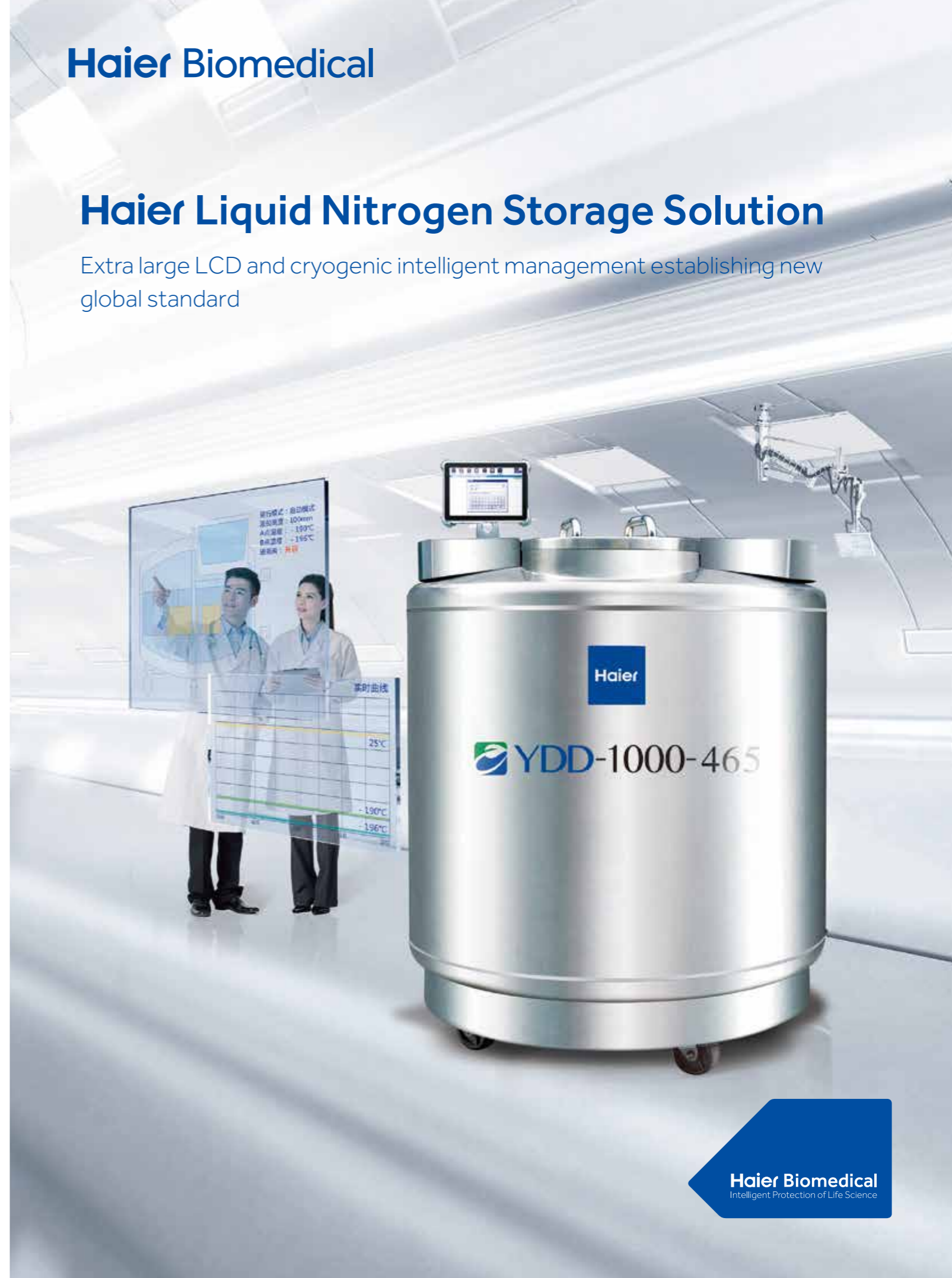# Haier Biomedical

Haier Liquid Nitrogen Storage Solution

Extra large LCD and cryogenic intelligent management establishing new global standard

2019 -10

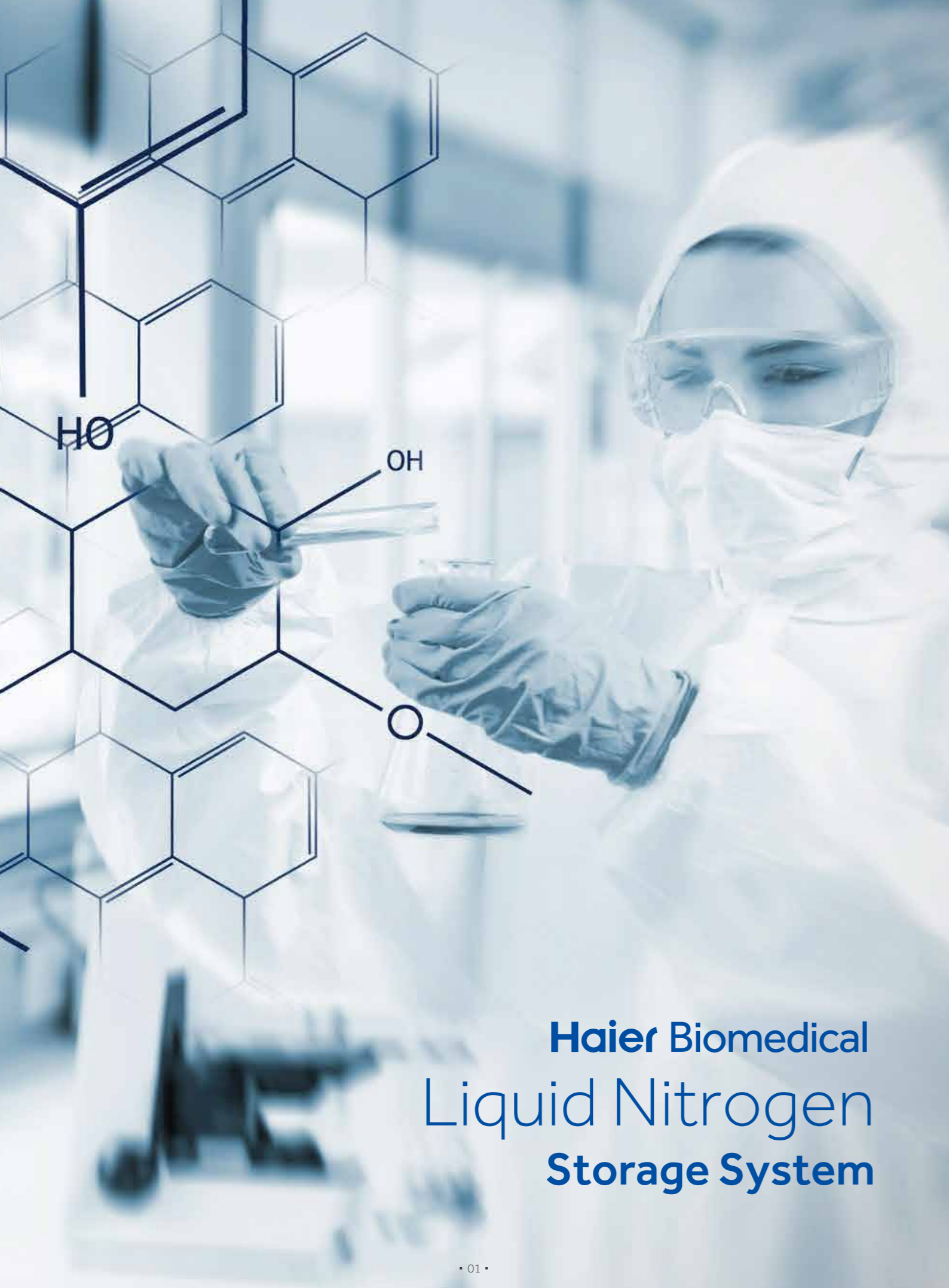Note: If slight difference occurs between pictures and actual products, please refer to actual products. Our company reserves the right of final interpretation to this brochure and please contact with us for future information you might need.

