Instruction Manual

AirCube

ACTIVE OXYGEN GROW SYSTEM

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Congratulations on the purchase of the AirCube Active Oxygen Grow System. The AirCube system is the one and only Ebb & Flow grow system on the market that combines the benefits of air pruning with a fully automated Ebb+Flow system!

With the AirCube's proprietary fabric pot in bucket design, this system is guaranteed to outgrow any other Ebb + Flow system on the market. The results speak for themselves -grow MASSIVE roots that result in MASSIVE fruits!

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PARTS AND COMPONENTS LIST

1 - AirCube Advanced Brain Controller

1 x 7- Gallon
Advanced Brain Controller

7 x ¾ Straight Connector

4 x ¾ Stopper

7 x ¾ Rubber Grommet

1 x 15′ Length Tubing

1 x Vacuum Break
Barbed Elbow

1 x Tubing Puncture Tool

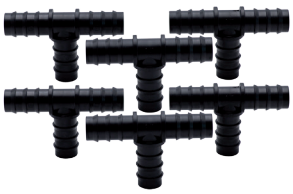
2 x 317 GPH Water Pump

2 - AirCube Active Oxygen 6 Bucket System

6 x 5-Gallon Active Oxygen Grow Buckets

6 x Air Pruning Fabric Pots

6 x ¾ Rubber Grommets



6 x ¾ T Connectors

2 x ¾ Elbow Connectors

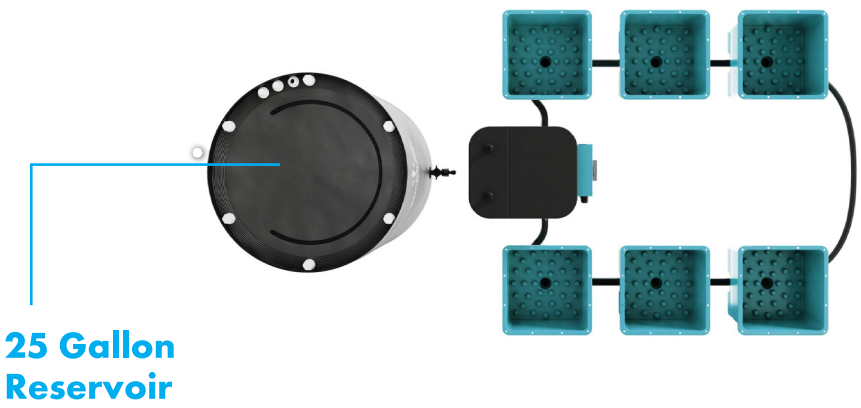
1 x 25′ Length Tubing

3 - AirCube Collapsible Reservoir

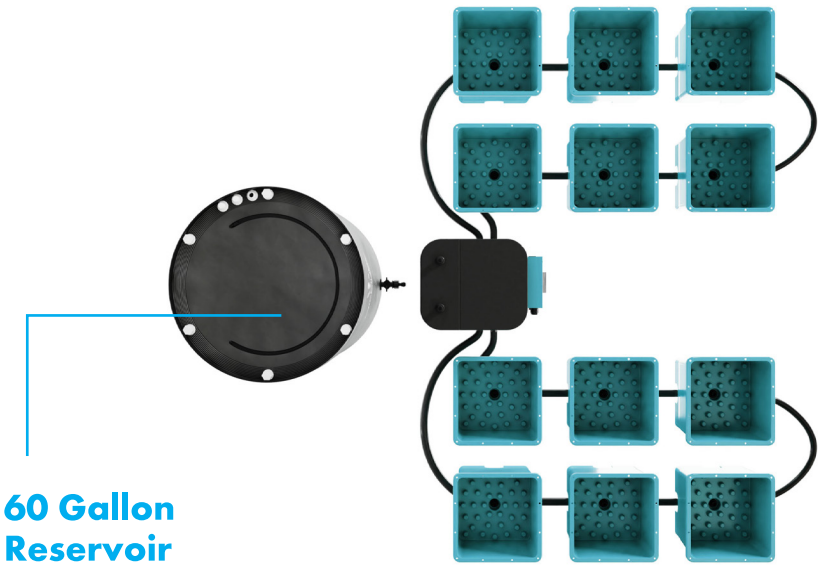
1 x AirCube Collapsible Reservoir 25 Gallon
(Optional: 60 Gallon and 105 Gallon Reservoir Upgrade)

