PLANTALYTIX

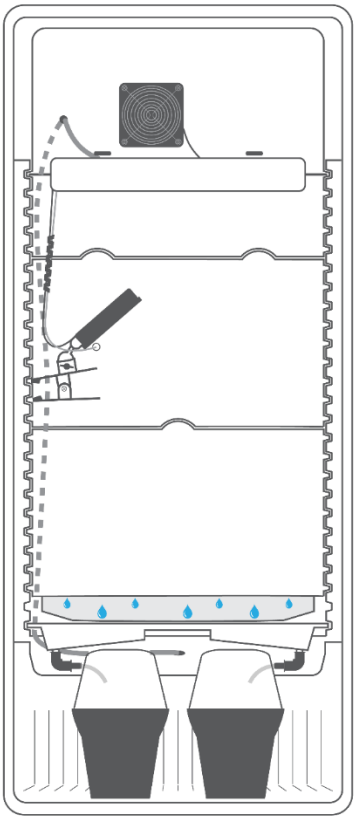
Fridge Grow 2.0

Quickguide V1.3

This Quick Guide does not replace the user manuals and instructions. However, these must be read and adhered to without fail. All documents and instructions can be found on our website. The Quick Guide contains no safety instructions and serves only as a brief guide. The safety instructions must be read and followed without fail.

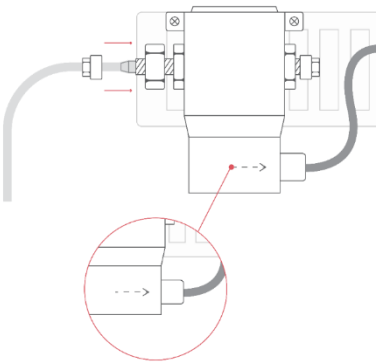
1 Assembly and Putting Together

The following instructions explain the individual steps for properly using and installing the accessories and the Fridge Grow Module in the plant cultivator (fridge). Please read the safety instructions carefully beforehand. In case of uncertainties, contact our support via support ticket.

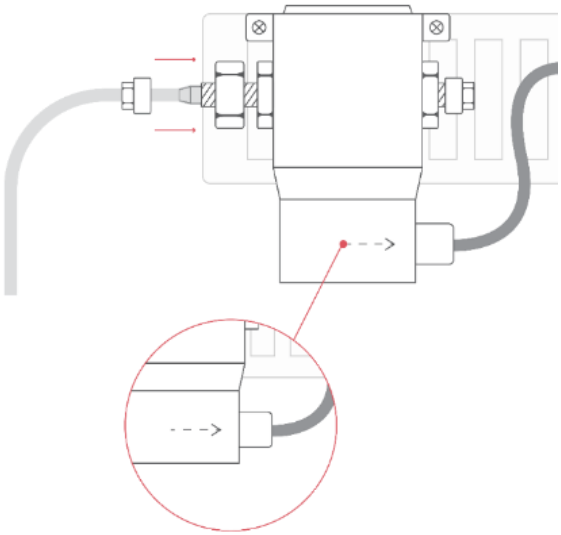


1.1 CO2 Hose

Before installing the Fridge Grow Module (FG Module), it is recommended to attach the CO2 hose. Remove the screw of the CO2 valve on the back of the insert and put it over the transparent CO2 hose.



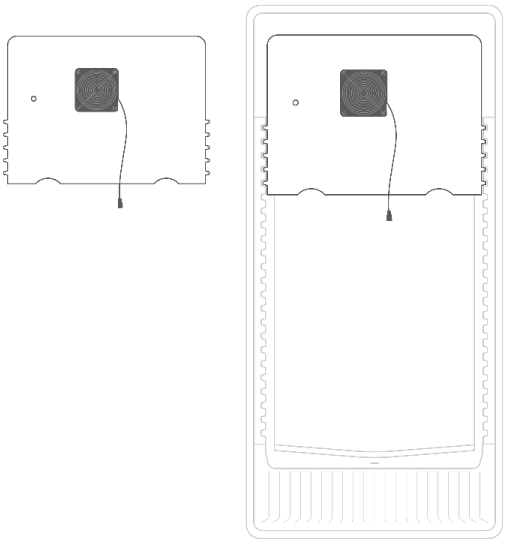
ATTENTION: Pay attention to the arrow direction. The hose is attached to the side where the arrow points away, i.e., on the side without the arrowhead. Push the hose onto the CO2 valve, then push the screw forward to the thread and tighten it well. The second side, the outlet side, does not need a hose.



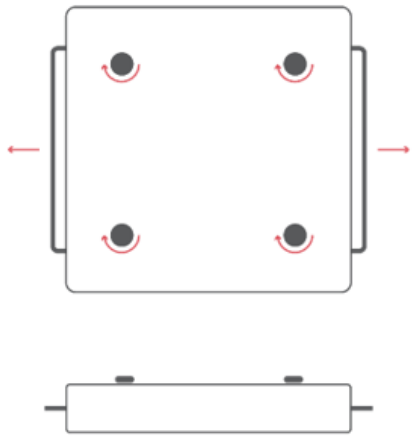
ATTENTION: Newer versions also have a black stopper on the CO2 valve.
The hose must be connected to the connector on the opposite side of the stopper and tightened with the screw. The stopper can be left as it is. CO2 will still flow out.

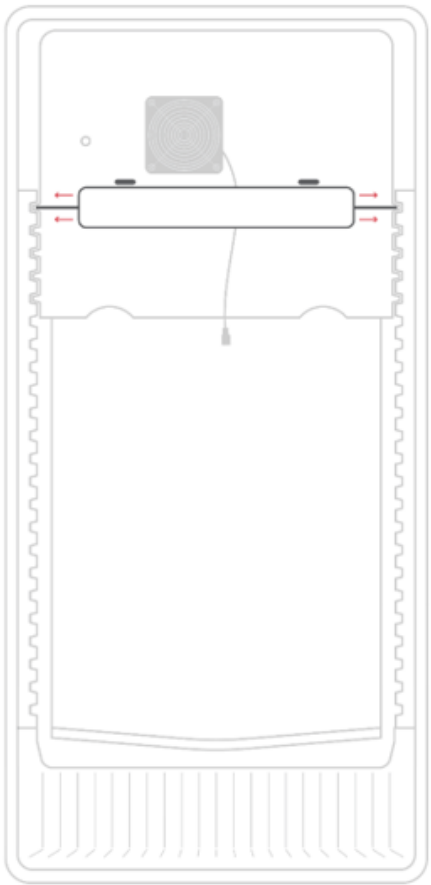
1.2 Rear Wall

Take rear wall panel 1 with the fan and plug or slide it in at the very top. The side teeth of the rear wall fit perfectly into the side grooves. Push it all the way to the back.



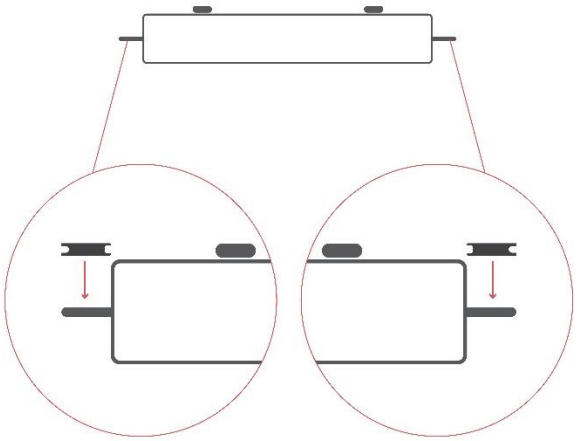
Next, slide the FG module onto the upper groove. To do this, open the screws on the top and pull the fixing rods apart as far as possible so that they fill the maximum width of the interior.





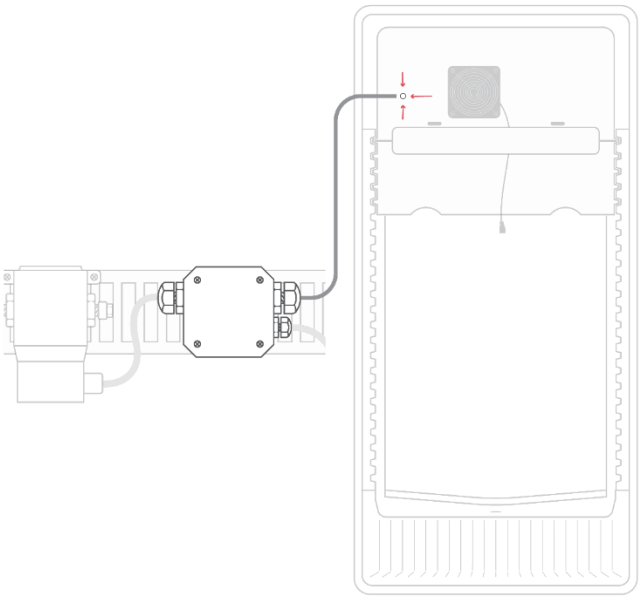
The rods must fully touch the interior walls to prevent slipping. When the module is securely held, tighten the screws on the top again.

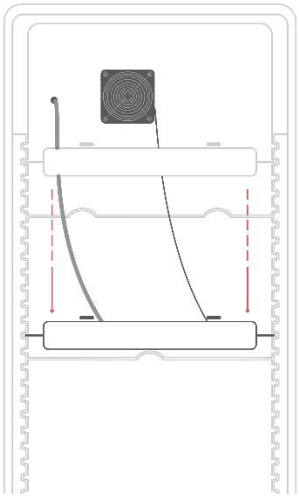
ATTENTION: To fix the rods, place the spacers on the inside of the brackets. Note that the spacers are optimized exclusively for the Plantalytix Plant Cultivator and are not suitable for other models.



