

# Haier

## Haier Liquid Nitrogen Storage Solution

Extra large LCD and cryogenic intelligent management establishing new global standard



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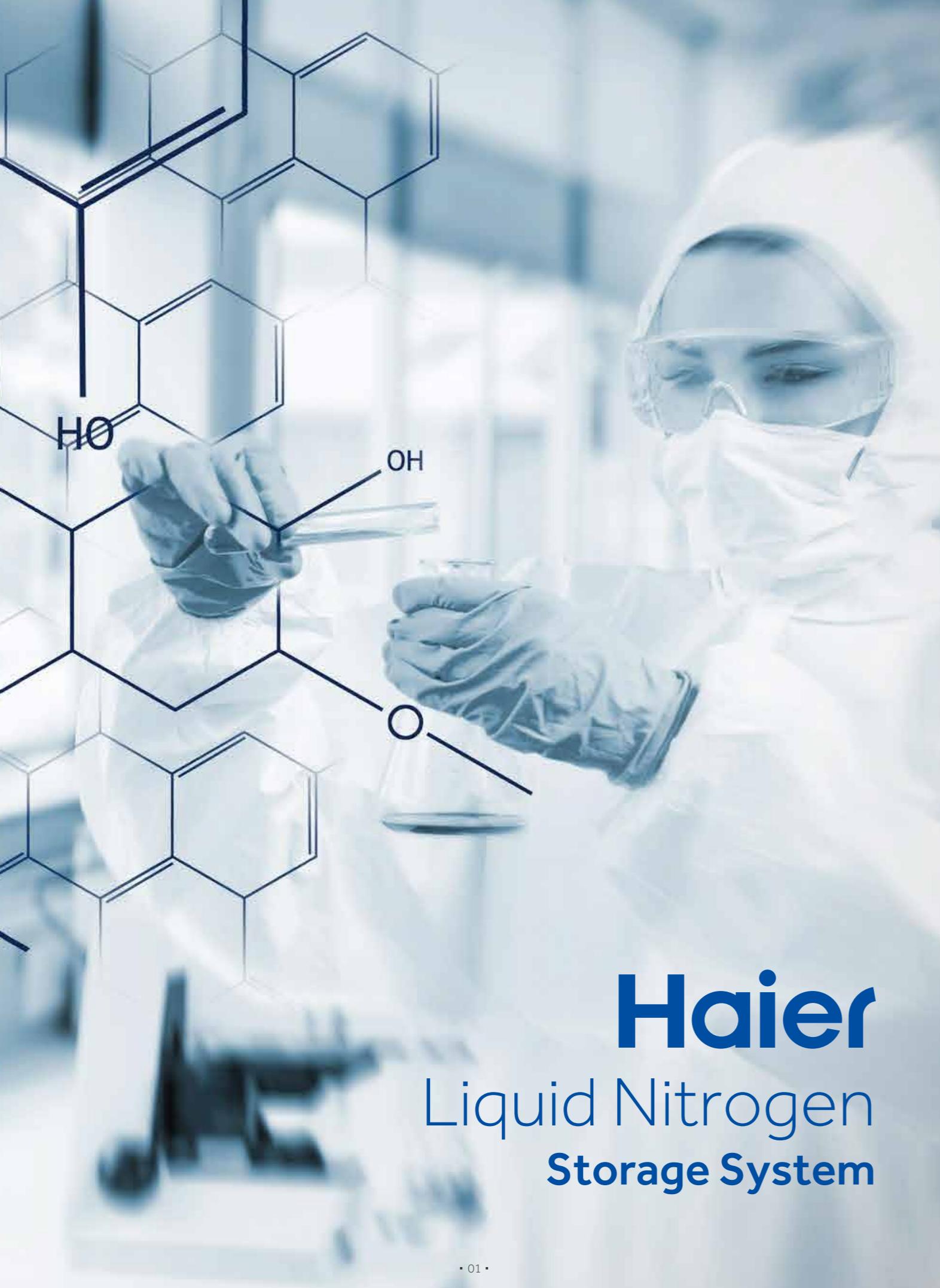
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Note: If slight difference occurs between pictures and actual products, please refer to actual products. Our company reserves the right of final interpretation to this brochure and please contact with us for future information you might need.

**Haier Biomedical**  
Intelligent Protection of Life Science



# Haier

## Liquid Nitrogen Storage System

## Directory

<b>Liquid Nitrogen Container</b> .....	<b>03-32</b>	
• <b>Smart Series</b>	Introduction .....	04
	Key Features .....	04
	Product Advantages .....	05
	Technical Parameters .....	06
	Accessories .....	06
• <b>Biobank Series</b>	Introduction .....	08
	Key Features .....	08
	Product Advantages .....	09
	Product Details .....	10
	Temperature Graph .....	11
	Square Canister&Racks Layout .....	12
	Technical Parameters .....	14
• <b>Medical Series</b>	Introduction .....	16
	Key Features .....	16
	Product Advantages .....	17
	Technical Parameters .....	18
	Accessories .....	18
• <b>LAB Series</b>	Introduction .....	20
	Key Features .....	20
	Product Advantages .....	21
	Technical Parameters .....	22
	Accessories .....	22
• <b>BIO Series</b>	Introduction .....	24
	Key Features .....	24
	Product Advantages .....	25
	Technical Parameters .....	25
	Cryo Tube Clamp Parameters .....	28
	Accessories .....	28
• <b>Biotrek Series</b>	Introduction .....	30
	Key Features .....	30
	Product Advantages .....	31
	Technical Parameters .....	32
• <b>Cryostor Series</b>	Introduction .....	34
	Key Features .....	34
	Product Advantages .....	35
	Technical Parameters .....	36
<b>Product List</b> .....	<b>37-42</b>	

# 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
- Cloud data storage for traceability
- 5 year vacuum warranty
- Low consumption rate and high performance stability
- Durable aluminum construction
- New lock design
- Real time monitor of temperature and fluid level

## 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.



### Built-in Lithium battery

Built-in battery can support the operation up to three years without any external power.



### 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-140-216-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
5MLstorage vials (36/box)	648	864	1080	1296	1728
Layers in pickup barrel	3	4	5	6	8
<b>Function</b>					
Liquid Nitrogen volume (L)	65	95	115	140	175
Static evaporation rate (%/d)	0.79	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>Specifications</b>					
Mouth (MM)	216	216	216	216	216
Overall height (MM)	710	726	796	910	1026
Overall Diameter (MM)	681	681	681	681	681
Empty container weight (KG)	27.5	34.5	38.5	42.5	55
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.

