



**PrincetonCryo.com**  
Cryogenic Delivery and Storage Systems

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## MVE Chart Tech Tips

### PRODUCT INFORMATION

#### SC 20/20 Signature Series

Chart is proud to introduce the new Signature SC20/20 Tank. The Signature SC20/20 PN 20861774 will replace the SC20/20 PN 10725451. The Signature SC 20/20 is engineered specifically for farm use and has an improved, precision manufactured design.



#### SC 20/20 Signature Series

*Faco*



#### Features include:

- Engineered specifically for farm use
- Precision manufacturing design

#### MVE SC 20/20 Signature

| Maximum Storage Capacity             |             |
|--------------------------------------|-------------|
| LN2 Capacity L                       | 6           |
| Number of 1/2 cc straws 10/cane      | 660         |
| Number of 1/2 cc straws 1 Level Bulk | 879         |
| Number of 1/4 cc straws              | 1320        |
| Performance                          |             |
| LN2 Capacity L                       | 20.5        |
| Static Evaporation Rate L/day*       | 0.09        |
| Static Holding Time days             | 227         |
| Normal Working Duration days         | 142         |
| Unit Dimensions                      |             |
| Neck Opening in. (mm)                | 2.16 (55)   |
| Overall Height in. (mm)              | 26.0 (660)  |
| Outer Diameter in. (mm)              | 14.5 (368)  |
| Canister Height in. (mm)             | 11.0 (279)  |
| Canister Diameter in. (mm)           | 1.65 (41.9) |
| Weight Empty lb. (kg)                | 26.0 (11.8) |
| Weight Full lb. (kg)                 | 62.4 (28.3) |

\* Static evaporation rate and static holding time are nominal. Actual rate and holding time will be affected by the nature of the container use, atmospheric conditions, and manufacturing tolerances.

**TWO Year Standard Warranty from date of invoice**  
**FIVE Year Vacuum Warranty from date of invoice**

## MVE Research Dewars

The MVE Research Dewars are developed specifically for easy and safe transport of liquid nitrogen and samples within facilities. These units are vacuum insulated for superior thermal performance and long hold times.

Features include:

- \* All stainless steel construction
- \* Insulated lid (sold separately)
- \* Wide mouth for easy access
- \* Convenient carrying handle (except .5L)
- \* Meets laboratory safety requirements that prohibit glass lined Dewars



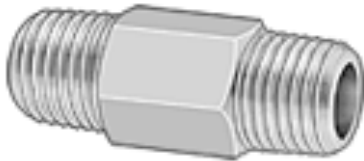
|                                 | RD-6       | RD-3      | RD-2       | RD-1      | RD-1W     | RD-0.5    |
|---------------------------------|------------|-----------|------------|-----------|-----------|-----------|
| <b>Performance</b>              |            |           |            |           |           |           |
| LN2 Capacity L                  | 6          | 3         | 2          | 1         | 1         | 0.5       |
| Handle                          | yes        | yes       | yes        | yes       | yes       | no        |
| <b>Unit Dimensions</b>          |            |           |            |           |           |           |
| Neck Opening in. (mm)           | 7.3 (185)  | 7.3 (185) | 3.9 (99)   | 3.3 (84)  | 3.9 (99)  | 2.6 (66)  |
| Inner Diameter in. (mm)         | 7.3 (185)  | 7.3 (185) | 3.9 (99)   | 3.3 (84)  | 3.9 (99)  | 2.6 (66)  |
| Outer Diameter in. (mm)         | 7.8 (198)  | 7.8 (198) | 4.8 (122)  | 4.3 (109) | 4.8 (122) | 3.4 (86)  |
| Usable Internal Height in. (mm) | 10.6 (269) | 6.3 (160) | 7.1 (180)  | 6.2 (157) | 6.1 (155) | 7.1 (180) |
| Overall Height in. (mm)         | 11.8 (300) | 7.5 (191) | 12.3 (312) | 9.1 (231) | 7.0 (178) | 8.0 (203) |
| NER without cover L/hr          | 0.4        | 0.2       | 0.1        | 0.1       | 0.2       | 0.1       |

## HELPFUL HINTS / FAQ's

**Q:** Does the HEco and HE use the same filters?

**A:** No, the HE series uses 40 micron bronze filter, while the HEco uses a bronze wye strainer with a mesh screen inside.

