

Tech Tips

(December 2016)

Product Information

Variō Pro Controller Firmware Update

Chart MVE has released a new firmware version for the Variō Pro controller. Version 0.23 will now replace 0.20 as the current release firmware. In order to upgrade to version 0.23 firmware, it is required to have a laptop, a TEC COM kit (PN 13376947), and the associated Firmware Installer program. Please contact the Technical Service department if you have any questions.

The new features include:

- One-Cool-All-Cool functionality for simultaneous and sequential cooling; based on One-Fill-All-Fill
- Required setup screens (OCAC mode in Com1 Type, OCAC menu, OCAC ID, OCAC units and simultaneous/sequential selection)



All Chart MVE Full Auto Freezers

As part of Chart's continuous improvements we have transitioned to a more robust 2.0A power supply as of July 1, 2016. The new part number is PN 20965617. The previous power supply (PN 11795030) was rated at 1.2A.

To help maintain our traditional backward compatibilities, the new power supply can be used on the TEC2000's, TEC3000's, and Variō Pros. Its dimensions/appearance will be exactly the same as the previous power supply. The new power supply will be a direct replacement and will not require any adaptors. All upgrade kits/service parts will transition to the new power supply.



Pictured left is previous power supply (PN 11795030).
 Pictured right is new power supply (PN 20965617).

Stainless Steel Basket

Chart MVE offers a basket assembly that is used in conjunction with the SS transfer Dewars. The basket is not designed for long term storage inside the Dewars, but rather for shrink fitting or the cryo-treating of metal parts.



PN 11066283

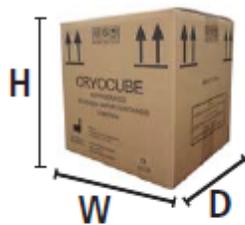
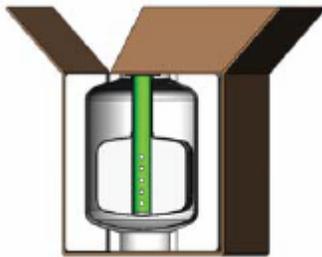
MVE CryoCube

The new MVE CryoCube is a secure cryogenic shipping option for your biological samples. The CryoCube incorporates creative engineering and simplistic design to allow shipping in any orientation without sacrificing temperature or hold time. Improved welded construction

provides the CryoCube with consistent, high quality design with every unit. The CryoCube allows for savings on dry ice, packaging, shipping cost, and disposal.

Features include:

- Charges in 2 hours
- Operates as a dry shipper
- -150° C temperature
- 5-day holding time
- Safe shipping in any orientation
- Safe for international shipping; IATA Dangerous Goods Regulations Exempt (Special Provision A152)
- Welded construction for added integrity



MVE CryoCube™	
Maximum Storage Capacity	
Number of Canisters	1
Number of 1/2 cc Straws in Bulk	88
Number of 1/4 cc Straws in Bulk	182
Number of 1.2 & 2.0 ml vials	6
Performance	
LN2 Capacity w/o Inventory (min) <i>L est.</i>	1.5
Static Holding Time (<i>days</i>)	5
Unit Dimensions	
Neck Opening <i>in. (mm)</i>	1.4 (35)
Overall Height <i>in. (mm)</i>	12.5 (317.5)
Overall Width <i>in. (mm)</i>	12 (305)
Overall Depth <i>in. (mm)</i>	12 (305)
Inner Canister Height <i>in. (mm)</i>	4.72 (120)
Inner Canister Diameter <i>in. (mm)</i>	1.25 (32)
Weight Empty <i>lb. (kg)</i>	7.5 (3.41)
Weight Charged <i>lb. (kg)</i>	10.2 (4.63)

