



**NEW! Thermo Scientific Revco PLUS
Ultra-Low Temperature Upright Freezers**

Maximizing Critical Sample Protection and Storage

Innovative Features and Rewarding Benefits

Features	Advantage	Benefit	Thermo Scientific Revco PLUS Model
Refrigeration System	Up to 20% greater heat removal capacity over ordinary freezers. Ensures faster temperature recovery after door openings.*	Quicker recovery after door openings, ensuring protection of critical samples.	Ultima, Elite, Value
	Consumes up to 15% less power than leading competitor.*	Cost of ownership is lower and is also friendlier to the environment.	
	Emits up to 15% less heat into the environment than leading competitor.*	Less heat is emitted into the lab environment thus requiring less energy and HVAC equipment to keep the lab environment cool.	
	Noise levels are reduced by up to 40% over previous generations, decreasing interruption in the lab.	A quieter freezer allows the unit to be placed directly inside the lab, saving time.	
Microprocessor Control	Set point controls for the temperature and alarm system. NEW feature for the Thermo Scientific Revco Value PLUS!	More precise settings and flexibility for temperature set points and alarm controls.	
PLUS Time Delay	Programmable feature delays restart of a bank of freezers after building power failure allows stabilized power and a uniform re-start.	<ul style="list-style-type: none"> Eliminates costs and down time associated with tripping a circuit breaker after a power failure. Reduces stress on the compressor and electrical components. 	
On Board Diagnostics	The system will report error codes, pointing the researcher or service technician to a probable cause.	Error indications will allow the researcher or service technician to diagnose problems faster, leading to lower down time inconvenience to the researcher and minimizing exposure to samples.	
Automatic Voltage Buck/Boost System	Buck will reduce incoming line voltage in the event the voltage is too high. Boost will provide additional voltage to incoming line voltage in the event voltage is too low.	This feature will add to the longevity of the freezer by stabilizing the voltage to the unit.	
Optional Integrated Back Up System	Integrated back up system is programmable at the user interface.	Provides user with assurance that samples will not be compromised in the event of a power outage.	
Recessed Power Switch	Power switch is recessed into the housing to keep the unit from inadvertently switching off.	Controls down time due to accidentally switching off the power supply.	
Reinforced Shelves	Stiffeners have been added to all stainless steel shelves for excessive loads and impacts.	Allows storage of high-load and non-standard samples, such as microplate hotels.	
Door Mounted Pressure Equalization Port (PEP)	The door mounted PEP does not take up valuable storage space and does not require maintenance (ice removal).	Periodic ice removal from PEP is not required, allowing the researcher to focus on his/her samples and not waste time maintaining the unit.	
Voltage Indicator (Power Monitor)	Voltage indicator button will provide incoming line voltage when pressed.	Provides fast and accurate information on incoming line voltage.	Ultima, Elite
New Communication Outputs (Option)	4-20mA option for additional communication output devices.	Flexibility in options for connecting to remote alarm systems.	
Battery Readout	Readout is in actual voltage and not percentage of voltage in battery.	Provides user with assurance that alarms and displays will function in the event of a power outage.	

Environmentally Friendly*

15% lower power consumption reduces ownership cost and is environment friendly

15% lower heat rejection into the laboratory environment for a more comfortable work environment

20% more heat removal capacity for quick temperature recovery after door openings

40% quieter so they can reside in the lab; this speeds sample preparation and minimizes sample exposure to ambient air

* Based on internal performance data



Safeguarding Your Precious Samples with Advanced Technology and Exceptional Quality

Thermo Scientific Revco PLUS ultra-low temperature freezers combine the highest reliability and superior performance with cost-effective operation and innovative features.

Our Revco® PLUS freezers feature an advanced technology platform, refrigeration, microprocessor controls and high-quality construction, delivering:

› **Maximum Temperature Recovery**

Up to 20% more heat removal capacity over ordinary freezers, ensuring faster temperature recovery after door openings.*

› **Operational Efficiency**

Up to 15% less power to maintain cabinet temperature compared to other freezers.*

› **Comfortable Lab Environment**

Quiet, comfortable operation allows our ultra-low temperature freezers to reside directly in the lab, creating a more productive and efficient work environment.