**HE Filter:**



**HEco Filter:**



**Q:** Does the HEco Wye need to be replaced annually?

**A:** The HEco wye strainer can be cleaned annually and does not require replacement; however, we recommend that you inspect the strainer thoroughly and replace it if it shows signs of being clogged or very dirty.



**Q:** Does Chart sell replacement hinges and latches for the Cryoshipper protective shipping container?

**A:** Chart sells replacement hinges and latches for the Cryoshipper protective shipping container. There are two shipping container versions and each one uses a different hinge. Below are images for reference:



Part# 9719449 = Silver hinge PN 13960393



Part# 20750520 = Black hinge PN 20834268

## ACCESSORIES

### Datalogger Calibrations

Chart discontinued the Planer and MVE Datalogger calibrations. Chart offers the PDF Logger that can be substituted; however, the PDF Logger will not fit into the Planer/MVE logger brackets. See below for more information.

### Chart MVE PDF Logger, Bracket, Temperature Probe, and Label

PN 20539220 will include the PDF Logger, bracket, temperature probe, and label. This part number is specific only if the end user wants to mount it to their cork and cover. To use this requires drilling out old rivets from the previous bracket, remove old probe/insert new probe into the existing hole (usually located at the center) and use the supplied Velcro to attach PDF Logger bracket (Rivets are no longer used).

For your convenience we do offer the complete cork and cover with the PDF Logger Assembly factory mounted; please reference part numbers below:

**Complete Cork and Cover with PDF Logger Assembly:**

CryoShipper / XC / Mini PN 15086468

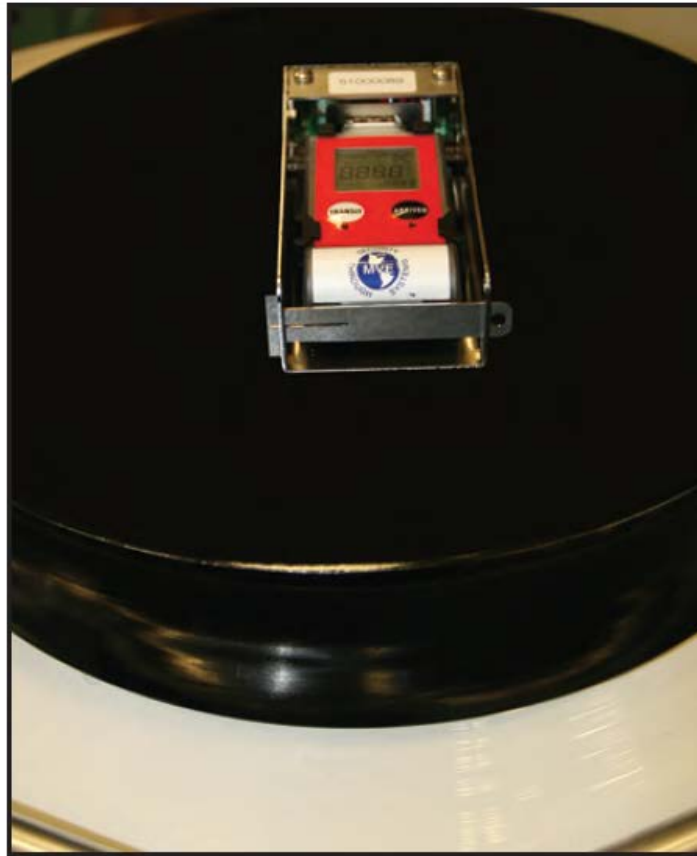
Cryo Moover PN 15086513

SC 4/2V PN 15086476

SC 4/3V PN 15086484

SC 20/3V PN 15086505

Please note that effective immediately all PDF Loggers will have a "no return" policy. The 15% restocking fee and 60 days return policy will no longer apply to the PDF Logger.