Haier Biomedical
Intelligent Protection of Life Science

Haier Biomedical

Liquid Nitrogen
Storage System

Directory

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
Maximum Storage Volume					
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
5MLstorage vials（81/box）	972	972	1458	1944	2430
Layers in pickup barrel	2	2	3	4	5
Function					
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
Dimensions					
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 LN2 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 for Large Scale Storage

LN_2 Splash Proof

Data Logging

Quick Chill

Rapid Specimen Storage

5 Year Vacuum Warranty

From 13000 to 94875 Cryovials

Self Diagnostic

"Dry" Sample Storage

Lockable Lid

Liquid or Vapor Phase Storage

One-touch Defogging

Biobank Series for Large Scale Storage

Introduction

Biobank series for large scale storage 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℃
- 5 years vacuum warranty
- One-touch defogging for easier access
- LN$_2$ 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 for large scale storage 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

Advanced Vacuum Technology and Superinsulation Technology

Haier Liquid Nitrogen Storage System Biobank series for large scale storage 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℃ even in vapor phase storage, Temperature near the top of the shelf is as low as -190℃.
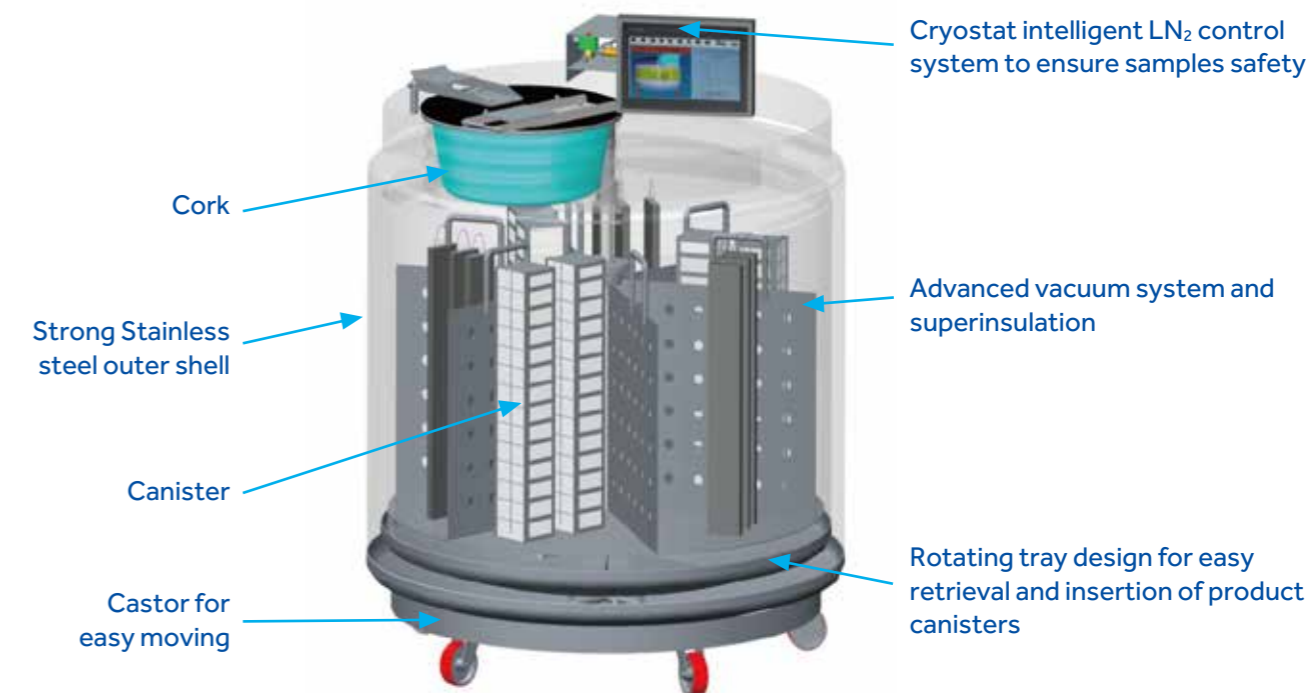
Cryosmart Intelligent Liquid Nitrogen Control System

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

Product Details

Product structure

- Cryostat intelligent LN$_2$ control system to ensure samples safety
- Cork
- Strong Stainless steel outer shell
- Advanced vacuum system and superinsulation
- Canister
- Castor for easy moving
- Rotating tray design for easy retrieval and insertion of product canisters

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.
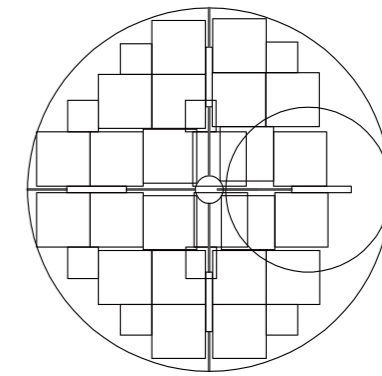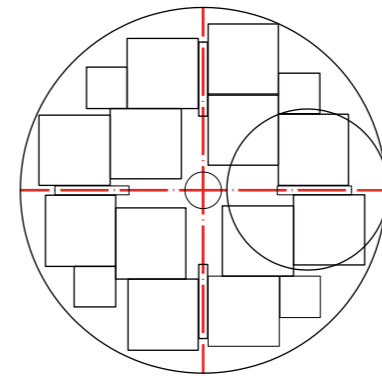
Temperature Graph

10 times testing data within 5 days

-140.0℃
-150.0℃
-160.0℃
-170.0℃
-180.0℃
-190.0℃
-200.0℃

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
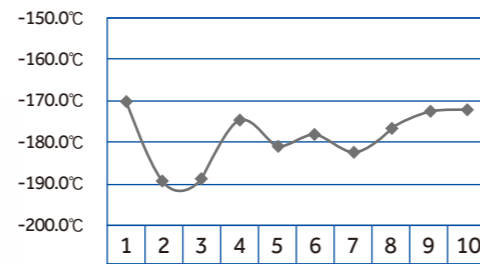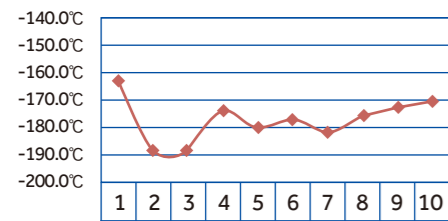
Testing point at the opening neck

-150.0℃
-160.0℃
-170.0℃
-180.0℃
-190.0℃
-200.0℃

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

Testing point 200mm from the opening neck

-165.0℃
-170.0℃
-175.0℃
-180.0℃
-185.0℃
-190.0℃
-195.0℃
-200.0℃

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

Testing point 400mm from the opening neck

-170.0℃
-175.0℃
-180.0℃
-185.0℃
-190.0℃
-195.0℃
-200.0℃

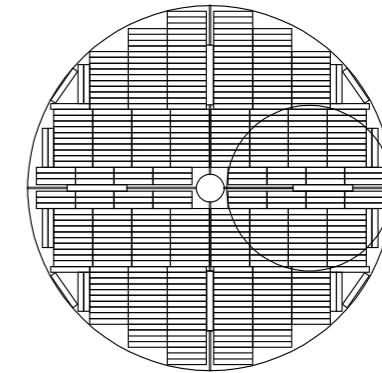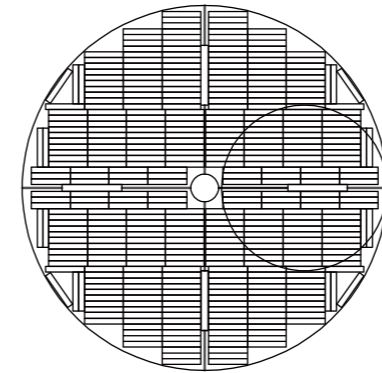| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