1.2.1 Cable Routing

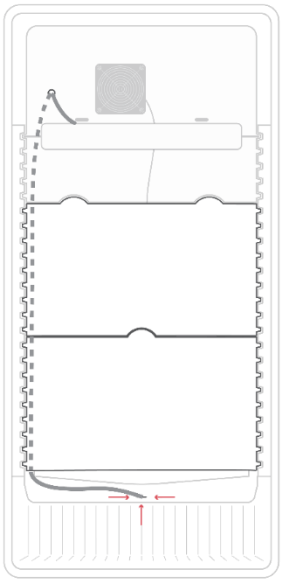
Take the white cable with the exposed wires that comes from the back of the module and insert it into the hole of the rear panel (hole is next to the fan). Push the cable downwards so that it comes out under the rear panel. Pull the cable through the hole, leaving about 40 cm of cable between the module and the hole so that the module can also be placed on lower levels later for small plants. You can also slide the module into the middle to determine the necessary length of the cable.





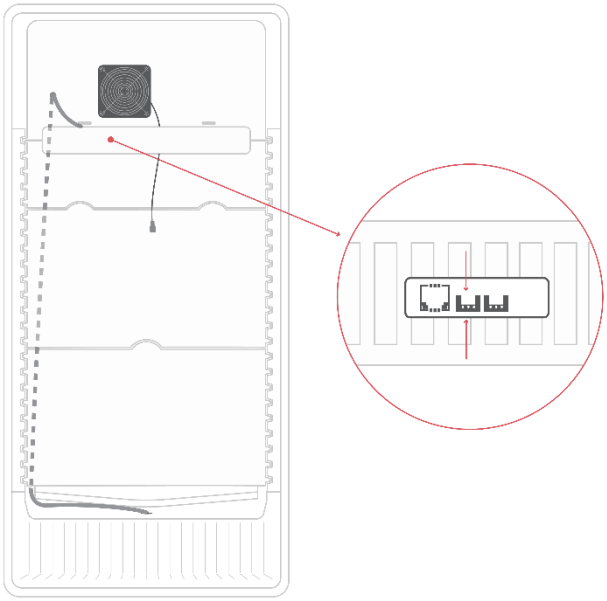
Then slide the module back into the top groove to simplify the subsequent steps. Now insert the other two rear wall parts so that the cutouts fit into each other. Push them all the way back again. The rear wall parts should ultimately merge seamlessly. Next, push the cable through the drain hole and push it downwards. The cable can then be pulled out at the back of the cabinet (at the very bottom).

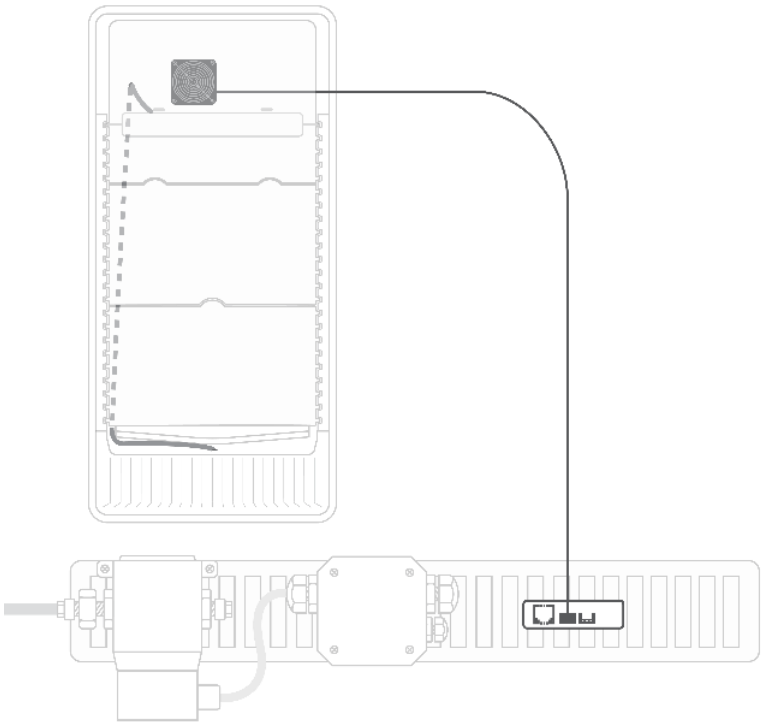
ATTENTION: Position the cable so that it is in the bottom left corner and runs from there to the hole, as it will be pushed behind the condensate tray later.



1.2.2 Rear Wall Fan

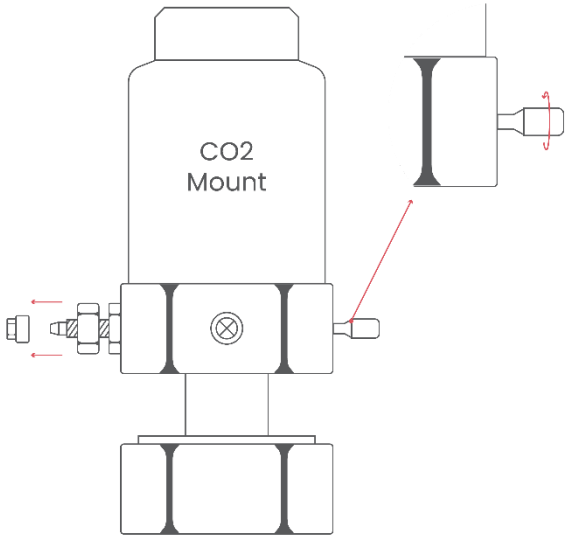
Next, connect the fan at the back near the module. Unroll the fan wires completely. On the back of the module, you will find a recess with multiple connectors. Plug the fan connector into one of the two terminals. The shape of the plug determines the direction. You may need to pull the module out slightly again to plug in the connector.
Attention: Ensure that the module does not slip out of the grooves while the plug is being inserted. It is recommended to have a second person secure the module. Also, when plugging in, ensure that the pins on the back of the module are not bent.



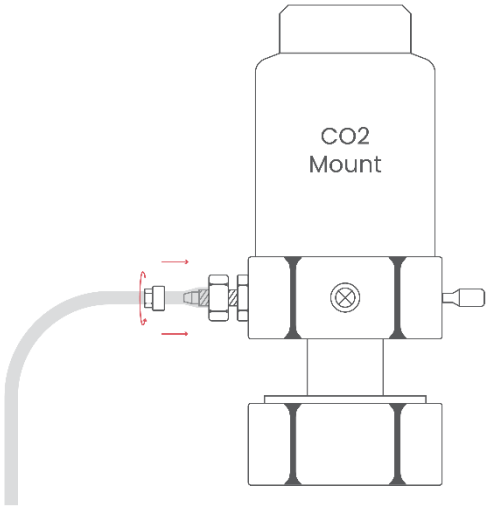


1.3 CO2 Management

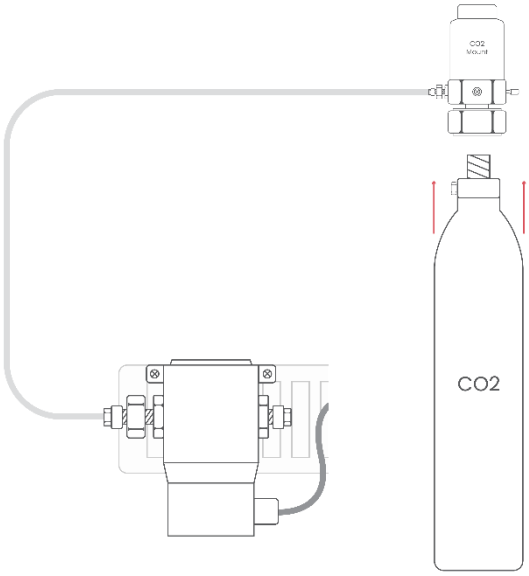
Open the screw on the pressure reducer and put it over the CO2 hose, which you previously mounted on the CO2 valve on the back of the module. Close the screw of the needle valve. It may not be completely closed. Therefore, turn it clockwise to close it.



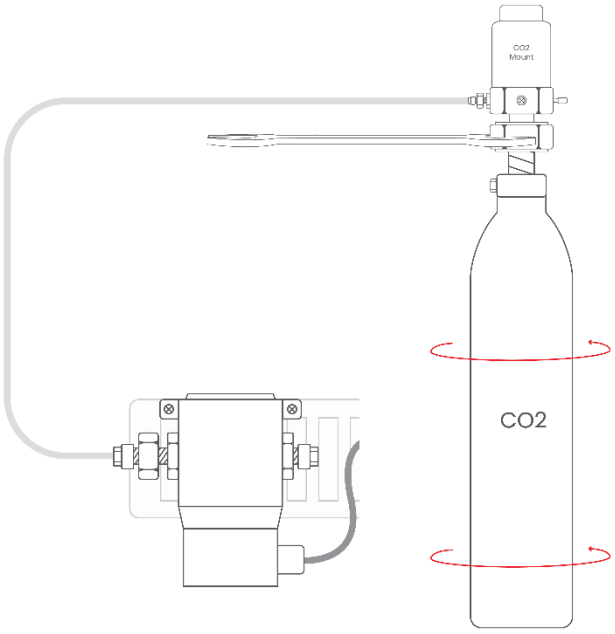
Plug the CO2 hose onto the connector, slide the screw onto the thread, and tighten it firmly. Ideally, the screw is tightened with a wrench or pliers, but usually tightening it by hand is sufficient.



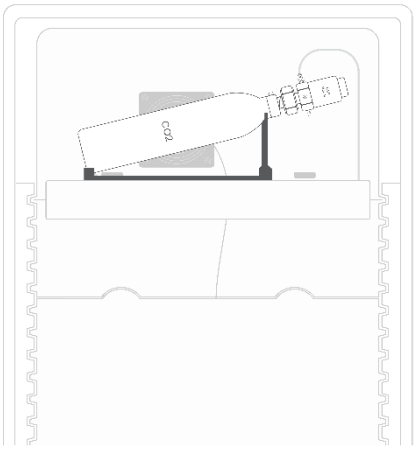
The pressure reducer with the hose is then screwed onto the CO2 bottle. The CO2 bottle is identical in construction to those used for "soda makers" like SodaStream, and these bottles can be obtained from supermarkets and refilled. Slide the CO2 bottle into the pressure reducer and carefully screw it in. Stop when you feel resistance.