SYSTEM EXPANDABILITY OPTIONS

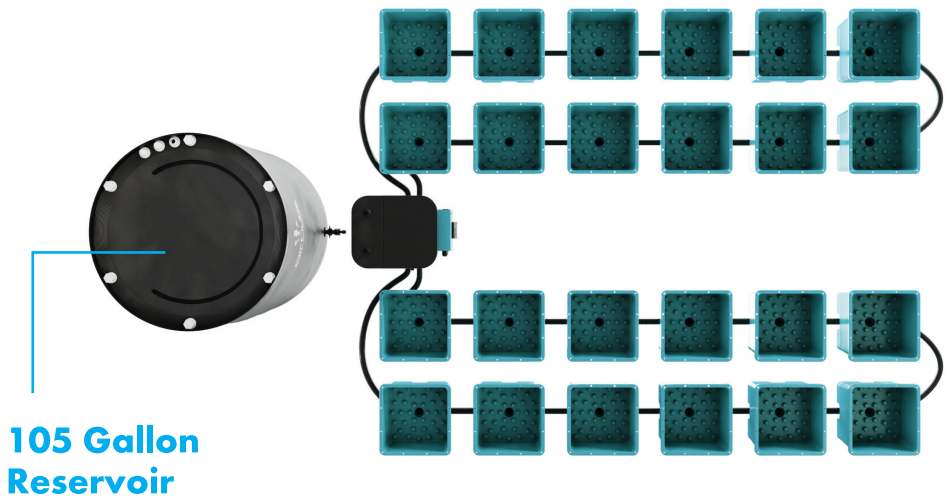
6 - Bucket System



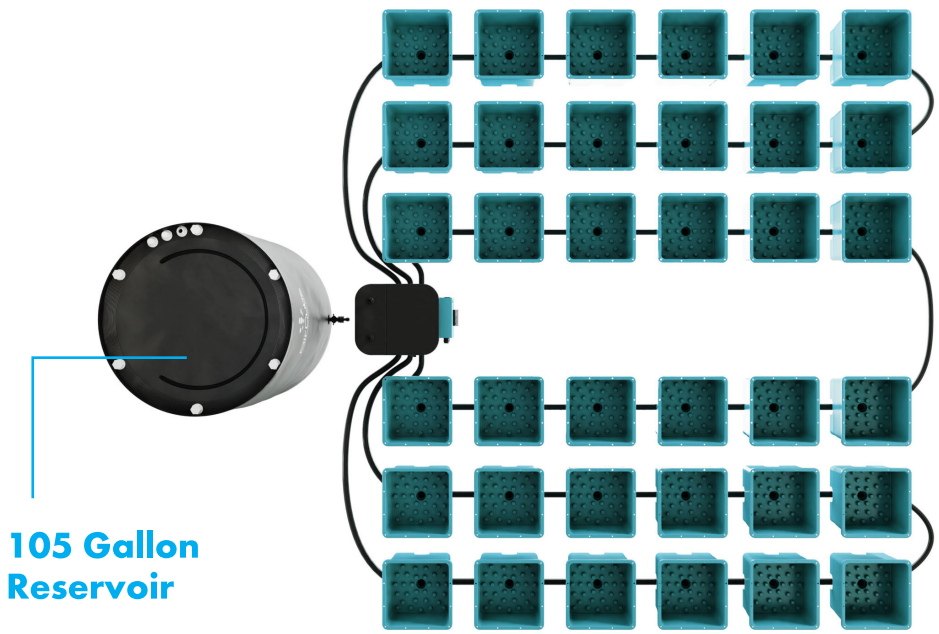
12 - Bucket System



24 - Bucket System



36 - Bucket System



SET-UP OF AIRCUBE ACTIVE OXYGEN GROW SYSTEM

Step 1: Set up Reservoir

Place the AirCube Advanced Brain Controller in front of the reservoir with the timer facing away from the reservoir.

Measure and cut tubing to reach from the top of the AirCube Advanced Brain Controller to the bottom of the inside of the reservoir.

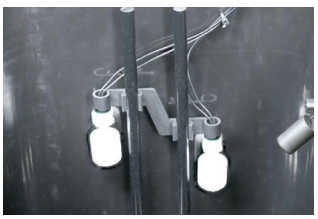
Assign one of the water pumps as a "Fill Pump", and place it at the bottom of the reservoir. Connect one end of the tubing to the Fill Pump.

