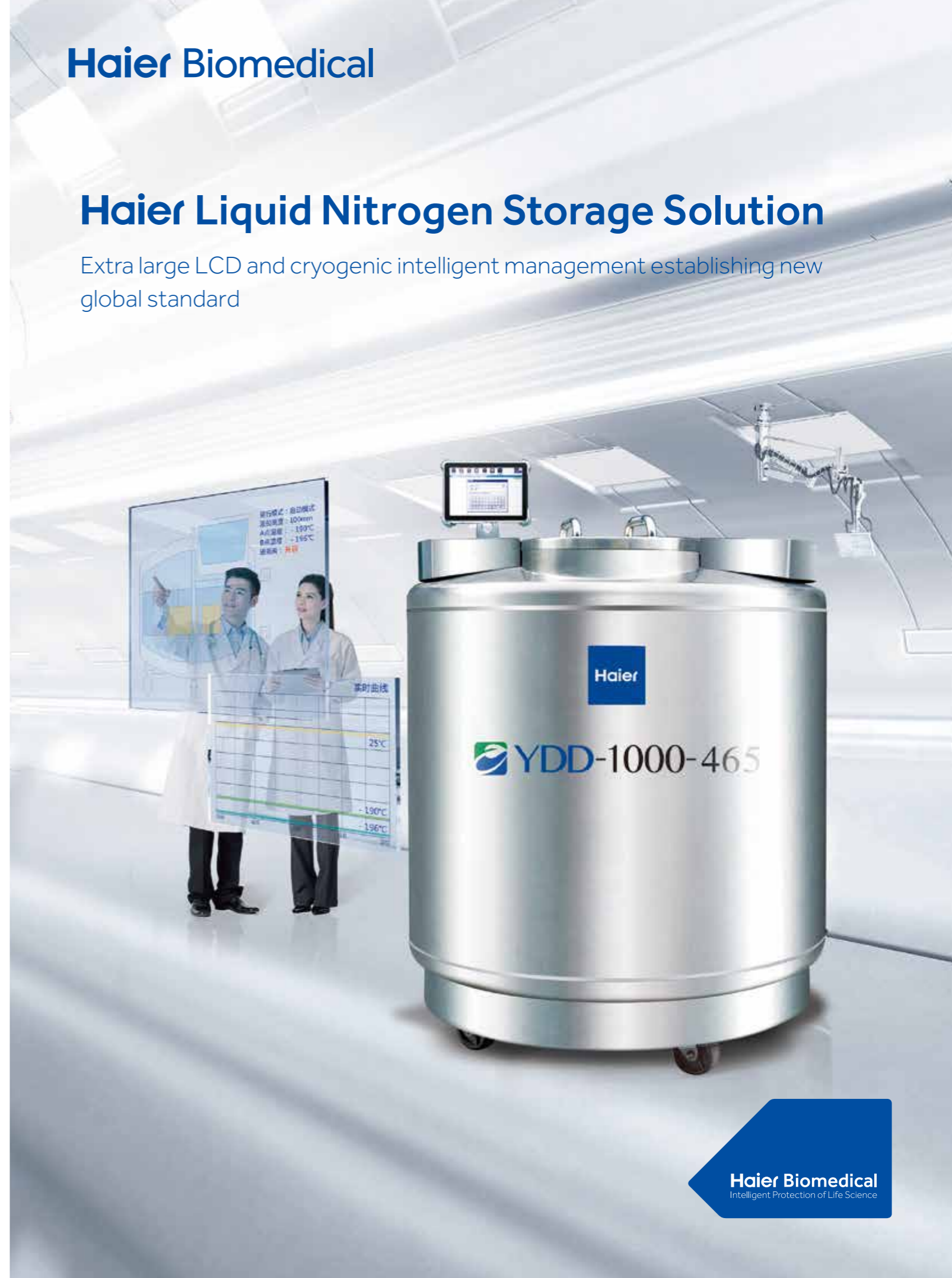


# Haier Biomedical

## Haier Liquid Nitrogen Storage Solution

Extra large LCD and cryogenic intelligent management establishing new global standard



2019-05

**Qingdao Haier Biomedical Co.,Ltd.**

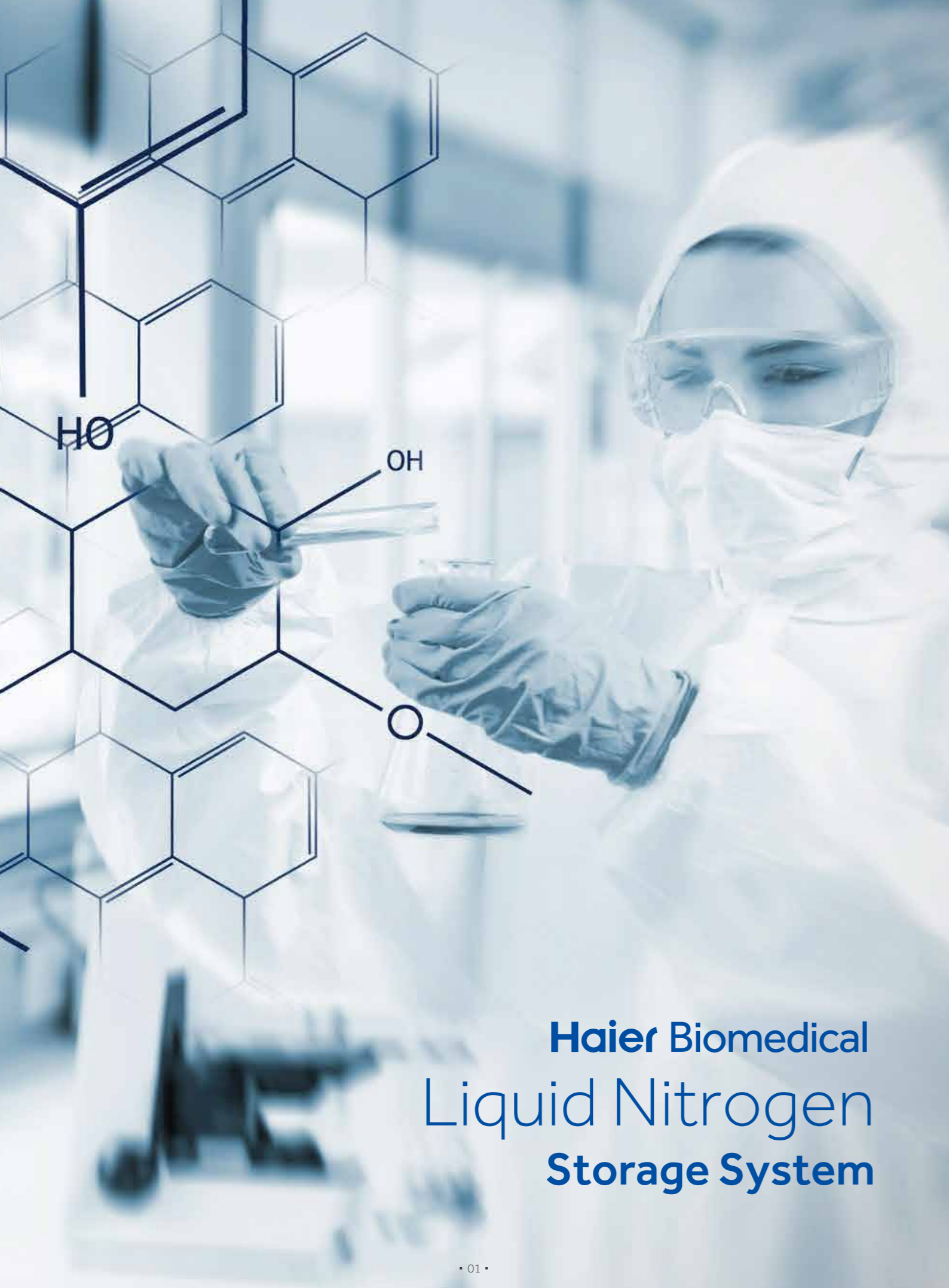
Brand Building, Haier Industrial Park, No. 1  
Haier Road, Qingdao, 266101, P.R.China  
Tel: +86-0532-88936011 / 5955  
Website: [www.haiermedical.com](http://www.haiermedical.com)



Note: If slight difference occurs between pictures and actual products, please refer to actual products. Our company reserves the right of final interpretation to this brochure and please contact with us for future information you might need.



**Haier Biomedical**  
Intelligent Protection of Life Science



# Haier Biomedical Liquid Nitrogen Storage System

## Directory

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# Haier Liquid Nitrogen Storage System Smart Series

IoT and Cloud Management

Multiple Level of Protections

Low Energy Consumption

Temperature and Fluid  
Level Display

New Appearance

High Performance Stability

New Lock Design



## Smart Series

### Introduction

**Simultaneous monitoring of temperature and fluid level completed with smart, IoT and cloud management**

Aluminum alloy biological storage container cooled by liquid nitrogen (LN2) simultaneous monitoring of temperature and fluid level for ultimate sample safety.

