

Global Liquid Nitrogen Backup System Supply, Demand and Key Producers, 2026-2032

<https://marketpublishers.com/r/GE7781CD4245EN.html>

Date: January 2026

Pages: 125

Price: US\$ 4,480.00 (Single User License)

ID: GE7781CD4245EN

Abstracts

The global Liquid Nitrogen Backup System market size is expected to reach \$ 25.46 million by 2032, rising at a market growth of 4.7% CAGR during the forecast period (2026-2032).

An liquid nitrogen backup system is an emergency cooling system for ultra-low temperature (ULT) freezers, automatically injecting liquid nitrogen (LN2) into the freezer chamber when power fails or temperatures rise, preserving critical biological samples until normal cooling is restored. It's essential for sample security, running on battery power for a period and ensuring ultra-cold conditions (like -196°C) even during outages, preventing sample loss.

Global production of liquid nitrogen backup systems is projected to reach 6,500 units by 2025, with an average price of \$2,780 per unit. Gross profit margins typically range from 30% to 50%.

Liquid nitrogen backup systems are designed to provide emergency cryogenic protection for critical equipment and samples when primary cooling or supply systems fail. Upstream supply mainly consists of basic materials and core components, including liquid nitrogen, vacuum-insulated piping, stainless steel or aluminum cryogenic vessels, valves and pressure regulation components, and sensors and control elements. The upstream value lies in low-temperature reliability, sealing performance, and stable long-term supply. Downstream applications are the main demand driver, focusing on biobanks, cell and gene therapy centers, hospitals and research institutes, pharmaceutical companies, vaccine production lines, as well as cryogenic testing in semiconductor and aerospace industries. Biobanks and hospitals prioritize automatic switchover during power outages or equipment failure, temperature stability, and

sample safety. Pharmaceutical and biotech companies emphasize GMP compliance, validation readiness, and compatibility with existing freezing or storage systems. Research institutions and advanced manufacturing users focus on system reliability, simplified maintenance, and total cost of ownership. Downstream purchasing decisions are primarily driven by risk mitigation and operational continuity, with relatively low price sensitivity.

In terms of development trends, liquid nitrogen backup systems are evolving toward higher automation, remote monitoring, and modular configurations, with increasing integration of intelligent alarms and data logging. Key growth drivers include the expansion of biobanking and biologics R&D, rapid growth of cell and gene therapy, higher tolerance requirements for sample and production continuity, and rising demand for backup solutions due to extreme weather and power instability. Constraints include high initial investment costs, strict installation and safety requirements, dependence on liquid nitrogen supply infrastructure, and limited awareness of backup system necessity among some users.

This report studies the global Liquid Nitrogen Backup System production, demand, key manufacturers, and key regions.

This report is a detailed and comprehensive analysis of the world market for Liquid Nitrogen Backup System 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 Liquid Nitrogen Backup System that contribute to its increasing demand across many markets.

Highlights and key features of the study

Global Liquid Nitrogen Backup System total production and demand, 2021-2032, (Units)

Global Liquid Nitrogen Backup System total production value, 2021-2032, (USD Million)

Global Liquid Nitrogen Backup System production by region & country, production, value, CAGR, 2021-2032, (USD Million) & (Units), (based on production site)

Global Liquid Nitrogen Backup System consumption by region & country, CAGR, 2021-2032 & (Units)

U.S. VS China: Liquid Nitrogen Backup System domestic production, consumption, key

domestic manufacturers and share

Global Liquid Nitrogen Backup System production by manufacturer, production, price, value and market share 2021-2026, (USD Million) & (Units)

Global Liquid Nitrogen Backup System production by Type, production, value, CAGR, 2021-2032, (USD Million) & (Units)

Global Liquid Nitrogen Backup System production by Application, production, value, CAGR, 2021-2032, (USD Million) & (Units)

This report profiles key players in the global Liquid Nitrogen Backup System 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 Thermo Fisher Scientific, Eppendorf, PHC Corporation, Haier Biomedical, ARCTIKO, Stirling Ultracold, Helmer Scientific, So-Low Environmental Equipment, Zhongke Meiling Cryogenics, BIOBASE, 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 Liquid Nitrogen Backup System market

Detailed Segmentation:

Each section contains quantitative market data including market by value (US\$ Millions), volume (production, consumption) & (Units) and average price (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 Liquid Nitrogen Backup System Market, By Region:

United States

China

Europe

Japan

South Korea

ASEAN

India

Rest of World

Global Liquid Nitrogen Backup System Market, Segmentation by Type:

Dewar Tank Type

Atmospheric Pressure Tank Type

Pressible Tank Type

Others

Global Liquid Nitrogen Backup System Market, Segmentation by Structure:

Mobile

Fixed

Global Liquid Nitrogen Backup System Market, Segmentation by Switching Method:

Manual Switching

Semi-Automatic Switching

Fully Automatic Switching

Global Liquid Nitrogen Backup System Market, Segmentation by Boosting Method:

Self-Pressurizing Type

External Boosting Type

Gravity Conveying Type

Vaporization Conveying Type

Global Liquid Nitrogen Backup System Market, Segmentation by Application:

Laboratory

Medical

Semiconductor

Cold Chain

Industrial Cryogenic

Companies Profiled:

Thermo Fisher Scientific

Eppendorf

PHC Corporation

Haier Biomedical

ARCTIKO

Stirling Ultracold

Helmer Scientific

So-Low Environmental Equipment

Zhongke Meiling Cryogenics

BIOBASE

Hampshire Controls

Antech Scientific

Key Questions Answered:

1. How big is the global Liquid Nitrogen Backup System market?
2. What is the demand of the global Liquid Nitrogen Backup System market?
3. What is the year over year growth of the global Liquid Nitrogen Backup System market?
4. What is the production and production value of the global Liquid Nitrogen Backup System market?
5. Who are the key producers in the global Liquid Nitrogen Backup System market?
6. What are the growth factors driving the market demand?

I would like to order

Product name: Global Liquid Nitrogen Backup System Supply, Demand and Key Producers, 2026-2032

Product link: <https://marketpublishers.com/r/GE7781CD4245EN.html>

Price: US\$ 4,480.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/GE7781CD4245EN.html>