Use the Tubing Puncture Tool to make a small hole in the tubing that is inside of the reservoir. Punture the tubing near the highest point of the tubing where tubing enters the reservoir.

Insert the Vacuum Break Barbed Elbow into the hole with the valve facing downward towards the reservoir to prevent water from siphoning.

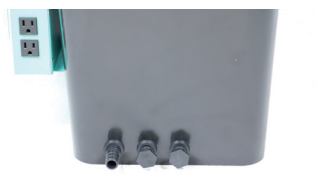
Plug the Fill Pump into the outlet on the side of the AirCube Advanced Brain Controller labeled "Fill Pump".

Step 2: Set up AirCube Advanced Brain Controller



There are 2 upper water level float valves that are on an adjustable mount so the water levels can be adjusted. Adjust float valves to preferred level. Ensure that the float valve does not exceed the height of the top of any buckets. Ensure the float valves are pointed in the downward direction as shown in the photo.

Insert grommets into the 6 holes on the bottom of the AirCube Advanced Brain Controller.



Insert 2 straight connectors into the front 2 grommets on the bottom of the AirCube Advanced Brain Controller. Make sure they are inserted all the way into the grommet. Insert 4 stoppers into the rear 4 grommets. These can be removed to add additional AirCube Active Oxygen Grow Buckets.

Insert grommet into the left side hole of the AirCube Advanced Brain Controller Lid

Insert a straight connector into the grommet on the left side hole of the AirCube Advanced Brain Controller Lid

Place one water pump, “Drain Pump,” on the inside bottom of the AirCube Advanced Brain Controller.

Measure and cut tubing to reach from the bottom of the reservoir to the Drain Pump. Place one end of the tubing inside the reservoir, stick the other end of the tubing through the empty right side hole on top of the AirCube Advanced Brain Controller and connect it to the Drain Pump.

Plug Drain Pump into the outlet on the side of the AirCube Advanced Brain Controller labeled “Drain Pump.”

Plug the tubing connected to the Fill Pump, in step 1, into the straight connector on the left side hole on top of the AirCube Advanced Brain Controller lid.

Step 3: Set up Buckets

Insert grommets into the bottom of each bucket.

Insert T Connectors into the grommets on the bottom of each bucket.
Set up your bucket configuration.
Cut the tubing into 6 x 2-ft pieces and a 1 x 3-ft piece

Connect buckets to one another using the tubing. It is recommended to create a complete loop, with the 3-ft tubing as the connector to the row ends. However, if your bucket configuration does not allow for a full loop the 90 degree Elbow Connectors can be used for each row end.

Connect the tubing ends to the first 2 straight connectors on the side of the AirCube Advanced Brain Controller.

Step 4. Configure Timer on AirCube Advanced Brain Controller

There are 2 settings on the AirCube Advanced Brain Controller Timer automatic watering and manual watering.

Automatic watering

Automatic watering is the preferred setting for most growers. Each pin equals 15 minutes of watering time. Turn the adjustable clock to set the current time by aligning the black arrow with the current time. Determine how many 15 minute intervals you want to have the water fill the buckets. Push the white pins outwards for periods which you would like the water to fill. Outward pins are for fill cycles while inward pins are for drain cycles.

Manual Watering

The red switch is manual watering. Flip the switch up to turn on the Fill Pump. It will fill until it reaches the float valve then turns off. Flip the switch down to turn on the Drain Pump and flush out the water.

SUGGESTED WATERING SCHEDULE

	Factors that affect fill and drain times
Plant Size	The larger your plants, the more times you need to fill and drain them.
Light	Consider the strength, proximity, and duration of light; the stronger, closer and longer the light source, the more times you need to fill and drain your plants.
Temperature	Seasonal variations in temperature affect the speed of water evaporation, adjust the fill and drain times accordingly.
Humidity	Fill and drain your plants more often when the air is drier.
Grow Medium	Several varieties of grow medium can be used in the grow system, however, water and retention rates may vary.
Size of System	The more AirCube Active Oxygen Grow Buckets, the longer it takes to fill and drain, therefore, the less often you have to fill and drain.
Type of Plants	Some plants need to be watered more often than others, learn about your plants to suit their watering preference. If using a variety of plants, adjust the fill and drain times to suit the best for all the plants.

