

# Biomedical Cryogenic Preservation



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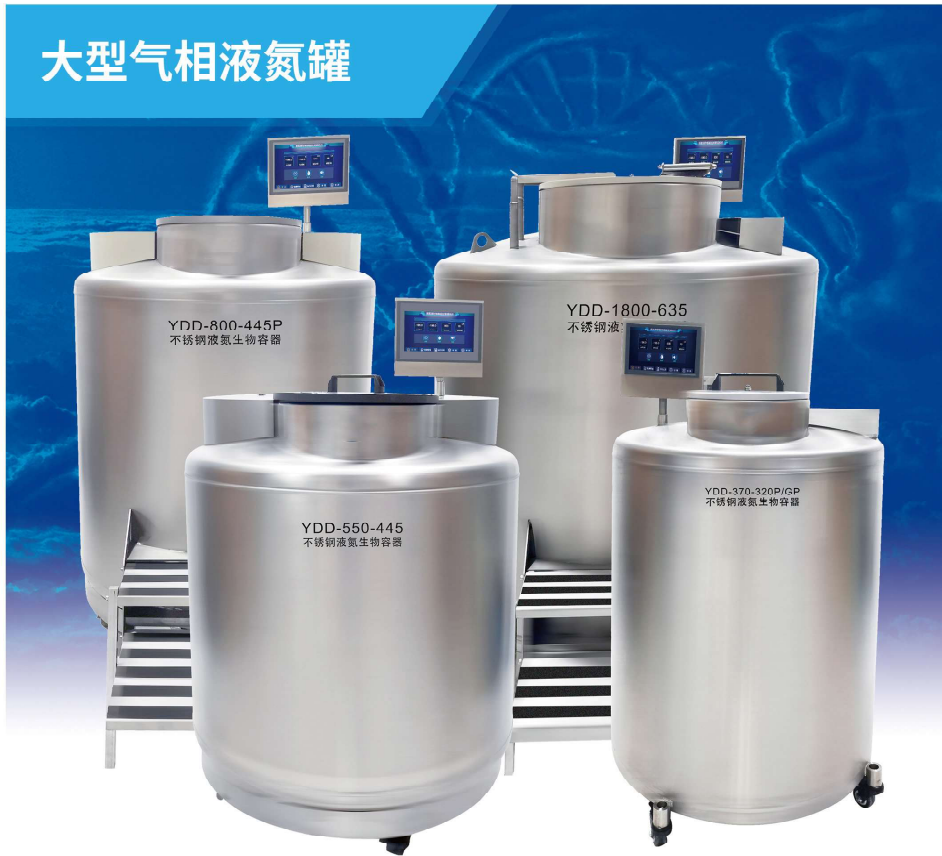
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## 大型气相液氮罐



### PRODUCT OVERVIEW

Cryobiobank series provide users with automatic, secure and reliable cryogenic liquid nitrogen freezing systems. Tanks are made of high quality stainless steel, equipped with casters and brakes, and wide neck opening for easy to pick and place specimen. Specimen could be stored in liquid or vapor, and control system provides high convenience and security. To achieve the most economical operation, our design ensures the lowest consumption of liquid nitrogen and the maximum storage capacity of the specimen. The whole tank uses advanced evacuation technology, adiabatic technology and high vacuum retention technology to ensure the safe storage of specimen, good uniform temperature and the lowest liquid nitrogen consumption. When specimen in vapor storage, the entire storage area temperature differences do not exceed 10 °C, and the top of the frozen rack lowest temperature can reach -190°C. Biobank Series provides you with the best storage experience: fast specimen access, reliable protection, convenient liquid nitrogen autofill and flexible storage capacity.

### PRODUCT FEATURES

- Compatible with vapor and liquid storage modes;
- Various capacity optional to meet your storage requirements;
- More specimen capacity in a limited space to reduce the storage costs;
- Excellent temperature uniformity and stability;
- Excellent temperature stability after opening lid;
- Advanced temperature, level monitoring and alarm system, remote network monitoring;
- Automatic filling liquid nitrogen system, safe and efficient;
- Controlling system can permanently store operating data;
- One button to demist, easy to search, pick and place specimen;
- User-friendly design, comfortable operation;
- Lockable lid, fully guarantee the safety of the specimen;
- Equipped with folding steps and workbench;
- CE certified;
- Products conform to GB/T 14174-2012.



