



Cryopreservation Equipment

**Storage and Transport Systems
for Biological Materials**



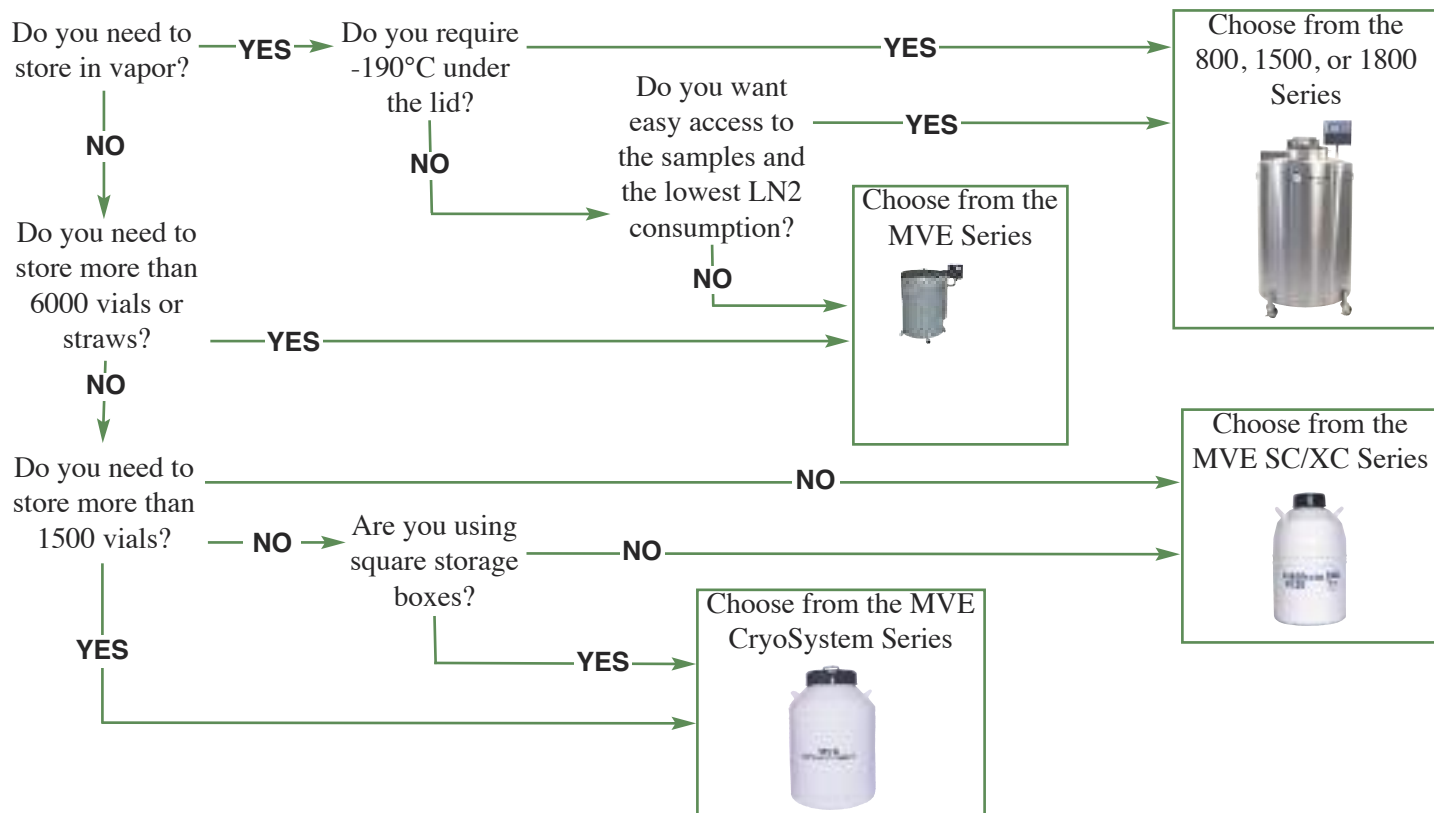
Temperature Chart & Product Selector Guide

Chart-MVE is the world's leading manufacturer of vacuum insulated products and cryogenic systems. More than forty years ago, we set the standard for storage of biological materials at low temperatures. Today, we continue to exceed these standards. Industries from around the world look to Chart-MVE for excellence and binnovation. Our solutions empower industries to better utilize cryogenic technology. In this manner, Chart-MVE continues to make a vital contribution in today's biomedical industry.

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
Cells:				
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
Fungi:				
Mycelium	0.5 - 1.0 mL	Cryovial	Boxes or canes	-150°C
Hybridomas	0.5 - 1.0 mL	Cryovial	Boxes or canes	-150°C
Phage:				
Libraries	0.5 - 1.0 mL	Cryovial	Boxes or canes	-150°C
Protozoa	0.5 - 1.0 mL	Cryovial	Boxes or canes	-150°C
Viruses: Animal				
In Cells	0.5 - 1.0 mL	Cryovial	Boxes or canes	-150°C

Product Selector Guide





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.

Liquid Nitrogen Level Measurement

The TEC 3000 uses a differential pressure system to determine the LN2 level to an accuracy of ± 0.5 in. (15 mm) and a resolution of 0.1 in. (5.0 mm). Unlike alternative level sensing systems, differential pressure allows the exact level to be measured and displayed. Using the simple single point calibration in a range of 3.0 in. to 48.0 in. (75 mm to 1220 mm), the patented, self-maintaining, closed-loop system displays in inches, millimeters, or a percentage full.

Automatic Liquid Nitrogen Level Control

The fully automated LN2 level control system is based on user-defined parameters that can be electronically adjusted over the entire level range. The parameters include Low Level Alarm, Low Level Fill Point, High Level Fill Point and High Level Alarm. The redundant Dual Solenoid Valves for overfill protection run on 24 VDC, 1.0 amp (max).

Liquid Usage

This exclusive feature provides an estimation of liquid usage to track LN2 consumption and can provide an early failure warning to allow sufficient time to implement corrective action and save irreplaceable samples.

User-Defined Alarms

A total of 17 audio/visual alarms are used to alert the user to any potential or developing problems. The alarms include: High Temperatures, Low Temperatures, High Level, Low Level, Liquid Usage, Maximum Fill Time, Gas Bypass, Temperature Calibrations, Low Battery, Power Failure, Lid Open and Communication Loss.

Remote Alarm Monitoring

The TEC 3000 Alarm monitoring includes a Global Remote Alarm Relay, as well as four discrete contacts for High Level, Low Level, Temp A High and

Low Battery.

Temperature Measurement

Two independent temperature measurement channels are employed to accurately measure the temperature across the entire storage space. The two platinum RTD sensors have an accuracy of $\pm 1.0^\circ\text{C}$ and a resolution of 0.1°C . The temperature can be displayed in $^\circ\text{C}$, $^\circ\text{F}$ or K. The single or two point calibration also has altitude compensation for the highest accuracy.

Hot Gas Bypass

This unique feature is able to vent warm nitrogen gas from the supply line before initiating a fill. This prevents warm gas from entering the freezer space, which helps maintain a stable temperature gradient and increases the efficiency by reducing excess LN2 evaporation.

Event Log / Data Storage

The TEC 3000 is able to store vital, unalterable, time-stamped data in nonvolatile memory. This is a great tool for assessing freezer performance and troubleshooting any problems. The memory can store 30,000 events, an estimated 10 years of storage capacity. The data includes time-stamped temperatures, LN2 level, liquid usage, and any alarms or events.

Password Security

The multilevel security system comprised of up to ten user-specific programmable passwords and four security levels can be customized to grant or restrict personnel access to certain menus and settings.

Communication Capabilities

Two independent ports can be used to communicate with other TEC 3000 controllers, a remote PC, serial printer, or other RS-485 networks and devices. Options include ASCII, MODBUS, Printer and One Fill All Fill (OFAF).

