Prep4Life
The Cube
Freeze Dryer
Owner's Manual

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In the Box

You should have received the following with your purchase:

1. Cube Freeze Dryer
2. Power Cord
3. Shelving Unit (inside the chamber)
4. 4 Trays (inside the chamber)
5. Silicone Mats (on the trays)
6. Optional items
    a. Vacuum Sealer
    b. Vacuum bag roll
    c. Rolling cart w/ hardware

If you are missing any of these items or others that you ordered please contact us at (800) 738-8618.

First Inspection

1. Please check for damage immediately.
2. Record your serial number and register your product for warranty purposes at www.p4lfood.com

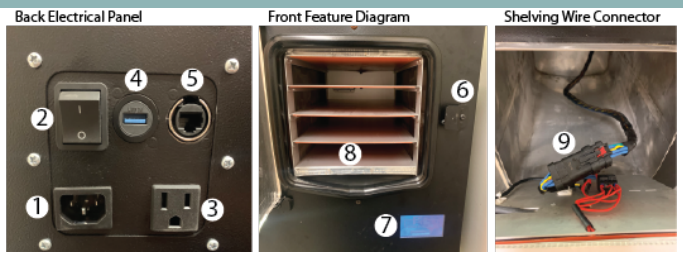
Serial # _____

Important Safety Information

Please read all instructions carefully before using this product to prevent accidental injury, fire, or damage to the freeze dryer. Always use basic safety precautions, including the following:

- Lift carefully with two people and do not lift with the front door.
- Children and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge can use this appliance only if they are supervised or have been given instructions on safe use and understand the hazards involved.
- Never attempt to operate this appliance if it is damaged, malfunctioning, partially disassembled, or has missing or broken parts.
- Keep packing materials out of the reach of children. Packaging material can be dangerous for children. There is a risk of suffocation.
- Moving or installation of the appliance requires two or more people.
- If on the wheeled cart be sure to move it carefully with two hands to avoid tipping over.
- Allow 3-4” on either side of this product for proper air flow to prevent overheating of the internal components.
- Be cautious when touching this appliance while running as surfaces may be hot or extremely cold (including, but not exclusively, the trays and shelving unit).
- Unplug this appliance completely before cleaning or performing any repairs. Never disconnect internal wires while the appliance is plugged into a power source.
- Do not use an extension cord to power this product.
- While unplugging this product pull from the plug and not the cord to prevent damaging the wires or the plug terminals which may cause electrical shock or fire.
- Do not under any circumstances cut or remove the third prong (ground) from the power cord to this unit.
- Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.
- To avoid serious injury or death, children should not stand on, play in, or with this appliance.
- Keep fingers out of the “pinch point” areas. Clearances around the door and cabinet are necessarily small.
- Do not touch the cold areas with damp or wet skin as skin may stick to extremely cold surfaces.
- This appliance should be plugged in to a 3 prong power outlet that is 15 or 20 AMP 115VAC rated with a fuse or circuit breaker
- Refrigerant and foam disposal: Dispose of or recycle appliance in accordance with federal and local regulations. Flammable refrigerant and insulation material used requires special disposal procedures. Contact local authorities for proper disposal of these products.
- Operating this appliance in extreme high or low temperatures may damage some components and void the warranty. Optimal operating temperature is 55˚F – 90˚F.

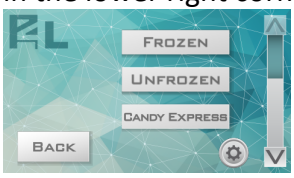
Features



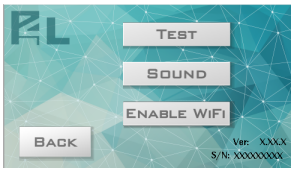
1. Input power outlet
2. Power switch (“0” is off, “I” is on)
3. External vacuum pump power outlet (on some models)
4. USB firmware update port
5. RJ45 ethernet port (on some models)
6. Magnetic door closure
7. User interface screen
8. Shelving unit
9. Shelving unit electrical connector

1. Unpack all items from the box and remove all protective films and tape from the appliance.
2. Place freeze dryer on a flat stable surface (or the assembled cart if purchased).
3. Open front door and make sure that shelving unit is level inside the chamber.
4. Extend the drain hose out of the left side of the cabinet.
5. Place a bucket at the end of the drain hose for water. NEVER ALLOW THE END OF THE DRAIN HOSE TO BE SUBMERGED IN WATER WHEN OPENING IT.
6. Plug power cord into the back of the appliance and then directly into a power outlet (do not use an extension cord).
7. Turn on the freeze dryer by toggling the power switch from "0" to "I".
8. Wait for the screen to finish booting until it has a button that says "**START**".
9. Press on the "**START**" button.