### PRODUCT ADVANTAGES



#### Big storage capacity

Compared with similar products, our products need less space and could store more samples; save space and also reduce the cost;



#### Excellent temperature uniformity

Vacuum insulated stainless steel structure, high vacuum coverage to ensure excellent insulation properties;



#### Stable temperature while lid is open

Innovative lid and excellent small neck openings design can greatly reduce the liquid nitrogen evaporation rate. Even keep the lid open for a long time, the temperature inside the tank can still be very stable; temperature could be not higher than -150°C within 48 hours;



#### Advanced temperature monitoring system

Microprocessor-based control system and the vertical double platinum resistance temperature probe can display real time temperature, accuracy of  $\pm 1^\circ\text{C}$ . The user can set their own alarm temperature value, with alarm mute option;



#### Automatic filling liquid nitrogen and liquid level monitoring system

Based on the differential pressure sensor, level monitoring system could display real-time liquid level, to ensure that the liquid nitrogen automatic filling process safe and reliable. 10-inch LCD touch screen display: temperature of the top, bottom temperature, liquid level, and operating status etc.



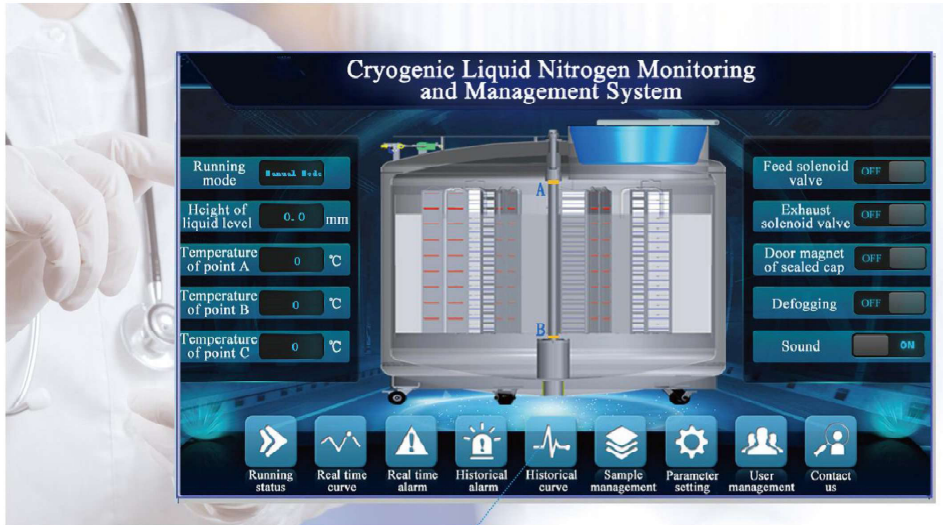
#### Hot gas bypass

The hot gas bypass can remove nitrogen which is at indoor temperature before the liquid nitrogen is filled, to ensure that only liquid nitrogen is filled into the tank and avoid temperature fluctuations in the liquid nitrogen tank during the filling process. It would make sure the safety of the sample and also reduce the additional Liquid nitrogen consumption.



#### Humanization design

Stainless steel auxiliary table, can be used for temporary placement for the racks to speed up the sample picking and placing; folding steps reduce the height of the operation platform; spare opening on the internal tray for easy to find inadvertently dropped samples.



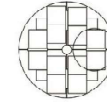
## RACKS LAYOUT

Vertical racks

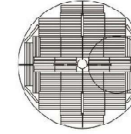
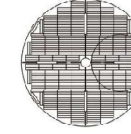
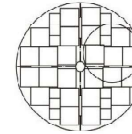
25ml  
Blood bag racks

50ml  
Blood bag racks

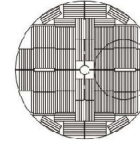
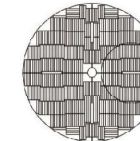
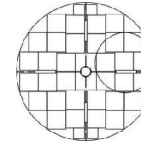
YDD-370-320P  
YDD-460-320P



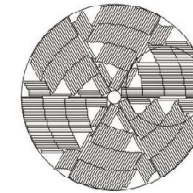
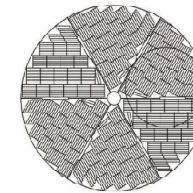
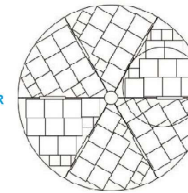
YDD-550-445P  
YDD-800-445R  
YDD-800-445P