## Accessories

Trolley		Square Rack		Cryogenic Box	
216 Diameter Lock Cap		5 ml Customized Holder		5 ml Customized Cryogenic Box	

## Haier Liquid Nitrogen Storage System

### Biobank Series

LN<sub>2</sub> 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



#### Introduction

Biobank Series has six models with capacity of 300, 500, 800, 1000, 1500, and 1800. 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
- One-touch defogging for easier access
- Vapor phase storage is the only guaranteed method to prevent cross-contamination
- LN<sub>2</sub> splash proof ensures safer operation
- Vapor phase storage at -190°C
- Biobank storage compatible
- 5 year vacuum warranty

## 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 Storage

Each model of Biobank Series is designed for both liquid and vapor phase storage. 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.

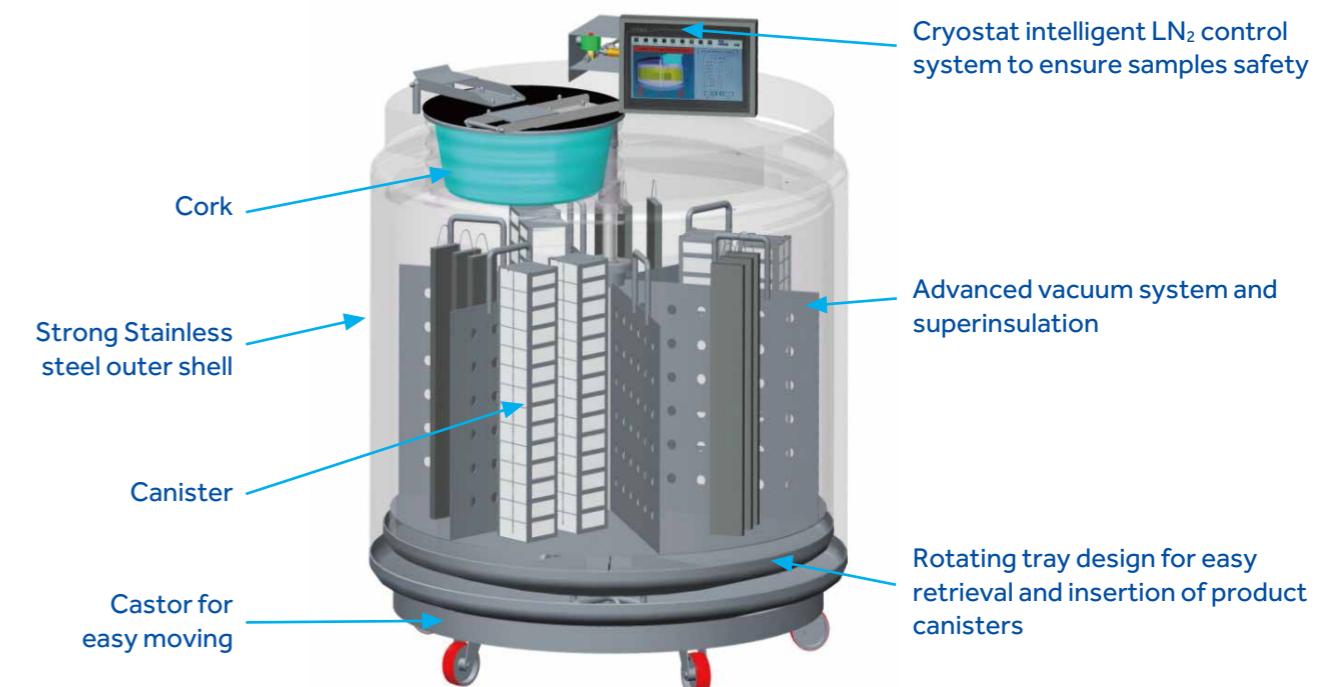


### Cryosmart Intelligent Liquid Nitrogen Control System

Haier Liquid Nitrogen Storage System Biobank Series features Cryosmart system for complete monitoring and controlling. High-precision temperature and liquid level censors 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.

