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Cryogenic Delivery and Storage Systems

MVE Tech Tips



April, 2008

New Freezers

In an effort to meet the customer's ever changing demands, MVE is pleased to introduce several new models to the Stainless Steel freezer lineup. Please see the detailed information on the models below. Pages 2-6 contain the Specification Drawings for these models for further reference. All of these models can be ordered immediately. Contact Customer Service for details.

MVE 819P-190

- Replaces the MVE 819P-150
- -190°C Temperature in Top Box
- Holds (12) 15-2 Large Racks and (4) 15-2 Mini Racks
- Total Vial Capacity: 19,500
- Largest capacity freezer that will fit through a 32" door

MVE 816P-2T-190

- Specially designed for the IVF market
- Allows 2-tier storage for SUC's or other canisters in vapor
- -190°C Temperature in top box
- Holds (115) SUC-1 boxes
- Total Vial Capacity: 16,560
- Total Straw Capacity: 35,650
- The only vapor phase -190°C 2 tier freezer on the market

MVE 1542R-190

- Offered in conjunction with the MVE 1542R -150
- -190°C Temperature in Top Box
- Holds (26) 14-2 Large Racks and (16) 14-2 Mini Racks
- Total Vial Capacity: 42,000

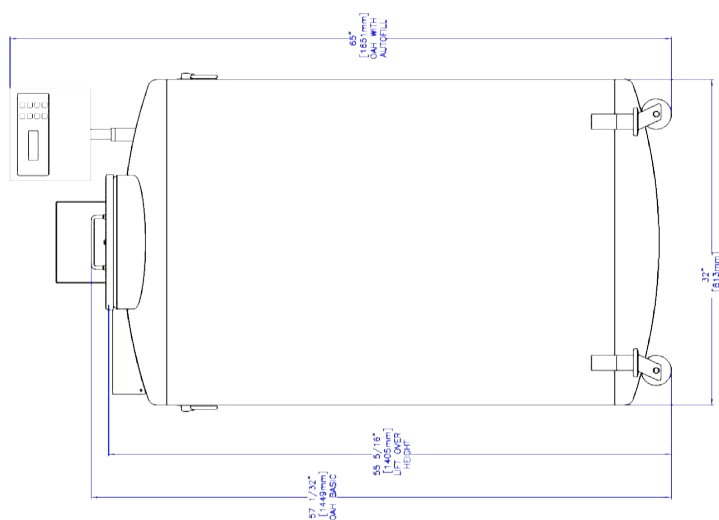
MVE 1894R-190

- Offered in conjunction with the MVE 1894R-150
- -190°C Temperature in Top Box
- Holds (60) 15-2 Large Racks and (12) 15-2 Mini Racks
- Total Vial Capacity 94,500
- Largest Capacity -190°C Freezer available on the market

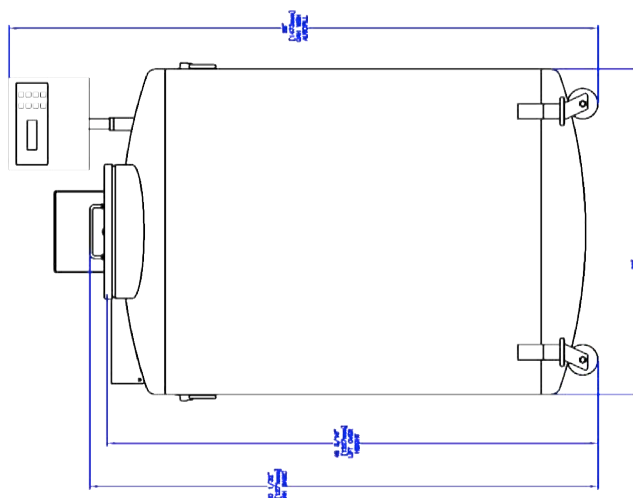
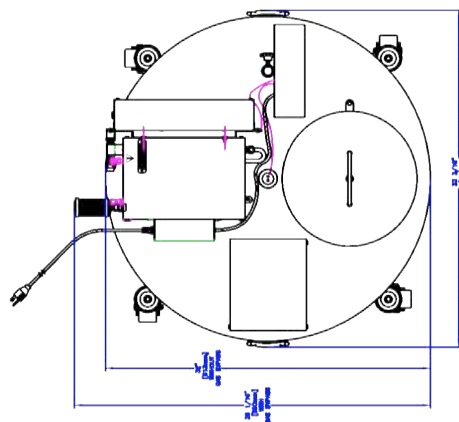
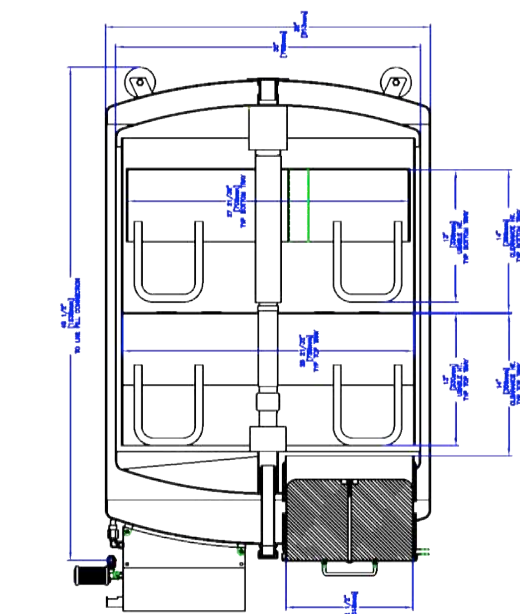
MVE 1536PD-150