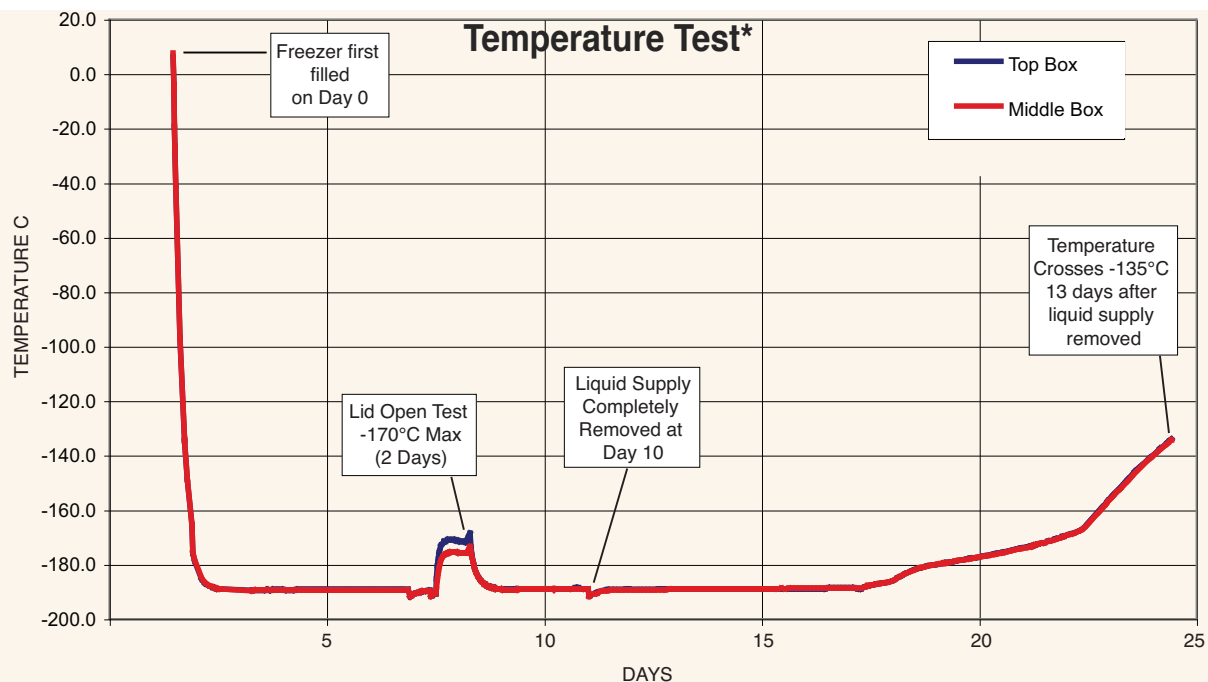
MVE 800 Series -190°C High Efficiency Freezer

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:

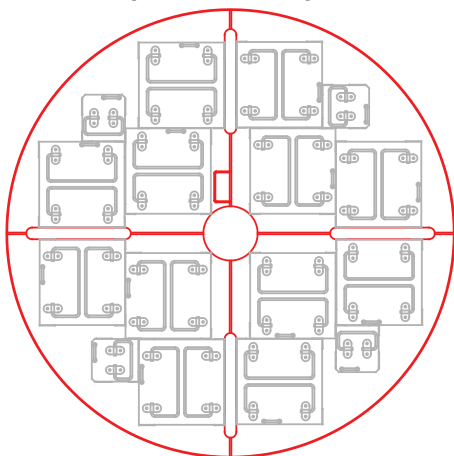
- Dry sample storage
- -190°C top box temperature
- Lowest liftover height
- Largest LN2 capacity below turn tray



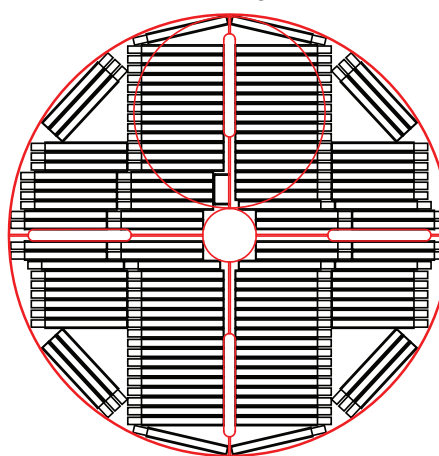
* Temp Test indicates typical performance of 800 Series -190°C freezer with full inventory system and factory recommended level settings. Actual performance may vary with atmospheric conditions and usage.

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>	49.0 (1245)	53.3 (1353)	57.0 (1449)
Door Width Requirement** <i>in. (mm)</i>	32.0 (813)	32.0 (813)	32.0 (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	1836	9	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	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.

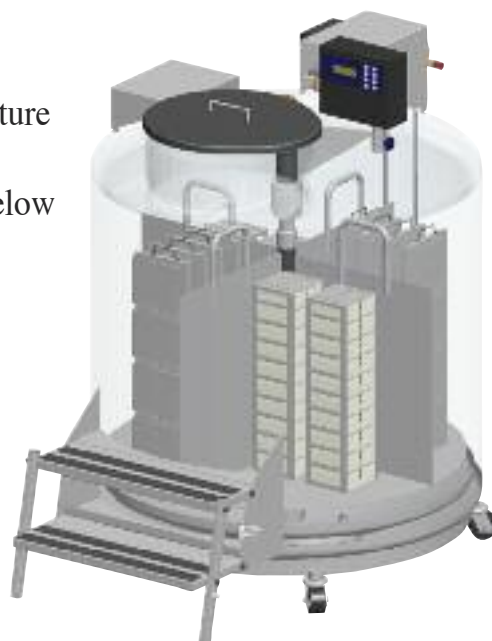
MVE 1500 Series -190°C High Efficiency Freezer

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.

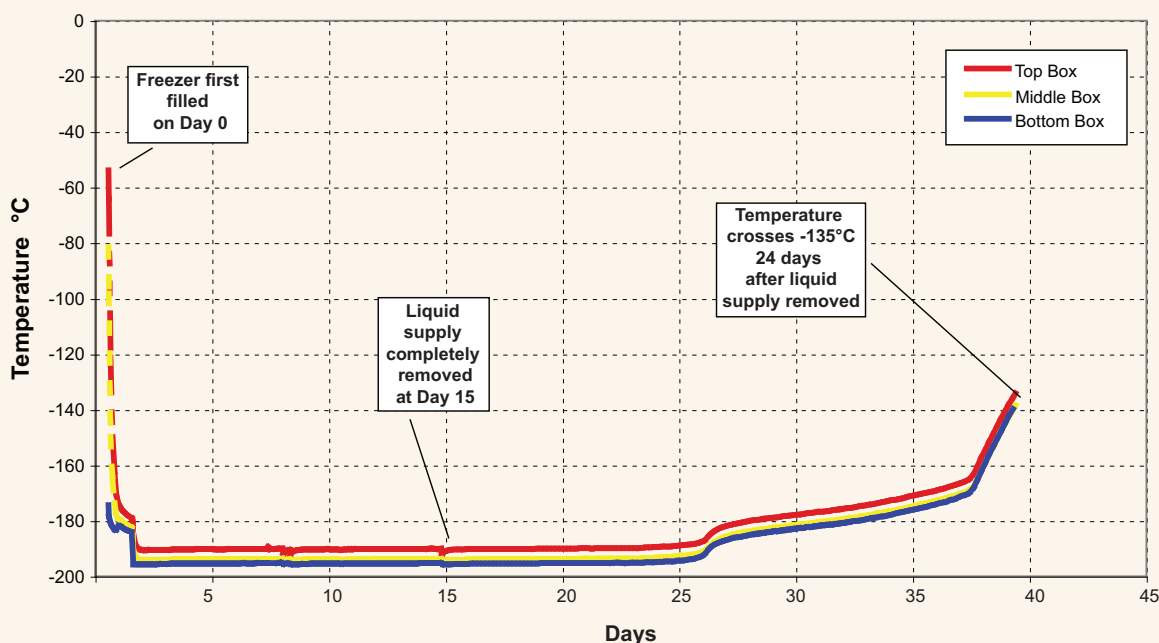
Also available in -150°C versions

Features include:

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

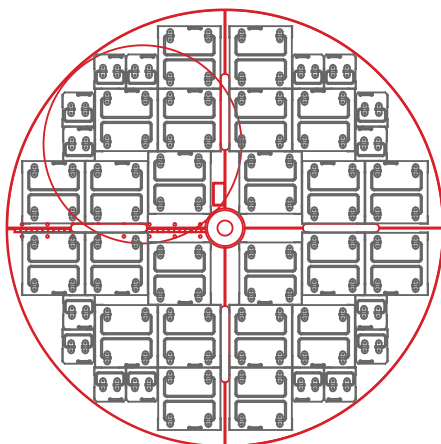
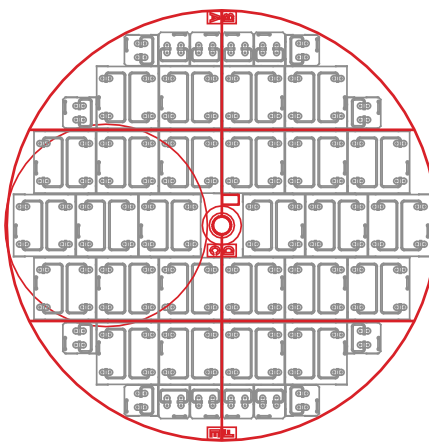


Temperature Test*

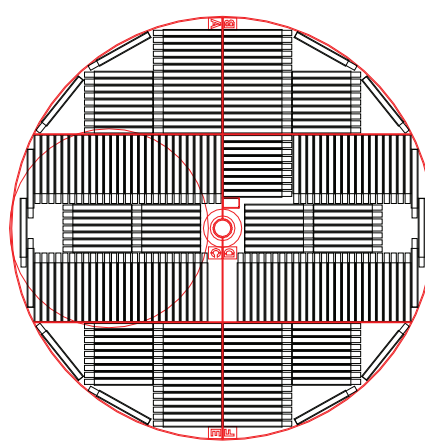


* Temp Test indicates typical performance of 1500 Series -190°C freezer with full inventory system and factory recommended level settings. Actual performance may vary with atmospheric conditions and usage.

