

Section 5 Maintenance

Clean Cabinet Exterior

Wipe down the freezer exterior using soap and water and a general use laboratory disinfectant. Rinse thoroughly with clean water and dry with a soft cloth.

Caution Avoid the excessive use of water around the control area due to the risk of electrical shock. Damage to the controls may also result. ▲

Clean Air Filter

The air filter should be cleaned a minimum of four times per year.

1. Open the front door by grasping the handle.
2. Locate the grille on the door. See Figures 1-6 and 1-8. Grasp the middle of the grille material and gently pull out to remove.
3. Wash the filter material using water and a mild detergent.
4. Dry by pressing between two towels.
5. Install the filter back into the grille and close the door.

Depending upon environmental conditions, the filter may need to be cleaned or replaced more frequently. If the filter becomes torn or excessively dirty, a replacement can be purchased from Thermo. Order part number 398216 for 3 cu. ft. units, or 398217 for 13, 17, and 20 cu. ft. units.

Clean Condenser

The condenser should be cleaned a minimum of once per year.

1. Open the front door by grasping the handle. See Figures 1-6 and 1-8.
2. Using a vacuum cleaner, exercising care to not damage the condenser fins, clean the condenser.

Depending upon environmental conditions, the condenser may need to be cleaned more frequently.

Defrost Chamber

1. Remove all product and place it in another freezer.

2. Turn the unit off and disconnect it from the power source.

3. Turn off the battery switch (O). See Figures 5-1 and 5-2.

4. Open the lid and remove sub-lids. Place towels on the chamber floor.

5. Allow the frost to melt and become loose. Remove with a soft cloth.

7. After defrosting is complete, clean the interior with a non-chloride detergent. Rinse thoroughly with clean water and dry with a soft cloth.

8. Plug unit in and turn power switch on.

9. Turn the battery power switch to Standby mode (⏻).

10. Allow the freezer to operate empty overnight before reloading the product.

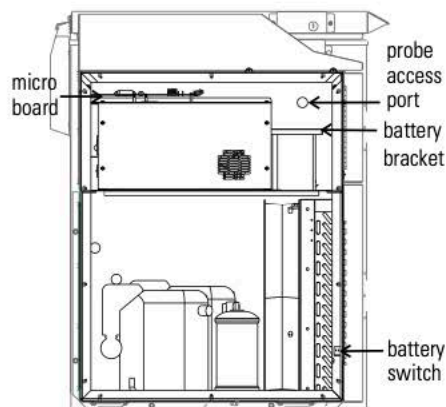


Figure 5-1. Battery and Switch location

Clean Lid Gasket

The lid gasket should be cleaned a minimum of once per month. Using a soft cloth, remove any frost build-up from the gasket, sub-lids and lids. The clean gasket alarm occurs every three months as a reminder to remove frost build-up from the gasket and doors. Press the Silence key to mute the audible alarm. The lid gasket may need to be cleaned more frequently if dirt or excessive frost build-up prevents the door from closing properly.

Replace Battery(s)

The following instructions describe the battery replacement procedure for specific models.

All Models Except 3 cu ft

1. Open the front door by grasping the handle and pulling.
2. Locate the battery power switch (Figure 5-1). Turn the battery power switch to the Off position (O).
3. Remove the four screws holding the recorder bezel to gain access to the battery.
4. Remove the three nuts securing the battery bracket. See Figure 5-1.
5. Remove the bracket and old battery. Discard properly. Install the new battery and secure.
6. Reconnect the battery (red to positive and black to negative).
7. Replace the recorder bezel.
8. Turn the battery power switch to Standby mode (⏻).
9. Close lower panel door.

3 cu ft Models

1. Open the front door by grasping the handle and pulling.
2. Locate the battery power switch (Figure 5-2). Turn the battery power switch to the Off position (O).
3. Remove the two nuts securing the battery bracket. See Figure 5-2.
5. Remove the bracket and old battery. Discard properly. Install the new battery and secure.
6. Reconnect the battery (red to positive and black to negative).
7. Replace the recorder bezel.
8. Turn the battery power switch to Standby mode (⏻).
9. Close lower panel door.

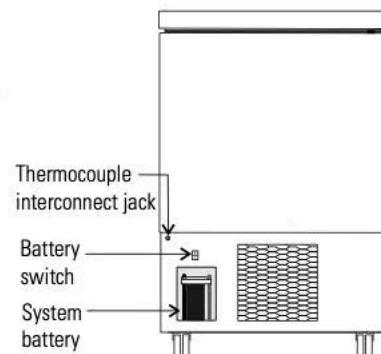


Figure 5-2. Battery and Switch location

3 cu ft Models (continued)

Note For a consistent and dependable charge, replace the battery every 2 years. Replacement batteries must be rechargeable and are available from Thermo. Refer to the parts list for stock number and description of the replacement batteries (P/N 400159). Dispose of the used batteries in a safe manner and in accordance with good environmental practices. ▲

Prepare Unit for Storage

Defrost the unit as previously described. This prepares the unit for storage. Turn Off the battery power switch (O). Turn Off the freezer power switch.

Note If the unit has been in service, turn it off and disconnect the power cord connector before proceeding with any maintenance. ▲

PREVENTIVE MAINTENANCE

Freezers

Your equipment has been thoroughly tested and calibrated before shipment. Regular preventive maintenance is important to keep your unit functioning properly. The operator should perform routine cleaning and maintenance on a regular basis. For maximum performance and efficiency, it is recommended that the unit be checked and calibrated periodically by a qualified service technician.

The following is a condensed list of preventive maintenance requirements. See the specified section of the instruction manual for further details.

We have qualified service technicians, using NIST traceable instruments, available in many areas. For more information on Preventive Maintenance or Extended Warranties, please contact the Technical Services Department.

Cleaning and calibration adjustment intervals are dependent upon use, environmental conditions and accuracy required.

Tips:

- Fill an upright by starting at the bottom near the probe and add racks to one shelf at a time. Allow freezer to recover to set point between shelves.
- Fill a chest by starting at the left side near the probe. Filling with room temperature racks will result in a long pull-down time.
- Fill unit with frozen product to help overall performance; frozen water jugs, for example.
- Always make certain the vacuum relief port is free of frost and ice, to allow for timely re-entry into the freezer after a door opening.

Action	Monthly	Yearly	Every 2 Years
Verify ambient temperature, <90°F	✓		
* Adjust door handle for firm latching, as needed	✓		
Check and clean probe cover, gaskets, hinges and lid(s) of ice and snow. See Figure 1-5 for probe location. See "Clean Lid Gasket".	✓ <i>More frequent cleaning may be required, depending on use and environmental conditions.</i>		
Check air filter. Clean or replace as needed. See "Clean Air Filter".	✓		
Check alarm back-up battery. See "Connect Unit to Electrical Power" in Section 1 and "Replace Battery" in Section 5.	✓		**Replace
Check condenser fan motor for unusual motor noise or vibration.		✓	
* Verify and document calibration, at the minimum, annually. See Section 2 Calibration.			
* Clean condenser compartment and wipe off condenser. See "Clean Condenser" in Section 5.		✓	

* Qualified service technicians only

** Dispose of properly, according to all state and federal regulations.