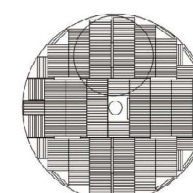
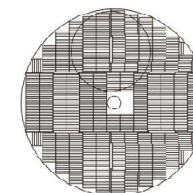
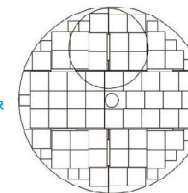
YDD-850-465P  
YDD-1000-500P



YDD-1800-635R



YDD-1800-635R



- 1 Automatic liquid nitrogen filling;
- 2 Special structure to prevent liquid nitrogen splashing;
- 3 Hot air bypass function;
- 4 Platinum resistance temperature sensor;
- 5 Differential pressure level sensor;
- 6 Automatic recording level, temperature and other data;
- 7 Local monitoring center;
- 8 Cloud monitoring and management center;
- 9 A variety of alarm self-diagnosis;
- 10 SMS remote alarm;
- 11 Action permission settings;
- 12 Run / alarm parameters settings;
- 13 Sound and light abnormal alarm to remind;
- 14 Backup power and UPS power supply.

## SPECIFICATIONS

Model		YDD-370-320P	YDD-460-320P	YDD-550-445P	YDD-800-445R	YDD-800-445P	YDD-1000-500P	YDD-1800-635R
Performance								
LN2 Capacity (L)		370	460	550	800	800	1000	1800
Liquid nitrogen volume below the platform (L)		55	55	133	133	133	200	295
Static Holding Time (gas phase) (day)		11	11	20	20	20	25	30
Static Holding Time (liquid phase) (day)		74	92	80	118	118	125	177
Maximum Storage Capacity								
Racks Freezing Tube	1.2ml & 2.0ml Freezing Tube	15600	19500	28000	39200	42000	55500	94500
	Large bracket quantity (100 grid)	12	12	24	24	26	32	60
	Small bracket quantity (25 grid)	4	4	16	16	16	20	12
	Number of square bucket layers	12	15	10	14	14	15	15
Optional Accessories								
Neck Opening (mm)		320	320	445	445	445	500	635
Internal effective height (mm)		680	875	680	780	780	870	870
Internal diameter (mm)		730	730	980	980	980	1130	1390
Overall height (mm)		1400	1450	1505	1605	1605	1680	1685
Support lifting height (mm)		920	1118	1052	1052	1052	1118	1118
User door width requirements (mm)		815	815	1090	1090	1090	1300	1565
Empty weight (kg)		258	283	310	355	358	580	805
Full weight (kg)		559	657	418	1006	1009	743	2270
Blood bag capacity/number of layers of blood bag racks/number of blood bag racks								
791 OS/U (25ml)		1224/6/204	1836/9/204	2490/6/415	3320/8/415	3184/8/398	4160/8/520	6432/8/804
4R9951 (50ml)		768/6/128	1024/8/128	1488/6/248	1736/7/248	1687/7/241	2528/8/316	3920/8/490
4R9953 (250ml)		416/4/104	520/5/104	812/4/203	812/4/203	768/4/192	1320/5/264	2010/5/402
4R9955 (500ml)		304/4/76	380/5/76	608/4/152	608/4/152	576/4/144	1000/5/200	1550/5/310
DF200 (200ml)		236/4/59	295/5/59	496/4/124	496/4/124	488/4/122	780/5/156	1230/5/246
DF200 (700ml)		/	/	/	256/4/66	264/4/66	440/5/88	680/5/136



## PRODUCT OVERVIEW

The small vapor phase liquid nitrogen tank realizes real-time temperature monitoring, liquid level monitoring, automatic liquid supplement, remote monitoring alarm and automatic backup storage of monitoring data. Based on the capacitive liquid level sensor, the liquid level can be easily and automatically controlled to realize the vapor phase storage of  $-190^{\circ}\text{C}$  at the top of the tank, which completely solves the technical problem of the application of electronic information technology in the low temperature environment of  $-196^{\circ}\text{C}$ . The advanced production and manufacturing technology of liquid nitrogen tank is perfectly combined with intelligent monitoring technology. The product is light in weight, small in area, large in capacity, and efficient in sample access. It can monitor the operation status of liquid nitrogen tank in real time, and give an alarm in case of problems to ensure the safety of sample storage. It is mainly applicable to biomedical and sample library users.