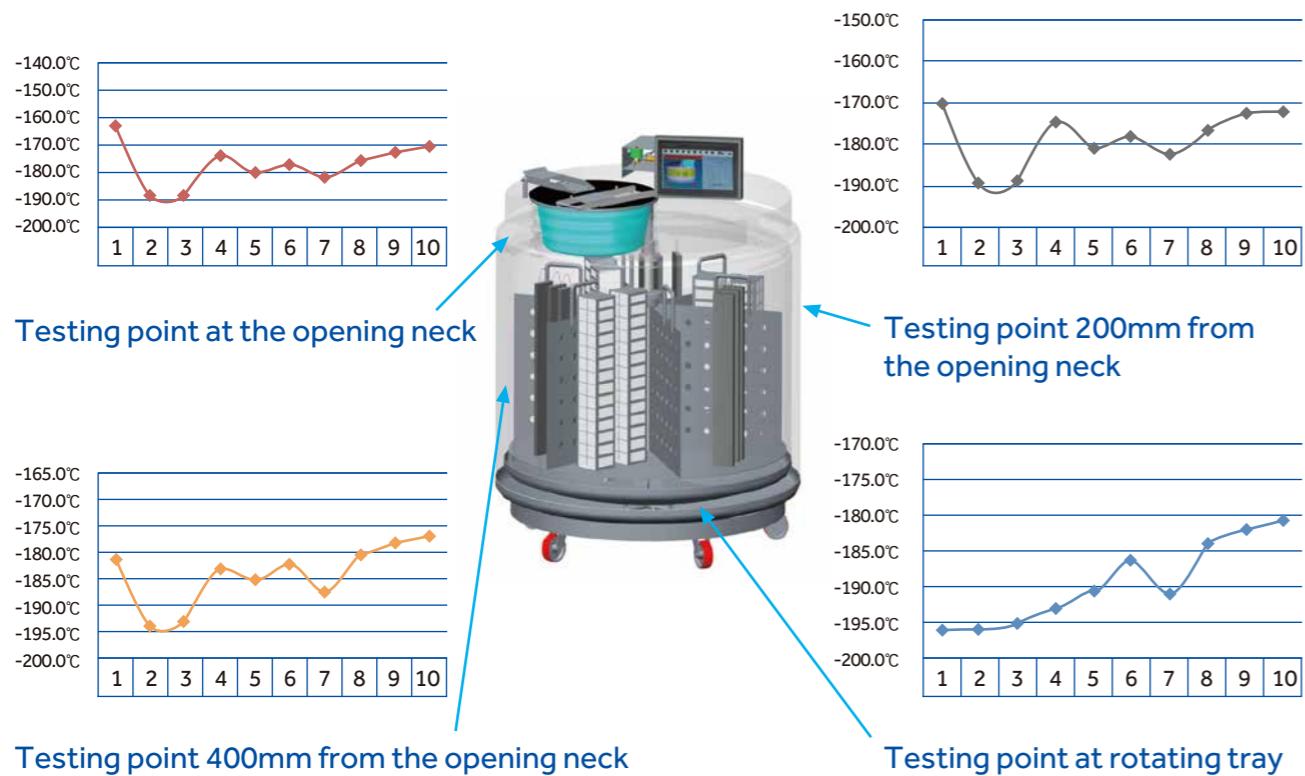


Small self-pressurized liquid nitrogen supply system suitable for research institutes to handle fewer samples.

