NEW! Thermo Scientific
Revco® PLUS -86°C Freezers

Protecting Your Precious Samples
Your life’s work. What is it worth to you?

You spend countless lab hours developing valuable samples. Many are irreplaceable. Protecting the integrity of your work is not just important, it’s immeasurable.

For more than 50 years, Thermo Scientific Revco cold storage products have been trusted by the world’s leading global biotechnology, pharmaceutical, academic, government, and clinical laboratories.

More than two billion samples are stored in Thermo Scientific cold storage equipment worldwide – more than any other brand. Recognized for our dependability and quality, our cold storage solutions cover the broadest spectrum of temperature needs from +4°C to -196°C.
Thermo Scientific
Revco PLUS -86°C Freezers

Introducing the new Thermo Scientific Revco PLUS -86°C upright freezers, combining the highest reliability and superior performance with cost-effective operation and innovative features.

Leveraging years of R&D expertise, our new Revco PLUS freezers are designed with a patented refrigeration system and new robust electronics platform to deliver:

- **Maximum Temperature Recovery**
  20% more heat removal capacity over other leading freezers, ensuring faster temperature recovery after door openings.*

- **Operational Efficiency**
  Uses 15% less power to maintain cabinet temperature compared to other leading freezers.* In addition, the Revco PLUS emits 15% less heat into the lab environment, minimizing air conditioning costs.*

- **Comfortable Lab Environment**
  Quiet, comfortable operation allows our -86°C freezers to reside directly in the lab, creating a more productive and efficient work environment.

* based on internal performance data
Our Revco PLUS freezers include three models, with varying levels of monitoring, reporting and alarms. Whatever controls your environment requires, we have a Revco PLUS model to meet your needs.

**Revco Ultima PLUS:**
Advanced, eye-level control platform designed for applications requiring very detailed, sophisticated monitoring, alarm and communication functions.

**Revco Elite PLUS:**
Mid-range, knee-level control platform designed for applications requiring a moderate level of monitoring, alarm and communication functions.

**Revco Value PLUS:**
Basic, knee-level control platform designed for applications requiring basic monitoring, alarm and communication functions.
Refrigeration System

**NEW Revco PLUS** refrigeration system
- **• • •**
  - "20% more reserve heat removal capacity for quick temperature recovery after door openings; ensures protection of critical samples"

1 HP Industrial grade compressors
- **• • •**
  - "Provides refrigeration power"

CFC-free refrigerants
- **• • •**
  - "Delivers environmentally friendly performance"

DuPont® Suva low-stage refrigerants
- **• • •**
  - "Specially formulated for ultra low applications"

Downfeed evaporator
- **• • •**
  - "Smoother refrigerant flow"

Washable condenser filter
- **• • •**
  - "Maintains peak condenser efficiency"

**Control Technology**

Programmable microprocessor control
- **• • •**
  - "Enables precise temperature settings and flexibility for alarm set points"

Setpoint security
- **• • •**
  - "Locks in alarm and operating setpoints"

Alarm setpoints
- **• • •**
  - "Allows for setting high and low temperature alarm setpoints"

**NEW PLUS Time Delay**
- **• • •**
  - "Programmable feature delays restart after building power failure; allows stabilized power, uniform re-start and reduced stress on compressor and electrical components"

**NEW On-board diagnostics**
- **• • •**
  - "Continuously monitors system sensors to ensure proper performance; reports error codes to identify probable cause"

**NEW PLUS Power Management System**

**NEW Automatic voltage buck/boost system**
- **• • •**
  - "Buck reduces incoming line voltage if too high. Boost provides additional incoming line voltage if too low; adds longevity to compressors and electronics with voltage stabilization"

**NEW Low voltage surge protection**
- **• • •**
  - "Minimizes voltage spikes to protect sensitive electronic devices"

**Alarm System**

A.I.M. (Automatic Incident Monitor)
- **• • •**
  - "Identifies temperature deviations"

Audible/visual warning
- **• • •**
  - "Automatic"

Battery backup
- **• • •**
  - "Automatic"

**NEW Battery capacity indicator touchpad alarm test**
- **• • •**
  - "Includes software for data export to PC"

RS-232 data port
- **• Optional**
  - "For connecting to remote monitoring systems"

Remote alarm contacts
- **• • •**
  - "For connecting to remote monitoring systems"

**NEW 4-20mA temperature output**
- **Optional Optional Optional**
  - "For connecting to remote monitoring systems"

**Monitoring System**

Life-Guard compressor protection
- **• • •**
  - "Monitors/adjusts compressor performance"

Extreme ambient alert
- **• • •**
  - "Alerts if room temperature is too warm"

**NEW Voltage indicator (Power Monitoring)**
- **• • •**
  - "Displays incoming line voltage"

Clean filter indicator
- **• • •**
  - "Advises when to remove and clean filter"

**Cabinet Construction**

Foamed-in-place polyurethane insulation
- **• • •**
  - "Higher "R" value"

1" (2.54cm) diameter access port
- **• • •**
  - "Easy access through wall"