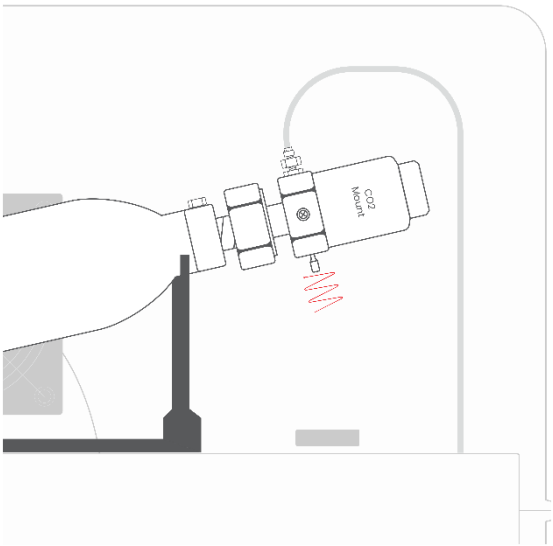
Then take the supplied wrench and place it on the bottom screw. Turn the CO2 bottle in with a jerky motion and some force. The wrench serves as a fixation here and can also be turned slightly in the opposite direction.



You might hear a short hiss. If the hissing is continuous, the bottle must be screwed in further. Place the CO2 bottle in the holder and put it on the insert. If a loud hiss is heard despite the bottle being tightened, immediately unscrew the bottle and contact support.



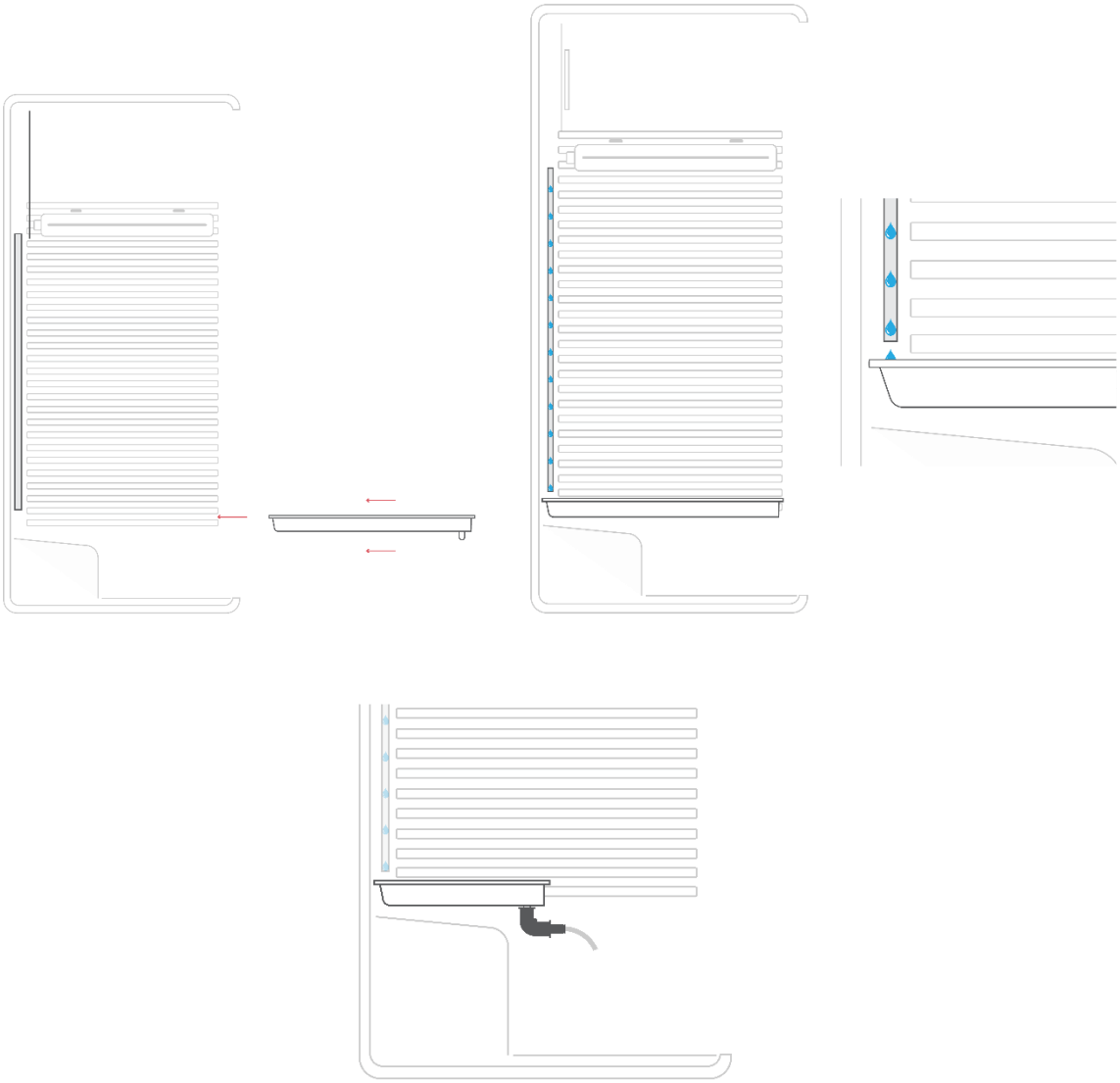
Next, the screw (fine needle valve) on the pressure reducer must be opened again so that CO2 can flow from the bottle. Since the CO2 valve is closed without power, you should not hear any hissing. Check all screws and connections of the CO2 system again and then open the screw on the pressure reducer by 3 turns (3 complete rotations).



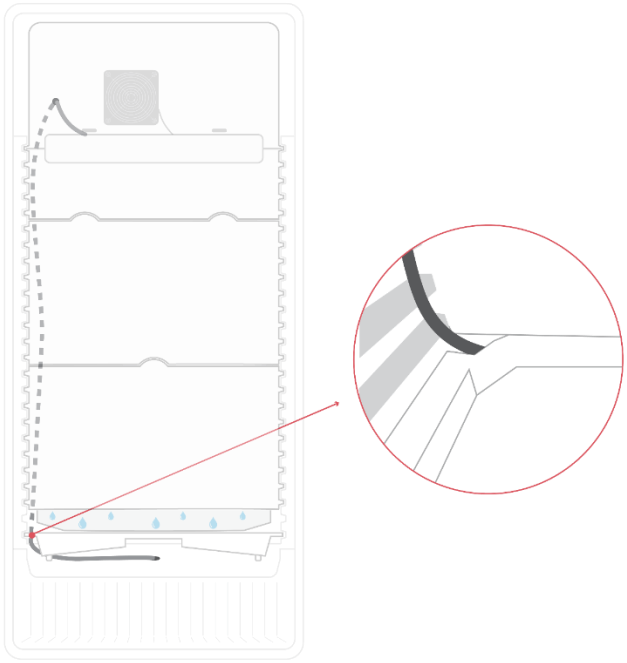
Place the CO2 bottle on the supplied bottle holder. The CO2 system is now complete and ready for use. Ensure that the bottle and bottle holder are securely placed and protected from tipping over.

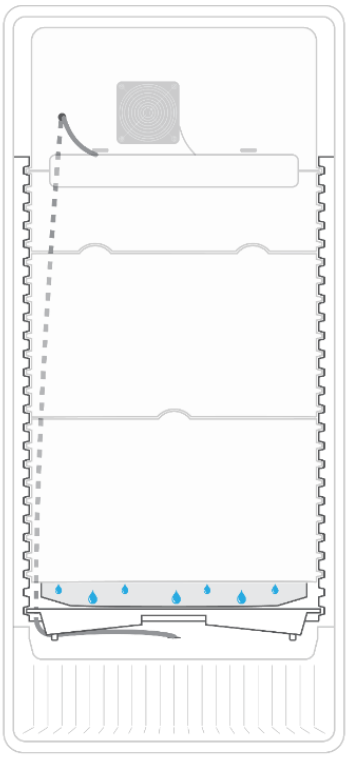
1.4 Water Tray/Condensate Tray

Next, take the white condensate tray and slide it into the bottom groove. The handle and water outlets should face the door. Then push the tray all the way to the back so that the condensation from the cooling plate (metal plate on the rear wall, now behind the rear wall panels) can drip into the tray.



So that the condensate tray can be pushed all the way to the back, the cable that you should have in the bottom left corner must be placed in the cutout of the condensate tray.