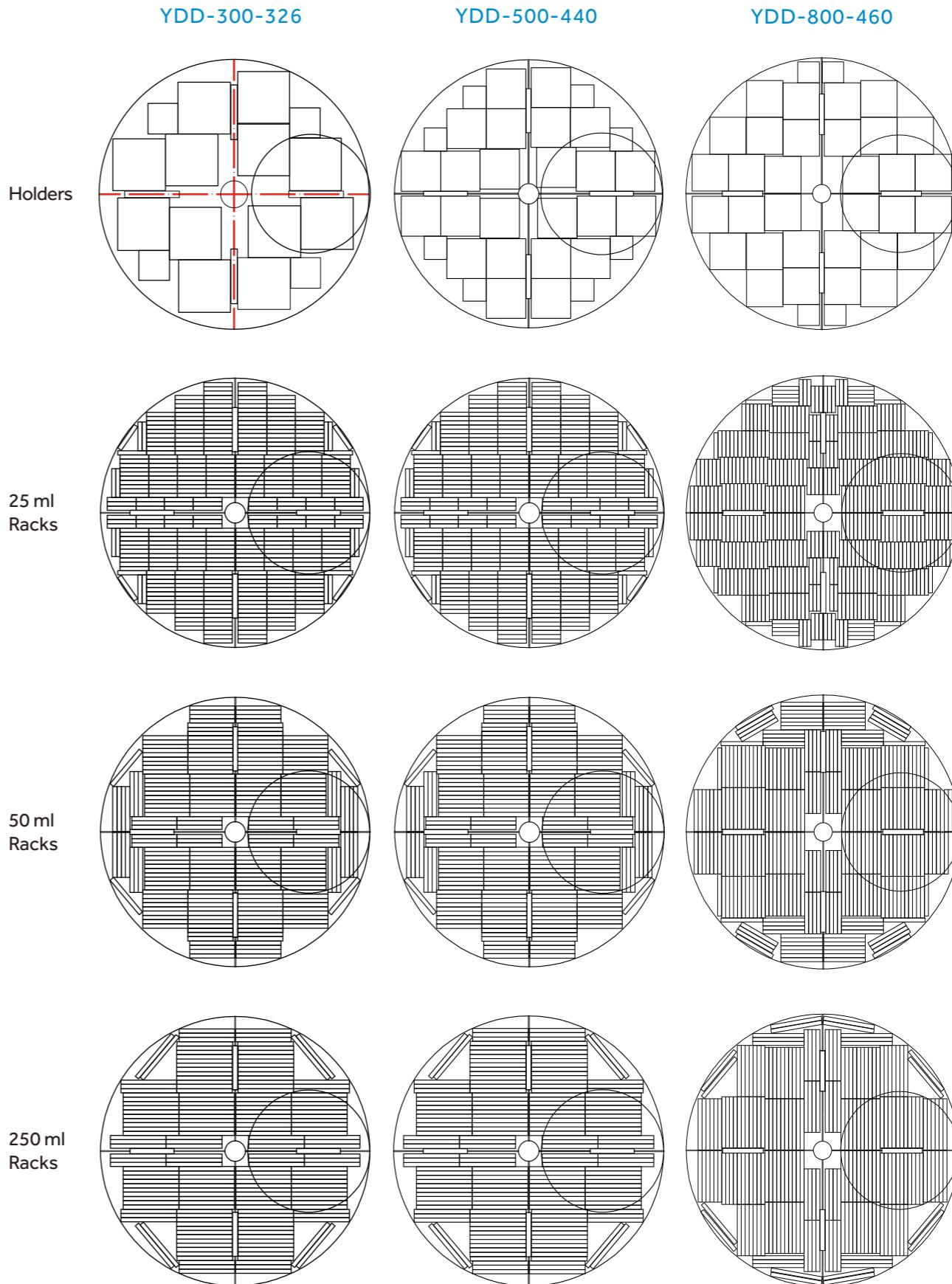


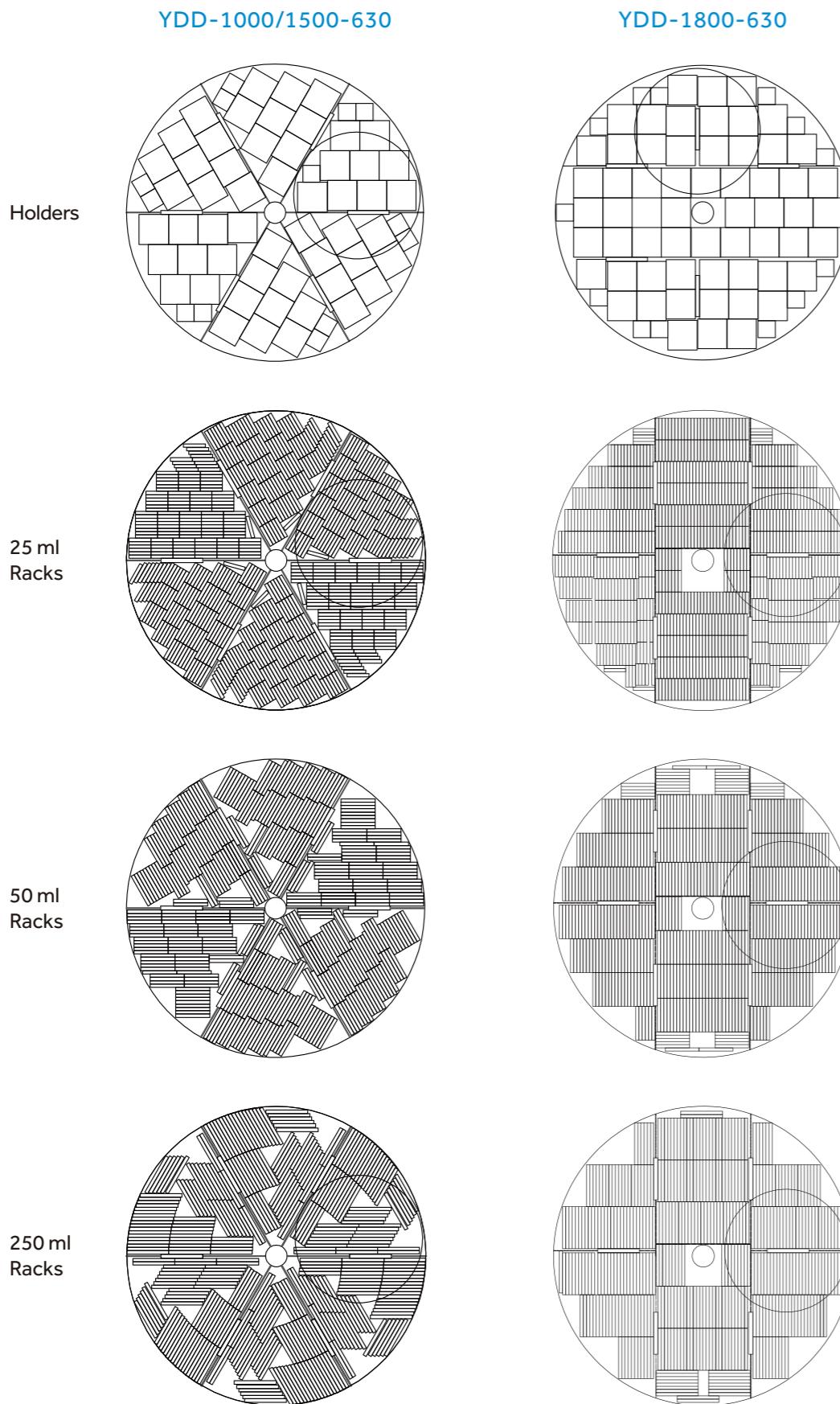
## Temperature Graph

10 times testing data within 5 days



## Square Canister&Racks Layout





### Technical Parameters

Model	YDD-300-326	YDD-500-440	YDD-800-460	YDD-1000-630	YDD-1500-630	YDD-1800-630
Maximum Storage Capacity						
2 ml Vials (Internal Thread)	13000	26000	42900	58500	76050	94875
Freeze Rack (100 wells)	12	24	32	54	54	60
Freeze Rack (25 wells)	4	8	4	18	18	13
Layers of each rack	10	10	13	10	13	15
0.5 ml Vials (Internal Thread)	18200	33800	56100	81900	99450	126500
Freeze Rack (100 wells)	12	24	32	54	54	60
Freeze Rack (25 wells)	4	8	4	18	18	13
Layers of each rack	14	13	17	14	18	20
Performance						
Volume of LN <sub>2</sub> (L)	280	470	675	895	1316	1520
Volume of LN <sub>2</sub> under the tray (L)	55	80	135	265	300	320
Specifications						
Inside Neck Diameter (MM)	326	440	460	630	630	630
Height (MM)	1180	1160	1435	1360	1570	1680
Operating Height (MM)	1180	1160	1110	1060	1070	1080
Outside Diameter (MM)	870	1080	1180	1565	1565	1565
Door Width Requirement (MM)	1000	1200	1300	1700	1700	1700
Empty Weight (KG)	219	328	441	733	840	925
Gross Weight (KG)	490	771	1089	1627	2127	2389
Blood bag capacity						
	Total No. of Bags	Rack No. of Layers	Total No. of Bags	Rack No. of Layers	Total No. of Bags	Rack No. of Layers
25 ml	1296	6	216	2376	6	396
50 ml	792	6	132	1416	6	236
250 ml	300	3	100	552	3	184
	Total No. of Bags	Rack No. of Layers	Total No. of Bags	Rack No. of Layers	Total No. of Bags	Rack No. of Layers
25 ml	4716	6	786	4716	6	786
50 ml	2916	6	486	2916	6	486
250 ml	1560	4	390	1560	4	390
	Total No. of Bags	Rack No. of Layers	Total No. of Bags	Rack No. of Layers	Total No. of Bags	Rack No. of Layers
25 ml	5502	7	786	5502	7	786
50 ml	3402	7	486	3402	7	486
250 ml	1950	5	390	1950	5	390

## 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

- 5 models from 2400 to 6000 cryovial capacity
- Liquid or vapor phase option available
- Heavy duty lockable enclosure offers excellent security
- High thermal efficiency
- Compatible with all major cryobox brands
- 5 year vacuum warranty
- Durable aluminium construction
- Ultra-low evaporation Loss
- Temperature data-logging monitoring available

## Product Advantages

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

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.



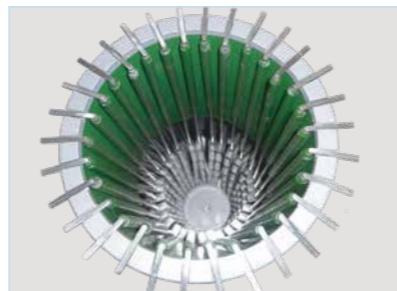
### Advanced Vacuum Technology and Superinsulation Technology

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



### Compatible for Blood Bag Storage

based on application requirement, 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.



### Auto-Refill System

Auto-refill system is particularly suitable for vapor phase storage. For liquid phase storage, it facilitates users' operations by avoiding frequent refills.

The auto-refill system continuously monitors the inside temperature through ZTC-100B/100C Level Monitor, and automatically controls an inlet valve to replenish LN<sub>2</sub>. It provides accurate control and ensures safety storage for over 8 weeks.



