

Ultima II Series Cryogenic Storage Freezers



Refrigeration ★★★★★ Orbital	Control ★★★★★ IntrLogic™
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Model ULT-10140-9, 10.3 cu.ft. capacity (292 liter), -140°C, shown with optional temperature recorder.

Ultima II Series Cryogenic Operating Temperature

- -150°C, Model ULT-7150-9
- -140°C, Model ULT-10140-9
- Air-cooled refrigeration systems are engineered to maintain design temperatures in warm ambient conditions:
Model ULT-7150-9, +30°C (+86°F);
Model ULT-10140-9, +32°C (+90°F)

Cryogenic Temperatures Without Liquid Nitrogen

- Revco Ultima II cryogenic freezers are designed for long-term storage of biologicals at uniform temperatures of -140°C and -150°C, safely below the -130°C glass transition temperature of water
- Cell viability is improved because biologically relevant, thermally driven reactions are not known to occur

Safer, More Convenient Than LN₂

- Revco cryogenic freezers include all features, control and performance attributes of the Ultima II Series freezers, plus many important advantages not available when using LN₂
- Stable cryogenic temperature of -140°C and -150°C without LN₂ as a cooling medium

REVCO[®]
the future, inside



Choose from two chest models, two cryogenic operating temperatures.
Model ULT-7150-9, -150°C, shown with optional temperature recorder.

- Patented, single compressor, orbital refrigeration system
- Top-to-bottom temperature uniformity dramatically improved when compared to LN₂ vapor
- Lower operating costs than LN₂ freezers of similar capacity
- 100% of interior space is usable, with stored samples maintained below critical temperature
- Ample interior volume with capacity of up to 21,600 samples in Model ULT-10140 and up to 14,400 samples in Model ULT-7150 (2 ml vials in boxes)
- Uses standard Revco inventory racks and fiberboard boxes; see Accessories

Refrigeration System

- Exclusive mixed refrigerant autocasade with a single, orbital refrigeration compressor, air-cooled



- CFC-free refrigerants
- Downfeed evaporator for most efficient refrigerant flow
- High-capacity air-cooled condenser with dual condenser fans, aerodynamically shaped fan blades
- Washable condenser filter keeps fins free of dust to maintain peak cooling efficiency; no tools required for removal

Control System

- Exclusive IntrLogic microprocessor control system with touchpad data entry and digital display of all functions
- Setpoint security system with key-operated switch for main power and alarm locks in temperature and alarm setpoints
- Independent operating temperature and high/low limit alarm functions with factory-set defaults for quick start-up, all setpoints adjustable in 1°C increments

Electrical System

- Automatic voltage boost compensates for low voltage and brownout conditions
- On-board power monitoring with digital readout of incoming line voltage
- Built-in surge suppressor minimizes effect of voltage spikes from incoming electrical service

Alarm System

- A.I.M. (Automatic Incident Monitor) identifies any temperature deviation beyond alarm setpoints, with rapid flash for current event, slow flash if event was self corrected; A.I.M. archives most deviated temperature
- Adjustable safety alarm with automatic, continuous charge battery backup provides full function in case of power failure
- Power failure or temperature deviation triggers audible and visual warning
- Digital battery indicator displays battery capacity; flashing low battery indicator advises when to replace battery

Ultima II Cryogenic Freezers

Ultima II -140°C Cryogenic Chest

Model No.	Cu.Ft.	/Liters
ULT-10140-9D ULT-10140-9E ULT-10140-9M ULT-10140-9R ULT-10140-9V ULT-10140-9W	10.3	/292

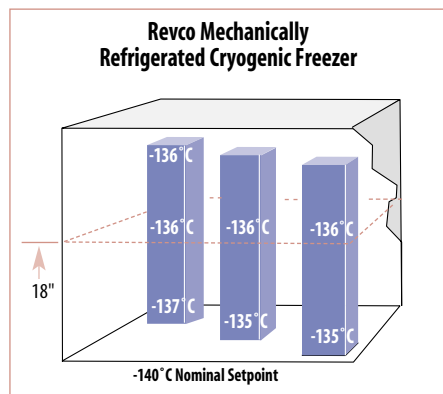
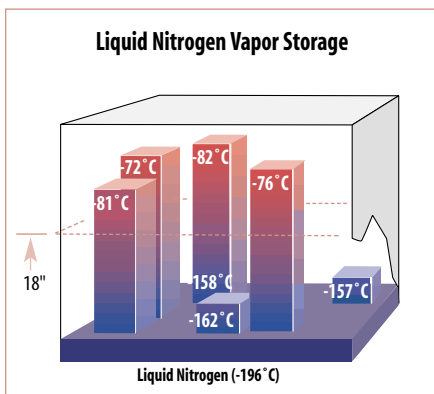
Ultima II -150°C Cryogenic Chest

