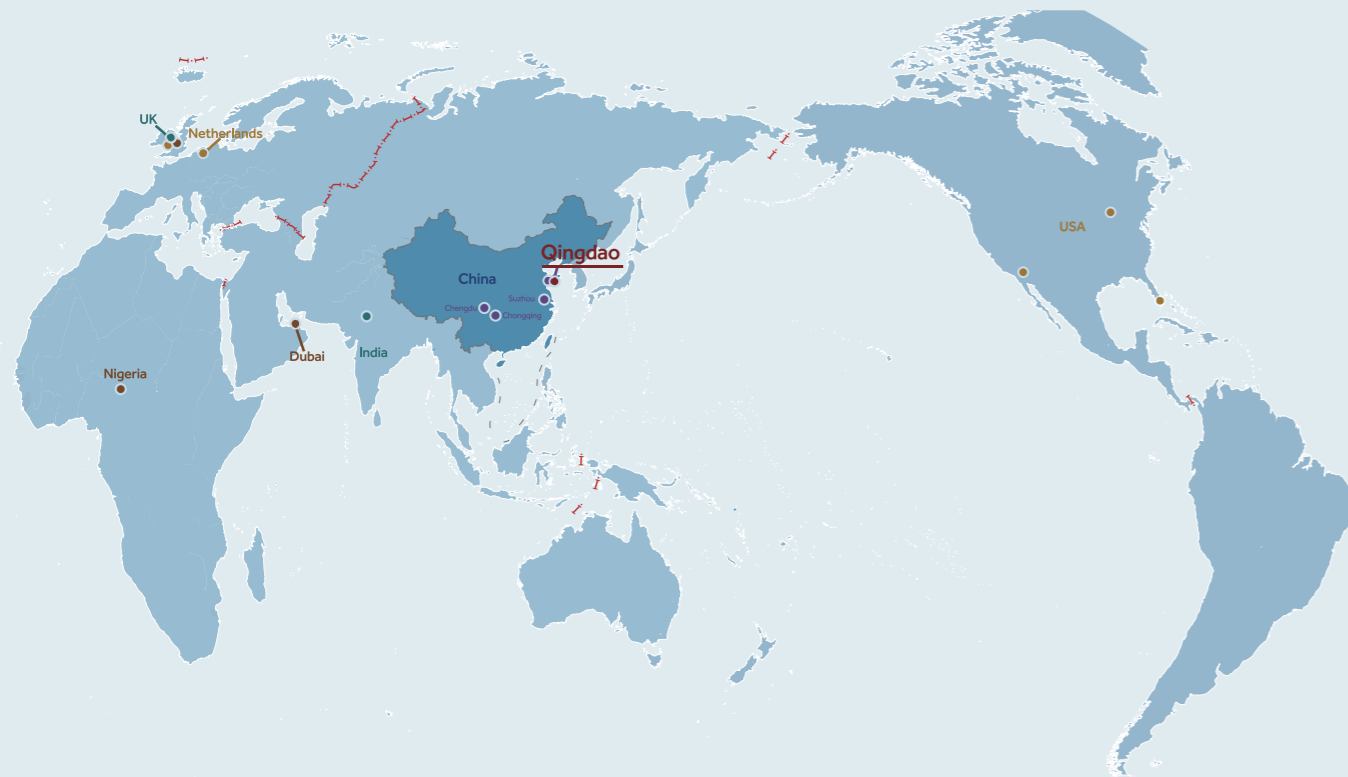


Smart Automated Biobank Solution



● Headquarter ● Global warehouse ● Training center ● Global subsidiary ● Manufacturing base



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Note: If a slight difference occurs between pictures and actual products, please refer to actual products. Our company reserves the right of final interpretation of this brochure. please contact us for any further information if required.

A person wearing a white lab coat and black gloves is using a pipette to transfer a purple liquid into a white multi-well plate. The background is a soft, out-of-focus blue. The word "CONTENT" is overlaid in large white letters on the right side of the image.

CONTENT

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-196°C Intelligent Liquid Nitrogen Biological Sample Storage System

Introduction

Haier Biomedical has utilized the principles of "personnel safety, sample safety, and equipment safety" as the foundation for their innovative creation: the -196°C intelligent liquid nitrogen biological sample storage system. This Smart Biobank system, developed through autonomous innovation, guarantees the maintenance of low temperatures to safeguard the samples throughout the entire storage process.



