

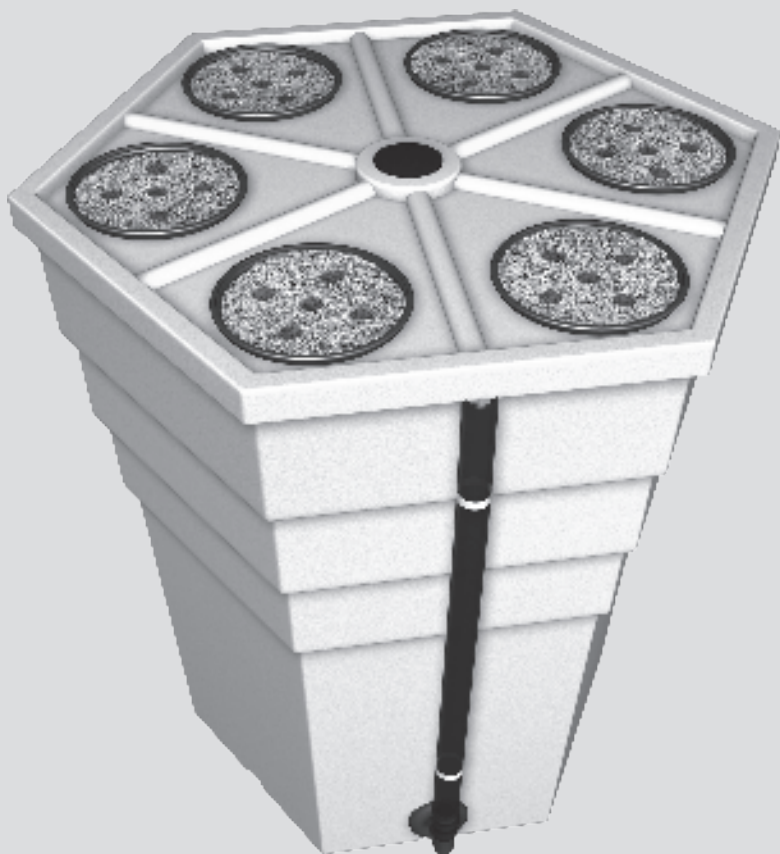
**GENERAL HYDROPONICS®**

# **RainForest®**

## **36**

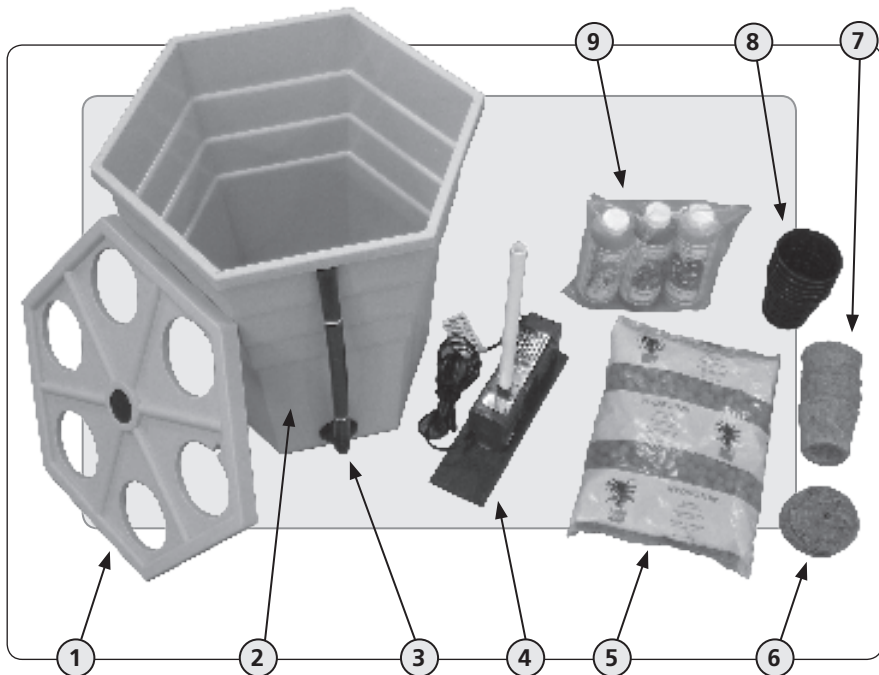
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### **Assembly Guide**