Square Rack Layout (P)


Rack Layouts
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)	37.0 (940)	39.2 (995)	39.2 (995)
Door Width Requirement** in. (mm)	42.0 (1067)	42.0 (1067)	42.0 (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.

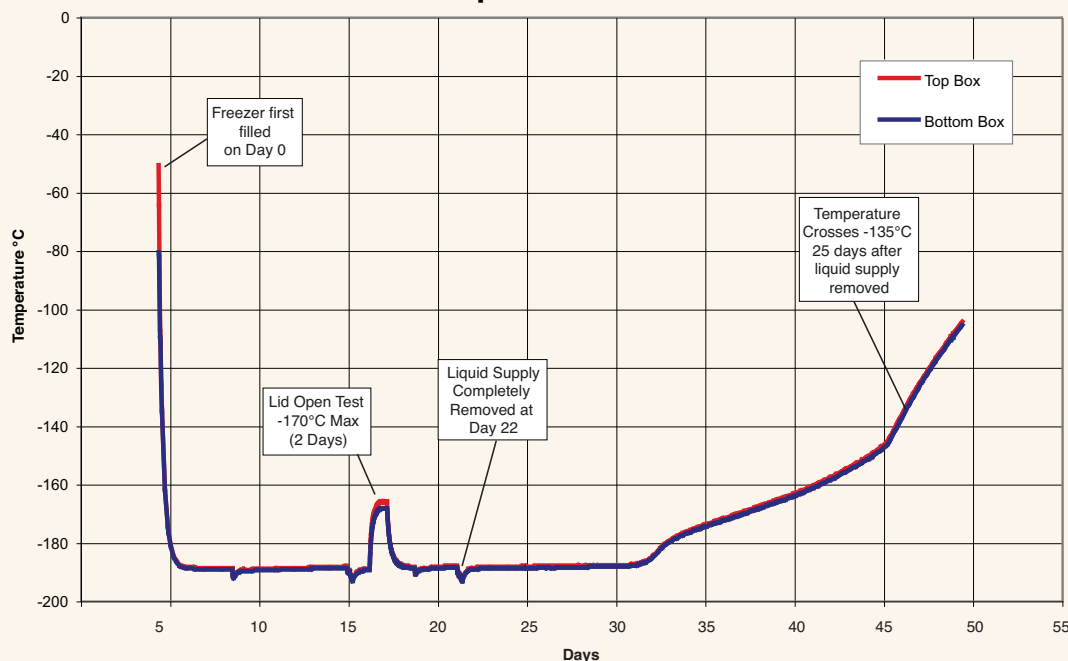
Also available in -150°C versions

Features include:

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



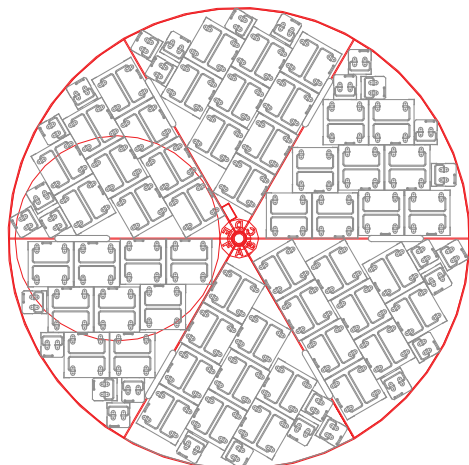
Temperature Test*



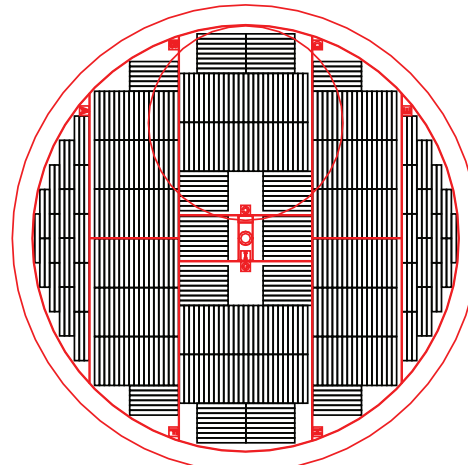
* Temp Test indicates typical performance of 1800 Series -190°C freezer with full inventory system and factory recommended level settings. Actual performance may vary with atmospheric conditions and usage.

Rack Layouts

Square Rack Layout



4R9951 Layout



**MVE 1800 Series -190°C
High Efficiency Freezer**

MVE 1879P-190

MVE 1881R-190

MVE 1892P-190

MVE 1894R-190

Maximum Storage Capacity

1.2 & 2 ml Vials

(Internally Threaded)

Number of Racks **100 cell boxes**

Number of Racks **25 cell boxes**

Number of Stages per Rack

79950	81900	92250	94500
54	60	54	60
30	12	30	12
13	13	15	15

Performance

LN2 Capacity **L**

LN2 Capacity Under

Platform Vapor Storage **L**

1745	1745	1770	1770
318	318	296	296

Unit Dimensions

Neck Opening **in. (mm)**

Usable Internal Height **in. (mm)**

25.0 (635)	25.0 (635)	25.0 (635)	25.0 (635)
29.5 (749)	29.2 (741)	34.5 (876)	34.2 (868)

Inner Diameter **in. (mm)**

Overall Height **in. (mm)**

Door Width Requirement** **in. (mm)**

Weight Empty **lb. (kg)**

Weight Liquid Full* **lb. (kg)**

56.0 (1422)	54.8 (1391)	56.0 (1422)	54.8 (1391)
62.1 (1577)	61.3 (1556)	67.1 (1704)	66.3 (1683)
60.0 (1524)	60.0 (1524)	60.0 (1524)	60.0 (1524)
1606 (728)	1721 (781)	1545 (701)	1721 (781)
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 operated in vapor using available vapor storage accessory packs.

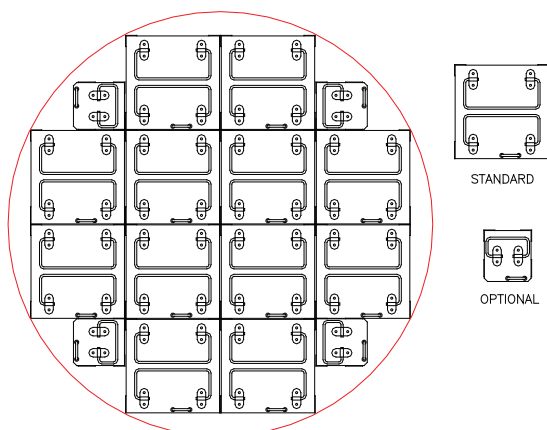
Features include:

- Liquid sample storage
- Wide neck opening
- Lowest liftover height
- Largest LN2 capacity