Storage temperature and LN2 fluid level are automatically and independently monitored with a high precision controller. Accurate and real-time information on the two critical parameters are available to ensure sample safety. Measurement with rulers and manual temperature device is no longer needed.

### Key Features

- 5 models from 2400 to 6000 cryovial capacity
- 5 years vacuum warranty
- Durable aluminum construction
- Real time monitor of temperature and fluid level
- Cloud data storage for traceability
- Low consumption rate and high performance stability
- New lock design

### Product Advantages

#### Color identification for pickup tool handle

Pickup tool handles are color coded for ease of separating storage zones and managing samples.



#### New lock design

Special and dedicated lock design is to assure sample safety.



#### Dual monitoring respectively for temperature and liquid level

Storage temperature and liquid level are automatically monitored by a high precision controller. Accurate and real-time information on the two parameters are available to ensure sample safety.



#### Multilayer protection for extreme safety

Temperature and fluid level are monitored in real time to safeguard the storage environment. Alarms can be transmitted through email, IM and wechat.

#### Cloud data storage for traceability

Temperature and fluid level data can be transmitted to Haier's IoT platform for permanent storage. All data are traceable and permanently stored.

#### Low consumption rate and high performance stability

The container is built with an automated process to ensure a high quality and a high vacuum. Stable performance and low consumption rate are achieved.





## Technical Parameters

Model	YDS-65-216-FZ	YDS-95-216-FZ	YDS-115-216-FZ	YDS-145-216-FZ	YDS-175-216-FZ
<b>Maximum Storage Volume</b>					
No. of canister	6	6	6	6	6
2ML storage vials (100/box)	2400	3000	3600	4800	6000
Layers in pickup barrel	4	5	6	8	10
5ML storage vials (81/box)	972	972	1458	1944	2430
Layers in pickup barrel	2	2	3	4	5
<b>Function</b>					
Liquid Nitrogen volume (L)	65	95	115	140	175
Static evaporation rate (%/d)	0.78	0.81	0.83	0.87	0.87
Effective volume (L)	55	85	105	130	165
Duration of normal operation (day)	44	66	80	94	126
<b>Dimensions</b>					
Mouth (MM)	216	216	216	216	216
Overall height (MM)	765	790	870	960	1060
Overall Diameter (MM)	681	681	681	681	681
Empty container weight (KG)	38.5	41.3	42.3	48.9	53.8
Full container weight (KG)	80.8	112.4	132.8	157.3	198.5

Note: Static evaporation rate is a theoretical LN<sub>2</sub> loss rate. Actual evaporation rate and duration of operation will depend on the usage condition and ambient. The duration of normal operation is a reference number for a typical usage of a container system at normal conditions. The actual duration varies with loading, ambient and age of the equipment.

## Haier Liquid Nitrogen Storage System Biobank Series

LN<sub>2</sub> Splash Proof

Self Diagnostic

Data Logging

"Dry" Sample Storage

Quick Chill

Lockable Lid

Rapid Specimen Storage

Liquid or Vapor Phase Storage

5 Year Vacuum Warranty

One-touch Defogging

From 13000 to 94875 Cryovials



# Biobank Series

## Introduction

Biobank Series is designed to ensure the maximum storage capacity with the minimum consumption of liquid nitrogen to lower the overall cost of operation.

## Key Features

- Massive capacity between 13000 to 94875×2ml Vials
- Vapor phase storage is the only guaranteed method to prevent cross-contamination
- Vapor phase storage at -190°C
- 5 years vacuum warranty
- One-touch defogging for easier access
- LN<sub>2</sub> splash proof ensures a safer operation
- Biobank storage compatible

## Product Advantages

### Optimal Use of Storage Space

Racks are stored on the rotating tray with an appropriate distance from the wall of the chamber. Liquid nitrogen or supercooled nitrogen vapor is filled in the space between the tray and the wall to maintain temperature uniformity. Storage space is equally divided into four or six fan-shaped storage rooms which are clearly labeled. Each storage room is easily rotated to the opening of the tank for convenient sample access.



### Designed for Both Liquid and Vapor Phase Storages

Each model of Biobank Series is designed for both liquid and vapor phase storages. For vapor phase storage, samples are kept away from the liquid nitrogen while stored in a uniform temperature that is close to the temperature range of liquid nitrogen.

### Advanced Vacuum Technology and Superinsulation Technology

Haier Liquid Nitrogen Storage System Biobank Series applies advanced vacuum technology and superinsulation technology to ensure storage safety and temperature uniformity while reducing the consumption of liquid nitrogen. The temperature difference of the entire storage area does not exceed 10°C even in vapor phase storage. Temperature near the top of the shelf is as low as -190°C.

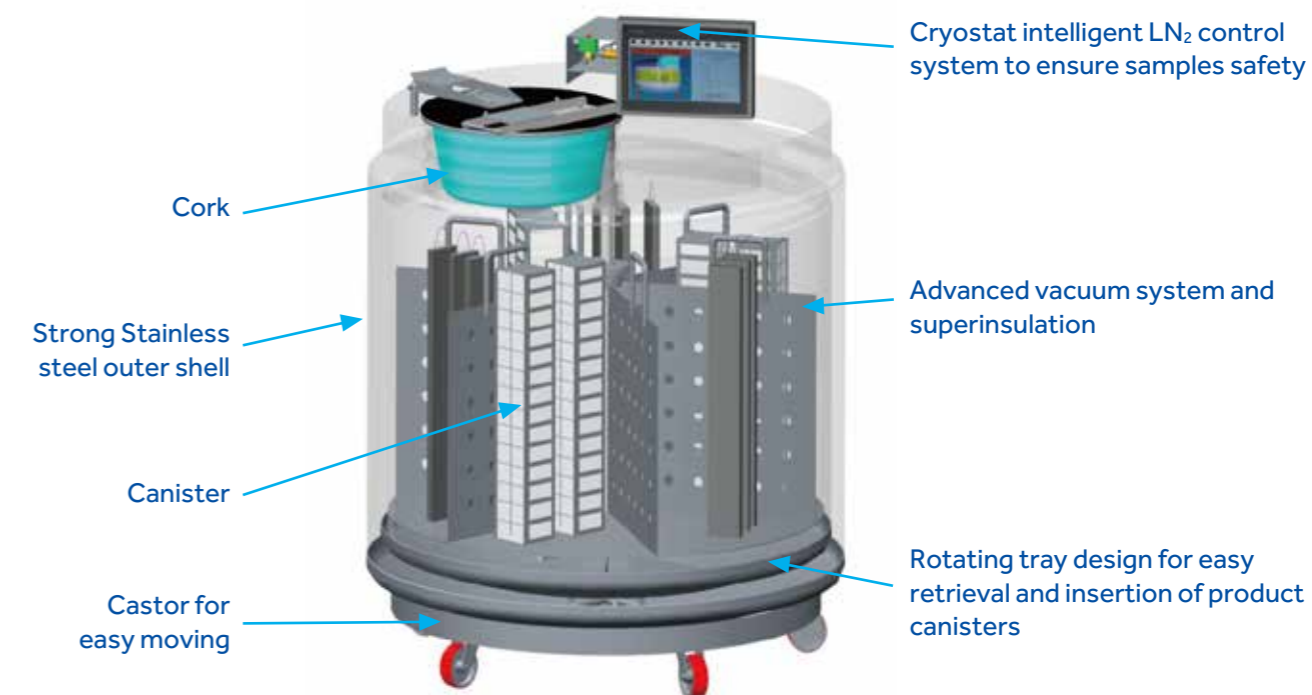
### Cryosmart Intelligent Liquid Nitrogen Control System

Haier Liquid Nitrogen Storage System Biobank Series features Cryosmart system for complete monitoring and controlling. High-precision temperature and liquid level sensors are used to ensure accuracy. All data and samples are protected by a secure access control system.



## Product Details

### Product structure



### Top of the Container



### Lid Open



A Low-temperature hose connects the inlet and a liquid nitrogen tank for supplement. A silencer reduces the noise of nitrogen emission for a quiet environment.



Vapor condensation near the container opening is controlled. The strength of the container is reinforced at liquid nitrogen temperature to extend service life.



Small self-pressurized liquid nitrogen supply system suitable for research institutes to handle fewer samples.