› **Environmentally-Friendly**

Up to 15% less heat into the lab environment, minimizing air conditioning costs.*

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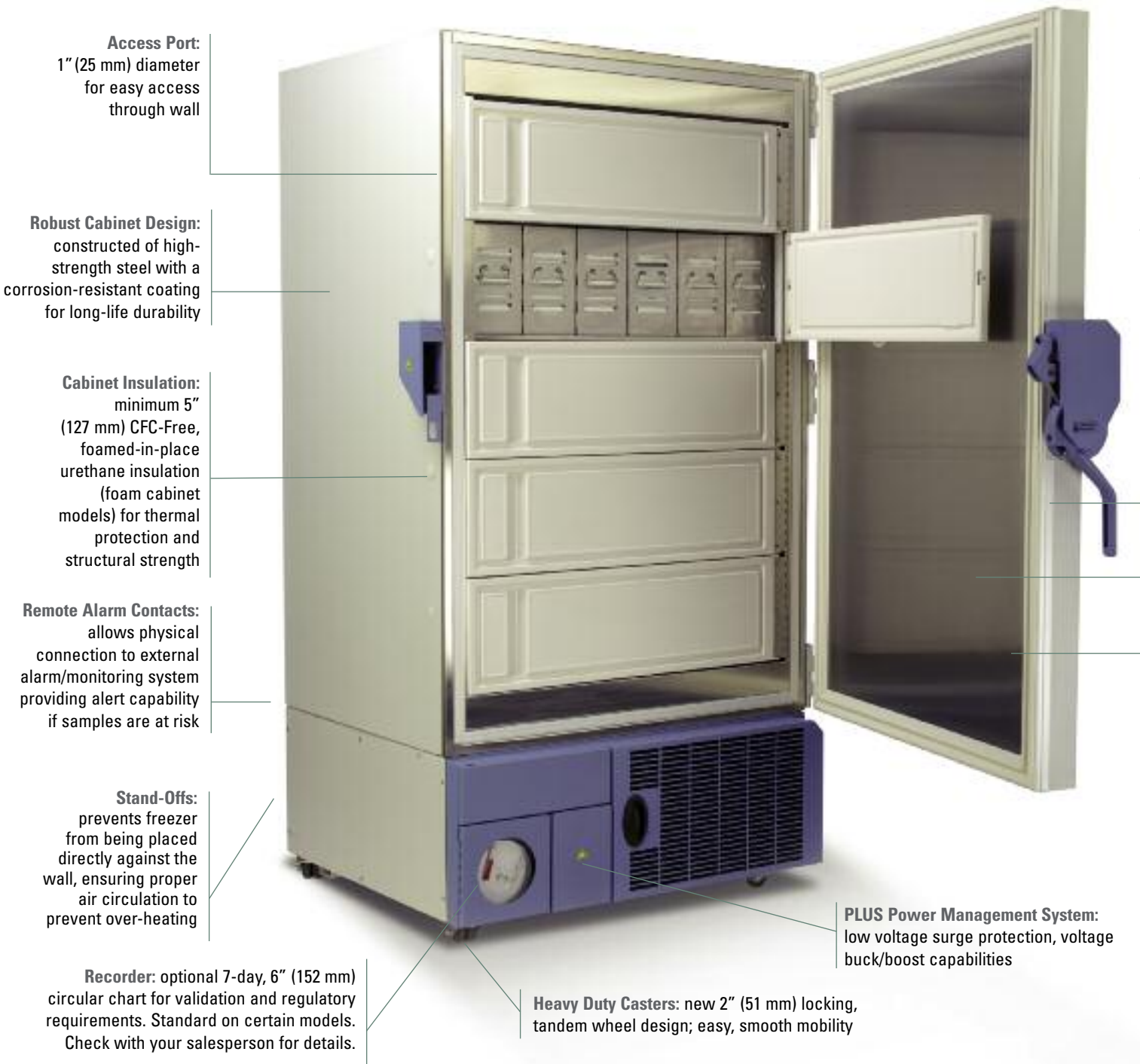
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NEW! Thermo Scientific Revco PLUS HD

Our new Revco PLUS HD freezers feature a highly-efficient, innovative thin wall insulation technology. This allows for expanded interior storage capacity without increasing the exterior cabinet footprint.