## PRODUCT FEATURES

- 1 Real time liquid nitrogen level and temperature monitoring function
- 2 Real time display of liquid nitrogen consumption
- 3 Remote monitoring and communication functions
- 4 Excellent internal temperature uniformity and stability
- 5 Automatic liquid nitrogen replenishment system, safe and reliable
- 6 Hot gas bypass design reduces internal temperature fluctuation
- 7 Compatible with gas and liquid storage modes
- 8 On site audible and visual alarm function
- 9 Remote alarm function
- 10 Intelligent local and cloud data backup

## SPECIFICATIONS

Model	UM2000	UM3000	UM4000	UM6000
Number of Racks (ea)	6	6	6	6
1.2ml & 2.0ml Freezing Tube (100 grid)	2400	3600	4800	6000
Boxes per Rack (ea)	4	6	8	10
LN2 Capacity (L)	65	95	145	175
Static Evaporation Rate (L/day)	1.5	1.5	1.5	1.5
Neck Opening (mm)	216	216	216	216
Overall Height (mm)	800	910	1020	1100
Outer Diameter (mm)	678	678	678	678
Weight Empty (kg)	47	58	63	71

# L LABORATORY SERIES



## PRODUCT OVERVIEW

Laboratory series combines the advantages of low liquid nitrogen consumption and medium storage capacity. It has the advantages of light weight, less space occupation and high efficiency storage of large sample freezing. It can meet the different needs of laboratory professionals. All models include freeze shelves and PC freeze boxes to ensure easy storage of samples.

## PRODUCT FEATURES

- 1 Durable aluminium structure;
- 2 Matching freezing shelves and freezing boxes;
- 3 Large capacity and low liquid nitrogen consumption;
- 4 Optional safety lock cover structure to prevent others from unlocking without authorization;
- 5 Optional liquid level monitoring system;
- 6 Optional transport vehicle;
- 7 EU CE certification;
- 8 Five-year vacuum quality assurance.



## PRODUCT PARAMETERS

Model		YDS-10-125	YDS-35-125	YDS-47-127	YDS-50-125	YDS-65-216
<b>Performance</b>						
LN2 Capacity (L)		10	30	47	50	65
Weight Empty (kg)		7.5	17	21	22.5	32
Neck Opening (mm)		125	125	127	125	216
Outer Diameter (mm)		303	451	508	508	575
Overall Height (mm)		535	747	716	771	780
Static Evaporation Rate (L/day)		0.43	0.37	0.45	0.43	0.78
Static Holding Time (day)		23	97	105	115	83
<b>Maximum Storage Capacity</b>						
Racks Freezing Tube	Number of Racks (ea)	1	6	6	6	4
	1.2ml & 2.0ml Freezing Tube (100 grid)	/	/	/	/	2000
	1.2ml & 2.0ml Freezing Tube (25 grid)	100	750	750	900	/
	Boxes per Rack (ea)	4	5	5	6	5
<b>Optional Accessories</b>						
Lockable Lid		Y	Y	Y	Y	Y
Pu bag		N	Y	Y	N	Y
Smart Cap		Y	Y	Y	Y	Y
Roller Base		N	Y	Y	Y	Y
Model		YDS-95-216	YDS-115-216	YDS-120-216	YDS-145-216	YDS-175-216
<b>Performance</b>						
LN2 Capacity (L)		95	120	121	145	175
Weight Empty (kg)		38	43.5	45	48	56
Neck Opening (mm)		216	216	216	216	216
Outer Diameter (mm)		678	678	575	678	678
Overall Height (mm)		800	860	1050	940	1050
Static Evaporation Rate (L/day)		0.81	0.85	0.85	0.85	0.87
Static Holding Time (day)		117	141	142	171	202
<b>Maximum Storage Capacity</b>						
Racks Freezing Tube	Number of Racks (ea)	6	6	4	6	6
	1.2ml & 2.0ml Freezing Tube (100 grid)	3000	3600	4000	4800	6000
	1.2ml & 2.0ml Freezing Tube (25 grid)	/	/	/	/	/
	Boxes per Rack (ea)	5	6	10	8	10
<b>Optional Accessories</b>						
Lockable Lid		Y	Y	Y	Y	Y
Pu bag		N	N	N	N	N
Smart Cap		Y	Y	Y	Y	Y
Roller Base		Y	Y	Y	Y	Y



## PRODUCT OVERVIEW

**Overview:** Portable storage series is an economical and practical small liquid nitrogen tank specially designed for biological samples that need to be stored regularly. The series is small in size and light in weight. It is made of high strength light aluminium alloy and contains mu-layer super-strong heat insulation layer. It realizes the safety, lightness and efficiency of the product and has many accessories to choose from.