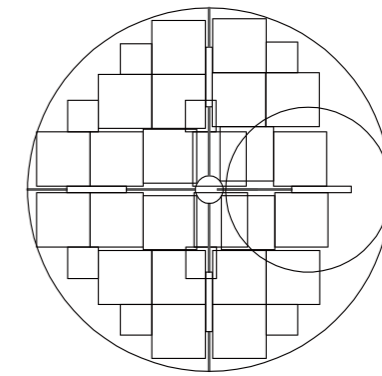
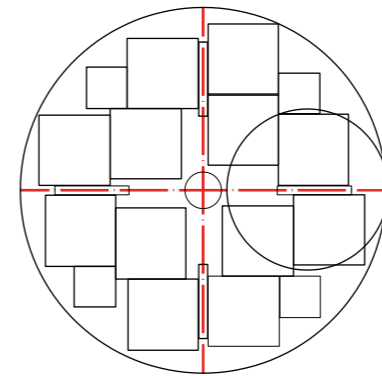


### Square Canister&Racks Layout

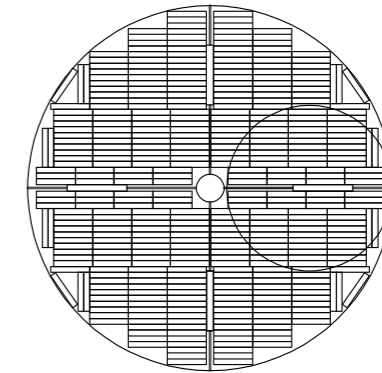
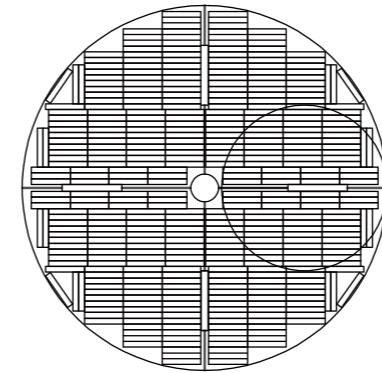
YDD-350-326

YDD-550-445

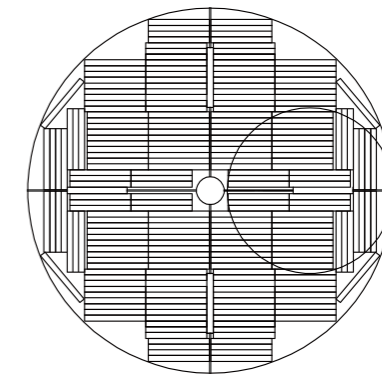
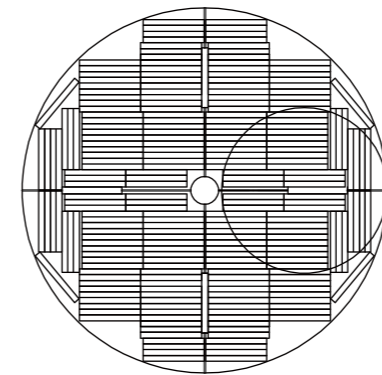
Holders



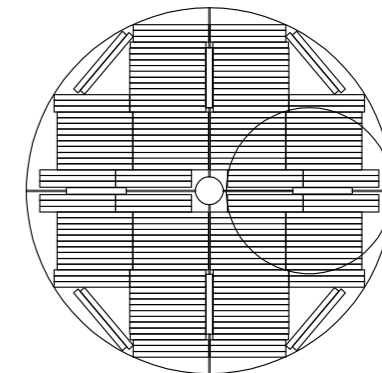
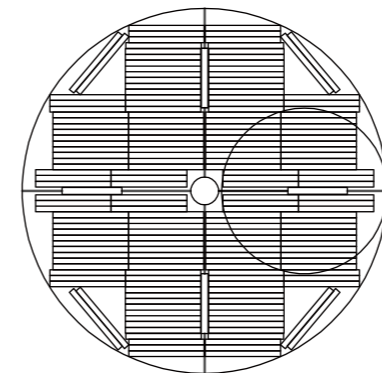
25 ml Racks



50 ml Racks

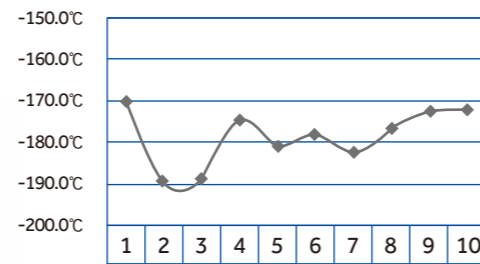
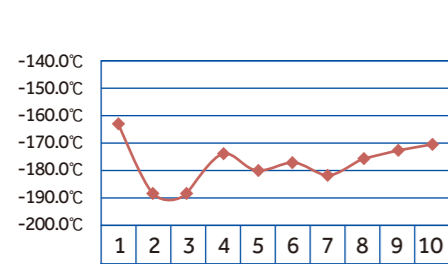


250 ml Racks



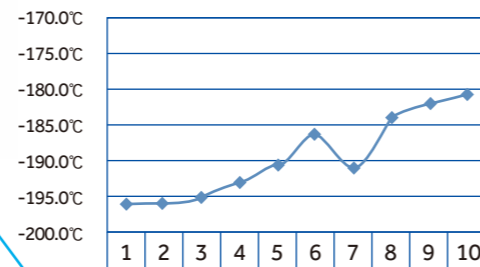
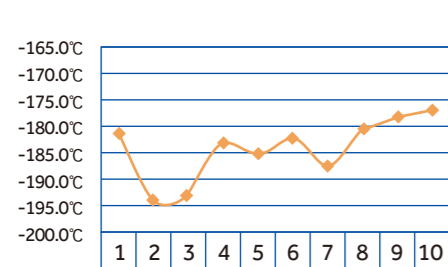
### Temperature Graph

10 times testing data within 5 days



Testing point at the opening neck

Testing point 200mm from the opening neck



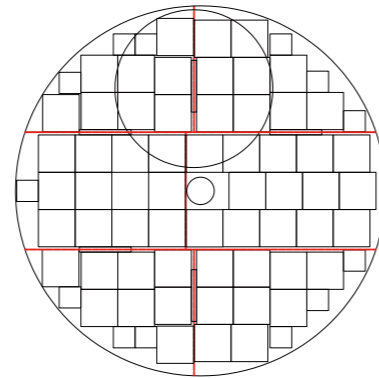
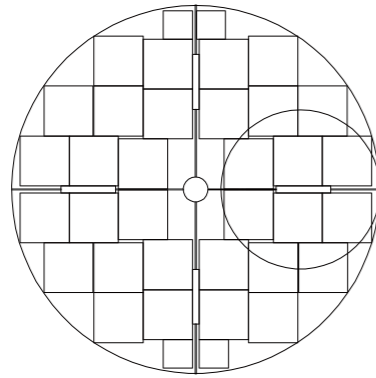
Testing point 400mm from the opening neck

Testing point at rotating tray

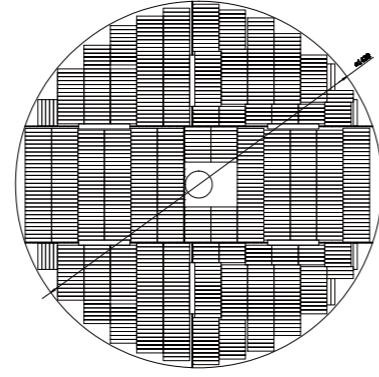
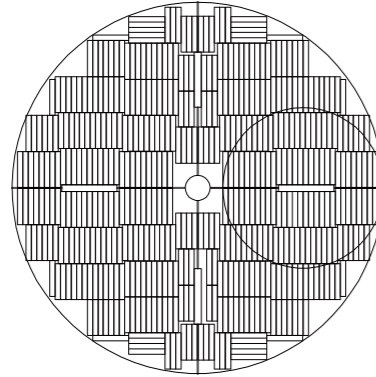
YDD-850-465

YDD-1800-635

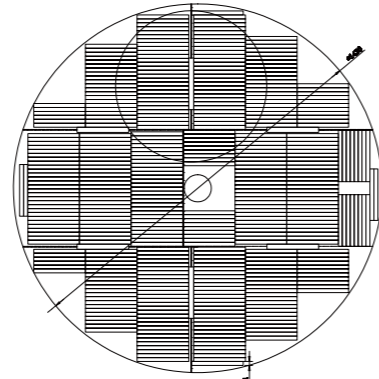
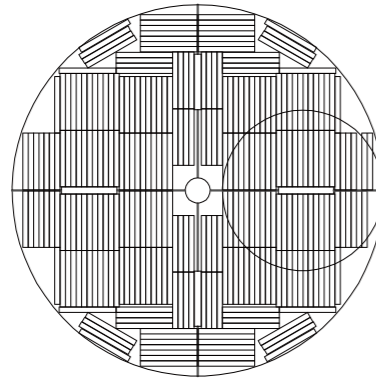
Holders



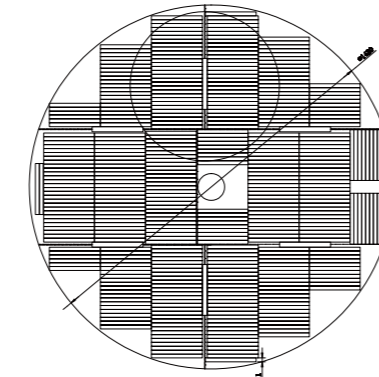
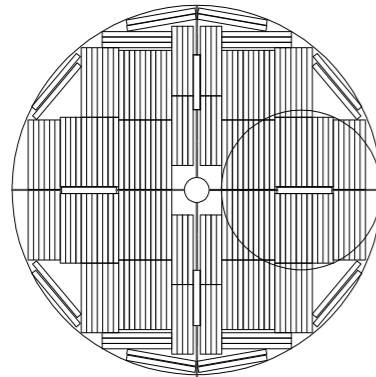
25 ml Racks



