



# **Cryopreservation Equipment**

**Storage and Transport Systems  
for Biological Materials**



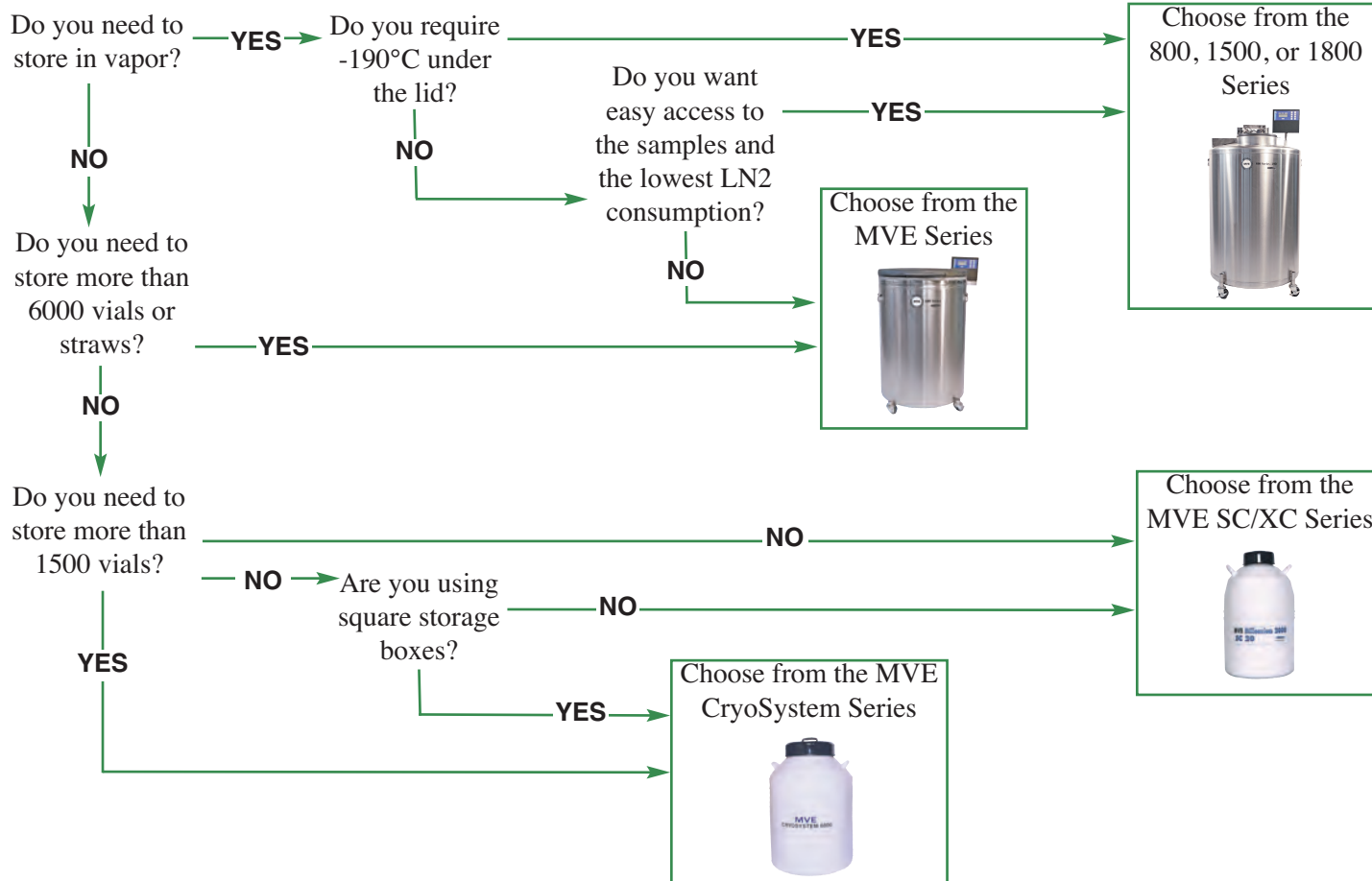
# Temperature Chart & Product Selector Guide

## Recommended maximum temperature for storage of biological samples.

MATERIAL TO BE STORED	VOLUME	CONTAINER	INVENTORY CONFIGURATION	CRITICAL TEMPERATURE
Algae	0.5 - 1.0 mL	Cryovial	Boxes or canes	-150°C
Blood	0.5 - 500 mL	Cryovial/Blood Bag	Boxes or canes/bag rack	-150°C
<b>Cells:</b>				
Animals				
/Human	0.5 - 1.0 mL	Cryovial	Boxes or canes	-150°C
Plant	0.5 - 1.0 mL	Cryovial	Boxes or canes	-150°C
Embryos		Straw	Canes	-150°C
<b>Fungi:</b>				
Mycelium	0.5 - 1.0 mL	Cryovial	Boxes or canes	-150°C
Hybridomas	0.5 - 1.0 mL	Cryovial	Boxes or canes	-150°C
<b>Phage:</b>				
Libraries	0.5 - 1.0 mL	Cryovial	Boxes or canes	-150°C
Protozoa	0.5 - 1.0 mL	Cryovial	Boxes or canes	-150°C
<b>Viruses: Animal</b>				
In Cells	0.5 - 1.0 mL	Cryovial	Boxes or canes	-150°C

Source: F. Simeone, American Type Culture Collection, Manassas, VA

## Product Selector Guide



The MVE CryoCube™ provides a cryogenic shipping option for your biological samples. In keeping with MVE tradition, the CryoCube incorporates creative engineering and simplistic design to allow shipping in any orientation without sacrificing temperature or hold time.

## Features include:

- Charges in under 1 hour
- Operation as a dry shipper
- -150°C temperature
- 5-day holding time
- Weighs less than 9 lbs. charged
- Safe shipping in any orientation
- Safe for international shipping



CryoCube™

### Maximum Storage Capacity

Number of Canisters	1
Number of 1/2 cc Straws 1 Level Bulk	88
Number of 1/4 cc Straws 1 Level Bulk	182
Number of 1.2 & 2.0 ml Vials bulk	9

### Performance

LN2 Capacity(min) L	2
Static Holding Time days	5

### Unit Dimensions

Neck Opening in. (mm)	1.4 (35)
Overall Height in. (mm)	12 (304.8)
Outer Width in. (mm)	12 (304.8)
Inner Canister Height in. (mm)	5.25 (127)
Inner Canister Diameter in. (mm)	1 (35)
Weight Empty lb. (kg)	5.25(1.8)
Weight Charged lb. (kg)	9 (4)



90 Day Standard Warranty



The Doble QWick Series utilizes an absorbent wicking material that charges with liquid nitrogen in fewer than two hours, providing the capacity for same-day vapor shipping. A unique absorbent layer in the base of the storage tanks enables them to be charged with nitrogen and employed as dry shippers with hold times of up to 30 days. Once at the final destination, the tanks can be filled with liquid and used for long term storage, therefore avoiding the need for return shipments.

## Features Include:

- **CHARGES IN LESS THAN TWO HOURS**
- Liquid and vapor storage options
- Low liquid nitrogen consumption
- Convenient lightweight package

## Accessories:



CryoGloves



Vapor Insert



Liquid Level  
Measuring Stick

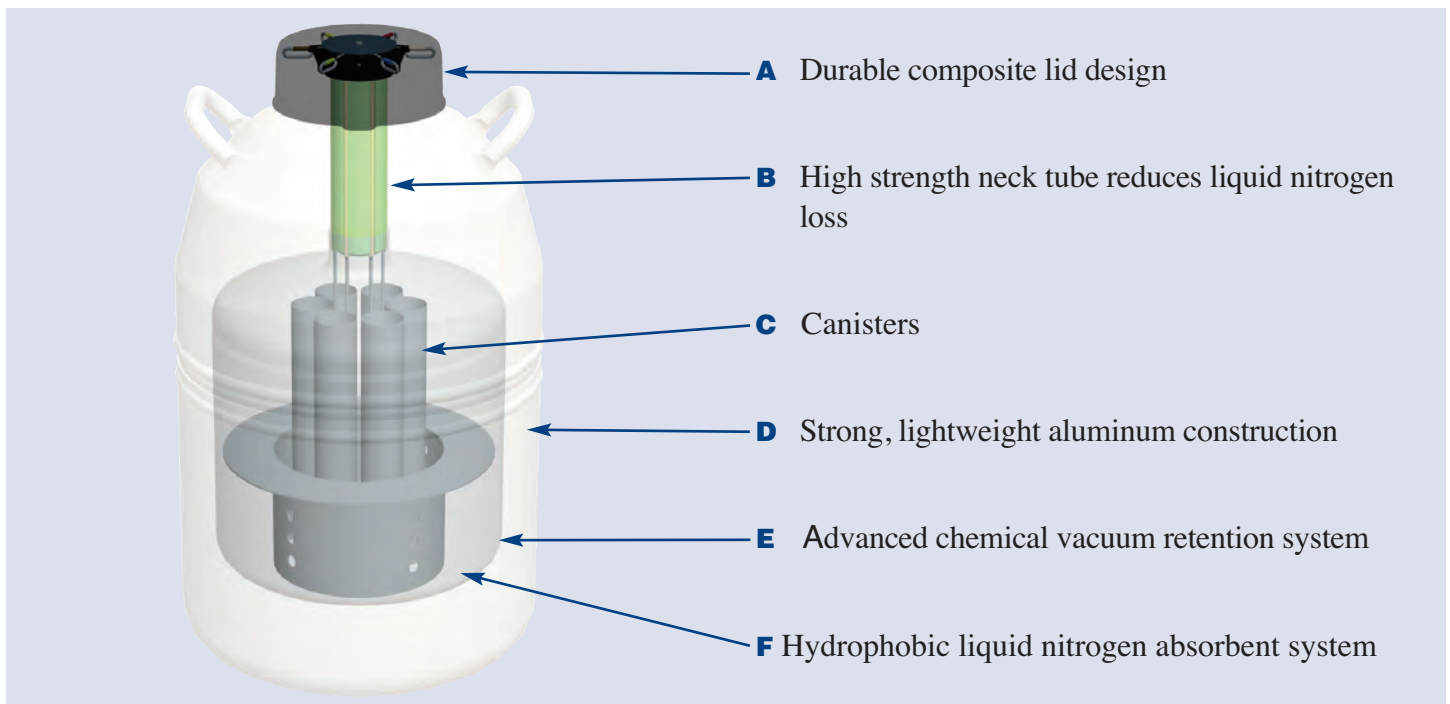


Straws



Roller Base

## Tank Features



	Doble QWick 10/660	Doble QWick 20/660	Doble QWick 17/2400	Doble QWick 20/2100	Doble QWick 14/4500	Doble QWick 14/3500
Number of Canisters	6	6	6	6	6	10
No. of 1/2 cc Straws 10/cane	660	660	2400	2100	4500	3500

### Performance

Liquid Nitrogen Capacity <i>l</i>	10	18.5	28	32	46	46
Vapor Capacity <i>l</i>	3.1	2.8	8.4	6.7	8.4	9.6
Static Evaporation Rate <i>l/day</i>	0.17	0.1	0.35	0.2	0.4	0.4
Normal Working Duration <i>days for liquid</i>	37	116	50	100	74	72
Normal Working Duration <i>days for vapor</i>	10	20	17	20	14	14

### Unit Dimensions

Neck Opening <i>in (mm)</i>	2.18 (55.4)	2.18 (55.4)	3.81 (97)	3.5 (89)	5 (127)	5 (127)
Overall Height <i>in (mm)</i>	21.6 (549)	25.7 (652)	22 (559)	26.6 (676)	26.5 (673)	26.5 (673)
Outside Diameter <i>in (mm)</i>	10.2 (260)	14.5 (368)	18.2 (462)	18.2 (462)	20 (508)	20 (508)
Canister Height <i>in (mm)</i>	11 (279)	11 (279)	11 (279)	11 (279)	11 (279)	11 (279)
Canister Diameter <i>in (mm)</i>	1.65 (41.9)	1.65 (42)	3.09 (78)	2.81 (72)	4 (101.6)	2.81 (72)
Weight Empty <i>lb. (kg)</i>	17 (7.7)	25.2 (12)	34 (16)	39.2 (18)	47 (21.3)	48 (21.8)
Weight Charged vapor <i>lb. (kg)</i>	22.5 (10.2)	30.2 (14)	47 (21.3)	50 (22.7)	63 (28.6)	63 (28.6)
Weight Full <i>liquid lb. (kg)</i>	36 (16)	60 (27)	84 (38)	95 (43)	125 (57)	120 (54.5)

THREE Year Vacuum Warranty



# MVE CryoShipper QWick™ Series



MVE CryoShipper QWick Series utilizes an absorbent wicking material that charges with liquid nitrogen in fewer than two hours, providing the capacity for same-day vapor shipping. Manufactured from durable, lightweight aluminum, they employ a hydrophobic compound which absorbs the liquid nitrogen to ensure dry, spill-free shipping.

