

# Liquid Nitrogen Storage Systems

## Self-pressurized Series for LN2 Storage and Supply

### Key Features

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



# Product Description

Self-pressurized Series for LN<sub>2</sub> 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 of liquid nitrogen to discharge LN<sub>2</sub> for other containers. Storage capacities range from 5 to 500 liters.

## 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.

## Casters

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

## Product List

Model		Description	Accessories	
			Standard	Optional
Self Pressurization Type	YDZ-5	5L, neck opening diameter 40mm, height 510mm	Includes single-layer transfusion hoses (GZ-DN15/1.5)	Not applicable
	YDZ-15	15L, neck opening diameter 40mm, height 750mm	Includes single-layer transfusion hoses (GZ-DN15/1.5)	Not applicable
	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)

## Accessories

All models are supplied with a pressure valve, drain valve and a pressure gauge. Larger models (>200L) also have rupture discs for added safety.



## Float-Type Liquidometer








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





The self-pressurized tank can be used as a LN<sub>2</sub> back-up system for mechanical cryo-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 systems.
- 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 Data

Model	YDZ-5	YDZ-15	YDZ-30	YDZ-50	YDZ-100
Product Images					
Maximum storage capacity					
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
Performance					
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
Notes:	Standard single layer infusion hose(ZG-DN10/1.5), Optional float level gauge;with transport casters	Standard single layer infusion hose(ZG-DN10/1.5), Optional float level gauge;with transport casters	Standard single layer infusion hose(ZG-DN10/1.5), Optional float level gauge;with transport casters	Standard single layer infusion hose(ZG-DN10/1.5), Optional float level gauge;with transport casters	Standard single layer infusion hose(ZG-DN10/1.5), Optional float level gauge;with transport casters
Pressure Parameters(MPA)	•Standard working pressure 0.05 •Maximum working pressure 0.09 •First stage safety valve relief pressure 0.099 •Second stage safety valve release pressure 0.15 •Pressure gauge range 0~0.25				

## Technical Data

Model	YDZ-150	YDZ-200	YDZ-300	YDZ-500
Product Images				
Maximum storage capacity				
Volume of LN <sub>2</sub> (L)	150	200	300	500
Static Evaporation*(L/day)	1.95	2.4	3.3	5.5
LN <sub>2</sub> output(L/Min)	6	8	8	10
Performance				
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
Notes:	Standard single layer infusion hose(ZG-DN10/1.5), Optional float level gauge;with transport casters	Standard single layer infusion hose(ZG-DN10/1.5), Optional float level gauge;with transport casters	Standard single layer infusion hose(ZG-DN10/1.5), Optional float level gauge;with transport casters	Standard single layer infusion hose(ZG-DN10/1.5), Optional float level gauge;with transport casters
Pressure Parameters(MPA)	<ul style="list-style-type: none"> <li>•Standard working pressure 0.05</li> <li>•Maximum working pressure 0.09</li> <li>•First stage safety valve relief pressure 0.099</li> <li>•Second stage safety valve release pressure 0.15</li> <li>•Pressure gauge range 0-0.25</li> <li>•Rupture disc burst pressure 0.47</li> </ul>			

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



## Accessories and Consumables

Accessories	Model	Product Images	Applicable Model	Standard Equipped or Optional	Exterior Dimensions (mm)	Gross Weight (kg)	Other Description
Level Monitoring system	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
Cryogenic Gloves	Special for low temperature, 320mm in length		Universal	Optional	320×150×10	0.08	Overall length 320mm
	Special for low temperature, 450mm in length		Universal	Optional	450×180×10	0.10	Overall length 450mm
	Special for low temperature, 720mm in length		Universal	Optional	720×200×20	0.12	Overall length 720mm
Level Measuring Scale	Level Measuring Scale (600mm)		Suitable for aluminum containers below 10L (measuring length: 600mm)	Optional	60	0.12	Suitable for aluminium containers with capacity of less than 10L (measuring length 600mm)
	Level Measuring Scale (1000mm)		Suitable for aluminum containers greater than 10L (measuring length: 1000mm)	Optional	100	0.18	Suitable for aluminium containers with capacity of no less than 10L (measuring length 1000mm)
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
Flexible Metal Tubing	GB-DN10/1.5		Drift diameter: 10mm; length: 1.5m; special for liquid nitrogen pump	Optional	1000×20×20	1.20	Diameter of 10mm, length of 1.5m, suitable for YDZ serials



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