**Congratulations on your new RainForest Model 36 aero-hydroponic system.** This system enables you to rapidly and successfully root cuttings and germinate seeds. Once rooted you can transplant to any growing system like the General Hydroponics PowerGrower. You will be amazed by the kinds of plants that can be propagated from cuttings using the RainForest. These include even the most difficult fruit and nut trees, ornamental shrubs, vegetables, and flowers - many of which have never been propagated from cuttings before. Of course, easily propagated plants will root quickly and grow phenomenally in the RainForest. The RainForest secret is the patented

aero-hydroponic method of delivering the nutrient solution. Oxygen-charged nutrient solution is sprayed through the air onto the cuttings, seeds, and newly formed roots. This oxygen-rich nutrient solution constantly circulates within the RainForest reservoir, so that a lot more oxygen reaches the root boundary zone than with other hydroponic systems. The roots absorb optimal levels of both oxygen and nutrients, so that the entire plant thrives. The RainForest Model 36 is at the cutting edge of technology with technical features to satisfy professional growers and scientific researchers, and a simplicity that makes it ideal for hobbyists, as well.



**RAINFOREST 36 PARTS:**

- 1: Hex Lid with Spray Diffuser
- 2: Hex Reservoir
- 3: Drain Level Tube
- 4: Pump Assembly

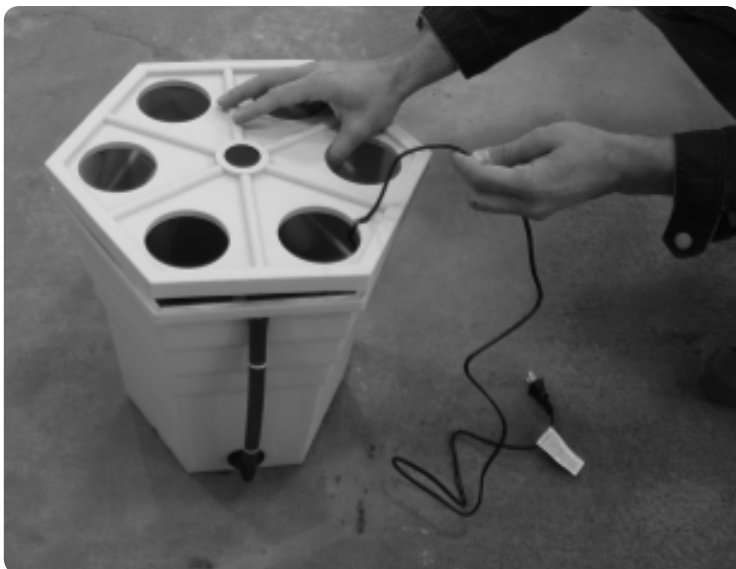
- 5: 9 L Clay Pebbles
- 6: 3" CocoTek Caps
- 7: 3" CocoTek Liners
- 8: 3" Net Pots
- 9: Flora Kit 8 oz each