Protective shipping cartons are available. These containers may be used to ship your samples with a “non-hazardous” classification throughout the world, thus reducing shipping costs and helping to assure sample viability.

## Features Include:

- **CHARGES IN LESS THAN TWO HOURS**
- Protective shipping carton to ensure upright shipping
- Low liquid nitrogen consumption
- Convenient lightweight packages

## Accessories:



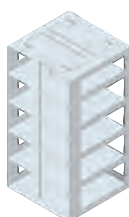
CryoGloves



Vapor Inserts



CryoBlocks



Square Racks

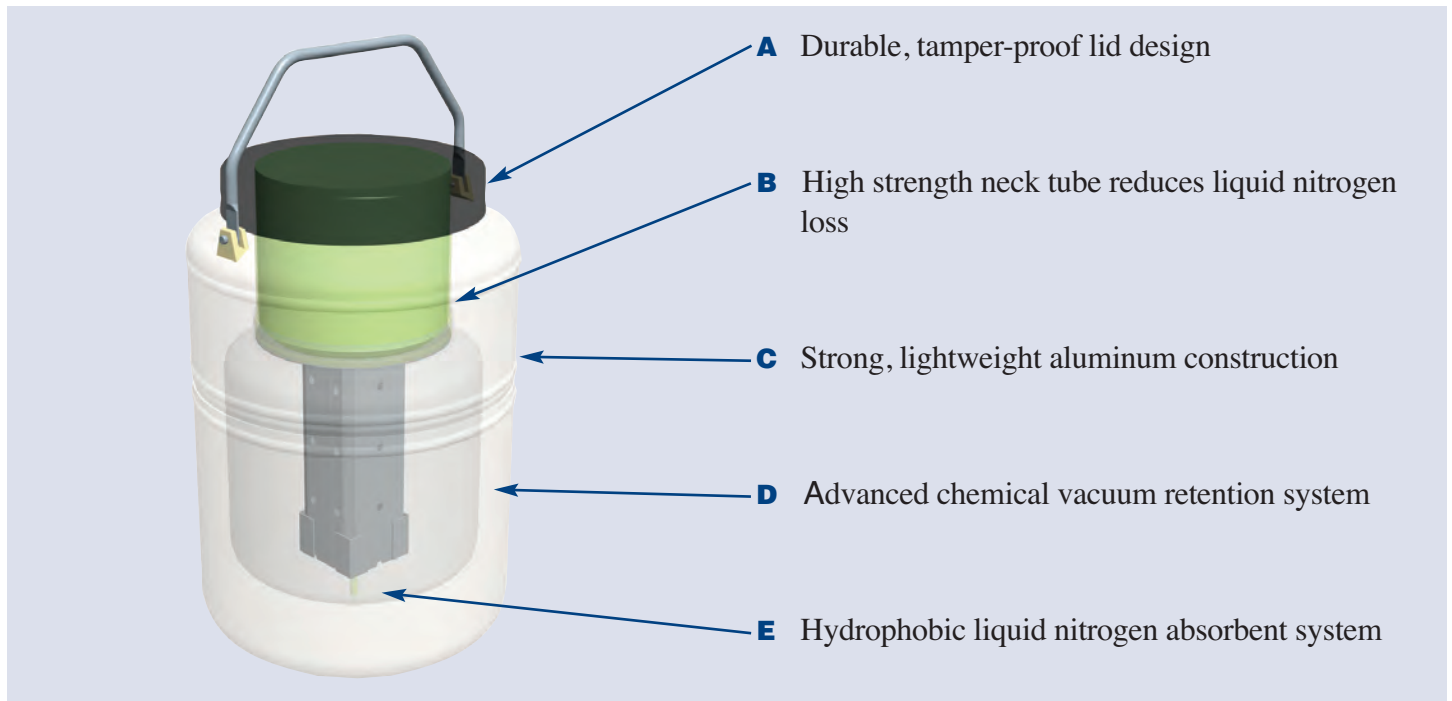


Datalogger



Plastic Boxes

## Tank Features



**CryoShipper QWick 6/9   CryoShipper QWick 10/100   CryoShipper QWick 14/48   CryoShipper QWick 62/180   CryoShipper QWick 14/24   CryoShipper QWick 9/500   CryoShipper QWick 10/950   CryoShipper QWick IATA**

### Maximum Storage Capacity

No. of Canisters	1	1	1	6	1	1 Rack	-	Secondary Container
No. of 1/2 cc Straws 10/cane	-	280	120	540	60	-	-	-
No. of 1/2 cc Straws 1 Level Bulk	88	440	210	780	88	-	-	-
No. of 1/4 cc Straws 1 Level Bulk	182	938	452	1630	8904	-	-	-
No. of 1.2 & 2.0 ml Vials 5/cane	-	95	40	150	20	-	-	-
No. of 1.2 & 2.0 ml Vials 6/cane	9***	106	48	180	24	500	966 (Bulk)	-
No. of blood bags stored 4R9953	-	-	-	-	-	10	10	-

### Performance

LN2 Capacity L	1.5	3.6	4.3	12.3	2.9	8.5	10	11.8
Static Evaporation Rate* L/day	0.16	0.26	0.20	0.09	0.16	0.80	0.70	-
Static holding time Days	6	10	14	62	14	9	10	10

### Unit Dimensions

Neck Opening in. (mm)	1.4 (35)	2.75 (70)	2 (51)	2 (51)	1.4 (35)	8.5 (216)	8.5 (216)	8.5 (216)
Overall Height in. (mm)	13.5 (343)	18.4 (468)	19.4 (492)	25.7 (652)	19.5 (495)	21.5 (546)	23 (584)	24 (610)
Outer Diameter in. (mm)	7.25 (184)	8.7 (222)	8.7 (222)	14.5 (368)	7.2 (184)	14.5 (369)	15 (381)	15 (381)
Canister Height in. (mm)	5 (127)	11 (278)	11 (278)	11 (278)	11 (278)	-	12.5 (317.5‡)	8.5 (215)
Canister Diameter in. (mm)	1.2 (31)	2.62 (67)	1.81 (46)	1.5 (38)	1.2 (31)	-	-	7.5 (190)
Weight Empty lb. (kg)	6 (2.7)	11 (5)	11.5 (5.2)	25 (11.4)	9 (4)	25.5 (11.6)	30 (13.6)	30 (13.6)
Weight Charged lb. (kg)	8 (3.6)	15 (6.8)	16.5 (7.5)	42 (19)	13 (5.9)	39 (17.7)	48 (21.8)	48 (21.8)

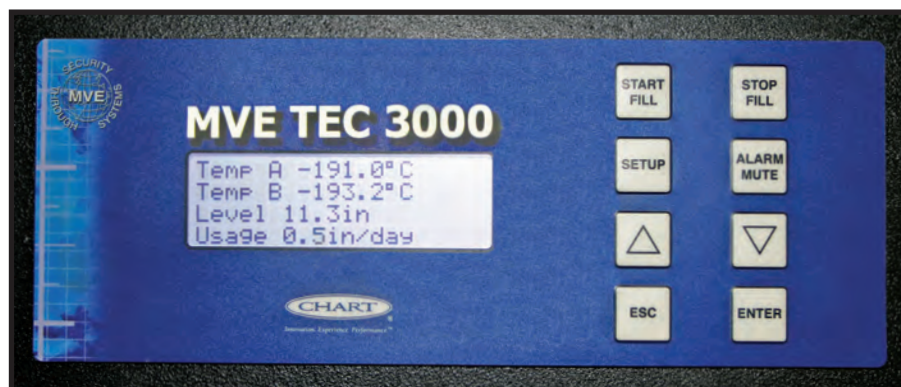
\* Static evaporation rate and static holding time are nominal. Actual rate and holding time will be affected by the nature of container use, atmospheric conditions, and manufacturing tolerances.

\*\* With center absorbent canister (3 week holding time)

\*\*\* Stored on three half canes

‡ Useable Height

## THREE Year Vacuum Warranty



The TEC 3000 employs a variety of advanced features that enable the controller to monitor and control the environment inside a freezer with a high level of precision.

## Features/Options:

- Liquid Nitrogen Level Measurement
- Automatic Liquid Nitrogen Level Control
- Two Channel Temperature Measurement
- Multiple-use Adjustable Alarms
- Adjustable Security / Password System
- One Fill All Fill Capability (Sequential or Simultaneous)
- Timed Filling
- Battery Backup (Optional)
- Gas Bypass (Optional)

## Technical Specifications:

### • Level Measurement

- Sensor Type - Dual Port Pressure Transducer Measurement
- Accuracy +/- .5 in; +/- 13 mm (typical)
- Liquid Usage Feature
- Two Point Calibration Feature

### • Level Control

- Range 3–48" (76-122 mm)
- Control Output - (Fill Solenoid Valve)
- 24 VDC, 1.0 amp (max)

### • Temperature Measurement

- Two Sensors, Platinum RTD - Two wire element
  - Accuracy +/-2.0°C Full Scale
  - Altitude Compensation For Accuracy
  - Full Range Calibration Feature
  - Probe Heater For High Temp Alarm Testing

### • Front Panel Display

- Backlit LCD Readout, 4 row x 20 character
- Level Display - in, mm, %
- Temperature Display - °C, °F, or K

### • Standard Alarms

#### - Alarm Conditions

- Low Level Alarm
- High Level Alarm
- Low Temperature (Probe A & B)
- High Temperature (Probe A & B)
- Fill Time Alarm
- Power Failure (remote only)
- Lid Open Alarm
- Usage Warning and Alarm
- Temperature Calibration Alarm (Probe A & B)

### • Optional Alarms

- Bypass Sensor Failure
- Bypass Time
- Bypass Sensor Calibration
- Power Failure (audible, visual and remote alarms)
- Low Battery Voltage

### • Alarm Output

- Both Visual and Audible Alarms
- One Global Remote Alarm Relay
- Four Discrete Remote Contacts
  - Temp A High
  - Low Level
  - High Level
  - Low Battery (optional when equipped with battery backup)

### • Controller Features

- Communication Interface: Serial Communication RS485/ASCII/MODBUS
- Memory: Stores time and date stamped information on the controller's 30,000 most recent events



MVE CryoCarts are designed for the loading of biological samples into canes, boxes, racks or frames. When used as a portable workbench, the unit will provide a safe and controlled environment for your samples for up to eight hours with the lid open. MVE CryoCart is ideal for transporting large quantities of samples from one tank to another within the same facility.

## Features Include:

- Approximate hold time of 18 hours with lid on
- Omega temperature monitor with type T Thermocouple
- Traceable calibration certificate with RS232 PC interface
- LN2 transfer hose connection with ball valve and relief valve
- Available without plumbing and temperature recorder.



## Product Specifications

### UNIT CAPACITIES

LN2 Capacity To Top of Platform L	53
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### UNIT DIMENSIONS

Overall Length <i>in (mm)</i>	51.7 (1313)
Overall Width <i>in (mm)</i>	17.6 (447)
Overall Height <i>in (mm)</i>	38.9 (988)
Lift Overall Height <i>in (mm)</i>	36.3 (922)
Inside Length <i>in (mm)</i>	41 (1041)
Inside Width <i>in (mm)</i>	13.2 (335)
Inside Depth <i>in (mm)</i>	15.4 (391)
Platform Height <i>in (mm)</i>	6 (152)
Footprint <i>in (mm)</i>	17.6x51.7 (447x1313)
Weight Empty <i>lb. (kg)</i>	241 (109)
Weight w/LN2 Filled To	
Top Of Platform <i>lb. (kg)</i>	356 (161)
Approximate Hold Time With Lid On <i>hrs</i>	18
Number of Racks (15-2)	2



ONE (1) Year Standard Warranty

# MVE 800 Series -190°C High Efficiency Freezer

The MVE 800 Series -190°C freezers provide stable cryogenic storage for up to 19,500 1.2 / 2.0 ml vials. These freezers provide maximum storage density and provide the industry's longest hold time.

