

Thank You For Your Purchase



The following is an installation and operation
guide to help you get the most out of your
GAF Vertical Hydroponic System

Site Selection and Preparation

- ❧ Most plants require a lot of sunlight for quick, strong and healthy growth. Ensure that the area you select receives at least 6 to 8 hours of sunlight daily.
- ❧ For dirt surfaces, clear area of weeds then spread groundcover and secure with pins. (Groundcover is optional and helps control weeds and grasses growing around the stacks).
- ❧ For concrete surfaces, remove any debris and ensure a clear area for work.

Preparing Growing Media

- ❧ The growing media of choice for these systems is a mix of Cocopeat and Perlite.
- ❧ Firstly place 5 kg cocopeat block in large container, the block will expand to approximately 70 liters.
- ❧ Add about 10 gallons of water per block and allow cocopeat to expand and break apart.
- ❧ Add perlite to cocopeat. 7 liters to one block of cocopeat.
- ❧ Dissolve 100 grams of Calcium Nitrate per block and add to cocopeat.
- ❧ Mix well.

Dirt Install

- 🌱 Each stack will require:
 - 🌱 2.5 ft of 1/2 inch metal conduit.
 - 🌱 3/4 inch metal conduit cut to the appropriate length based on the number of Planters in the stack.
 - 🌱 1.5 ft of 2 inch pvc.
 - 🌱 3/4 inch pvc tee
 - 🌱 Base pot
 - 🌱 Top Pot
 - 🌱 Mr. Stacky Planters

Dirt Install

- 🌱 Step 1: Spread and secure ground cover (if being used).
- 🌱 Step 2: Drive 1/2 inch metal conduit 1.5 ft into the ground.
- 🌱 Step 3: Sleeve 3/4 inch metal conduit around half inch metal conduit and drive 1 ft into the ground.
- 🌱 Drill 1 inch or greater hole into base pot.
- 🌱 Slide base pot down metal conduit.
- 🌱 Slide 2 inch pvc over metal conduit to rest in base pot.
- 🌱 Fill Mr. Stacky Planters with prepared media. Slide planters over metal conduit and stack planters on each other.
- 🌱 Cut 1 inch or greater hole into top pot.
- 🌱 Slide top pot over metal conduit.
- 🌱 Place 3/4 inch tee on top of metal conduit.
- 🌱 Repeat for each stack.

Hard Surface Install

- ❧ Stands will be required for installation on hard surfaces. The stands will substitute the metal conduit required for dirt installs but all the other steps will remain the same.

Irrigation

- 🌱 Run the nutrient irrigation hose provided through all $\frac{3}{4}$ inch pvc tees.
- 🌱 Connect the nutrient hose to the pump. See steps below.
 - 🌱 Connect the “barb fitting” part of the flow control valve provided, to the end of the hose coming from the pump.
 - 🌱 Next connect a $\frac{1}{2}$ inch female adapter to the threaded part of the flow control valve.
 - 🌱 Connect $\frac{1}{2}$ inch pvc pipe from the female adapter to the discharge of the pump. Note that pvc pipe size and routing will vary based on type of reservoir and pump (external/submersible) used.

Irrigation

- ❧ Connect the endcap provided to the other end of the hose. Tightly secure to hose.
- ❧ Punch hole into nutrient hose over each stack. Use the punch tool provided.
- ❧ Insert nutrient drip line into hole and secure drip line to metal conduit using the round clip provided. This is called the top drip line.
- ❧ For stacks having more than 5 pots, a second drip line is required and will go the center of the stack. In this case, punch second hole into the nutrient hose and insert drip line. Position drip line to the center of the stack and secure.
- ❧ As a system test, the reservoir should be filled with sufficient water and the pump started. Check irrigation hose and pvc pipe for any leaks.

Timer

- 🌱 Plug in timer for 5 minutes.
- 🌱 Reset timer then follow instructions given in booklet to program your settings.
- 🌱 As a guide, you can use 8AM and 11:30AM for two minutes each.
- 🌱 The flow can be controlled using the valve going to the stacks so that at each watering only a few drops of nutrient solution fall from each stack.
- 🌱 Please test to ensure everything functions properly.
- 🌱 The timer should be protected from moisture.

Nutrient Reservoir and Pump








- ❧ The nutrient reservoir selected would be based on the size of the system. Most smaller systems would use a barrel or IBC tote with larger system using water tanks.
- ❧ The pump selected would be based on the system size and reservoir type. Set up diagrams are included.
 - ❧ Submersible pumps will be placed inside the reservoir and plumbed to irrigate the stacks.
 - ❧ External pumps will be placed outside the reservoir and plumbed to the tank to irrigate the stacks.

Mixing Nutrient Solution


- ❧ Specific directions will be provided based on the fertilizer provided, however the following steps should be followed in all cases.
- ❧ Using liquid concentrate:
 - ❧ Measure required amounts (2tsp per gallon of FINAL nutrient solution volume) of each part into SEPARATE buckets.
 - ❧ Fill buckets with water to dilute each part.
 - ❧ Fill reservoir half way with water.
 - ❧ Add both parts to reservoir.
 - ❧ Using TDS meter measure TDS and add plain water until the TDS drops to 1200 ppm plus the TDS of your tap water
 - ❧ pH should be adjusted to 5.8-6.2 using phosphoric acid if necessary. Solution should be given a few hours for pH to stabilize before testing and adjusting.

Mixing Nutrient Solution

Using Dry Salts

-  Measure required amounts of each part.
-  Dissolve NPK and Magnesium Sulphate together in bucket filled with water
-  Dissolve Calcium Nitrate in a SEPARATE bucket filled with water.
-  Fill reservoir half way with water.
-  Add both parts to reservoir.
-  Using the TDS meter measure TDS of the nutrient solution and add plain water until the TDS drops to 1200 ppm plus the TDS of your tap water.
-  pH should be adjusted to 5.8-6.2 using phosphoric acid if necessary. Solution should be given a few hours for pH to stabilize before testing and adjusting.

pH and TDS meter

-  Please follow all instructions provided with these meters to ensure accurate readings and longevity.

Start Growing UP!!

- 🌱 Now it's time to start adding your plants.
- 🌱 You can use seedlings from an Agri shop or start your own from seed.
- 🌱 If growing from seed start them in a seedling tray using the cocopeat/perlite mix and nutrient solution.



ENJOY!!

We hope that you enjoy using this sustainable form of agriculture and please feel free to contact us for any further help you may need.

GREEN AGE FARMS LTD