## PRODUCT ADVANTAGES

- **Internal support, stable transportation**  
Professional internal support structure design to ensure the stability of the tank and the safety of samples during transportation.
- **Adiabatic and vacuum technology**  
Automatic winding machine evenly wraps multiple layers of super performance insulation layer, advanced insulation and vacuum technology to ensure storage time up to 3 months.

## PRODUCT FEATURES

- 1 High strength, light weight, small size aluminum structure
- 2 Equipped with belt
- 3 Ultra-low evaporation loss
- 4 Number coding for canister place
- 5 Lockable lid is optional to prevent unauthorized open
- 6 CE certified
- 7 Five years vacuum warrant



## SPECIFICATIONS

MODEL	YDS-2-30	YDS-2-35	YDS-2	YDS-3	YDS-6	YDS-10
Performance						
LN2 Capacity (L)	2	2	2	3	6	10
Weight Empty (kg)	2.8	2.6	2.7	3.1	4.8	6.1
Neck Opening (mm)	30	35	50	50	50	50
Outer Diameter (mm)	223	204	223	223	300	300
Overall Height (mm)	399	428	385	435	482	552
Static Evaporation Rate (L/day)	0.07	0.08	0.10	0.12	0.12	0.12
Static Holding Time (day)	28	24	20	26	52	86
Maximum Storage Capacity						
Canister Diameter (mm)	19	25	—	38	38	38
Canister Height (mm)	120	120	—	120	120	120
Number of Canisters (ea)	3	3	—	6	6	6
Straws Capacity (120 mm canister)	0.5ml (ea)	90	165	—	792	792
	0.25ml (ea)	204	330	—	1788	1788
Straws Capacity (276 mm canister)	0.5ml (ea)	—	—	—	—	—
	0.25ml (ea)	—	—	—	—	—
Optional Accessories						
Lockable Lid	✓	✓	✓	✓	✓	✓
PU Bag	✓	—	—	✓	✓	✓
Smart Cap	—	—	✓	✓	✓	✓





## PRODUCT OVERVIEW

The transport storage series liquid nitrogen tank series are economical small liquid nitrogen tanks designed specifically for biological samples static storage and for transporting biological samples. The series is made of high strength lightweight aluminum alloy, containing multi-layer insulation to make the product safe, lightweight and efficient, and it has a variety of accessories optional.

## PRODUCT ADVANTAGES

- Internal support, stable transportation  
Professional internal support structure design to ensure the stability of the tank and the safety of samples during transportation.
- Adiabatic and vacuum technology  
Automatic winding machine evenly wraps multiple layers of super performance insulation layer, advanced insulation and vacuum technology to ensure storage time up to 3 months.
- Multiple model selection  
Capacity from 20 to 50 liters, a total of 7 models are available to meet user needs.

## PRODUCT FEATURES

- ① High strength, light weight and small size aluminum structure
- ② Equipped with belt
- ③ Ultra low evaporation loss
- ④ Large straw capacity
- ⑤ Vials tube is optional
- ⑥ Lockable lid is optional to prevent unauthorized open
- ⑦ Level monitoring system is optional
- ⑧ Roller base is optional
- ⑨ Liquid nitrogen pump is optional
- ⑩ CE certified
- ⑪ Five years vacuum warranty