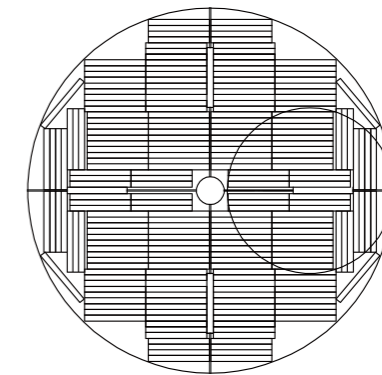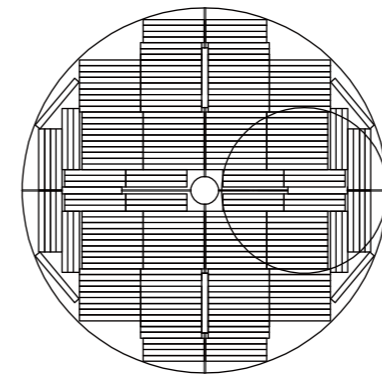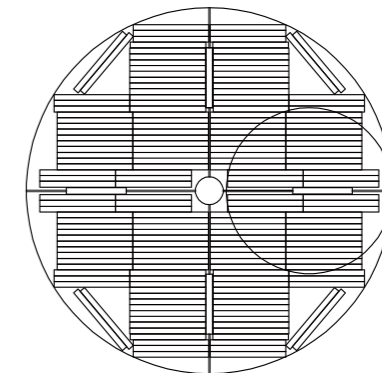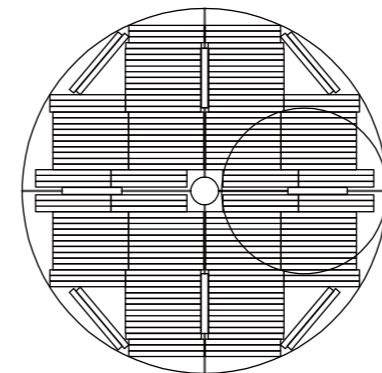Testing point at rotating tray

Square Canister&Racks Layout

YDD-300-326

YDD-550-445

Holders

25 ml Racks

50 ml Racks

250 ml Racks

YDD-850-465   YDD-1800-635

Holders
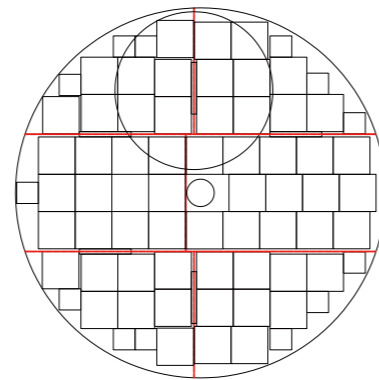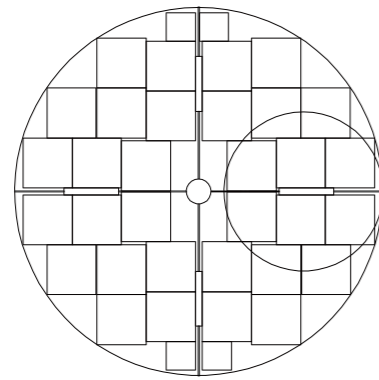
25 ml Racks

50 ml Racks

250 ml Racks
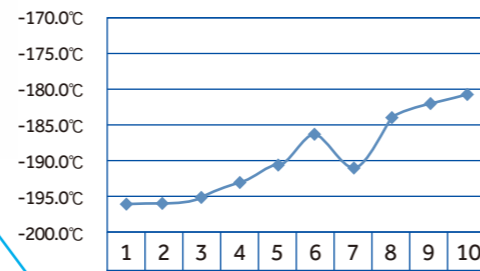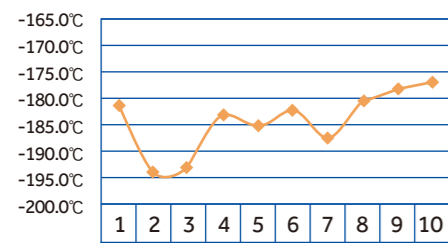
Technical Parameters

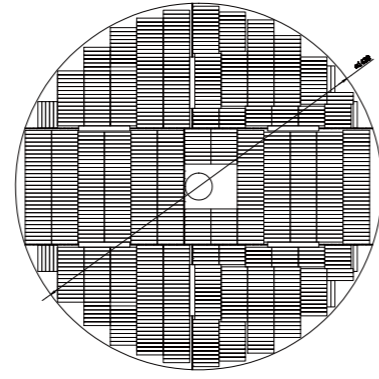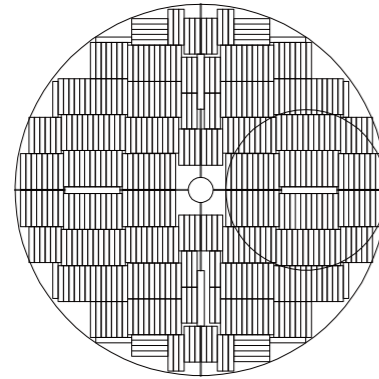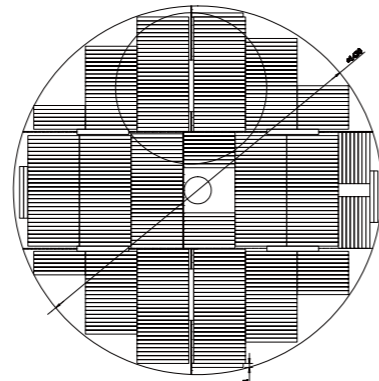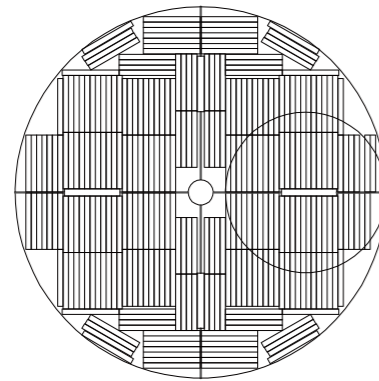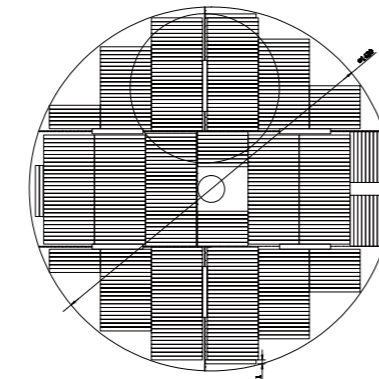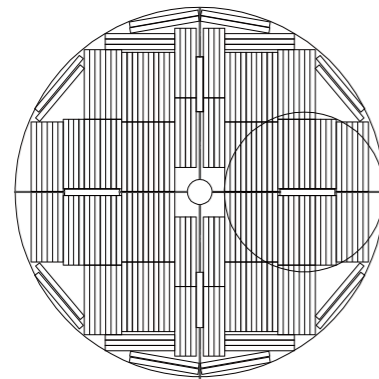| Model	YDD-300 -326	YDD-550 -445	YDD-750 -445	YDD-850 -465	YDD-1000 -465	YDD-1300 -635	YDD-1600 -635	YDD-1800 -635
Maximum Storage Capacity								
2 ml Vials (Internal Thread)	13000	26000	36400	42900	49500	58500	76050	94875
Freeze Rack (100 wells)	12	24	24	32	32	54	54	60
Freeze Rack (25 wells)	4	8	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_2 (L)	350	587	783	890	1014	1340	1660	1880
Volume of LN_2 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 Layers	No.of Racks	Total No.of Bags	Rack Layers	No.of Racks	Total No.of Bags	Rack Layers	No.of Racks	Total No.of Bags	Rack Layers	No.of Racks	Total No.of Bags	Rack Layers	No.of Racks	Total No.of Bags	Rack Layers	No.of Racks	Total No.of Bags	Rack Layers	No.of Racks	Total No.of Bags	Rack 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

Medium Sized Storage Series

5 Year Vacuum Warranty

Cryobox Storage

High Thermal Efficiency

Liquid and Vapor Storage

Durability

Auto Fill

Security

Medium Sized Storage Series

Introduction

Medium Sized Storage Series (Square Racks) features low LN_2 consumption and a 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_2 Evaporation Loss

Freezer racks are in the ultra-low temperature environment with extremely low LN_2 evaporation. Even stored in vapor phase, the temperature will be below -190°C for a long time.
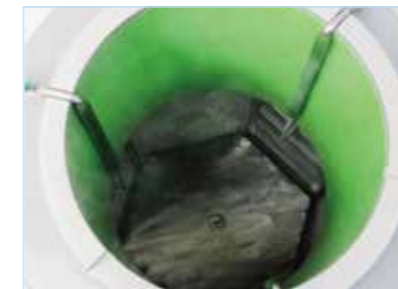
Advanced Vacuum Technology and Superinsulation Technology

