

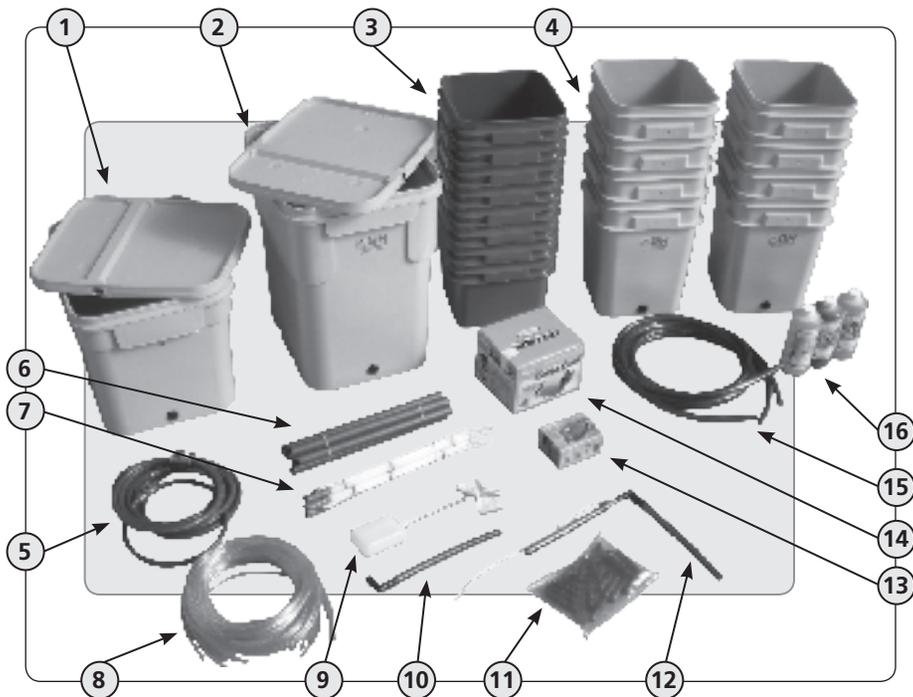
**GENERAL HYDROPONICS®**

# **WaterFarm™**

**8-Pack**

**Assembly Guide**



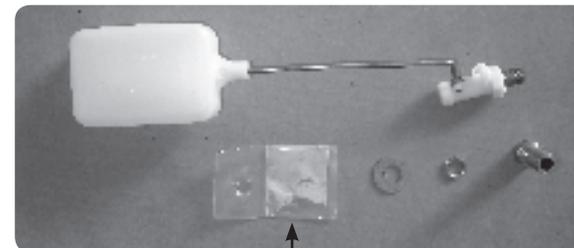


**WATERFARM 8-PACK PARTS:**

- 1) Controller and Lid
- 2) Reservoir and Lid
- 3) Growing Chambers (8)
- 4) Individual Reservoirs (8)
- 5) Drip Rings (8)
- 6) Pumping Column Support Tubes (8)
- 7) Pumping Columns (8)
- 8) Air Lines (9)
- 9) Float Valve
- 10) Drain Level Tube
- 11) Parts Bag
  - 1/2" Barbed, Elbow Fittings (4)
  - 1/2" Barbed, Straight Fittings (15)
  - Drain Level Tube (DLT) Clip (1)
- 12) Circulating Pumping Column
- 13) Single Outlet Air Pump
- 14) Dual Diaphragm Air Pump
- 15) 1/2" Blue tubing (2x9')
- 16) Flora Series Nutrients

**STEP 1**

Disassemble the Float Valve and insert the threaded end with the washer from the inside of the Controller, through the predrilled hole.



Pipe Thread Compound



Secure the Float Valve from the outside of the Controller with the brass nut. Coat the remaining threads with the Pipe Thread Compound and screw on the brass 1/2" barbed hose fitting.



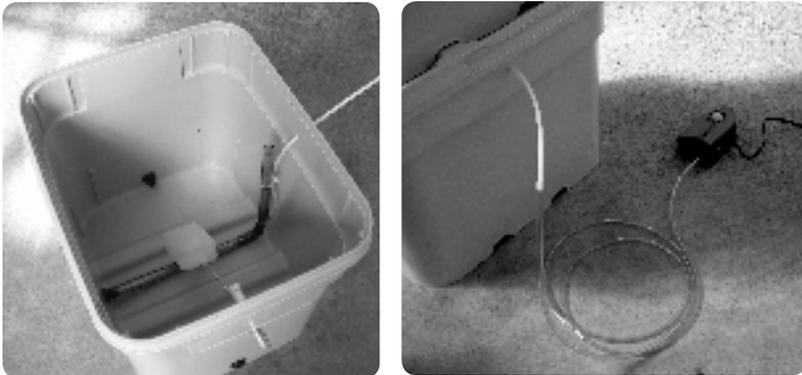
**STEP 2**

Insert the **DLT Clip** into the predrilled hole in the handle of the **Controller** and insert the **Drain Level Tube** into the 1/2" grommet at the bottom. Secure the Drain Level Tube upright in the DLT Clip during normal operation. The Drain Level tube can be rotated level with the bottom of the controller to drain the system.