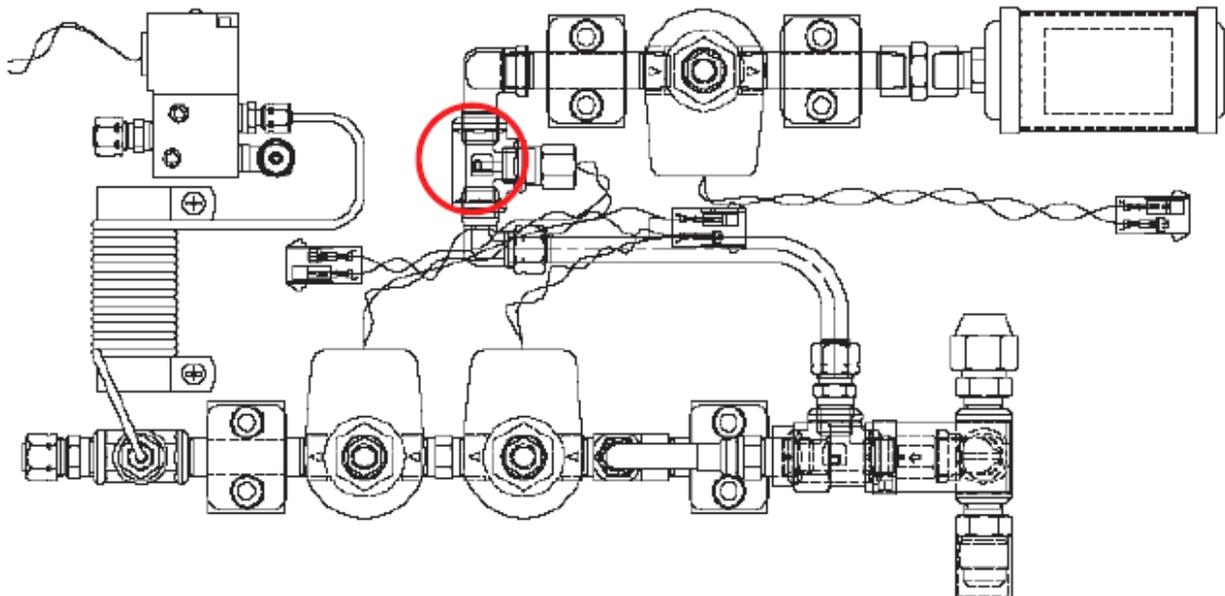
TWO Year Vacuum Warranty

Conforms to MDD 93/42/EEC, the Medical Device Directive for the EU.

Helpful Hints/FAQ's

Function Testing the Hot Gas Bypass System

1. Press the "Fill Start" button to initiate a fill cycle. The gas bypass valve should open, and nitrogen vapor should exit the exhaust muffler.
2. After the plumbing is cooled to the preset temperature (default is -70°C), the bypass valve should close, and the freezer should begin filling.
3. If liquid nitrogen begins to exit the muffler before the freezer begins filling, the "Hot Gas Bypass Setpoint" should be increased. The factory default value is -70°C . Increase the temperature setting in 10°C increments (-60°C , then -50°C , etc) until desired operation is achieved.
4. If the filling process begins before the plumbing is sufficiently cool, the "Hot Gas Bypass Setpoint" should be decreased. The factory default value is -70°C . Decrease the temperature setting in 10°C increments (-80°C , then -90°C , etc) until desired operation is achieved.
5. In applications where the piping is very long and/or uninsulated, a "Hot Gas Bypass Alarm" may occur. In this case, increase the "Bypass Time Delay" in 5 minute increments until the freezer is able to complete the bypass cycle without initiating an alarm. The factory setting for the Hot Gas Bypass Alarm Time Delay is 5 minutes.



CryoShipper, CT-50, and CT-250 Fuzzy Cork

Q: What is the difference between the fuzzy cork/cover assemblies compared to a standard cork/cover?

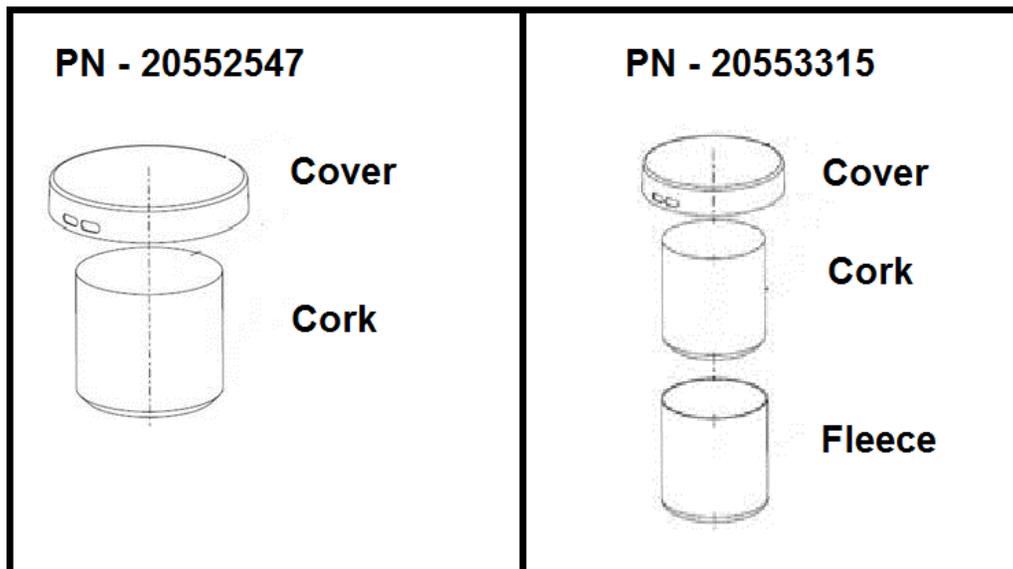
A: The fuzzy cork assembly used with the CryoShipper, CT-50, and CT-250 vapor-shippers incorporates a polyester fleece-like material that is adhered to the cork. The fleece material is an extremely durable fabric that attempts to resist moisture, dries quickly, and will also help to prevent cork particles from falling down into the storage chamber.