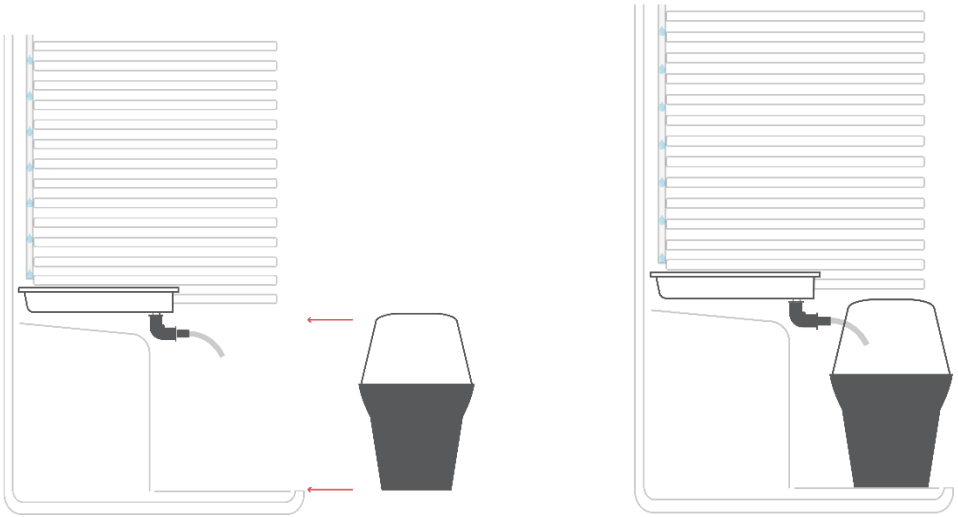


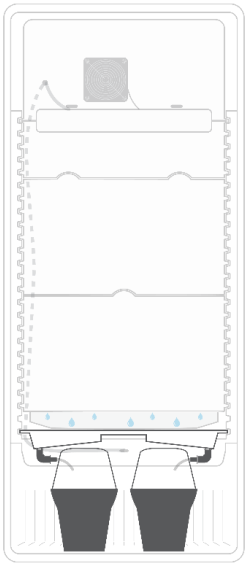


Regularly check during later operation whether there is any water below the condensate tray. If this is the case, it may mean that the condensation is not running back into the tray. In most cases, this happens if the tray has not been pushed all the way back.
Tip: To be sure, place tape between the back of the plant cultivator and the back of the condensate tray so that any condensation that forms behind the cooling plate also runs into the condensate tray.

1.5 Pots

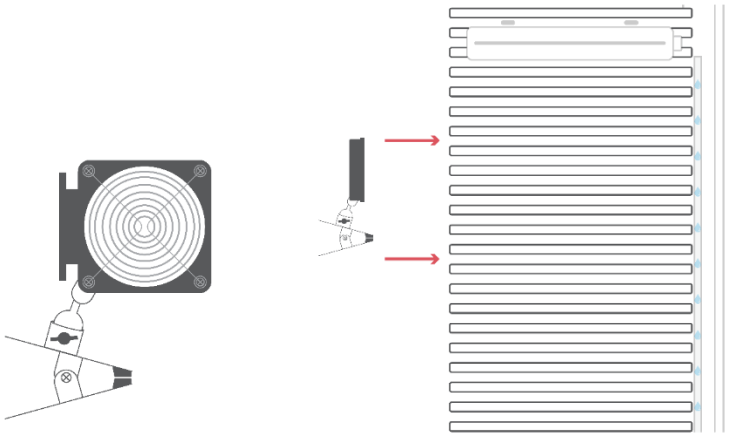
Fill the pots with substrate and follow the cultivation instructions. Depending on whether you are working with or without a cover, the water hose must be pushed through the hole in the cover or simply placed in the pot.



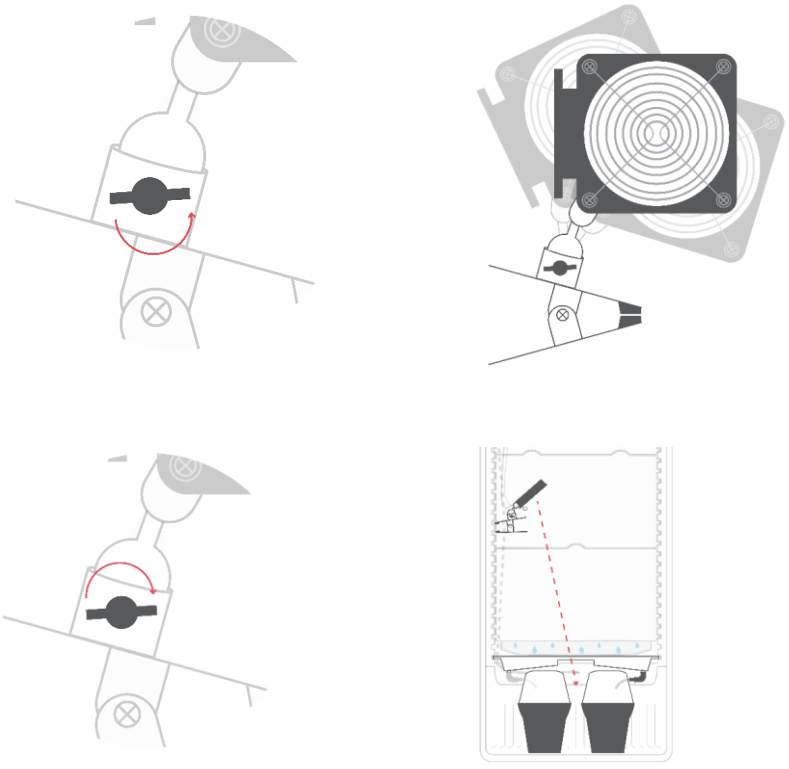


1.6 Circulation Fan

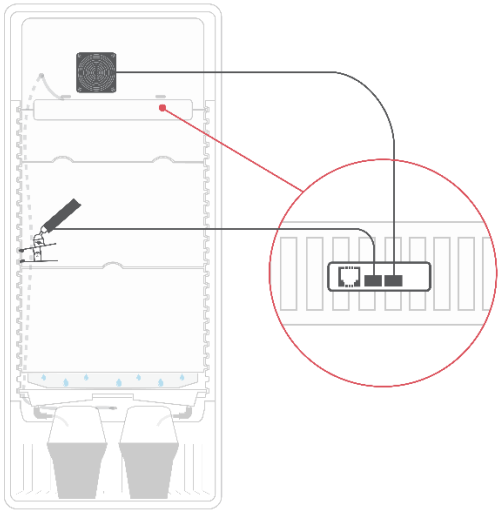
Next, the side fan can be mounted. This is attached to the side wall grooves using a clamp. The height and position should be chosen so that it is directed towards the plants.



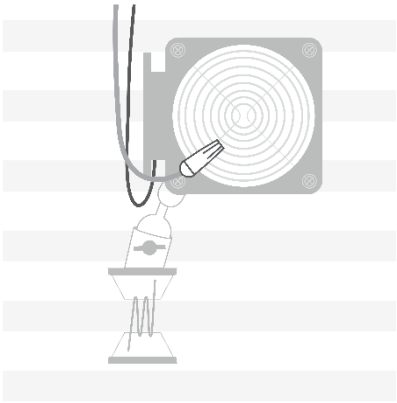
The direction of the fan can be changed using the adjustment screw. Adjust the fan so that it blows directly or indirectly onto the plants. This serves to strengthen the plants and remove the microclimate around the plants.



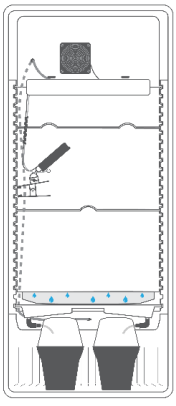
The fan's connection cable is plugged into the back of the insert.
ATTENTION: Unroll the fan wires completely and secure the fan during the plugging-in process.



In the next step, the sensor cable (white cable coming from the back of the insert with a plastic cover mounted at the end) can be mounted into the bracket on the fan.

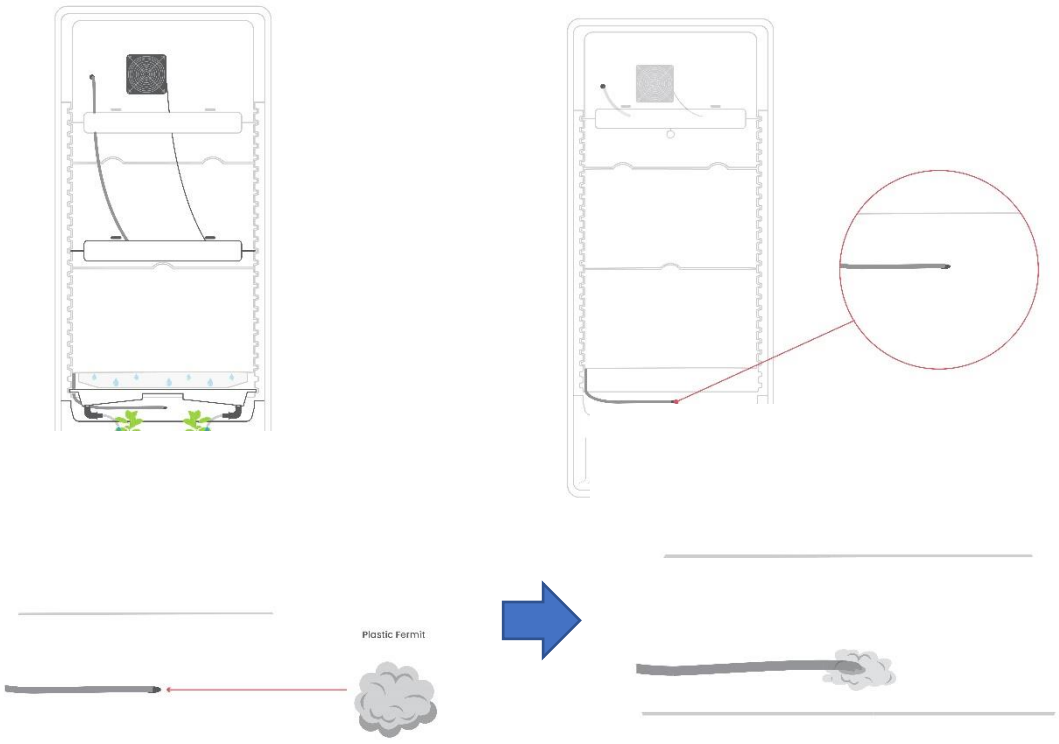


Tip: Use the supplied cable management to organize and neatly mount the fan, sensor, and module cables.