HSN96-46K2/K3
HSN96-24K2/K3

Product Advantages



Personnel safety

- Fully-automatic process to save time for picking single and batch samples
- Designed with advanced features that enable researchers to store and track samples with high accuracy and precision and alert researchers if any deviations occur
- One-key operation allows users to run process with zero machine contact with low temperatures
- Batch operations and sample inventory function allows users to optimize and improve efficiencies



Fully-customized service

- Bespoke design customised for your facility
- Catering to the different needs of various scenarios
- Supporting interconnection with third-party systems



Device safety

- The durable, integrated robot ensures stable operation with low failure rates to optimize work efficiency



Sample safety

Storage safety

High performance in temperature stability, guarantees the maintenance of low temperatures to safeguard the samples throughout entire process.

The storage conditions of the samples are carefully monitored through IoT technology to ensure their stability and viability over time

Sample Information security

Independently developed software is available to ensure sample safety

Real-time traceability of the sample information ensures the whole-process safety of the samples

Sample access safety

Mechanical grip mechanism accurately and efficiently picks tube to avoid errors

Each mechanical arm grip has a torque feedback function to avoid tube damage

Professional thermal-insulation drive structure ensures samples not exposed to room temperature during retrieval

The swivel design of the storage area ensures efficient access

Product Parameters

Model	HSN96-46K2	HSN96-24K2	HSN96-46K3	HSN96-24K3
Automatic access level	Single or boxed	Single or boxed	Boxed	Boxed
Storage temperature (°C)	<-180	<-180	<-180	<-180
Storage capacity (for standard SBS 2ml tubes) (Pcs)	46,000	24,000	46,000	24,000
Exterior dimensions (W*D*H) (mm)	1780*2140*2780	1540*1920*2555	1780*2140*2780	1540*1920*2555
Time required for the storage temperature to recover to -130°C (H)	≥500	≥500	≥500	≥500
Maximum liquid nitrogen capacity under the platform (L)	≥380	≥180	≥380	≥180
Compatibility (ml)	SBS, etc. 0.5/1.5/2 cryogenic tubes	SBS, etc. 0.5/1.5/2 cryogenic tubes	SBS, etc. 0.5/1.5/2 cryogenic tubes	SBS, etc. 0.5/1.5/2 cryogenic tubes

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-80°C Automated Workstation

Introduction

Our cutting-edge system offers automated storage and management solutions for a wide range of valuable biological samples, preserving them at ultra-low temperatures (-80° C). It encompasses secure sample storage, comprehensive information recording and tracking, as well as automated retrieval of individual cryogenic boxes. By facilitating information management for biobanks, it guarantees the safety, quality control, and confidentiality of the samples. Additionally, it generates detailed storage and temperature records, enabling complete traceability of the access management process from start to finish.



HSB80-29K SERIES

Product Advantages



Personnel safety

- One-key operation to access samples without manual intervention
- Zero contact and exposure to ultra low temperatures to protect users



Sample safety

- Precise sample access
Accurate sample picking ensures the right box every time, reduces the impact of freezer/thaw on inaccurate picks thus guaranteeing the integrity of precious samples
- Secure storage
Single boxes are removed from racks such that only target sample boxes leave the ultra-low temperature storage area

- Emergency sample access

It allows users to manually take out all samples through the emergency inlet and outlet when all external auxiliary cooling is down or under extreme circumstances (such as earthquake and fire) to avoid irreparable loss of samples

- Safety lock

The single automated workstation is designed with a safety lock, which can be unlocked and operated by authorized personnel only



Information safety

- Sample information management function
User-friendly interface with display and graphical sample storage information management system. The main screen displays a shelf plan layout that mirrors the storage area's structure, enabling users to quickly identify samples based on color-coded indicators. By hovering over a specific sample, users can access detailed information such as name, category, and quantity. Furthermore, the user interface facilitates seamless retrieval of sample information, providing a convenient and efficient experience
- Details query
The system supports the query of various details, such as warehousing operation, and login, as well as the browsing of related content by category. It delivers sample information tracing, log recording, timed sample delivery, inventory management, and other functions and can be connected to the LIMS system
- Only authorized users can access and log-in to the system utilizing unique user names and passwords

- Intelligent prompt function

The device provides intelligent prompts for each operation step and real-time feedback on the current operating status, reducing the probability of misoperation

- Multi-user operations

The system software supports multi-user operations and can configure roles with different permissions and add users to different role groups to implement permission management

- Sample early warning function

An early warning function allows users to set warnings such as sample storage life and low sample levels

- The compliant biological sample management system software is FDA certified and carries software product certification and grade test report certification

Product Parameters

Model	HSB80-29K SERIES
Automatic access level	Whole cryogenic box
Storage temperature (°C)	-80 ± 5
Temperature of the tube pick-up area (°C)	/
2ml (6*8SBS) (Pcs)	29,376
2ml (10*10SBS) (Pcs)	40,000
Storage medium	/
Cooling mode	Direct cooling

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Liquid Nitrogen Transfer Container

Introduction

The intelligent liquid nitrogen sample transfer container plays a vital role in ensuring the safe transfer of samples, providing an effective low-temperature environment. Leveraging IoT technology, it enables comprehensive data monitoring throughout the entire transfer process. This high-vacuum container offers long-lasting protection at ultra-low temperatures. Continuing with Haier Biomedical's design concept of prioritizing sample safety, personnel safety, and equipment safety, this container is dedicated to facilitating each sample transfer with utmost care and reliability.



