



OptiCool™ Technology for GX Solutions

Powering the First
Professional Medical-grade
Refrigerators & Freezers



What is professional medical-grade cold storage?

Professional medical-grade cold storage devices are designed for the unique needs of critical healthcare applications, such as medication, vaccine, blood products, reagents, and patient sample storage. **Only professional medical-grade refrigerators and freezers deliver optimized control in three important areas:**



Temperature management

to safeguard stored products and maintain efficacy.



Noise management

to provide a more comfortable environment for patients and a more productive workplace for staff.



Energy management

to reduce operating costs and support sustainability initiatives.

GX Solutions are the first cold storage solution to offer optimized control in all three areas: temperature, noise, and energy management.



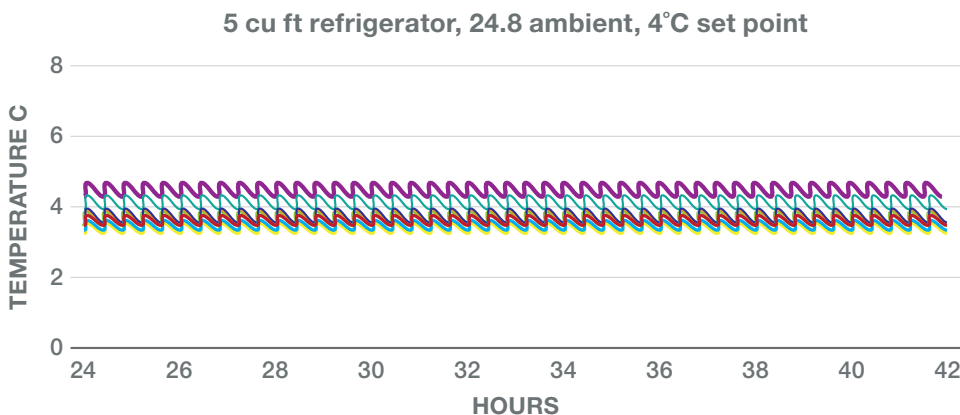
Temperature Management

Professional medical-grade cold storage excels in three key temperature management areas:

1

Temperature Uniformity

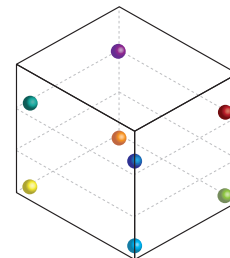
GX professional medical-grade solutions achieve **superior temperature uniformity throughout the unit**, giving you the confidence that your contents are stored at the right temperature regardless of where they're placed within the unit.



Helmer GX Solutions maintain temperatures throughout the storage chamber, eliminating hot and cold spots that could put your contents at risk of temperature excursions. Undercounter refrigerator graph is shown.



Horizon Series™ Undercounter Shown

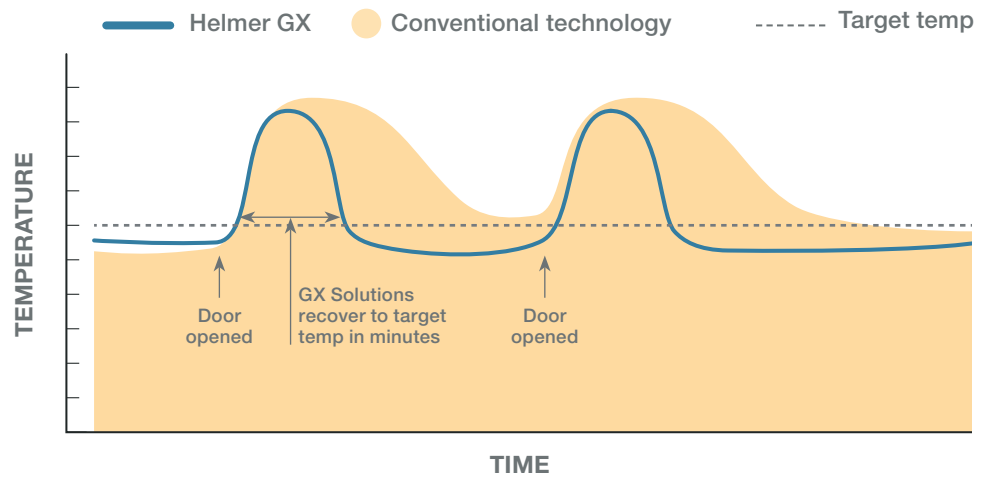


Probe locations for uniformity testing.