10. Press the "**SETTINGS**" button in the lower right corner.

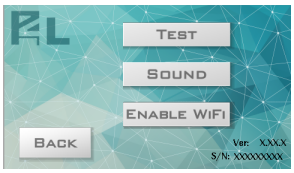


11. You will see three buttons for settings and testing **"TEST"**, **"SOUND",** and **"ENABLE WIFI"**. Press the **"SOUND"** button.



12. You will see the choices for sound settings.

13. At the end of cycles a chime will sound indicating it is waiting for you.
    a. If you only want it to chime once then press the **"ONCE"** button.
    b. If you want it to chime repeatedly every few minutes then choose the **"REPEAT"** button.
    c. Or if you do not want a chime at all then select the **"OFF"** button.
14. Press the **"BACK"** button to return to the settings screen.



15. Press the **"TEST"** button to move to the hardware test screen.

16. Press the **"HEATING"** button and watch the temperature to make sure that the heaters are working, then press the button again to turn the heaters off after the temperature rises to 100 degrees. Each shelf should feel warm to the touch but will not be too hot to touch.
17. Press the "**FREEZER**" button to test the refrigeration unit. Listen for a fan to turn on. Let this run for about 30 minutes before moving on to the next step. **Do not turn off the refrigeration.**
18. Make sure the door is closed and then press the button for "**VACUUM**". Listen for the vacuum motor to turn on. The door will seal with the vacuum pump turned on. You can watch the vacuum pressure drop on the screen. Leave the vacuum pump running and within 30 minutes the pressure should drop below 500. If it does not, then look in the vacuum pressure section in troubleshooting.
19. After the vacuum pressure reaches 500 you can turn off the vacuum pump by pressing the "**VACUUM**" button and the refrigeration by pressing the "**FREEZER**" button.
20. Press the "**BACK**" button twice.
21. The test is now complete and your freeze dryer is ready to use.

Food Preparation

Food preparation will determine the success of and run times of the freeze-drying process.

- Be sure to cut your food into pieces that do not stick up above the top of the trays.
- Thinner pieces of food will freeze dry faster than thick pieces.
- It is more efficient if the food is cut into uniform thicknesses.
- All foods with skins, ie. Strawberries, apples, oranges, etc. should be placed with the skin down on the tray or to the side, not on top.
- Freezing your food in your home freezer can significantly reduce the process time in the freeze dryer although this appliance can freeze your food.
- Liquids can be poured into the trays while partially sticking out of the shelving unit to help prevent spilling, but process times will be longer if food is not pre-frozen.
- All foods should be placed in a single layer on the tray. Food can be touching side to side apart from most candy which will grow in the process. Candies should be given room to expand.
- Use of silicon mats will reduce the cleaning process and reduce food sticking to the trays.
- Freeze drying foods does not remove bacteria that can cause food-borne illness. It is the users responsibility to properly prepare, cook, and store all foods.

First Batch

1. Place food on the trays and pre-freeze them or let the freeze dryer freeze it. Unfrozen foods will significantly increase the process time.
2. We recommend running a small batch the first time to familiarize yourself with the freeze-drying process. Please see batch time section in the Q&A for further information.
3. Turn on the freeze dryer at the power switch and wait for the start screen to show.
4. Make sure that the drain hose is closed.

5. Press the start button.

6. Select frozen or unfrozen.

   a. Frozen Food.
      i. If the food is frozen make sure the drain is closed and press yes.

      ii. Wait for the screen to show “The chamber is ready, please insert the food.”

iii. Once the chamber has reached 30˚ insert the trays. *<u>If using fewer than 4 trays make sure that 1 tray is on the second shelf from the top.</u>*

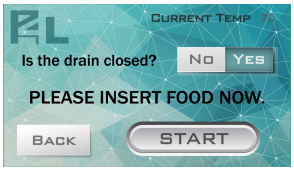
iv. Press start to begin the freeze drying process.

b. Unfrozen food

i. If the food is unfrozen press unfrozen.

ii. Insert the trays into the freeze dryer, close the drain valve and then press yes to indicate the drain is closed.

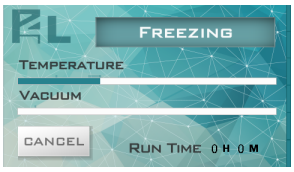
iii. Press start to begin the process.



iv. *The freezing part of the process will take several hours with unfrozen food.*

The freeze-drying process will automatically run at this point until the food is deemed to be completely freeze dried by the intelligent process.