HSN96-01H1

Product Parameters

Model	HSN96-01H1
Size (mm)	256*244*245
Capacity	A single SBS sample box
Empty weight (kg)	4.1±0.05
Thermal insulation performance	A storage environment below -150°C for at least 6 hours (25°C, humidity ≤50%)
Liquid nitrogen capacity (L)	2
IoT function	Temperature collection and upload and GPS positioning
Status alarm	Overtemperature, and inclination;
External interface	USB

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Intelligent Liquid Nitrogen Refilling Station

Introduction

The intelligent liquid nitrogen refilling station avoids potential risk of injury from manual handling. This station can upgrade existing systems or included with new systems.



HSN96-01T1

Product Parameters

Model	HSN96-01T1
Overall dimensions (mm)	460*548*735
Empty weight (kg)	45

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Smart Sample Consumables Management-Sample Storage Tubes

Introduction

Haier Biomedical has been engaged in sample bank construction and certification services for more than 10 years, providing professional solutions for more than 700 sample bank users around the world. Storage consumables as the basis of the sample library, sample managers have been plagued by various problems such as inconsistent standards and biosafety instability for a long time. Therefore, we start from the actual scenario of the sample library, combined with the regulations of the sample library, and developed a prefabricated frozen storage tube suitable for various use scenarios. The product has superior compatibility and scalability, and the whole process is produced in a 100,000 class GMP clean workshop. The use of medical grade certified imported raw materials to ensure high standards of biosafety, to help sample standards, safe and efficient storage and use.

Product Features



Data Redundancy

Laser etching process and three- code information integration technology are adopted to ensure the security and redundancy to provide an extra layer of protection



Compatible with Multiple Automation Platforms

Complying with ANSI/SLAS international standards, suitable for a variety of automated storage and processing equipment



Free-from Interference

Rigorous cytotoxicology-testing ensures pyrogen, RNase, DNase and endotoxins levels are less than 0.005EU/mL



Sealed and Secure

Designed and manufactured to prevent leakage at -98kpa to meet the IATA dangerous goods PI650 standard



Convenient and Comfortable

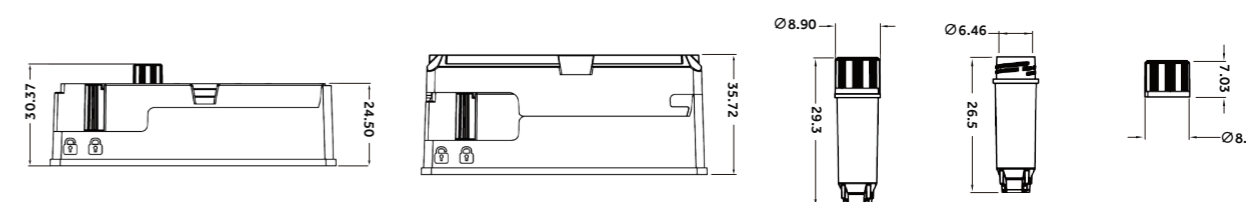
The snap design of the base is easy to use and prevents scratches after freezing

0.5ml Barcode Cryogenic Tubes



Product Parameter

Max operating capacity (ultra-low temperature)	0.5ml
The height of tube	26.50mm
The height of tube with cap	29.30mm
The height of base with cap	30.37mm
Inner diameter	6.46mm
Minimum operating temperature	-196°C



Specifications

Product Type	CAT.No.	Model No.	Product Description	Working Temperature	Unit Quantity	Package Specification
Boxed tubes	413001	H-SBS-9605-T	0.5ml (ultra-low temperature volume 0.5ml), slender, externally-threaded tube, bottom prefabricated QR code, side wall prefabricated digital code and 1D barcode; box side prefabricated digital code and 1D barcode, box bottom prefabricated QR code, 8*12 standard SBS layout.	-196-121°C	7680	96pcs/box, 80boxes/case
Bagged tubes	413006	H-SBS-9605-TS	0.5ml (ultra-low temperature volume 0.5ml), slender, externally-threaded tube, bottom prefabricated QR code, side wall prefabricated digital code and 1D barcode	-196-121°C	13200	220pcs/bag, 60bags/case
Cryopreservation box	413009	H-SBS-9605-B	Cryopreservation box, matching 0.5ml slender externally-threaded cryopreservation tube, prefabricated digital code and 1D barcode on the side of the box, prefabricated QR code at the bottom of the box, 8*12 standard SBS layout.	-196-121°C	80	80pcs/case

