



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

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## MVE Chart Tech Tips

### PRODUCT INFORMATION

#### Chart MVE Doble Series Aluminum Tanks

The MVE Doble Series aluminum tanks are units designed for both vapor shipment and liquid storage. These tanks utilize the same components and vacuum technology that make our current range of aluminum tanks the best-selling breeder units on the world market. The unique absorbent layer in the base of these storage units enables the tank to be charged with liquid nitrogen and can be employed as a dry shipper.

When a Doble tank arrives at its destination, the tank can be filled with liquid nitrogen and used as a longterm storage tank. The unit's name is derived from the versatility of the double-design method, which allows the tank to be used as both a vapor shipper and storage tank with "double" ("Doble" in Spanish) use.

The MVE Doble Series is available in various sizes:

Model	Canisters	Liters	Liquid/Vapor*
Doble 11	6	11	42 days liquid/21 days vapor
Doble 20	6	20	126 days liquid/21 days vapor
Doble 28	6	28	49 days liquid/21 days vapor
Doble 34	6	32	119 days liquid/28 days vapor
Doble 47	6	46	70 days liquid/21 days vapor
Doble 47-10	10	46	70 days liquid/21 days vapor

\* Estimated Hold Times



From right: Doble 34, Doble 20, Doble 11, Doble 28, Doble 47

### Chart MVE QWick Series

The MVE QWick Series uses an absorbent material that can charge the vapor shipper in less than two hours. This is convenient for same-day sample shipments. The MVE QWick Series utilizes a hydrophobic compound that absorbs the liquid nitrogen and ensures dry, spill-free shipping.

The MVE CryoShipper QWick Series has the same capacity and dimensions as the MVE Vapor Shipper Series. Protective shipping cartons are available and may be used to ship samples with a "nonhazardous" classification throughout the world.

CryoShipper QWick 6/9 (SC 2/1V)	PN 14228962
CryoShipper QWick 10/100 (SC 4/2V)	PN 14138772
CryoShipper QWick 14/24 (Mini Moover)	PN 14275427
CryoShipper QWick 14/48 (SC 4/3V)	PN 14228874
CryoShipper QWick 9/500 (CryoShipper)	PN 14275515
CryoShipper QWick 10/950 (CryoShipper XC)	PN 14275558



Figure 2: CryoShipper QWick Series



Figure 3: Doble QWick 17/2400

The Doble QWick Series is the same capacity and dimensions as the comparable Doble Series and also permits units to be charged with nitrogen and used both as a dry shipper and for longterm storage. When the unit arrives at its final destination, these tanks may be filled with liquid nitrogen and used for longterm storage. This may reduce the need for return shipments.

Doble QWick 10/660 (Doble 11)	PN 14275574
Doble QWick 20/660 (Doble 20)	PN 14275603
Doble QWick 17/2400 (Doble 28)	PN 14275620
Doble QWick 20/2100 (Doble 34)	PN 14275654
Doble QWick 14/4500 (Doble 47/6)	PN 14275671
Doble QWick 14/3500 (Doble 47/10)	PN 14275689

## HELPFUL HINTS / FAQs

### Chart MVE High Efficiency Turn Tray Height

**Q:** What is the height of the internal turn tray?

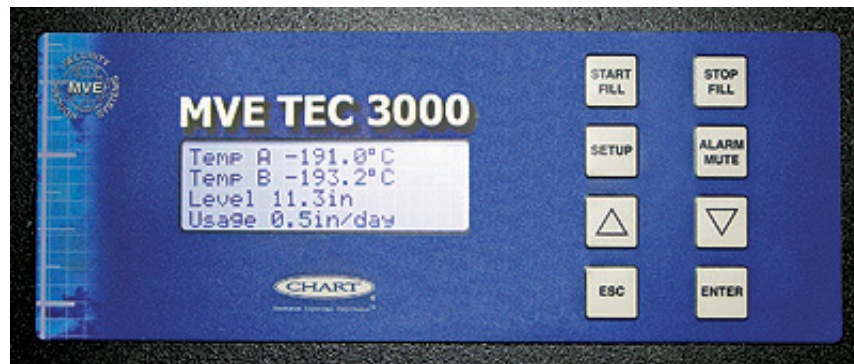
**A:** The internal turn tray height varies with high efficiency (HE Series) models. The chart below lists relative turn tray heights for each HE Series model freezer.