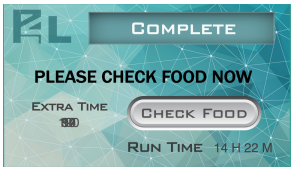
The first screen you see will show the "FREEZING" stage. The top slider graph shows the temperature. The bottom slider bar shows the moisture in the chamber.



Once the temperature reaches 0˚ the vacuum pump turns on and the process goes into "DEEP FREEZE".

Once the optimal temperature and vacuum pressure is reached the process moves on to "FREEZE DRYING". You will see the temperature and the moisture graphs moving up and down as the process continues to dry the food.

The CUBE freeze dryer will continue until it determines that the food has dried. At this point you will be prompted to check the food during a 2-hour time frame.



7. Press Check Food
8. Check the food by opening the drain valve to release the vacuum in the chamber so you can open the door. <u>MAKE SURE THE END OF THE DRAIN HOSE IS NOT SUBMERGED IN WATER.</u>
    a. Once the vacuum has released you will be able to open the door and please check your food to make sure it is dry by selecting the thickest part of the food. You can break it in half or eat a sample to determine whether it is dry or not.
9. If the food is not dry then select yes to add more time.

10. Close the drain valve and front door then select Yes the drain is closed. Press add time.

11. Select 2 hour or 4 hours then press start.

12. During the additional time a countdown will show on the screen.

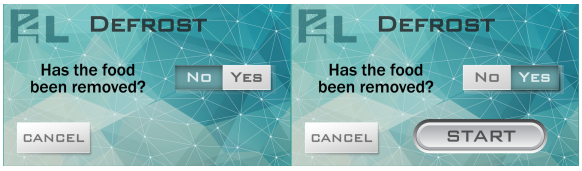
13. Then repeat the process at the end of the additional time.
14. If the food is dry you may end the process by selecting no you do not need more time and press complete.

15. Remove all food from the chamber.
16. If you are not present at the time the process automatically ends the chamber will freeze to preserve the food and maintain the frozen ice.
    a. Press “warm trays” so they are not uncomfortably cold when you remove them. This also helps prevent the food from capturing humidity immediately upon removing from the chamber.

Defrost Cycle

17. To defrost the ice in the chamber in preparation for the next batch, push start, scroll down one screen and then press “**DEFROST**”.

18. Select YES to indicate food has been removed then press start



a. Make sure the door is closed.
b. The chamber will heat for 120 minutes to melt the ice and drain the water out the drain hose. It will show a countdown timer.

c. *Make sure that there is a bucket under the drain hose to capture the water*.

19. At the end of the defrost timer, press complete to return to the START screen.

Candy Express Cycle

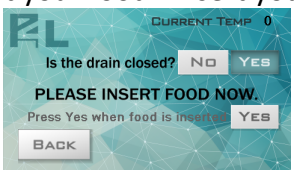
Running candy in candy express mode is very fast and efficient.

1. Load candy on to trays (please note that some candies grow very large during this process so until you know what the candy does, give them lots of space).
2. Place the trays into the freeze dryer.
3. Press the **"START"** button.

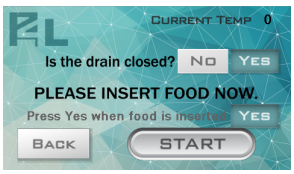
4. Press the "**CANDY EXPRESS"** button.

5. Make sure you close the drain valve. Press **"YES"** the drain is close.

6. You will be prompted to insert your food. Insert your food trays and then press **"YES"**.



7. Press the **"START"** button.



8. The candy express mode will begin by chilling the chamber.

9. After about 20 minutes the vacuum will turn on and a message will begin to flash trying to establish that the chamber is closed and the vacuum pressure is decreasing.

10. The candy express mode will run for another 2 hours after vacuum has established.

11. At the end of the candy express cycle it will tell you the process is complete and ask you if you would like more time (see processes above in the First Batch section for these instructions.)
12. Remove your candy and defrost if needed.

Jar Seal Cycle

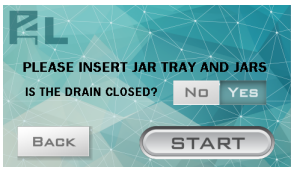
The jar seal mode is the simplest way to seal multiple glass jars at once. Make sure that you leave about ½" space at the top of the jar just as you would when bottling wet foods.