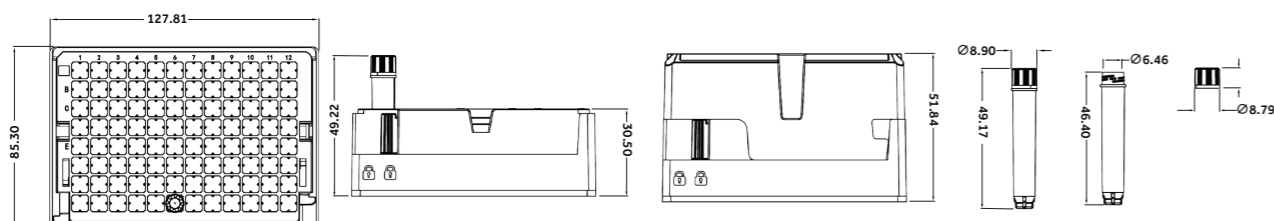
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1.0ml Barcode Cryogenic Tubes



Product Parameter

Max operating capacity (ultra-low temperature)	1.0ml
The height of tube	46.40mm
The height of tube with cap	49.17mm
The height of base with cap	49.22mm
Inner diameter	6.46mm
Minimum operating temperature	-196°C



Specifications

Product Type	CAT.No.	Model No.	Product Description	Working Temperature	Unit Quantity	Package Specification
Boxed tubes	413003	H-SBS-9610-T	1.0ml (ultra-low temperature volume 1.0ml), slender, externally-threaded tube, bottom prefabricated QR code, side wall prefabricated digital code and 1D barcode; box side prefabricated digital code and 1D barcode; box bottom prefabricated QR code, 8*12 standard SBS layout.	-196-121°C	4800	96pcs/box, 50 boxes/case
Bagged tubes	413007	H-SBS-9610-TS	1.0ml (ultra-low temperature volume 1.0ml), slender, externally-threaded tube, bottom prefabricated QR code, side wall prefabricated digital code and 1D barcode	-196-121°C	6000	150 pcs/bag, 40bags/case
Cryopreservation box	413011	H-SBS-9610-B	Cryopreservation box, matching 1.0ml slender externally-threaded cryopreservation tube, prefabricated digital code and 1D barcode on the side of the box, prefabricated QR code at the bottom of the box, 8*12 standard SBS layout.	-196-121°C	50	50pcs/case

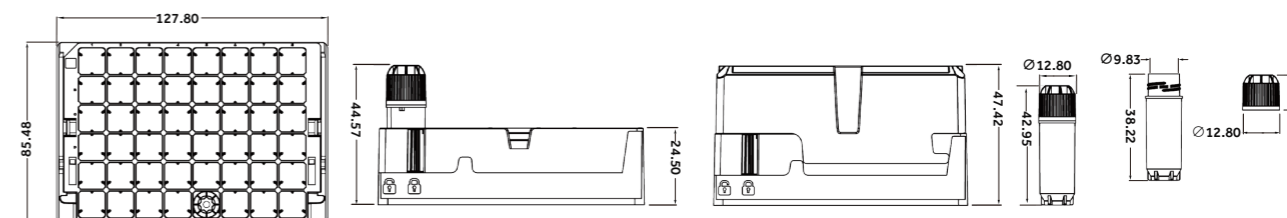
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2.0ml Barcode Cryogenic Tubes



Product Parameter

Max operating capacity (ultra-low temperature)	1.9ml
The height of tube	38.22mm
The height of tube with cap	42.95mm
The height of base with cap	44.57mm
Inner diameter	9.83mm
Minimum operating temperature	-196°C



Specifications

Product Type	CAT.No.	Model No.	Product Description	Working Temperature	Unit Quantity	Package Specification
Boxed tubes	413008	H-SBS-4820-T	2.0ml (ultra-low temperature volume 1.9ml), slender, externally-threaded tube, bottom prefabricated QR code, side wall prefabricated digital code and 1D barcode	-196-121°C	2400	48pcs/box, 50boxes/case
Bagged tubes	413012	H-SBS-4820-TS	2.0ml (ultra-low temperature volume 1.9ml), slender, externally-threaded tube, bottom prefabricated QR code, side wall prefabricated digital code and 1D barcode	-196-121°C	3500	70pcs/bag, 40bags/case
Cryopreservation box	413013	H-SBS-4820-B	Cryopreservation box, matching 2.0ml slender externally-threaded cryopreservation tube, prefabricated digital code and 1D barcode on the side of the box, prefabricated QR code at the bottom of the box, 10*10 standard SBS layout.	-196-121°C	50	50pcs/case

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