Access Port:
1" (25 mm) diameter
for easy access
through wall

Robust Cabinet Design:
constructed of high-
strength steel with a
corrosion-resistant coating
for long-life durability

Cabinet Insulation:
minimum 5"
(127 mm) CFC-Free,
foamed-in-place
urethane insulation
(foam cabinet
models) for thermal
protection and
structural strength

Remote Alarm Contacts:
allows physical
connection to external
alarm/monitoring system
providing alert capability
if samples are at risk

Stand-Offs:
prevents freezer
from being placed
directly against the
wall, ensuring proper
air circulation to
prevent over-heating

Recorder: optional 7-day, 6" (152 mm)
circular chart for validation and regulatory
requirements. Standard on certain models.
Check with your salesperson for details.

Heavy Duty Casters: new 2" (51 mm) locking,
tandem wheel design; easy, smooth mobility

PLUS Power Management System:
low voltage surge protection, voltage
buck/boost capabilities



Cryolatch™: integrated door
handle and latch for one-hand
operation; built-in key lock and
padlock compatible



**Easy-to-Use Microprocessor
Controls:** programmable temperature/
alarm set points and on-board
diagnostics



Washable Filter: provides protection
from dust on the condenser, causing
reduced refrigeration performance
and increased risk to samples



**Door-Mounted Pressure Equalization
Port (PEP):** maintenance-free PEP
allows for quick re-entries after door
openings and eliminates the need for
ice removal (PEP is hidden from view)

Quality, Reliable Construction

Delivering the highest quality you expect, our Revco PLUS freezers feature robust, high-quality construction with your choice of foam or HD insulation, flexible storage and precision controls.

Secure Inner Doors:

high-impact ABS plastic with recessed handle

Outer Door Gasket:

unique door seal with five points of sealing contact protects against heat leaks and minimizes frost build-up

Insulated Outer Door:

minimum 3.5" (89 mm) high strength foamed-in-place urethane insulation

High Density Insulation (Revco PLUS HD freezers):

innovative composite thin wall design creates more storage without increasing cabinet footprint

Environmentally-Friendly, CFC-Free Refrigerants:

DuPont® Suva 95 in low-stage models

Stainless Steel Interior Shelves:

new reinforced shelves, developed for excessive loads and impacts



The world's largest ultra-low temperature freezer utilizes HD technology and saves valuable floor space

*Our 32 cubic foot HD model features **10 inner doors** to reduce sample exposure to ambient air.*

Our Revco racks are quality-built for ultimate sample protection. With proven reliability, our racks are completely interchangeable with all Revco PLUS freezers.

See our Racks & Accessories Guide for additional information.



Inventory Racks: optional stainless steel with fiberboard boxes and dividers for complete sample protection





NEW! Thermo Scientific 32 cu ft Revco Ultima PLUS HD

The Largest Capacity Ultra-Low Temperature Freezer Available

Our 32 cu ft freezer delivers the industry's highest capacity and vial to footprint ratio – store up to 70,000 sample vials in 35 inventory racks.

More Capacity, Small Footprint

Uses HD technology and design to allow 31.4 cu ft (889 L) of capacity in a 24.8 cu ft (702 L) footprint. Features seven optional racks per shelf and five shelf positions hold up to 700 2" (50mm) boxes, 525 3" (76mm) boxes or 3,430 microplates.

Ultimate Sample Protection

Each inner door operates independently on a continuous hinge to protect entire sample contents from ambient thermal exposure.