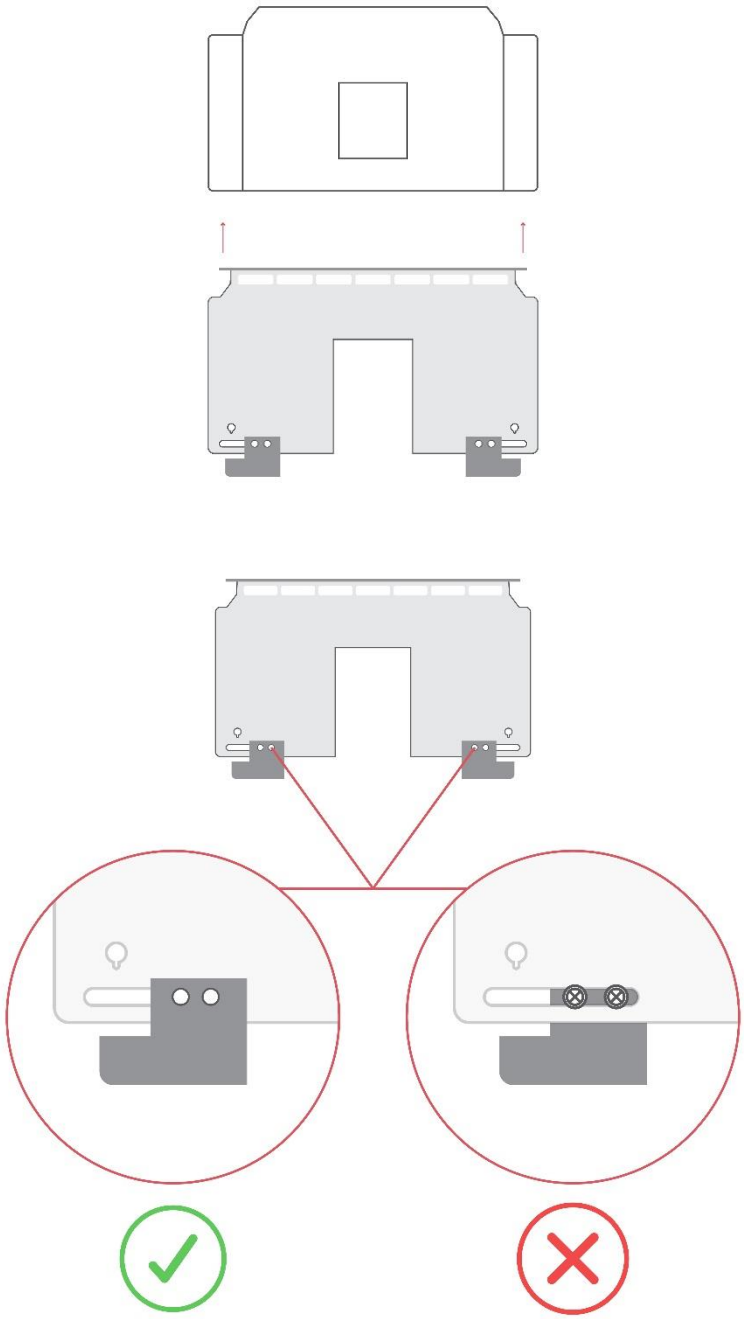
1.7 Sealing the Condensate Drain Hole

As a final step, the condensate drain hole must now be sealed. This is necessary so that no odors escape and the housing remains airtight. Check the cable length again to be able to change the height of the module later. You can do this by placing the FG module approximately in the middle. This should be possible with all wires and cables. Then seal the condensate drain hole with the supplied paste. Press the paste around the cable into the hole.

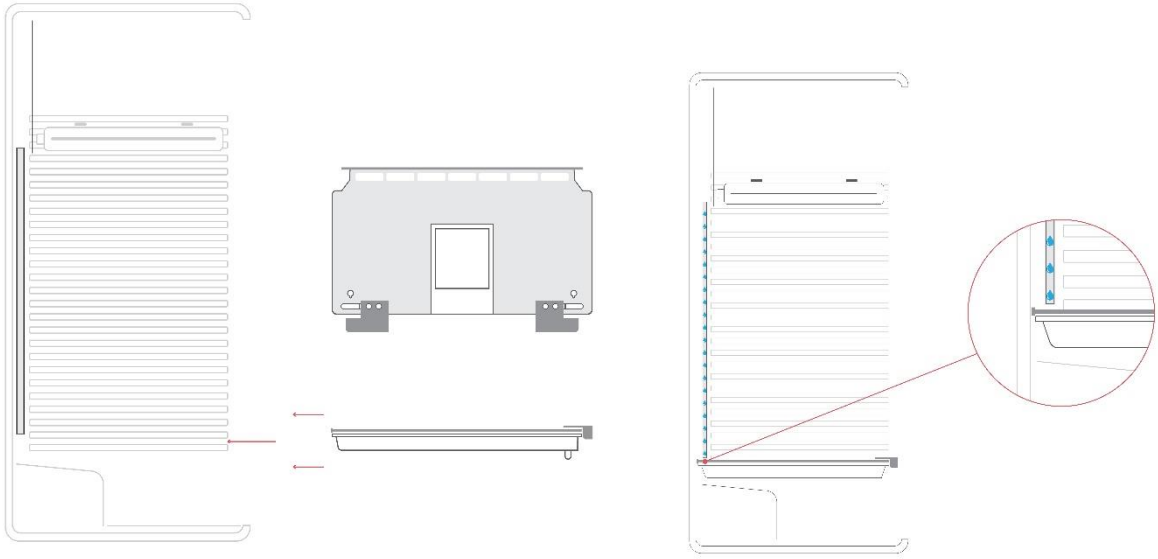


1.8 Installing the Water Tray Cover

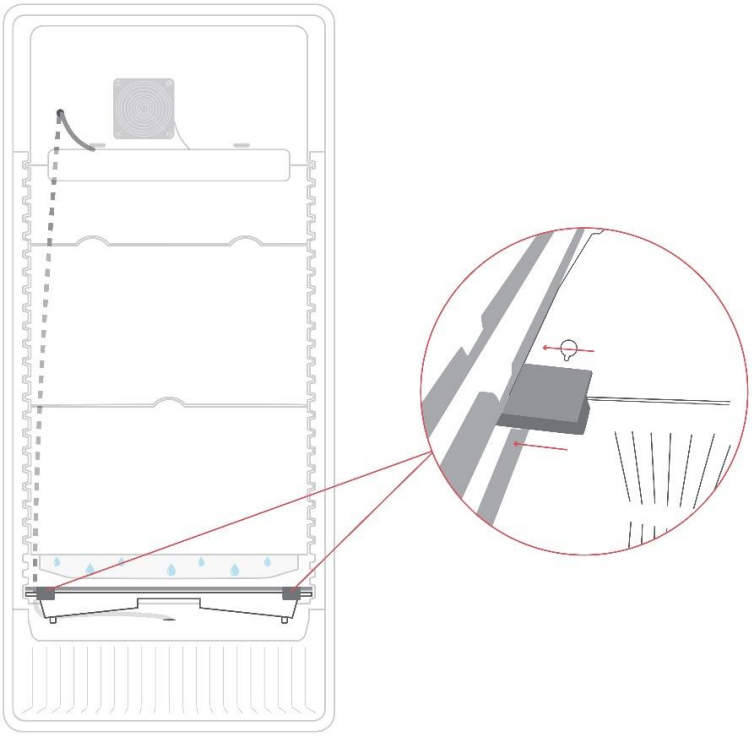
To ensure that water is reliably collected from the rear wall, the cover must be installed. Additionally, the cover offers the possibility of not returning the collected water to the plants.



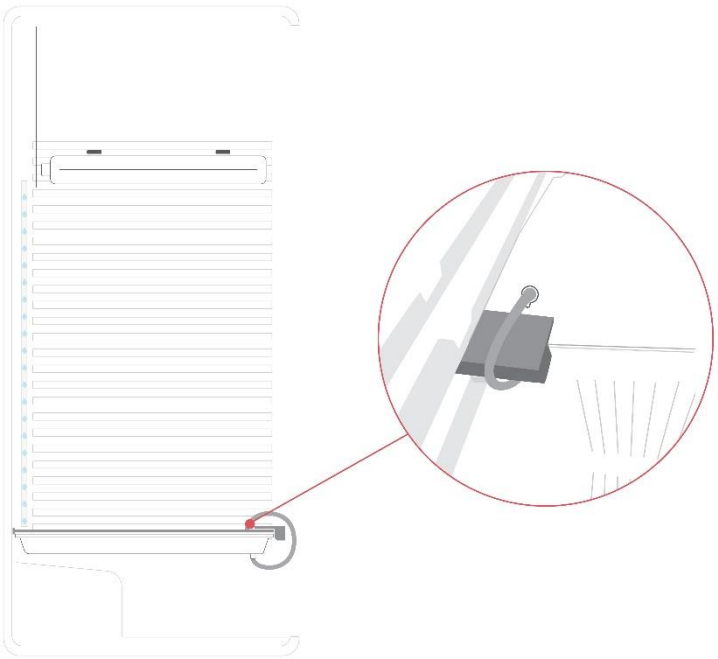
Place the cover on the condensate tray, paying attention to the direction in which the plate is placed there. Push the cover and the condensate tray all the way back and pay attention to the seal. It must be firmly pressed against the rear wall.



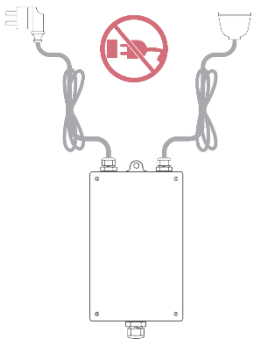
Then slide the two sliders into the side recesses in the door so that the condensate tray is fixed there and the seal on the back is firmly pressed against it.