50 ml Racks



250 ml Racks



### Technical Parameters

Model	YDD-350-326	YDD-550-445	YDD-750-445	YDD-850-465	YDD-1000-465	YDD-1300-635	YDD-1600-635	YDD-1800-635
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#### Maximum Storage Capacity

2 ml Vials (Internal Thread)	13000	26000	36400	42900	49500	58500	76050	94875
Freeze Rack (100 wells)	12	24	24	32	32	54	54	60
Freeze Rack (25 wells)	4	8	8	4	4	18	18	13
Layers of each rack	10	10	14	13	15	10	13	15
0.5 ml Vials (Internal Thread)	16900	33800	49400	56100	66000	81900	99450	126500
Freeze Rack (100 wells)	12	24	24	32	32	54	54	60
Freeze Rack (25 wells)	4	8	8	4	4	18	18	13
Layers of each rack	13	13	19	17	20	14	18	20

#### Performance

Volume of LN <sub>2</sub> (L)	350	587	783	890	1014	1340	1660	1880
Volume of LN <sub>2</sub> under the tray (L)	55	80	80	135	135	265	300	320
Static Evaporation(L/Day)	≤4	≤8	≤9	≤8	≤8	≤8	≤10.5	≤12.5

#### Dimensions

Inside Neck Diameter (MM)	326	445	445	465	465	635	635	635
Height (MM)	1180	1266	1591	1559	1704	1398	1589	1883
Operating Height (MM)	1200	1321	1216	980	950	997	967	1097
Outside Diameter (MM)	875	1104	1104	1190	1190	1565	1565	1565
Door Width Requirement (MM)	1000	1124	1124	1210	1210	1585	1585	1585
Empty Weight (KG)	219	328	372	441	495	851	914	984
Gross Weight (KG)	490	802	1005	1160	1314	1934	2255	2504

#### Blood bag capacity

Model	YDD-350-326			YDD-550-445			YDD-750-445			YDD-850-465			YDD-1000-465			YDD-1300-635			YDD-1600-635			YDD-1800-635		
	Total No. of Bags	Rack No. of Layers	No. of Racks	Total No. of Bags	Rack No. of Layers	No. of Racks	Total No. of Bags	Rack No. of Layers	No. of Racks	Total No. of Bags	Rack No. of Layers	No. of Racks	Total No. of Bags	Rack No. of Layers	No. of Racks	Total No. of Bags	Rack No. of Layers	No. of Racks	Total No. of Bags	Rack No. of Layers	No. of Racks	Total No. of Bags	Rack No. of Layers	No. of Racks
25 ml	1296	7	216	2376	6	396	3168	8	396	3360	7	480	4320	9	480	4716	6	786	5502	7	786	7758	9	862
50 ml	792	7	132	1416	6	236	1888	8	236	2072	7	296	2664	9	296	2916	6	486	3402	7	486	4905	9	545
250 ml	300	4	100	552	3	184	920	5	184	944	4	236	1180	5	236	1170	3	390	1950	5	390	2095	5	419
500 ml (DF200)	168	4	56	336	3	112	560	5	112	544	4	136	680	5	136	666	3	222	888	4	222	1290	5	258
500 ml (4R9955)	192	4	64	408	3	136	680	5	136	640	4	160	800	5	160	828	3	276	1380	5	276	1520	5	304
700 ml	96	4	32	204	3	68	272	4	68	320	4	80	400	5	80	396	3	132	528	4	132	775	5	155



# Haier Liquid Nitrogen Storage System

## Medical Series

5 Year Vacuum Warranty

Cryobox Storage

High Thermal Efficiency

Liquid and Vapor Storage

Durability

Auto Fill

Security



## Medical Series

### Introduction

Medical Series features low LN<sub>2</sub> consumption and relatively small footprint for medium capacity sample storage.

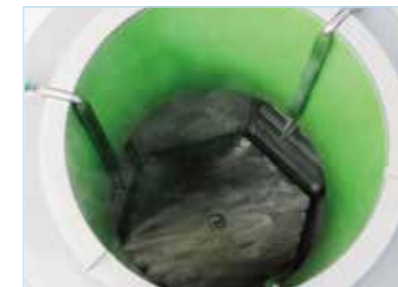
### Key Features

- Heavy duty lockable enclosure offers excellent security
- Compatible with all major cryobox brands
- Durable aluminium construction
- Temperature data-logging monitoring available
- Liquid or vapor phase option available
- High thermal efficiency
- 5 year vacuum warranty
- Ultra-low evaporation Loss

### Product Advantages

#### ULT Storage with Extremely Low LN<sub>2</sub> Evaporation Loss

Freezer racks are in the ultra-low temperature environment with extremely low LN<sub>2</sub> evaporation. Even stored in vapor phase, the temperature will be below -190°C for a long time.



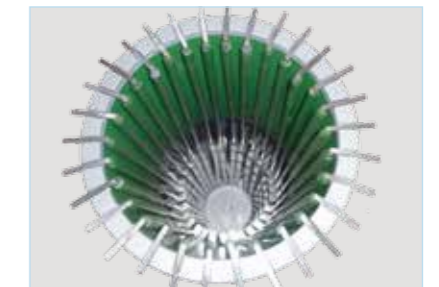
#### Advanced Vacuum Technology and Superinsulation Technology

Advanced vacuum and insulation technologies ensure cryopreservation for as long as four months.



#### Compatible for Blood Bag Storage

Based on application requirements, medical series can be adapted to LN<sub>2</sub> tanks for temporary storage of blood bags before they are transferred to a larger LN<sub>2</sub> storage tank.



#### Level and Temperature Monitor

Liquid level monitor tracks LN<sub>2</sub> liquid level and temperature continuously and reliably inside the tank and informs users to refill LN<sub>2</sub>. It is suitable for institutes requiring long time cryopreservation.

Three models (ZTC-100A/100B/100C) are available.

The monitor offers real-time temperature and LN<sub>2</sub> liquid level display, and audible/visual alarms for high temperature, sensor failure, and low liquid level.





### Technical Parameters

Model	YDS-65-216	YDS-65-216-F	YDS-95-216	YDS-95-216-F	YDS-115-216	YDS-115-216-F	YDS-140-216	YDS-140-216-F	YDS-175-216	YDS-175-216-F
<b>Maximum Storage Capacity</b>										
No. of holders	-	6	-	6	-	6	-	6	-	6
No. 2.0 ml Cryovials (100 / box)	-	2400	-	3000	-	3600	-	4800	-	6000
No. of boxes in (2ml each holder)	-	4	-	5	-	6	-	8	-	10
No. 5.0 ml Cryovials (36 / box)	-	648	-	864	-	1080	-	1296	-	1728
No. of boxes in (5ml each holder)	-	3	-	4	-	5	-	6	-	8
<b>Performance</b>										
Volume of LN <sub>2</sub> (L)	65	65	95	95	115	115	140	140	175	175
Static Evaporation Rate* (L/Day)	0.79	0.79	0.81	0.81	0.83	0.83	0.87	0.87	0.87	0.87
Working Volume (L)	55	55	85	85	105	105	130	130	165	165
Duration of Normal Operation** (Day)	44	44	66	66	80	80	94	94	126	126
<b>Dimensions</b>										
Neck Opening Diameter (MM)	216	216	216	216	216	216	216	216	216	216
Height(MM)	710	710	726	726	796	796	910	910	1026	1026
Outer Diameter(MM)	681	681	681	681	681	681	681	681	681	681
Empty Weight(KG)	27.5	27.5	34.5	34.5	38.5	38.5	42.5	42.5	55	55
Gross Weight(KG)	80.8	80.8	112.4	112.4	132.8	132.8	157.3	157.3	198.5	198.5

\* Static evaporation and static holding time are theoretical values. Actual evaporation and holding time are affected by usage, atmospheric conditions, and manufacturing tolerances.

\*\* Duration of normal operation is for reference only to estimate container performance under normal operating conditions. Actual duration may differ due to different atmospheric conditions, usage history, manufacturing tolerances, and particular circumstances.

### Accessories

<p>Caster Base</p> 	<p>Square Rack</p> 	<p>Cryogenic Box</p> 
<p>216 Diameter Lock Cap</p> 	<p>5 ml Customized Holder</p> 	<p>5 ml Customized Cryogenic Box</p> 

## Haier Liquid Nitrogen Storage System

### LAB Series

5 Year Vacuum Warranty

Durability

High Thermal Efficiency

Security

Strong and Lightweight

Super-Insulation

30 Litre to 50 Litre Capacity

Ideal for Lab Applications



# LAB Series

## Introduction

Widely used in laboratories around the world.

## Key Features

- Heavy duty lockable enclosure offers excellent security
- Strong, lightweight aluminium construction
- Dual handles
- Temperature data-logging monitoring available
- Roller bases available
- High thermal efficiency
- 5 year vacuum warranty
- Ultra-low LN<sub>2</sub> evaporation loss

## Product Advantages

### Low LN<sub>2</sub> consumption and small storage capacity

Haier LAB Series Liquid Nitrogen Storage System features low LN<sub>2</sub> consumption and small storage capacity for laboratory applications. The light weight tanks require smaller space while provide efficient small capacity cryogenic storage.