## SPECIFICATIONS

MODEL	YDS-20B	YDS-30B	YDS-35B	YDS-35B-80	YDS-35B-125	YDS-50B	YDS-50B-125	
Performance								
LN2 Capacity (L)	20	31.5	35.5	35.5	35.5	50	50	
Weight Empty (kg)	9.5	12.9	14.2	14.5	14.6	17.2	17.3	
Neck Opening (mm)	50	50	50	80	125	50	125	
Outer Diameter (mm)	394	462	462	462	462	462	462	
Overall Height (mm)	672	705	749	753	748	810	818	
Static Evaporation Rate (L/day)	0.20	0.20	0.20	0.30	0.41	0.24	0.45	
Static Holding Time (day)	101	159	179	119	86	213	110	
Maximum Storage Capacity								
Canister Diameter (mm)	38	38	38	63	97	38	97	
Canister Height (mm)	120/276	120/276	120/276	120/276	120/276	120/276	120/276	
Number of Canisters (ea)	6	6	6	6	6	6	6	
Straws Capacity (120 mm canister)	0.5ml (ea)	792	792	792	2244	5124	792	5124
	0.25ml (ea)	1788	1788	1788	5022	11640	1788	11640
Straws Capacity (276 mm canister)	0.5ml (ea)	1284	1284	1284	3624	9048	1284	9048
	0.25ml (ea)	2832	2832	2832	8460	20760	2832	20760
Optional Accessories								
Lockable Lid	✓	✓	✓	✓	✓	✓	✓	
PU Bag	✓	✓	✓	✓	✓	✓	✓	
SmartCap	✓	✓	✓	✓	✓	✓	✓	
Roller Base	✓	✓	✓	✓	✓	✓	✓	

# D RY SHIPPER SERIES



## PRODUCT OVERVIEW

Dry shipper series is suitable for cryogenic environment (vapor storage at temperatures below -190 °C) transportation for samples. It could avoid the risk of the liquid nitrogen releasing during transportation, especially designed for short-term air transport. The internal liquid nitrogen adsorbent, can absorb and save liquid nitrogen, even if the container falls down, liquid nitrogen would not pour out. It uses special stainless steel mesh to separate storage space and adsorption material, to avoid liquid nitrogen absorption material mixed into the sample. Mainly used for laboratory users and short-term delivery of small number samples.

## PRODUCT FEATURES

- 1 Vapor cryogenic storage;
- 2 Fast liquid nitrogen filling;
- 3 High strength aluminum construction;
- 4 Lockable lid;
- 5 No liquid nitrogen overflow;
- 6 Straws or vials storage is optional;
- 7 CF certified;
- 8 Three years vacuum warranty.



## SPECIFICATIONS

Model	YDH-1.5-35	YDH-3	YDH-4-70	YDH-6-80	DH-6-190	YDH-10-125
LN2 Capacity (L)	1.5	3	4	6	6	10
Liquid nitrogen adsorption	0.6	1.3	1.8	2.4	1.8	6
Bucket size (mm)	D25*120	D38*120	D63*276	D70*276	139*139*56	76*76*225
Number of freezers	6	9	96	126	100	100
Freezing box (25 grid)	N/A	N/A	N/A	N/A	N/A	4
Freezing box (100 grid)	N/A	N/A	N/A	N/A	1	N/A
50ml Blood bag	N/A	N/A	N/A	N/A	N/A	N/A
250ml Blood bag	N/A	N/A	N/A	N/A	N/A	N/A
Static Evaporation Rate (L/day)	0.09	0.15	0.19	0.21	0.8	0.4
Static Holding Time (day)	7	9	9	11	2	15
Neck Opening (mm)	35	50	70	80	190	125
Overall Height (mm)	395	435	580	435	470	554
Outer Diameter (mm)	180	224	224	300	252	300
Empty weight (kg)	1.8	3.3	5.5	5.5	6.5	8
Full weight (kg)	3	5.7	8.8	10.4	11.4	16.1
Sample Type	Freeze tube clamp strip				Freezing box	

Model	YDH-15-215	YDH-25-216	YDH-4-125	YDH-6-190L	YDH-25-216L
LN2 Capacity (L)	15	25	4	6	25
Liquid nitrogen adsorption	6	10	2	1.8	10
Bucket size (mm)	139*139*112	139*139*280	N/A	N/A	N/A
Number of freezers	200	500	N/A	N/A	N/A
Freezing box (25 grid)	N/A	N/A	N/A	N/A	N/A
Freezing box (100 grid)	2	5	N/A	N/A	N/A
50ml Blood bag	N/A	N/A	4	N/A	N/A
250ml Blood bag	N/A	N/A	N/A	2	10
Static Evaporation Rate (L/day)	0.89	0.89	0.45	0.8	0.89
Static Holding Time (day)	7	11	4	2	11
Neck Opening (mm)	216	216	125	190	216
Overall Height (mm)	480	650	615	470	650
Outer Diameter (mm)	396	396	224	252	396
Empty weight (kg)	11	12.5	8	6.5	12
Full weight (kg)	23.2	32.9	11.3	11.4	32.4
Sample Type	Freezing box			Blood bag	



