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# Global -150? Ultra-low Temperature Freezers Supply, Demand and Key Producers, 2026-2032

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## Abstracts

The global -150? Ultra-low Temperature Freezers market size is expected to reach $ 226 million by 2032, rising at a market growth of 7.0% CAGR during the forecast period (2026-2032).
A -150?C ultra-low temperature freezer is a powered freezer designed to maintain long-term storage around -150?C?commonly below the ~-130?C threshold associated with ice recrystallization/glass-transition-related risks?so that biological samples can be preserved with minimal molecular motion and degradation. Typical products specify a temperature control range around -125?C to -150?C (model-dependent) and emphasize chamber stability/uniformity.
Upstream supply mainly includes: refrigeration architecture and components (multi-stage cascade / auto-cascade systems, compressors, heat exchangers, controls), refrigerants, high-performance insulation (e.g., polyurethane foam, vacuum insulation panels), and electrical/control subsystems (temperature sensors, alarms, data logging/monitoring, backup power interfaces). Many -150?C platforms are engineered as LN? alternatives, while some designs are ?LN?-backup ready? to enhance resilience.
Downstream demand is driven by applications that require cryogenic-range, electrically powered storage without routine LN? handling: biobanks, cell & gene therapy / regenerative medicine, IVF and reproductive medicine, blood and plasma component storage, and research institutes storing cells, tissues, DNA and other temperature-sensitive specimens. Manufacturers often position these freezers as safer, simpler ?plug-in? cryogenic storage options versus LN? vapor systems.
In 2025, global sales of -150?C ultra-low temperature freezer reached approximately 6,688 units, with an average global market price of around US$ 20.2 K/unit. Production capacity varies significantly among manufacturers, with gross profit margins ranging from approximately 30% to 50%.

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With the expansion of cell & gene therapy, cell banks/strain banks, and research biorepositories, buyers are becoming more sensitive to ?stable, long-term deep-cold preservation.? They care not only about the lowest setpoint, but also about temperature excursions and how handling cycles may affect cell viability as well as protein/nucleic-acid integrity, including the warming window during sample retrieval and the risk associated with partial thaw/refreeze events. Mechanically-refrigerated deep-cold freezers are often positioned as an engineered middle ground between standard ULT freezers and liquid-nitrogen systems, offering a deep-cold range without relying on LN? as the primary cooling medium.

In purchasing decisions, compliance and operational risk are gaining weight. LN? systems are proven, but they require stronger procedural controls around personnel safety, supply logistics, and contamination management. Some mechanical cryogenic freezers emphasize reduced routine maintenance and lower cross-contamination risk, while strengthening traceability via remote alarms, data logging, and access control. On the product side, the market is also moving toward more redundancy and fault-tolerance?such as dual cooling architectures and optional LN? backup?to meet continuity requirements for critical repositories. Finally, energy and sustainability considerations increasingly influence solution selection, accelerating adoption of more efficient insulation and operating strategies.

This report studies the global -150? Ultra-low Temperature Freezers production, demand, key manufacturers, and key regions.

This report is a detailed and comprehensive analysis of the world market for -150? Ultra-low Temperature Freezers and provides market size (US$ million) and Year-over-Year (YoY) Growth, considering 2025 as the base year. This report explores demand trends and competition, as well as details the characteristics of -150? Ultra-low Temperature Freezers that contribute to its increasing demand across many markets.

**Highlights and key features of the study**

Global -150? Ultra-low Temperature Freezers total production and demand, 2021-2032, (Units)

Global -150? Ultra-low Temperature Freezers total production value, 2021-2032, (USD Million)

Global -150? Ultra-low Temperature Freezers production by region & country, production, value, CAGR, 2021-2032, (USD Million) & (Units), (based on production site)

Global -150? Ultra-low Temperature Freezers consumption by region & country, CAGR, 2021-2032 & (Units)

U.S. VS China: -150? Ultra-low Temperature Freezers domestic production, consumption, key domestic manufacturers and share

Global -150? Ultra-low Temperature Freezers production by manufacturer, production,

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price, value and market share 2021-2026, (USD Million) & (Units)
Global -150? Ultra-low Temperature Freezers production by Type, production, value, CAGR, 2021-2032, (USD Million) & (Units)
Global -150? Ultra-low Temperature Freezers production by Application, production, value, CAGR, 2021-2032, (USD Million) & (Units)
This report profiles key players in the global -150? Ultra-low Temperature Freezers market based on the following parameters - company overview, production, value, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include Haier Biomedical, Aucma, Zhongke Meiling Cryogenics, PHCbi, Arctiko, Operon, Coolingway, Beijing Dexinyongjia, etc.
This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.
Stakeholders would have ease in decision-making through various strategy matrices used in analyzing the World -150? Ultra-low Temperature Freezers market

**Detailed Segmentation:**

Each section contains quantitative market data including market by value (US$ Millions), volume (production, consumption) & (Units) and average price (K US$/Unit) by manufacturer, by Type, and by Application. Data is given for the years 2021-2032 by year with 2025 as the base year, 2026 as the estimate year, and 2027-2032 as the forecast year.

Global -150? Ultra-low Temperature Freezers Market, By Region:

United States

China

Europe

Japan

South Korea

ASEAN

India

Rest of World

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Global -150? Ultra-low Temperature Freezers Market, Segmentation by Type:

Mechanical Cryogenic Freezer

LN? Vapor-Phase Cryogenic Storage System

Global -150? Ultra-low Temperature Freezers Market, Segmentation by Insulation Technology:

VIP (Vacuum Insulation Panels)

PUF (Polyurethane Foam)

Global -150? Ultra-low Temperature Freezers Market, Segmentation by Cabinet Configuration:

Chest Freezer

Upright Freezer

Global -150? Ultra-low Temperature Freezers Market, Segmentation by Application:

Corporate Laboratories

Hospitals and Blood Center

Universities and Research Institutions

Other

**Companies Profiled:**

Haier Biomedical

Aucma

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Zhongke Meiling Cryogenics

PHCbi

Arctiko

Operon

Coolingway

Beijing Dexinyongjia

**Key Questions Answered:**

1. How big is the global -150? Ultra-low Temperature Freezers market?
2. What is the demand of the global -150? Ultra-low Temperature Freezers market?
3. What is the year over year growth of the global -150? Ultra-low Temperature Freezers market?
4. What is the production and production value of the global -150? Ultra-low Temperature Freezers market?
5. Who are the key producers in the global -150? Ultra-low Temperature Freezers market?
6. What are the growth factors driving the market demand?

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## 6 MARKET ANALYSIS BY INSULATION TECHNOLOGY



## 7 MARKET ANALYSIS BY CABINET CONFIGURATION

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Figure 66. Research Process and Data Source

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