (*see Ordering Information*) are two good options.

Handling Precaution:

The solar panel is fragile. Handle it carefully to avoid breakage and to keep the surface from being scratched.

Choosing a Location for the Solar Panel and Water Reservoir

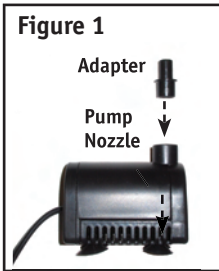
Set up the water supply and Solar Panel close to the plants you are irrigating. By pointing the solar panel directly south with no shade obstructions, you will generate the longest watering duration for any sunny day. You can, however, orient the panel southeast or southwest to create more early morning

or late afternoon irrigation cycles. If the Solar Panel is placed in a shaded location, the pump will not operate at full power.

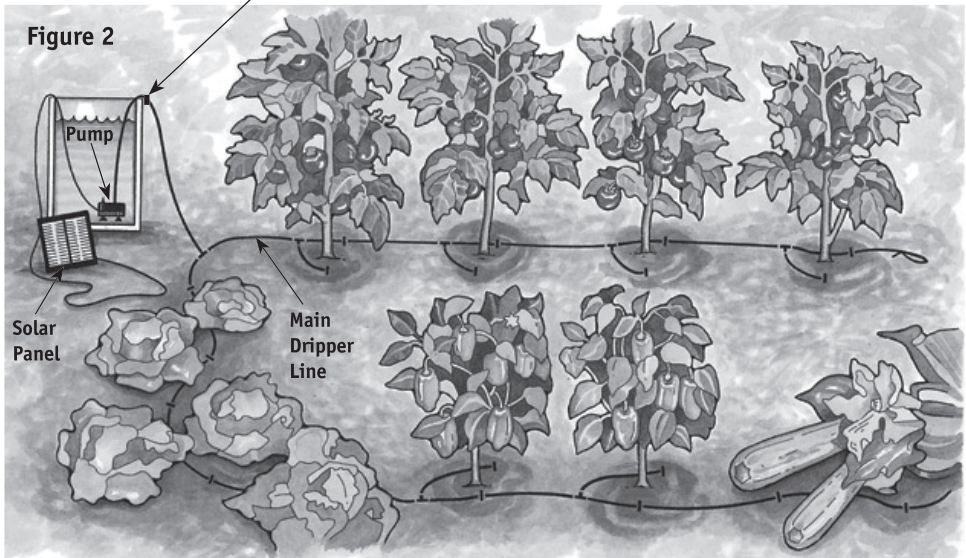
Cloudy or shady conditions will also affect the pump's operation. Be sure to keep the surface of the solar panel clean to maximize solar gain.

Step 1. Connecting the Pump and Irrigation Tubing: The pump includes several adapters; however, only one is needed. Find the adapter measuring 3/4-inch high, shown in Figure 1 and insert it into the pump nozzle.

Step 2. Figure 2 shows a dripper line configuration for 12 plants. The Irrigation Kit actually provides 75 feet of tubing and will water up to 20 plants.



Short tubing from pump to main dripper line with anti-siphon, in-line dripper at highest point.



Follow the instructions on the back of the Drip Irrigation box to create a configuration suited to your specific area.

Step 3. Since you will not be using a water faucet, disregard Steps 1 and 2 of the Drip Irrigation instructions. Instead, cut a short section of tubing to connect the pump to the main dripper line (see below). Before cutting, be sure the tubing is long enough to reach from the pump, over the rim of the water reservoir, to the main dripper line.

Next, insert the short section of tubing into the Solar Pump adapter. *(Note: It is a tight fit, but this will help prevent the tubing from slipping out of the pump when in use.)*

Connect the other end of the short tubing to the main dripper line using a Barbed Tee. Continue to install the rest of your irrigation system using the instructions provided.

Step 4. Anti-siphon Precaution: To prevent water from being siphoned from the reservoir when the pump is off, place an inline dripper at the highest point of the system (at the rim of your reservoir as shown below). If a dripper is placed at the highest point of the dripper line (top rim of the reservoir), it will act as an "air vent." When the pump is not operating, this vent breaks the siphon action.

Step 5. Water Soluble Fertilizer: The pump and drippers will deliver liquid soluble fertilizer mixed with the water in the reservoir. We recommend using our PHC for vegetables and flowers *(see Ordering Information)*.

Installation Tips

- To help make the tubing more flexible and easier to install, we suggest leaving it in the sun for several minutes to soften it and make it more pliable. We also recommend using Earth Staples to secure the tubing to the ground.
- Use the In-Line Drippers for larger plants such as tomatoes. Use the Pressure Compensating Drippers for smaller plants or plants that need less water.
- The pump will run continuously as long as there is enough sunshine to power it. To decrease the amount of light the Solar Panel is exposed to, you can orient the panel southeast or southwest to create more early morning or late afternoon irrigation cycles.

Ordering Information

#36-517	Solar Irrigation Ki
#09-213	Earth Staples, set of 15
#34-976	PHC for Vegetables and Flower
#35-592	Tub Trug (available in assorted colors)

To order, please call or visit our website for current prices.