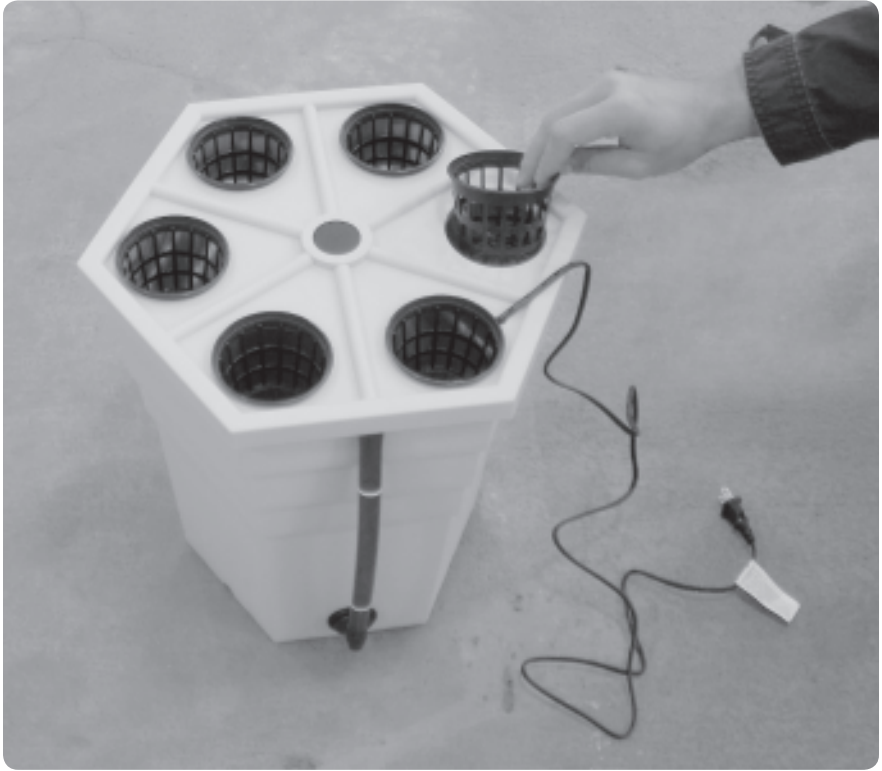
**STEP 1**

Place the **Pump Assembly** inside reservoir. The pump output should point straight up and hit the spray diffuser under the center of the Hex Lid.

**STEP 2**

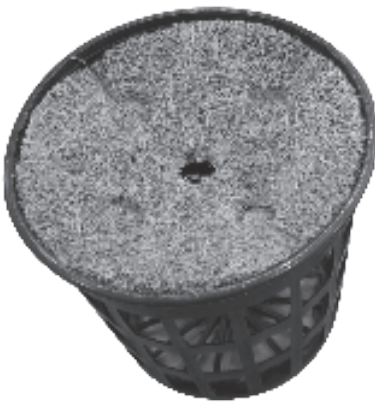
Place the Hex Lid on top of the Hex Reservoir and route the pump cord through the slot provided in one of the 3" openings.





**STEP 3**

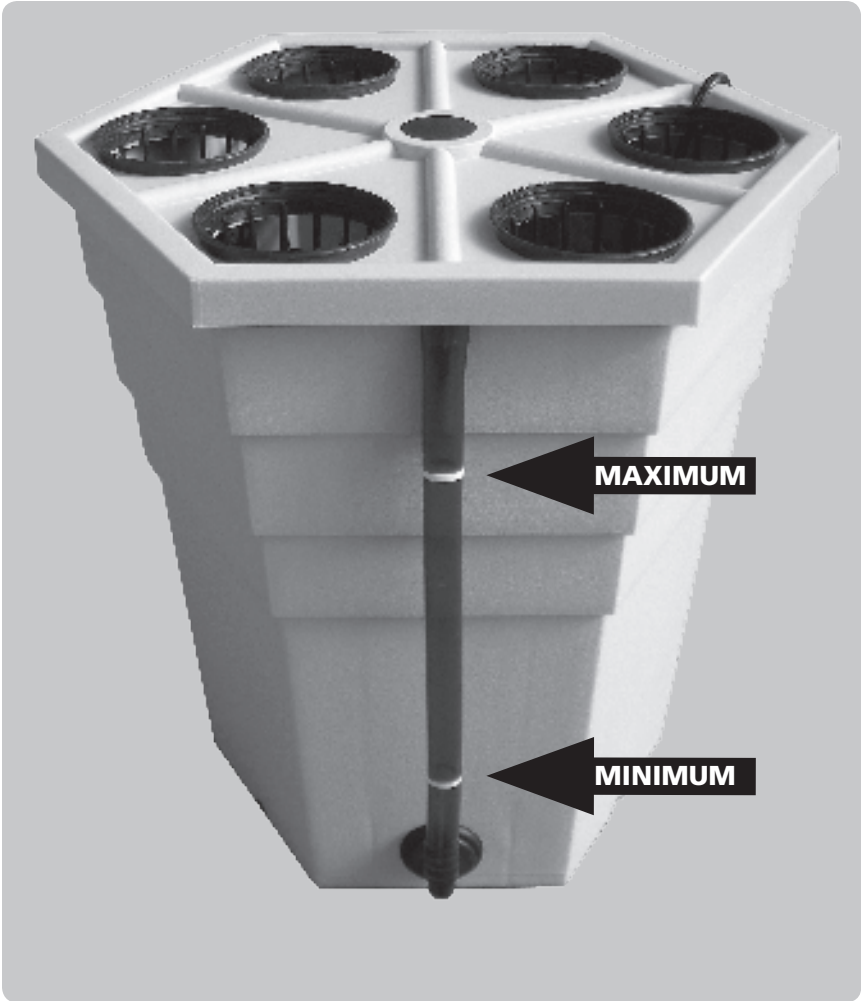
Place the 3" Net Pots in the openings of the Hex Lid.