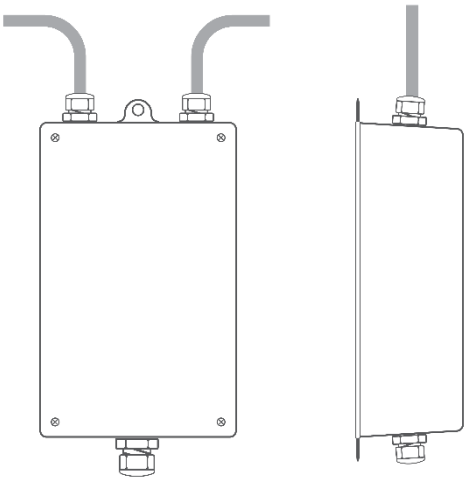
OPTIONAL:
You can now also push the hoses into the designated holes in the cover, thus preventing water from running into the plants. This makes sense especially when working on the system or to collect water for manual watering.



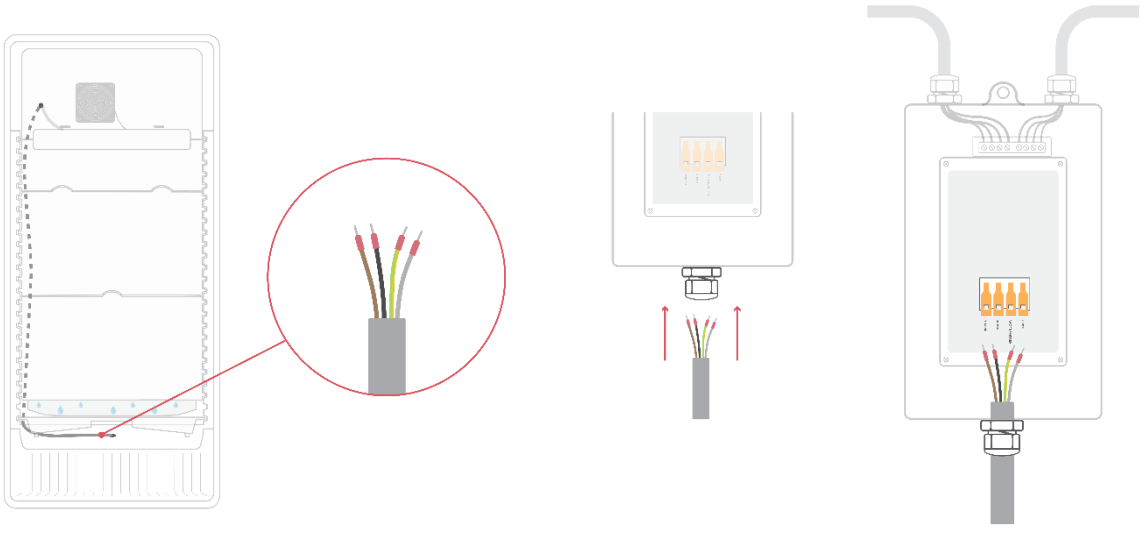
1.9 Terminal Box
Once all this is done, the conversion is complete. Check and observe all safety instructions once again. The supplied terminal box is now wired for power supply. Consult qualified personnel for this, unless you yourself have the necessary competence*.
ATTENTION: The plug must NOT be inserted into the power outlet at ANY time. Be sure to observe the safety instructions and consult qualified personnel if necessary.



First, open the terminal box.

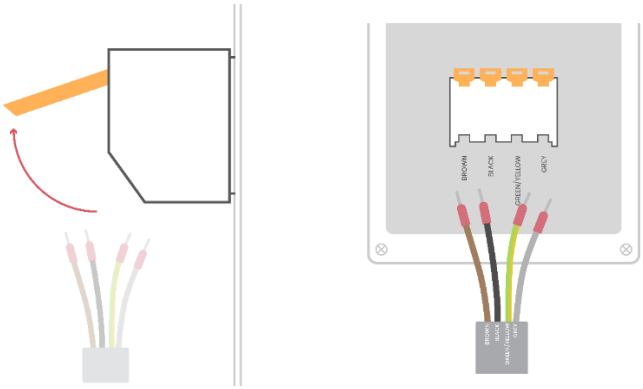


Then take the cable that you previously pulled through the drain hole and should be lying behind the box. This cable has 4 wires in different colors. The cable with the wires is then inserted through the cable gland (large gray screw in the middle, opposite the other two gray screws). The cable gland must be opened and later closed again. It can be opened and closed by turning.



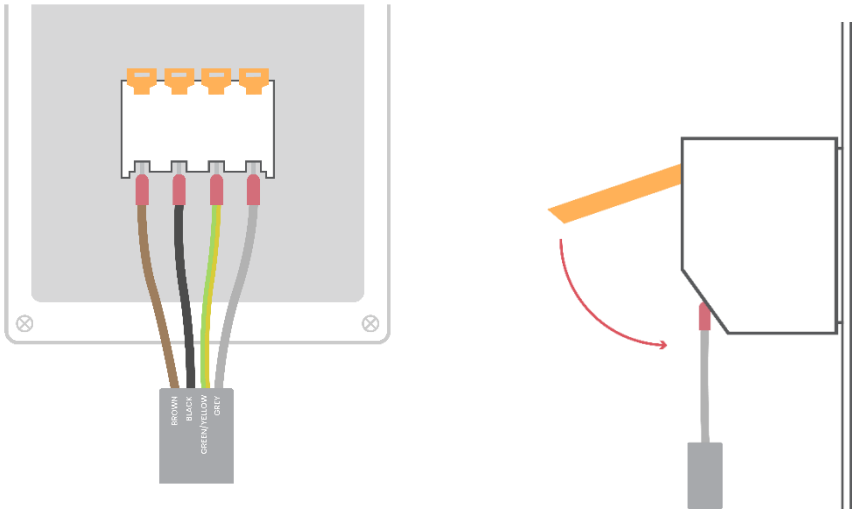
Once the cable has been inserted, you will see a terminal strip with labeled inputs. Insert the colors into the designated holes of the terminal according to the labeling.
To open the terminal inputs, push the levers all the way up so they point upwards at a right angle to the board. Some force may be required.

Opening the terminal:

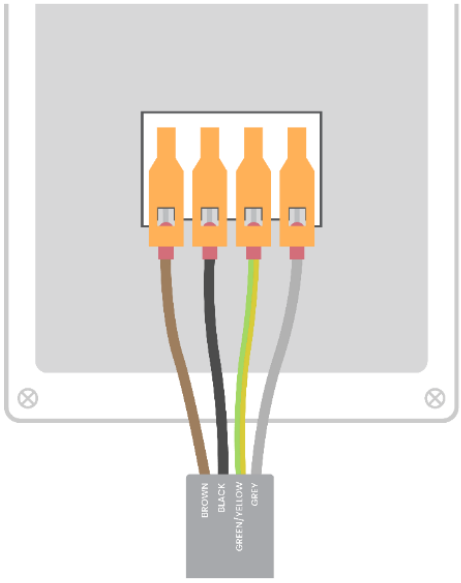


Inserting the cables and closing the terminal. BROWN= Brown, BLACK= Black, GREEN/YELLOW= Green/Yellow, GRAY= Gray.

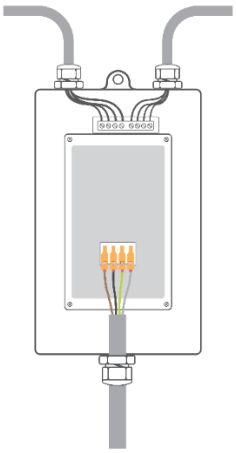
ATTENTION: Ensure that the wires are pushed into the terminals all the way to the stop and pull gently to check for tightness. The wires must be securely seated!



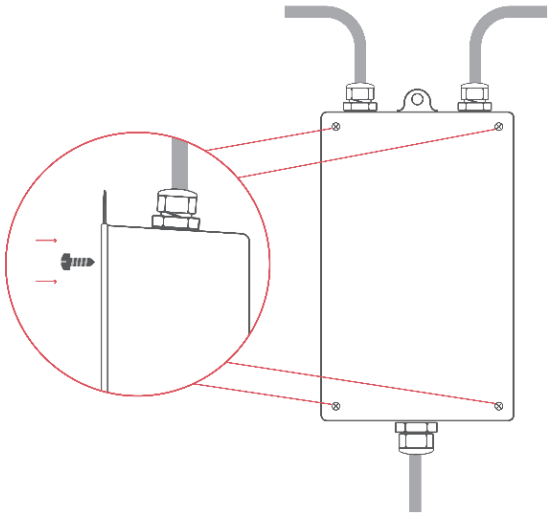
Close the terminals again.



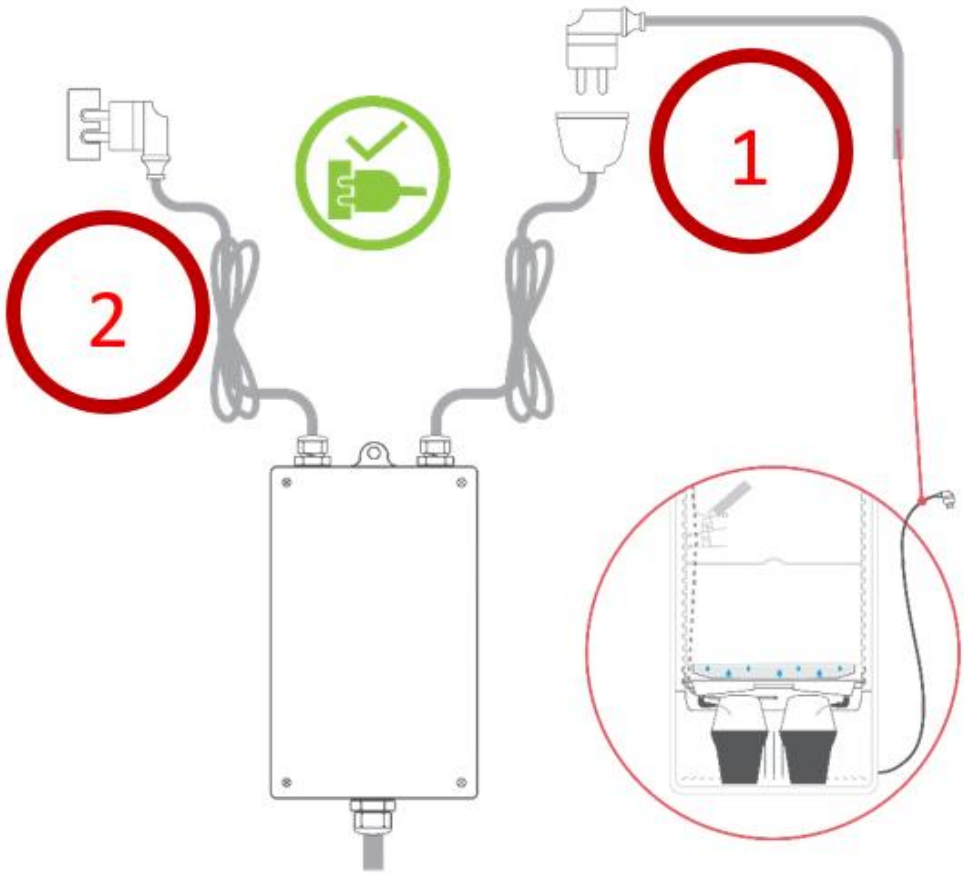
Close all cable glands and check once again that all wires are securely seated. Contact qualified personnel if necessary.



