



End-to-end Lifecycle Sample Data Management

Complete management of data, equipment logs, and other information throughout the entire storage cycle, easily retrievable.

One-click Storage Management and Access

With a user-friendly interface, inventory operations take less than 90 seconds, making storage and retrieval easier than ever before.

Storage for Various Specifications of Consumables

Supports storage of consumables in SBS standard formats including 0.5 mL, 0.75 mL, 1 mL, 2 mL, and 5 mL cryovials. Capable of storing up to 550,000 SBS 0.75 mL cryotubes.

MGI ZSM Pro Biological Sample Management System offers a reliable sample storage system, ensuring the security, accuracy, and convenience of sample data, as well as maximizing the utilization of sample resources to achieve optimal sample value. We are able to develop customized solutions based on the specific requirements of our users, providing a diverse range of options to address various scenarios.



Preserving Sample Viability at Cryogenic Temperatures

Storage in liquid nitrogen vapor environment, ensuring safe and stable sample storage below -180°C, with one-click automated inventory management.



Automated Operational Workflow

Automated robotic arm for retrieval, ensuring personnel safety by eliminating direct contact with liquid nitrogen, enhancing efficiency, simplicity, and safety.



Optimized Storage Structure

High-density freezer rack layout, compatible with mainstream SBS cryobox specifications, capable of storing up to 55,000 0.75 mL cryotubes.



Intelligent Data Management System

Built-in control system automatically reads and records sample information, saving manual inventory tasks, enabling smarter data storage.



Complete Traceability of Sample Information

Support integration with third-party systems, enabling end-to-end traceability of sample information.

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Leading Life Science Innovation

To Develop and Promote Advanced
Life Science Tools for Future Healthcare

Focus on Life Science and Bio-technology Fields



Automated Liquid Nitrogen Storage System

MGICLab-LN55K



Fully Automated Operation

Simply deposit or retrieve samples through the window, with full internal automation



Multiple Monitoring and Alarm Systems

Real-time monitoring and remote alarms for temperature, humidity, oxygen concentration, liquid nitrogen level, etc.



Storage for Consumables of Various

Supports storage of consumables in SBS standard formats including 0.5 ml, 0.75 ml, 1 ml, 2 ml, and 5 ml cryotubes



The MGICLab-LN55K automated liquid nitrogen storage system features an aviation-grade, high-vacuum, double-layer insulated container, effectively ensuring temperature uniformity and providing reliable stability and safety. Additionally, it equips with the automatic liquid nitrogen replenishment, monitoring alarms, emergency safety protection, and other cryogenic cold chain or cryogenic supply chain security measures. Even in the event of a liquid nitrogen supply interruption or other unforeseen circumstances, it can guarantee the safety of samples for over 288 hours. With full-process automation, sample storage becomes effortless.

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Automated Liquid Nitrogen Storage System

MGICLab-LN55K

The MGICLab-LN55K automated liquid nitrogen storage system is a storage-type solution that offers temperature stability, large capacity, and compatibility with various sample consumables. It effectively stores samples and meets the cryogenic storage requirements of various applications in all fields.



Storage

- **Storage Type:** The system maintains a storage temperature of -180 °C or lower inside the tank.
- **Storage Capacity:** It can store up to 55,000 tubes (based on SBS 0.75 mL standard cryotubes).
- **Storage Specifications:** The system can accommodate SBS standard format consumables such as 0.5 mL, 0.75 mL, 1 mL, 2 mL, and 5 mL cryotubes.

Safety

- Equipped with hardware modules for facial recognition, fingerprint passwords, and ID card verification.
- Equipped with UPS power supply to ensure completion of automated actions and data storage during abnormal
- Automatic liquid level detection, temperature monitoring, and over-temperature alarm.
- Sample entry and exit audit, with configurable permissions and traceable data.
- Hot Gas Bypass

Intelligence

- The biorepository management system can be integrated with HIS (Hospital Information System) and LIMS (Laboratory Information Management System).
- Real-time display of capacity and space, automatic inventory of cryobox storage status.
- Different entry templates and customizable fields can be set based on sample types.
- User-friendly human-machine interaction design, real-time display of storage status.

Intelligence

- Standard SBS cryobox full-version storage and retrieval, with continuous input and output.

Key Technical Performance Indicators

01 Stability

Hot Gas Bypass Function to Ensure Stable Internal Temperature in the Tank

02 Storage

One-click Storage and Access, Specified Sample Storage Positions, Support for System-Automated Allocation of Sample Storage Positions

07 Liquid Refilling

Compatible with Manual and Automatic Liquid Refilling Control Modes

04 Management

Integrated Sample Management System, Comprehensive Management of Sample Information including Temperature and Alarms

Categorization	Name	Performance Indicators
Product Attributes	Storage Capacity	0.75 mL SBS 55,000 Tubes
	Storage Temperature	Internal Tank Temperature ≤ -180 °C
	Static Liquid Nitrogen Consumption	≤ 15 L/D
Product Performance	In-Out Units	Achieve Whole-Box Access of Cryoboxes in SBS Standard Format
	Remote Alarms	Send Real-time Tank Temperature and Liquid Level Information via Email, SMS, or Phone
	Liquid Nitrogen Usage Time	Duration Between Each Refill ≥ 12D
	Storage Capacity Management	Real-time Display of Capacity and Space, Automatic Inventory of Cryobox Storage Status
Software Data Integration	Can be Integrated with LIMS/HIS and Other Third-party Systems	
Equipment Installation	Voltage/Frequency	220 V/50 Hz
	Weight	Empty Weight of Liquid Nitrogen Tank not exceeding 900 kg, Loaded Weight not exceeding 1200 kg
	Equipment Dimensions (W*D*H)	1500 mm * 2000 mm * 2700 mm