1. Press the **"START"** button.

2. Scroll down one page so that you see the Jar Seal button. Press the **"JAR SEAL"** button.

3. Insert your jars with a lid on and the ring partially loose on top. Close the drain valve and press **"YES"**.

4. Then press **"START"**.



5. The Jar Seal mode will continue for 2.5 minutes. And at the end of the process the screen will prompt you to open the drain valve and remove the jars.

Packaging Food

- All food should be immediately packaged after removing it from the freeze dryer.
- Proper packaging in airtight containers (mylar bags, vacuum bags, canning jars, etc.) with an oxygen absorber will allow for maximum storage time.

Cleaning your Freeze Dryer

To assure that your freeze dryer remains clean and fresh and that your vacuum door seal will seal each and every time it is good practice to clean the inside of the chamber after the ice has melted and drained at the end of each batch.

1. Turn off the power switch to the freeze dryer.
2. Open the door and remove the black vacuum seal around the front of the chamber.
3. Slide the shelving unit out of the chamber and unplug it if necessary. Do not let the shelving unit hang from the wire assembly.
4. Wipe out the chamber and the shelving unit to remove all moisture.
5. Replace the shelving unit, making sure to plug it back in completely if you have unplugged it.
6. Wipe the black rubber seal only with water and dish soap or rubbing alcohol (do not use any other chemical cleaners). Make sure that the vacuum seal is securely reinstalled.
7. It is recommended that you leave the door ajar if you are planning to leave the freeze dryer without running another batch.
8. If you are storing the freeze dryer for an extended period of time please remove all water or food particles from the inside of the chamber.

Error Messages

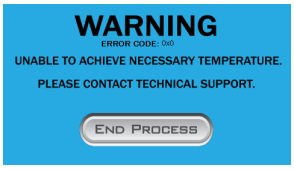
The CUBE freeze dryer will give error messages if certain parts of the process or hardware malfunction.

1. Vacuum error
    a. If a vacuum error appears during a process, you can clear the message and allow the appliance to rectify the problem. If the message persists, remove the food and troubleshoot using the steps in the Frequently Asked Questions section on vacuum pressure.

2. Overheat Error

a. If the overheat error appears on the screen please remove the food, power down the freeze dryer. If the problem persists contact Prep4Life technical support.

3. Unable to achieve necessary temperature error
    a. If you receive this message during the Deep Freezing Stage please remove the food and allow the freeze dryer to defrost and dry out the chamber.
    b. Run the initial test in this manual to see if it passes. If it does, try running the cycle again.
    c. If the problem persists, contact Prep4Life technical support.



Frequently Asked Questions

Vacuum

1. My vacuum will not pull down to 500 microns.
    a. When the vacuum is turned on, you should hear the vacuum pump.
    b. Check to make sure that the drain hose valve is completely closed. Must be turned to exactly 90˚
    c. Check to make sure the black vacuum seal is securely and evenly pushed on to the front of the chamber.
    d. Press the door closed and make sure the magnet engages the door.
    e. Look at where the vacuum seal touches the acrylic door. You should see a thin line all the way around the seal without the vacuum pump on. If you do not, then minor adjustments may need to be made at the hinge or magnet points.

Batch Time

2. Why is my batch time so long?
    a. Typical batch times can vary from 12-30 hours.
    b. Batch times vary on type of food and how densely the trays are loaded.
    c. If you can see the graph sliders moving during the batch the freeze dryer is doing it's job and will finish the process once it has determined the moisture level in the food is low enough to be deemed dry.

d. Foods that are packed extremely dense and contain lots of water may cause so much ice to form on the walls that sublimation of the ice may begin to occur in addition to the food. In some instances this could cause the process to exceed 48 hours.
e. External temperatures may also extend process times. Optimal running temperature is between 55˚F and 90˚F.

Food Packaging, Storage, and Reconstituting

3. How do I package my food for optimal storage?
    a. Make sure to package food immediately after removal from the chamber.
    b. Use airtight containers and insert an oxygen absorber to assure dryness of food is maintained.
    c. Vacuum sealing can additionally assure the storage ability of your food.
4. Why is my food rehydrating?
    a. One piece of food that is not completely dried can rehydrate the rest of the batch.
    b. Check the thickest piece of food in the batch to make sure it is completely dry. If it is not, insert the food again and add more time. If you ended the process, you could run the food again and it will run a shorter process due to the lack of moisture in the food already.
    c. Make sure to heat the trays if your chamber has frozen below room temperature to prevent them from immediately forming condensation and rehydrating.
    d. Make sure the end of the drain hose is not resting in water when you open the valve to check the food or the water will rush into the freeze dry chamber and ruin the food.
5. How do I know how much water to add to reconstitute the food I have dried?
    a. When you put the food in the trays originally, weigh it on a scale that measures in grams and record the weight.
    b. After the drying process, weigh the tray with the food on it again and calculate the difference in weight.
    c. *For example*

        Before drying = 1850 grams
        After Drying = 1450 grams
        1850 – 1450 = 400 grams

    d. Convert grams to fluid ounces.