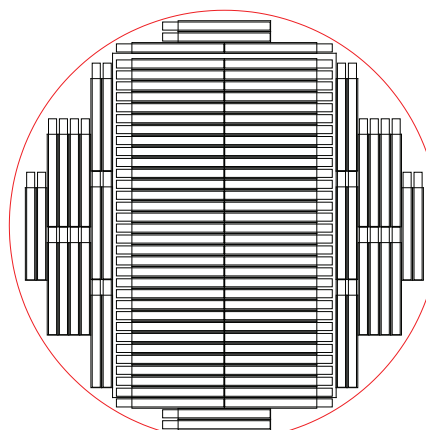


Rack Layouts

Square Rack Layout

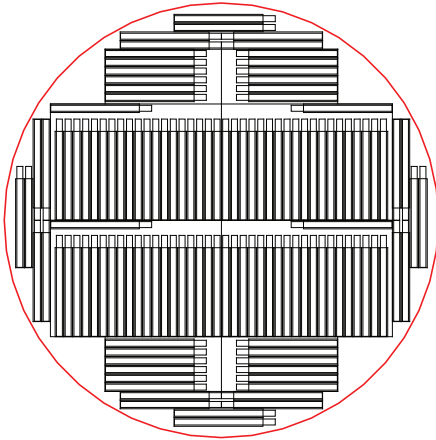


4R9951 Layout

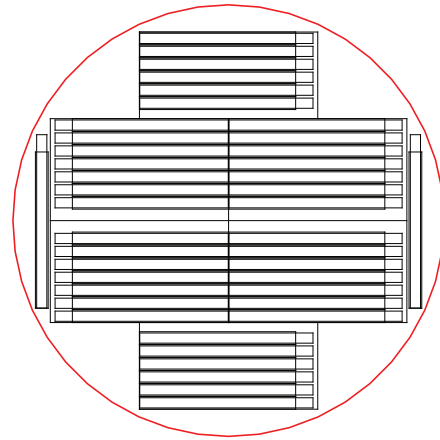


Rack Layouts

4R9953 Layout



DF700 Layout



MVE 204*	MVE 205	MVE 510	MVE 616	MVE 1426	MVE 1839
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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)	16.00 (406)	16.00 (406)	20.70 (527)	25.10 (638)	31.75 (806)	39.40 (1002)
Usable Internal Height in. (mm)	19.7 (502)	28.9 (735)	30.0 (762)	29.5 (749)	29.3 (745)	33.6 (854)
Inner Diameter in. (mm)	16.00 (406)	16.00 (406)	20.70 (527)	25.13 (638)	31.75 (806)	39.40 (1002)
Overall Height in. (mm)	30.8 (784)	41.6 (1059)	46.7 (1185)	45.8 (1161)	42.4 (1076)	54.0 (1372)
Door Width Requirement** in. (mm)	18.0 (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/ Frame	No. Frames	Total Bags	Bags/ Frame	No. Frames	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)	-	-	-	539	7	77	882	7	126	1372	7	196	2226	7	318	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	610	5	122
DF700 (700 ml)	-	-	-	40	4	10	68	4	17	116	4	29	168	4	42	380	5	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.

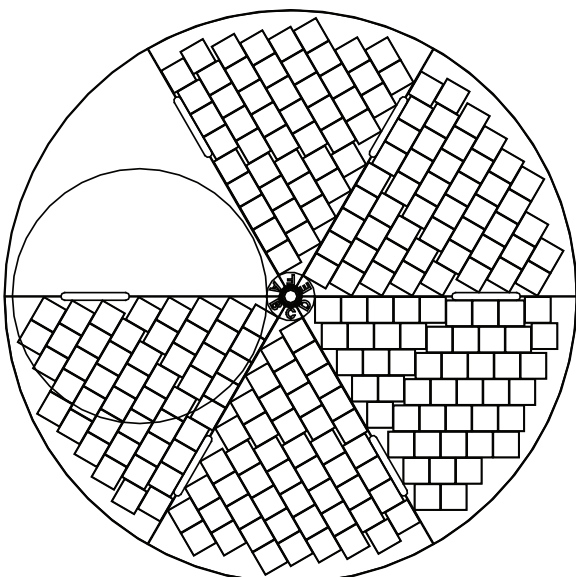
Features include:

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

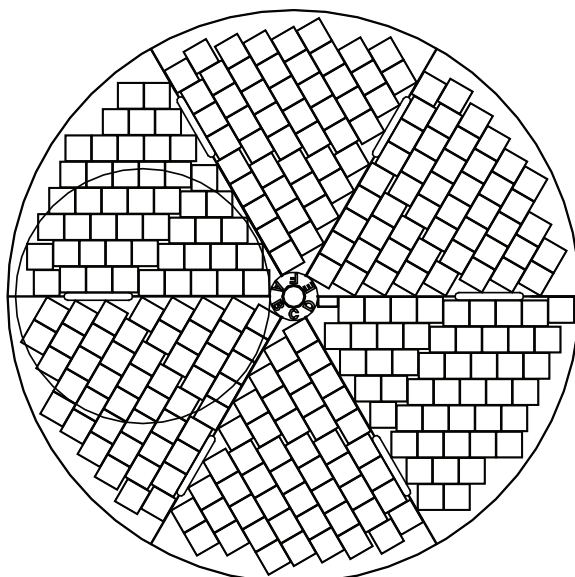


Rack Layouts

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
Maximum Storage Capacity						
1.2 & 2 ml Vials (Internally Threaded)	-	11700	10500	20800	-	-
Number of Racks 100 cell boxes	-	12	105	24	-	-
Number of Racks 25 cell boxes	-	4	-	8	-	-
Total Number of Racks	-	16	21	32	-	-
Number of SUC-1 canisters (2.5"x2.5"x11)	22	61	115	129	294	539
Number of 1.2 ml vials on canes	3168	8784	16560	18576	42336	77616
Number of 2.0 ml vials on canes	1760	4880	9200	10320	23520	43120
Number of 1/2 cc straws 10/cane	6820	18910	35650	39990	91140	167090
Performance						
LN2 Capacity L	39	230	381	482	915	1400
Unit Dimensions						
Neck Opening in. (mm)	16.0 (406)	25.0 (634)	12.5 (317)	35.5 (901)	25.0 (635)	25.0 (635)
Usable Internal Height in. (mm)	12.0 (305)	22.0 (558)	13.0 (330) per level	18.8 (479)	13.0 (332)	13.0 (330) per tray
Inner Diameter in. (mm)	16.00 (406)	28.30 (720)	28.70 (728) top tray 27.70 (702) bottom	39.60 (1007)	56.25 (1429)	56.25 (1429)
Overall Height in. (mm)	16.4 (415)	42.8 (1088)	50.0 (1271)	47.0 (1193)	44.3 (1127)	58.2 (1479)
Door Width						
Requirement** in. (mm)	18 (457)	31 (787)	32 (813)	42 (1067)	60 (1524)	60 (1524)
Weight Empty lb. (kg)	48 (22)	250 (114)	475 (215) est.	469 (213)	1167 (530)	1600 (726)
Weight Liquid Full* lb. (kg)	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.

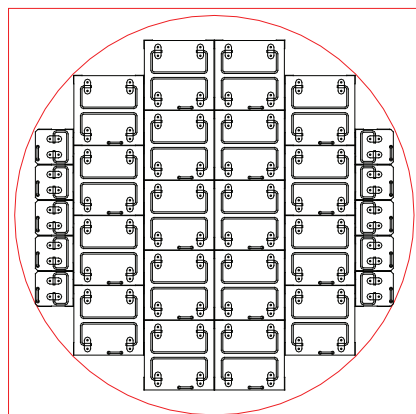
Features include:

- Liquid sample storage
- Ergonomic design
- Largest LN2 capacity

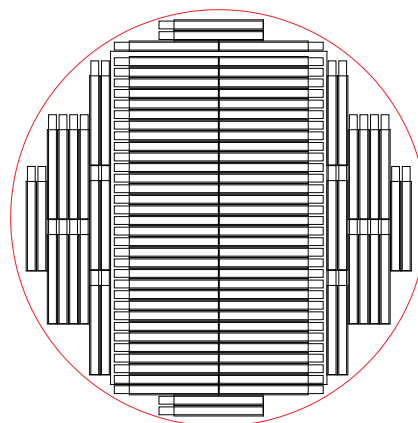


Rack Layouts

Square Rack Layout



4R9951 Layout



MVE 616C

MVE 1426C

Maximum Storage Capacity

1.2 & 2 ml Vials (Internally Threaded)	16900	26650
Number of Racks 100 cell boxes	12	18
Number of Racks 25 cell boxes	4	10
Number of Stages per Rack	13	13

Performance

LN2 Capacity L	243	388
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Unit Dimensions

Neck Opening in. (mm)	25.1 (638)	31.8 (806)
Usable Internal Height in. (mm)	30.0 (762)	29.9 (759)
Overall Height in. (mm)	41.4 (1051)	42.3 (1075)
Outside Diameter in. (mm)	35.1x28 (892x711)	41.1x34.8 (1044x883)
Inner Diameter in. (mm)	25.1 (638)	31.8 (806)
Door Width Requirement** in. (mm)	35.1x28 (892x711)	41.1x34.8 (1044x883)
Weight Empty lb. (kg)	352 (160)	530 (240)
Weight Liquid Full* lb. (kg)	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	2226	7	318
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.

