



GX Solutions

Ultra-low Temperature Freezers



GX Solutions
powered by OptiCool™

What is a professional, medical-grade ultra-low freezer?

Professional, medical-grade freezers are designed for the unique needs of critical healthcare applications, such as tissue, pharmaceuticals, blood and patient sample storage. **Only professional, medical-grade freezers deliver optimized control in three important areas:**



Temperature management

to safeguard stored products and maintain efficacy; maintaining acceptable temperature during normal operation



Noise management

to provide a more productive workplace for staff.



Energy management

to reduce operating costs and support sustainability initiatives.



Powering the first professional medical-grade ultra-low temperature freezers

GX Solutions ULT Freezers are powered by OptiCool™ cooling technology. The OptiCool™ system pairs two variable capacity compressors (VCC)s and natural hydrocarbon (HC) refrigerants to create an optimal and sustainable storage environment.

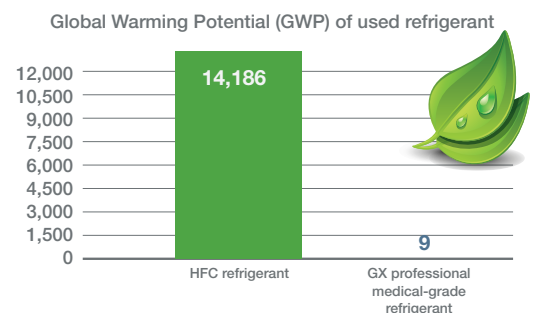
- Ensures optimal temperature uniformity and recovery
- Efficiently manages energy consumption and environmental conditions
- Reduces noise output of system
- Prevents oil logging and improves reliability through effective oil management

How does a VCC system optimize temperature performance and energy efficiency?

OptiCool™ cooling technology utilizes multi-stage cascade refrigeration technology combined with dual capacity compressors (VCCs) and natural hydrocarbon refrigerants to manage both low and high-stage cooling loops

Natural Refrigerants Support Environmental Sustainability

The OptiCool™ cooling system uses R170 and R290, naturally occurring refrigerants that are Environmental Protection Agency (EPA), Significant New Alternatives Policy (SNAP), and EU F-Gas compliant. These natural refrigerants are environmentally friendly, having no impact on ozone depletion and a very low Global Warming Potential (GWP) grade.

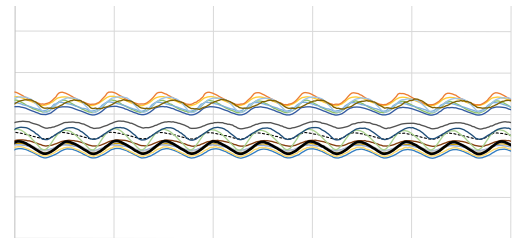


GX Solutions are the first cold-storage solution to offer optimized control in temperature, noise, and energy management and offer the following benefits:



Temperature Management

Uniformity - *Temperatures are maintained throughout the unit.* At a setpoint between -70°C and -80°C @25°C to 32°C ambient, the average temperature variance is 8°C. This provides confidence that contents are stored at the right temperature regardless of where they are placed within the unit.



Recovery - *Fast recovery after prolonged door openings.* Ensures contents are stored at the right temperature.



Noise Management

Quiet operation improves the work environment. GX professional medical-grade ultra-low freezers are designed for noise sensitive areas. They are quieter than traditional models leading fewer distractions for healthcare personnel.



Every increase of 10dB on the scale is equivalent to a 10-fold increase in sound intensity.



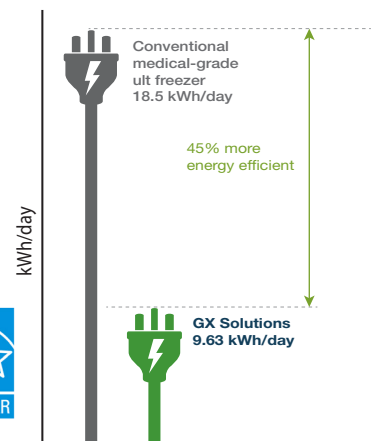
Energy Management

GX Solutions are ENERGY STAR® certified* and 35-45% more energy efficient than conventional medical-grade ultra-low freezers. The use of natural hydrocarbons:

Reduces heat output - allows facilities to place freezers in small work areas while limiting impact on HVAC system.

Decreases carbon footprint - uses natural hydrocarbon (HC) refrigerants to dramatically decrease global warming potential.

