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## MVE Chart Tech Tips

In This Issue

[Product Information](#)  
[Helpful Hints / FAQs](#)  
[Accessories](#)

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February 2015

### PRODUCT INFORMATION

#### Vario Pro 0.1 to 0.2 Firmware Update

All current production-model Vario Pro freezers are outfitted with firmware version 0.2. Vario pro controllers with firmware version 0.1 will continue to function normally, but it is recommended that all Vario Pro freezers in the field be upgraded to firmware version 0.2.

In order to upgrade to version 0.2 firmware it is required to have a laptop, a TEC COM kit (PN: 13376947), and the associated Firmware Installer program. See the accessories section for more information on the TEC COM kit.

Instructions for updating the firmware on a Vario Pro controller:

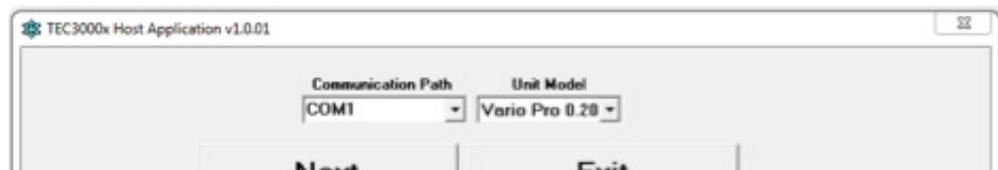
1. Open <http://tec.chartbiomed.com/> in an internet browser.
2. Download and install the Vario Pro Firmware Version 0.2 Installer

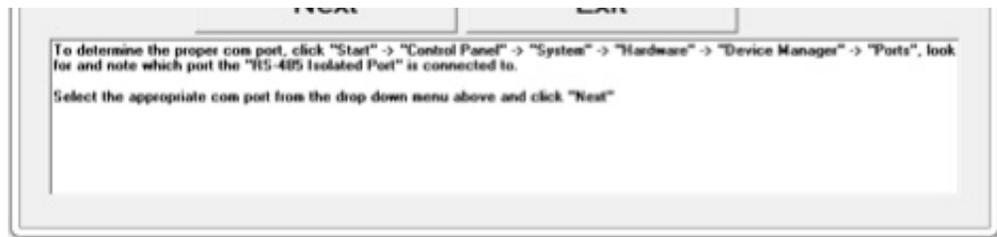
#### Variö Pro - Firmware Version 0.20 Installer

[Download Manufacturer 0.20 Firmware Updater](#)

2.26MB Zip file includes Installer for MVE Controller Updater

3. Once the program is installed, open the program titled "MVE Controller Updater". A dialog box like the one below should appear.





4. Connect the computer to the Vario Pro controller to be updated with the TEC COM kit. If the controller was just powered on, wait until the startup screen passes to continue. Ensure that the COM port is set to 9600 8N1 under COM 1 Menus. The COM port can be any type (ASCII/MODBUS/PRINTER).

*Note: Unlike the TEC 3000, the Vario Pro controller does not require a specific menu item to be selected before proceeding with the firmware update. Once the controller has completed the startup sequence (where it displays the serial number and software version) the controller is ready to accept the firmware update.*

5. Select the COM port the TEC COM kit is connected to on the computer.
6. Select the **Vario Pro 0.2** under **Unit Model**.
7. Click **Next**.
8. When the program displays "Ready..." in the text box click **Upgrade Firmware**.
9. A dialog window will appear asking you to confirm your selection. Click **Yes**. Note that no event logs or settings will be lost from the controller when upgrading firmware versions.
10. The firmware update may take several minutes.
11. When the updater program reads "transfer operation complete", **do not disconnect the TEC COM cable from the serial port at this time**. The controller may take several minutes to resume normal operation.
12. It is now necessary to restart the controller. Cycle power to the controller by selecting **Restart Controller** from the **Advanced Settings** menu.
13. Verify on restart that the controller now reads version 0.2 firmware.
14. Once the controller has completed its startup sequence the TEC COM cable can be disconnected and the firmware update is complete.

## **MVE XC 34/18 Plus**

The MVE XC 34/18 Plus is designed specifically for storage in liquid nitrogen vapor. The tank is ideal for storing either straws or vials. An elevated storage area can help prevent the samples from making contact with liquid nitrogen while sealed canisters prevent liquid

contact with liquid nitrogen, while sealed canisters prevent liquid nitrogen ingress. The MVE XC 34/18 Plus capacity of 32.7 liters allows for an approximate 60 day hold time (pending inventory, usage and atmospheric conditions).



## HELPFUL HINTS / FAQ's

**Q:** What is the level offset value in the TEC 3000 controller? Do I need to adjust it?

**A:** The level offset is set during factory testing and accounts for the height of the level sensing port above the bottom of the freezer. The level offset does not need to be adjusted during normal operation. Level offset needs only be adjusted if for any reason a controller is manually restored to defaults in the field. If this is required note the level offset on the controller before restoring the controller to factory defaults and re-enter this value after the controller is restored to defaults. The typical values for the level offset are 1.3" for MVE series freezers and 0.6" for HE series freezers.

**Q:** What is the part number for a replacement probe for the Bat-1B Low Level Alarm? What about the part number for the replacement probe on the Therm-O-Lert Low Level Alarm?

**A:** The part number for the replacement probe on the Bat-1B alarm is PN: 11866441. The part number for the replacement probe on the Therm-O-Lert is PN: 11866416. See the accessories section for more detail on these two alarm systems.

**Q:** Regarding MVE vapor shippers, what are the differences between empty weight, weight charged, and weight full?

**A: Empty Weight** - This is the weight of the dewar with no liquid.

**Weight Charged** - This is the weight of the dewar plus the adsorbed liquid after it has been charged, and the excess liquid has been removed.

**Weight Full** - This is the weight of the dewar plus the weight of the added liquid when full, before the excess liquid is removed.

## ACCESSORIES

### TEC COM kit

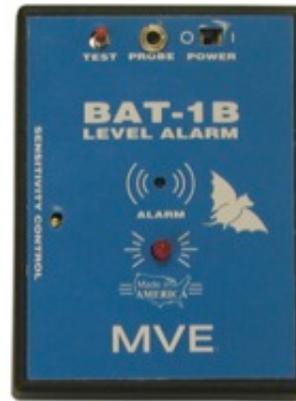
The TEC COM communications kit is used to download event logs, change settings, and install firmware updates to MVE TEC 3000 and MVE Vario Pro controllers. The TEC COM kit connects one of the serial ports on the controller to a USB port on a laptop or desktop computer. The TEC Connect software is required to use the TEC COM kit can be downloaded for free at the [Chart BioMed software download page](#).



### Low Level Alarms for Aluminum Dewars

Chart offers low level alarm options for aluminum dewars that are designed to alert when the level is getting low. The low level alarms include a probe that is inserted through the neck and placed at a user designated level. The alarm sounds when the liquid level drops below the probe. The Bat-1B alarm uses a 9V battery as a power source. The Therm-O-Lert uses a 110V or 220V AC power supply as

source. The Therm-O-Lert uses a 110V or 230V AC power supply as well as an internal, rechargeable battery.



Bat-1B: PN 11905817  
Detachable Probe: PN 11866441



Therm-O-Lert (230 V): PN 10769489  
Therm-O-Lert (110 V): PN 9710879  
Detachable Probe: PN 11866416

Upcoming Events

Trade Shows

We will be present at the following trade shows and would love to see you at our booth!

**EBMT**  
March 22-25  
Istanbul, Turkey  
Booth # B18

## Contact Us

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