### Advanced Vacuum Technology and Super-insulation Technology

Advanced vacuum and insulation technologies provide ultra-low liquid nitrogen evaporation loss and ensure three months cryogenic storage.

### Three Models Available

LAB Series offers three models with different capacity from 600, 750 to 1100 standard 2 ml cryovials. All models are supplied with stainless steel holders and cryogenic boxes.



## Technical Parameters

Model	YDS-30-125-F	YDS-35-125-F	YDS-47-127-6YS
<b>Maximum Storage Capacity</b>			
No. of holders	6	6	6
1.2&2 ml Cryovials (25 per box)	600	750	1110
No. of boxes in (holder)	4	5	5
<b>Performance</b>			
Volume of LN <sub>2</sub> (L)	31.5	35	47
Static Evaporation* (L/Day)	0.28	0.29	0.33
Working Volume	31.5	35	47
Duration of Normal Operation** (Day)	71	76	130
<b>Dimensions</b>			
Opening Diameter(MM)	125	125	127
Height(MM)	659	700	718
Outside Diameter(MM)	461	461	508
Empty Weight(KG)	14.3	14.5	18.2
Gross Weight(KG)	38.9	43.2	53.9

\* Static evaporation and static holding time are theoretical values. Actual evaporation and holding time are affected by usage, atmospheric conditions, and manufacturing tolerances.

\*\* Duration of normal operation is for reference only to estimate container performance under normal operating conditions. Actual duration may differ due to different atmospheric conditions, usage history, manufacturing tolerances, and particular circumstances.

## Accessories



# SmartCap

## Product description

SmartCap is a low energy consumption IoT-based module that can monitor liquid nitrogen level and temperature in a liquid nitrogen tank. It is suitable for aluminum alloy liquid nitrogen tanks with opening port size of 50 mm, 80 mm, 125 mm, 216 mm. The built-in high efficiency lithium battery can operate the device for more than two years. After the SmartCap collects liquid level data and temperature data, it transmits the information via 2.4G wirelessly at a fixed frequency of 10 minutes time interval to a data interrupter for storage.



SmartCap

## Product characteristics



Independent, high accuracy measuring system for liquid level and temperature



Real time display of fluid level and temperature, alarm setting via phone message, email, and wechat



Wirelessly transmission of fluid level and temperature data to a data interrupter



Fluid level and temperature data uploaded remotely to cloud terminals for recording, printing, and storage



Built-in high efficiency lithium battery for longevity

## Haier Monitoring and management system platform



SmartCap



Smart Box



Intelligent cloud platform for data monitoring, recording and storage

# Haier Liquid Nitrogen Storage System

## BIO Series

Numbered Index Canister Locations

LN<sub>2</sub> Dispenser

High Capacity

Straws

High Thermal Efficiency

Lockable

5 Year Vacuum Warranty

Roller Bases

Extended Hold Time





# BIO Series

## Introduction

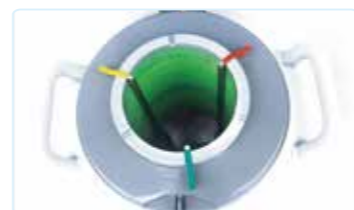
BIO Series provides two cryopreservation solutions for long-term static storage and transportation of biological samples.

## Key Features

- Strong and lightweight aluminium construction
- Heavy duty lockable enclosure offers excellent security
- Numbered index location points for canisters
- Straw storage
- LN<sub>2</sub> dispense available
- Roller bases available
- High thermal efficiency
- 5 year vacuum warranty
- Ultra-low evaporation loss

## Product Advantages

Narrow neck design and excellent thermal conductivity reduce evaporation loss of liquid nitrogen for extended storage time.



Large-capacity models have wider necks for easy access to biological samples.



Long-term cryopreservation models have narrower necks with less heat intrusion.

## Technical Parameters

	Model	YDS-2-30	YDS-3	YDS-6	YDS-10	YDS-10-80
Maximum Capacity	No. of Canister	3 (3)	6 (0)	6 (0)	6 (0)	6 (0)
	No. of Straws (Single Layer) (0.5ml each holder)	90	792	792	792	2040
	No. of Straws (Single Layer) (0.25ml each holder)	204	1788	1788	1788	4554
	No. of Straws (Double Layer) (0.5ml each holder)	—	—	—	—	—
	No. of Straws (Double Layer) (0.25ml each holder)	—	—	—	—	—
Performance	Volume of LN <sub>2</sub> (L)	2	3.15	6	10	10
	Static Evaporation* (L/Day)	0.06	0.10	0.10	0.10	0.18
	Duration of Normal Operation** (Day)	21	20	38	63	35
Dimensions	Opening Diameter(MM)	30	50	50	50	80
	Height(MM)	378	429	476	536	540
	Outside Diameter(MM)	224	224	300	300	300
	Canister Outside Diameter (MM)	19	38	38	38	63
	Outside Height(MM)	120	120	120	120	120
	Empty Weight(KG)	2.9	3.5	5	6.3	6.5
	Gross Weight(KG)	4.5	6	9.9	14.5	14.7

	Model	YDS-10-125	YDS-13	YDS-15	YDS-20	YDS-30
Maximum Capacity	No. of Canister	1 (0)	6 (0)	6 (0)	6 (0)	6 (0)
	No. of Straws (Single Layer) (0.5ml each holder)	—	—	792	792	792
	No. of Straws (Single Layer) (0.25ml each holder)	—	—	1788	1788	1788
	No. of Straws (Double Layer) (0.5ml each holder)	1508	1284	—	1284	1284
	No. of Straws (Double Layer) (0.25ml each holder)	3324	2832	—	2832	2832
Performance	Volume of LN <sub>2</sub> (L)	10	13	15	20	30
	Static Evaporation* (L/Day)	0.30	0.10	0.10	0.10	0.11
	Duration of Normal Operation** (Day)	21	82	94	126	172
Dimensions	Opening Diameter(MM)	125	50	50	50	50
	Height(MM)	546	610	575	656	655
	Outside Diameter(MM)	300	310	394	394	461
	Canister Outside Diameter (MM)	97	38	38	38	38
	Outside Height(MM)	120	276	120	120/276	120/276
	Empty Weight(KG)	6.9	6.6	8.2	11.7	12
	Gross Weight(KG)	15.1	17.3	20.5	28.1	36.6

	Model	YDS-30-80	YDS-30-125	YDS-35	YDS-35-80	YDS-35-125	YDS-47-127
Maximum Capacity	No. of Canister	6 (0)	6 (0)	6 (0)	6 (0)	6 (0)	10 (10)
	No. of Straws (Single Layer) (0.5ml each holder)	2244	5124	792	2244	5124	4310
	No. of Straws (Single Layer) (0.25ml each holder)	5022	11952	1788	5022	11952	10320
	No. of Straws (Double Layer) (0.5ml each holder)	3624	9048	1284	3624	9048	8200
	No. of Straws (Double Layer) (0.25ml each holder)	8460	19944	2832	8460	19944	17810
Performance	Volume of LN <sub>2</sub> (L)	30	30	35	35	35	47
	Static Evaporation* (L/Day)	0.18	0.28	0.11	0.19	0.29	0.33
	Duration of Normal Operation** (Day)	105	67	200	116	76	90
Dimensions	Opening Diameter(MM)	80	125	50	80	125	127
	Height(MM)	655	659	695	698	700	718
	Outside Diameter(MM)	461	461	461	461	461	508
	Canister Outside Diameter (MM)	63	97	38	63	97	97
	Outside Height(MM)	120/276	120	120/276	120/276	120/276	276
	Empty Weight(KG)	12.4	14.3	14	14.2	14.5	15.4
	Gross Weight(KG)	37	38.9	42.7	42.9	43.2	54

Model	YDS-20B	YDS-30B	YDS-35B	
Maximum Capacity	No. of Canister	6 (0)	6 (0)	6 (0)
	No. of Straws (Single Layer) (0.5ml each holder)	792	792	792
	No. of Straws (Single Layer) (0.25ml each holder)	1788	1788	1788
	No. of Straws (Double Layer) (0.5ml each holder)	1284	1284	1284
	No. of Straws (Double Layer) (0.25ml each holder)	2832	2832	2832
Performance	Volume of LN <sub>2</sub> (L)	20	30	35
	Static Evaporation* (L/Day)	0.18	0.17	0.17
	Duration of Normal Operation** (Day)	70	111	129
Dimensions	Opening Diameter(MM)	50	50	50
	Height(MM)	656	656	695
	Outside Diameter(MM)	394	461	461
	Canister Outside Diameter(MM)	38	38	38
	Outside Height(MM)	120/276	120/276	120/276
	Empty Weight(KG)	11.5	12.5	14.1
	Gross Weight(KG)	27.9	37.1	42.8

Model	YDS-35B-80	YDS-35B-125	YDS-50B	YDS-50B-125	
Maximum Capacity	No. of Canister †	6 (0)	6 (0)	6 (0)	6 (0)
	No. of Straws (Single Layer) (0.5ml each holder)	2244	5124	792	5124
	No. of Straws (Single Layer) (0.25ml each holder)	5022	11952	1788	11952
	No. of Straws (Double Layer) (0.5ml each holder)	3624	9048	1284	9048
	No. of Straws (Double Layer) (0.25ml each holder)	8460	19944	2832	19944
Performance	Volume of LN <sub>2</sub> (L)	35	35	50	50
	Static Evaporation* (L/Day)	0.23	0.35	0.20	0.37
	Duration of Normal Operation** (Day)	96	63	157	85
Dimensions	Opening Diameter(MM)	80	125	50	125
	Height(MM)	698	700	770	753
	Outside Diameter(MM)	461	461	461	461
	Canister Outside Diameter (MM)	63	97	38	97
	Outside Height(MM)	120/276	120/276	120/276	120/276
	Empty Weight(KG)	14.3	14.8	19.3	21
	Gross Weight(KG)	43	43.5	60.3	62

† A(B): A for maximum number of canisters, B for number of canisters in standard configuration

\* Static evaporation and static holding time are theoretical values. Actual evaporation and holding time are affected by usage, atmospheric conditions, and manufacturing tolerances.