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

Compatible for Blood Bag Storage

Based on application requirements, Medium Sized Storage Series (Square Racks) can be adapted to LN2 tanks for temporary storage of blood bags before they are transferred to a larger LN_2 storage tank.
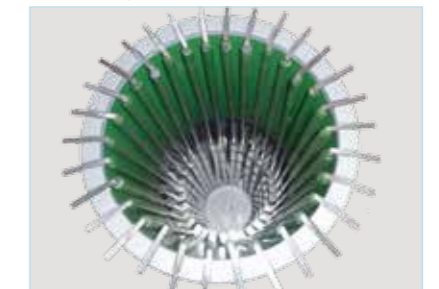
Level and Temperature Monitor

Liquid level monitor tracks LN_2 liquid level and temperature continuously and reliably inside the tank and informs users to refill LN_2. 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_2 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
Maximum Storage Capacity										
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
Performance										
Volume of LN_2 (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
Dimensions										
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

Caster Base

Square Rack

Cryogenic Box

216 Diameter Lock Cap

5 ml Customized Holder

5 ml Customized Cryogenic Box

Haier Liquid Nitrogen Storage System
Small Sized Storage Series

5 Year Vacuum Warranty

High Thermal Efficiency

Strong and Lightweight

30 Litre to 50 Litre Capacity

Durability

Security

Super-Insulation

Ideal for Lab Applications

Small Sized Storage 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_2 evaporation loss

Product Advantages

Low LN_2 consumption and small storage capacity

Haier Small Sized Storage Series (Square Racks) Liquid Nitrogen Storage System features low LN_2 consumption and small storage capacity for laboratory applications. The light weight tanks require smaller space while provide efficient small capacity

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

Small Sized Storage Series (Square Racks) 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	YDS-50B-125F
Maximum Storage Capacity				
No. of holders	6	6	6	6
1.2&2 ml Cryovials (25 per box)	600	750	1110	900
No. of boxes in (holder)	4	5	5	6
Performance				
Volume of LN_2 (L)	31.5	35	47	50
Static Evaporation * (L/Day)	0.28	0.29	0.33	0.37
Duration of Normal Operation** (Day)	71	76	130	85
Dimensions				
Opening Diameter(MM)	125	125	127	125
Height(MM)	659	700	718	818
Outside Diameter(MM)	461	461	508	462
Empty Weight(KG)	14.3	14.5	18.2	17.3
Gross Weight(KG)	38.9	43.2	53.9	62

* 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

Caster Base	Square Rack	Level Monitor	125 Diameter Lock Cap

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

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Haier Liquid Nitrogen Storage System

High Capacity Series Storage or Transport

Numbered Index Canister Locations

High Capacity

High Thermal Efficiency

5 Year Vacuum Warranty

Extended Hold Time

LN_2 Dispenser

Straws

Lockable

Roller Bases

# High Capacity Series Storage or Transport

Introduction

High Capacity Series Storage or Transport (Round Canisters) 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_2 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.
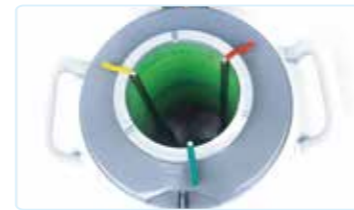
Large-capacity models have wider necks for easy access to biological samples.

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_2 (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
Dimesions	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_2 (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
Dimesions	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_2 (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
Dimesions	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_2 (L)	20	30	35
	Static Evaporation* (L/Day)	0.18	0.17	0.17
	Duration of Normal Operation** (Day)	70	111	129
Dimesions	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_2 (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
Dimesions	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)			
Cryovial Parameters	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
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)			
Cryovial Parameters	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
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)			
Cryovial Parameters	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
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

Canisters

Self-pressurized liquid nitrogen hand pump

Self-pressurized liquid nitrogen foot pump

Liquid Level Measuring Rods

Caster base

Cryo tube clip

Haier Liquid Nitrogen Storage System

Dryshipper Series for Transportation

3 Year Vacuum Warranty

Rugged and Durable

Dry Shippers

Cryo absorbant

Vapor Phase Storage

Security

No LN$_2$ Spillage

Stable

Introduction

Dryshipper Series for Transportation (Round Canisters) is designed for safe sample transportation under cryogenic conditions (vapor phase storage, temperature under -190°C). Since the risk of LN$_2$ 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$_2$ spillage
• Vapor phase cryogenic storage

• Faster LN$_2$ fill times
• Lockable lids
• 3 year vacuum warranty

Product Advantages

Liquid Nitrogen Adsorption

Adsorbent materials are used to absorb and retain LN$_2$ for safe transport. No spillover of LN$_2$ can occur even when the tank is capsized.

Stainless Steel Mesh

Special stainless steel mesh divides storage space and LN$_2$ 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
Maximum Storage Capacity						
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
Performance						
Volume of LN_2 (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
Dimensions						
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

Self-pressurized Series for LN2 Storage and Supply

5 Year Vacuum Warranty

Decant Valves

Liquid Storage

Stainless Steel Construction

Muffler

Pressure Raising

Security

Relief Valve

Self-pressurized Series for LN2 Storage and Supply

Introduction

Self-pressurized Series for LN2 Storage and Supply 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_2 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 Self-pressurized Series for LN2 Storage and Supplymodel 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

Casters

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

Self-pressurized LN$_2$ Backup System

Self-pressurized LN$_2$ 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$_2$ backup system has the following advantages:

- Safer: under required operating condition, self-pressurized LN$_2$ 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$_2$.
- More convenient: self-pressurized LN$_2$ 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$_2$ backup system costs less than traditional backup systems.

Technical Parameters

| Model	YDZ-5	YDZ-15	YDZ-30	YDZ-50	YDZ-100
Performance					
Volume of LN$_2$ (L)	5	15	30	50	100
Static Evaporation* (L/Day)	0.15	0.38	0.75	1	1.3
LN$_2$ output (L/Min)	2	2	3	3	4
Dimensions					
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
Pressure Parameters (MPA)	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
Performance				
LN$_2$ capacity (L)	150	200	300	500
Static Evaporation * (L/Day)	1.95	2.4	3.3	5.5
LN $_2$ output (L/Min)	6	8	8	10
Dimensions				
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
Pressure Parameters (MPA)	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
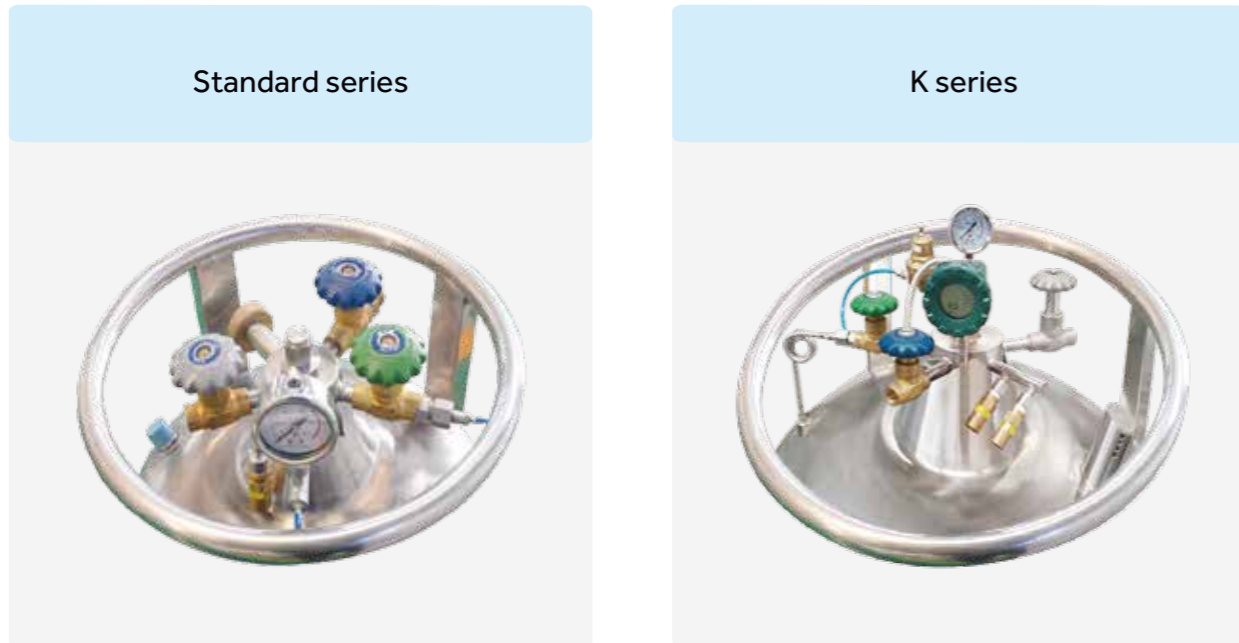
Newly added features on K series

▶ 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$_2$ (L)	100	200	240
Static Evaporation*(L/Day)	1.3	2.4	2.9
LN$_2$ 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$_2$ (L)	300	500
Static Evaporation*(L/Day)	3.3	5.5
LN$_2$ 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 valves. Actual evaporation rate and storage time will be subject to actual usage, ambient condition and manufacturing tolerances.