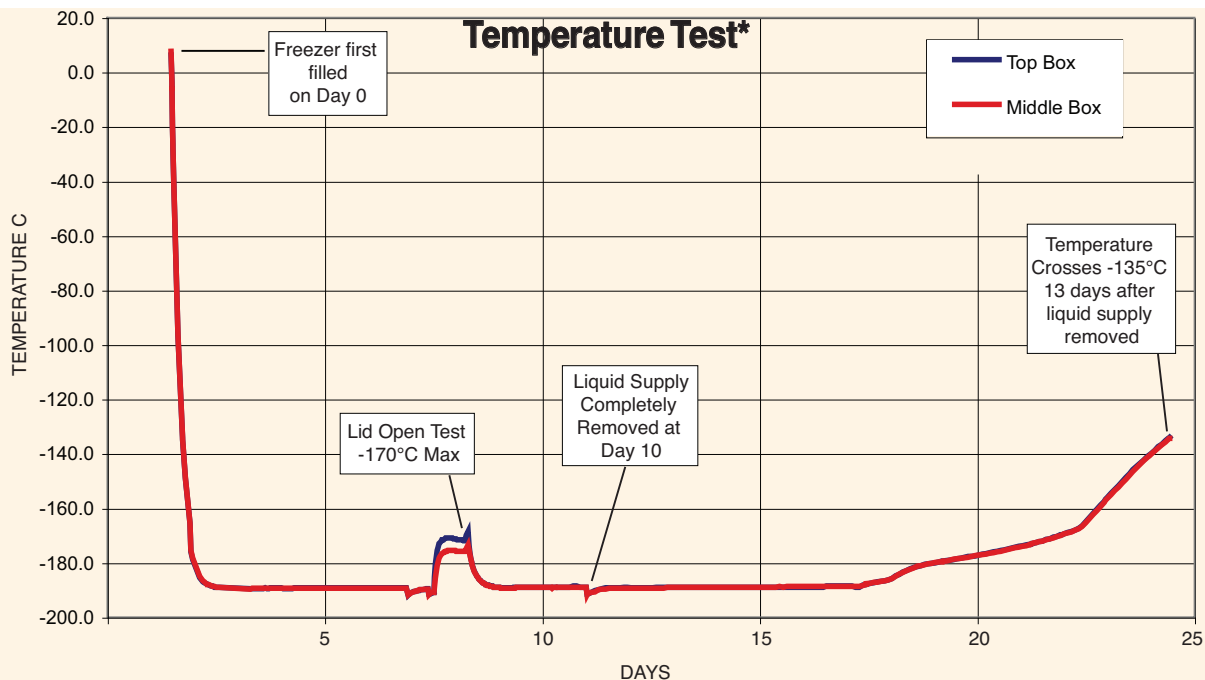
*Also available in -150°C versions*

## Features include:

- Dry sample storage
- -190°C top box temperature
- Lowest liftover height
- Largest LN2 capacity below turn tray



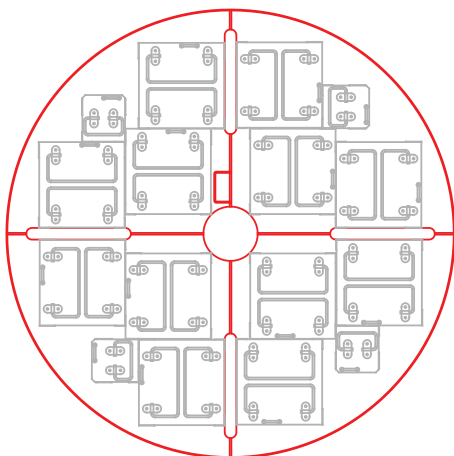
Optional Step (recommended for 818 & 819)



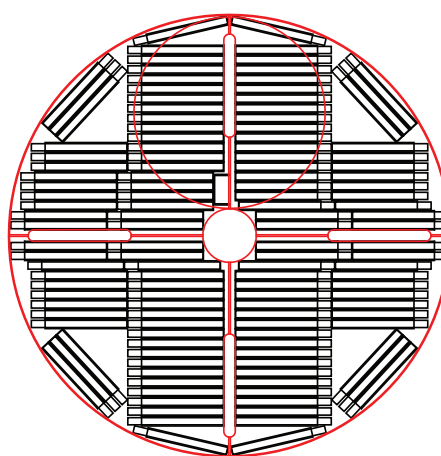
\* Temp Test indicates typical performance of 800 Series -190°C freezer with full inventory system and factory recommended level settings. Actual performance may vary with atmospheric conditions and usage.

## Rack Layouts

Square Rack Layout



4R9951 Layout



MVE  
815P-190

MVE  
818P-190

MVE  
819P-190

### Maximum Storage Capacity

#### 1.2 & 2 ml Vials

(Internally Threaded)

	15600	18200	19500
Number of Racks <i>100 cell boxes</i>	12	12	12
Number of Racks <i>25 cell boxes</i>	4	4	4
Number of Stages per Rack	12	14	15

### Performance

LN2 Capacity <i>L</i>	370	420	463
LN2 Capacity Under Platform Vapor Storage <i>L</i>	52	55	55

### Unit Dimensions

Neck Opening <i>in. (mm)</i>	12.5 (317)	12.5 (317)	12.5 (317)
Usable Internal Height <i>in. (mm)</i>	26.6 (676)	30.7 (781)	34.5 (877)
Inner Diameter <i>in. (mm)</i>	28.8 (731)	28.8 (731)	28.8 (731)
Overall Height <i>in. (mm)</i>	49 (1245)	53.3 (1353)	57 (1449)
Door Width Requirement** <i>in. (mm)</i>	32 (813)	32 (813)	32 (813)
Weight Empty <i>lb. (kg)</i>	475 (215)	495 (225)	515 (234)
Weight Liquid Full* <i>lb. (kg)</i>	1134 (514)	1168 (530)	1340 (608)

### Blood Bag Capacities

	Total Bags	Bags/ Frame	No. Frames	Total Bags	Bags/ Frame	No. Frames	Total Bags	Bags/ Frame	No. Frames
791 OS/U (25 ml)	1224	6	204	1632	8	204	-	-	-
Compact (25ml)	2064	8	258	2322	9	258	2838	11	258
4R9951 (50 ml)	768	6	128	896	7	128	1024	8	128
4R9953 (250 ml)	416	4	104	416	4	104	520	5	104
4R9955 (500 ml)	304	4	76	304	4	76	380	5	76
DF200 (200 ml)	236	4	59	-	-	-	295	5	59
DF700 (700 ml)	-	-	-	-	-	-	-	-	-

**TWO Year Standard Warranty • FIVE Year Vacuum Warranty**

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

\* Without inventory

\*\*Minimum width required for vessel to pass through opening. Footprint may vary. Contact Tech Service for detailed drawings.

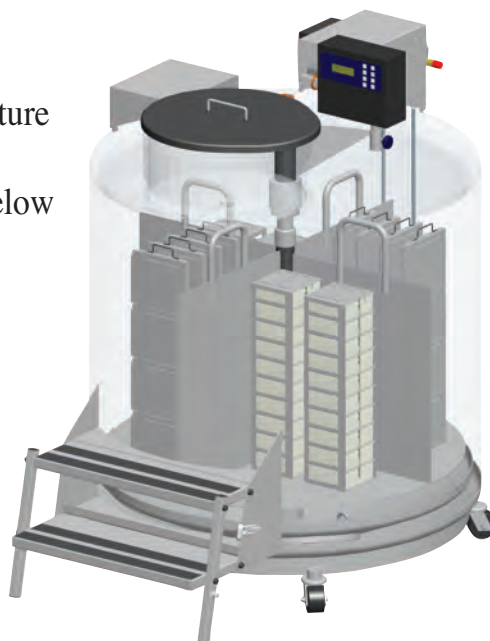
# MVE 1500 Series -190°C High Efficiency Freezer

The MVE 1500 Series -190°C freezers provide cryogenic storage for up to 42,000 1.2 / 2.0 ml vials. These freezers provide maximum storage density and provide the industry's longest hold time.

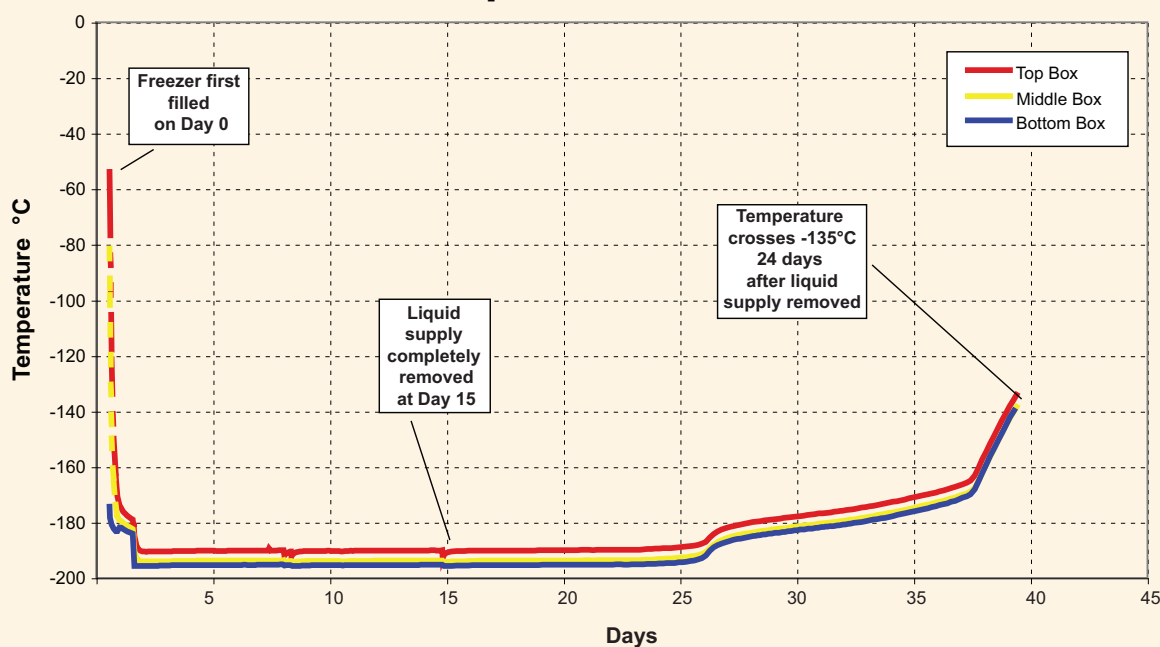
*Also available in -150°C versions*

## Features include:

- Dry sample storage
- -190°C top box temperature
- Lowest liftover height
- Largest LN2 capacity below turn tray
- 2-tier folding step



## Temperature Test\*

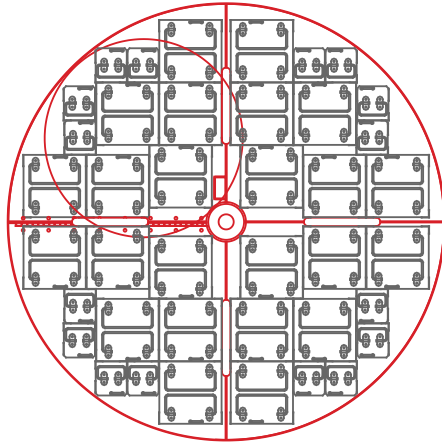


\* Temp Test indicates typical performance of 1500 Series -190°C freezer with full inventory system and factory recommended level settings. Actual performance may vary with atmospheric conditions and usage.

