



**Introducing**

The First Professional  
Medical-grade Refrigerators

**GX Solutions**



# What is a professional medical-grade refrigerator?

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



## Temperature management

to safeguard patient samples and ensure medications remain efficacious.



## 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.



## Temperature Management

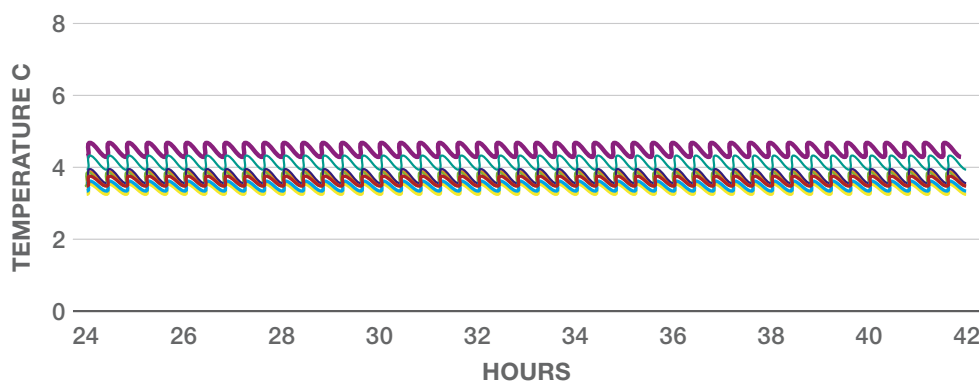
**Professional medical-grade refrigerators excel in three key temperature management areas:**

1

### Temperature Uniformity

GX professional medical-grade refrigerators achieve **superior temperature uniformity throughout the unit** keeping temperatures within  $\pm 1^{\circ}\text{C}$ , giving you the confidence that your contents are stored at the right temperature regardless of where they're placed within the unit.

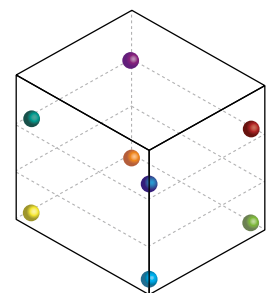
5 cu ft refrigerator, 24.8 ambient, 4°C set point



Helmer GX Solutions maintain temperatures within  $\pm 1^{\circ}\text{C}$  throughout the storage chamber, eliminating hot and cold spots that could put your contents at risk of temperature excursions.



Horizon Series™

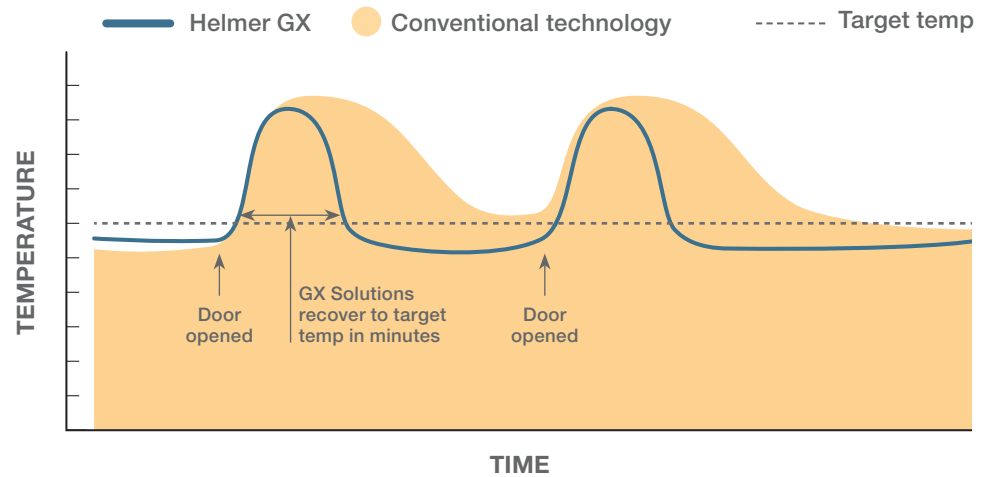


Probe locations for uniformity testing.

## 2

### Temperature Recovery

GX professional medical-grade refrigerators **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.



