



# Turbogarden Ebb and Flow™

Grow large in a small space with the **Turbogarden Ebb and Flow™**, the perpetual growth machine.

The Turbogarden Ebb and Flow provides an effective and automated method to deliver optimal levels of water, nutrients, and oxygen for rapid growth rates, higher yields, increased nutritional value, and flavors in a 24" x 36" area. Using the Turbogarden Ebb and Flow, plants can be grown in your favorite media.

The Turbogarden Ebb and Flow is perfect for propagating plants or nourishing and watering seedlings.



## Features:

- Utilizes the Aeroponic feed method for increased oxygenation to the Root Zone.

## Includes:

- Submersible pump with 2 year manufacturer's warranty
- 25 Gallon Res
- Ebb and Flow Kit

## Turbogarden Ebb and Flow™ Components and Accessories

### Bare Bones Includes

- Ebb And Flow Kit
- Turbogarden Tray
- 25 Gallon Turbogarden Reservoir
- Vinyl Tubing Pump Feed
- Turbogarden Porthole Cover
- Pump

### Optional Parts

- 3 Chubby Super Sleeve
- pH Power High/Low™
- Nutrient Samples
- (14) 5" X 5" Square Pots
- Timer
- (14) Ready Grow™ Plugs
- pH Test Kit



**NOTE:** Systems come with some additional replacement parts.

1 Remove system components and accessories from inside the reservoir.

2 Place the tray on top of the reservoir. Install the vinyl-tubing pump feed onto the pump. Use the hose clamp on the pump feed to seal around the pump.



3 Position the pump underneath the barbed feed outlet; this is the right side fitting. Insert the top of the pump feed into the barbed end of the feed outlet. Tighten the remaining hose clamp on the tubing around the barbed connector.

4 Run the power cord out of the reservoir through the side where it is indented.



5 Slide the porthole cover into the slot on the reservoir.

6 Fill reservoir with water, and plug in pump to run a wet test. If there are no leaks your assembly is complete, you are now ready to begin growing.

## Important Pump Maintenance:

Your new system is equipped with a high quality submersible pump, however to insure pump longevity routine maintenance is required. The following maintenance procedures should be followed every 3 - 4 weeks, or if pump performance begins to decrease.

- 1 Disconnect the pump cord from the power outlet and remove from system.
- 2 Remove the main housing off the end of the pump, then rinse the debris out of the housing and prefilter.
- 3 Detach the impeller cover, and slide the impeller and shaft out of the pump.
- 4 At this time use a small brush to clean the impeller, shaft, and inside of the motor housing.  
\*\*Do not use any soaps or detergents while cleaning\*\*
- 5 Slide the shaft back into the motor housing and then install the impeller cover. Make sure that the impeller cover is completely attached.
- 6 Reattach the main housing and reconnect your pump to your system.

## Ebb and Flow Instructions

### If Using Rockwool:

- 1 Fill reservoir with purified water.
- 2 Add nutrients as recommended per label. For seedlings and transplants, use nutrients at quarter to half normal strength.
- 3 Test pH and adjust to a level of 5.8 - 6.2
- 4 Cut evenly spaced X's per rockwool slab, open up each X and place a rockwool propagation block in it.
- 5 Turn the pump on and fully saturate the rockwool slabs.
- 6 At this time you will need to Refill the reservoir with water and nutrients.
- 7 Test pH and adjust to a level of 5.8 - 6.2
- 8 Set the pump to water 2 - 5 times per day, 15 minutes to 30 minutes per watering.

### If Using Soilless Mix and Starter Plugs:

- 1 Fill reservoir with purified water.
- 2 Add nutrients as recommended per label. For seedlings and transplants, use nutrients at quarter to half normal strength.
- 3 Test pH and adjust to a level of 5.8 - 6.2
- 4 Fill pots with soilless mix, such as Ready Gro, and fully saturate with nutrient mix.
- 5 Plant starter cubes in the soilless mix.

- 6 Test pH and adjust to a level of 5.8 - 6.2
- 7 Set the pump to water 2 - 5 times per day, 15 minutes to 30 minutes per watering.

## Maintenance Procedures

- 1 Replenish water as needed. Add nutrients with additional water if you are using a TDS meter.
- 2 The reservoir needs to be changed periodically, change about every 7 to 21 days.
- 3 Follow nutrient label recommendations for nutrient strength at each growth stage.
- 4 Keep pH adjusted to a range of 5.8 - 6.2

## Congratulations!

You have purchased the latest in hydrogardening products from Botanicare. We are proud to offer the highest quality components and plastics to ensure years of successful gardening in the most innovative system ever.

For product support, call your retailer or contact Botanicare, toll free, 1-877-753-0404. Check out our website at [www.botanicare.com](http://www.botanicare.com) for a complete list of outstanding products, including the latest in international systems, plastics and plant nutrients.

Consult your local dealer for pricing, or visit us on the web for more information at [www.botanicare.com](http://www.botanicare.com)

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