- Specially built unit for shipping large quantities in vapor
- Unit has heavy duty support structure and is contained in a large steel shipping skid for forklift movement and durability
- Similar in concept to 1536P-150, but uses a hydrophobic (Cabosil) LN2 absorbent for refrigeration; much like a MVE vapor shipper
- -150°C Temperature in Top Box
- Built in Vacuum Gage for non-intrusive vacuum check
- Locking turn tray
- Holds (24) 13-2 Large Racks and (16) 13-2 Mini Racks
- Total Vial Capacity: 36,400
- The only Large Scale vapor shipper available on the market

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SPECIFICATIONS		
LN ₂ CAPACITY LIQUID	FULL	381 LITERS
STATIC HOLDING TIME	FULL	76 DAYS
LN ₂ CAPACITY VAPOR	STORAGE	56 LITERS
STATIC HOLDING TIME	VAPOR	11 DAYS
STATIC EVAPORATION RATE		5 LITERS/DAY

CONTAINER DIMENSIONS	
NECK OPENING	12 5/16" / 317 mm
OVERALL HEIGHT BASIC	50 in. / 1271 mm
OVERALL HEIGHT AUTO-FILL	58 in. / 1473 mm
LIFTOVER HEIGHT	48 in. / 1227 mm
OUTSIDE DIAMETER	32.3" / 813 mm
USABLE/WORKING HEIGHT	13 in. / 330 mm
INTERNAL DIAMETER (BTM TRAY)	29 1/2" / 752 mm
INTERNAL DIAMETER (BTM TRAY)	27 1/2" / 702 mm
WEIGHT EMPTY	175 lbs. / 215 kg
WEIGHT FULL	1155 lbs. / 524 kg
	ESTIMATED

STORAGE WORKING CAPACITY

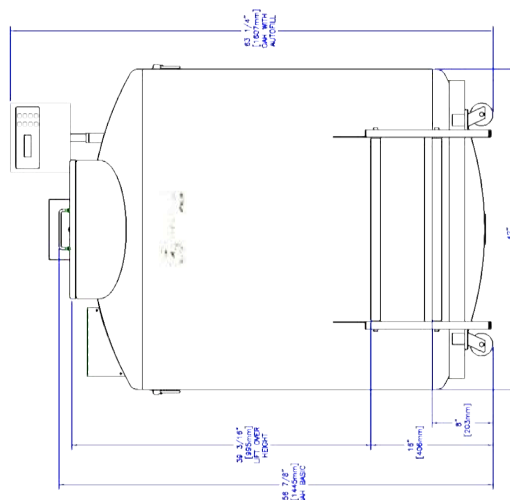
SUC-1 BOXES	115
1.0 ml VIALS	15.8
1.2 ml VIALS	16.5
2.0 ml VIALS	9.20
1/2cc STRAWS	35.6