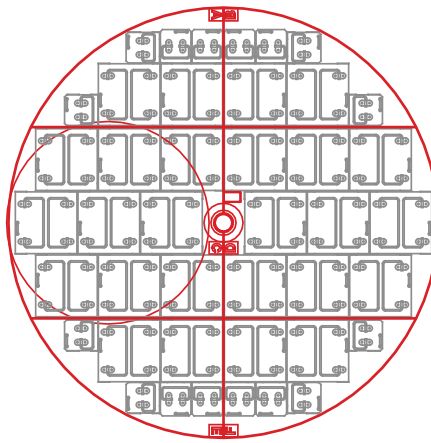


## Rack Layouts

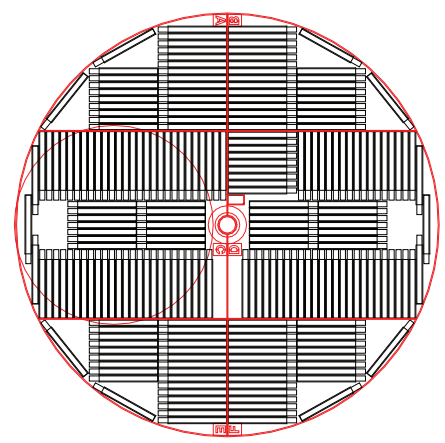
Square Rack Layout (P)



Square Rack Layout (R)



4R9551 Layout (R)



MVE 1536P-190

MVE 1539P-190

MVE 1542R-190

### Maximum Storage Capacity

1.2 & 2 ml Vials (Internally Threaded)	36400	39200	42000
Number of Racks 100 cell boxes	24	24	26
Number of Racks 25 cell boxes	16	16	16
Number of Stages per Rack	13	14	14

### Performance

LN2 Capacity L	756	797	797
LN2 Capacity Under Platform Vapor Storage L	133	133	133

### Unit Dimensions

Neck Opening in. (mm)	17.5 (445)	17.5 (445)	17.5 (445)
Usable Internal Height in. (mm)	28.8 (732)	30.8 (782)	30.8 (782)
Inner Diameter in. (mm)	38.5 (978)	38.5 (978)	38.7 (983)
Overall Height in. (mm)	61.3 (1556)	63.3 (1607)	63.3 (1607)
Liftover Height in. (mm)	37 (940)	39.2 (995)	39.2 (995)
Door Width Requirement** in. (mm)	42 (1067)	42 (1067)	42 (1067)
Depth of Extended Step in. (mm)	7.9 (201)	7.9 (201)	7.9 (201)
Weight Empty lb. (kg)	690 (313)	720 (327)	720 (327)
Weight Liquid Full* lb. (kg)	2037 (924)	2140 (971)	2140 (971)

### Blood Bag Capacities

	Total Bags	Bags/ Frame	No. Frames	Total Bags	Bags/ Frame	No. Frames	Total Bags	Bags/ Frame	No. Frames
791 OS/U (25 ml)	3080	7	440	3064	8	383	3184	8	398
Compact (25ml)	4338	9	482	4338	9	482	4464	9	496
4R9551 (50 ml)	1488	6	248	1736	7	248	1687	7	241
4R9553 (250 ml)	812	4	203	812	4	203	768	4	192
4R9555 (500 ml)	608	4	152	608	4	152	576	4	144
DF200 (200 ml)	496	4	124	496	4	124	488	4	122
DF700 (700 ml)	256	4	64	256	4	64	264	4	66

**TWO Year Standard Warranty • FIVE Year Vacuum Warranty**

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

\* without inventory

\*\*Minimum width required for vessel to pass through opening. Footprint may vary. Contact Tech Service for detailed drawings.



# MVE 1800 Series -190°C High Efficiency Freezer

The MVE 1800 Series -190°C freezers provide cryogenic storage for up to 94,500 1.2 / 2.0 ml vials. These freezers provide maximum storage density and provide the industry's longest hold time.

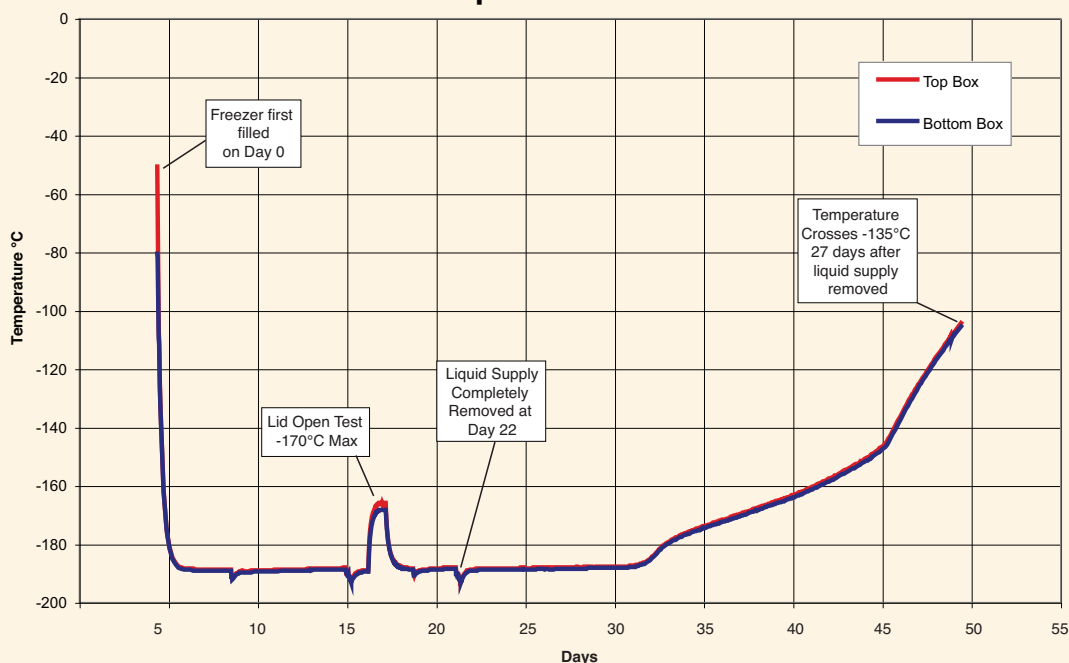
*Also available in -150°C versions*

## Features include:

- Dry sample storage
- -190°C top box temperature
- Lowest liftover height
- Largest LN2 capacity below turn tray
- Two tier folding step



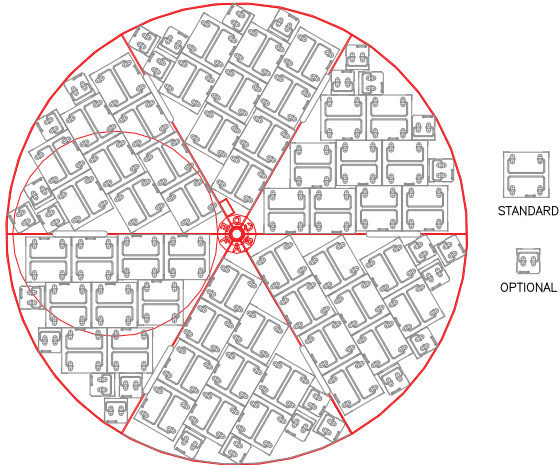
Temperature Test\*



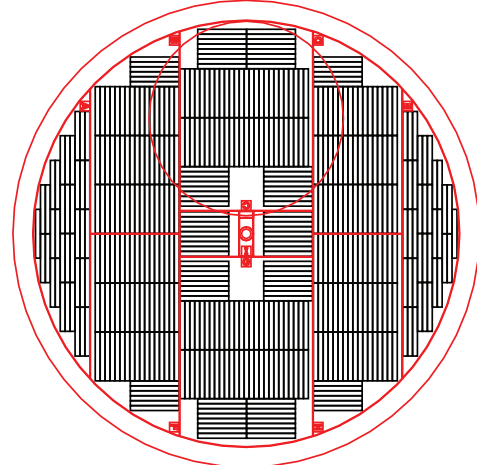
\* Temp Test indicates typical performance of 1800 Series -190°C freezer with full inventory system and factory recommended level settings. Actual performance may vary with atmospheric conditions and usage.

## Rack Layouts

Square Rack Layout



4R9951 Layout



MVE 1879P-190

MVE 1881R-190

MVE 1892P-190

MVE 1894R-190

### Maximum Storage Capacity

#### 1.2 & 2 ml Vials

(Internally Threaded)	79950	81900	92250	94500
Number of Racks <b>100 cell boxes</b>	54	60	54	60
Number of Racks <b>25 cell boxes</b>	30	12	30	12
Number of Stages per Rack	13	13	15	15

### Performance

LN2 Capacity <b>L</b>	1672	1745	1829	1770
LN2 Capacity Under Platform Vapor Storage <b>L</b>	296	296	296	296

### Unit Dimensions

Neck Opening <b>in. (mm)</b>	25 (635)	25 (635)	25 (635)	25 (635)
Usable Internal Height <b>in. (mm)</b>	29.5 (749)	29.2 (741)	34.5 (876)	34.2 (868)
Inner Diameter <b>in. (mm)</b>	56 (1422)	54.8 (1391)	56 (1422)	54.8 (1391)
Overall Height <b>in. (mm)</b>	62.1 (1577)	61.3 (1556)	67.1 (1704)	66.3 (1683)
Door Width Requirement** <b>in. (mm)</b>	60 (1524)	60 (1524)	60 (1524)	60 (1524)
Weight Empty <b>lb. (kg)</b>	1606 (728)	1721 (781)	1545 (701)	1721 (781)
Weight Liquid Full* <b>lb. (kg)</b>	4585 (2080)	4830 (2192)	4803 (2179)	4875 (2211)

### Blood Bag Capacities

	Total Bags	Bags/ Frame	No. Frames	Total Bags	Bags/ Frame	No. Frames	Total Bags	Bags/ Frame	No. Frames	Total Bags	Bags/ Frame	No. Frames
791 OS/U (25 ml)	5866	7	838	5628	7	804	6704	8	838	6432	8	804
Compact (25ml)	8622	9	958	9414	9	1046	10538	11	958	11506	11	1046
4R9951 (50 ml)	2952	6	492	2940	6	490	3936	8	492	3920	8	490
4R9953 (250 ml)	1584	4	396	1608	4	402	1980	5	396	2010	5	402
4R9955 (500 ml)	1104	4	276	1240	4	310	1380	5	276	1550	5	310
DF200 (200 ml)	960	4	240	984	4	246	1200	5	240	1230	5	246
DF700 (700 ml)	504	4	126	544	4	136	630	5	126	680	5	136

#### TWO Year Standard Warranty • FIVE Year Vacuum Warranty

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

\* Without inventory

\*\*Minimum width required for vessel to pass through opening. Footprint may vary. Contact Tech Service for detailed drawings.

The MVE Series freezers provide stable cryogenic storage for up to 39,000 1.2 / 2.0 ml vials. These freezers provide maximum storage density and provide the industry's longest hold time. Although engineered for liquid storage, the MVE Series freezers can be used operated in vapor using available vapor storage accessory packs.

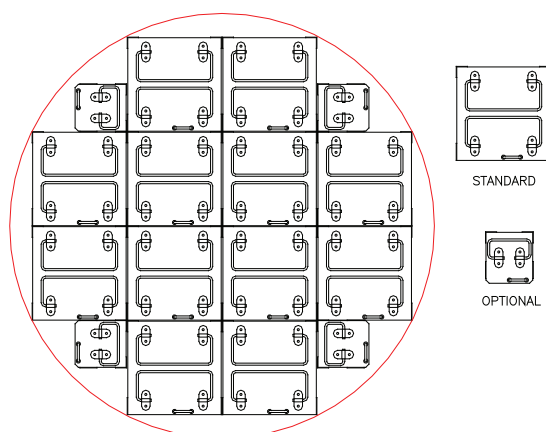
## Features include:

- Liquid sample storage
- Wide neck opening
- Lowest liftover height
- Largest LN<sub>2</sub> capacity

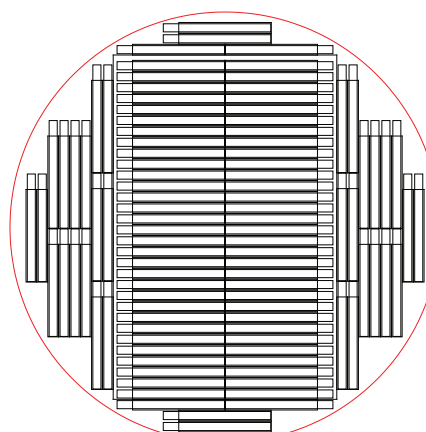


## Rack Layouts

Square Rack Layout

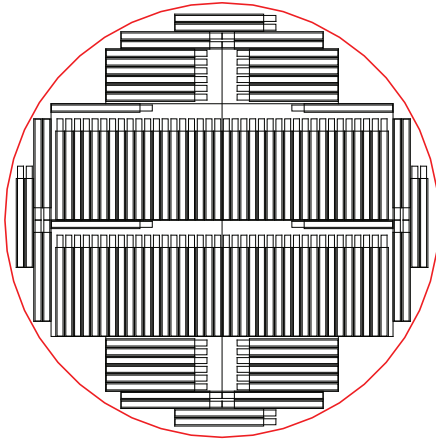


4R9951 Layout

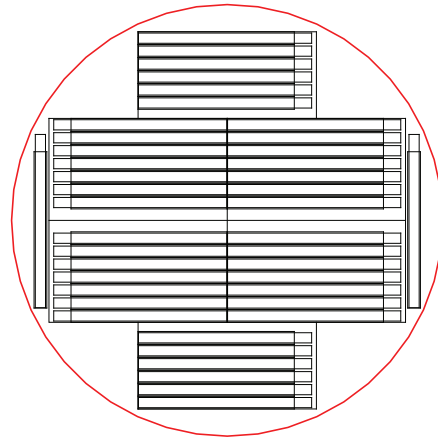


## Rack Layouts

4R9953 Layout



DF700 Layout



MVE  
204\*

MVE  
205

MVE  
510

MVE  
616

MVE  
1426

MVE  
1839

### Maximum Storage Capacity

#### 1.2 & 2 ml Vials

(Internally Threaded)