\*\* Duration of normal operation is for reference only to estimate container performance under normal operating conditions. Actual duration may differ due to different atmospheric conditions, usage history, manufacturing tolerances, and particular circumstances.

## Cryo Tube Clamp Parameter

Canister Parameters	120 mm Long, 38 mm diameter (50-diameter storage tank)				276 mm Long, 38 mm diameter (50-diameter storage tank)			
	No. of holders in a canister	No. of vials in a holder	No. of vials in a canister	No. of vials in a storage tank	No. of holders in a canister	No. of vials in a holder	No. of vials in a canister	No. of vials in a storage tank
Cryovial Parameters								
0.5 ml	3	3	9	54	3	6	18	108
1.5 ml	3	3	9	54	3	6	18	108
2.0 ml	3	3	9	54	3	6	18	108
3.0 ml	3	3	9	54	3	6	18	108
5.0 ml	3	1	3	18	3	3	9	54

Canister Parameters	120 mm Long, 63 mm diameter (80-diameter storage tank)				276 mm Long, 63 mm diameter (80-diameter storage tank)			
	No. of holders in a canister	No. of vials in a holder	No. of vials in a canister	No. of vials in a storage tank	No. of holders in a canister	No. of vials in a holder	No. of vials in a canister	No. of vials in a storage tank
Cryovial Parameters								
0.5 ml	11	3	33	198	11	6	66	396
1.5 ml	11	3	33	198	11	6	66	396
2.0 ml	11	3	33	198	11	6	66	396
3.0 ml	11	3	33	198	11	6	66	396
5.0 ml	11	1	11	66	11	3	33	198

Canister Parameters	120 mm Long, 97mm diameter (125-diameter storage tank)				276 mm Long, 97 mm diameter (125-diameter storage tank)			
	No. of holders in a canister	No. of vials in a holder	No. of vials in a canister	No. of vials in a storage tank	No. of holders in a canister	No. of vials in a holder	No. of vials in a canister	No. of vials in a storage tank
Cryovial Parameters								
0.5 ml	27	3	81	486	27	6	162	972
1.5 ml	27	3	81	486	27	6	162	972
2.0 ml	27	3	81	486	27	6	162	972
3.0 ml	27	3	81	486	27	6	162	972
5.0 ml	27	1	27	162	27	3	81	486

## Accessories



## Cryo tube clip



# Haier Liquid Nitrogen Storage System

## Biotrek Series

3 Year Vacuum Warranty

Vapor Phase Storage

Rugged and Durable

Security

Dry Shippers

No LN<sub>2</sub> Spillage

Cryo absorbant

Durability



## Biotrek Series

### Introduction

Biotrek Series is designed for safe sample transportation under cryogenic conditions (vapor phase storage, temperature under -190°C). Since the risk of LN<sub>2</sub> release is avoided, it is suitable for air transportation of samples in short distances.

### Key Features

- Straw and cryovial storage options
- Rugged and durable aluminium construction
- No LN<sub>2</sub> spillage
- Vapor phase cryogenic storage
- Faster LN<sub>2</sub> fill times
- Lockable lids
- 3 year vacuum warranty

### Product Advantages

#### Liquid Nitrogen Adsorption

Adsorbent materials are used to absorb and retain LN<sub>2</sub> for safe transport. No spillover of LN<sub>2</sub> can occur even when the tank is capsized.

#### Stainless Steel Mesh

Special stainless steel mesh divides storage space and LN<sub>2</sub> absorbents to prevent absorbent materials from contaminating the samples.

#### Complete Accessories Set

All models are offered a variety of stainless steel canisters and polycarbonate cryogenic boxes. Locking cover is optional.





## Technical Parameters

Model	YDH-3	YDH-6-80	YDH-8-80	YDH-10-125	YDH-10-125-F	YDH-25-216-F
<b>Maximum Storage Capacity</b>						
No. of Canister	1	1	1	1	1	1
No. of Straws (0.5ml / EA)	214	820	820	1508	—	—
No. of Straws (0.25ml / EA)	472	1780	1780	3324	—	—
No. of 2.0 ml Cryovials (25 / box)	—	—	—	—	75	500
No. of boxes in (2ml per holder)	—	—	—	—	3	5
<b>Performance</b>						
Volume of LN <sub>2</sub> (L)	3	6	8	10	10	25
Static Evaporation* (L/Day)	0.14	0.22	0.22	0.37	0.37	0.75
Duration of Normal Operation** (Day)	13	17	23	17	17	21
<b>Dimensions</b>						
Opening Diameter(MM)	50	80	80	125	125	216
Height(MM)	428	481	581	546	546	705
Outside Diameter(MM)	224	300	300	300	300	394
Canister Outside Diameter(MM)	38	63	63	97	—	—
Outside Height(MM)	120	120	120	120	—	—
Empty Weight(KG)	3.5	5	5.8	6.9	6.9	15
Gross Weight(KG)	4.7	7.5	9.1	11	11	26

\* Static evaporation and static holding time are theoretical values. Actual evaporation and holding time are affected by usage, atmospheric conditions, and manufacturing tolerances.

\*\* Duration of normal operation is for reference only to estimate container performance under normal operating conditions. Actual duration may differ due to different atmospheric conditions, usage history, manufacturing tolerances, and particular circumstances.

## Haier Liquid Nitrogen Storage System Cryostor series

5 Year Vacuum Warranty

Muffler

Decant Valves

Pressure Raising

Liquid Storage

Security

Stainless Steel Construction

Relief Valve



# Cryostor Series

## Introduction

Cryostor Series is the latest innovation for high-performance liquid phase cryopreservation. It's unique design utilizes the pressure generated from vaporization of small amount liquid nitrogen to discharge LN<sub>2</sub> for other containers. Storage capacities range from 5 to 500 liters.

## Key Features

- All models are equipped with safety valves, 200 L and above models have additional rupture disc
- All welded stainless steel construction
- Rotary ring construction
- Labelled valves for easy identification
- 5 year vacuum warranty

## Product Advantages

### Stainless Steel Structure

Stainless steel structure can withstand the most demanding environment and ensure long-lasting security. It also provides reduced evaporation loss rate, compared with conventional welding insulation tanks.

### Variety of accessories

Each Cryostor Series model is equipped with a pressure valve, a drain valve, a relief valve, and a pressure gauge. 200 L and above models are designed with safety structures such as rupture discs and silencers.

### Casters

All models have four casters for better mobility and convenient use in different occasions.



### Self-pressurized LN<sub>2</sub> Backup System

Self-pressurized LN<sub>2</sub> back up system is used for Cyro freezers. In extreme cases, such as power outage, system failure and so on, the backup system automatically opens cryogenic solenoid valves and injects liquid nitrogen to ensure the set temperature and protect samples.

Compared to traditional high pressure cylinder backup system, the self-pressurized LN<sub>2</sub> backup system has the following advantages:

- Safer: under required operating condition, self-pressurized LN<sub>2</sub> backup system has lower working pressure and hence safer than traditional high-pressure backup system.
- More economical: self-pressurized liquid nitrogen tank has better insulation performance, lower evaporation losses and longer working duration with the same amount of LN<sub>2</sub>.
- More convenient: self-pressurized LN<sub>2</sub> backup system combines a controller with self-pressurized components and greatly reduces pipelines and cables used in traditional backup systems.
- More stable: due to the reduction of intermediate pipe connections, impact of environmental factors on the system is reduced.
- Inexpensive: self-pressurized LN<sub>2</sub> backup system costs less than traditional backup systems.