Then screw the lid onto the box. The associated screws are supplied in a small bag.
ATTENTION: Be sure to double-check the correctness of the colors.



Once you have clamped all cables and secured the box against re-opening, you can plug the cabinet's power cable into the socket of the black terminal box. When this is done, plug the main plug into the power supply. The lamp may briefly light up.
ATTENTION: Never look directly into the LED lamp when plugging in the power plug.
ATTENTION: Always observe the correct order. First plug in the cabinet and only then plug the main plug into the power outlet.
ATTENTION: Observe the safety instructions. If problems occur during commissioning, immediately unplug the power plug and seek advice from designated experts.



*Installation may only be carried out by persons with relevant electro-technical knowledge and experience. Improper installation endangers:

- your own life;
- the lives of the users of the electrical system.
  With improper installation, you risk serious property damage, e.g., from fire. Personal liability for personal injury and property damage is threatened for you.
  ⌊ Contact an electrical professional.
  The following specialized knowledge is particularly required for installation:
- the applicable “5 safety rules"; Disconnecting from power, securing against re-connection; establishing voltage freedom; grounding and short-circuiting, covering or fencing off adjacent live parts;
- selection of suitable tools, measuring instruments, and, if applicable, personal protective equipment;
- evaluation of measurement results;
- selection of electrical installation material to ensure disconnection conditions;
- IP protection classes;
- installation of electrical installation material;
- type of supply network (TN system, IT system, TT system) and the resulting connection conditions (classical earthing, protective earthing, necessary supplementary measures, etc.).

2 Commissioning FG Module

2.1 Symbols and their Explanation

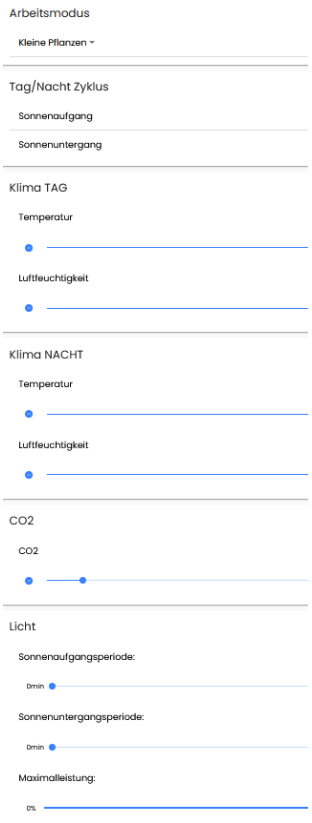
Different symbols are displayed depending on the mode.

1…Temperature
2…CO2
3…Humidity
4…WLAN Signal
5…Day/Night Cycle

2.2 Settings on the Display

All settings can also be made via the display.
Attention: Graphs cannot be analyzed via the display. The menu items are displayed differently depending on the respective climate mode (e.g., there are no CO2 settings in drying mode, etc.).
For the correct settings and climate modes, the Cultivation Recommendation must be consulted. Below is the maximum number of setting parameters. For the time being, the settings on the display are in English, hence a translation is provided.

Arbeitsmodus = Control mode
Breeder = Incubator
Greenhouse = Greenhouse
Small Plant = Small Plants
Big Plant = Large Plants
Dry = Drying
Dayrise/Nightfall = Light phase Day/Dark phase Night
Day/Night = Day/Night
Temperature = Temperature
Humidity = Humidity
CO2 = CO2
Max Light = maximum light intensity
Sunrise/Sunset = Sunrise/Sunset
System Time (UTC) = System time (Central European Time +1h)



2.3 System Time

System time is given as UTC. This corresponds to Coordinated Universal Time, which in turn is CET (Central European Time Zone +1 hour), which is valid for Germany and Austria, for example.

Attention: If the module has a connection to the internet, this time does not need to be set separately. In this case, the module automatically gets the correct time.

2.4 Setting Settings via Browser - Remote Access

The best and easiest way to operate Fridge Grow is via the portal. Here you can conveniently set all settings, analyze graphs over time, and read the current measured values.
Attention: An internet connection is required to use the portal. To do this, you must connect Fridge Grow to your home network and make sure that the connection is good to very good. Disconnections from the internet can lead to gaps in the recording and long waiting times.

2.5 Settings and Operation

For Fridge Grow to be used, the appropriate settings must be made depending on the growth stage. As described earlier, these can be done either directly via the display or Portal. The following section explains the connection to the Portal. Offline operation (directly via the display) does not require an internet connection.

2.5.1 Connecting to the Portal

Using the portal is not strictly necessary but facilitates work and enables graph analysis. For the measured data to be displayed, Fridge Grow must be connected to the portal. 2 steps are required for this:

1. Connecting to the home network
2. Registering on the portal

2.5.2 Connecting to the Home Network

Connecting to the home network is necessary to enable communication with the portal. Connecting to your home network can be done either via a browser or directly via the display.
Option 1: Connect via Browser
Option 2: Connect via Display

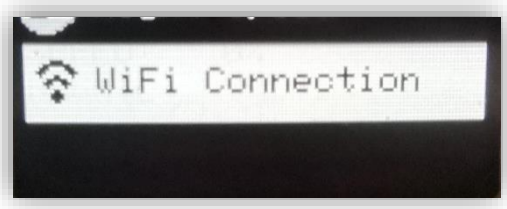
Option 1 (recommended) - Establish Connection via Browser (Smartphone, Tablet, PC, etc.)
In this case, you first connect to the controller's WLAN using a third-party device (smartphone, PC, etc.). After that, the controller is connected to the home network and can then also be found in this home network. Data can then be exchanged with the portal via the home network. A browser is a program like Firefox, Chrome, Brave, Edge, etc.

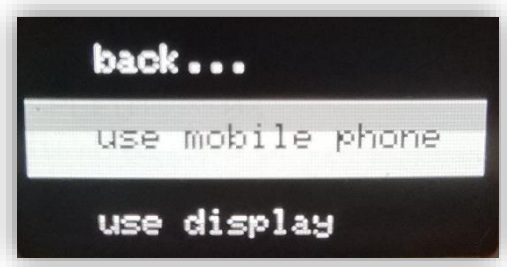
Attention: In case of problems, it may be helpful to change the browser or disable any plugins.

1. Establish a connection to the FG module's WLAN (Accept the WLAN if an error message appears stating that this connection is not connected to the internet).
2. Search for the home network. Connect and enter the password (Attention! Some devices refuse to open the home network search. Check the security settings or use another device if you have problems with the home network search).
3. Open the portal at https://www2.plantalytix-app.com
4. Create a connection code on the FG module and add a new device in the portal using this code.

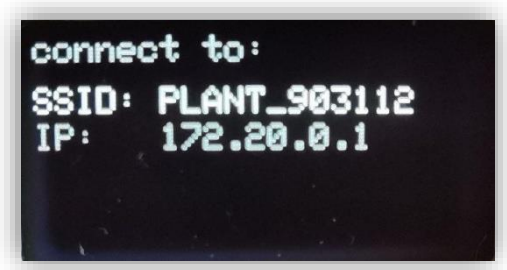
2.5.3 Connecting to the Module's WLAN via Browser

In the display's menu, go to WIFI settings and select "use mobile phone".





The controller's WLAN will now be displayed. This SSID is unique and is regenerated each time. On your device (e.g., smartphone, laptop, etc.), turn on WLAN and search for the WLAN displayed on the screen. In this case, it would be PLANT_903112. No password is required.



Once the WLAN is found, press "Connect" and accept any messages indicating that there is no internet available with this WLAN (this message only appears in rare cases). You are then directly connected to the module. Now, in the next step, the connection to the internet must be established.