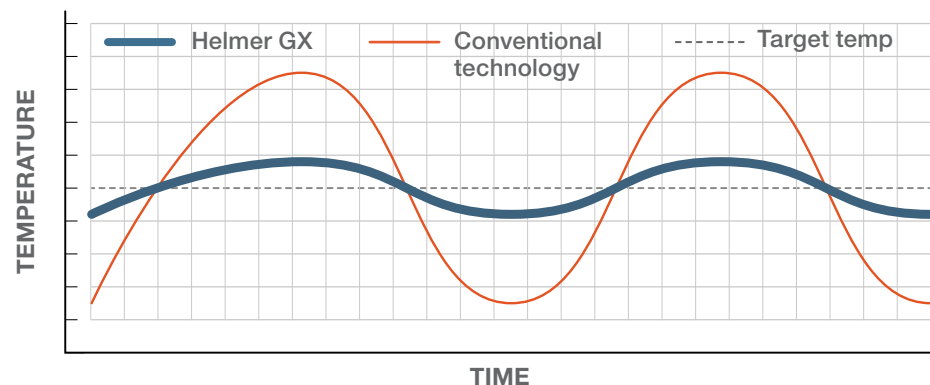
Helmer GX Solutions recover faster than conventional technologies after door openings, ensuring your contents are stored at the right temperature.

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

## 3

### Temperature Stability

GX professional medical-grade refrigerators 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®



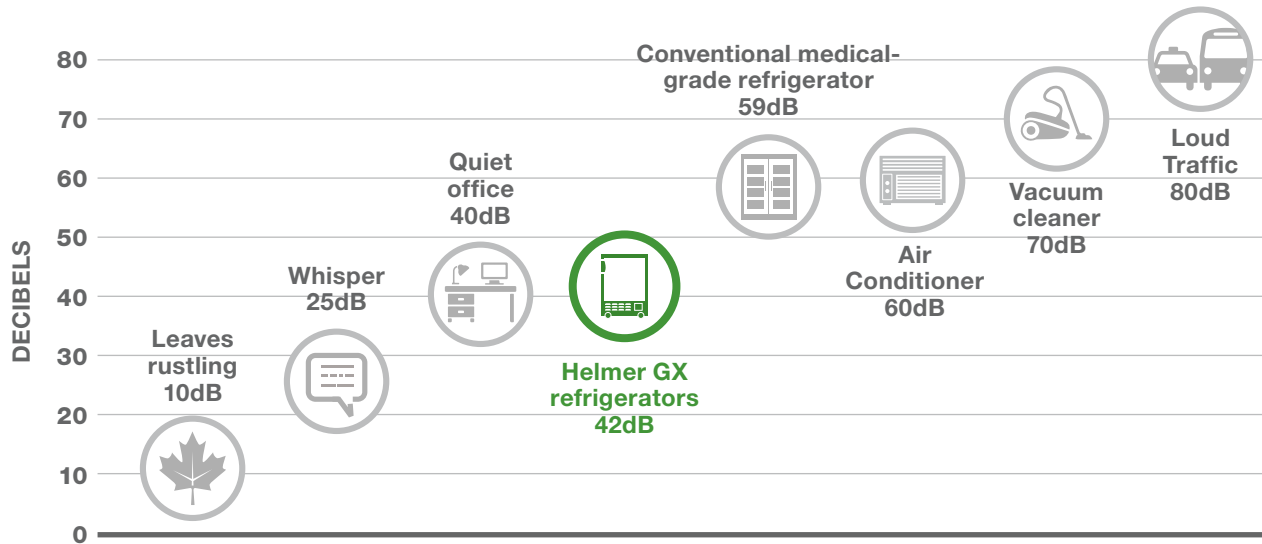
## Noise Management

### Managing noise in the professional healthcare environment

GX professional medical-grade refrigerators 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 or patients rest.

#### Noise Output

Conventional units are ~3.25x louder than GX professional medical-grade refrigerators.



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.<sup>1</sup> 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.<sup>2</sup>

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

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



## Energy Management

### Energy management for the professional healthcare environment

GX professional medical-grade refrigerators are **ENERGY STAR® certified** and **50-65% more energy efficient** than conventional medical-grade refrigerators.