2

Temperature Recovery

GX professional medical-grade solutions **offer faster recovery after prolonged door openings**. Powerful forced-air circulation keeps contents at the right temperature even when the unit is opened multiple times per hour for stocking, inventory counts and product retrieval.



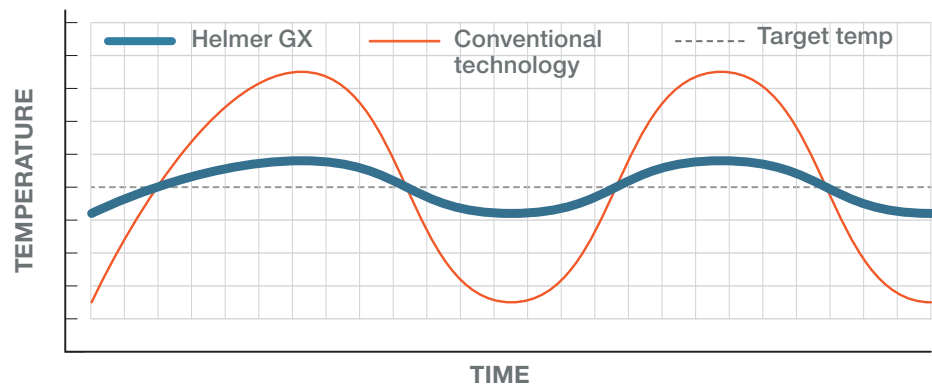
Helmer GX Solutions recover faster than conventional technologies after door openings, ensuring your contents are stored at the right temperature.

GX professional medical-grade solutions offer high-performance cold storage for labs, pharmacies, blood banks and other medical settings.

3

Temperature Stability

GX professional medical-grade solutions maintain **superior temperature stability**, creating fewer deviations from the set point and avoiding rapid, significant changes in temperature. This ensures patient samples, medications/vaccines or blood therapies are always in their optimal storage environment.



The OptiCool™ cooling system (see page 6 for more details) runs at optimized speeds based on operating conditions. This maintains the set temperature, increasing confidence that samples, blood therapies and medications/vaccines are safely stored.



i.Series®
Undercounter shown



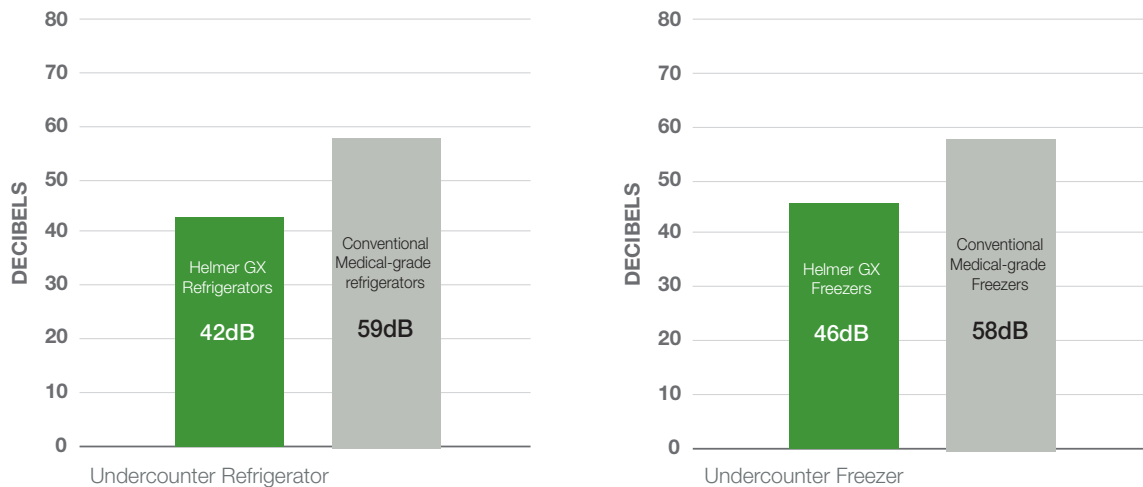
Noise Management

Managing noise in the professional healthcare environment

GX professional medical-grade refrigerators and freezers are designed for noise-sensitive areas such as medication rooms, pharmacies, labs, and patient rooms. Less equipment noise means fewer distractions while healthcare personnel work and better rest for patients.