### Level and Temperature Monitor

Liquid level monitor tracks LN<sub>2</sub> liquid level and temperature the 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
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 <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
Specifications										
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

Trolley		Square Rack		Cryogenic Box	
216 Diameter Lock Cap		5 ml Customized Holder		5 ml Customized Cryogenic Box	

# Haier Liquid Nitrogen Storage System

## LAB 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



## LAB Series



### Introduction

Widely used in laboratories around the world.

### Key Features

- 5 models, from 30 litres to 50 litres capacity
- Roller bases available
- Heavy duty lockable enclosure offers excellent security
- High thermal efficiency
- Strong,lightweight aluminium construction
- 5 year vacuum warranty
- Dual handles
- Ultra-low evaporation loss
- Temperature data-logging monitoring available
- 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.

## Technical Parameters

Model	YDS-30-125-F	YDS-35-125-F	YDS-47-127-F	YDS-50-125-F
Maximum Storage Capacity				
No. of holders	6	6	6	6
1.2&2 ml Cryovials (25 per box)	600	750	750	900
No. of boxes in (holder)	4	5	5	6
Performance				
Volume of LN <sub>2</sub> (L)	31.5	35	47	50
Static Evaporation* (L/Day)	0.28	0.29	0.33	0.37
Working Volume	31.5	35	47	50
Duration of Normal Operation ** (Day)	71	76	90	85
Specifications				
Opening Diameter(MM)	125	125	127	125
Height(MM)	659	700	753	753
Outside Diameter(MM)	461	461	461	461
Empty Weight(KG)	14.3	14.5	15.4	21
Gross Weight(KG)	38.9	43.2	53.9	62

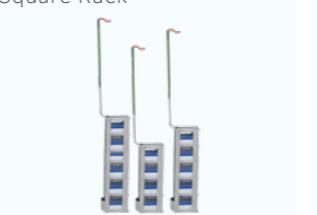
\* Static evaporation and static holding time are theoretical values. Actual evaporation and holding time are affected by usage, atmospheric conditions, and manufacturing tolerances.

\*\* 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.

### Five Models Available

LAB Series offers five models with different capacity from 600, 750 to 900 standard 2 ml cryovials. All models are supplied with stainless steel holders and cryogenic boxes.

## Accessories

Caster base	Square Rack	Level Monitor	125 Diameter Lock Cap
			

# Haier Liquid Nitrogen Storage System

## BIO Series

Numbered Index Canister Locations  
High Capacity  
High Thermal Efficiency  
5 Year Vacuum Warranty  
Extended Hold Time

LN<sub>2</sub> Dispenser  
Straws  
Lockable  
Roller Bases



## BIO Series



### Introduction

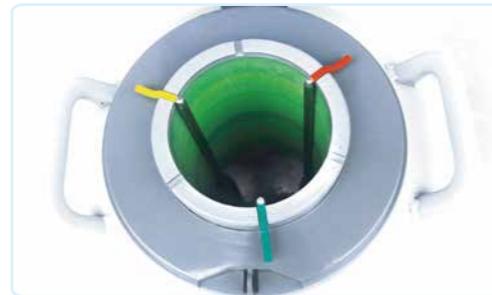
BIO Series provides two cryopreservation solutions for long-term static storage and transportation of biological samples.

### 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.

28 models, capacities range from 1 to 50 liters.

	Model	YDS-10-125	YDS-13	YDS-15	YDS-15-125	YDS-20	YDS-30
Maximum Capacity	No. of Canister	1 (0)	6 (0)	6 (0)	1 (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	—	1508	1284	1284
Performance	No. of Straws (Double Layer) (0.25ml each holder)	3324	2832	—	3324	2832	2832
	Volume of LN <sub>2</sub> (L)	10	13	15	15	20	30
	Static Evaporation* (L/Day)	0.30	0.10	0.10	0.30	0.10	0.11
Specifications	Duration of Normal Operation** (Day)	21	82	94	31	126	172
	Opening Diameter(MM)	125	50	50	125	50	50
	Height(MM)	546	610	575	585	656	655
	Outside Diameter(MM)	300	310	394	394	394	461
	Canister Outside Diameter (MM)	97	38	38	97	38	38
	Outside Height(MM)	276	276	120	276	120/276	120/276
	Empty Weight(KG)	6.9	6.6	8.2	10.2	11.7	12
		15.1	17.3	20.5	22.5	28.1	36.6

## Technical Parameters

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

	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	5124
	No. of Straws (Single Layer) (0.25ml each holder)	5022	11952	1788	5022	11952	11952
	No. of Straws (Double Layer) (0.5ml each holder)	3624	9048	1284	3624	9048	9048
Performance	No. of Straws (Double Layer) (0.25ml each holder)	8460	19944	2832	8460	19944	19944
	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
Specifications	Duration of Normal Operation** (Day)	105	67	200	116	76	90
	Opening Diameter(MM)	80	125	50	80	125	127
	Height(MM)	655	659	695	698	700	754
	Outside Diameter(MM)	461	461	461	461	461	461
	Canister Outside Diameter (MM)	63	97	38	63	97	97
	Outside Height(MM)	120/276	120/276	120/276	120/276	120/276	120/276
	Empty Weight(KG)	12.4	14.3	14	14.2	14.5	15.4
		37	38.9	42.7	42.9	43.2	54