Meets ever-changing energy standards - GX refrigerants are compliant with the Significant New Alternatives Policy (SNAP).



GX Solutions ULT Freezers are designed for optimized performance

From the powerful OptiCool™ refrigeration system to the unique heat barrier and oil management systems, the GX ULT freezer was design to ensure that every component works together to create an optimized system for ultra-cold storage applications.

Heat Barrier System™

The unique heat barrier system includes four levels of containment that combine an ice-resistant sealing surface with high-quality materials to keep heat out, providing better temperature uniformity and reducing frost.

Fortified Outer Doors: A secure closure prevents air leaks, keeping heat out and reducing frost build-up.

- Includes a robust door with 3 heavy-duty hinges.
- Multi-bulb, polygonal gasket.
- Heavy-duty, single-handed door handle for secure closure.

Insulated Inner doors: Maintaining cabinet temperature helps eliminate frost build-up. The structurally reinforced, insulated design provides a tighter closure.

- Dual-blade gasket system prevents intrusion of warm air.
- Multiple doors provide easy access to samples without compromising other samples.
- Positive latching inner doors prevent swing-outs.

Hot Gas Loop: Anchors the frame and cabinet with an ice-resistant sealing surface, reducing the amount of heat transfer.

- Energy-efficient hot gas loop surrounds the frame
- Advanced composite panels provide reinforcement in the cabinet.

Premium Insulation: Panels are used in all outer doors and cabinets to preserve outstanding sample quality and minimize energy consumption. It provides a precision temperature environment for the long-term preservation of specimens and components in laboratories and hospitals.

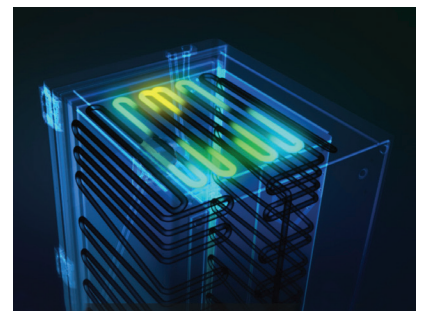
Optimum Oil Management

Protecting a ULT compressor helps improve reliability of the system. By providing maximum heat exchange and optimized oil management, Helmer has developed a system that reduces stress on the compressor and increases the reliability of the freezer.

Oil Management:

- Specially engineered oil separator removes virtually all oil from refrigeration lines
- Mixed refrigerant is optimized to ensure proper flow rate at extremely low temperatures.

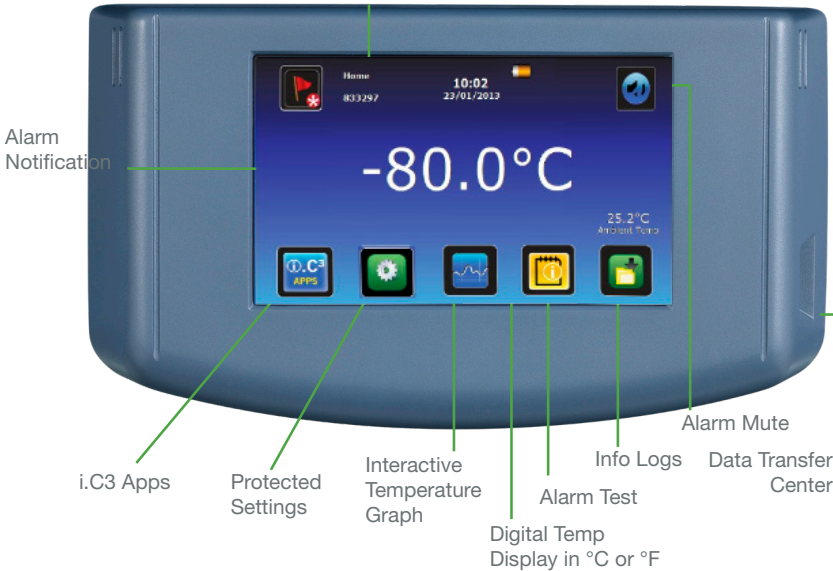
Maximum Heat Exchange: Split evaporator, precisely placed, hand-wrapped coils, and a large, robust compressor provide optimum heat exchange pathways, increasing the efficiency of the system.



GX Solutions ULT Freezers are part of the i.Series® Line

i.Series®

7" (177mm) door-mounted touchscreen



i.C3® Information Center

The i.Series i.C3 Information Center provides constant temperature monitoring and multiple information logs while offering security features to keep settings safe.

System Status Console - monitor status of the unit with one quick glance at the home screen.