CT-250 Fuzzy Cork/Cover - 21003472

CT-50 Fuzzy Cork/Cover - 21007703



CT-250 Fuzzy Cork/Cover



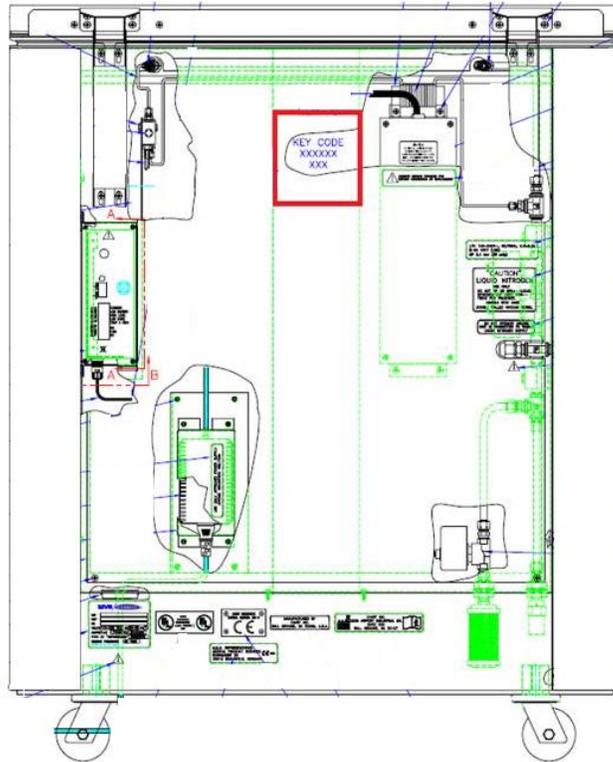
CryoShipper Cork/Cover - PN 20552547 (standard)

CryoShipper Fuzzy Cork/Cover - PN 20553315

Cabinet Series Freezer Key Replacement

Q: I have lost the key to unlock our cabinet style freezer. How can I obtain a replacement key?

A: A replacement key may be ordered by contacting our customer service department and referencing part number 11929675 along with the specific key code for your freezer. The key code is located on the freezer shell. To access the key code, simply remove the back panel and the key code will be displayed on the vent chamber (shown below in red):



Accessories

MVE Series Optional Vapor Platforms

Chart offers optional vapor platforms for the MVE Open-Top Series. When ordering, please keep in mind that vapor platforms occupy approximately 4 to 5 inches of the freezer's usable space, which may affect the necessary rack size.

Freezer Model	Vapor Platform PN
MVE 205	10544837
MVE 510	10544853
MVE 616 and MVE 616 Cabinet	11509726
MVE 1426 and MVE 1416 Cabinet	10544888
MVE 1839	10544909

*Note: Utilizing the optional vapor platform with open top freezers will increase nitrogen consumption.

Temperature Reduction Hanging Sleeves for the MVE Series

Chart has designed temperature reduction sleeves to provide a lower temperature difference when storing in vapor. Chart manufactures these sleeves specific to Chart MVE series freezers only. The estimated temperature reduction is approximately 10°C (18°F) for the MVE 200, MVE 500, and the MVE 600 Series. The estimated temperature reduction is approximately 20°C

(36°F) for the MVE 1400 and MVE 1800 Series. Please note, the use of these sleeves will lead to a higher use of LN2.

Part numbers are listed below for the specific MVE Series:

Freezer Model	Hanging Sleeve PN
MVE 205	11900477
MVE 510	11905227
MVE 616 and MVE 616 Cabinet	11937317
MVE 1426 and MVE 1416 Cabinet	11934044
MVE 1839	11941105