



CUSTOM CULTIVATIONS

– INDOOR GARDENS –

Indoor Garden User Manual

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Garden Assembly

Our garden is easy to unbox and install and can be assembled by two people in under 30 minutes!

Make sure that the area the garden will be placed is flat and level. It's a good idea to place the garden in a well ventilated area of your home, preferably out of any extreme direct sunlight!

Structure

The garden is quick to assemble with just 12 bolts to tighten. You will need a 1/2" wrench or ratchet for assembly. Make sure not to overtighten any bolts!

If you are installing wheels onto your garden it will be your first step.

1. Turn the toe kick upside down and attach each wheel using two 1" 5/16" bolts.



2. Attach the Legs to the toe kick using three 2" 5/16" bolts. Once both Legs are attached, it's time to attach the arms to the legs. The arms will hold the grow shelves upright.



3. The Arms attach to the Legs using two bolts 2" 5/16" bolts .



4. Place the grow shelves into the slots on the arm, the shelf should rest within the four posts on the rear on the arm, this is where having two people comes in handy!

5. Lastly place the cabinet onto the toe kick and align the back of the cabinet to the rear of the toe kick.



Plumbing

Now you can place the plastic growing trays into the grow shelves, and connect the plumbing.

When connecting plumbing, the general process is to push the white tubing into the quick connection fitting. Practice disconnecting/connecting the tube to the fitting to get familiar with the feeling of a successful connection.

1. Attach the tubing from each Leg into the Cabinet. The left Leg plumbing connects to the fill port and the right Leg attaches to the drain port under each grow tray

Each plastic grow tray has a fill port (left) and a drain port (right). Inside the grow tray the fill port uses a T fitting to distribute water and the drain port uses a funnel to drain water out while avoiding clogs from roots.

2. The fill tubing under each grow shelf has an on/off valve. Use this valve to regulate flow of water into the shelf. Under normal operation this valve should be open.

3. Place your white grow lids into the lid of the plastic grow trays, orientating the access port to the right of the tray. *Make sure you have connected your fill T fitting and funnel*

Electrical

Inside the cabinet on the left side is where the power strip for the garden is located. It powers the Lighting System and the Control Box as well as other 120v accessories you may add such as a UV light.

1. Run the power cord for the power strip out of the hole on the back of the cabinet and connect it to a wall outlet.

2. Attach each lighting controller to the right rear side of the grow shelves using the velcro strips. *Lighting Controllers attach to the LED grow lights and allow users to dim the brightness up and down.*

3. Run the jumper cable for the lighting system out of the same hole on the back of the cabinet. This will be connected to the A wire and then connected to the lower black lighting controller.

Connect the lower shelf LEDs to the lower lighting controller, make sure to plug into the two ports on the bottom of the controller labeled Lights. *Don't plug it into the fan port, it will be full blast brightness all the time.*

4. Connect the upper lighting controller using the B wire. Connect the middle LEDs to the lighting controller.

5. Now it's time to set up the top level LEDs. Attach the three metal rods into the clips on the rear of the upper grow shelf, these clips will allow the rods to slide up and down, adjusting the height of your lights as needed.

Each rod will have 2 LED holding clips. Slide these clips onto the rods, then slide the LEDs into the clips, one at a time.

Connect the upper LEDs to the middle lighting controller.

6. Go ahead and test out your lights. This would be a good time to set up your timer for the lights. The provided timer is very reliable and easy to use, but you can use any timer or smart home controller device to regulate your lighting cycle. *The plants grow best with at least 16 hours of light a day.*

Control Box Functions

The Control Box is where your pumps and sensors will be plugged in, and where the nutrient dosing pumps are located, it's the computer system that makes your garden so easy to use!

Once your pumps and sensors are correctly plugged in you won't have to interact with the Control Box unless you want to! Even so, it's smart to familiarize yourself with its capabilities.

Additionally, if you are a plant nerd or tech geek like us :) we have developed an android and iOS app where you can connect to the Control Box and "get under the hood" and change functions such as the nutrient recipe concentration, circulation pump run times, and adjust brightness of the water level indicator (*yes we thought of that*). Search Custom Cultivations in the google play or app store to download.



Functions

On/Off Button (A) - This is the main power switch for the garden, and where the power cord is connected. The switch should be on and illuminated during normal usage.

Refill (B) - This is where the Refill pump will plug into the Control Box. The switch above the outlet manually turns on the pump. The switch should be off during normal usage.

When would I use the switch?

You would only use this switch when you want to drain the Refill Tank, or manually add water to the Flow Tank.

Flow (C) - This is where the Flow pump will plug into the Control Box. The switch above the outlet manually turns on the pump. The switch should be off during normal usage.

When would I use the switch?

You would use this switch to manually move water from the Flow Tank up into the grow shelves. This is helpful during the initial fill up, otherwise you will have to wait for the timer to automatically kick on to move the water up (turns on every 10 minutes for 1 minute, adjustable via App).