## SUC Cane Markers

Chart offers SUC Cane Markers which are available in 9 colors. The colored tab sticks out of the top of the SUC canister and the main cane body inserts into the SUC canister. The colored marker piece folds onto the marker cane tab.

**SUC Marker Cane PN: 10784574**



**Part Numbers for SUC Cane Markers:**

|          |        |
|----------|--------|
| 11886679 | Silver |
| 11886687 | White  |
| 11886695 | Brown  |
| 11886716 | Pink   |
| 11886724 | Blue   |
| 11886732 | Green  |
| 11886741 | Yellow |
| 11886759 | Orange |
| 11886767 | Red    |

## 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. Most freezers equipped with the TEC2000 can be upgraded to the TEC3000. Although the majority of older freezers can be upgraded, there may be older models that cannot be retrofitted. The proper upgrade kit can be obtained by providing the freezer's serial number. Contact Technical Support for additional information.



TEC3000 Faceplate

The TEC2000 Lakeshore controller powered with AC voltage was manufactured with blue panels. The TEC2000 Microdynamics that is powered with AC to DC power supply had the white and green panels.

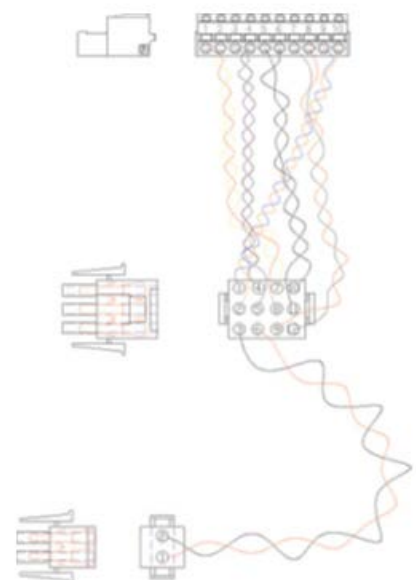
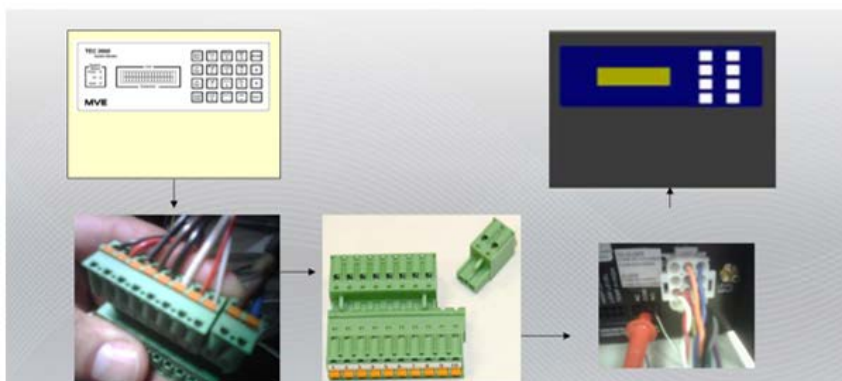


TEC2000 Faceplate



TEC2000 Faceplate

Depending on which upgrade kit is ordered, upgrade kits may include a fill solenoid valve, a purge valve, and temperature probes. All freezer series are provided a plug-and-wire harness assembly.



## MVE TEC2000 to TEC3000 Upgrade

**Q:** How can one determine if an upgrade is possible?

**A:** Please contact our Chart Technical Support Team and provide the freezer serial number. Upon receipt of this information, a member of our Technical Support Team will advise as to whether an upgrade is possible.

**Q:** After the upgrade was performed, the TEC3000 LCD display flickers, but only while the freezer is filling. After the freezer completes filling, the display stops flickering. What does this mean?

**A:** When upgrading a TEC2000 to a TEC3000, always use the Jerome power supply included in the upgrade kit. Although previous TEC 2000's may already have a Jerome power supply, Chart recommends replacing the power supply. The replacement of the power supply is essential for proper fill valve and level sensing functionality.