## PRODUCT OVERVIEW

The liquid nitrogen storage and distribution series is specially designed for the storage and short distance transportation of a small amount of liquid nitrogen. With small caliber and low evaporation loss rate, it is an efficient, convenient and economical way to store and distribute liquid nitrogen. During operation, liquid nitrogen can be dumped and discharged under pressure. It is widely used in animal husbandry bureau, farms, universities and other industries.

## PRODUCT FEATURES



## SPECIFICATIONS

Model	LAB-3	LAB-6	LAB-10	LAB-20
LN2 Capacity (L)	3	6	10	20
Static Evaporation Rate (L/day)	0.12	0.12	0.12	0.12
Neck Opening (mm)	50	50	50	50
Overall Height (mm)	427	471	534	661
Outer Diameter (mm)	223	300	300	384
Inner Diameter (mm)	160	231	231	296
Weight Empty (kg)	3.1	4.8	6.5	12

Model	LAB-30	LAB-50
LN2 Capacity (L)	30	50
Static Evaporation Rate (L/day)	0.12	0.23
Neck Opening (mm)	50	50
Overall Height (mm)	648	738
Outer Diameter (mm)	464	508
Inner Diameter (mm)	386	420
Weight Empty (kg)	16	21



### PRODUCT OVERVIEW

Liquid nitrogen filling tank series is mainly used for liquid nitrogen storage. It uses small amount of liquid nitrogen vaporizing to increase the pressure inside the tank, so that the tank can automatically discharge liquid nitrogen to other containers. The stainless steel structure design is suitable for most environment and reduces the rate of evaporation losses. All the models are equipped with pressure building valve, liquid valve, release valve and pressure gauge. All the models are equipped with 4 rollers at the bottom for easy to move. Mainly applicable to laboratory users and chemical users for liquid nitrogen storage and liquid nitrogen automatic supply.

### PRODUCT FEATURES

- ① Unique neck design, low evaporation loss rate;
- ② A protective operating ring;
- ③ Safe structure;
- ④ Stainless steel tank;
- ⑤ With rollers for easy to move;
- ⑥ CE certified;
- ⑦ Five years vacuum warranty;

### PRODUCT ADVANTAGES

- ① Level display is optional;
- ② Digital signal remote transmission;
- ③ Regulator is optional for stable pressure;
- ④ Solenoid valve is optional;
- ⑤ Automatic filling system is optional.



### SPECIFICATIONS

Model	YDZ-30	YDZ-50	YDZ-100
LN2 capacity (L)	33	55	110
Outer diameter (L)	30	50	100
Outer diameter of tank body (mm)	404	455	556
Overall height (mm)	850	960	1100
Empty weight (kg)	42	50	68
Neck opening (mm)	50	50	50
Daily evaporation rate of static liquid nitrogen(%)	3	2	1.2
Standard working pressure (MPa)	0.05	0.05	0.05
Maximum working pressure (MPa)	0.09	0.09	0.09
Infusion volume (L/min)	≥5	≥5	≥5
Setting pressure of first safety valve (MPa)	0.099	0.099	0.099
Setting pressure of second safety valve (MPa)	0.15	0.15	0.15
Bursting pressure of bursting disc (MPa)	/	/	/
Indicating range of pressure gauge (MPa)	0-0.25	0-0.25	0-0.25










Model	YDZ-200	YDZ-230	YDZ-300	YDZ-500
LN2 capacity (L)	220	250	330	550
Outer diameter (L)	200	230	300	500
Outer diameter of tank body (mm)	656	656	806	958
Overall height (mm)	1300	1400	1410	1500
Empty weight (kg)	125	140	205	265
Neck opening (mm)	50	50	50	50
Daily evaporation rate of static liquid nitrogen(%)	1	1	0.8	0.8
Standard working pressure (MPa)	0.05	0.05	0.05	0.05
Maximum working pressure (MPa)	0.09	0.09	0.09	0.09
Infusion volume (L/min)	≥10	≥10	≥15	≥15
Setting pressure of first safety valve (MPa)	0.099	0.099	0.099	0.099
Setting pressure of second safety valve (MPa)	0.15	0.15	0.15	0.15
Bursting pressure of bursting disc (MPa)	0.35	0.35	0.35	0.35
Indicating range of pressure gauge (MPa)	0-0.25	0-0.25	0-0.25	0-0.25