Noise Output

Conventional units are ~3x louder than GX professional medical-grade solutions.



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



Did you know?

Hospital noise is the top complaint among patients, staff and visitors, according to the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey.¹ High noise levels in hospital settings **can impede healing in patients and have negative effects on caregivers**. A University of Michigan Occupational Health Nursing Program study found that chronic noise in the workplace caused an increase in blood pressure and heart rate.²

¹ <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/HospitalHCAHPS.html>

² <https://www.ncbi.nlm.nih.gov/pubmed/12530593>



Energy Management

Energy management for the professional healthcare environment

GX professional medical-grade solutions are **ENERGY STAR® certified***. GX Refrigerators are up to **50-65% more energy efficient** than conventional medical-grade refrigerators, while GX Freezers are **35-45% more efficient**.



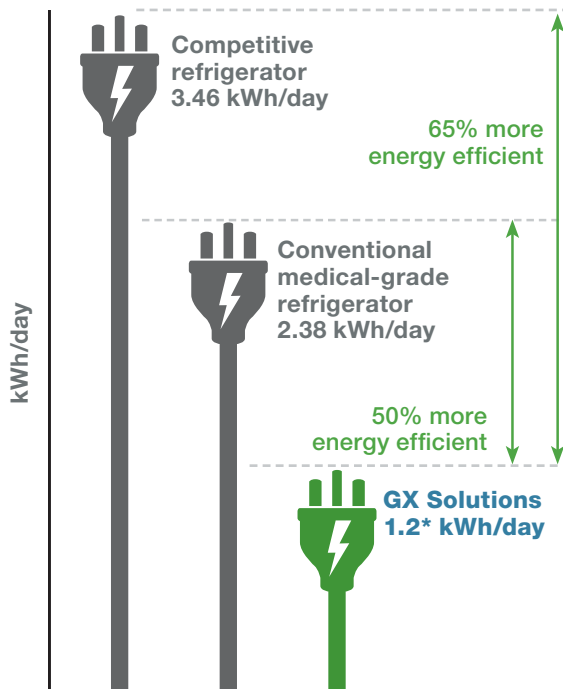
- EPA ensures that each product that earns the label is independently certified to deliver quality, performance and savings.
- Since 1992, ENERGY STAR products have saved businesses over \$150 billion in energy costs.
- An environmental program in the U.S. that certifies energy efficiency based on verified and objective performance measures.



All Helmer Scientific GX models help reduce a facility's energy footprint.

Energy Consumption

GX professional medical-grade refrigerators are up to 50-65% more energy efficient than conventional units.



Undercounter Refrigerator Data Shown

Benefits of Natural Hydrocarbons in GX Solutions:

- **Reduced heat output** — allowing facilities to place refrigerators in small work areas while limiting HVAC system impact.
- **Decreased carbon footprint** — uses natural hydrocarbon (HC) refrigerants to dramatically decrease global warming potential (GWP).
- **Meets ever-changing energy standards** — GX units use refrigerants that are compliant with the Significant New Alternatives Policy (SNAP).

Did you know?

Refrigeration accounts for 2-3% of a hospital's electricity usage. A typical hospital in the U.S. is ~100,000-ft² and spends \$1.67 on electricity per sq. ft. annually.³