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

<u>Overall Length in (mm)</u>	51.7 (1313)
<u>Overall Width in (mm)</u>	17.6 (447)
<u>Overall Height in (mm)</u>	38.9 (988)
<u>Lift Overall Height in (mm)</u>	36.3 (922)
<u>Inside Length in (mm)</u>	41.0 (1041)
<u>Inside Width in (mm)</u>	13.2 (335)
<u>Inside Depth in (mm)</u>	15.4 (391)
<u>Platform Height in (mm)</u>	6.0 (152)
<u>Footprint in (mm)</u>	17.6x51.7 (447x1313)
<u>Weight Empty lb. (kg)</u>	241 (109)
<u>Weight w/LN2 Filled To</u>	
<u>Top Of Platform lb. (kg)</u>	356 (161)
<u>Approximate Hold Time With Lid On hrs</u>	18
<u>Number of Racks (15-2)</u>	2



ONE (1) Year Standard Warranty

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
- Operates 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	6

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 (305)
Outer Width in. (mm)	12 (305)
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

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. Equipped with the same capacity and dimensions as the comparable MVE Vapor Shipper Series.

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



PDF Datalogger



Plastic Boxes

Tank Features



- A** Durable, tamper-proof lid design
- B** High strength neck tube reduces liquid nitrogen loss
- C** Strong, lightweight aluminum construction
- D** Advanced chemical vacuum retention system
- E** Hydrophobic liquid nitrogen absorbent system

**MVE CryoShipper
QWick™ Series**

	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
Comparable To	SC2/1V	SC 4/2V	SC 4/3V	SC 20/12V	MiniMoover	Cryoshipper	CryoShipper XC

Maximum Storage Capacity

No. of Canisters	1	1	1	6	1	1 Rack	-
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	185	-	-
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
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

Unit Dimensions

Neck Opening in. (mm)	1.40 (35)	2.75 (70)	2.00 (51)	2.00 (51)	1.40 (35)	8.50 (216)	8.50 (216)
Overall Height in. (mm)	13.5 (343)	18.4 (468)	19.4 (492)	25.7 (652)	19.5 (495)	21.5 (546)	23.0 (584)
Outer Diameter in. (mm)	7.2 (184)	8.7 (222)	8.7 (222)	14.5 (368)	7.2 (184)	14.5 (369)	15.0 (381)
Canister Height in. (mm)	5 (127)	11 (278)	11 (278)	11 (278)	11 (278)	-	12.5 (317.5‡)
Canister Diameter in. (mm)	1.2 (31)	2.6 (67)	1.8 (46)	1.5 (38)	1.2 (31)	-	-
Weight Empty lb. (kg)	6.0 (2.7)	11.0 (5)	11.5 (5.2)	25.0 (11.4)	9.0 (4)	25.5 (11.6)	30.0 (13.6)
Weight Charged lb. (kg)	8.0 (3.6)	15.0 (6.8)	16.5 (7.5)	42.0 (19)	13.0 (5.9)	39.0 (17.7)	48.0 (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 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. Equipped with the same capacity and dimensions as the comparable Doble Series.

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

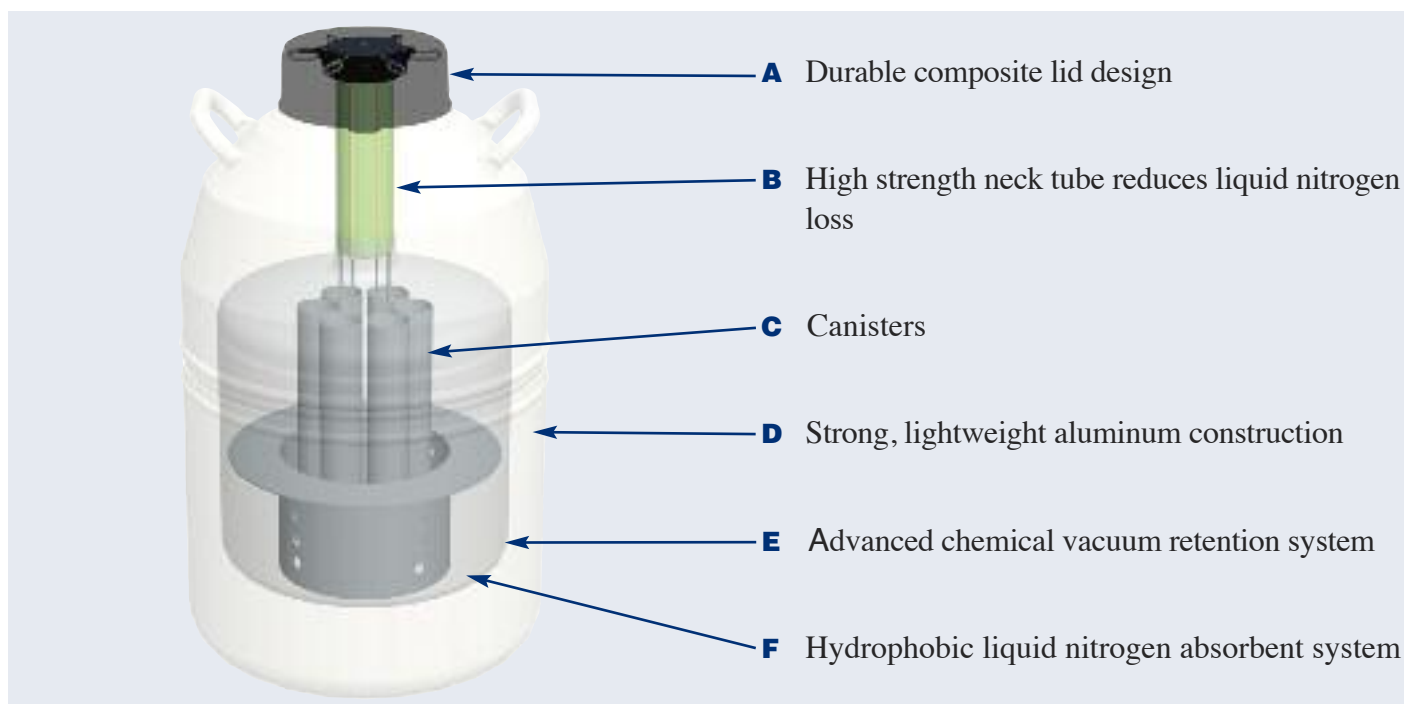


Straws



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
Comparable To	Doble 11	Doble 20	Doble 28	Doble 34	Doble 47	Doble 47-10
Maximum Storage Capacity						
Number of Canisters	6	6	6	6	6	10
No. of 1/2 cc Straws 10/cane	660	660	2400	2100	4500	3500
Vial Capacity	210	210	810	630	1320	1050
Performance						
Liquid Nitrogen Capacity <i>L</i>	10.0	18.5	28.0	32.0	46.0	46.0
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	0.10	0.35	0.20	0.40	0.40
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)	2.18 (55)	3.81 (97)	3.50 (89)	5.00 (127)	5.00 (127)
Overall Height <i>in (mm)</i>	21.6 (549)	25.7 (652)	22.0 (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)	20.0 (508)	20.0 (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)	1.65 (42)	3.09 (78)	2.81 (72)	4.00 (101)	2.81 (72)
Weight Empty <i>lb. (kg)</i>	17 (7.7)	25 (12.0)	34 (15.4)	39 (18.0)	47 (21.3)	48 (21.8)
Weight Charged vapor <i>lb. (kg)</i>	22.5 (10.2)	30.2 (14.0)	47.0 (21.3)	50.0 (22.7)	63.0 (28.6)	63.0 (28.6)
Weight Full <i>liquid lb. (kg)</i>	36 (16.0)	60 (27.0)	84 (38.0)	95 (43.0)	125 (57.0)	120 (54.5)