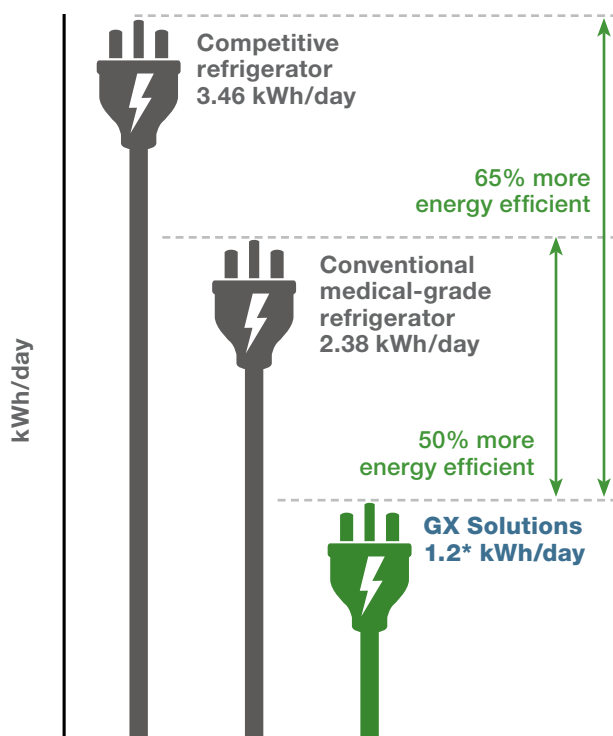
- EPA ensures that each product that earns the label is independently certified to deliver quality, performance and savings.
- Since 1992, ENERGY STAR products have saved businesses over \$150 billion in energy costs.
- An environmental program in the U.S. that certifies energy efficiency based on verified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



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

### Energy Consumption

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



\* Horizon series ENERGY STAR testing

### Additional benefits of 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-ft<sup>2</sup> and spends \$1.67 on electricity per sq. ft. annually.<sup>3</sup>

<sup>3</sup> [https://www9.nationalgridus.com/non\\_html/shared\\_energyeff\\_hospitals.pdf](https://www9.nationalgridus.com/non_html/shared_energyeff_hospitals.pdf)



## OptiCool™ Cooling System

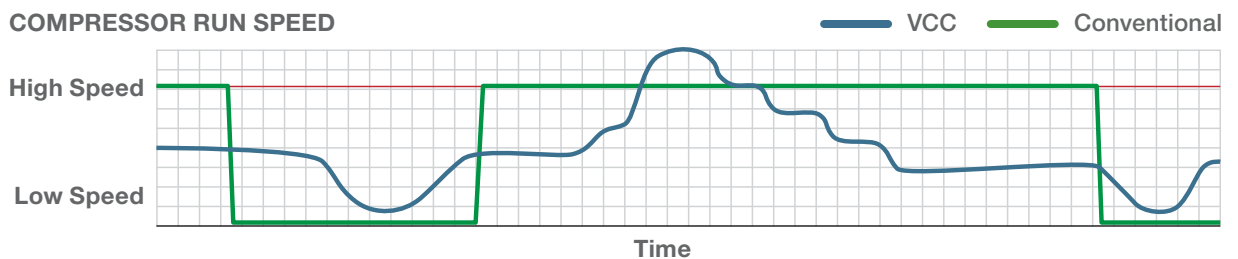
### Powering the 1st professional medical-grade refrigerators

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?

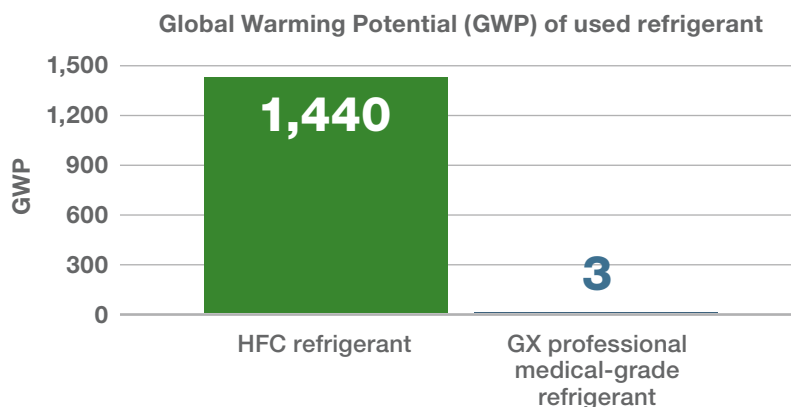
The OptiCool™ cooling system uses intelligent sensors to monitor operating conditions. When the door of the unit is opened, the VCC runs at a higher speed to deliver optimal temperature performance. When the temperature stabilizes, the VCC runs at a lower speed, resulting in lower energy consumption.



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, a naturally occurring refrigerant that is Environmental Protection Agency (EPA) and Significant New Alternatives Policy (SNAP) compliant. This natural refrigerant is 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, decrease global warming potential.