**STEP 3**

Insert a 1/2" **barbed, elbow fitting** into the grommet on the side of the **Controller**. From the inside of the Controller attach the **Circulating Pumping Column** to the other side of the 1/2" barbed elbow and run the Air Line through the predrilled hole. Connect an **Air Line** to the **Single Output Pump** and the other end to the **Circulating Pumping Column** airline.



**STEP 4**

Place the **lid** on the **Controller** and remove the tear away strip for easier opening and closing of the lid. Place the **Reservoir** on top of the Controller and remove the tear away strip



Insert a 1/2" **barbed, straight fitting** and connect the Controller to the Reservoir with the 1/2" **Blue Tubing**. Measure before cutting the tubing to avoid cutting it too short and the tube kinking.



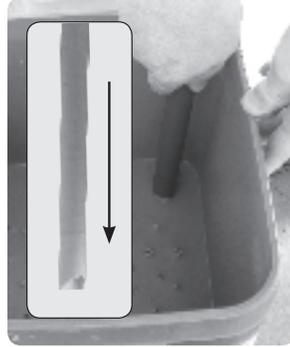
**STEP 5**

Assemble the 8 individual growing units by inserting a 1/2" **barbed, straight fitting** in each of the opposing 1/2" grommets in 6 of the **Individual Reservoirs**. Insert a 1/2" **barbed, straight fitting** and a 1/2" **barbed, elbow fitting** in the opposite grommet of the last 2 Individual Reservoirs.



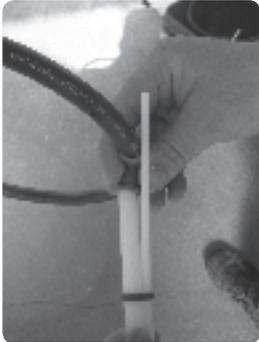
**STEP 6**

Place the **Growing Chamber** on each of the **Individual Reservoirs** and insert the **Pumping Column Support Tube** in the large hole in the bottom of the Growing Chamber.



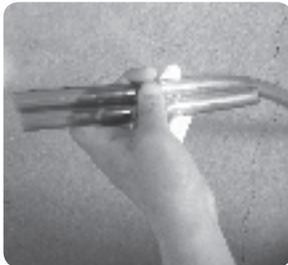
**STEP 7**

Attach a **Drip Ring** to each of the **Pumping Columns**, ensuring the holes in the Drip Ring are facing downwards. Insert the Pumping Column assembly into the Pumping Column Support tube for each of the growing units.



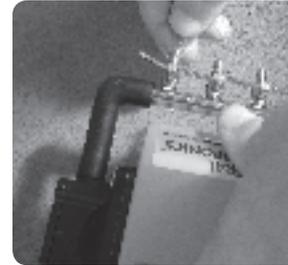
**STEP 8**

Arrange the individual growing units in two lines or any configuration that fits your growing conditions. Measure and cut the **½" Blue Tubing** to connect each of the individual growing units.



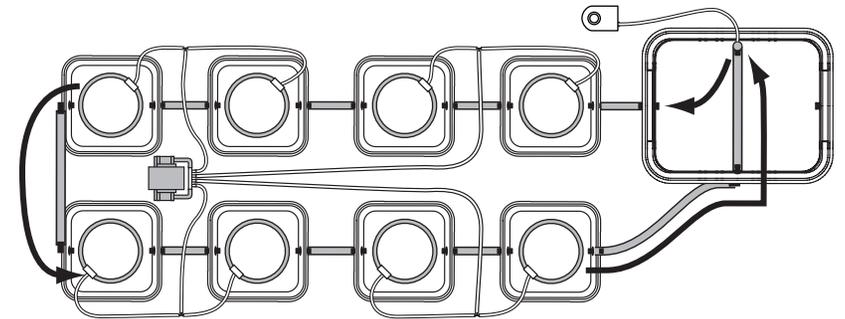
**STEP 9**

Connect the manifold to the **Dual Diaphragm Air Pump** and connect each of the individual growing units using the airline tees (that are packaged with the Dual Diaphragm Air Pump) to the **Pumping Column** airline.



**STEP 10**

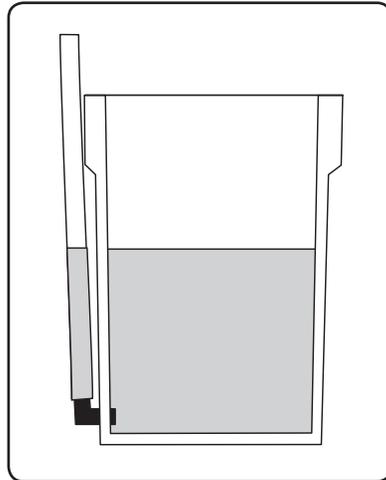
Move the Drip Rings out of the way and fill the system with the Media of your choice. Clay pebbles are the recommend media because of its ease of use and durability for reuse. It is also very efficient in delivering the right amount of water to the root system without over watering.