	3200	5200	10400	16900	26650	39000
Number of Racks 100 cell boxes	4	4	7	12	18	28
Number of Racks 25 cell boxes	-	-	4	4	10	8
Number of Stages per Rack	-	13	13	13	13	13

### Performance

LN2 Capacity L	65	95	166	240	388	673
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### Unit Dimensions

Neck Opening in. (mm)	16 (406)	16 (406)	20.7 (527)	25.1 (638)	31.75 (806)	39.4 (1002)
Usable Internal Height in. (mm)	19.7 (502)	28.9 (735)	30 (762)	29.5 (749)	29.3 (745)	33.6 (854)
Inner Diameter in. (mm)	16 (406)	16 (406)	20.7 (527)	25.13 (638)	31.75 (806)	39.4 (1002)
Overall Height in. (mm)	30.8 (784)	41.6 (1059)	46.7 (1185)	45.8 (1161)	42.4 (1076)	54 (1372)
Door Width Requirement** in. (mm)	18 (457)	20.4x18.5 (518x470)	30.6x29.7 (778x754)	33.5x34.6 (852x878)	33.8x41.6 (858x1056)	46.1x48.3 (1172x1225)
Weight Empty lb. (kg)	79 (36)	195 (88)	281 (127)	320 (145)	490 (222)	750 (341)
Weight Liquid Full* lb. (kg)	195 (88)	365 (166)	577 (262)	748 (339)	1181 (536)	1950 (885)

### Blood Bag Capacities

	Total Bags/ Bags	No. Frame	No. Frames	Total Bags/ Bags	No. Frame	No. Frames	Total Bags/ Bags	No. Frame	No. Frames	Total Bags/ Bags	No. Frame	No. Frames	Total Bags/ Bags	No. Frame	No. Frames	Total Bags/ Bags	No. Frame	No. Frames
791 OS/U (25 ml)	-	-	-	539	7	77	882	7	126	1372	7	196	-	-	-	3968	8	496
4R9951 (50 ml)	-	-	-	228	6	38	420	6	70	612	6	102	924	6	154	1856	8	232
4R9953 (250 ml)	-	-	-	128	4	32	224	4	56	336	4	84	512	4	128	1010	5	202
4R9955 (500 ml)	-	-	-	96	4	24	160	4	40	248	4	62	424	4	106	770	5	154
DF200 (200 ml)	-	-	-	80	4	20	128	4	32	200	4	50	336	4	84	854	7	122
DF700 (700 ml)	-	-	-	40	4	10	68	4	17	116	4	29	168	4	42	532	7	76

#### TWO Year Standard Warranty • FIVE Year Vacuum Warranty

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

\* Without inventory

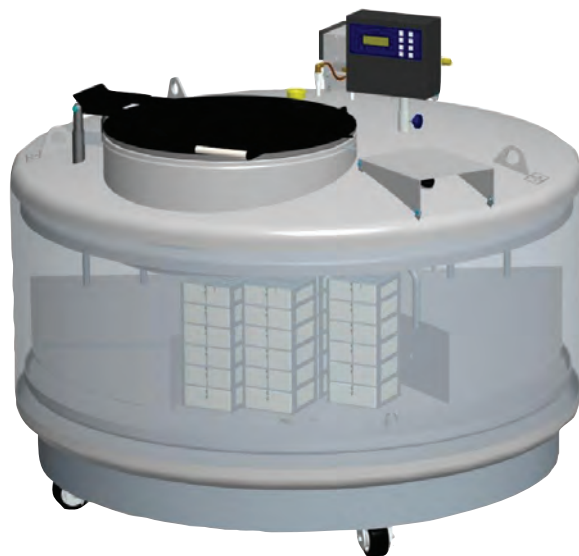
\*\*Minimum width required for vessel to pass through opening. Footprint may vary. Contact Tech Service for detailed drawings.



The MVE Stock Series provides the ultimate in security for the breeding industry and are primarily used to store semen and embryos. The freezers are designed for pull and pack shipment, with a wide neck opening for easy access. Although engineered for full liquid storage, the MVE Stock Series can be operated in vapor using the available vapor storage accessory packs.

## Features include:

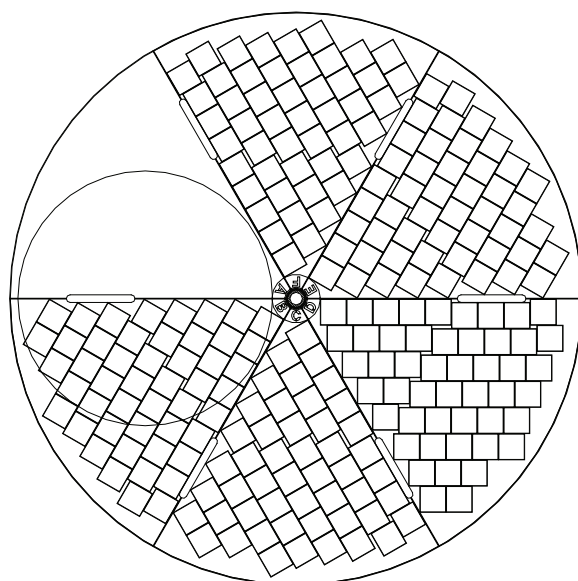
- Wide neck opening
- Lowest liftover height
- Largest LN2 capacity



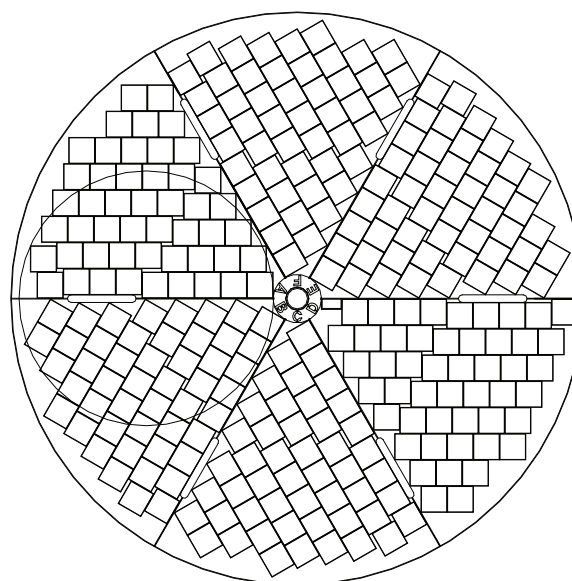


## Rack Layouts

### 1877P-2T-150



TOP TIER CAPACITY  
245 BOXES



BOTTOM TIER CAPACITY  
294 BOXES

MVE 103	MVE 808	MVE 816P-2T-190	MVE 1318	MVE 1842P-150	MVE 1877P-2T-150
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#### Maximum Storage Capacity

##### 1.2 & 2 ml Vials

(Internally Threaded)

	-	11700	10500	20800	-	-
<b>Number of Racks 100 cell boxes</b>	-	12	105	24	-	-
<b>Number of Racks 25 cell boxes</b>	-	4	-	8	-	-
<b>Total Number of Racks</b>	-	16	21	32	-	-
<b>Number of SUC-1 canisters (2.5"x2.5"x11)</b>	22	61	115	129	294	539
<b>Number of 1.2 ml vials on canes</b>	3168	8784	16560	18576	42336	77616
<b>Number of 2.0 ml vials on canes</b>	1760	4880	9200	10320	23520	43120
<b>Number of 1/2 cc straws 10/cane</b>	6820	18910	35650	39990	91140	167090

#### Performance

<b>LN2 Capacity L</b>	39	230	381	482	915	1400
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#### Unit Dimensions

<b>Neck Opening in. (mm)</b>	16 (406)	25 (634)	12.5 (317)	35.5 (901)	25 (635)	25 (635)
<b>Usable Internal Height in. (mm)</b>	12 (305)	22 (558)	13 (330) per level	18.8 (479)	13 (332)	13 (330) per tray
<b>Inner Diameter in. (mm)</b>	16 (406)	28.3 (720)	28.7 (728) top tray 27.7 (702) bottom	39.6 (1007)	56.25 (1429)	56.25 (1429)
<b>Overall Height in. (mm)</b>	16.4 (415)	42.8 (1088)	50 (1271)	47 (1193)	44.3 (1127)	58.2 (1479)
<b>Door Width</b>						
<b>Requirement** in. (mm)</b>	18 (457)	31 (787)	32 (813)	42 (1067)	60 (1524)	60 (1524)
<b>Weight Empty lb. (kg)</b>	48 (22)	250 (114)	475 (215) est.	469 (213)	1167 (530)	1600 (726)
<b>Weight Liquid Full* lb. (kg)</b>	117 (53)	660 (300)	1155 (524) est.	1328 (602)	2798 (1270)	4094 (1857)

**TWO Year Standard Warranty • FIVE Year Vacuum Warranty**

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

\* Without inventory

\*\*Minimum width required for vessel to pass through opening. Footprint may vary. Contact Tech Service for detailed drawings.



The MVE Cabinet Series provides stable cryogenic storage for up to 26,550 1.2 / 2.0 ml vials in a square outer package. These freezers provide maximum storage density and the industry's longest hold time. Although engineered for storage in liquid, the MVE Cabinet Series can be operated in vapor using available vapor storage accessory packs.

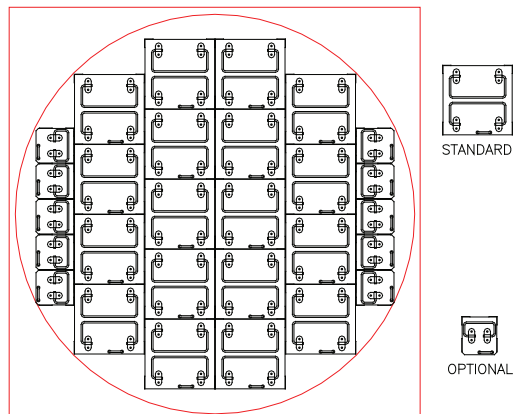
## Features include:

- Liquid sample storage
- Ergonomic design
- Largest LN2 capacity

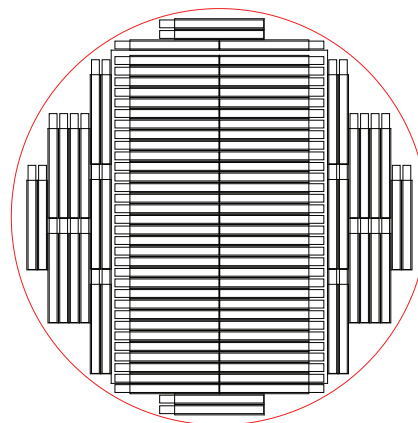


## Rack Layouts

**Square Rack Layout**



**4R9951 Layout**



**MVE 616C**

**MVE 1426C**

### Maximum Storage Capacity

	MVE 616C	MVE 1426C
1.2 & 2 ml Vials (Internally Threaded)	16900	26650
Number of Racks <i>100 cell boxes</i>	12	18
Number of Racks <i>25 cell boxes</i>	4	10
Number of Stages per Rack	13	13

### Performance

LN2 Capacity <i>L</i>	243	388
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### Unit Dimensions

Neck Opening <i>in. (mm)</i>	25.1 (638)	31.8 (806)
Usable Internal Height <i>in. (mm)</i>	30 (762)	29.9 (759)
Overall Height <i>in. (mm)</i>	41.4 (1051)	42.3 (1075)
Outside Diameter <i>in. (mm)</i>	35.1x28 (892x711)	41.1x34.8 (1044x883)
Inner Diameter <i>in. (mm)</i>	25.1 (638)	31.8 (806)
Door Width Requirement** <i>in. (mm)</i>	35.1x28 (892x711)	41.1x34.8 (1044x883)
Weight Empty <i>lb. (kg)</i>	352 (160)	530 (240)
Weight Liquid Full* <i>lb. (kg)</i>	785 (356)	1198 (543)

### Blood Bag Capacities

	Total Bags	Bags/ Frame	No. Frames	Total Bags	Bags/ Frame	No. Frames
791 OS/U (25 ml)	1372	7	196	-	-	-
4R9951 (50 ml)	612	6	102	924	6	154
4R9953 (250 ml)	336	4	84	512	4	128
4R9955 (500 ml)	248	4	62	424	4	106
DF200 (200 ml)	200	4	50	336	4	84
DF700 (700 ml)	116	4	29	168	4	42

### TWO Year Standard Warranty • FIVE Year Vacuum Warranty

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

\* Without inventory

\*\*Minimum width required for vessel to pass through opening. Footprint may vary. Contact Tech Service for detailed drawings.