Model		YDS-20B	YDS-30B	YDS-30B-80	YDS-35B	
Maximum Capacity	No. of Canister	6 (0)	6 (0)	6 (0)	6 (0)	
	No. of Straws (Single Layer) (0.5ml each holder)	792	792	2244	792	
	No. of Straws (Single Layer) (0.25ml each holder)	1788	1788	5022	1788	
	No. of Straws (Double Layer) (0.5ml each holder)	1284	1284	3624	1284	
	No. of Straws (Double Layer) (0.25ml each holder)	2832	2832	8460	2832	
Performance	Volume of LN <sub>2</sub> (L)	20	30	30	35	
	Static Evaporation* (L/Day)	0.18	0.17	0.23	0.17	
	Duration of Normal Operation** (Day)	70	111	82	129	
Specifications	Opening Diameter(MM)	50	50	80	50	
	Height(MM)	656	656	656	695	
	Outside Diameter(MM)	394	461	461	461	
	Canister Outside Diameter(MM)	38	38	63	38	
	Outside Height(MM)	120/276	120/276	120/276	120/276	
	Empty Weight(KG)	11.5	12.5	13	14.1	
	Gross Weight(KG)	27.9	37.1	37.6	42.8	
Model		YDS-35B-80	YDS-35B-125	YDS-50B	YDS-50B-80	YDS-50B-125
Maximum Capacity	No. of Canister †	6 (0)	6 (0)	6 (0)	6 (0)	6 (0)
	No. of Straws (Single Layer) (0.5ml each holder)	2244	5124	792	2244	5124
	No. of Straws (Single Layer) (0.25ml each holder)	5022	11952	1788	5022	11952
	No. of Straws (Double Layer) (0.5ml each holder)	3624	9048	1284	3624	9048
	No. of Straws (Double Layer) (0.25ml each holder)	8460	19944	2832	8460	19944
Performance	Volume of LN <sub>2</sub> (L)	35	35	50	50	50
	Static Evaporation* (L/Day)	0.23	0.35	0.20	0.26	0.37
	Duration of Normal Operation** (Day)	96	63	157	121	85
Specifications	Opening Diameter(MM)	80	125	50	80	125
	Height(MM)	698	700	770	766	753
	Outside Diameter(MM)	461	461	461	461	461
	Canister Outside Diameter (MM)	63	97	38	63	97
	Outside Height(MM)	120/276	120/276	120/276	120/276	120/276
	Empty Weight(KG)	14.3	14.8	19.3	20.1	21
	Gross Weight(KG)	43	43.5	60.3	61.1	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)		
	Cryoval 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
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)		
	Cryoval 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
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)		
	Cryoval 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
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								
								
								

## Haier Liquid Nitrogen Storage System

### Biotrek Series

3 Year Vacuum Warranty

Rugged And Durable

Dry Shippers

Cryo absorbant

Vapor Phase Storage

Security

No LN<sub>2</sub> Spillage

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

## 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.

### Five Models Available

Biotrek Series offers five models of shippers with different capacities for the storage of straws and 2 ml vials.

### 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	YDS-25-216-F
Maximum Storage Capacity						
No. of Canister	1	1	1	1	1	1
No. of Straws (0.5ml / EA)	132	820	820	1508	—	—
No. of Straws (0.25ml / EA)	298	1780	1780	3324	—	—
No. 2.0 ml Cryovials (25 / box)	—	—	—	—	75	500
No. of boxes in (2ml per holder)	—	—	—	—	3	5
Performance						
Volume of LN <sub>2</sub> (L)	3	6	8	10	10	25
Static Evaporation* (L/Day)	0.21	0.40	0.40	1.25	1.25	0.89
Duration of Normal Operation** (Day)	14	15	18	8	8	10
Specifications						
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	276	—	—
Empty Weight(KG)	3.5	5	5.8	6.9	6.9	15
Gross Weight(KG)	6	10	12	15	15	35

\* 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

Decant Valves

Liquid Storage

Stainless Steel Construction

Muffler

Pressure Raising

Security

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

- Ten models with capacities range from 5 to 500 liters
- 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 acuum 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
Performance					
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
Specifications					
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-175	YDZ-200	YDZ-240	YDZ-300	YDZ-500
Performance						
LN <sub>2</sub> capacity (L)	150	175	200	240	300	500
Static Evaporation* (L/Day)	1.95	2.1	2.4	2.9	3.3	5.5
LN <sub>2</sub> output (L/Min)	6	6	8	8	8	10
Specifications						
Height(MM)	1188	1298	1265	1350	1459	1576
Outside Diameter(MM)	706	706	758	758	857	1008
Empty Weight(KG)	102	120	130	148	202	255
Gross Weight(KG)	225	264	294	366	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.



