



PrincetonCryo.com
Cryogenic Delivery and Storage Systems

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MVE Chart Tech Tips

PRODUCT INFORMATION

Chart MVE TEC3000 Upgrade Kits

Chart provides upgrade kits that will allow freezers with the TEC2000 controller to be upgraded to the TEC3000. To order an upgrade kit, please contact our Technical Support team and provide the freezer's serial and model numbers. Technical Support will need this information in order to provide the correct upgrade kit.

The most basic upgrade kit includes a new TEC3000 controller, power supply, and wiring harness adaptor. The wiring harness adaptor connects directly to the freezer's existing plumbing harness, which enables the plug-and-play upgrade.



Please note: When upgrading a TEC2000 to a TEC3000, it is imperative to use the Jerome Power Supply included in the upgrade kit, even if the original TEC2000 power supply is operating well. Replacement of the original power supply is essential for proper fill valve and level sensing functionality.

HELPFUL HINTS / FAQs

Temperature Probe Calibration

Q: Can the temperature probes be calibrated?

A: Yes. There are two calibration procedures: single point and two point calibration. For single point calibration, the reference point is LN2. For two point calibration, the reference points are LN2 and ice water. Due to the complexity of the two point calibration procedure, the single point calibration procedure is recommended unless regulations require a two point calibration.

Q: When do the temperature probes need to be calibrated?

A: All new freezers equipped with TEC3000 controllers have been calibrated at the factory. The temperature sensors should only be calibrated if faulty readings are suspected, a sensor or the TEC3000 itself has been replaced, following a firmware update, or as a part of a preventative maintenance schedule.

Q: How is the temperature probe calibrated on the TEC3000 using the single point calibration method?

A: The single point calibration procedure requires a small volume of LN2, enough to completely submerge the end of the temperature sensor. It may be possible to use the LN2 in the freezer space if the probe length permits.

1. Before beginning the calibration on the controller, completely submerge the end of the temperature sensor into the LN2 and allow the temperature to stabilize.
2. Enter the password on the TEC3000 and press "Setup" until you get to "Temperature Menus" and then press "Enter".
3. The display should read "Temp A Menus". Press "Enter".
4. Press "Setup" until the display reads "Temp A Calibration". Press "Enter".
5. Press "Enter" again to select the single point calibration.
6. Place the entire sensing portion of the temperature probe in LN2 and press "Enter".
7. Wait for the temperature probe to stabilize and press "Enter" again to confirm that the temperature probe has stabilized in LN2.
8. The display will read "Probe A single point calibration complete".

ACCESSORIES

Low Level Alarm for Aluminum Dewars

Chart sells a low level alarm for our Aluminum dewars that is designed to alert when the level in the dewar is getting low. The Low Level Alarms include a probe that is inserted through the neck and placed at a user designed level. When the level of the LN2 goes below the probe, the alarm will sound. Chart sells two variations of these alarms. The Bat 1B alarm uses a 9V battery for power. The Therm-O-Lert uses a 110V or 230V AC supply as well as an internal, rechargeable battery.



Low Level Alarm: PN 11905817 (BAT1-B)



Therm-O-Lert Battery LN2 Level Alarm (230 V): PN 10769489

Therm-O-Lert Battery LN2 Level Alarm (110V): PN 9710879