The MVE CryoSystem Series combines the benefits of low nitrogen consumption with mid-range vial capacity to meet the diverse needs of today's professionals worldwide. The lightweight and low-space demands of these containers make them the most economical units in their class.

## Features Include:

- Designed for large capacity storage
- Low liquid nitrogen consumption
- Convenient lightweight package

## Accessories:



CryoGloves



Vapor Inserts



BAT-1B  
Alarm

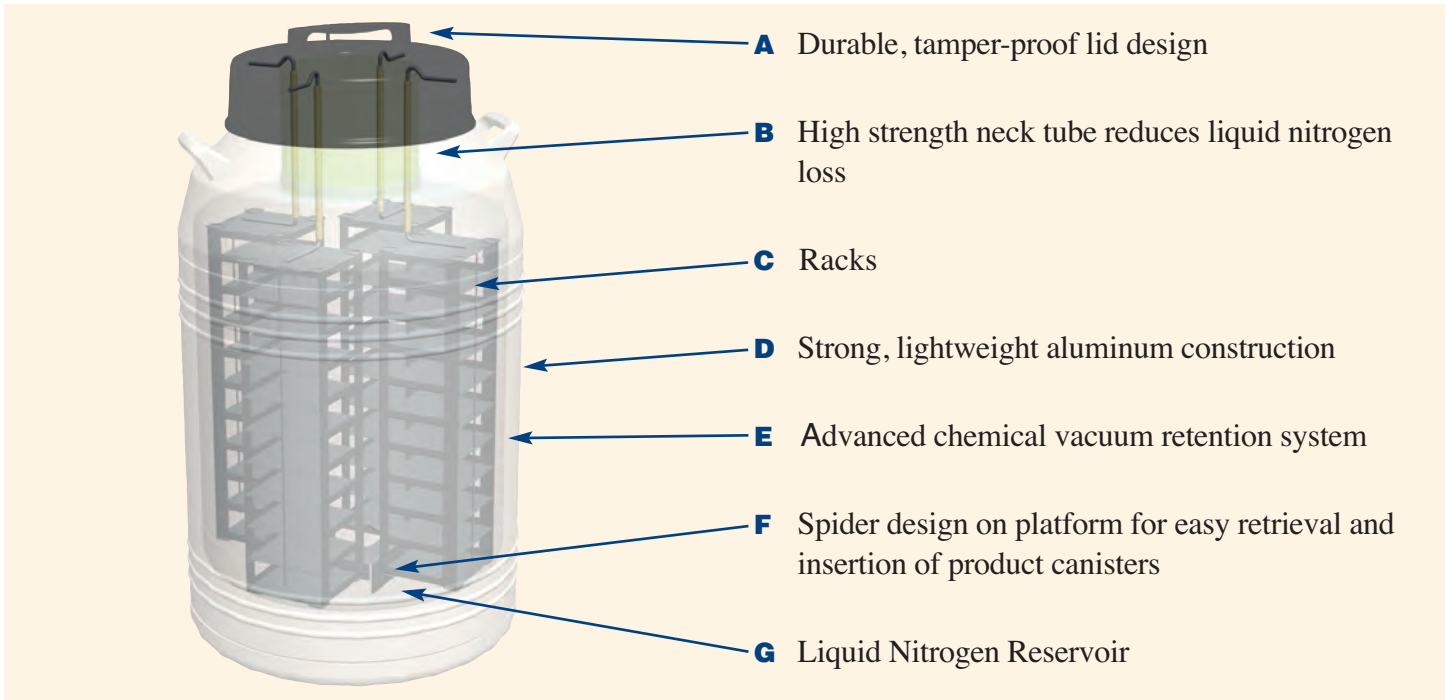


Liquid Level  
Measuring Stick



Roller Base

## Tank Features



	CryoSystem 750	CryoSystem 2000	CryoSystem 4000	CryoSystem 6000
<b>Maximum Storage Capacity</b>				
Number of Canisters	6	4	4	6
Number of 1.2 & 2.0 ml vials <i>100/box</i>	-	2000	4000	6000
Number of 1.2 & 2.0ml via <i>25/box</i>	750	-	-	-
Boxes per Rack	5	5	10	10
<b>Performance</b>				
LN2 Capacity <i>L</i>	47.4	61	121	175
Static Evaporation Rate <i>L/day</i>	0.39	.85	.99	.99
Working Volume <i>L</i>	47	51	111	165
Normal Working Duration, Full <i>Days</i>	76	38	70	104
<b>Unit Dimensions</b>				
Neck Opening <i>in. (mm)</i>	5 (127)	8.5 (216)	8.5 (216)	8.5 (216)
Overall Height <i>in. (mm)</i>	26.5 (673)	27.25 (692)	38 (965)	37.75 (959)
Outer Diameter <i>in. (mm)</i>	20 (508)	22 (559)	22 (559)	26 (665)
Weight Empty <i>lb. (kg)</i>	42 (19)	58 (26.3)	81 (36.7)	103 (46.7)
Weight Full <i>lb. (kg)</i>	126 (57)	182 (82.5)	300 (136)	425 (193)

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

\*\* Normal Working Duration is an arbitrary reference, to estimate container performance under normal operating conditions. Actual working time may vary due to current atmospheric conditions, container history, manufacturing tolerances and any individual patterns of use.

**TWO Year Standard Warranty • THREE Year Vacuum Warranty**  
**Conforms to MDD 93/42/EEC, the Medical Device Directive for the EU.**





The Lab Series cryogenic liquid dewars are named for their acceptance in laboratories and medical facilities worldwide. These high-efficiency, super insulated dewars are the most convenient, economical way to store and dispense liquid nitrogen. Many lab units can be fitted with pouring spouts, pressurized dispensing devices or dippers to aid in the transfer of liquid nitrogen.

## Features Include:

- Designed for efficient storage of liquid nitrogen
- Low liquid nitrogen consumption
- Convenient lightweight package

## Accessories:



Complete line of Research Dewars



CryoGloves



Manual Discharge  
Device



Rigid & Swivel  
Dippers



Pouring Spouts



Roller Base

## Tank Features



LAB 4

LAB 5

LAB 10

LAB 20

LAB 30

LAB 50

### Performance

LN2 Capacity L	4	5	10	20	32	50
Static Evaporation Rate* L/day	0.19	0.15	0.18	0.18	0.22	0.49

### Unit Dimensions

Neck Opening in. (mm)	1.4 (35.5)	2.18 (56)	2.18 (56)	2.18 (51)	2.5 (64)	2.5 (64)
Useable Height in. (mm)	7.8 (198)	10.5 (266)	13.5 (343)	13.7 (348)	14.9 (378)	22 (559)
Overall Height in. (mm)	16.8 (426)	18.2 (462)	21.5 (546)	24.5 (622)	24 (610)	30.5 (775)
Outer Diameter in. (mm)	7.3 (185)	8.8 (222)	10.3 (260)	14.5 (368)	17 (432)	17 (432)
Internal Diameter in. (mm)	5.5 (139)	6.5 (165)	8.3 (210)	11.4 (289)	14 (356)	14 (356)
Weight Empty lb. (kg)	6 (2.7)	8 (4)	12 (5.4)	19 (9)	25 (11.4)	31 (14)
Weight Full lb. (kg)	13 (6)	17 (8)	31 (14)	55 (25)	82 (37.2)	120 (54.4)

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

**TWO Year Standard Warranty • FIVE Year Vacuum Warranty**

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





MVE offers the widest range of compact aluminum storage tanks available on the market today. Over the past 50 years, our product designs have improved through end-user input and evolved into a unique selection of units. The SC Series is designed for the user who has small capacity needs, but requires long-term storage and low liquid nitrogen consumption in a convenient lightweight package.

## Features Include:

- Designed for large capacity storage
- Low liquid nitrogen consumption
- Convenient lightweight package

## Accessories:



CryoGloves



Vapor Inserts



BAT-1B Alarm

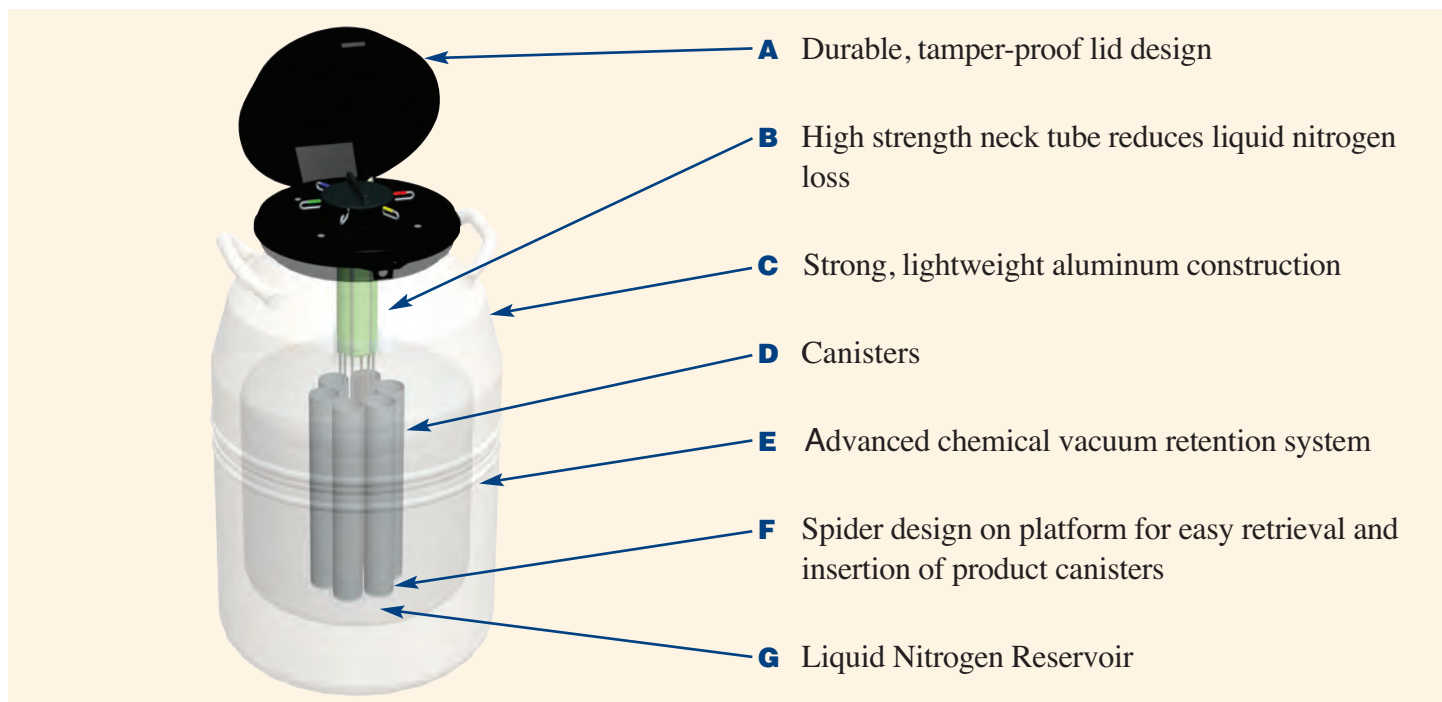


Liquid Level  
Measuring Stick



Roller Base

## Tank Features



SC 3/3      SC 8/5      SC 11/17      SC 16/11      SC Millennium 20      SC 20/20      SC 33/26      SC 36/32

### Maximum Storage Capacity

Number of Canisters	6	6	6	9	6	6	66	
Number of 1/2 cc Straws 10/cane	-	-	720	-	540	540	540	540
Number of 1/2 cc Straws 1 Level Bulk	1122	1122	1122	1098	780	780	780	780
Number of 1.2 & 2.0 ml Vials 5/cane	-	-	210	-	150	150	150	150

### Performance

LN2 Capacity L	3.6	8.4	11	16.4	20.5	20.5	33	36.5
Static Evaporation Rate L/day	0.13	0.15	0.16	0.14	.095	0.09	0.13	0.10
Normal Working Duration, Full Days	17	35	43	74	135	142	182	224

### Unit Dimensions

Neck Opening in. (mm)	2.18 (55.4)	2.18 (55.4)	2.18 (55.4)	2.18 (55.4)	2.18 (55.4)	2 (51)	2 (51)	2 (51)
Overall Height in. (mm)	16 (406)	18.5 (470)	21.6 (549)	17.5 (444)	25.7 (652)	25.7 (652)	25.9 (657)	27.2 (690)
Outer Diameter in. (mm)	8.7 (222)	10.2 (260)	10.2 (260)	17.2 (438)	14.5 (368)	14.5 (368)	18.2 (464)	18.2 (464)
Canister Height in. (mm)	5 (127)	5 (127)	11 (279)	5 (127)	11 (279)	11 (279)	11 (279)	11 (279)
Canister Diameter in. (mm)	1.65 (41.9)	1.65 (41.9)	1.65 (41.9)	1.5 (38)	1.5 (38)	1.5 (38)	1.5 (38)	1.5 (38)
Weight Empty lb. (kg)	8 (3.6)	12 (5.3)	17 (7.7)	14 (6.4)	23 (10.5)	26 (11.8)	34 (15.4)	34 (15.4)
Weight Full lb. (kg)	14.4 (65)	27 (12.1)	36.6 (16.6)	43 (19.6)	59.5 (27)	62.5 (28.3)	93.4 (42.4)	100 (44.8)

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

\*\* Normal Working Duration is an arbitrary reference, to estimate container performance under normal operating conditions. Actual working time may vary due to current atmospheric conditions, container history, manufacturing tolerances and any individual patterns of use.