The following are suggested watering times and meant to be used as a starting point. It is recommended that you monitor your plants to determine the optimum watering times for your grow.

Clay Pebbles drain out quickly so you will need to fill and drain your system 4 to 8 times a day. About every 2 to 4 hours.

Rockwool holds moisture efficiently so you will only need to fill and drain your system 1 to 5 times a day.

Coconut Coir retains water moderately so you will need to fill and drain your system 3 to 5 times a day. About every 3 to 5 hours.

Soil has a high water retention rate so you only need to fill and drain your system every 2-4 days. It is recommended to use the manual watering feature, fill and drain your system every couple days as needed.

How to tell if you have your flood intervals right?

If between flood cycles, you see that your plants are wilting, you need to increase the frequency of your watering cycles.

Monitor your growing medium for signs of drying out or overly wet conditions. If you see that your grow medium is still very wet right before the next watering cycle, you are watering your plants too often. On the other hand, if between watering cycles, your grow medium is extremely dry, you need to water you plants more frequently.

If your plants appear droopy between watering cycles, but noticeably 'perk up' immediately after a watering cycle, you will need to increase the frequency of your watering.

ADDITIONAL INFORMATION

1. DO NOT remove fabric pots during the "Fill" cycle, as flooding will occur.
2. DO NOT fill fabric pots with grow medium or add plants while the fabric pot is inside the grow bucket. Grow medium may spill into buckets and clog tubing.
3. DO NOT attempt to service the AirCube Advanced Brain Controller, there are no serviceable parts. If the AirCube Advanced Brain Controller is not working properly, call toll free at (888) 621-0062.
4. DO NOT top off water into the reservoir during the fill cycle. Overflow will occur after the water is pumped back during the drain cycle.
5. Using a small amount of soap or vegetable oil will ease tubing and grommet insertions.
6. Set up the reservoir, controller, and buckets all on the same flat surface.
7. Always place fabric pots with plants into grow buckets to prevent spilling of medium into buckets.
8. Manually soak each pot to prevent floating during the first fill cycle.
9. Make sure to check your power source for proper voltage prior to plugging in your AirCube Advanced Brain Controller.
10. Make sure all tubing is securely connected to connector tees and elbows past the barbs to prevent leaks.
11. Allow the pumps to release air built up prior to using the first time.
12. Tie cords inside the AirCube Advanced Brain Controller to prevent blocking of sensors.
13. Drain and flush system every 2 weeks for best results.
14. Change the nutrient solution in the reservoir every 7-10 days.
15. Check for obstructions in tubing if buckets are not filling all the way.

FREQUENTLY ASKED QUESTIONS

Question: How long should the system stay filled?
Answer: *Allow just enough time for the buckets to fill completely before draining.*

Question: When should I fill the reservoir?
Answer: *Top off the reservoir as much as possible. The nutrients will become too concentrated if the water level falls below. Wait 30 minutes after the latest drain cycle to fill the reservoir. Overflow can occur if you fill the reservoir during the drain cycle.*

Question: When should I add nutrients?
Answer: *Add nutrients every time you fill the reservoir.*

Question: Should I check and adjust the pH level?
Answer: *Check the pH level every day. The pH should stay close to 6.3.*

Question: Should I drain and flush the system?
Answer: *Yes you should drain the system and replace the nutrients every 2 weeks. Do this by filling the reservoir half way with water, fill the buckets, then drain the water back out and discard the water in the reservoir.*

Question: Do I need a larger AirCube Advanced Brain Controller if I add more buckets?
Answer: *No, the same AirCube Advanced Brain Controller can be used for up to 36 buckets.*

Question: Can I add more than 36 buckets?
Answer: *Yes but it is not recommended. It will take too long to fill and drain the buckets. The longer the plants are submerged, the less oxygen the roots get which slows down the plant's growth.*
Run an additional AirCube Advanced Brain Controller if you need to add more than 36 buckets.