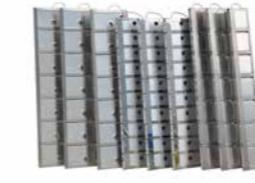
## Product List

Model	Description	Accessories	
		Standard	Optional
Smart Aluminum Alloy Series for Storage	YDS-65-216-FZ 65L,neck opening diameter 216mm	Standard accessories include six 4-layer square canisters for 9*9(or 10*10) boxes with lockable cover	Optional transport trolley
	YDS-95-216-FZ 95L,neck opening diameter 216mm	Standard accessories include six 5-layer square canister for 9*9(or 10*10) boxes with lockable cover	Optional transport trolley
	YDS-115-216-FZ 115L,neck opening diameter 216mm	Standard accessories include six 6-layer square canister for 9*9(or 10*10) boxes with lockable cover	Optional transport trolley
	YDS-140-216-FZ 140L,neck opening diameter 216mm	Standard accessories include six 8-layer square canister for 9*9(or 10*10) boxes with lockable cover	Optional transport trolley
	YDS-175-216-FZ 175L,neck opening diameter 216mm	Standard accessories include six 10-layer square canister for 9*9(or 10*10) boxes with lockable cover	Optional transport trolley
Alumi- num Alloy Series For Storage	YDS-2-30 2L,neck opening diameter 30mm	3*120mm canister,jacket	Locking cover SG-30
	YDS-2-35 2L,neck opening diameter 35mm	3*120mm canister,jacket	Locking cover SG-35
	YDS-3 3L,neck opening diameter 50mm	3*120mm canister,jacket	Additional 3 canister,locking cover SG-50
	YDS-6 6L,neck opening diameter 50mm	3*120mm canister,jacket	Additional 3 canister,locking cover SG-50
	YDS-10 10L,neck opening diameter 50mm	3*120mm canister,jacket	Additional 3 canister,locking cover SG-50
	YDS-10-80 10L,neck opening diameter 80mm	3*120mm canister,jacket	Additional 3 canister,locking cover SG-80
	YDS-10-125 10L,neck opening diameter 125mm	Jacket	1*276mm canister,locking cover SG-125
	YDS-13 13L,neck opening diameter 50mm	3*276mm canister,jacket	Additional 3*276mm canister,locking cover SG-50
	YDS-15 15L,neck opening diameter 50mm	3*120mm canister,jacket	Additional 3*120mm canister,locking cover SG-50
	YDS-15-125 15L,neck opening diameter 125mm	Jacket	1*120mm canister,locking cover SG-125
	YDS-20 20L,neck opening diameter 50mm	3*120mm canister,jacket	Additional 3 canister,276mm canister are available,locking cover SG-50;trolley/caster base
	YDS-30 30L,neck opening diameter 50mm	3*120mm canister,jacket	Additional 3 canister,276mm canister are available,locking cover SG-50;trolley/caster base
	YDS-30-80 30L,neck opening diameter 80mm	3*120mm canister,jacket	Additional 3 canister,276mm canister are available,locking cover SG-80;trolley/caster base
	YDS-30-125 30L,neck opening diameter 125mm	3*120mm canister,jacket	Additional 3 canister,276mm canister are available,locking cover SG-125;trolley/caster base
	YDS-30-125-F 30L,neck opening diameter 125mm	6 square rack with 4 layers,5*5 cryogenic box,jacket	Locking cover SG-125,trolley/caster base
	YDS-35 35L,neck opening diameter 50mm	3*120mm canister,jacket	Additional 3 canister,276mm canister are available,locking cover SG-50;trolley/caster base
	YDS-35-80 35L,neck opening diameter 80mm	3*120mm canister,jacket	Additional 3 canister,276mm canister are available,locking cover SG-80;trolley/caster base
	YDS-35-125 35L,neck opening diameter 125mm	3*120mm canister,jacket	Additional 3 canister,276mm canister are available,locking cover SG-125;trolley/caster base
	YDS-35-125-F 35L,neck opening diameter 125mm	6 square rack with 5 layers,5*5 cryogenic box,jacket	Locking cover SG-125,trolley/caster base
	YDS-47-127 47L,neck opening diameter 127mm	3*120mm canister,jacket	Additional 3 canister,276mm canister are available,locking cover SG-125;trolley/caster base
	YDS-47-127-F 47L,neck opening diameter 127mm	6 square rack with 6 layers,5*5 cryogenic box,jacket	Locking cover SG-125,trolley/caster base
	YDS-65-216 65L,neck opening diameter 216mm	/	Locking cover SG-216,trolley/caster base
	YDS-65-216-F 65L,neck opening diameter 216mm	6 square rack with 4 layers,9*9 cryogenic box	Locking cover SG-216,trolley/caster base
	YDS-95-216 95L,neck opening diameter 216mm	/	Locking cover SG-216,trolley/caster base
	YDS-95-216-F 95L,neck opening diameter 216mm	6 square rack with 5 layers,9*9 cryogenic box	Locking cover SG-216,trolley/caster base
	YDS-115-216 115L,neck opening diameter 216mm	/	Locking cover SG-216,trolley/caster base
	YDS-115-216-F 115L,neck opening diameter 216mm	6 square rack with 6 layers,9*9 cryogenic box	Locking cover SG-216,trolley/caster base
	YDS-140-216 140L,neck opening diameter 216mm	/	Locking cover SG-216,trolley/caster base
	YDS-140-216-F 140L,neck opening diameter 216mm	6 square rack with 8 layers,9*9 cryogenic box	Locking cover SG-216,trolley/caster base
	YDS-175-216 175L,neck opening diameter 216mm	/	Locking cover SG-216,trolley/caster base
	YDS-175-216-F 175L,neck opening diameter 216mm	6 square rack with 10 layers,9*9 cryogenic box	Locking cover SG-216,trolley/caster base

Model	Description	Accessories	
		Standard	Optional
Alumi-num Alloy Series For Trans- portation	YDS-20B	20L,neck opening diameter 50mm	3*120mm canister,jacket Additional 3 canister,276mm canister are available, locking cover SG-50,trolley/caster base
	YDS-30B	30L,neck opening diameter 50mm	3*120mm canister,jacket Additional 3 canister,276mm canister are available, locking cover SG-50,trolley/caster base
	YDS-30B-80	20L,neck opening diameter 80mm	3*120mm canister,jacket Additional 3 canister,276mm canister are available, locking cover SG-80,trolley/caster base
	YDS-35B	35L,neck opening diameter 50mm	3*120mm canister,jacket Additional 3 canister,276mm canister are available, locking cover SG-50,trolley/caster base
	YDS-35B-80	35L,neck opening diameter 80mm	3*120mm canister,jacket Additional 3 canister,276mm canister are available, locking cover SG-80,trolley/caster base
	YDS-35B-125	35L,neck opening diameter 125mm	3*120mm canister,jacket Additional 3 canister,276mm canister are available, locking cover SG-125,trolley/caster base
	YDS-50B	50L,neck opening diameter 50mm	3*120mm canister,jacket Additional 3 canister,276mm canister are available, locking cover SG-50,trolley/caster base
	YDS-50B-80	50L,neck opening diameter 80mm	3*120mm canister,jacket Additional 3 canister,276mm canister are available, locking cover SG-80,trolley/caster base
	YDS-50B-125	50L,neck opening diameter 125mm	3*120mm canister,jacket Additional 3 canister,276mm canister are available, locking cover SG-125,trolley/caster base
	YDS-50B-125-F	50L,neck opening diameter 125mm	6 square rack with 6 layers, 5*5 cryogenic box,jacket Locking cover SG-125,trolley/caster base
Alumi-num Alloy Series For Air Trans- portation	YDH-3	3L,neck opening diameter 50mm	1*120mm canister,jacket Locking cover SG-50
	YDH-6-80	6L,neck opening diameter 80mm	1*120mm canister,jacket Locking cover SG-80
	YDH-10-125	10L,neck opening diameter 125mm	1*276mm canister,jacket Locking cover SG-125
	YDH-10-125-F	10L,neck opening diameter 125mm	1 square rack with 3 layers, 5*5 cryogenic box,jacket /
	YDH-25-216-F	25L,neck opening diameter 216mm	1 square rack with 5 layers, 9*9 cryogenic box,jacket /
Stainless Steel Series	YDD-300-326	300L,neck opening diameter 326mm	/ Square rack,cryosmart monitoring system
	YDD-500-440	500L,neck opening diameter 440mm	/ Square rack,cryosmart monitoring system
	YDD-800-460	800L,neck opening diameter 460mm	/ Square rack,cryosmart monitoring system
	YDD-1000-630	1000L,neck opening diameter 630mm	/ Square rack,cryosmart monitoring system
	YDD-1500-630	1500L,neck opening diameter 630mm	/ Square rack,cryosmart monitoring system
	YDD-1800-630	1800L,neck opening diameter 630mm	/ Square rack,cryosmart monitoring system
Self Pressur- ization Series	YDZ-5	5L	Transport castor,double safety valve system to ensure usage safety /
	YDZ-15	15L	Transport castor,double safety valve system to ensure usage safety /
	YDZ-30	30L	Transport castor,double safety valve system to ensure usage safety /
	YDZ-50	50L	Transport castor,double safety valve system to ensure usage safety /
	YDZ-100	100L	Transport castor,double safety valve system to ensure usage safety /
	YDZ-150	150L	Transport castor,double safety valve system to ensure usage safety /
	YDZ-175	175L	Transport castor,double safety valve system to ensure usage safety /
	YDZ-200	200L	Transport castor,three safety valve system to ensure usage safety /
	YDZ-240	240L,gas cylinder type (slim and tall)	Transport castor,three safety valve system to ensure usage safety /
	YDZ-300	300L	Transport castor,three safety valve system to ensure usage safety /
	YDZ-500	500L	Transport castor,three safety valve system to ensure usage safety /