**TWO Year Standard Warranty • FIVE Year Vacuum Warranty**  
**Conforms to MDD 93/42/EEC, the Medical Device Directive for the EU.**





MVE XC Series tanks have capacities ranging from 700–5000 straws and 150 to over 1000 vials. Manufactured to a world class level of excellence and backed by an industry-leading 5 year vacuum warranty, these durable, lightweight units can be relied on to perform in the most demanding of environments.

## Features Include:

- Designed for large capacity storage
- Low liquid nitrogen consumption
- Convenient lightweight package

## Accessories:



Liquid Level Alarm



Vapor Inserts



Roller Base



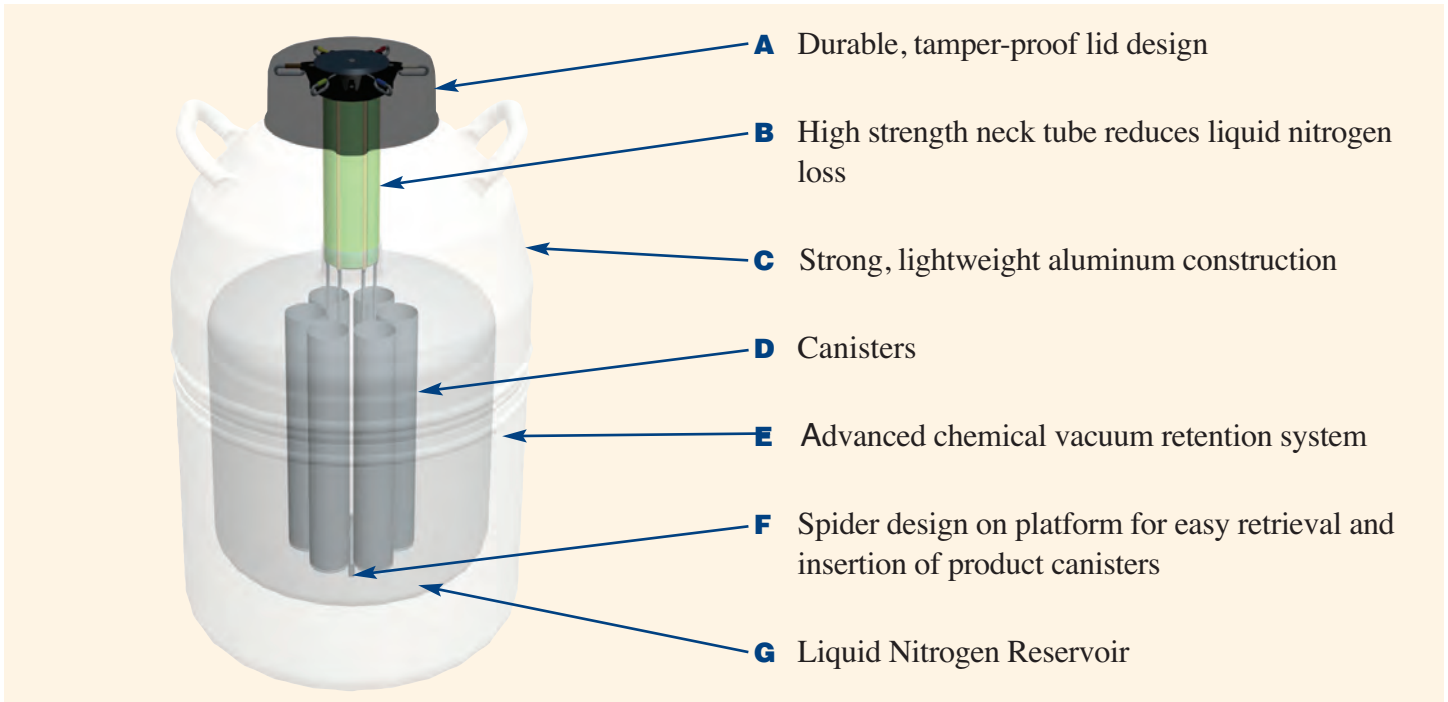
Liquid Level  
Measuring Stick



Plastic Boxes



## Tank Features



XC 20 Millennium    XC 21/6    XC 22/5    XC 32/8    XC 33/22    XC 34/18    XC 43/28    XC47/11-6SQ    XC 47/11-6    XC 47/11-10

### Maximum Storage Capacity

	XC 20 Millennium	XC 21/6	XC 22/5	XC 32/8	XC 33/22	XC 34/18	XC 43/28	XC47/11-6SQ	XC 47/11-6	XC 47/11-10
Number of Canisters	6	9	6	9	6	6	6	6 sq.	6	10
Number of 1/2 cc Straws 10/cane	720	N/A	2,400	2,520	1,260	2,100	1,260	-	4,500	3,500
Number of 1/2 cc Straws 1 Level Bulk	1122	3,870	3,666	3,960	1,764	3,000	1,764	-	6,216	5,000
Number of 1.2 & 2.0 ml Vials 5/cane	210	N/A	810	855	360	630	360	-	1,320	1,050
Number of Racks 25 Vials	-	-	-	-	-	-	-	750	-	-

### Performance

	XC 20 Millennium	XC 21/6	XC 22/5	XC 32/8	XC 33/22	XC 34/18	XC 43/28	XC47/11-6SQ	XC 47/11-6	XC 47/11-10
LN2 Capacity L	20.5	21	22.4	32	33.4	34.8	42.2	47.4	47.4	47.4
Static Evaporation Rate L/day	.095	0.35	0.35	0.35	0.14	0.18	0.14	0.39	0.39	0.39
Normal Working Duration, Full Days	135	38	40	57	154	123	193	76	76	76

### Unit Dimensions

	XC 20 Millennium	XC 21/6	XC 22/5	XC 32/8	XC 33/22	XC 34/18	XC 43/28	XC47/11-6SQ	XC 47/11-6	XC 47/11-10
Neck Opening in. (mm)	2.18 (55.4)	3.5 (89)	3.81 (97)	3.81 (97)	2.75 (70)	3.5 (89)	2.75 (70)	5 (127)	5 (127)	5 (127)
Overall Height in. (mm)	25.7 (652)	17.2 (438)	22 (559)	21.5 (546)	26 (660)	26.6 (675)	26.4 (670)	26.5 (673)	26.5 (673)	26.5 (673)
Outer Diameter in. (mm)	14.5 (368)	18.2 (464)	14.5 (368)	18.2 (464)	18.2 (464)	18.2 (464)	20 (508)	20 (508)	20 (508)	20 (508)
Canister Height in. (mm)	11 (279)	5 (127)	11 (279)	11 (279)	111 (279)	11 (279)	11 (279)	-	11 (279)	11 (279)
Canister Diameter in. (mm)	1.65 (41.9)	2.75 (70)	3.09 (79)	2.62 (67)	2.22 (56)	2.81 (71)	2.22 (56)	-	4 (102)	2.81 (71)
Weight Empty lb. (kg)	23 (10.5)	30 (13.6)	26 (11.8)	30 (13.6)	34 (15.4)	34 (15.4)	36 (16.4)	42 (19)	42 (19)	42 (19)
Weight Full lb. (kg)	59.5 (27)	62.5 (28.3)	66 (30)	87 (39.5)	94 (42.5)	96 (43.5)	111 (50.5)	120.4 (54.6)	120.4 (54.6)	120.4 (54.6)

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

\*\* Normal Working Duration is an arbitrary reference, to estimate container performance under normal operating conditions. Actual working time may vary due to current atmospheric conditions, container history, manufacturing tolerances and any individual patterns of use.

**TWO Year Standard Warranty • FIVE Year Vacuum Warranty**  
**Conforms to MDD 93/42/EEC, the Medical Device Directive for the EU.**



The Doble Series cryogenic liquid dewars are the first units to be designed for both vapor shipment and liquid storage. A unique absorbent layer in the base of the storage tanks enables them to be charged with nitrogen and employed as dry shippers with hold times of up to 30 days. Once at the final destination, the tanks can be filled with liquid and used for long term storage, therefore avoiding the need for return shipments.

## Features Include:

- Liquid and vapor storage options
- Low liquid nitrogen consumption
- Convenient lightweight package

## Accessories:



CryoGloves



Vapor Insert



Liquid Level  
Measuring Stick

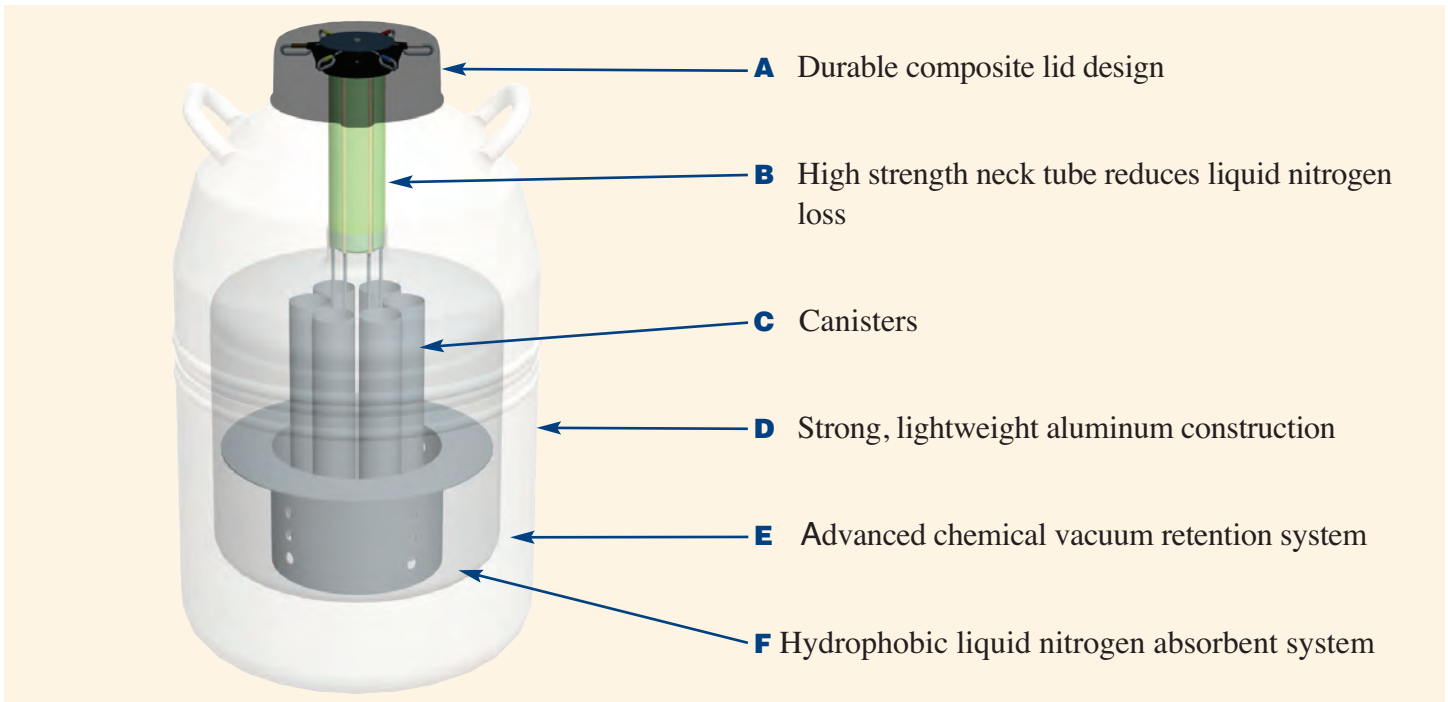


Mushroom



Roller Base

## Tank Features



	Doble 11	Doble 20	Doble 28	Doble 34	Doble 47	Doble 47-10
Number of Canisters	6	6	6	6	6	10
No. of 1/2 cc Straws 10/cane	660	660	2400	2100	4500	3500