The WaterFarm 8-Pack circulating pump pulls nutrient solution from the first individual reservoir and mixes with the nutrient solution in the controller, then flows out through the opposite individual reservoir because of the difference in the level of the nutrient solution. The entire system will cycle in approximately 4 hours and effectively maintain a consistent nutrient in all of the individual reservoirs.

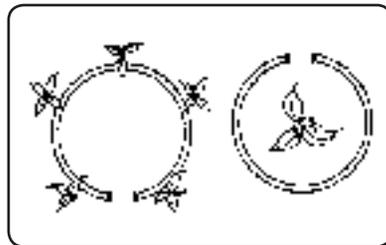
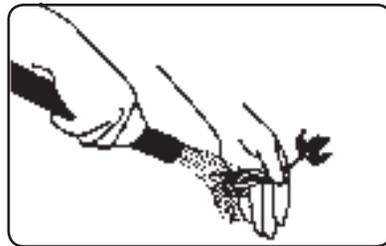
### FILLING

When filling the system with a nutrient solution it is best to mix the nutrients in a known volume of fresh water and pour into the controller until the system reaches the desired level. The controller and 8 individual growing units hold approximately 17 gallons. The float valve can be adjusted by bending the float valve arm so that the float valve is all the way up in the off position. Next, the reservoir can be placed on top of the controller and can be filled with an additional 12 gallons that will keep the system full for one to two weeks with small plants and may only last a few days to one week with larger plants.



### PLANTING

To prepare a seedling or a plant for transplanting, remove all soil and/or organic material from around the roots. Plants must be sturdy with established roots before transplanting into the WaterFarm 8-pack. 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, as soil may contain disease organisms that proliferate in the rich hydroponic solution, we have had success using this transplant method and encourage you to try it. Or, you can avoid these problems by starting plants from cuttings in one of our RainForest Systems.



If you plan to grow several small plants in the WaterFarm 8-pack, 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 clay pebbles around the plant roots until thoroughly covered.

### PLACEMENT

Abundant light, proper temperature and adequate ventilation are crucial for fast growth, healthy plants and higher yields. Place the WaterFarm 8-pack in a warm, well-lit, well-ventilated location, such as an outdoor garden, sunlit window, patio or greenhouse. Keep your WaterFarm 8-pack 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 8-pack pump continuously. Plants preferring drier conditions grow best when the pump runs for 1/2 hour on and 1 hour off during daylight hours, and 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. The reservoir can be filled with half strength solution or plain. It is necessary to change the water and nutrients every one to two weeks depending upon the size of your plants and their rate of growth; with bigger plants change more often. Simply empty the system by rotating the blue drain level tube 90 degrees so water drains on the ground, or indoors in a pail.

### PREPARATION FOR REPLANTING

After harvesting and before replanting your WaterFarm 8-pack, dismantle the system and clean all parts with hot water. Rinse clay pebbles in very hot water and soak overnight. It is a good idea to disassemble and wash the drip ring assembly and pumping tube from time to time in hot water.

### TROUBLE SHOOTING

#### *If white salt deposits form on the clay pebbles:*

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, disassemble drip ring by pulling it apart at the tee, rinse drip ring and tee in hot water and clear the holes with a toothpick.



## FLORANOVA®

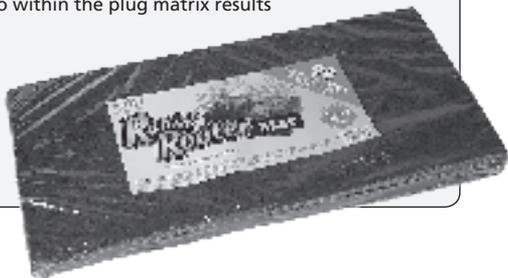
FloraNova represents a break-through in fertilizer technology. FloraNova gives users both the strength of a dry concentrate and the ease of a liquid. This unique formulation of highly purified minerals and natural additives combines the benefits of both organic and soil less gardening methods. Optimum nutrient absorption is aided by natural humic extracts for increased quality and superb yields. FloraNova is a one part formula that is pH stabilized outstanding for all plant types.

## RAPIDROOTER®

Rapid Rooter's advanced technology produces a unique matrix of composted organic materials bonded together with plant-derived polymers. Rapid Rooter plugs are manufactured using a scientifically controlled process that yields large populations of beneficial microbes in the media. These naturally-occurring microbes colonize young roots, helping plants resist disease while maximizing nutrient uptake. Rapid Rooter plugs are fortified with General Hydroponic micro nutrients for abundant root growth. The optimal air-to-water ratio within the plug matrix results in explosive early root growth.

*Rapid Rooter plugs are available in the following sizes:*

- 50 plug tray
- 50 plug bag
- 98 cell mat



## RAINFOREST®

The Rainforest is perfect for propagation or growing plants to full maturity. Our patented Vortex Sprayer provides a super-oxygenated mist for rapidly developing plants. With a compact design and small footprint, the Rainforest is available with 2", 3", and 6", site lid inserts to suit specific growing needs.



**GH**  
genhydro.com

PO Box 1576, Sebastopol, CA 95473, USA

707-824-9376 Monday through Friday 9am to 4pm PST

p052709am ©2009 GENERAL HYDROPONICS