

# Aquaponics Systems

# **System Model B**

# In the box:



System Tank/Base/Tower



Plant Grow Bed



Plant Grow Lid



Net Pots



Pump, Up-Tube & Elbow



Tank Gravel



Grow Media



Dechlorinator

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# **Getting Started**

### 1. Clean Everything

- Rinse and dry the System Tank, Plant Grow Bed, Plant Grow Lid, and Net Pots.
- Rinse the Gravel thoroughly. A strainer or colander works great for this. With the gravel in the strainer, rinse with water until the water runs clear.
- Rinse the Grow Media in the same manner as the Gravel. Rinse and agitate until the water runs clear.
- Rinse the Pump, Up-Tube, and Elbow. Remove the filter foam from the filter housing and rinse the filter foam.

# 2. Prepare the System Tank

- Choose where you would like to place your system. Try to avoid drafty areas. An area with some natural sunlight is ideal, but try to avoid areas with long periods of direct sunlight (this can lead to algae growth).
- Carefully add the cleaned and rinsed gravel to the fish tank area in an even layer across the bottom.

### 3. Prepare and Install the Pump

- Assemble the cleaned and rinsed Pump, foam filter, and Up-Tube. Don't put the Elbow on yet.
- Install the Pump assembly in the Tower, with the Up-Tube aligned with the small hole in the bottom of the Plant Grow Bed.
- Run the pump cord up and out of the Tower, making sure the cord exits the tower in one of the notches in the rear upper edge.
- DON'T PLUG IN THE PUMP YET. DON'T RUN THE PUMP WITHOUT WATER.

### 4. Add Water and Install the Plant Grow Bed and Lid

- Add water to about ½ inch below the top of the tank (about 5 gallons).
- Add 1 drop of D-Klor dechlorinator. This will neutralize any chlorine or chloramine that may be in the water. This
  is very important, since any living thing will be harmed by chlorine in the water. D-Klor is completely natural
  Vitamin C, and is harmless to fish, plants, nitrifying bacteria, and people.
- Place the Plant Grow Bed onto the top of the Tower, lining up the Up-Tube with the small hole in the bottom of the Plant Grow Bed.
- With the Plant Grow Bed in place on the Tower and the Pump Up-Tube through the small hole in the bottom, attach the Elbow to the Up-Tube, pointing away from the waterfall opening. This will insure good water circulation through the Plant Grow Bed.
- Place the Plant Grow Lid onto the top of the Plant Grow Bed.

You're Now Ready to Start Your System!

# **System Operation**

## 5. Plug Your Pump into a GFCI Protected Outlet

The pump output may be low at first, until the air in the foam filter is displaced. As the Plant Grow Bed fills, the water level in the tank will drop slightly. Let the system run and circulate water while preparing your plants and fish.

### 6. Choose Your Plants

You can start with seeds, but your system will be more successful if mature plants are replanted into the system. Most houseplants can be replanted and will thrive in the system. Ivy plants, flowering African Violets, Herbs, and many produce greens grow very well. Small plants and live herbs can be purchased very economically from the floral or produce departments of most grocery stores. Plants that require full sunlight should be avoided, as this level of sun exposure can lead to excess algae growth in the tank.

### Replanting Plants into Net Pots with Grow Media

- Add a layer of thoroughly rinsed Grow Media to the bottom of a Net Pot.
- Prepare a pot or bucket of room temperature water, large enough to rinse the roots of your plant.
- Remove your plant from its pot and gently clear away as much dirt as possible.
- Gently massage the roots under water in the pot or bucket to continue to remove dirt. Don't worry if you can't get it completely clean and dirt free.
- Set the cleaned roots into the Net Pot and add more Grow Media to fill the pot and support the plant. Try to keep the main root ball in the upper 2/3 of the Net Pot.
- Place the repotted plant into one of the openings in the Grow Bed Cover.

The special Grow Media will begin absorbing water immediately. It will stay damp and will provide as much moisture as the plant roots need. Within a few weeks, the plant will begin to extend its roots outside the net pot and into the Grow Bed.

### 7. Choose Your Fish

As your system establishes its own nitrifying bacteria, keep the fish load low. Start with a small goldfish or betta fish. Feed with just few food flakes or pellets each day (they don't need much). You can also add aquatic plants to your tank to enhance the environment and improve the biological diversity. Plants from the Anubias family are particularly well suited to your system.

Spend some time and be choosy when purchasing fish and aquatic plants. Watch the fish in the tank at the store and choose fish that are active and healthy. Make sure aquatic plants are clean, snail free, and have well developed roots. Choose a quality fish food, and remember to not feed too much!

When your nitrifying bacteria are established (after the first 4-5 weeks) and the ammonia level in your system is under control, you can introduce additional fish to your system. Keep water temperature in mind, most fish prefer water at about 75°F to 80°F. A 25 or 50 watt heater with a thermostat will do a great job of controlling the water temperature. Please see our web site for recommended heaters.

#### 8. System Maintenance

There is no such thing as a maintenance-free or self-cleaning aquaponics system! Proper system maintenance is not difficult or time consuming, but it is important and necessary.

### **Weekly Maintenance**

• Replace about 20% of the water. You can use a small siphon-type gravel cleaner to remove excess waste from the gravel. This will reduce the water level when used. While the water level is down, wipe the inside of the tank with a damp chemical-free cotton or microfiber towel. Add water to the proper level, using water at about the same temperature as the water in the tank. Be sure to add a drop of De-Klor to the water to neutralize any chlorine before adding it to the tank. If you aren't using a gravel cleaner, just scoop out about 20% of the water in the tank and replace it as above with clean water.

#### **Monthly Maintenance**

- Unplug the pump!
- Remove the Grow Bed Lid, Elbow, and Grow Bed. Rinse and clean the Plant Grow Bed.
- Remove the pump from the Tower. Disassemble the pump and up-tube. Rinse and clean the pump parts and foam filter.
- Replace about 20% of the water as described above in the Weekly Maintenance.
- Reassemble your system and plug the pump into a GFCI protected outlet.

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