³ https://www9.nationalgridus.com/non_html/shared_energyeff_hospitals.pdf

*GX Solutions Pass-thru Refrigerators not currently ENERGY STAR® certified



OptiCool™ Technology

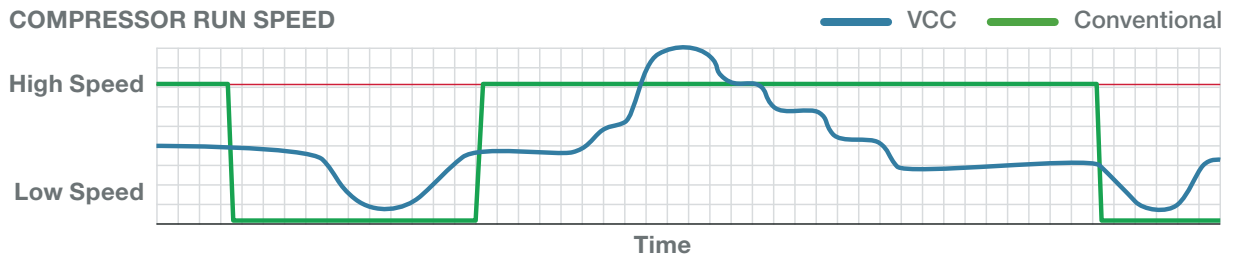
Powering the 1st professional medical-grade refrigerators and freezers

The OptiCool™ cooling system pairs a variable capacity compressor (VCC) and natural hydrocarbon (HC) refrigerants to:

- **Ensure optimal temperature** uniformity, recovery and stability
- **Efficiently manage energy** consumption **and environmental** conditions
- **Reduce noise output** of system

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

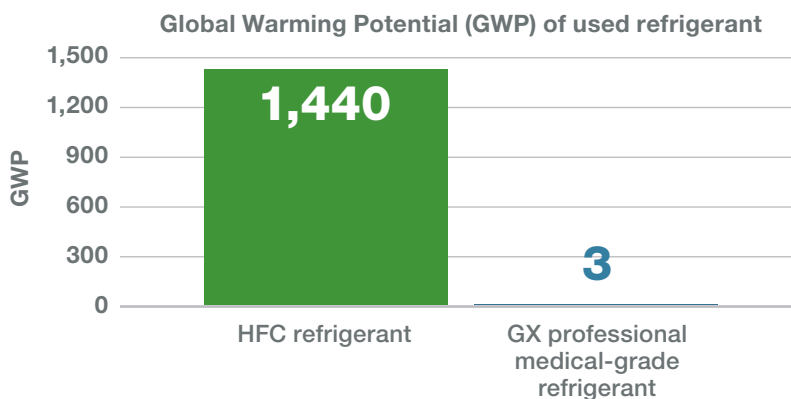
The OptiCool™ cooling system uses intelligent sensors to monitor operating conditions. When the door of the unit is opened, the VCC runs at a higher speed to deliver optimal temperature performance. When the temperature stabilizes, the VCC runs at a lower speed, resulting in lower energy consumption.



VCCs run at variable speeds (depending on operating conditions) to maintain temperature rather than simply cycling off and on like fixed capacity compressors in conventional medical-grade refrigerators.

Natural Refrigerants Support Environmental Sustainability

The OptiCool™ cooling system uses R600a or 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.



Hydrocarbon (HC) refrigerants found in GX Solutions, such as R600a and R290, decrease global warming potential. R600a example shown.

Only from Helmer Scientific

The trusted medical cold storage brand

Built to last: reliability starts with design. All Helmer units are designed and built to ensure they last for the long term, to limit downtime and interruption to workflow.

Tested to last: Accelerated Life Testing

- **Identifies and addresses** possible failure modes prior to equipment release for general use
- **Exposes units to very high levels of stress** to challenge the system down to the subassembly and component levels
- **Ensures the unit's design** can withstand the rigors of daily use through a 10-year life

At Helmer Scientific, building high-quality medical products is **ALL** we do.



GX Solutions

The first professional medical-grade cold storage solutions.
For medical professionals. Only from Helmer Scientific.



About Helmer Scientific

Helmer Scientific is an established, entrepreneurial, growth company headquartered in Noblesville, Indiana. For more than 45 years, we have aided customers in their efforts to improve and save lives by providing innovative products and services that address specific needs. We design, integrate, manufacture, market, distribute, and service specialized medical and laboratory equipment to clinical and life science customers in more than 155 countries.

Contact our sales team to learn more about the first professional medical-grade refrigerators and freezers on the market, and how they can work in your medical setting.

info.helmerinc.com/GXsolutions

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