Flexible Interior

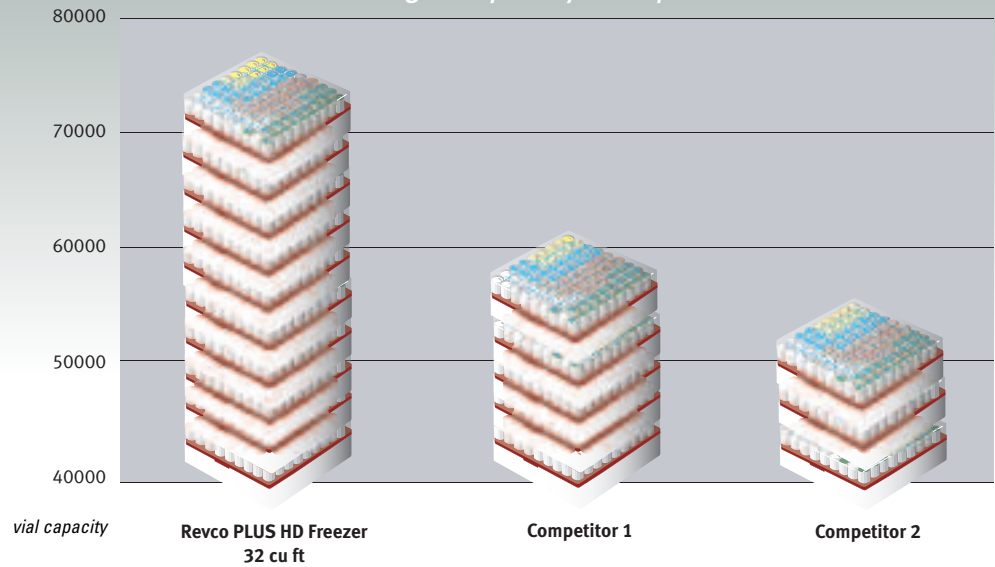
Five shelves, three adjustable in 1" (25 mm) increments, permit alternate inventory configuration.

Sophisticated Microprocessor Controls

Our Revco Plus HD line features sophisticated, easy-to-read microprocessor controls – delivering industry-leading performance to protect the integrity of your work.

Storage Capacity Comparison

Store up to
70,000 samples
– more than
any other freezer
on the market!



Ultima PLUS HD Control Panel

Life-Guard Alert: monitors performance and alerts the user to changes in external and internal conditions

Power Failure: automatically activates in event of power failure

Temperature Failure: automatically activates in event of temperature deviation

Digital Display: clear, easy-to-read LED displays

Touchpad Data Entry: adjustable in 1°C increments

LN₂/CO₂ Back-Up System: optional indicator lights up when system is active: specify when ordering

Extreme Ambient Alert: warns if room temperature may affect performance

Clean Filter: indicates when to remove and wash condenser filter to maintain best cooling performance

Alarm Battery Low: flashing indicates when to replace battery; displays current battery voltage when pressed

Voltage Indicator: push to view incoming line voltage

Door-Mounted Control: standard eye-level location

Setpoint Security: key-operated switch for main power and alarm. Locks in temperature and alarm setpoints.

Alarm Test: simulates temperature alarm condition

Alarm Reset: mutes audible alarm and resets A.I.M.

Cabinet Temperature: displays current cabinet temperature

Control Setpoint: sets cabinet temperature

Warm Alarm Setpoint: push to set warm alarm

Cold Alarm Setpoint: push to set cold alarm

Additional Features:

PLUS Power Management System:

- **Low Voltage Surge Protection:** minimizes voltage spikes; protects sensitive electronics
- **Voltage Buck/Boost:** protective device used to correct low or high voltage into the unit; protects and extends the life of electrical components

A.I.M. Automatic Incident Monitor: identifies temperature deviation (due to power failure or temperature failure) beyond alarm setpoint

Battery Backup: continuous charge provides full function to control panel in case of power failure