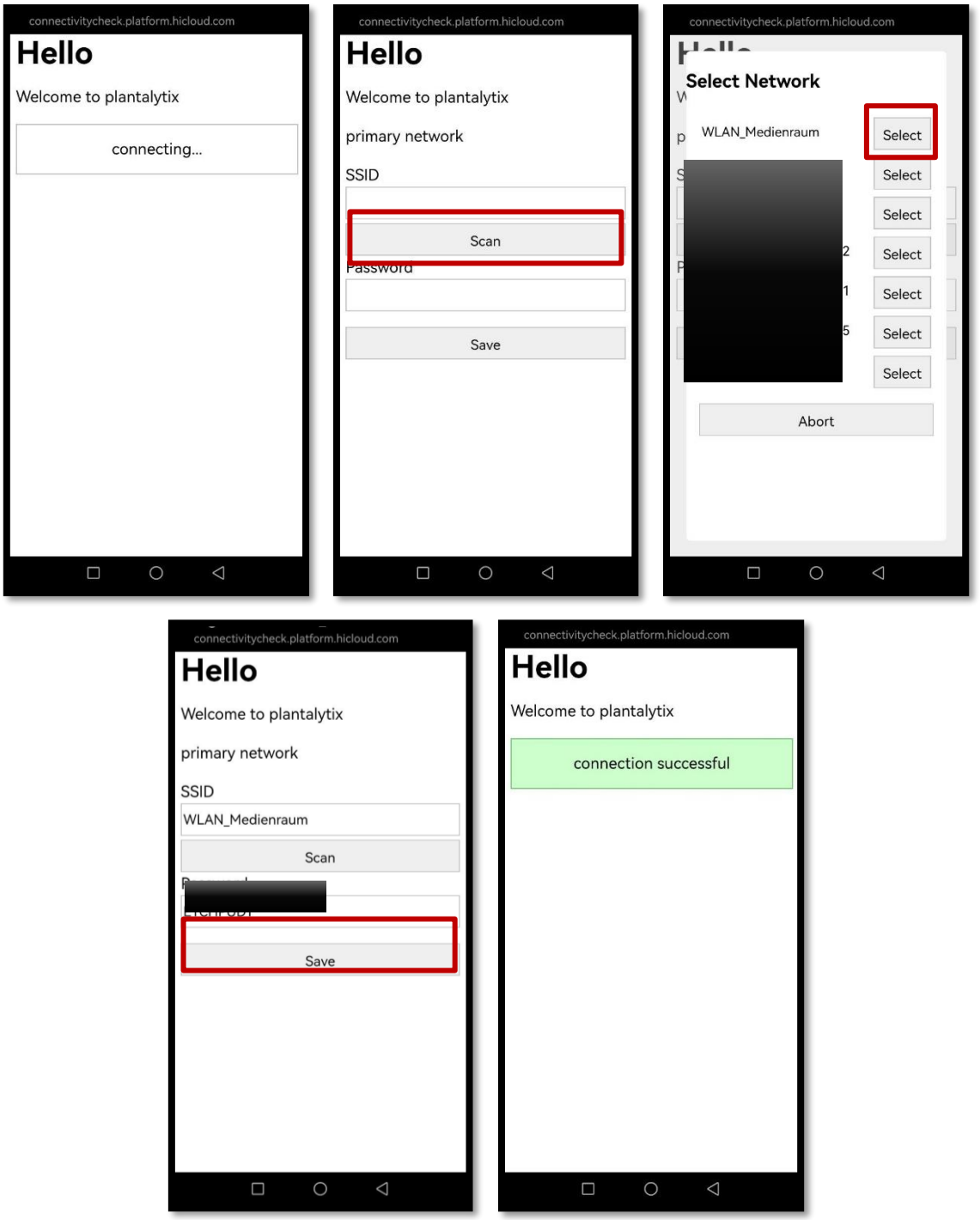
2.5.4 Connecting the Module to the Home Network (Browser)

By default, after connecting to the SSID, i.e., the module's WLAN, a page opens where you need to enter the home network (SSID) and password.

Clicking "Scan" displays all available WLAN networks. Alternatively, the SSID can also be entered manually. Please ensure that the module is within the reception range of the home network or install a signal amplifier (repeater or similar) if necessary.

For full functionality, it is essential that a stable and good signal to the home network or internet exists. Select the home network or enter it manually. If no input mask appears, check the security settings of your device you want to use to integrate the module and use another device if necessary.

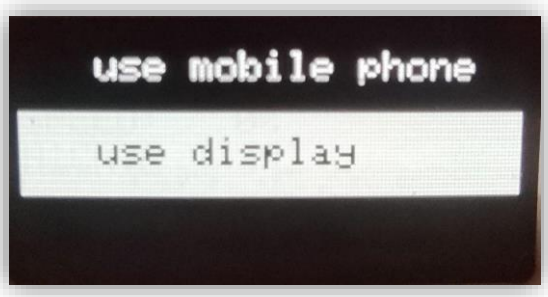
If you clicked scan, select the corresponding WLAN network via "Select". The WLAN will then be automatically entered in the "SSID" field. Next, the password must be entered and "Save" clicked to save.



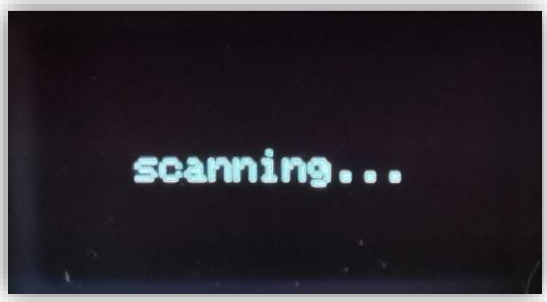
The FG module then attempts to connect to the home network and thus to the internet. If the connection is successful, a green box with "connection successful" will be displayed. If this is not the case, check the SSID and password again and enter them again. If this step was successful, the FG module is connected to the home network or the internet, and the portal can be used.

On a device and browser of your choice, open the Plantalytix Portal at this link: https://www2.plantalytix-app.com

Option 2 - Establish Connection via the Display



After selection, the controller starts searching for WLAN networks.

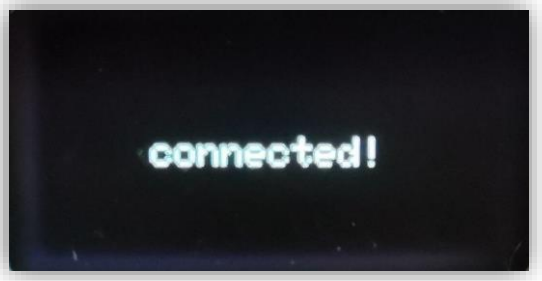


Select home network and press the rotary knob.

Using the rotary-click knob, you can enter the password in the next step. By long-pressing the button, you reach the sub-items “Back” and “Done”. Ensure that a connection to the home network is possible and a good signal reaches the FG module.

Pressing the button on "Done" accepts the password and establishes the connection to the network. Pressing "Back" deletes the last character. Be sure to enter the password correctly. By long-pressing BACK, you can go back one step.

Upon a successful connection, "connected!" is displayed on the screen.



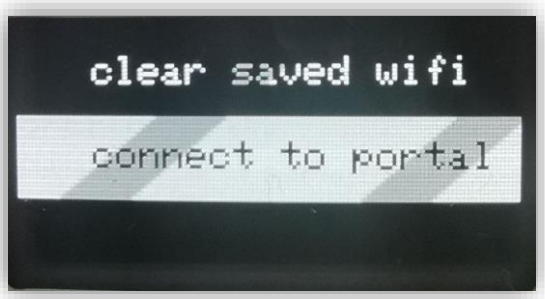
2.6 Registering on the Portal

The portal is used for managing Plantalytix products and for accessing graphs and other features from any location. For this, the module must first be registered (paired) in the portal. To register on the portal, it is essential to connect to the home network beforehand.

2.6.1 Generating a Pairing Code

To connect to the portal, the module must be connected to the home network. After that, a code is generated via the display. This code, in turn, is entered into the portal, thereby registering the module in the portal. Multiple controllers and fans can also be added to the portal and monitored or controlled using the same principle. The code is unique and is regenerated each time.
Attention: If a problem occurs during registration in the portal, be sure to generate a new code again before entering the code in the portal again.

In the menu under WIFI, select the item “connect to portal”.



After that, the pairing code is displayed (the code differs from the example image and is regenerated each time). Write down or remember the code and enter it into the portal later.

2.6.2 Connecting the FG Module to the Portal

Go to https://www2.plantalytix-app.com and log in. If you do not have an account yet, be sure to create a new account under “Create Account” and log in.
The generated code must be entered under “claim device” or “pair device”. To do this, click in the “claim/pair device” field, enter the code there, and press the blue button.

After that, the FG module will be directly displayed in the overview and can be controlled or monitored.

2.7 Climate Presets and Process – IMPORTANT

The following settings options depend on the plant size and must be adjusted manually according to the growth phase. The respective modes differ in how they are regulated, and therefore incorrect settings can lead to poor growth or the destruction of plants. Therefore, read the following points carefully and precisely.

1. **Incubator**
   Temperature control only. For germinating dark-germinating seeds. No lighting available!
2. **Greenhouse**
   Temperature control with lighting. No humidity control in the unit. Only for covered plants!
3. **Small Plants**
   Optimized for small plants. Increased energy consumption for large plants. Switch to "Large Plants" if the heater needs to be turned on during the lighting phase.
4. **Large Plants**
   Optimized for large plants. Switch to "Small Plants" if the LED is dimmed during the lighting phase.
5. **Drying**
   Regulation of temperature and humidity. No lighting and CO2!

2.8 Important Notes

The most important thing is to stay calm. Even if the monitoring shows gaps or no internet connection is established, the controller continues to regulate with the last saved settings.

Testing the System

Fridge Grow assumes that a plant is in the system. The plant's transpiration increases humidity, and the system needs this process to function in most climate programs. If the system is tested without plants, you must switch to Greenhouse mode. It is also useful to hang damp cloths or similar in the system to allow for some evaporation. Testing without plants and, for example, in "Large Plants" mode will NOT lead to a successful test.

Higher CO2 Levels

Especially at the beginning, CO2 levels in the system can increase significantly. Don't worry too much about this. Due to the plants themselves, as well as processes that are more pronounced with fresh substrate, the CO2 level can become higher than specified in the settings. This will usually change after some time. If not, please inform the support team.

Stay Calm

When you make changes, give the system some time to "settle in" or "stabilize." Frequent changes do not lead to success, as the system often takes several hours to adapt to the new conditions. Even if the target values may be reached sooner, the condensation cycle must first adjust.