Enhanced acoustic insulation
- **• • •**
  - "Reduces compressor sound"

**NEW Robust tandem 2 in. casters**
- **• • •**
  - "Side by side locking casters for durability and high impact resistance"

**NEW Door-mounted Pressure Equalization Port (PEP)**
- **• • •**
  - "Maximizes storage space/eliminates maintenance for ice removal"

**NEW Recessed power switch**
- **• • •**
  - "Prevents inadvertent switch off"

**NEW Reinforced shelves**
- **• • •**
  - "Reinforcement channels on shelves to support excessive loads and impact"

**LN₂/CO₂ Backup System**
- **Optional Optional Optional**
  - "Built in and free standing available"

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**NEW Operational Efficiency**

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

15% **lower heat rejection** into surrounding environment

Reduced noise levels for quieter, comfortable lab surroundings
The Revco PLUS Advantage: Highest Sample Integrity

Our Revco PLUS -86°C freezers deliver the best sample protection with advanced refrigeration technology. We guard your samples by combining the highest temperature stability, maximum recovery time and outstanding energy efficiency.

Maximum Heat Removal

Our Revco PLUS -86°C freezers feature 20% more heat removal capacity. This delivers very quick temperature recovery after door openings for stable, uniform temperatures and ultimate sample protection.

Energy Efficiency

Greater than 15% energy savings and 15% less heat rejection over other leading freezers, our Revco PLUS -86°C freezers conserve valuable energy resources to keep your lab comfortable and samples protected.

Minimized Noise Output

Featuring advanced noise abatement technology and insulation, our Revco PLUS -86°C freezers are 40% quieter so they can reside right in your lab. This speeds sample preparation and minimizes sample exposure to ambient air.

Protect your valuable samples: cryoboxes microplates bulk storage

Our Revco racks are quality-built for ultimate sample protection. With proven reliability you can depend on year after year, our racks are completely interchangeable with all Revco PLUS -86°C freezers for additional flexibility.

See our Rack and Accessories Guide for all your accessories needs.
Robust Cabinet Design: constructed of high-strength steel with a corrosion-resistant coating.

Access Port: 1" diameter for easy access through wall.

Cabinet Insulation: Minimum 5" (127mm) CFC-Free, foamed-in-place urethane for thermal protection and structural strength.

Remote Alarm Contacts: physical connection to external alarm/monitoring system.

Recorder: optional 7-day, 6" (152 mm) circular chart.

Heavy Duty Casters: new 2" locking, tandem wheel design; easy, smooth mobility.

Washable Filter: protection from dust build-up on condenser.

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

Advanced Compressor Deck: superior heat removal and energy efficiency; excellent insulation for a very quiet work environment.

CFC-Free Refrigerants: DuPont® Suva 95 in low stage models.

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-Built for Maximum Reliability

For optimized performance and operation, our Revco PLUS -86°C freezers feature robust, high-quality construction with advanced insulation, flexible storage and precision controls.

Ensure the easy retrieval of precious samples and minimize sample exposure to ambient conditions with our Revco rack solutions. Your sales representative can suggest the optimal rack configuration for your storage needs.
Thermo Scientific
Revco Ultima PLUS
Advanced Performance and Controls

Our Revco Ultima PLUS -86°C freezer is available in 17, 21 and 25 cubic feet capacities.

Microprocessor Controls: Real-Time Monitors and Alarms

Our Revco Ultima PLUS is suited for laboratories that require sophisticated electronic monitors and alarms.

Its programmable, easy-to-use microprocessor controls provide real-time visibility and precise setpoints on temperature, power and other critical measurements to continuously ensure the security of your work.
Life-Guard Alert: monitors performance and automatically adjusts to internal and external conditions, extending compressor life.

Power Failure: automatically activates in event of power failure.

Temperature Failure: automatically activates in event of temperature deviation.

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.

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

Voltage Indicator: push to view incoming line voltage.

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.

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.

Thermo Scientific Revco Ultima PLUS -86°C Upright Freezers

Temperature Range -50°C to -86°C

<table>
<thead>
<tr>
<th>Model</th>
<th>Capacity Cu Ft (L)</th>
<th>Electrical</th>
<th>Amps/Breaker (Plug)</th>
<th>Interior Dimensions H x W x D inches (mm)</th>
<th>Exterior Dimensions H x W x D inches (mm)</th>
<th>Shipping Weight lbs (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ULT1786-10-A</td>
<td>17.2 (487)</td>
<td>115V/60 Hz 10</td>
<td>208-230V/60 Hz 10</td>
<td>230V/50 Hz 10</td>
<td>50.5 x 23.5 x 25 (1283 x 597 x 635)</td>
<td>720 (326)</td>
</tr>
<tr>
<td>ULT1786-10-D</td>
<td>17.2 (487)</td>
<td>115V/60 Hz 10</td>
<td>208-230V/60 Hz 10</td>
<td>230V/50 Hz 10</td>
<td>77.8 x 36.7 x 35.5 (1975 x 931 x 901)</td>
<td>770 (349)</td>
</tr>
<tr>
<td>ULT1786-10-V</td>
<td>17.2 (487)</td>
<td>115V/60 Hz 10</td>
<td>208-230V/60 Hz 10</td>
<td>230V/50 Hz 10</td>
<td>77.8 x 41.7 x 36.2 (1975 x 1058 x 920)</td>
<td>830 (376)</td>
</tr>
<tr>
<td>ULT2186-10-A</td>
<td>20.2 (572)</td>
<td>115V/60 Hz 10</td>
<td>208-230V/60 Hz 10</td>
<td>230V/50 Hz 10</td>
<td>50.5 x 23.5 x 34.3 (1283 x 724 x 816)</td>
<td>77.8 x 47.7 x 36.2 (1975 x 1210 x 920)</td>
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<td>20.2 (572)</td>
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<td>ULT2586-10-A</td>
<td>24.4 (691)</td>
<td>115V/60 Hz 10</td>
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Thermo Scientific
Revco Elite PLUS
High Performance
and Controls