Information and Event Center - records performance history of unit including event acknowledgment. Includes event status, min/max temps, and 7- and 1-day interactive graph views.

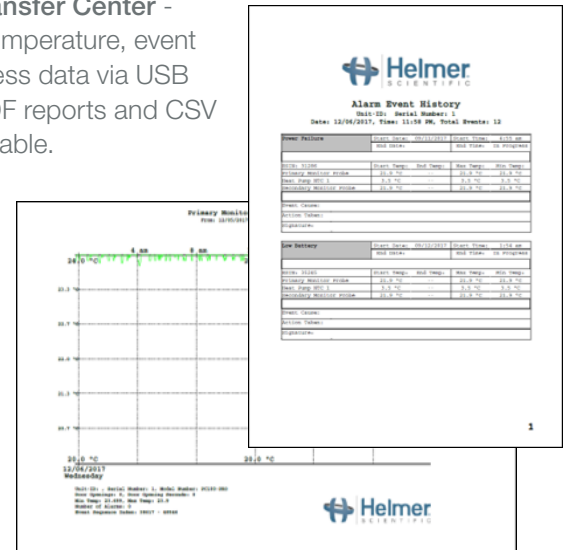
Guardian Plus™ Protection - offers protected settings and limited access plus standard integrated electromagnetic access control to limit and track user access.

Data Transfer Center - export temperature, event and access data via USB port. PDF reports and CSV files available.

GX Solutions i.C3® Features

Temperature Display	°C or °F
Monitor/Logging	Event log records date, time and temperature data
Compliance Data	Download PDF Reports and CSV files via USB port
Security	Password protected settings / Key lock
Electromagnetic Access Control	Unique PINs - Limit and track user access
Temperature Graphing	Interactive temperature graph
Standard Alarms	High and low temperature, Door open, Power failure
Additional Alarms	Condenser temperature, Probe failure, Low battery
Min/Max Temperatures	Display and reset
Backup Power	Rechargeable battery backup - 20 hrs
Connectivity	Ethernet/API, USB port
Dry contact alarm connections	Yes
Digital calibration	Yes
Warranty	5 yr compressor / 2 yr parts / 2 yr labor*

* Warranties applicable in US and Canada. For international warranty information, contact your local distributor.



GX Solutions Professional Medical-grade **Ultra-Low Temperature Freezers**



Store Clinical Samples, Vaccines and Other Biological Samples

GX professional medical-grade ultra-low freezers feature secure storage of vaccines, medications, patient samples, reagents, laboratory media and other products requiring safe ultra-cold storage.

- » Powered by OptiCool™ refrigeration technology which pairs variable capacity compressors (VCCs) and natural hydrocarbon (HC) refrigerants to create a freezer that optimizes temperature performance and energy efficiency
- » Factory pre-set to -80°C for ultra-cold applications
- » Quiet operation for improved work environment (58dB)
- » Reduced energy consumption (35-40% more efficient than traditional technology)
- » Sustainable U.S. EPA and SNAP compliant natural refrigerants and foaming agents



(L-R) iUF118-GX, iUF126-GX

Construction

- » Heat Barrier System with 4 levels of containment, fortified outer door, insulated inner doors, hot gas frame loop, and premium insulation, creates energy efficient barrier
- » Four shelves with five inner doors provides easy access to samples without compromising other samples
- » Bacteria-resistant powder coated interior and exterior
- » Swivel, locking casters and leveling feet
- » Industrially-designed, adjustable hinges prevent door sag
- » Key lock and hasp, settings security and access control
- » Drop-down and removable panels provide line-of-sight easy access to serviceable components

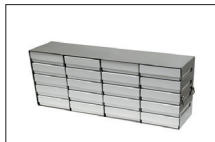
ULT Freezer Rack Systems

Helmer Scientific offers a wide range of ULT rack systems to safely store and organize your product samples and therapies. Designed to last, these storage systems are constructed from high-quality corrosion-resistant stainless steel and are offered in various configurations to categorize and maximize freezer capacity. Options include vial box racks, centrifuge tube racks, microplate racks, and red cell canister racks.



**Vial Box Rack
322098-1**

Rack for 2" vial boxes, side access, 16 box capacity (4 high x 4 deep). Boxes and dividers included.



**Vial Box Rack
322099-1**

Rack for 2" vial boxes, side access, 20 box capacity (5 high x 4 deep). Boxes and dividers included.