        400 grams divided by 25.25
        400 / 25.25 = 15.84 oz.
        Approx. 2 cups

    e. Place dried food in 15.84 ounces and let sit. The warmer the water, the faster it will reconstitute.
6. How long do oxygen absorbers last?
    a. Oxygen absorbers are single use.
    b. Once the packaging that the oxygen absorbers come in, they begin to absorb oxygen immediately. You can at times pull some out and re-seal the packaging with a vacuum sealer quickly to preserve the remaining ones, but this will reduce

the effectiveness for future use. Try to only open as many absorbers as you will use.

7. Can I freeze dry and store foods with meats?
    a. Meats will freeze dry but those with animal fat can go rancid if not dried completely, stored in a cool, dry place, including an oxygen absorber.

Warranty

The CUBE freeze dryer has a limited 3 year warranty.

Inside the 48 continental United States

First 90 Days (non-transferrable)

For a period of 90 days from the original ship date, Prep4Life will repair or replace, at its discretion any part of The Cube freeze dryer that is found to have a manufacturing defect in assembly or material. See exclusions below.

One Year Parts Warranty (non-transferrable)

For one year from the original ship date, Prep4Life will repair or replace, at its discretion, any part of The Cube freeze dryer that is found to have a manufacturing defect in assembly or material. During this period the consumer will be responsible for shipping, installation, or service calls for the freeze dryer. See exclusions below.

Three Year Limited Warranty (non-transferrable)

In years two and three from the original ship date, Prep4Life will repair or replace, at its discretion, any part of the sealed refrigeration system, including but not limited to the condenser, compressor, evaporator, etc. During this period the consumer will be responsible for shipping, installation, and service calls.

Outside the 48 continental United States

One Year Limited Warranty (non-transferrable)

For a period of one year from the original ship date, Prep4Life will repair or replace (at its discretion) any part of The Cube freeze dryer that is found to have a manufacturing defect in assembly or material. During this period the consumer will be responsible for shipping, installation, or service calls.

Three Year Limited Warranty (non-transferrable)

In years two and three from the original ship date, Prep4Life will repair or replace any part of the sealed refrigeration system, including but not limited to the condenser, compressor, evaporator, etc. During this period the consumer will be responsible for shipping, installation, and service calls.

Exclusions

North America outside continental 48 states

International

Cube freeze dryers purchased in countries outside those listed above carry the same warranty periods but the consumer will be responsible for shipping of parts and professional repair services.

Consumer Misuse

Any misuse deemed by Prep4Life will be the responsibility of the consumer which may include but not limited to:

1. Proper connection to a power source without an extension cord.

2. Proper installation of shelving unit, if removed.
3. Properly removing power source during cleaning and service.
4. Properly determining dryness of food and packaging for storage.
5. Operating the freeze dryer with enough air flow space (at least 4 inches on each side) and inside a normal working temperature of 35°F to 95°F.
6. Parts installed not supplied by Prep4Life.
7. Service performed by technicians not approved by Prep4Life.
8. Improperly attempting to freeze dry harmful chemicals.
9. Allowing water to contact electrical circuit boards, wires, or connections.
10. Installation or use of after-market accessories.
11. Lifting The Cube freeze dryer by the front door.
12. Claims for economic loss (of any kind), personal or property damages.

Food Storage and Status

Prep4Life will not be responsible for the proper storage and status of food after the drying cycle. All food dryness and storage will be the responsibility of the consumer.

Registration

Proper registration must take place by the original owner of this freeze dryer in order to put the warranty into effect.

You may register on our website, email, or mail the following required information to Prep4Life.

- First and Last Name
- Street Address
- Phone Number
- Email Address
- Freeze Dryer Serial Number
- Date of Purchase
- Vendor purchased from

Technical Support Contact

Prep4Life
14788 Heritagecrest Way
Bluffdale, UT 84065

Phone: (800) 738-8618
Email: support@p4lfood.com

Warranty Registration Form

Please detach and mail to the address listed above in the manual.

Please also include a copy of the proof of purchase.

First and Last Name _____

Email _____

Serial # _____

Phone Number _____

Street Address _____

City _____

State _____

Postal Code _____