## PRODUCT OVERVIEW

This series of controlled-rate Freezer is a high-performance, safe and reliable freezing system with adjustable temperature change rate, which has been widely used in light industry, agriculture, medicine, basic biological research and other fields, such as lymphocytes, tissue banks, bone marrow cells, tumor cells, animal and plant cells, myocardial cells, etc. The newly designed integrated Cryobox system uses the latest temperature control technology and liquid nitrogen dispersion technology to make the programmed cooling process uniform and stable, and can conduct IQ/OQ operation, effectively meeting the needs of GLP laboratory.

## PRODUCT FEATURES

-  Microprocessor control, high control accuracy
-  In situ foam thermal insulation design, good thermal insulation performance
-  Double probe precise temperature control, simultaneous display on touch screen
-  Curve shows parameters such as cavity and sample temperature
-  Automatic data storage and backup to ensure that there is evidence
-  Powder coated cavity structure, sturdy and durable
-  Stainless steel inner wall, quiet operation
-  The front door is open to facilitate sample taking and placing
-  Uniform dispersion injection design of liquid nitrogen to ensure temperature uniformity

## SPECIFICATIONS

Model	CX-17	CX-34	CX-51
2.0ml Freezing Tube	380	805	1185
5.0ml Freezing Tube	152	322	474
25/50ml Blood bag	30	60	90
250ml Blood bag	4	8	12
Temperature range	-50 to -190 °C		
Overall dimensions (mm)	810*540*790	960*540*790	1110*540*790
Internal dimensions (mm)	180*305*330	330*305*330	485*305*330
Capacity (L)	17	34	51
Weight (KG)	64	75	83
Cooling rate	0.1-60 °C/min		
Heating rate	0.1-10 °C/min		
Temperature variation	≤2 °C (Temperature difference between two points in the cavity during cooling)		
Control mode	NC Control		
Program control	Sample temperature/chamber temperature		
Display	7-inch touch screen		
Available Programs	6 preset programs, 20 user set programs		



## PRODUCT OVERVIEW

The inner wall of UM50 series sample fumigation operating vehicle adopts corrugated cooling structure to ensure the balance of ambient temperature; High vacuum thermal insulation, multi-layer thermal insulation, reduce evaporation of liquid nitrogen; With flat structure and open design, the samples taken from the liquid nitrogen tank can be conveniently boxed, numbered and scanned.

This type of sample fumigation operating vehicle can transport 5 × 5 Frooze boxes 65, 10 × 10 There are 30 frooze-thaw boxes, 105 50ml blood bags, 50 200ml blood bags, and 3000 2mL freeze-thaw tubes, which can meet the needs of users for mass sample processing.

## PRODUCT FEATURES

- 1 2-way T-type thermocouple temperature monitor
- 2 The liquid replenishing pipe is equipped with ball valve and safety valve to ensure safe use
- 3 Durable structure ensures trouble free use for many years
- 4 Equipped with safety catch design to prevent unauthorized use
- 5 It can be equipped with liquid level monitor for liquid level monitoring and alarm
- 6 Continuous working time ≥ 18h when the cover is closed
- 7 Unique design of suspension type freezing rack, convenient for storage
- 8 Equipped with universal mobile castors for easy movement and parking
- 9 It can be equipped with an automatic liquid nitrogen replenishment system to facilitate the timely replenishment of liquid nitrogen

## SPECIFICATIONS

Model	UM50
Capacity (L)	53
2.0ml Freezing Tube	3000
Cover opening top temperature (°C)	-150°C
Quantity of 15 layers of 100 freezers	2
Continuous working time when using the lid (h)	18
Total Length (mm)	1313
Total Width (mm)	447
Total Height (mm)	900
Inner wall length (mm)	1040
Inner wall width (mm)	340
Inner wall depth (mm)	400
Height (mm)	152
Empty weight (KG)	110
Full weight (KG)	161

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