The Net Pots can be used with the CocoTek Caps for cuttings



or with the CocoTek Liner and Clay Pebbles for seedlings.



#### **STEP 4**

**IMPORTANT!** Only plug the pump in when there is a proper level of water in your Rainforest 36 or you will damage the pump.

The proper operating water level is between the marks on the Drain Level Tube. Plug your Rainforest 36 into any standard household electrical outlet. If you are using your Rainforest 36 outside, use only extension cords and outlets designed for outdoor use.



## 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 RainForest 36 until the system reaches the desired level. The RainForest 36 holds approximately 4 gallons.

## PLANTING CUTTINGS

You can start 1 to 5 cuttings in each of the RainForest 36 growing sites. If you start several cuttings in one growing site, plan to separate them soon after roots have formed and before their roots become entangled. For large plants and plants that you will raise to maturity, use the center hole in the CocoTek Cap.

Always use fresh, clean cuttings that are free of disease and/or soil contamination; soft green stems work best, while woody stems are slower to establish roots. Place a CocoTek Cap on each growing cup and poke out the pre-cut holes in the cap. Trim each cutting to the correct length. Each cutting should have a leaf node very near the bottom end of the cutting. Trim so that 2" of the cutting can extend below the CocoTek Cap and near the bottom of the Net Pot. Be sure the cuttings are well separated. Insert the cups firmly in the holes in the Hex Lid. Cover any unused growing sites to retard water loss by spray.



## PLANTING SEEDLINGS

To prepare a seedling or a plant for trans-planting, remove all soil and/or organic material from around the roots. Plants must be sturdy with established roots before transplanting into the RainForest 36. 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 disease 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.

## OPERATION

Place the RainForest 36 in a warm, well-lit location. The optimum temperature for starting cuttings is 20°-25° C (70°-75° F). Keep the plants in bright, indirect sunlight or use color-corrected, or sunlight-simulating, lamps placed close to the cuttings (fluorescent lamps are best, if you are using "metal-halide or high-pressure sodium, place them well above the cuttings so they do not burn).

If using artificial lights, set the light timer to simulate a normal day/night cycle. If using a motor timer, connect and set the timer. Plug in the sprayer motor. When starting cuttings, the RainForest 36 should be ON 24 hours/day. Once roots extend into the nutrient solution, you can use a timer to run the RainForest 36 intermittently. Set the timer to run the motor through the day and off at night (it should be turned ON for about 1 hour midway through the night).

## PREPARATION FOR REPLANTING

After harvesting and before replanting your RainForest 36, dismantle the system and clean all parts with hot water. Rinse Hydroton in very hot water and soak overnight. It is a good idea to dis-assemble 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 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 RainForest 36.

### *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 airline 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 airline 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.



## FLORASHIELD®

Many growers report that using FloraShield in your RainForest will prevent disease. They also report that FloraShield helps control mildew problems, as well. Another popular use of FloraShield is to sterilize equipment and media. FloraShield can be used at any stage of growth.



## 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.



## POWERGROWER® 8 PACK

The new PowerGrower system can be arranged in an 8 pack configuration or as a 7 pack, where the hexagonal units are arranged in a "honeycomb" shape to easily fit under one light. The new 5/8" split tees connecting the individual units ensure uniform delivery of nutrient solution to every plant for explosive growth.



The PowerGrower Controller consists of an integrated 17 gallon reservoir and a 17 gallon controller unit. These containers can be very easily converted to a Rainforest system with the addition of a lid kit and Vortex sprayer for a complete modular system from propagation to mature plants.

*Harness the Power!*



**GH**  
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