On-Board Diagnostics: continuously monitors sensors to ensure proper performance

NEW! Standard Features: Chart recorder, RS232 output and 4-20 milliamp output

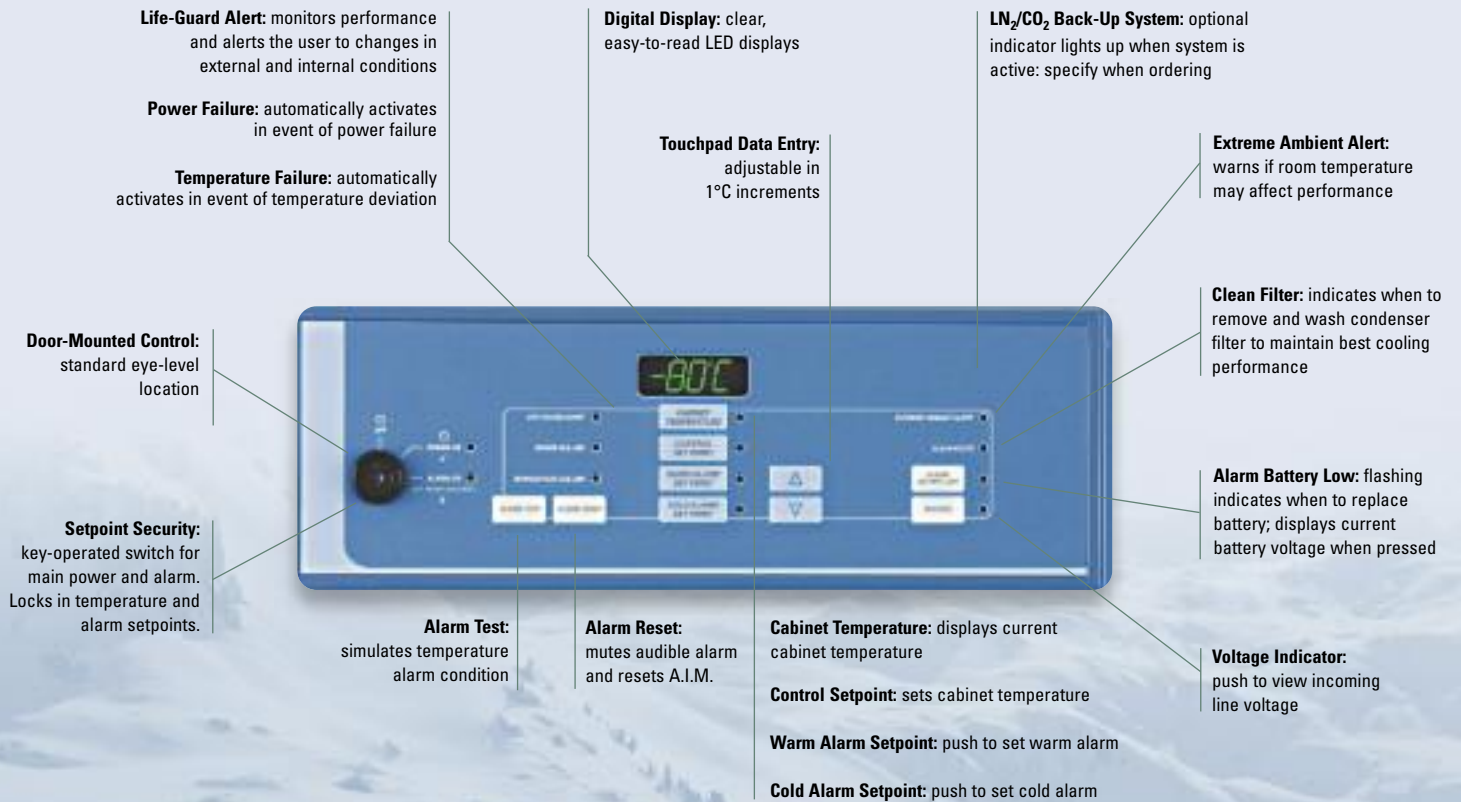
All Thermo Scientific Revco PLUS freezers feature programmable, easy-to-use microprocessor controls. Our control systems offer real-time visibility and precise setpoints on temperature, power and other critical measurements to continuously ensure the security of your work.



Thermo Scientific Revco Ultima PLUS

Our Revco Ultima PLUS freezers are suited for laboratories that require sophisticated electronic monitors and alarms for the highest level of sample protection.