THREE Year Vacuum Warranty



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

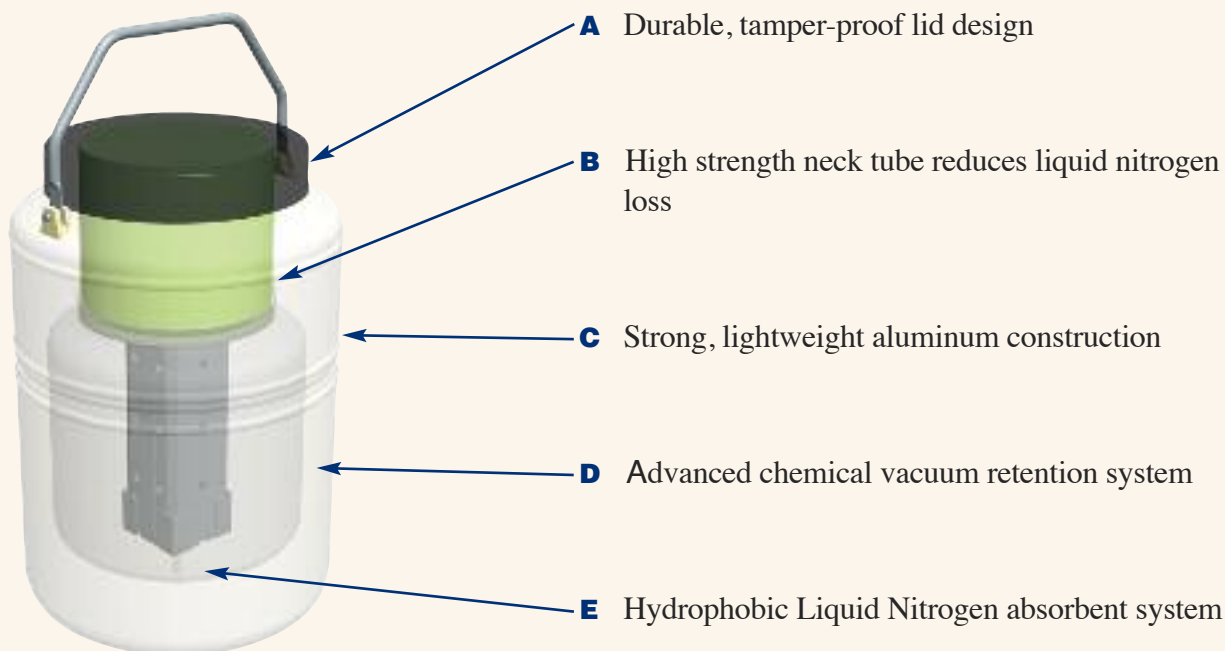


Liquid Level Alarm



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
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Maximum Storage Capacity

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	185	-	-	-	-	-
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	-

Performance

LN2 Capacity L	1.5	3.6	4.3	12.3	6.8	2.9	5.9	4.2	8.5	10.0	11.8
Static Evaporation Rate* L/day	0.19	0.26	0.20	0.09	0.35	0.20	0.84	0.35	0.85	0.70	0.80
Static holding time Days	8	13	21	85	16	14	7	12	10	14	14

Unit Dimensions

Neck Opening in. (mm)	1.40 (35.0)	2.75 (70.0)	2.00 (51.0)	2.00 (51.0)	3.81 (96.7)	1.40 (35.0)	8.50 (216.0)	3.80 (97.0)	8.50 (216.0)	8.50 (216.0)	8.50 (216.0)
Overall Height in. (mm)	13.5 (343)	18.4 (468)	19.4 (492)	25.7 (652)	25.0 (635)	19.5 (495)	20.0 (508)	22.0 (558)	21.5 (546)	23.0 (584)	24.0 (610)
Outer Diameter in. (mm)	7.25 (184)	8.70 (222)	8.70 (222)	14.50 (368)	14.50 (368)	7.20 (184)	11.60 (295)	18.30 (464)	14.50 (369)	15.00 (381)	15.00 (381)
Canister Height in. (mm)	5.0 (127)	11.0 (278)	11.0 (278)	11.0 (278)	11.0 (278)	11.0 (278)	-	11.0 (278)	-	12.5 (317.5‡)	8.5 (215)
Canister Diameter in. (mm)	1.20 (31)	2.62 (67)	1.81 (46)	1.50 (38)	3.20 (80)	1.20 (31)	-	3.10 (79)	-	-	7.50 (190)
Weight Empty lb. (kg)	6.0 (2.7)	11.0 (5.0)	13.0 (5.9)	30.0 (13.6)	28.4 (12.9)	8.0 (3.6)	16.5 (7.5)	30.5 (13.8)	26.2 (11.9)	31.0 (14.1)	29.0 (131.0)
Weight Full lb. (kg)	8.8 (4.0)	17.0 (7.7)	20.6 (9.3)	52.0 (23.6)	38.4 (17.4)	11.6 (5.3)	34.3 (15.5)	38.0 (17.2)	41.3 (18.7)	48.0 (21.8)	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 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

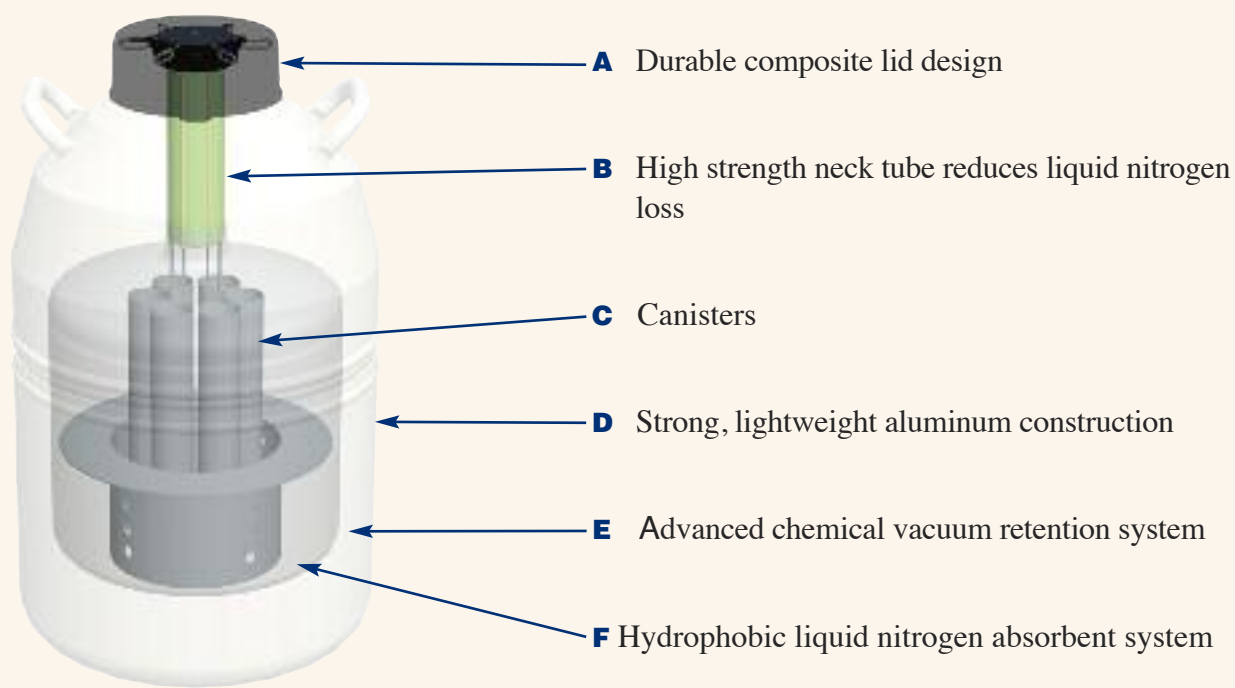


Protective Shipping
Carton



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
Vial Capacity	210	210	810	630	1320	1050

Performance

Liquid Nitrogen Capacity <i>L</i>	10.0	18.5	28.0	32.0	46.0	46.0
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	0.10	0.35	0.20	0.40	0.40
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	21

Unit Dimensions

Neck Opening <i>in (mm)</i>	2.18 (55)	2.18 (55)	3.81 (97)	3.50 (89)	5.00 (127)	5.00 (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)	20.0 (508)	20.0 (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)	1.65 (42)	3.09 (78)	2.81 (72)	4.00 (101)	2.81 (72)
Weight Empty <i>lb. (kg)</i>	17.0 (7.7)	25.2 (11.4)	34.0 (15.4)	39.2 (17.8)	47.0 (21.3)	48.0 (21.8)
Weight Charged <i>vapor lb. (kg)</i>	22.5 (10.2)	30.2 (13.7)	49.0 (22.2)	51.0 (23.1)	63.0 (28.6)	64.0 (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>	1.0 (.45)	1.0 (.45)	3.5 (1.58)	2.0 (.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.

With the PDF Logger®, you require only one single device and no specific software or cables to monitor temperature during the global transfer of cryobiological goods. The incredibly easy-to-use “Transit” and “Arrived” buttons make initiating and receiving monitored shipments fast and simple. The PDF Logger can be plugged into the USB of any PC to automatically generate a PDF evaluation report including statistics, alarm status, and temperature graph which can be read anywhere without difficulty.


With the 1-year lifespan, there are no more hassles of recalibration and recertification. After the data-logger has been in service for 1 year, simply discard the logger and purchase a new one for about the same cost of recalibration and battery replacement. Your PDF Logger is always under warranty!