Access- ories	Image	Model	Description
Cork		PS-30	Suitable for LNC with neck opening diameter 30mm
		PS-35	Suitable for LNC with neck opening diameter 35mm
		PS-50	Suitable for LNC with neck opening diameter 50mm
		PS-80	Suitable for LNC with neck opening diameter 80mm
		PS-125	Suitable for LNC with neck opening diameter 125mm
		PS-216	Suitable for LNC with neck opening diameter 216mm
Locking Cover		SG-30	Suitable for LNC with neck opening diameter 30mm
		SG-35	Suitable for LNC with neck opening diameter 35mm
		SG-50	Suitable for LNC with neck opening diameter 50mm
		SG-80	Suitable for LNC with neck opening diameter 80mm
		SG-125	Suitable for LNC with neck opening diameter 125mm
		SG-216	Suitable for LNC with neck opening diameter 216mm
Canister		TT-30D	Suitable for LNC with neck opening diameter 30mm, height is 120mm
		TT-35D	Suitable for LNC with neck opening diameter 35mm, height is 120mm
		TT-50D	Suitable for LNC with neck opening diameter 50mm, height is 120mm
		TT-50S	Suitable for LNC with neck opening diameter 50mm, height is 276mm
		TT-80D	Suitable for LNC with neck opening diameter 80mm, height is 120mm
		TT-80S	Suitable for LNC with neck opening diameter 80mm, height is 276mm
		TT-125D	Suitable for LNC with neck opening diameter 125mm, height is 120mm
		TT-125S	Suitable for LNC with neck opening diameter 125mm, height is 276mm
Square Rack		FTT-3-55	3 layers including 5*5 cryogenic box, suitable for YDS-15-125
		FTT-4-55	4 layers,including 5*5 cryogenic box,suitable for YDS-30-125-F / YDS-30B-125-F
		FTT-5-55	5 layers,including 5*5 cryogenic box,suitable for YDS-35-125-F / YDS-35B-125-F
		FTT-6-55	6 layers,including 5*5 cryogenic box,suitable for YDS-50B-125-F / YDS-47-127-F
		FTT-10-55	10 layers,including 5*5 cryogenic box,suitable for YDD-300-326 / YDD-500-440 / YDD-1000-610
		FTT-13-55	13 layers,including 5*5 cryogenic box,suitable for YDD-800-460 / YDD-1500-610
		FTT-15-55	15 layers,including 5*5 cryogenic box,suitable for YDD-1800-630
		FTT-4-99	4 layers,including 9*9 cryogenic box,suitable for YDS-65-216-F
		FTT-5-99	5 layers,including 9*9 cryogenic box,suitable for YDS-95-216-F
		FTT-6-99	6 layers,including 9*9 cryogenic box,suitable for YDS-115-216-F
		FTT-8-99	8 layers,including 9*9 cryogenic box,suitable for YDS-140-216-F
		FTT-10-99	10 layers,including 9*9 cryogenic box,suitable for YDS-175-216-F/YDD-300-326/YDD-500-440/YDD-1000-610
		FTT-13-99	13 layers,including 9*9 cryogenic box,suitable for YDD-800-460 / YDD-1500-610
		FTT-15-99	15 layers,including 9*9 cryogenic box,suitable for YDD-1800-630

Accessories	Image	Model	Description
Cryo Tube Clip		DCGJ-3	Suitablse for 120mm height round canister, including cryo racks and plastic sleeve
		DCGJ-6	Suitablse for 276mm height round canister, including cryo racks and plastic sleeve
Level Measuring Scale		YWC-600	Suitable for aluminum alloy series LNC with capacity less than 20L
		YWC-1000	Suitable for aluminum alloy series LNC with capacity no less than 20L
Level Monitor		ZTC-100A	Suitable for aluminum alloy series LNC
		ZTC-100B	Suitable for aluminum alloy series LNC, including low temperature magnetic valve
		ZTC-100C	Suitable for aluminum alloy series LNC, including low temperature magnetic valve
Stainless Steel Trolley/-Caster Base		YSC-S	Suitable for aluminum alloy series LNC with capacity less than 50L
		YSC-M	Suitable for aluminum alloy series LNC with capacity no less than 50L and neck opening diameter no less than 216mm

Accessories	Image	Model	Description
Cryogenic Rack		YDCJ-3	3 layers,can store 250ml blood bag,suitable for YDD-300-326 / YDD-500-440
		YDCJ-4	4 layers,can store 250ml blood bag,suitable for YDD-500-440 / YDD-800-460 / YDD-1000-610 / YDD-1500-610
		YDCJ-5-I	5 layers,can store 50ml/25ml blood bag,suitable for YDS-175-216-F
		YDCJ-5-II	5 layers,can store 250ml blood bag,suitable for YDD-1800-610
		YDCJ-6	6 layers,can store 50ml/25ml blood bag,suitable for YDD-300-326 / YDD-500-440 / YDD-1000-610
		YDCJ-7	7 layers,can store 50ml /25ml blood bag,suitable for YDD-800-460 / YDD-1500-610
		YDCJ-8-II	8 layers,can store 2ml cryo tube,8 pcs for each layer, suitable for YDS-175-216-F
		YDCJ-9	9 layers,can store 50ml /25ml blood bag,suitable for YDD-1800-610
		YDCJ-10	10 layers,can store 2ml cryo tube,8 pcs for each layer, suitable for YDD-500-440 / YDD-800-460
		YDCJ-12	12 layers,can store 2ml cryo tube,8 pcs for each layer, suitable for YDD-1000-460 / YDD-1500-610 / YDD-1800-610
			Used to store 25ml,50ml,250ml blood bag