Product List

Model	Description	Accessories	
		Standard	**Optional**
YDS-65-216	65L, neck opening diameter 216mm	1. Includes a locking cover SG-216. 2. Includes a cork with neck opening diameter of 125mm	1. 4-layer Square Canister (FTT-4-99) 2. Trolley YSC-M 3. Level Monitoring System ZTC-100A 4. Level Measuring Scale 5. SmartCap LT-216 6. Relay Module SW-300 (Required for cork networking)
YDS-65-216-F	65L, neck opening diameter 216mm	1. Includes a locking cover SG-216 2. Includes a cork with neck opening diameter of 125mm 3. Includes 6 4-layer square canisters (FTT-4-99) 4. Includes 9*9 cryogenic boxes (may be changed for 10*10)	1. Trolley YSC-M 2. Level Monitoring System ZTC-100A 3. Level Measuring Scale 4. SmartCap LT-216 5. Relay ModuleSW-300 (Required for cork networking)
YDS-95-216	95L, neck opening diameter 216mm	1. Includes a locking cover SG-216 2. Includes a cork with neck opening diameter of 125mm	1. 5-layer Square Canister (FTT-5-99) 2. Trolley YSC-M 3. Level Monitoring System ZTC-100A 4. Level Measuring Scale 5. SmartCap LT-216 6. Relay Module SW-300 (Required for cork networking)
YDS-95-216-F	95L, neck opening diameter 216mm	1. Includes a locking cover SG-216 2. Includes a cork with neck opening diameter of 125mm 3. Includes 6 5-layer square canisters (FTT-5-99) 4. Includes 9*9 cryogenic boxes (may be changed for 10*10)	1. Trolley YSC-M 2. Level Monitoring System ZTC-100A 3. Level Measuring Scale 4. smartCap LT-216 5. Relay Module SW-300 (Required for cork networking)
YDS-115-216	115L, neck opening diameter 216mm	1. Includes a locking cover SG-216 2. Includes a cork with neck opening diameter of 125mm	1. 6-layer Square Canister (FTT-6-99) 2. Trolley YSC-M 3. Level Monitoring System ZTC-100A 4. Level Measuring Scale 5. SmartCap LT-216 6. Relay Module SW-300 (Required for cork networking)
YDS-115-216-F	115L, neck opening diameter 216mm	1. Includes a locking cover SG-216 2. Includes a cork with neck opening diameter of 125mm 3. Includes 6 6-layer square canisters (FTT-6-99) 4. Includes 9*9 cryogenic boxes (may be changed for 10*10)	Trolley YSC-M
YDS-140-216	140L, neck opening diameter 216mm	1. Includes a locking cover SG-216 2. Includes a cork with neck opening diameter of 125mm	1. 8-layer Square Canister (FTT-8-99) 2. Trolley YSC-M 3. Level Monitoring System ZTC-100A 4. Level Measuring Scale 5. SmartCap LT-216 6. Relay Module SW-300 (Required for cork networking)
YDS-140-216-F	140L, neck opening diameter 216mm	1. Includes a locking cover SG-216 2. Includes a cork with neck opening diameter of 125mm 3. Includes 6 8-layer square canisters (FTT-8-99) 4. Includes 9*9 cryogenic boxes (may be changed for 10*10)	1. Trolley YSC-M 2. Level Monitoring System ZTC-100A 3. Level Measuring Scale 4. SmartCap LT-216 5. Relay Module SW-300 (Required for cork networking)
YDS-140-216-F	140L, neck opening diameter 216mm	1. Includes a locking cover SG-216 2. Includes a cork with neck opening diameter of 125mm 3. Includes 6 8-layer square canisters (FTT-8-99) 4. Includes 9*9 cryogenic boxes (may be changed for 10*10)	1. Trolley YSC-M 2. Level Monitoring System ZTC-100A 3. Level Measuring Scale 4. SmartCap LT-216 5. Relay Module SW-300 (Required for cork networking)
YDS-175-216	175L, neck opening diameter 216mm	1. Includes a locking cover SG-216 2. Includes a cork with neck opening diameter of 125mm	1. 10-layer Square Canister (FTT-10-99) 2. Trolley YSC-M 3. Level Monitoring System ZTC-100A 4. Level Measuring Scale 5. SmartCap LT-216 6. Relay Module SW-300 (Required for cork networking)
YDS-175-216	175L, neck opening diameter 216mm	1. Includes a locking cover SG-216 2. Includes a cork with neck opening diameter of 125mm	1. 10-layer Square Canister (FTT-10-99) 2. Trolley YSC-M 3. Level Monitoring System ZTC-100A 4. Level Measuring Scale 5. SmartCap LT-216 6. Relay Module SW-300 (Required for cork networking)
YDS-175-216-F	175L, neck opening diameter 216mm	1. Includes a locking cover SG-216 2. Includes a cork with neck opening diameter of 125mm 3. Includes 6 10-layer square canisters (FTT-10-99) 4. Includes 9*9 cryogenic boxes (may be changed for 10*10)	1. Trolley YSC-M 2. Level Monitoring System ZTC-100A 3. Level Measuring Scale 4. SmartCap LT-216 5. Relay Module SW-300 (Required for cork networking)
YDS-175-216-F	175L, neck opening diameter 216mm	1. Includes a locking cover SG-216 2. Includes a cork with neck opening diameter of 125mm 3. Includes 6 10-layer square canisters (FTT-10-99) 4. Includes 9*9 cryogenic boxes (may be changed for 10*10)	1. Trolley YSC-M 2. Level Monitoring System ZTC-100A 3. Level Measuring Scale 4. SmartCap LT-216 5. Relay Module SW-300 (Required for cork networking)

Aluminium Alloy Series for Storage

Left Page (35)