## Technical Parameters

Model	YDZ-5	YDZ-15	YDZ-30	YDZ-50	YDZ-100
<b>Performance</b>					
Volume of LN <sub>2</sub> (L)	5	15	30	50	100
Static Evaporation* (L/Day)	0.15	0.38	0.75	1	1.3
LN <sub>2</sub> output (L/Min)	2	2	3	3	4
<b>Dimensions</b>					
Height(MM)	510	750	879	991	1185
Outside Diameter(MM)	329	404	454	506	606
Empty Weight(KG)	15	23	32	54	75
Gross Weight(KG)	19.1	35.3	56.6	95.0	157.0
<b>Pressure Parameters (MPa)</b>	1. Standard working pressure 0.05, 2. Maximum working pressure 0.09, 3. First stage safety valve relief pressure 0.099, 4. Second stage safety valve release pressure 0.15, 5. Pressure gauge range 0-0.25				

Model	YDZ-150	YDZ-200	YDZ-300	YDZ-500
<b>Performance</b>				
LN <sub>2</sub> capacity (L)	150	200	300	500
Static Evaporation* (L/Day)	1.95	2.4	3.3	5.5
LN <sub>2</sub> output (L/Min)	6	8	8	10
<b>Dimensions</b>				
Height(MM)	1188	1265	1459	1576
Outside Diameter(MM)	706	758	857	1008
Empty Weight(KG)	102	130	202	255
Gross Weight(KG)	225	294	448	665
<b>Pressure Parameters (MPa)</b>	1. Standard working pressure 0.05, 2. Maximum working pressure 0.09, 3. First stage safety valve relief pressure 0.099, 4. Second stage safety valve release pressure 0.15, 5. Pressure gauge range 0-0.25, 6. Rupture disc burst pressure 0.47.			

\* Static evaporation and static holding time are theoretical values. Actual evaporation and holding time are affected by usage, atmospheric conditions, and manufacturing tolerances.

## Additional series for liquid nitrogen tank

### Comparison between standard series and K series

Standard series



K series



### Newly added features on K series

#### Standard liquid transfer tube

Internal diameter: 10 mm  
Length: 1.5 m  
Standard auto-refill system



#### Digital meter for liquid level

DLZ-300  
Digital display of fluid level  
Remote data transmission function



#### Pressure stabilizer

Stabilize fluid pressure  
during auto filling



#### Large diameter relief valve

Rapid relief of over pressure  
Protection of safety valve



Model	YDZ-100K	YDZ-200K	YDZ-240K
Performance			
Volume of LN <sub>2</sub> (L)	100	200	240
Static Evaporation* (L/Day)	1.3	2.4	2.9
LN <sub>2</sub> output (L/Min)	4	8	8
Dimensions			
Height(MM)	1185	1265	1350
Outside Diameter(MM)	606	758	758
Empty Weight(KG)	75	130	148
Gross Weight(KG)	157	294	380
Pressure Parameters(MPA)	1. Standard working pressure: 0.05, 2) Maximum working pressure: 0.09, 3) Initial pressure relief valve opening pressure: 0.099, 4) 2nd pressure relief valve opening pressure: 0.15, 5) Pressure gauge range: 0 to 0.25		

Model	YDZ-300K	YDZ-500K
Performance		
Volume of LN <sub>2</sub> (L)	300	500
Static Evaporation* (L/Day)	3.3	5.5
LN <sub>2</sub> output (L/Min)	8	10
Dimensions		
Height(MM)	1459	1576
Outside Diameter(MM)	857	1008
Empty Weight(KG)	202	255
Gross Weight(KG)	448	665
Pressure Parameters(MPA)	1. Standard working pressure: 0.05, 2) Maximum working pressure: 0.09, 3) Initial pressure relief valve opening pressure: 0.099, 4) 2nd pressure relief valve opening pressure: 0.15, 5) Pressure gauge range: 0 to 0.25	

★ Static evaporation rate and static storage time are theoretical values. Actual evaporation rate and storage time will be subject to actual usage, ambient condition and manufacturing tolerances.



## Product List

Product	Product description	Model	Description
Liquid Nitrogen Container	Aluminum Container	YDS-2-30	Standard accessories include 3 canisters; including protective jacket and excluding locking cover
		YDS-2-35	Standard accessories include 3 canisters; including straps and excluding protective jacket and locking cover
		YDS-3 YDS-6 YDS-10 YDS-10-80	Standard accessories include no canister; including protective jacket and excluding locking cover; maximum 6, 120mm canisters are optional
		YDS-10-125	Standard accessories include no canister; excluding protective jacket and locking cover; with strap
		YDS-13	Standard accessories include no canister; including protective jacket and excluding locking cover; maximum 6 canisters are optional
		YDS-15	Standard accessories include no canister; including protective jacket and excluding locking cover; maximum 6 canisters are optional
		YDS-20 YDS-30 YDS-30-80 YDS-30-125	Standard accessories include no canister; including protective jacket and excluding locking cover; trolley is optional; maximum 6 canisters are optional
		YDS-30-125-F	Standard accessories include six 4-layer square canisters; including 5*5 cryogenic boxes, projective jacket and locking cover; trolley is optional
		YDS-35 YDS-35-80 YDS-35-125	Standard accessories include no canister; including protective jacket and excluding locking cover; trolley is optional; maximum 6 canisters are optional
		YDS-35-125-F	Standard accessories include six 5-layer square canisters; including 5*5 cryogenic boxes, projective jacket and locking cover; trolley is optional
		YDS-47-127	Standard accessories include ten round canisters (Ø72, 276mm Long); including locking cover and excluding projective jacket; trolley is optional
		YDS-47-127-6YS	Standard accessories include six 5-layer 37-cell round canisters; including locking cover and excluding projective jacket; trolley is optional
		YDS-65-216	Standard accessories include locking cover, no canister and no protective jacket
		YDS-65-216-F	Standard accessories include six 4-layer square canisters; including 9*9 (or 10*10) cryogenic boxes, locking cover and excluding projective jacket; trolley is optional
		YDS-95-216	Standard accessories include locking cover, no canister and no protective jacket
		YDS-95-216-F	Standard accessories include six 5-layer square canisters; including 9*9 (or 10*10) cryogenic boxes, locking cover and excluding projective jacket; trolley is optional
		YDS-115-216	Standard accessories include locking cover, no canister and no protective jacket
		YDS-115-216-F	Standard accessories include six 6-layer square canisters; including 9*9 cryogenic boxes, locking cover and excluding projective jacket; trolley is optional
		YDS-140-216	Standard accessories include locking cover, no canister and no protective jacket
		YDS-140-216-F	Standard accessories include six 6-layer square canisters; including 9*9 cryogenic boxes, locking cover and excluding projective jacket; trolley is optional
		YDS-175-216	Standard accessories include locking cover, no canister and no protective jacket
		YDS-175-216-F	Standard accessories include six 10-layer square canisters; including 9*9 (or 10*10) cryogenic boxes, locking cover and excluding projective jacket; trolley is optional
		YDS-20B	Standard accessories include no canister; including protective jacket and excluding locking cover; trolley is optional and maximum 6 canisters are optional
		YDS-30B	Standard accessories include no canister; including protective jacket and excluding locking cover; trolley is optional
		YDS-35B YDS-35B-80	Standard accessories include no canister; including protective jacket and excluding locking cover; trolley is optional
		YDS-35B-125	Standard accessories include no canister; including protective jacket and excluding locking cover; specially used for transportation of liquid nitrogen
		YDS-50B	Standard accessories include no canister; including protective jacket and excluding locking cover; trolley is optional and maximum 6 canisters are optional



Product	Product description	Model	Description
Liquid Nitrogen Container	Aluminum Alloy Series For Air Transportation	YDS-50B-125	Standard accessories include no canister; including protective jacket and excluding locking cover; specially used for transportation of liquid nitrogen
		YDH-3	Standard accessories include one 120mm round canister; including locking cover and projective jacket; maximum one canister is optional
		YDH-6-80	
		YDH-8-80	Standard accessories include one 120mm round canister; including locking cover and projective jacket; maximum one canister is optional
		YDH-10-125	Standard accessories include no canister; including locking cover and protective jacket
		YDH-10-125-F	Standard accessories include one 4-layer square canister; including 5*5 cryogenic boxes, projective jacket and locking cover
		YDH-25-216-F	Standard accessories include one 5-layer square canister; including 9*9 (or 10*10) cryogenic boxes, locking cover and excluding projective jacket
	Stainless Steel Series with large neck opening diameter	YDD-300-326	Standard accessories include vacuum infusion tube (GRG-DN10/2.0); Cryogenic racks and smart control instruments are optional; installation and commissioning fees are to be charged separately
		YDD-550-445	
		YDD-750-445	
		YDD-850-465	
		YDD-1000-465	
		YDD-1300-635	
		YDD-1600-635	
		YDD-1800-635	
	YDD-6000-650	Standard accessories include ZTC-100B temperature measuring and monitoring instruments; internal tray is manually rotatable; stainless steel outer surface is painted	
	Smart Liquid Nitrogen Container	YDS-65-216-FZ	Standard accessories include ZTC-100B temperature measuring and monitoring instruments; internal tray is manually rotatable; stainless steel outer surface is painted
		YDS-95-216-FZ	Standard accessories include six 5-layer square canisters, 9*9 (or 10*10) cryogenic boxes and locking cover; trolley is optional
		YDS-115-216-FZ	Standard accessories include six 6-layer square canisters, 9*9 (or 10*10) cryogenic boxes and locking cover; trolley is optional
		YDS-145-216-FZ	Standard accessories include six 8-layer square canisters, 9*9 (or 10*10) cryogenic boxes and locking cover; trolley is optional
YDS-175-216-FZ		Standard accessories include six 10-layer square canisters, 9*9 (or 10*10) cryogenic boxes and locking cover; trolley is optional	
Self Pressurization Container	Stainless Steel Series with Self Pressurization	YDZ-5	Standard accessories include single-layer infusion tube (ZG-DN10/1.5); float level meter is optional; transport castors are self equipped.
		YDZ-15	
		YDZ-30	
		YDZ-50	
		YDZ-100	
		YDZ-150	
		YDZ-200	
		YDZ-300	
		YDZ-500	
		YDZ-100K	
	YDZ-200K		
	YDZ-240K		