Ultima PLUS Control Panel

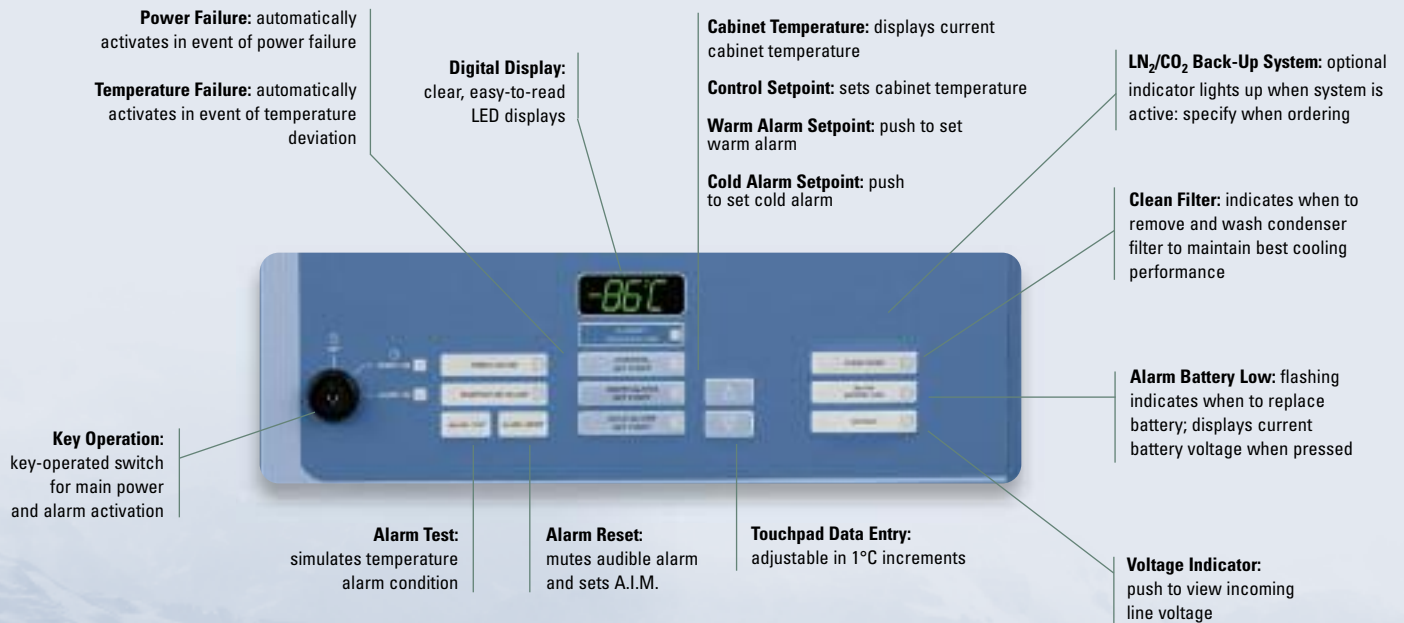




Thermo Scientific Revco Elite PLUS

Our Revco Elite PLUS freezers are suited for environments that require a moderate level of electronic monitors and alarms for sample protection.

Elite PLUS Control Panel





Thermo Scientific Revco Value PLUS

Our Revco Value PLUS freezers are suited for laboratories that require a fundamental level of electronic monitors and alarms without compromising sample protection.

Value PLUS Control Panel



LN₂/CO₂ Back-Up System: optional indicator lights up when system is active: specify when ordering

Control: standard knee-level location

Key Operation: key-operated switch for main power and alarm activation

Audible Warning: activates automatically in event of temperature deviation

Power Failure: automatically activates in event of power failure

Digital Display: clear, easy-to-read LED displays

Touchpad Data Entry: adjustable in 1°C increments; alarm setpoint in 5°C increments

Cabinet Temperature: displays current cabinet temperature

Control Setpoint: sets cabinet temperature

Additional Features: for Thermo Scientific Revco PLUS Freezers

PLUS Power Management System:

- **Low Voltage Surge Protection:** minimizes voltage spikes; protects sensitive electronics
- **Voltage Buck/Boost:** protective device used to correct low or high voltage into the unit; protects and extends the life of electrical components