Category	Model	Description	Standard	Optional
Self Pressurization Type	YDZ-5	5L, neck opening diameter 40mm, height 510mm	Includes single-layer transfusion hoses (GZ-DN15/1.5)	/
	YDZ-15	15L, neck opening diameter 40mm, height 750mm	Includes single-layer transfusion hoses (GZ-DN15/1.5)	/
	YDZ-30	30L, neck opening diameter 40mm, height 879mm	Includes single-layer transfusion hoses (GZ-DN15/1.5)	Float-Type Liquidometer (FZ-30)
	YDZ-50	50L, neck opening diameter 40mm, height 991mm	Includes single-layer transfusion hoses (GZ-DN15/1.5)	Float-Type Liquidometer (FZ-50)
	YDZ-100	100L, neck opening diameter 40mm, height 1185mm	Includes single-layer transfusion hoses (GZ-DN15/1.5)	Float-Type Liquidometer (FZ-100)
	YDZ-150	150L, neck opening diameter 40mm, height 1188mm	Includes single-layer transfusion hoses (GZ-DN15/1.5)	Float-Type Liquidometer (FZ-150)
	YDZ-200	200L, neck opening diameter 40mm, height 1265mm	Includes single-layer transfusion hoses (GZ-DN15/1.5)	Float-Type Liquidometer (FZ-200)
	YDZ-300	300L, neck opening diameter 40mm, height 1459mm	Includes single-layer transfusion hoses (GZ-DN15/1.5)	Float-Type Liquidometer (FZ-300)
	YDZ-500	500L, neck opening diameter 40mm, height 1576mm	Includes single-layer transfusion hoses (GZ-DN15/1.5)	Float-Type Liquidometer (FZ-500)
High Capacity Series Storage or Transport	YDS-2-30	2L, neck opening diameter 30mm	1. Includes 3 canisters (TT-30D) 2. Protective jacket	Locking Cover SG-30
	YDS-3	3L, neck opening diameter 50mm	Protective jacket	1. Canister TT-50D 2. Locking Cover SG-50
	YDS-6	6L, neck opening diameter 50mm	Protective jacket	1. Canister TT-50D 2. Locking Cover SG-50
	YDS-10	10L, neck opening diameter 50mm	Protective jacket	1. Canister TT-50D 2. Locking Cover SG-50
	YDS-10-80	10L, neck opening diameter 80mm	Protective jacket	1. Canister TT-80D 2. Locking Cover SG-80
	YDS-10-125	10L, neck opening diameter 125mm	/	1. Canister TT-125D 2. Locking Cover SG-125
	YDS-13	13L, neck opening diameter 50mm	Protective jacket	1. Canister TT-50D 2. Locking Cover SG-50
	YDS-15	15L, neck opening diameter 50mm	Protective jacket	1. Canister TT-50D 2. Locking Cover SG-50
	YDS-20	20L, neck opening diameter 50mm	Protective jacket	1. Canister TT-50S 2. Locking Cover SG-50 3. Trolley YSC-S 4. Level Monitoring System ZTC-100A
	YDS-30	30L, neck opening diameter 50mm	Protective jacket	1. Canister TT-50S, TT-50D 2. Locking Cover SG-50 3. Trolley YSC-S 4. Level Monitoring System ZTC-100A
	YDS-30-80	30L, neck opening diameter 80mm	Protective jacket	1. Canister TT-80D 2. Locking Cover SG-80 3. Trolley YSC-S 4. Level Monitoring System ZTC-100A
	YDS-30-125	30L, neck opening diameter 125mm	Protective jacket	1. Canister TT-125D 2. Locking Cover SG-125 3. Trolley YSC-S 4. Level Monitoring System ZTC-100A
	YDS-35	35L, neck opening diameter 50mm	Protective jacket	1. Canister TT-50S, TT-50D 2. Locking Cover SG-50 3. Trolley YSC-S 4. Level Monitoring System ZTC-100A
	YDS-35-80	35L, neck opening diameter 80mm	Protective jacket	1. Canister TT-80D 2. Locking Cover SG-80 3. Trolley YSC-S 4. Level Monitoring System ZTC-100A
	YDS-35-125	35L, neck opening diameter 125mm	Protective jacket	1. Canister TT-125S, TT-125D 2. Locking Cover SG-125 3. Trolley YSC-S 4. Level Monitoring System ZTC-100A
	YDS-47-127	47L, neck opening diameter 127mm	1. Includes 10 round canisters with diameter of 72mm and length of 276mm 2. Includes a locking cover SG-125	1. Trolley YSC-S 2. Level Monitoring System ZTC-100A
	YDS-20B	20L, neck opening diameter 50mm	Protective jacket	1. Canister TT-50S, TT-50D 2. Locking Cover SG-50 3. Trolley YSC-S 4. Level Monitoring System ZTC-100A
	YDS-30B	30L, neck opening diameter 50mm	Protective jacket	1. Canister TT-50S, TT-50D 2. Locking Cover SG-50 3. Trolley YSC-S 4. Level Monitoring System ZTC-100A
	YDS-35B	35L, neck opening diameter 50mm	Protective jacket	1. Canister TT-50S, TT-50D 2. Locking Cover SG-50 3. Trolley YSC-S 4. Level Monitoring System ZTC-100A
	YDS-35B-80	35L, neck opening diameter 80mm	Protective jacket	1. Canister TT-80D 2. Locking Cover SG-80 3. Trolley YSC-S 4. Level Monitoring System ZTC-100A

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Category	Model	Description	Standard	Optional
High Capacity Series Storage or Transport	YDS-35B-125	35L, neck opening diameter 125mm	Protective jacket	1. Canister TT-125S, TT-125D 2. Locking Cover SG-125 3. Trolley YSC-S 4. Level Monitoring System ZTC-100A
	YDS-50B	50L, neck opening diameter 50mm	Protective jacket	1. Canister TT-50S, TT-50D 2. Locking Cover SG-50 3. Trolley YSC-S 4. Level Monitoring System ZTC-100A
	YDS-50B-125	50L, neck opening diameter 125mm	Protective jacket	1. Canister TT-125S, TT-125D 2. Locking Cover SG-125 3. Trolley YSC-S 4. Level Monitoring System ZTC-100A
Dryshipper Series for Transportation	YDH-3	Adsorption 1.3L, neck opening diameter 50mm	1. Protective jacket 2. Locking cover SG-50 3. 1*120mm round canister	/
	YDH-6-80	Adsorption 2.9L, neck opening diameter 80mm	1. Protective jacket 2. Locking cover SG-80 3. 1*120mm round canister	/
	YDH-10-125	Adsorption 3.4L, neck opening diameter 125mm	1. Protective jacket 2. Locking cover SG-125	1. 1 4-layer Square Canister (FTT-4-55) 2. Level Monitoring System ZTC-100A
	YDH-10-125-F	Adsorption 3.4L, neck opening diameter 125mm	1. Protective jacket 2. Locking cover SG-125 3. 1* 4-layer square canister (FTT-4-55)	Level Monitoring System ZTC-100A
	YDH-25-216-F	Adsorption 9L, neck opening diameter 216mm	1. Locking cover SG-216 2. 1*5-layer square canister (FTT-5-99)	Level Monitoring System ZTC-100A
Small Sized Storage Series	YDS-30-125-F	30L, neck opening diameter 125mm	1. Locking cover SG-125 2. Protective jacket 3. 6*4-layer square canisters (FTT-4-55)	1. Trolley YSC-S 2. Level Monitoring System ZTC-100A
	YDS-35-125-F	35L, neck opening diameter 125mm	1. Locking cover SG-125 2. Protective jacket 3. 6*5-layer square canisters (FTT-5-55)	1. Trolley YSC-S 2. Level Monitoring System ZTC-100A
	YDS-47-127-6YS	47L, neck opening diameter 127mm	1. Locking cover SG-125 2. 6*5-layer round-cell canisters (including 37-cell cryogenic boxes)	1. Trolley YSC-S 2. Level Monitoring System ZTC-100A
	YDS-50B-125-F	50L, neck opening diameter 125mm	1. Locking cover SG-125 2. Protective jacket 3. 6*6-layer square canisters (FTT-6-55)	1. Trolley YSC-S 2. Level Monitoring System ZTC-100A
Biobank Series for Large Scale Storage	YDD-300-326	300L, neck opening diameter 326mm	Includes vacuum hoses (GRG-DN10/2.0)	1. Square Canister FTT-10-55 2. Square Canister FTT-10-99 3. Cryosmart Level Monitoring System SJMU-700N 4. 50ml Blood Bag Cryogenic Rack YDCJ-6 5. 250ml Blood Bag Cryogenic Rack YDCJ-3 6. Level Measuring Scale 1000mm 7. 5*5 Cryogenic Box, 9*9 Cryogenic Box, 10*10 Cryogenic Box
	YDD-550-445	550L, neck opening diameter 445mm	Includes vacuum hoses (GRG-DN10/2.0)	1. Square Canister FTT-10-55 2. Square Canister FTT-10-99 3. Cryosmart Level Monitoring System SJMU-700N 4. 50ml Blood Bag Cryogenic Rack YDCJ-6 5. 250ml Blood Bag Cryogenic Rack YDCJ-3 6. Level Measuring Scale 1000mm 7. 5*5 Cryogenic Box, 9*9 Cryogenic Box, 10*10 Cryogenic Box
	YDD-750-445	750L, neck opening diameter 445mm	Includes vacuum hoses (GRG-DN10/2.0)	1. Square Canister FTT-12-55 2. Square Canister FTT-12-99 3. Cryosmart Level Monitoring System SJMU-700N 4. 250ml Blood Bag Cryogenic Rack YDCJ-5-II 5. Level Measuring Scale 1000mm 6. 5*5 Cryogenic Box, 9*9 Cryogenic Box, 10*10 Cryogenic Box
	YDD-850-465	850L, neck opening diameter 465mm	Includes vacuum hoses (GRG-DN10/2.0)	1. Square Canister FTT-13-55 2. Square Canister FTT-13-99 3. Cryosmart Level Monitoring System SJMU-700N 4. 50ml Blood Bag Cryogenic Rack YDCJ-7 5. 250ml Blood Bag Cryogenic Rack YDCJ-4 6. Level Measuring Scale 1000mm 7. 5*5 Cryogenic Box, 9*9 Cryogenic Box, 10*10 Cryogenic Box
	YDD-1000-465	1000L, neck opening diameter 465mm	Includes vacuum hoses (GRG-DN10/2.0)	1. Square Canister FTT-15-55 2. Square Canister FTT-15-99 3. Cryosmart Level Monitoring System SJMU-700N 4. 50ml Blood Bag Cryogenic Rack YDCJ-9 5. 250ml Blood Bag Cryogenic Rack YDCJ-5-II 6. Level Measuring Scale 1000mm 7. 5*5 Cryogenic Box, 9*9 Cryogenic Box, 10*10 Cryogenic Box
	YDD-1300-635	1300L, neck opening diameter 635mm	Includes vacuum hoses (GRG-DN10/2.0)	1. Square Canister FTT-10-55 2. Square Canister FTT-10-99 3. Cryosmart Level Monitoring System SJMU-700N 4. 50ml Blood Bag Cryogenic Rack YDCJ-6 5. 250ml Blood Bag Cryogenic Rack YDCJ-3 6. Level Measuring Scale 1000mm 7. 5*5 Cryogenic Box, 9*9 Cryogenic Box, 10*10 Cryogenic Box