Our Revco Elite PLUS -86°C freezer is available in 17, 21 and 25 cubic feet capacities.

Microprocessor Controls: Real-Time Monitors and Alarms
Our Revco Elite PLUS is suited for environments that require a moderate level of electronic monitors and alarms. Featuring programmable, easy-to-use microprocessor controls, the Revco Elite PLUS delivers real-time visibility and precise setpoints on temperature, power and other critical measurements to protect your work.

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
Thermo Scientific Value PLUS: Basic Performance and Controls

Our Revco Value PLUS -86°C freezer is available in 17, 21 and 25 cubic feet capacities.

Microprocessor Controls: Real-Time Monitors and Alarms

Our Revco Value PLUS is suited for laboratories that require a fundamental level of electronic monitors and alarms.

- **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
- **Cabinet Temperature:** displays current cabinet temperature
- **Touchpad Data Entry:** adjustable in 1°C increments; alarm setpoint in 5°C increments
- **LN₂/CO₂ Back-up System:** optional indicator lights up when system is active: specify when ordering

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
- **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
### Thermo Scientific Revco Elite PLUS -86°C Upright Freezers

**Temperature Range** -50°C to -86°C

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<tr>
<th>Model No.</th>
<th>Capacity Cu Ft (L)</th>
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<td>ULT1786-6-A</td>
<td>17.2 (487)</td>
<td>115V/60 Hz 1Ø 208-230V/80 Hz 1Ø 230V/50 Hz 1Ø</td>
<td>16/20 (P2) 12/15 (P4) 12/16 (P7) 12/13 (P8)</td>
<td>50.5 x 23.5 x 25 (1283 x 597 x 635)</td>
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<td>50.5 x 34.5 x 24.3 (1283 x 876 x 616)</td>
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### Thermo Scientific Revco Value PLUS -86°C Upright Freezers

**Temperature Range** -50°C to -86°C

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<tr>
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<tr>
<td>ULT1786-4-A</td>
<td>17.2 (487)</td>
<td>115V/60 Hz 1Ø 208-230V/80 Hz 1Ø 230V/50 Hz 1Ø</td>
<td>16/20 (P2) 12/15 (P4) 12/16 (P7) 12/13 (P8)</td>
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<td>ULT1786-4-D</td>
<td>20.2 (572)</td>
<td>115V/60 Hz 1Ø 208-230V/80 Hz 1Ø 230V/50 Hz 1Ø</td>
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### 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, TUV, 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.

### Line Cord Plug Reference

<table>
<thead>
<tr>
<th>Models with this code</th>
<th>have this plug</th>
<th>require this receptacle</th>
<th>NEMA Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td></td>
<td>5-15P</td>
<td>5-15R</td>
</tr>
<tr>
<td>P2</td>
<td></td>
<td>5-20P</td>
<td>5-20R</td>
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<tr>
<td>P3</td>
<td></td>
<td>5-30P</td>
<td>5-30R</td>
</tr>
<tr>
<td>P4</td>
<td></td>
<td>6-15P</td>
<td>6-15R</td>
</tr>
<tr>
<td>P5</td>
<td></td>
<td>6-20P</td>
<td>6-20R</td>
</tr>
<tr>
<td>P6</td>
<td></td>
<td>6-30P</td>
<td>6-30R</td>
</tr>
<tr>
<td>P7 (European)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P8 (British)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**North America:** North America: USA/Canada +1 866 984 3766

**Europe:** Austria +43 1 801 40 0, Belgium +32 2 482 30 30, Finland +358 9 329 100, France +33 2 2803 2000, Germany national toll free 08001-536 376, Germany international +49 6184 90 6940, Italy +39 02 95059 1, Netherlands +31 76 571 4440, Russia/CIS +7 (812) 703 42 15, Spain/Portugal +34 93 223 09 18, Switzerland +41 44 454 12 12, UK/Ireland +44 870 609 9203, Asia: China +86 21 6865 4588 or +86 10 5850 3588, India +91 22 5542 9494, Japan +81 45 453 9220, Other Asian countries +852 2885 4613, Countries not listed: +49 6184 90 6940 or +33 2 2803 2000

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