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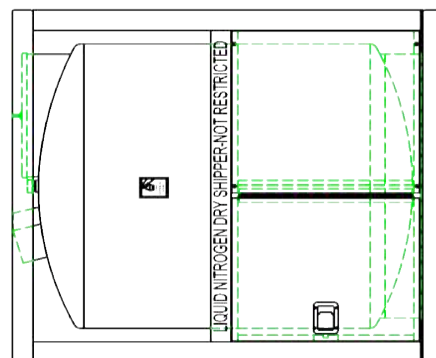
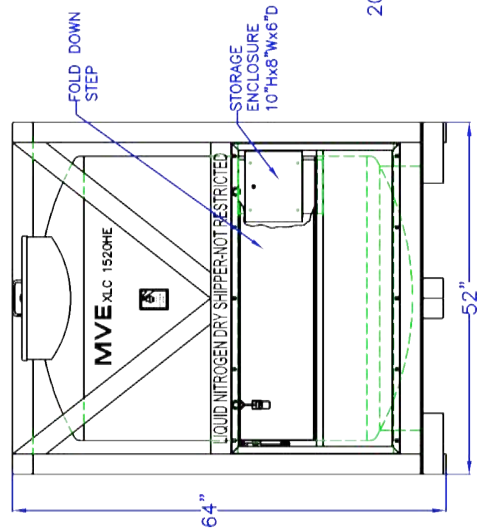
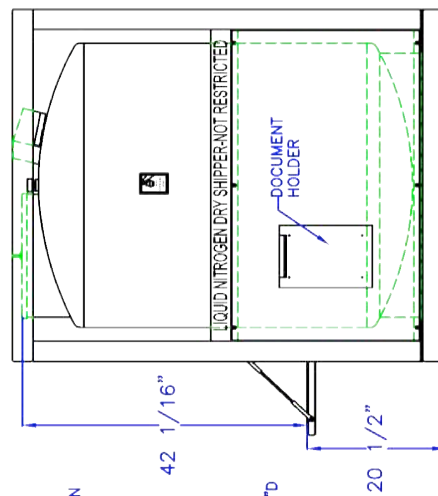
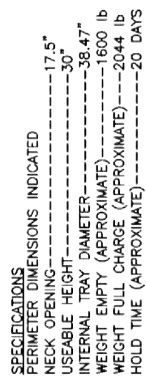
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Repair and Decontamination

Before shipping any dewar to Chart for repair, please remember to do the following:

1. Remove all canisters
2. Remove the cork and cover
3. Decontaminate the unit

The decontamination procedure is as follows:

Sanitizing and Decontaminating Chart Aluminum and MVE Dewars

MVE aluminum dewars are constructed with an aluminum inner, which utilizes a fiberglass neck support. The stainless units are constructed with an inner entirely fabricated from stainless steel sheets. Any cleaning solution that does not react with aluminum or stainless can be used in the sanitation process of these dewars. In most cases, any household detergent or mild soap solution is suitable. The U.S. Custom Service uses a solution called EXPOR for incoming shipments from abroad. This is mixed 9 parts water mixed with sodium chloride & lactic acid. As mentioned above, however, any household cleaning solution can be used. These include bleach, detergents, and mild soaps. Other cleaners and disinfectants that can be safely used include hydrogen peroxide, chlorine/water and denatured alcohol. *NOTE: Do not use any petroleum based cleaning solution.* It is important that the inner vessel is thoroughly rinsed with water and all cleaner residues have been removed. Spraying the solution into the inner vessel is preferred, although agitation of the solution inside the inner will suffice. Vapor shippers and Doble units will require filling the inner to its full capacity with cleaning mixture and then rinsing. Allow the unit to dry thoroughly before putting into service. With vapor shippers, we suggest setting dewar inverted to drain and dry. The process is not intended for use in older vapor shipper models manufactured prior to 1994.

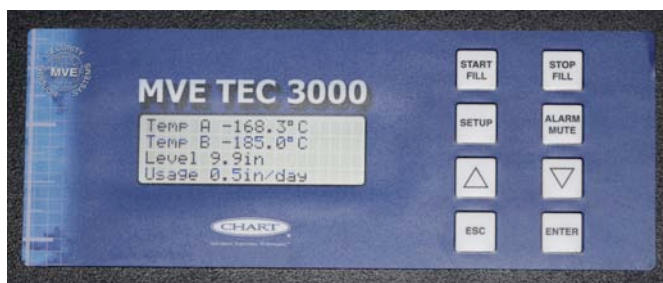
The generally accepted practice of using 10% chlorine bleach with 90% water solution still holds as the best method for decontamination. However, with some of the bovine and swine virus strains showing up today, it is the conclusion of the agricultural professors at the University of Minnesota and Texas A & M that an increased mixture of chlorine bleach to 30% and 70% water will kill all known viruses except BSE. This is still unknown to them and they are not willing to offer a solution.

To perform this sanitizing procedure, cover all inner surfaces with the solution, let stand for 30 minutes and remove. Rinse the decontaminated surfaces with clean water and remove rinse water. Allow dewar to dry before putting into service. For vapor shippers and Doble units, this means placing dewar on end (inverted) and allowing drying. *Note: Vapor dewars can be used immediately after rinsing but may take longer to recharge to 100% capacity.*

If you have any questions concerning decontaminating dewar please contact BioMedical Technical Service.

TEC 3000 Upgrades

When upgrading a TEC 2000 to a TEC 3000, remember to install the new Jerome power supply if included in your upgrade kit. Late model TEC 2000s may already have a Jerome power supply. Installing the Jerome power supply is essential for proper fill valve and level sensing functionality.



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