Additionally you can use this switch to drain the garden out of the Flow Tank using the Drain Line, located inside the cabinet on the upper right hand side. See **Draining** page ___

Sensor (D) - This is where you plug in the water level sensor. The sensor is located on top of the Refill tank, resting with the sensor facing down into the two holes. *The sensor is important, refills will not be initiated if the sensor is not plugged in or not attached to the refill tank correctly.*

Display (E) - This is where you plug in the water level display. This is the LED light display on the front left of your Indoor Garden's cabinet. This indicates how much water is in your Refill tank which correlates to how much water is in your garden all together.

It acts on a scale of 1-10, with 1 meaning "empty" and 10 meaning "full." It is important to make sure that your LED indicator is somewhere between 1-10 at all times so your garden can function at its full potential. Make sure to NEVER overfill, the LED indicator will flash red if this is the case.

Flow Sensor (F) - This is where you plug the Flow Sensor into. The Flow Sensor is located inside the Flow tank and is how we know how much water is in the garden, and when it needs a refill. Its basic operating principle is that if there is water in the Refill tank, and the Flow Sensor is reading low, then the garden will initiate a refill cycle, adding in fresh water and a portion of nutrients, until the Flow Sensor is reading high.

It's important that nothing is blocking the flow sensor from moving with the water level. Additionally if the flow switch is not plugged in the garden will not refill when low and the water level display will display red.

Doser Switch (G) - This switch turns the dosing pumps on or off. This switch should be On during normal usage.

When would I use the switch?

When draining the garden it is important to turn the dosing switch OFF, or else when the Flow Sensor reads low, the garden will begin adding nutrients back into the flow tank!

Dosing Pumps (H) -These pumps add nutrients into your garden with every refill cycle. Additionally the cleaner pump operates on a daily timer, adding in a small amount of cleaner (hydrogen peroxide) into the flow tank, keeping the water nice and clean.

Dosing Buttons (I) - These buttons manually turn on the dosing pumps below them. This is useful for manual dosing of nutrients, priming the lines, and general testing of the pumps.

Filling with Water

First Time Fill-Up

To begin this process, make sure the Control Box is switched OFF. Then flip open the fill port located on the top left-hand of the cabinet. We recommend using a hose or bucket and filling the reservoir up about 3/4 full for this initial fill up.

Once you have completed this step, it's time to double check your connections to the Controller! The garden utilizes two pumps, the Flow Pump (inside small reservoir) and the Refill Pump (inside large clear reservoir), make sure their power cords are plugged into the corresponding outlet on the Control Box. Double check that the 3 sensor plugs are correctly connected to the Control Box. The dosing switch should be in the ON position. *If in the OFF position, no nutrients will be added in during the refill process.*

After this, you can turn on the Controller by flipping the red switch to the ON state. If the flow tank is empty it will trigger a refill of water from your fresh water reservoir, as well as nutrients being added into the system.

The Flow Pump automatically turns on for 1 minute every 10 minutes, so it may take 30-45 minutes for the system to fill itself up. There is also a switch above the Flow Pump outlet where you can manually turn on the Flow Pump, this is useful for filling your garden up quickly, and utilizing the front drain function. Do **NOT** leave the Flow Pump switched ON for extended periods of time when your system is full, this could easily overflow your trays!

Don't forget to start the flow of water to the Grow Shelves by turning the blue valve under the left side of the tray!

A good way to know when your system is full is by checking the access port located on the right-hand side of the white Grow Lid. Open this up and see if water has begun to spill down the funnel and drain. Your indoor

garden has completed filling itself up when both Grow Shelves are draining through the funnel.

Starting Seeds

To begin this process, make sure you have all the necessary means and materials. These include:

- Rockwool (we recommend [Grodan](#))
- Seeds of choice (we recommend [Johnny's Seeds](#)).
- 10" x 20" grow tray
- Humidity dome
- Access to a sink
- Toothpick (optional)

Here's an [Amazon link](#) to garden consumables like germination domes and rockwool cubes.

Now that you have everything you need, start by determining how many seeds you want to germinate for your garden and pick apart that number of rockwool cubes from your rockwool slab.

Once you've thought that through, go ahead and soak your rockwool cubes. To do this, place your rockwool cubes into your 10" x 20" grow tray and run water over them in the sink for a couple minutes. Make sure your rockwool is thoroughly soaked. Make sure to pour out excess water from the grow tray after the rockwool has soaked.

Now that you've soaked your rockwool, place it into your 10" x 20" grow tray if you haven't yet. You'll notice each individual rockwool cube has an indentation/hole on the top. These are where the seeds go! Sometimes these holes might not be too easy to see, that's where a toothpick or something similar comes in handy. You can use the toothpick to find the small hole in the rockwool.

Go ahead and place your seeds into the small holes on the rockwool cubes (one seed per hole, with the exception of chives and other crops where you may want 2-3 seeds in one hole). You can use the toothpick again to make sure the seed is inside of the hole on the rockwool cube.

