**WaterFarm Accessories**

General Hydroponics offers many helpful products to support your WaterFarm System.

**Controller & 8 Pack**
The power and convenience of the WaterFarm multiplied by eight. The controller allows you to link up to eight WaterFarms for expanded growing capacity with minimal added effort.

**RainForest**
Our patented Vortex Sprayer provides a super oxygenated mist to developing roots and encourage explosive growth. RainForest is available with 2", 3", and 6" site lid inserts to suit specific growing needs.

**Dual Diaphragm Air Pump**
This high capacity air pump can easily power up to sixteen WaterFarm or PowerGrower Units. The special manifold comes with four independent valves.

**pH Solutions & Testers**
Keeping nutrient solutions in their proper range is vital for healthy crops. General Hydroponics offers a range of Oakton continuous and pencil pH testers to make monitoring nutrient solutions easy and pH solutions to make the needed adjustments.
1. HYDROTON (not included with WaterFarm Controller 8-Pack or modular WaterFarm units)
2. FLORA SERIES NUTRIENTS (8oz bottles)
3. 4 GAL. RESERVOIR (deep chamber for water)
4. 2 GAL. GROWING CHAMBER (shallow pot with perforated bottom)
5. ELITE 800 AIR PUMP
6. Drip Ring Assembly (circular plastic ring attached to tee)
7. DLT CLIP
8. AIR LINE (clear tubing)
9. PUMPING COLUMN (2-piece white tube with air inlet at bottom)
10. PUMPING COLUMN SUPPORT TUBE (white PVC tube with bevel facing down)
11. DRAIN LEVEL TUBE (translucent blue tube fitted to black elbow)
   (not included with WaterFarm Controller 8-Pack or modular WaterFarm units)

**Assembly Instructions**

**Step #1.** Insert black DLT clip into reservoir as shown.

**Step #2.** Install the blue drain level tube along the outside of the reservoir. Moisten the end of the elbow fitting and push it through the rubber grommet from the outside until the third ridge enters the grommet. As you push, place your other hand inside the reservoir on the grommet to support it, so the grommet does not pop out. The tube fits into the clip at the top of the reservoir. If the grommet pops out, push it back in (the wider end points inward). If water leaks from this area after the reservoir is filled, make sure the blue tube fits tightly onto the elbow. When assembly is complete, fill the reservoir to the white line marked on the blue drain/level tube with tap water.

**Step #3.** Place the growing chamber on the reservoir.

**Step #4.** Push the bevelled end of the column support tube (white PVC pipe) into the large hole in the bottom of the growing chamber. The long side of the bevelled cut should face the corner. Push the PVC pipe down until it barely touches the bottom of the reservoir.

**Step #5.** Attach the circular drip ring to the open end of the pumping column assembly (opposite of the end with the Y-connector). Ensure that the small, clear air hose is positioned inside the ring and that the holes in the ring itself are facing downwards.
Planting

To prepare a seedling or a plant for transplanting, remove all soil and/or organ-ic material from around the roots. Plants must be sturdy with established roots before transplanting into the WaterFarm. Choose seedlings because it’s more difficult to successfully transplant older plants. If your plant has been growing in soil or peat moss, gently remove the plant from its pot and carefully rinse as much soil as possible from the roots before transplanting. Although this method of transplanting from soil to hydroponics is somewhat risky, (soil may contain diseased organisms that proliferate in the rich hydroponic solution), we have been very successful in implementing, particularly with culinary herbs and encourage you to try it. Or, you can avoid these problems by starting plants from cuttings in one of our RainForest Systems.

Placement

Abundant light, proper temperature and adequate ventilation are crucial for fast growth, healthy plants and higher yields. Place the WaterFarm in a warm, well-lit, well-ventilated location, such as an outdoor garden, sunlit window, patio or greenhouse. Keep your WaterFarm away from areas where the inevitable dripping that occurs during filling, draining and pH adjustment could cause water damage.

Operation

For moisture-loving plants, operate your WaterFarm pump continuously. Plants preferring drier conditions grow best when the pump runs for 1/2 hour on and 1 hour off during daylight hours; off at night (a simple timer will turn the pump on and off for you automatically).

Use mild to normal strength nutrient solution and avoid strong or aggressive nutrient. As your plants consume nutrient solution, the level in the reservoir will drop. Top off with half strength solution or plain water (the pump is more efficient when the reservoir is full). It is necessary to change water and nutrients every two to three weeks depending upon the size of your plants and their rate of growth; with bigger plants change more often. Simply empty the reservoir by rotating the blue drain/level tube 90 degrees so water drains on the ground, or indoors in a pipe. When changing or topping off solution, pour directly over the Hydroton (rather than into the reservoir itself) to flush out excess salts.

Preparation for Replanting

After harvesting and before replanting your WaterFarm, dismantle the system and clean all parts with hot water. Rinse Hydroton in very hot water and soak overnight. Unlike Rockwool, Hydroton is reusable. It is a good idea to dis-assemble and wash the drip ring assembly and pumping tube from time to time in hot water.

Troubleshooting

If white salt deposits form on the Hydroton:

1. Try using a milder nutrient solution and topping off with plain water only.
2. Occasionally drain your system, refill with plain water and run the pump overnight.

After the overnight rinse, empty reservoir and refill with fresh nutrient.

If Plants are not growing well and you suspect “hard” water:

1. Use FloraMicro Hardwater in place of FloraMicro.
2. Try distilled or purified water. You should see a significant improvement in plant health and growth within one week.
3. Collect rainwater for use in your WaterFarm.

If nutrient solution stops flowing from the drip ring:

1. Check to ensure that pump is plugged in and reservoir is filled with nutrient solution.
2. Disconnect air line from the air inlet and check whether the air is coming through (put end under water and look for bubbles if you are not sure). No air flow could mean that the pump is broken and must be replaced or that the air line is loose or blocked. Try cutting an inch off each end of the line to provide a tighter fit.
3. Blow into the air inlet to check whether it is clogged, and rinse the pumping column in hot water. This type of clogging is usually an indication that you have hard water or too strong a nutrient solution.
4. Check whether emitter holes in the drip ring are clogged. To clear, dis-assemble drip ring by pulling it apart at the tee, rinse drip ring and tee in hot water and clear the holes with a toothpick.

Step #6.

Push the entire drip ring assembly (which includes the drip ring, the T-fitting and the white tubes attached to the drip ring) down into the pumping tube. Being careful not to catch the tube clamps on the tube, push the assembly into the tube until it barely touches the bottom of the reservoir.

Step #7.

Move drip ring out of the way and pour the bag of Hydroton into the growing chamber.

Step #8.

Securely attach the air tube (the thin, flexible clear tubing connected to the drip ring assembly) to the outlet nipple on the pump. Plug your WaterFarm into any standard household electrical outlet. If you’re using your WaterFarm outside, use only extension cords and outlets designed for outdoor use.

One plant centered inside drip ring

Several plants spaced outside drip ring

If you plan to grow several small plants in the WaterFarm, place your plants just outside the drip ring, near the drip holes. If you prefer a single large plant, place it in the center of the drip ring. Gently add Hydroton around the plant roots until thoroughly covered.

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