<b>Freezer Model</b>	<b>Turn-tray Platform Height in. (mm)</b>
<b>MVE 815P-150</b>	6 (152)
<b>MVE 815P-190</b>	6 (152)
<b>MVE 818P-190</b>	6 (152)
<b>MVE 819P-190</b>	6 (152)
<b>MVE 1536P-150</b>	9 (228)
<b>MVE 1536P-190</b>	9 (228)
<b>MVE 1539P-190</b>	9 (228)
<b>MVE 1879P-150</b>	9.5 (242)
<b>MVE 1879P-190</b>	9.5 (242)
<b>MVE 1892P-190</b>	9.5 (242)
<b>MVE 1539R-150</b>	9 (228)
<b>MVE 1542R-150</b>	8 (203)
<b>MVE 1542R-190</b>	9 (228)
<b>MVE 1881R-150</b>	9.5 (242)
<b>MVE 1881R-190</b>	9.5 (242)
<b>MVE 1894R-150</b>	9.5 (242)
<b>MVE 1894R-190</b>	9.5 (242)

## ACCESSORIES

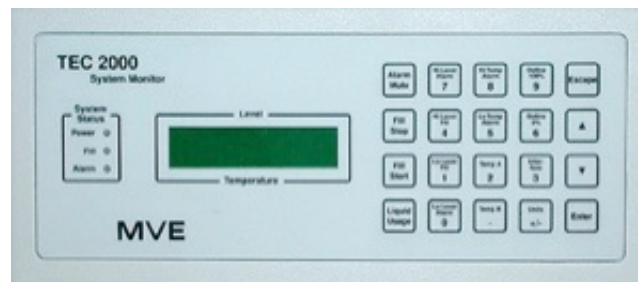
### TEC3000 Upgrade Kits

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.

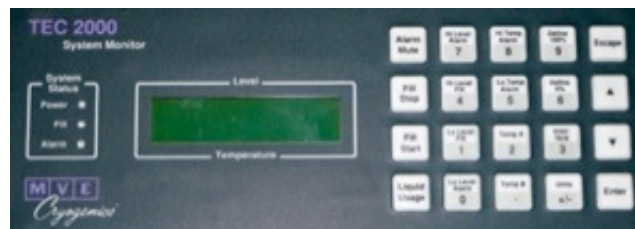


TEC3000 Faceplate

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

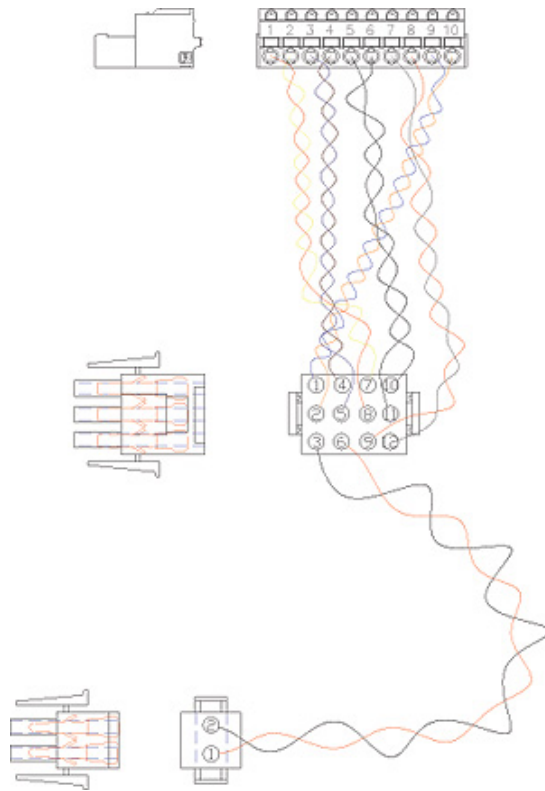


TEC2000 Faceplate



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-play wire harness assembly.



TEC2000 to TEC3000 Upgrade Wiring

### 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.