After you have finished placing all of your seeds in the rockwool, place the humidity dome on top of your 10" x 20" grow tray and place the tray in the Propagation & Micro-green area in your Indoor Garden.

The seeds typically take about 2 weeks before they're ready to be transferred into the garden.

Tip: Label the seeds you just germinated if you don't want to forget what it is!

Transplanting Seedlings

Seeds take about 2 weeks until they're ready to be transplanted into the Grow Shelf. A good way to tell if the plants are ready to be transferred is to one, pick up the rockwool cubes and look underneath for any root growth, and two, make sure the plant has sprouted!! If it's been 2 weeks and you don't see roots on the bottom of the rockwool, go ahead and transplant anyways.

Here's an [Amazon link](#) to garden consumables like germination domes and rockwool cubes.

Now let's talk about the action of transplanting your seeds to the Grow Shelf. To begin this process you will need:

- Seedlings in rockwool cubes
- Twist Cups

Start by grabbing one Twist Cup and one germinated rockwool cube. Place the rockwool cube into the Twist Cup and make sure the rockwool is touching the bottom of the Twist Cup.

Once you've placed the rockwool cube into the Twist Cup, pick an empty grow space in your Indoor Garden and place the Twist Cup in the slot and twist to lock it in place!

Pro Tip: Be gentle when placing and twisting the Twist Cup into its slot. If it isn't twisting with ease, you may be gripping too hard.

All you have to do now is wait and watch your plants thrive, then harvest when ready!

How to Harvest

This is the fun part! There are a few ways you can go about harvesting your crops and this depends on the crop variety and personal preference.

One way you can harvest is by picking leaves from the base of the crop and allowing it to continually regrow. This is a good method if you want to make a quick salad, sandwich, etc.

Another way you can harvest is by removing the entire crop from the system. This is a good method if you're ready to get the plant out of your garden, or share it with your neighbors.

Maintenance and Cleaning

Maintenance

There are a few things to keep in mind and maintain when your Indoor Garden is in operation.

There is a blue LED light bar on the front of your Indoor Garden's cabinet, this is your water level indicator. This indicates how much water is in your Refill tank which correlates to how much water is in your garden all together.

It acts on a scale of 1-10, with 1 meaning "empty" and 10 meaning "full." It is important to make sure that your LED indicator is somewhere between 1-10 at all times so your garden can function at its full potential. Make sure to NEVER overfill, the LED indicator will flash red if this is the case.

With the LED water level indicator being on the front of the cabinet, it is good practice to give it a glance any time you walk by to check on the garden's water level, and act accordingly.

Another thing to check when your Indoor Garden is in operation are the drain funnels inside each of the grow trays. This is where the water drains back into the Flow Tank.

It is important to make sure that roots or other debris do not creep into these funnels causing a clog. This can happen when the plants become mature and large. A good practice is to open your port cover and take a look at the drain funnel to make sure there is no debris that could potentially cause a clog.

If one of your drains is clogged, there are a few measures you can take to fix this.

Make sure that you have gotten all the visible debris out from the drain funnel. If this did not help the issue, it may be because some debris has made its way down the plumbing line. Make sure the water level is **BELOW** the funnel and disconnect the drain plumbing directly underneath the grow tray and inspect the inside of the tubing, run some water through the disconnected plumbing to push out anything that may be inside of it. Once you have found the clog, go ahead and reattach the drain plumbing, turn the flow pump back on, and make sure the drain is functioning properly.

Cleaning

Keeping your Indoor Garden clean is important for the plant's health and the functionality of the garden.

Within the dosing system, there is a Cleaner that is dosed once a day to help with algae growth and removing potential bacteria. But giving your garden a deep clean after a few grow cycles is a smart and necessary task.

Draining

The first step when cleaning your garden is to completely drain your garden. To do this, close both of your fill valves underneath each grow tray, then open the cabinet and find the Control box. Inside the cabinet you will find the labeled drain line; tubing with a valve on the end. Place a bucket underneath the valve since this is where water will be pumped out of the garden. After that, go ahead and open the valve, turn the doser OFF, and the flow pump ON. Lastly, take out both of your drain funnels so each tray can drain completely. Right when you turn the flow pump ON, water will start to pour into the bucket. Keep doing this until the entire garden is empty. Once the garden is empty, turn OFF the flow pump.

Once you have drained your Indoor Garden, you can now begin cleaning each of your grow trays. Since the trays are empty, you can disconnect the

plumbing to take out the trays completely. It is up to you how you want to clean the tray, but we recommend using water, an all purpose cleaner, and a scrubbing device. Make sure you rinse each tray with water after cleaning the tray. After you have cleaned the grow trays, give your flow tank and pump and rinse and scrub as well.

After you have given the garden a good clean, you can put the grow trays back in the garden and reconnect the plumbing. Once you have done this, fill your garden back up, turn the doser back ON, and let the system do its thing!