Model No.	Cu.Ft.	/Liters
ULT-7150-9D ULT-7150-9E ULT-7150-9M ULT-7150-9R ULT-7150-9V ULT-7150-9W	6.8	/193

* No plug provided; requires hardwire connection



Ultima II Mechanical Refrigeration Delivers Superior Uniformity



Comparison of temperature distribution in a liquid nitrogen freezer (vapor phase) and mechanically refrigerated cryogenic freezer (i.e. Revco Ultima II Model ULT-10140-9). Graph represents temperatures (°C) at relative locations within the chamber. Data suggests that 100% of the Ultima II storage space maintains uniform storage temperatures safely below -130°C, while temperature in LN₂ vapor system is dependent on storage location.



Ultima II IntriLogic™ microprocessor controls monitor all functions for safe, dependable and economical operation; shown with optional LN₂ backup system.

- Touchpad alarm test function physically warms internal probe to simulate alarm condition
- RS-232 data port with system software package
- Exterior alarm contacts for connection to remote monitoring system

Monitoring System

- Lifeguard compressor protection monitors performance and automatically adjusts to internal and external conditions, extending compressor life
- Extreme ambient alert warns if room temperature may affect performance
- Voltage boost indicator advises of low source voltage below safe parameters and indicates voltage boost system is activated
- Surge suppressor indicator advises to check intercept fuse
- Clean filter indicator light advises when to remove and wash condenser filter

Chest Cabinet Construction

- Low-profile design for easier access to inventory
- Heavy duty counterbalanced lid with integrated keyed lid lock for security
- Double seal lid gaskets to minimize frost buildup
- Independent sub-lids provide additional protection
- Minimum 5" (12.7cm) foamed-in-place urethane insulation, closed-cell, CFC-free, to protect product against high ambient conditions
- Heavy-gauge steel cabinet with high-impact powder paint finish
- Rounded interior corners for easy cleaning
- Access port, 1" (2.54cm) diameter, with cap
- Recessed heavy duty swivel casters

Inventory System and Accessories

- Optional inventory components including racks, boxes and dividers may be ordered separately or as full-load inventory systems
- See Accessories section for information on optional temperature recorders, free-standing LN₂ backup systems, inventory components, validation testing, calibration certificates and associated products

Line Cord Plug Reference

Freezers with this code	have this plug	require this receptacle	NEMA Reference Plug	NEMA Reference Receptacle
P6			6-30P	6-30R

st Freezer, Orbital Refrigeration System, Single Compressor

Voltage	Amps/Breaker (Plug)	Interior Dimensions inches/cm	Exterior Dimensions inches/cm	Ship Weight
208/230V 60Hz 1Ø 208/230V 60Hz 3Ø 380V 50Hz 3Ø 200V 50Hz 3Ø 220V 50Hz 1Ø 240V 50Hz 1Ø	20.0/30 (P6) 16.0/20 (HW*) 11.0/15 (HW*) 16.0/20 (HW*) 20.0/30 (HW*) 20.0/30 (HW*)	26.5"H x 19"F-B x 35.25"W 67cm x 48cm x 89cm	42.75"H x 29"F-B x 69"W 109cm x 74cm x 176cm	1065 lbs/483 kg

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208/230V 60Hz 1Ø 208/230V 60Hz 3Ø 380V 50Hz 3Ø 200V 50Hz 3Ø 220V 50Hz 1Ø 240V 50Hz 1Ø	20.0/30 (P6) 16.0/20 (HW*) 11.0/15 (HW*) 16.0/20 (HW*) 20.0/30 (HW*) 20.0/30 (HW*)	26.5"H x 19"F-B x 23.5"W 67cm x 48cm x 59cm	42.75"H x 29"F-B x 58"W 109cm x 74cm x 148cm	825 lbs/374 kg

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