Only from Helmer Scientific

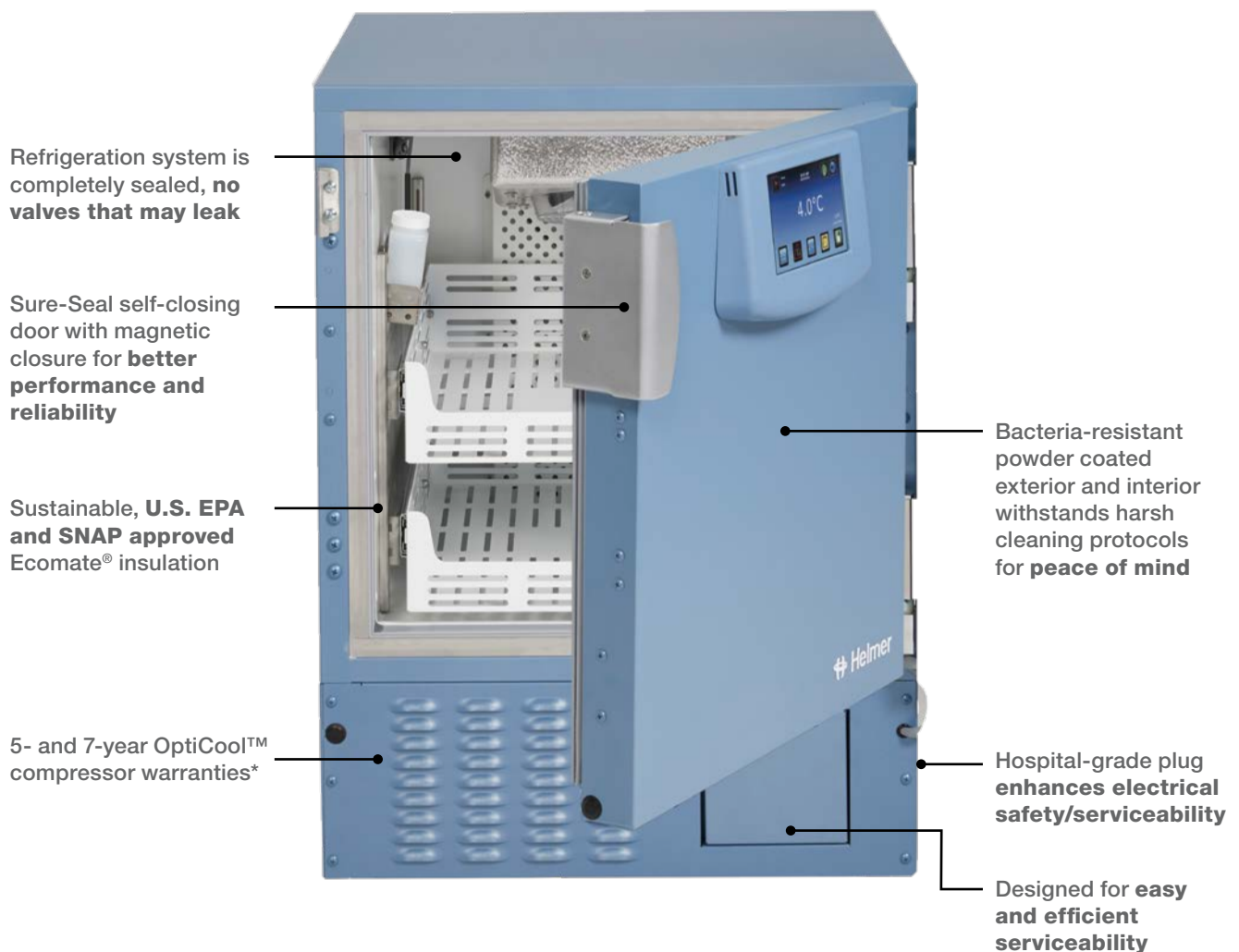
## The trusted medical refrigerator brand

**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: the Helmer 2-phase testing process

- **Highly Accelerated Life Testing (HALT)** ensures the unit's design can withstand the rigors of daily use throughout a 10-year life.
- **Highly Accelerated Stress Screening (HASS)** tests the key systems (electronic and refrigeration) during product development to verify the robustness of the design.

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



\* i.Series models include a 7-year compressor warranty. Horizon models include a 5-year compressor warranty.



## GX Solutions

The first professional medical-grade refrigerators. 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 40 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 and distribute 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 refrigerators on the market, and how they can work in your medical setting.

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