Product	Product description	Model	Description
Accessories	Square Canister	YDZ-300K	
		YDZ-500K	
		Square Canister FTT-4-55	Used to store 2ml cryogenic boxes (5*5); four layers in total, including 5x5 cryogenic boxes; suitable for YDS-30-125\YDS-10-125 (including plastic cryogenic boxes)
		Square Canister FTT-5-55	Used to store 2ml cryogenic boxes (5*5); five layers in total, including 5x5 cryogenic boxes; suitable for YDS-35-125\YDS-47-127 (including plastic cryogenic boxes)
		Square Canister FTT-6-55	Used to store 2ml cryogenic boxes (5*5); six layers in total, including 5x5 cryogenic boxes; suitable for YDS-50-125 (including plastic cryogenic boxes)
		Square Canister FTT-10-55	Used to store 2ml cryogenic boxes (5*5); ten layers in total; suitable for YDD-350\550\1300 (excluding cryogenic boxes)
		Square Canister FTT-13-55	Used to store 2ml cryogenic boxes (5*5); thirteen layers in total; suitable for YDD-850\1600 (excluding cryogenic boxes)
		Square Canister FTT-15-55	Used to store 2ml cryogenic boxes (5*5); fifteen layers in total; suitable for YDD-1000\1800\2000 (excluding cryogenic boxes)
		Square Canister FTT-4-99	Used to store 2ml cryogenic boxes (9*9); four layers in total, including 9x9 cryogenic boxes; suitable for YDS-65-216 (including plastic cryogenic boxes)
		Square Canister FTT-5-99	Used to store 2ml cryogenic boxes (9*9); five layers in total, including 9x9 cryogenic boxes; suitable for YDS-95-216\YDS-25H-216 (including plastic cryogenic boxes)
		Square Canister FTT-6-99	Standard accessories include no canister; including protective jacket and excluding locking cover; maximum 6 canisters are optional
		Square Canister FTT-8-99	Used to store 2ml cryogenic boxes (9*9); 8 layers in total, including 9x9 cryogenic boxes; suitable for YDS-145-216 (including plastic cryogenic boxes)
		Square Canister FTT-10-99	Used to store 2ml cryogenic boxes (9*9); ten layers in total; suitable for YDD-350\550\1300 (excluding cryogenic boxes)
		Square Canister FTT-10-99 (with boxes)	10 layers in total, including 9x9 cryogenic boxes; suitable for YDS-175-216-F
	Square Canister FTT-13-99	Used to store 2ml cryogenic boxes (9*9); 13 layers in total; suitable for YDD-850\1600 (excluding cryogenic boxes)	
	Square Canister FTT-15-99	Used to store 2ml cryogenic boxes (9*9); 15 layers in total; suitable for YDD-1000\1800\2000 (excluding cryogenic boxes)	
	Level Monitoring System	Level Monitoring System ZTC-100A	Using platinum resistor to measure the temperature, and setting single-point level alarm through the temperature; with buzzer alarm function available
		Level Monitoring System ZTC-100B	Using platinum resistor to measure the temperature, and setting single-point level alarm through the temperature; with buzzer alarm function available; with output switch control signal and direct-driven solenoid
		Level Monitoring System ZTC-100C	Using platinum resistor to measure the temperature, and setting single-point level alarm through the temperature; with buzzer alarm function available; with output switch control signal and direct-driven solenoid
		Cryosmart Level Monitoring System SJMU-700N	Suitable for all differential pressure measurement gas-phase liquid nitrogen containers; including the liquid inlet system and excluding the wireless data transmission module
	Stainless Steel Trolley	Trolley YSC-S	Suitable for 65L-175L series products; equipped with 5 universal wheels
		Trolley YSC-M	Suitable for series products with neck opening diameter of 50mm and capacity of no less than 20L
	Liquid Nitrogen Pump	ZYB-5 Hand Held Liquid Nitrogen Pump	Suitable for series products with neck opening diameter of 50mm and capacity of no less than 20L
		ZYB-8 Foot Step Liquid Nitrogen Pump	Suitable for series products with neck opening diameter of 50mm and capacity of no less than 20L
	Level Measuring Scale	Level Measuring Scale (600MM)	Suitable for aluminium containers with capacity of no less than 20L (measuring length 100cm)
		Level Measuring Scale (1000MM)	Suitable for aluminium containers with capacity of no less than 20L (measuring length 100cm)
	Cryogenic Rack	Cryogenic Rack YDCJ-6	Used to store 50ml blood bag; 6 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes; suitable for YDD-350\550\1300
		Cryogenic Rack YDCJ-7	Used to store 50ml blood bag; 7 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes; suitable for YDD-850\1600
		Cryogenic Rack YDCJ-9	Used to store 50ml blood bag; 9 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes; suitable for YDD-1000\1800\2100
		Cryogenic Rack YDCJ-3	Used to store 250ml blood bag; 3 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes; suitable for YDD-350\550\1300
Cryogenic Rack YDCJ-4		Used to store 250ml blood bag; 4 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes; suitable for YDD-850	
Cryogenic Rack YDCJ-5-II		Used to store 250ml blood bag; 5 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes; suitable for YDD-750\1000\1800\1900\2000	
Cork	Cork with neck opening diameter of 30mm	Including the cap and the cork body; suitable for YDS-2-30	
	Cork with neck opening diameter of 35mm	Including the cap and the cork body; suitable for YDS-2-35	
	Cork with neck opening diameter of 50mm	Suitable for neck opening diameter of 50mm	
	Cork with neck opening diameter of 80mm	Suitable for neck opening diameter of 80mm	

Product	Product description	Model	Description
Accessories	Cork	Cork with neck opening diameter of 125mm	Suitable for neck opening diameter of 125mm
		Cork with neck opening diameter of 216mm	Suitable for neck opening diameter of 216mm
	Locking Cover	Locking Cover SG-30	Suitable for YDS-2-30
		Locking Cover SG-35	Suitable for YDS-2-35
		Locking Cover SG-50	Suitable for series products with neck opening diameter of 50mm
		Locking Cover SG-80	Suitable for series products with neck opening diameter of 80mm
		Locking Cover SG-125	Suitable for series products with neck opening diameter of 125mm
		Locking Cover SG-216	Suitable for series products with neck opening diameter of 216mm
	Canister	Canister TT-30D	Φ19 single-layer canister without plastic inner canister; suitable for YDS-2-30
		Canister TT-35D	Φ25 single-layer canister without plastic inner canister; suitable for YDS-2-35
		Canister TT-50D	Φ38 single-layer canister without plastic inner canister; suitable for YDS-3
		Canister TT-50S	Φ38 double-layer canister, including plastic inner canister; suitable for YDS-13 double-layer canister
		Canister TT-80D	Φ63 single-layer canister without plastic inner canister; suitable for YDS-6H-80
		Canister TT-125D	Φ97 single-layer canister without plastic inner canister; suitable for YDS-35-125
	Cryo Tube Clip	Cryo Tube Clip (Type 3)	Suitable for 120mm canister, including cryogenic racks and plastic sleeve; each containing 3, 2ml cryogenic
		Cryo Tube Clip (Type 6)	Suitable for 276mm canister, including cryogenic racks and plastic sleeve; each containing 6, 2ml cryogenic tubes.
	Float-Type Liquidometer	FZ-30	Suitable for 30L self-pressurization container
		FZ-50	Suitable for 50L self-pressurization container
		FZ-100	Suitable for 100L self-pressurization container
		FZ-150	Suitable for 150L self-pressurization container
		FZ-175	Suitable for 65L- 175L series products; equipped with 5 universal wheels
		FZ-200	Suitable for 200L self-pressurization container
		FZ-300	Suitable for 300L self-pressurization container
		FZ-500	Suitable for 500L self-pressurization container
	Cryogenic gloves	Special for low temperature, 32cm in length	Total length of the gloves is 32cm
		Special for low temperature, 45cm in length	Total length of the gloves is 45cm
		Special for low temperature, 72cm in length	Total length of the gloves is 72cm
Flexible Metal Tubing	GZ-DN15/1.5	Diameter 10mm, length 1.5m, special for self-pressurization	
	GB-DN15/1.5	Diameter 10mm, length 1.0m, special for liquid nitrogen pump	