Specifications

Dimensions L, W, H in (mm)	3.7 x 1.6 x 0.5 (95 x 40 x 12)
Weight oz (g)	1.4 (40)
Temperature Range	-200°C to +200°C
Accuracy	± 0.5°C [-200°C, -10.1°C]
Resolution	0.1°C
Display	Multifunction LCD, 23.5 x 23.5 mm
Case	ABS plastic
Battery	3.6V
Battery Life	400 days
Sensor	Pt100 3-wire class 0.5
Memory	16,000 data points
Interface	USB – PC Universal Serial Bus
Software Compatibility	Windows 7, VISTA, XP, Win2000, Win 98/ME
Configuration	LIBERO Configuration Utility – Free of charge on www.pdf-logger.com
Evaluation Report	Built-in PDF file generator that automatically establishes an evaluation file including graph. Complies to the ISO Standard 19005-1 Document Management for the long-term preservation of electronic documents

Highlighted Features

- Displays temperature and alarm status
- Records and stores up to 16,000 data points
- High and Low Alarm Settings
- No recalibrations
- 1 year lifespan – after 1 year, simply discard and purchase new logger
- Battery life remaining days displayed
- No additional software or cables needed!
- Automatically generates PDF /A evaluation report including graph
- CE marked 
- ISO 19005-1
- **Compliant: FDA 21 CFR Part II, GMP, GLP**

1 Year Warranty

By 

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

LN2 Capacity L	6	3	2	1	1	0.5
Handle	yes	yes	yes	yes	yes	no

Unit Dimensions

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

90 Day Warranty



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)	1.40 (35)	2.18 (56)	2.18 (56)	2.18 (51)	2.50 (64)	2.50 (64)
Useable Height in. (mm)	7.8 (198)	10.5 (266)	13.5 (343)	13.7 (348)	14.9 (378)	22.0 (559)
Overall Height in. (mm)	16.8 (426)	18.2 (462)	21.5 (546)	24.5 (622)	24.0 (610)	30.5 (775)
Outer Diameter in. (mm)	7.3 (185)	8.8 (222)	10.3 (260)	14.5 (368)	17.0 (432)	17.0 (432)
Internal Diameter in. (mm)	5.5 (139)	6.5 (165)	8.3 (210)	11.4 (289)	14.0 (356)	14.0 (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.





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



Liquid Level Alarm

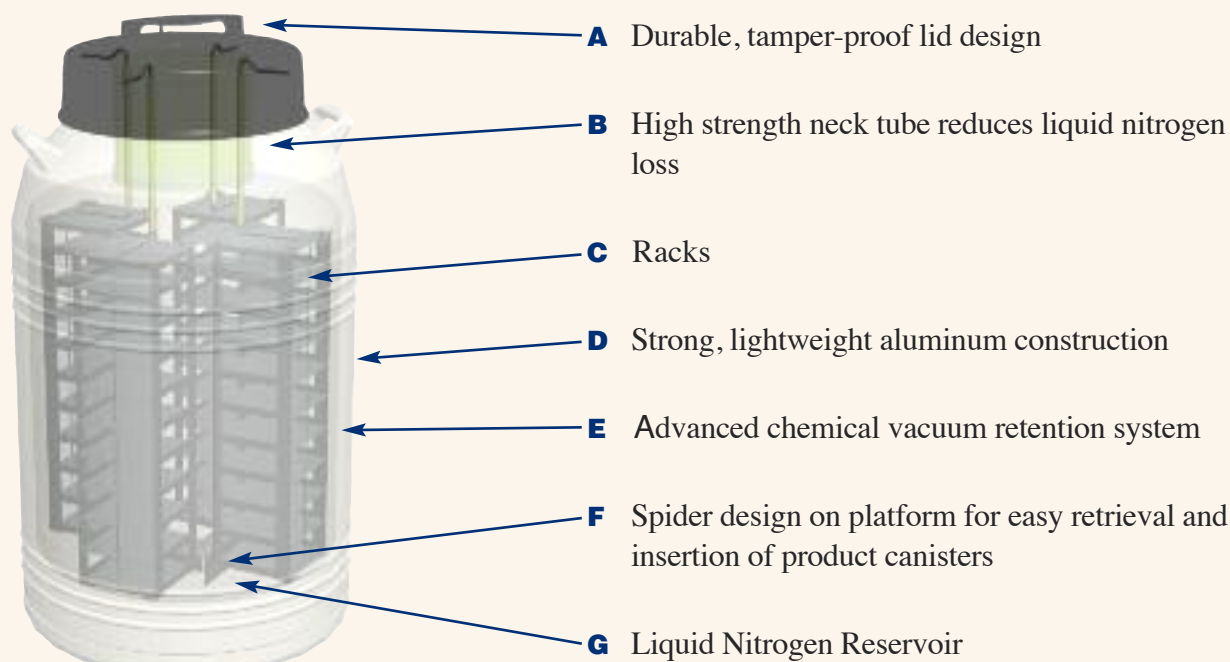


Liquid Level Measuring Stick



Roller Base

Tank Features



**CryoSystem
750**

**CryoSystem
2000**

**CryoSystem
4000**

**CryoSystem
6000**

Maximum Storage Capacity

Number of Canisters	6	4	4	6
Number of 1.2 & 2.0 ml vials 100/box	-	2000	4000	6000
Number of 1.2 & 2.0ml via 25/box	750	-	-	-
Boxes per Rack	5	5	10	10

Performance

LN2 Capacity L	47.4	61.0	121.0	175.0
Static Evaporation Rate L/day	0.39	0.85	0.99	0.99
Working Volume L	47	51	111	165
Normal Working Duration, Full Days	76	38	70	104

Unit Dimensions

Neck Opening in. (mm)	5.0 (127)	8.5 (216)	8.5 (216)	8.5 (216)
Overall Height in. (mm)	26.50 (673)	27.25 (692)	38.00 (965)	37.75 (959)
Outer Diameter in. (mm)	20 (508)	22 (559)	22 (559)	26 (665)
Weight Empty lb. (kg)	42 (19.0)	58 (26.3)	81 (36.7)	103 (46.7)
Weight Full lb. (kg)	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.



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



Liquid Level Alarm

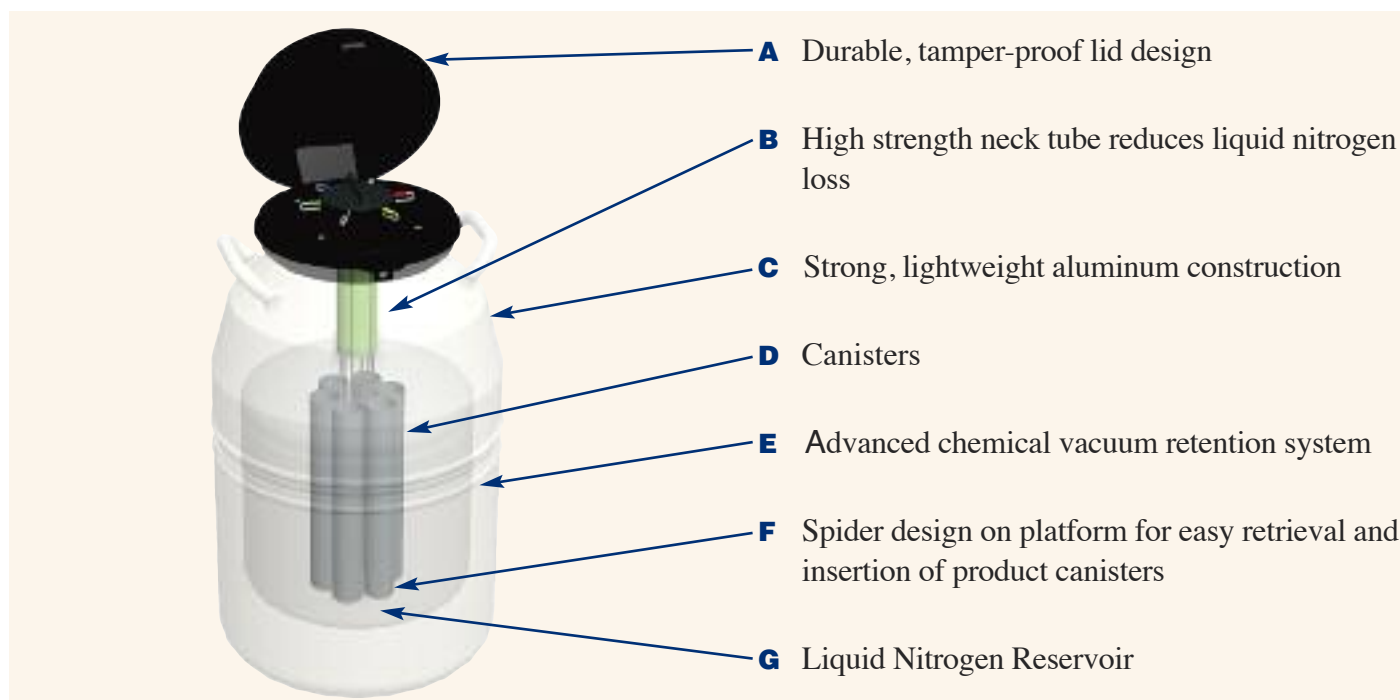


Liquid Level
Measuring Stick



Roller Base

Tank Features



SC 3/3 SC 8/5 SC 11/7 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	11.0	16.4	20.5	20.5	33.0	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)	2.18 (55)	2.18 (55)	2.18 (55)	2.18 (55)	2.00 (51)	2.00 (51)	2.00 (51)
Overall Height in. (mm)	16.0 (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)	5.0 (127)	5.0 (127)	11.0 (279)	5.0 (127)	11.0 (279)	11.0 (279)	11.0 (279)	11.0 (279)
Canister Diameter in. (mm)	1.65 (41.9)	1.65 (41.9)	1.65 (41.9)	1.50 (38)	1.50 (38)	1.50 (38)	1.50 (38)	1.50 (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)	27.0 (12.1)	36.6 (16.6)	43.0 (19.6)	59.5 (27)	62.5 (28.3)	93.4 (42.4)	100.0 (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.