A.I.M. Automatic Incident

Monitor: identifies temperature deviation (due to power failure or temperature failure) beyond alarm setpoint*

Battery Backup: continuous charge provides full function to control panel in case of power failure

On-Board Diagnostics: continuously monitors sensors to ensure proper performance

* not available on Value models

Thermo Scientific Revco Ultima PLUS HD Ultra-Low Temperature Upright Freezers

Cat. No.	Capacity L (cu. ft.)	Electrical	Amps/Breaker (Plug)	Interior Dimensions H x W x D inches (mm)	Exterior Dimensions H x W x D inches (mm)	Shipping Weight lbs (kg)
13-898-230	24.8 (702)	115V/60 Hz 1Ø	16/20 (P2)	50.5 x 34.5 x 24.3	77.8 x 43.0 x 36.8 (1975 x 1092 x 935)	825 (358)
13-898-231		208-230V/60 Hz 1Ø	12/15 (P4)	(1283 x 876 x 616)		
13-898-232		230V/50 Hz 1Ø	12/16 (P7)			
13-898-233		230V/50 Hz 1Ø	12/13 (P8)			
13-898-234	31.4 (889)	208-230V/60 Hz 1Ø	12/15 (P4)	50.5 x 39.1 x 27.3	77.8 x 48.0 x 36.8 (1975 x 1219 x 935)	930 (478)
13-898-235		230V/50 Hz 1Ø	12/16 (P7)	(1283 x 993 x 693)		
13-898-236		230V/50 Hz 1Ø	12/13 (P8)			

Thermo Scientific Revco Ultima PLUS Ultra-Low Temperature Upright Freezers

















Cat. No.	Capacity L (cu. ft.)	Electrical	Amps/Breaker (Plug)	Interior Dimensions H x W x D inches (mm)	Exterior Dimensions H x W x D inches (mm)	Shipping Weight lbs (kg)
13-989-717	17.4 (493)	115V/60 Hz 1Ø	16/20 (P2)	50.5 x 23.5 x 25.0	77.8 x 37.0 x 37.0 (1975 x 940 x 940)	720 (326)
13-989-718		208-230V/60 Hz 1Ø	12/15 (P4)	(1283 x 597 x 635)		
13-989-727		230V/50 Hz 1Ø	12/16 (P7)			
13-989-719	20.4 (578)	115V/60 Hz 1Ø	16/20 (P2)	50.5 x 28.5 x 24.3	77.8 x 42.0 x 36.8 (1975 x 1066 x 922)	770 (349)
13-989-720		208-230V/60 Hz 1Ø	12/15 (P4)	(1283 x 724 x 616)		
13-989-730		230V/50 Hz 1Ø	12/16 (P7)			
13-989-721	24.8 (702)	115V/60 Hz 1Ø	16/20 (P2)	50.5 x 34.5 x 24.3	77.8 x 48.0 x 36.3 (1975 x 1219 x 922)	830 (376)
13-989-722		208-230V/60 Hz 1Ø	12/15 (P4)	(1283 x 876 x 616)		
13-989-723		230V/50 Hz 1Ø	12/16 (P7)			

Thermo Scientific Revco Elite PLUS Ultra-Low Temperature Upright Freezers

Cat. No.	Capacity L (cu. ft.)	Electrical	Amps/Breaker (Plug)	Interior Dimensions H x W x D inches (mm)	Exterior Dimensions H x W x D inches (mm)	Shipping Weight lbs (kg)
13-989-704	17.4 (493)	115V/60 Hz 1Ø	16/20 (P2)	50.5 x 23.5 x 25.0	77.8 x 37.0 x 37.0 (1975 x 940 x 940)	720 (326)
13-989-705		208-230V/60 Hz 1Ø	12/15 (P4)	(1283 x 597 x 635)		
13-989-725		230V/50 Hz 1Ø	12/16 (P7)			
13-989-706	20.4 (578)	115V/60 Hz 1Ø	16/20 (P2)	50.5 x 28.5 x 24.3	77.8 x 42.0 x 36.8 (1975 x 1066 x 922)	770 (349)
13-989-707		208-230V/60 Hz 1Ø	12/15 (P4)	(1283 x 724 x 616)		
13-989-729		230V/50 Hz 1Ø	12/16 (P7)			
13-989-715	24.8 (702)	115V/60 Hz 1Ø	16/20 (P2)	50.5 x 34.5 x 24.3	77.8 x 48.0 x 36.3 (1975 x 1219 x 922)	830 (376)
13-989-716		208-230V/60 Hz 1Ø	12/15 (P4)	(1283 x 876 x 616)		
13-989-732		230V/50 Hz 1Ø	12/16 (P7)			