### Performance

Liquid Nitrogen Capacity <i>l</i>	10	18.5	28	32	46	46
Vapor Capacity <i>l</i>	3.1	2.8	8.4	6.7	8.4	9.6
Static Evaporation Rate <i>l/day</i>	0.17	0.1	0.35	0.2	0.4	0.4
Normal Working Duration <i>days for liquid</i>	37	116	50	100	74	72
Normal Working Duration <i>days for vapor</i>	17	21	24	30	21	2

### Unit Dimensions

Neck Opening <i>in (mm)</i>	2.18 (55.4)	2.18 (55.4)	3.81 (97)	3.5 (89)	5 (127)	5 (127)
Overall Height <i>in (mm)</i>	21.6 (549)	25.7 (652)	22 (559)	26.6 (676)	26.5 (673)	26.5 (673)
Outside Diameter <i>in (mm)</i>	10.2 (260)	14.5 (368)	18.2 (462)	18.2 (462)	20 (508)	20 (508)
Canister Height <i>in (mm)</i>	11 (279)	11 (279)	11 (279)	11 (279)	11 (279)	11 (279)
Canister Diameter <i>in (mm)</i>	1.65 (41.9)	1.65 (42)	3.09 (78)	2.81 (72)	4 (101.6)	2.81 (72)
Weight Empty <i>lb. (kg)</i>	17 (7.7)	25.2 (12)	34 (16)	39.2 (18)	47 (21.3)	48 (21.8)
Weight Charged vapor <i>lb. (kg)</i>	22.5 (10.2)	30.2 (14)	49 (22)	51 (23)	63 (28.6)	64 (29)
Weight Full <i>liquid lb. (kg)</i>	36 (16)	60 (27)	84 (38)	95 (43)	125 (57)	120 (54.5)
Cabosil <i>lb. (kg)</i>	1 (.45)	1 (.45)	3.5 (1.58)	2 (.9)	2.5 (1.2)	3.4 (1.6)

### THREE Year Warranty

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



MVE Vapor Shippers are designed for the safe transportation of biological samples at cryogenic (-150°C or colder) temperatures. Manufactured from durable, lightweight aluminum, they employ a hydrophobic compound which absorbs the liquid nitrogen to ensure spill-free vapor-phase shipping.

A protective shipping carton is available for all models (except the SC 20/12V). These containers may be used to ship your samples with a “non-hazardous” classification throughout the world, thus reducing costs and helping to assure sample viability.

## Features Include:

- Protective shipping carton to ensure upright shipping
- Low liquid nitrogen consumption
- Convenient lightweight package

## Accessories:



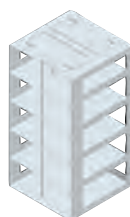
CryoGloves



Vapor Inserts



CryoBlocks



Square Racks

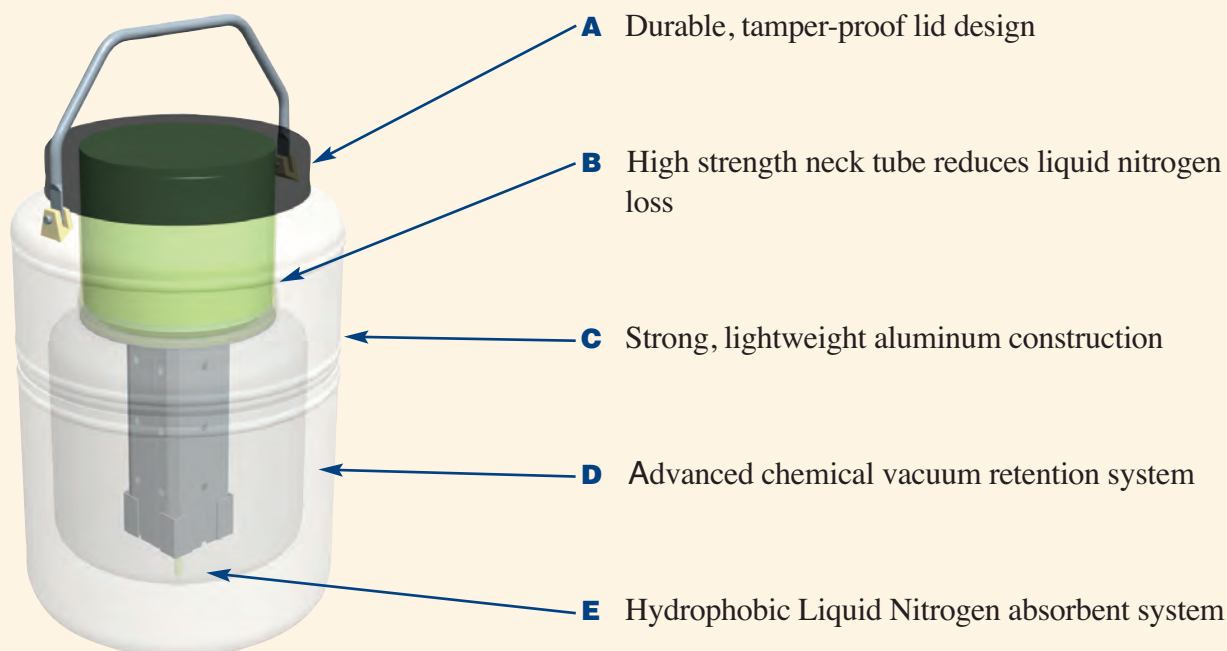


Liquid Level  
Measuring Stick



Plastic Boxes

## Tank Features



	SC 2/1V	SC 4/2V	SC 4/3V	SC 20/12V	XC 20/3V**	Mini Moover	CryoShipper Mini	Cryo Moover	Cryo Shipper	Cryo Shipper XC	IATA
<b>Maximum Storage Capacity</b>											
No. of Canisters	1	1	1	6	4 + 1 Center	1	-	7	1 Rack	-	Secondary Container
No. of 1/2 cc Straws 10/cane	-	280	120	540	2500/2000**	60	-	3080	-	-	-
No. of 1/2 cc Straws 1 Level Bulk	88	440	210	780	3750/3000**	88	-	4354	-	-	-
No. of 1/4 cc Straws 1 Level Bulk	182	938	452	1630	7410/6000	8904	-	-	-	-	-
No. of 1.2 & 2.0 ml Vials 5/cane	-	95	40	150	675/560**	20	-	945	-	-	-
No. of 1.2 & 2.0 ml Vials 6/cane	9	106	48	180	840/672**	24	-	1134	500	966 (Bulk)	-
No. of blood bags stored 4R9953	-	-	-	-	-	-	-	-	10	10	-
<b>Performance</b>											
LN2 Capacity L	1.5	3.6	4.3	12.3	6.8	2.9	5.9	4.2	8.5	10	11.8
Static Evaporation Rate* L/day	0.19	0.26	0.20	0.09	0.3	0.2	0.84	0.35	0.85	0.7	0.8
Static holding time Days	8	13	21	85	23	14	7	12	10	14	14
<b>Unit Dimensions</b>											
Neck Opening in. (mm)	1.4 (35)	2.75 (70)	2 (51)	2 (51)	3.81 (96.7)	1.4 (35)	8.5 (216)	3.8 (97)	8.5 (216)	8.5 (216)	8.5 (216)
Overall Height in. (mm)	13.5 (343)	18.4 (468)	19.4 (492)	25.7 (652)	25 (635)	19.5 (495)	20 (508)	22 (558)	21.5 (546)	23 (584)	24 (610)
Outer Diameter in. (mm)	7.25 (184)	8.7 (222)	8.7 (222)	14.5 (368)	14.5 (368)	7.2 (184)	11.6 (295)	18.3 (464)	14.5 (369)	15 (381)	15 (381)
Canister Height in. (mm)	5 (127)	11 (278)	11 (278)	11 (278)	11 (278)	11 (278)	-	11 (278)	-	12.5 (317.5‡)	8.5 (215)
Canister Diameter in. (mm)	1.2 (31)	2.62 (67)	1.81 (46)	1.5 (38)	3.2 (80)	1.2 (31)	-	3.1 (79)	-	-	7.5 (190)
Weight Empty lb. (kg)	6 (2.7)	11 (5)	13 (5.9)	30 (13.6)	23 (10.5)	8 (3.6)	16.5 (7.5)	30.5 (13.8)	24 (10.9)	30 (13.6)	29 (13.1)
Weight Full lb. (kg)	8.8 (4)	17 (7.7)	20 (9.3)	52 (23.6)	35 (16)	11.6 (5)	34.3 (15.5)	38 (17.2)	37.5 (17)	47 (21.4)	50.5 (22.9)

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

\*\* With center absorbent canister (3 week holding time)

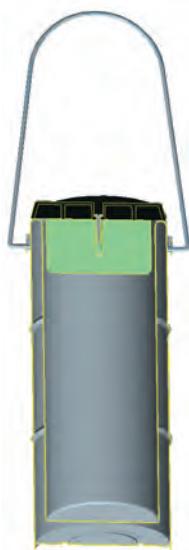
‡ Useable Height

### THREE Year Vacuum Warranty

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



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
- 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

## Performance

<b>LN2 Capacity L</b>	6	3	2	1	1	0.5
<b>Handle</b>	yes	yes	yes	yes	yes	no

## Unit Dimensions

<b>Neck Opening in. (mm)</b>	7.3 (185)	7.3 (185)	3.9 (99)	3.3 (84)	3.9 (99)	2.6 (66)
<b>Inner Diameter in. (mm)</b>	7.3 (185)	7.3 (185)	3.9 (99)	3.3 (84)	3.9 (99)	2.6 (66)
<b>Outer Diameter in. (mm)</b>	7.8 (198)	7.8 (198)	4.8 (122)	4.3 (109)	4.8 (122)	3.4 (86)
<b>Usable Internal Height in. (mm)</b>	10.6 (269)	6.3 (160)	7.1 (180)	6.2 (157)	6.1 (155)	7.1 (180)
<b>Overall Height in. (mm)</b>	11.8 (300)	7.5 (191)	12.3 (312)	9.1 (231)	7.0 (178)	8.0 (203)
<b>NER without cover L/hr</b>	0.4	0.2	0.1	0.1	0.2	0.1

## 90 Day Warranty

The new MVE Datalogger is a battery operated temperature recorder that provides an easy method to monitor the temperature of cryogenic environments. When mounted to the lid of an MVE Vapor Shipper, these dataloggers will record the temperature of the vessel over the entire course of the shipment. Current temperature and alarm status can be observed on the digital display, while past temperature and alarm data can be extracted via PC and interface cable. In addition, the PC software can be used to set alarm thresholds, set sample rates, and generate graphical reports for electronic or hard copy.

## Special Features

- Displays current temperature and alarm status
- Water and dust resistant
- Visual alarm indicator
- Records and stores up to 60,000 data points
- 2 Alarm settings (Hi & Lo)
- Easy-to-use software
- CE certified



## Examples of Use

MVE freezers, dry shippers, aluminum dewars

## Specifications

Size L, W, H in (mm)	2.6, 1.2, 4.2 (65, 31, 106)
Weight oz (g)	4.1 (115)
Ranges	-200 to +120°C
Accuracy	±1.5°C
Casing	Polycarbonate, watertight to IP68
Battery	1/2AA, 3.6V, replaceable
Battery Life	2 years, estimated
Sensor	Pt100 3-wire class 0.5
Memory	20,000 to 60,000 records
Interface	Special interface cable to RS232 or USB
Resolution	Better than 0.2°C
Software Compliance	Win98/ME, Win NT, XP, Win2000, VISTA

# Chart: Total Cryogenic Solutions



Air Separation



Distribution



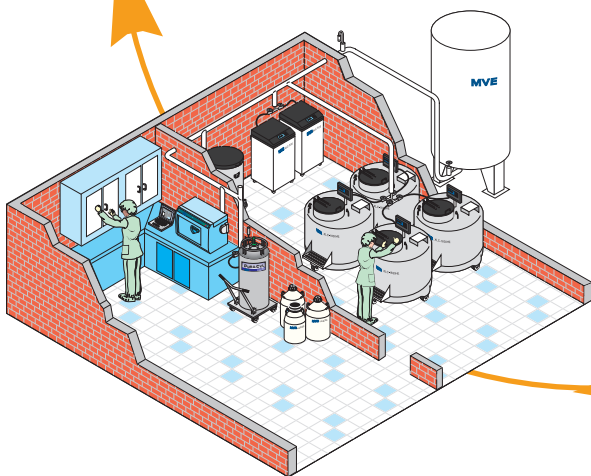
Bulk Storage Tanks



Dewars



Liquid Cylinders



Security Through Systems



Freezers