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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

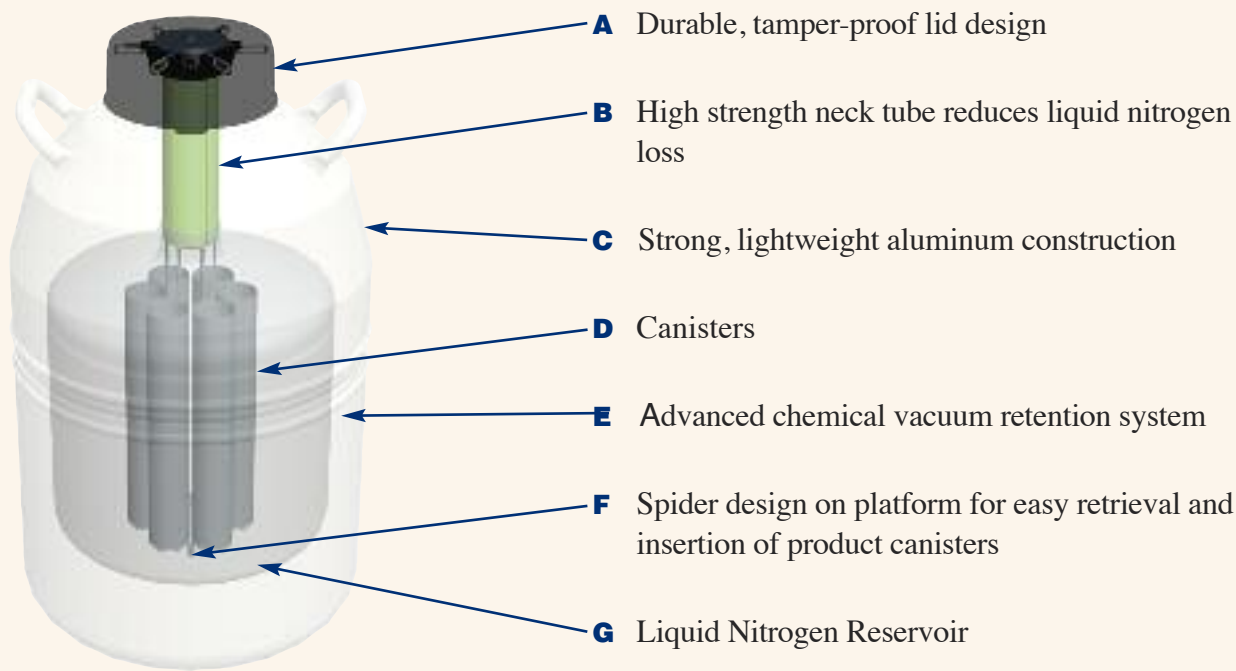


Liquid Level Measuring Stick



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

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

LN2 Capacity L	20.5	21.0	22.4	32.0	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

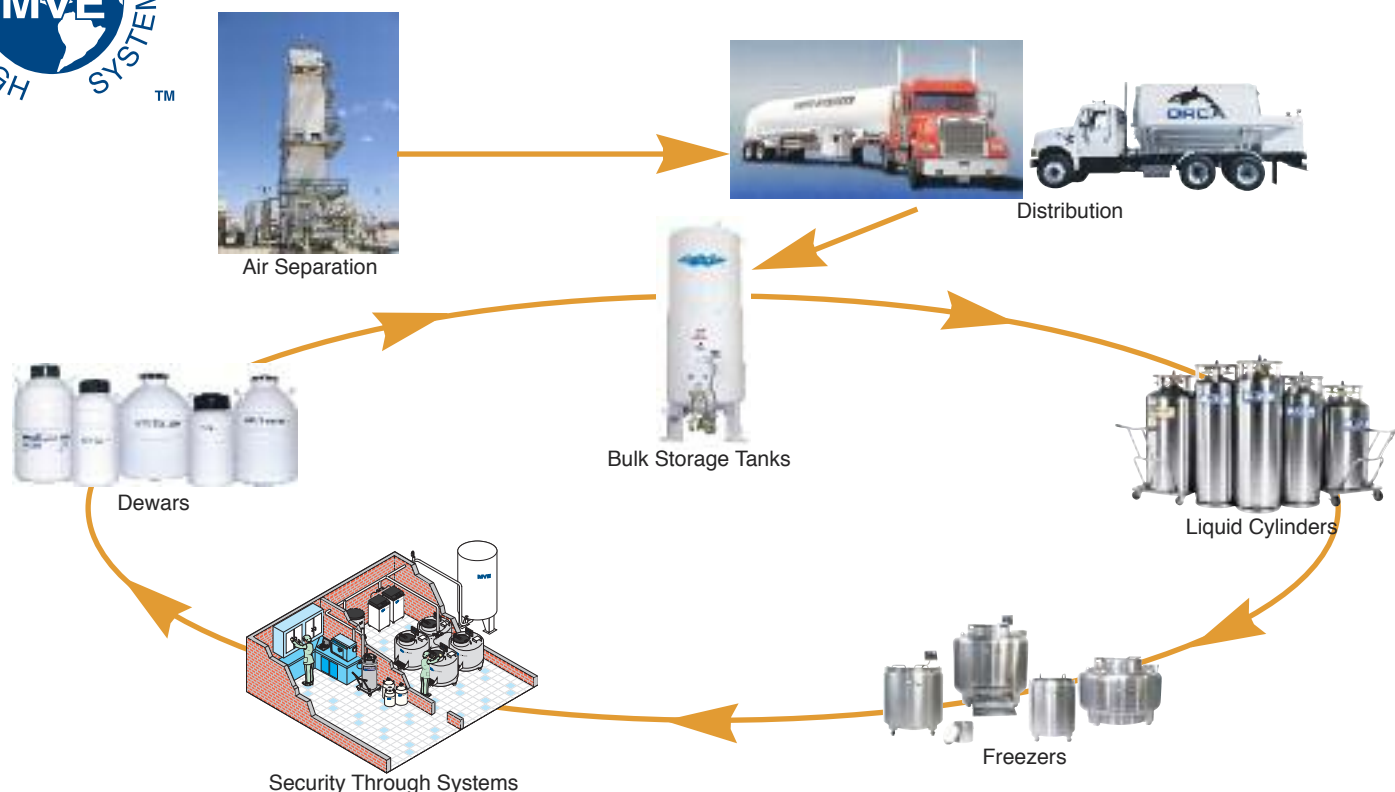
Neck Opening in. (mm)	2.18 (55)	3.50 (89)	3.81 (97)	3.81 (97)	2.75 (70)	3.50 (89)	2.75 (70)	5.00 (127)	5.00 (127)	5.00 (127)
Overall Height in. (mm)	25.7 (652)	17.2 (438)	22.0 (559)	21.5 (546)	26.0 (660)	26.6 (675)	26.4 (670)	26.5 (673)	26.5 (673)	26.5 (673)
Outer Diameter in. (mm)	14.5 (368)	18.2 (464)	14.5 (368)	18.2 (464)	18.2 (464)	18.2 (464)	20.0 (508)	20.0 (508)	20.0 (508)	20.0 (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)	2.59 (68)	3.09 (79)	2.62 (67)	2.22 (56)	2.81 (71)	2.22 (56)	-	4.00 (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 (19.0)	42 (19.0)	42 (19.0)
Weight Full lb. (kg)	59.5 (27.0)	62.5 (28.3)	66.0 (30)	87.0 (39.5)	94.0 (42.5)	96.0 (43.5)	111.0 (50.5)	120.4 (54.6)	120.4 (54.6)	120.4 (54.6)

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Chart: Total Cryogenic Solutions



Our Global Presence



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