Thermo Scientific Revco Value PLUS Ultra-Low Temperature Upright Freezers

Cat. No.	Capacity L (cu. ft.)	Electrical	Amps/Breaker (Plug)	Interior Dimensions H x W x D inches (mm)	Exterior Dimensions H x W x D inches (mm)	Shipping Weight lbs (kg)
13-989-723	17.4 (493)	115V/60 Hz 1Ø	16/20 (P2)	50.5 x 23.5 x 25.0	77.8 x 37.0 x 37.0 (1975 x 940 x 940)	720 (326)
13-989-724		208-230V/60 Hz 1Ø	12/15 (P4)	(1283 x 597 x 635)		
13-989-726		230V/50 Hz 1Ø	12/16 (P7)			
13-989-702	20.4 (578)	115V/60 Hz 1Ø	16/20 (P2)	50.5 x 28.5 x 24.3	77.8 x 42.0 x 36.8 (1975 x 1066 x 922)	770 (349)
13-989-703		208-230V/60 Hz 1Ø	12/15 (P4)	(1283 x 724 x 616)		
13-989-728		230V/50 Hz 1Ø	12/16 (P7)			
13-989-713	24.8 (702)	115V/60 Hz 1Ø	16/20 (P2)	50.5 x 34.5 x 24.3	77.8 x 48.0 x 36.3 (1975 x 1219 x 922)	830 (376)
13-989-714		208-230V/60 Hz 1Ø	12/15 (P4)	(1283 x 876 x 616)		
13-989-731		230V/50 Hz 1Ø	12/16 (P7)			

Models with this code	have this plug	require this receptacle	NEMA Reference	
			Plug	Receptacle
P1			5-15P	5-15R
P2			5-20P	5-20R
P3			5-30P	5-30R
P4			6-15P	6-15R
P5			6-20P	6-20R
P6			6-30P	6-30R
P7 European				
P8 British				

WARRANTY INFORMATION

United States and Canada:

Standard Revco PLUS models carry a 2-year warranty on parts and labor and a total 3, 4, or 5 year warranty on compressor parts for the Value PLUS, Elite PLUS, and Ultima PLUS, respectively.

International (Outside of U.S. and Canada):

Standard Revco PLUS models carry a 16-month full warranty for parts and a total 60-month warranty on compressor parts for the Value PLUS, Elite PLUS, and Ultima PLUS.

CERTIFICATION INFORMATION AND LINE CORD INFO

- Meets NEMA, UL61010-1, UL471, CUL, CE, IEC60335-2-89/Climate Class T (Tropical) criteria
- Calibration Certification Available
- Validation Testing Program Available



Freezers supplied with line cord plugs (P) require corresponding receptacles illustrated in the Line Cord Plug Reference. Catalog selection charts list each standard model with voltage, rated amperage, recommended circuit breaker size and NEMA electrical plug information.

For racks and accessories, please see the Thermo Scientific Revco Rack and Accessory Guide



Thermo Scientific Nalgene and Nunc cryogenic storage give you everything you need to safely store precious specimens, organize freezer space and simplify sample retrieval. Nalgene® and Nunc™ combine to provide one-stop shopping for the widest variety and highest quality of externally and internally threaded cryovials, storage boxes, lab top coolers and “Mr. Frosty” controlled rate freezing containers. For further information, visit www.nalgene.com or www.nuncbrand.com



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