Model		Description	Accessories	
			Standard	Optional
Biobank Series for Large Scale Storage	YDD-1600-635	1600L, neck opening diameter 635mm	Includes vacuum hoses (GRG-DN10/2.0)	1. Square Canister FTT-13-55 2. Square Canister FTT-13-99 3. Cryosmart Level Monitoring System SJMU-700N 4. 50ml Blood Bag Cryogenic Rack YDCJ-7 5. 250ml Blood Bag Cryogenic Rack YDCJ-4 6. Level Measuring Scale 1000mm 7. 5*5 Cryogenic Box, 9*9 Cryogenic Box, 10*10 Cryogenic Box
	YDD-1800-635	1800L, neck opening diameter 635mm	Includes vacuum hoses (GRG-DN10/2.0)	1. Square Canister FTT-15-55 2. Square Canister FTT-15-99 3. Cryosmart Level Monitoring System SJMU-700N 4. 50ml Blood Bag Cryogenic Rack YDCJ-9 5. 250ml Blood Bag Cryogenic Rack YDCJ-5-II 6. Level Measuring Scale 1000mm 7. 5*5 Cryogenic Box, 9*9 Cryogenic Box, 10*10 Cryogenic Box
Smart Series	YDS-65-216-FZ	65L, neck opening diameter 216mm	1. Includes an intelligent locking cover 2. Includes a cork with neck opening diameter of 216mm 3. Includes 6*4-layer square canisters (FTT-4-99) 4. Includes 9*9 cryogenic boxes (may be changed for 10*10)	Trolley YSC-M
	YDS-95-216-FZ	95L, neck opening diameter 216mm	1. Includes an intelligent locking cover 2. Includes a cork with neck opening diameter of 216mm 3. Includes 6 5-layer square canisters (FTT-5-99) 4. Includes 9*9 cryogenic boxes (may be changed for 10*10)	Trolley YSC-M
	YDS-115-216-FZ	115L, neck opening diameter 216mm	1. Includes an intelligent locking cover 2. Includes a cork with neck opening diameter of 216mm 3. Includes 6 6-layer square canisters (FTT-6-99) 4. Includes 9*9 cryogenic boxes (may be changed for 10*10)	Trolley YSC-M
	YDS-145-216-FZ	145L, neck opening diameter 216mm	1. Includes an intelligent locking cover 2. Includes a cork with neck opening diameter of 216mm 3. Includes 6 8-layer square canisters (FTT-8-99) 4. Includes 9*9 cryogenic boxes (may be changed for 10*10)	Trolley YSC-M
	YDS-175-216-FZ	175L, neck opening diameter 216mm	1. Includes an intelligent locking cover 2. Includes a cork with neck opening diameter of 216mm 3. Includes 6 10-layer square canisters (FTT-10-99) 4. Includes 9*9 cryogenic boxes (may be changed for 10*10)	Trolley YSC-M

Accessories	Model	Picture	Applicable Model	Standard Equipped or Optional	Exterior Dimensions (mm)	Gross Weight (kg)	Other Description
Square Canister	Square Canister FTT-4-55		YDS-30-125/YDS-10-125	Optional	80×82×575	0.42	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		YDS-35-125\YDS-47-127	Optional	80×82×610	0.48	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		YDS-50-125	Optional	80×82×710	0.55	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		YDD-350\550\1300	Optional	82×84×565	1.05	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		YDD-850\1600	Optional	82×84×733	1.37	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		YDD-1000\1800X2000	Optional	82×84×845	1.58	Used to store 2ml cryogenic boxes (5*5); fifteen layers in total; suitable for YDD-1000\1800X2000 (excluding cryogenic boxes)
	Square Canister FTT-4-99		YDS-65-216	Optional	142×144×565	0.88	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)

Accessories	Model	Picture	Applicable Model	Standard Equipped or Optional	Exterior Dimensions (mm)	Gross Weight (kg)	Other Description
Square Canister	Square Canister FTT-4-55		YDS-30-125/YDS-10-125	Optional	80×82×575	0.42	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		YDS-35-125\YDS-47-127	Optional	80×82×610	0.48	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		YDS-50-125	Optional	80×82×710	0.55	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		YDD-350\550\1300	Optional	82×84×565	1.05	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		YDD-850\1600	Optional	82×84×733	1.37	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		YDD-1000\1800X2000	Optional	82×84×845	1.58	Used to store 2ml cryogenic boxes (5*5); fifteen layers in total; suitable for YDD-1000\1800X2000 (excluding cryogenic boxes)
	Square Canister FTT-4-99		YDS-65-216	Optional	142×144×565	0.88	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		YDS-95-216\YDS-25H-216	Optional	142×144×630	0.95	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		YDS-115-216	Optional	142×144×690	1.08	Standard accessories include no canister; including protective jacket and excluding locking cover; maximum 6 canisters are optional
	Square Canister FTT-8-99		YDS-145-216	Optional	142×144×795	1.30	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		YDD-350\550\1300	Optional	142×144×915	1.48	Used to store 2ml cryogenic boxes (9*9); ten layers in total; suitable for YDD-350\550\l300 (excluding cryogenic boxes)
	Square Canister FTT-10-99 (with boxes)		YDS-175-216- F	Optional	142×144×565	2.10	10 layers in total, including 9x9 cryogenic boxes; suitable for YDS-175-216- F
	Square Canister FTT-13-99		YDD-850\1600	Optional	142×144×733	2.66	Used to store 2ml cryogenic boxes (9*9); 13 layers in total; suitable for YDD-850\l600 (excluding cryogenic
	Square Canister FTT-15-99		YDD-1000\1800\2000	Optional	142×144×845	3.15	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		Suitable for both YDS series and YDZ series	Optional	95×155×35	0.50	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		Suitable for both YDS series and YDZ series	Optional	95×155×35	0.50	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		Suitable for both YDS series and YDZ series	Optional	95×155×35	0.50	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 Only YDD series	Optional	175×195×85	3.21	Suitable for all differential pressure measurement gas-phase liquid nitrogen containers; including the liquid inlet system and excluding the wireless data transmission module