Question: What size plants can I grow?
Answer: *Without a support system up to 5 feet is the limit. A trellis will increase the size minimum indefinitely.*

Question: Can I grow different types of plants in the same system?
Answer: *Yes but you may have to adjust the watering times to reach a compromise to suit all the different types of plants.*

TROUBLESHOOTING GUIDE

Problem		Check
Controller does not power on	**1**	Check the fuse located at the bottom side of the AirCube Advanced Brain Controller. Inspect the fuse to make sure it is not broken or burned. If the fuse is damaged, please contact us for a replacement.
	2	If the fuse housing is spinning when trying to remove the cover, this means a wire has been disconnected internally. Please contact us.
Fill pump does not work	**1**	Check the pump by plugging it directly into a working outlet to see if it powers on. If the pump does not power on, please contact us.
	2	Ensure the two white float valves located at the front of the controller are in the correct position.Floats should be facing down towards the bottom of the bucket.
Drain pump does not work	**1**	Check the pump by plugging it directly into a working outlet to see if it powers on. If the pump does not power on, please contact us.
	2	Ensure the two black float valves located at the bottom of the controller bucket are in the correct position. The float arms should be able to point up towards the top of the bucket at a 45-degree angle.
Switch error light	**1**	If the switch error is constantly on, check all of the float valves are freely able to toggle up and down. Check that the black float valve at the very top of the AirCube Advanced Brain Controller is in the down position, it should not be pointing up.

TROUBLESHOOTING GUIDE

Problem		Check
Drain pump is turning on and off every few seconds	1	Check to see if water is siphoning into the controller from the reservoir after the drain pump turns off. To correct this, ensure that the controller is positioned level with the reservoir. Also, make sure the tubing for the drain pump is not excessively long. You may have to move your reservoir closer to your controller and shorten your tube length. Alternatively, if you need the reservoir to be located further from the AirCube Advanced Brain Controller, you may add the AirCube Flow Restrictor Valve to the end of the tubing, close to the drain pump. The AirCube Flow Restrictor Valve is available for purchase at GrowAce.com, SKU: AC-FLWREST
The grow buckets are overflowing	1	Make sure the grow buckets, controller, and reservoir are on the same flat-level surface, no part should be positioned higher than another. Double check the positioning of the two white floats on the inside front of the AirCube Advanced Brain Controller and adjust accordingly. Make sure the vacuum break is installed correctly as shown on page 8 of this manual.
The fittings are leaking	1	Make sure that all washers and rubber grommets are installed correctly and fully seated into place. Double check that the connectors are tight and barbed fittings are seated past the last barb. If you have trouble pushing the fittings through the rubber grommets, you can use rubbing alcohol or water to lubricate the fitting.

WARRANTY

Limited Warranty

AirCube warrants to the customer that its products will be free from defects in material and workmanship under normal use and service for a period of 1 year from purchase date.

We will replace or repair any part of the AirCube Active Oxygen Grow System that we find to be defective in operation due to faulty materials or workmanship within one year of the date of original purchase. Consumable items such as Fabric Pots are not covered under the 1 year limited warranty. Once the warranty period has ended, parts will be available at market price.

General Conditions

AirCube's obligation to the customer under these warranties shall be limited, at its option, to replacement or repair of items covered by these warranties. Prior to return or repair of covered Items, the customer must obtain a return goods authorization number and return the item freight prepaid at the customer's expense. The AirCube warranty is facilitated by GrowAce. To obtain a return goods authorization, please contact GrowAce via email at **support@growace.com** or by calling 1-888-621-0062.

Any covered item repaired or replaced under these warranties will be returned prepaid standard freight to the original point of shipment. Customers residing in Hawaii, Alaska, Puerto Rico, and internationally are responsible for both inbound and outbound shipping costs and possible custom fees, duties, and any other destination charges, etc.

WARRANTY

Water damage to any electrical components are not covered by this warranty. Damage to any part of this system because of misuse, misapplication, negligence, alteration, accident, installation, or operation contrary to our instructions, incompatibility with accessories not installed by AirCube, or damage caused by freezing, flood, fire, or Acts of God are not covered by this warranty. In all such cases, regular charges will apply. This limited warranty does not include service to diagnose a claimed malfunction in this unit. This warranty is void if the claimer is not the original purchaser of the unit or if the unit is not operated under normal conditions.

We assume no warranty liability in connection with this system other than that specified herein. This warranty is in lieu of all other warranties, expressed or implied, including warranties of fitness for a particular purpose. AirCube's liability hereunder shall not exceed the cost of the product. Under no circumstances will APEC be liable for any incidental or consequential damages or for any other loss, damage or expense of any kind, including loss of use, arising in connection with the installation or use or inability to use the covered items. These warranties are governed by the laws of the state of California and may change at any time without notice.

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