**Vial Box Rack
322100-1**

Rack for 2" vial boxes, drawer access, 16 box capacity (4 high x 4 deep). Boxes and dividers included.



**Vial Box Rack
322101-1**

Rack for 2" vial boxes, drawer access, 20 box capacity (5 high x 4 deep). Boxes and dividers included.



**Vial Box Rack
322102-1**

Rack for 3" vial boxes, drawer access, 8 box capacity (2 high x 4 deep). Boxes and dividers included.



**Vial Box Rack
322103-1**

Adjustable rack for 2" or 3" vial boxes, side access. Boxes and dividers included.

Options		
Description		Part No.
Chart Recorder (Inkless) 4" (102mm) Includes battery backup and 52 charts	Factory Installed	4050033-1 iUF118-GX 4050037-1 iUF126-GX
Temperature Validation Certificate Documentation	Factory Tested	4900062-1
Certificate of Calibration Documentation	Factory Tested	4900061-1

Additional Rack Systems

Description	Part No.
Centrifuge Tube Racks (drawer access)	
15ml tubes, qty 80	322104-1
50ml tubes, qty 39	322105-1
Microtiter Plate Racks	
96 and 384-well with locking rod (side access)	322106-1
96 deep-well with locking rod (side access)	322107-1
96 and 384-well (drawer access)	322108-1
96 deep-well (drawer access)	322109-1
Red Cell Canister Racks	
Vertical Storage Rack	401256-1
Horizontal Processing Rack	401257-1
Vial Boxes and Dividers	
2" (51mm) Fiberboard Vial Box	322096-1
3" (75mm) Fiberboard Vial Box	322097-1
2" (47mm) Plastic Vial Box	Multiple (see accessory guide)
Red Cell Canister	
2000 ml bag	322110-1
Fiberboard Grid Dividers	
9x9, 13mm vials (81)	220618
10x10, 12mm vials (100)	220619

Accessories

Description	Part No.
C02 Backup System Maintains temperature down to -60°C with C02. Includes display/control module, backup battery, and freezer connection hardware.	220628
LN2 Backup System Maintains temperature down to -65°C with LN2. Includes display/control module, backup battery, and freezer connection hardware.	220629
Chart Paper 4" (102mm) diameter, -100°C to -40°C, pkg of 52	800197-1
Cryo Gloves Small	220624
Medium	220625
Large	220626
Extra Large	220627
Remote Alarms Extends alarm range for 1 device/zone or up to 4 devices/zones	500607-1 RA1 500608-1 RA4
USB Flash Drive	120640
i.C3° Screen Protectors (pkg of 3)	450007-1

NOTE: For complete information and specifications of ULT racks and accessories, please refer to the ULT Accessory Brochure.

GX professional, medical-grade ultra-low temperature freezers			
Model		iUF118-GX	iUF126-GX
Application Data	Temperature Range	-50°C to -86°C -80°C	-50°C to -86°C -80°C
Electrical Data	Power Supply (V Hz)	115 (60) 220-240V (50/60)	115 (60) 220-240V (50/60)
Capacity	Storage Capacity (2" CryoBox)	352	528
	Storage Volume / cu ft L	18 510	26 736
Dimensions	Interior Dimensions w x h x d in/mm	23 x 54 x 25.3 585 x 1373 x 643	34.3 x 54 x 25.3 872 x 1373 x 643
	Exterior Cabinet Dimensions w x h x d in/mm	28.9 x 78.2 x 35.1 733 x 1986 x 892	40.2 x 78.2 x 35.1 1020 x 1986 x 892
	Overall Exterior Dimensions* w x h x d in/mm	32.5 x 78.2 x 37.8 826 x 1986 x 960	43.8 x 78.2 x 37.8 1113 x 1986 x 960
	Net Weight (lbs kg)	550 249	661 300
	Number of Shelves Compartments	4 5	4 5
Performance	Energy Consumption (kWhr/day @ -75°C)	9.63	11.65
	Sound Level (dB)	58	58

*Overall Exterior dimensions include handle, casters, and hinges



Helmer Scientific ultra-low temperature freezers are designed, manufactured, and assembled in our U.S.-based, state-of-the-art and eco-conscious ISO 13485 certified manufacturing facility in Noblesville, Indiana.

Visit www.helmerinc.com/matters to view our interactive demo.

GX Solutions

The first professional medical-grade freezers.
For medical professionals. Only from Helmer Scientific.

Contact our sales team to learn more about the first professional medical ultra-low freezers on the market, and how they can benefit your medical setting.
info.helmerinc.com/GXsolutions

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