Accessories	Model	Picture	Applicable Model	Standard Equipped or Optional	Exterior Dimensions (mm)	Gross Weight (kg)	Other Description
Stainless Steel Trolley	Trolley YSC-S		Suitable for 30-50L series of products (new 47-127 liquid nitrogen containers need to be separately noted); suitable for 30L, 35L and 50L series of products; equipped with 5 universal casters	Optional	80×82×575	0.42	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)
	Trolley YSC-M		Suitable for 65-175L series of products; configured with 5 universal casters	Optional	80×82×610	0.48	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)
Liquid Nitrogen Pump	ZYB-5 Hand Held Liquid Nitrogen Pump		Suitable for series of products above 20L with opening diameter of 50	Optional	250×185×1115	18.50	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 of products above 20L with opening diameter of 850	Optional	250×185×1115	24.50	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 aluminum containers below 20L (measuring length: 60cm)	Optional	60	0.12	Suitable for aluminium containers with capacity of no less than 20L (measuring length 60cm)
	Level Measuring Scale (1000MM)		Suitable for aluminum containers below 20L (measuring length: 100cm)	Optional	100	0.18	Suitable for aluminium containers with capacity of no less than 20L (measuring length 100cm)
Cryogenic Rack	Cryogenic RackYDCJ-6	Irregular inventory; no picture available; to be customized	For 50ml blood bag; 1 blood bag in each cryogenic rack layer; 6 layers in total; including blood bag cryogenic box; suitable for YDD=300\550\1300	Optional	Customized model	/	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\i 300
	Cryogenic RackYDCJ-7	Irregular inventory; no picture available; to be customized	For 50ml blood bag; 1 blood bag in each cryogenic rack layer; 7 layers in total; including blood bag cryogenic box; suitable for YDD=850\1600	Optional	Customized model	/	Used to store 50ml blood bag; 7 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes; suitable forYDD-850\1600
	Cryogenic RackYDCJ-9	Irregular inventory; no picture available; to be customized	For 50ml blood bag; 1 blood bag in each cryogenic rack layer; 9 layers in total; including blood bag cryogenic box; suitable for YDD=1000\1800\2100	Optional	Customized model	/	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\ 18OO\2100
	Cryogenic RackYDCJ-3	Irregular inventory; no picture available; to be customized	For 250ml blood bag; 1 blood bag in each cryogenic rack layer; 3 layers in total; including blood bag cryogenic box; suitable for YDD=350\550\1300	Optional	Customized model	/	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 RackYDCJ-4	Irregular inventory; no picture available; to be customized	For 250ml blood bag; 1 blood bag in each cryogenic rack layer; 4 layers in total; including blood bag cryogenic box; suitable for YDD=850	Optional	Customized model	/	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 RackYDCJ-5-11	Irregular inventory; no picture available; to be customized	For 250ml blood bag; 1 blood bag in each cryogenic rack layer; 5 layers in total; including blood bag cryogenic box; suitable for YDD-450\750\1000\1800\1900\2000	Optional	Customized model	/	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\i900X2000
Cork	Cork with neck opening diameter of 30mm		Suitable for corks with opening diameter of 30	Optional	128×128×210	0.20	Including the cap and the cork body: suitable forYDS-2-30
	Cork with neck opening diameterof 35mm		Suitable for corks with opening diameter of 35	Optional	128×128×210	0.24	Including the cap and the cork body: suitable forYDS-2-35
	Cork with neck opening diameter of 50mm		Suitable for corks with opening diameter of 50	Optional	128×128×210	0.28	Suitable for neck opening diameter of 50mm
	Cork with neck opening diameter of 80mm		Suitable for corks with opening diameter of 80	Optional	128×128×200	0.32	Suitable for neck opening diameter of 80mm
	Cork with neck opening diameter of 125mm		Suitable for corks with opening diameter of 125	Optional	170×170×180	0.38	Suitable for neck opening diameter of 125mm
	Cork with neck opening diameter of 216mm		Suitable for corks with opening diameter of 216	Optional	220×220×210	0.51	Suitable for neck opening diameter of 216mm
Locking Cover	Locking Cover SG-30		Suitable for locking cover with opening diameter of 30	Optional	130×130×80	0.65	Suitable for YDS-2-30
	Locking Cover SG-35		Suitable for locking cover with opening diameter of 35	Optional	130×130×80	0.65	Suitable for YDS-2-35
	Locking Cover SG-50		Suitable for locking cover with opening diameter of 50	Optional	140×140×80	0.70	Suitable for neck opening diameter of 50mm
	Locking Cover SG-80		Suitable for locking cover with opening diameter of 80	Optional	180×180×100	0.80	Suitable for neck opening diameter of 80mm
	Locking Cover SG-125		Suitable for locking cover with opening diameter of 125	Optional	210×210×120	0.90	Suitable for neck opening diameter of 125mm
	Locking Cover SG-216		Suitable for locking cover with opening diameter of 216	Optional	280×280×150	1.10	Suitable for neck opening diameter of 216mm

Accessories	Model	Picture	Applicable Model	Standard Equipped or Optional	Exterior Dimensions (mm)	Gross Weight (kg)	Other Description
Canister	Canister TT-30D		Suitable for 120mm round canister with neck opening diameter of 30	Optional	Φ25×330	0.05	Diameter of 19mm,height of 120mm，single layered canister，Suitable for YDS-2-30
	Canister TT-35D		Suitable for 120mm round canister with neck opening diameter of 35	Optional	Φ25×330	0.05	Diameter of 25mm,height of 120mm，single layered canister，excluding white plastic goblet，Suitable for YDS-2-30
	Canister TT-50D		Suitable for 120mm round canister with neck opening diameter of 50	Optional	Φ38×610	0.08	Diameter of 38mm,height of 120mm，single layered canister，excluding white plastic goblet，Suitable for YDS-6,YDS-10,YDS-15,YDS-20,YDS-30,YDS-35,YDS-50 models
	Canister TT-50S		Suitable for 276mm round canister with neck opening diameter of 50	Optional	Φ38×675	0.08	Diameter of 38mm,height of 276mm，double layered canister，excluding white plastic goblet，Suitable for YDS-13,YDS-30,YDS-35,YDS-50 models
	Canister TT-80D		Suitable for 120mm round canister with neck opening diameter of 80	Optional	Φ63×675	0.16	Diameter of 63mm,height of 120mm，single layered canister，excluding white plastic goblet，Suitable for YDS-10-80,YDS-30-80,YDS-35-80,YDS-6H-80,YDS-8H-80 models
	Canister TT-125D		Suitable for 120mm round canister with neck opening diameter of 125	Optional	Φ97×710	0.33	Diameter of 97mm,height of 120mm，single layered canister，excluding white plastic goblet，Suitable for YDS-30-125,YDS-35-125,YDS-50B-125
Cryo Tube Clip	Cryo Tube Clip (Type 3)		Universal	Optional	20×20×150	0.01	Suitable for canister with the height of 120MM，contain Cryo Tube Clip and plastic jacket，each tube contain 3.2mlCryo Tube
	Cryo Tube Clip (Type 6)		Universal	Optional	20×20×300	0.02	Suitable for canister with the height of 276MM，contain Cryo Tube Clip and plastic jacket，each tube contain 6.2mlCryo Tube
Float-Type Liquidometer	FZ-30		Suitable for 30L self-pressurization containers	Optional	/	/	Suitable for YDZ-30
	FZ-50		Suitable for 50L self-pressurization containers	Optional	/	/	Suitable for YDZ-50
	FZ-100		Suitable for 100L self-pressurization containers	Optional	/	/	Suitable for YDZ-100
	FZ-150		Suitable for 150L self-pressurization containers	Optional	/	/	Suitable for YDZ-150
	FZ-175		Suitable for 175L self-pressurization containers	Optional	/	/	Suitable for YDZ-175
	FZ-200		Suitable for 200L self-pressurization containers	Optional	/	/	Suitable for YDZ-200
	FZ-300		Suitable for 300L self-pressurization containers	Optional	/	/	Suitable for YDZ-300
	FZ-500		Suitable for 500L self-pressurization containers	Optional	/	/	Suitable for YDZ-500
Cryogenic Gloves	Special for low temperature, 32cm in length		Universal	Optional	320×150×10	0.08	Overall length 320mm
	Special for low temperature, 45cm in length		Universal	Optional	450×180×10	0.10	Overall length 450mm
	Special for low temperature, 72cm in length		Universal	Optional	720×200×20	0.12	Overall length720mm
Flexible Metal Tubing	GZ-DN15/1.5		Drift diameter: 10mm; length: 1.5m; special for self-pressurization containers	Optional	1500×20×20	1.20	Diameter of 10mm，length of 1.5M, suitable for YDZ series
	GB-DN15/1.5		Drift diameter: 10mm; length: 1.0m; special for liquid nitrogen pump	Optional	1000×20×20	1.20	Diameter of 10mm，length of 1.0M, suitable for liquid nitrogen pump series