TcCryo

Multi-Neck Design LN_2 Containers

Operation Manual

Henan Tianchi Cryogenic Machinery Equipment Manufacturing Co., Ltd.

1、Company Profile

Henan Tianchi Cryogenic Machinery Equipment Manufacturing Co., Ltd.is a high-tech enterprise specializing inthe research, development, production and sales of liquid nitrogen biological containers and related products, creating the world's leading supplier of liquid nitrogen biological containers.

TcCryo have always taken "service, health, and future " as the corporate mission, adhering to the corporate philosophy of "making the world fall in love with Made in China", and adhering to the quality concept of "continuous improvement, striving for better", and for "building a century-old TcCryo, The corporate vision of "creating a world brand" is unremittingly forging ahead.

Liquid nitrogen biological container is the main product of TcCryo factory,has achieved excellent results in quality assessment for many times, and the products have passed ISO9001, CE, SGS and other domestic and international certifications. We always adhere to the service concept of "Begin with customers' needs, End(complete, finish) with customers' satisfaction", all focus on user experience, and constantly improve our technology and service level. On a global scale, we have helped tens of thousands of users solve questions, explore deeper user needs, continuously improve product performance, and improve user experience.

As the leading global manufacturer and supplier of liquid nitrogen biological containers, TcCryo has always been committed to bringing the most advanced products to users around the world. Through partners all over the world, we provide the highest quality products and services to users around the world. At present, the products have been sold to more than 40 countries such as the United States, Brazil, Uzbekistan and Thailand.

2、Company Qualification

The company has passed ISO9001 quality system certification, CE EU safety certification, SGS international general certification, and BV international general certification.

Production Workshop

3、Structure

- Outer liner, inner liner is composed of a high strength, special corrosion resistant Aviation aluminum plate made of durable.
- The neck tube is made of special glass fiber reinforced plastic with high strength and low heat conductivity.
- Insulation material is filled between the inner liner and the outer liner, laminated winding made use of advanced technology.
- The neck plug is made of special material, and has the dual function of reducing the evaporation of liquid nitrogen and the fixing of the lifting cylinder.
- The vacuum port is an important position to close the vacuum and must be strictly protected.
- Protection bag protects the container when moving or transported, and has a certain thermal insulation effect to reduce the amount of evaporation.

Multi-Neck Design LN_2 Containers

Designed specifically for large-capacity storage needs. The volume ranges from 65 to 21o liters, capable of holding avast amount of liquid nitrogen. The unique 50mm small opening custom design effectively reduces the rate of liquid nitrogen evaporation, significantly prolongs the storage time, and reduces the frequency of liquid nitrogen replenishment. It is an ideal choice for liquid nitrogen storage in fields such as animal husbandry, research institutions, medical enterprises, and biological engineering.

- 65 - 210 liters capacity, complete range of models.
- Customized with a 50mm diameter, effectively reducing the evaporation of liquid nitrogen.
- It can be equipped with a mobile cart for easy transportation.

Model	Volume (L)	Caliber	OD (mm)	Height (mm)	Static Evaporation Rate (L/d)	Static Retention Period (d)
YDS-65T-50	70.50	50	610	770	0.35	200
YDS-80-50	85.50	50	680	735	0.35	244
YDS-100-50	105.50	50	680	795	0.38	278
YDS-120-50	120.50	50	680	855	0.40	300
YDS-120T-50	125.50	50	610	1080	0.40	310
YDS-135-50	135.50	50	680	915	0.40	339
YDS-150-50	150.50	50	680	975	0.42	358
YDS-165-50	165.50	50	680	1035	0.44	376
YDS-180-50	180.50	50	680	1095	0.44	410
YDS-195-50	195.50	50	680	1155	0.46	425
YDS-210-50	210.50	50	680	1205	0.47	448

Universal auxiliary tool for liquid nitrogen tank

8.1 Liquid Nitrogen Dewar Trolley

TCQT-A30+ is made of all stainless steel.It can be used to easily transport liquid nitrogen biological containers indoors, which solves the difficulty of transporting large-volume liquid nitrogen biological containers and the purpose of assisting manual dumping of liquid nitrogen in the container. It has the advantages of safe and reliable transport and dumping of the liquid nitrogen container, and saving the operator's physical energy.

TCQT-A30+ Dumping Liquid Nitrogen Dewar Trolley
Suitable for 30~35L

The transportation series is mainly designed to meet the customer's requirements for short-distance movement of medium and large liquid nitrogen containers. When in use, the container can be directly placed on the trolley, and it can be moved flexibly. It is convenient and labor-saving, safe and reliable.

TCMT-A

TCMT-X

TCMT-A100	TCMT-A30	TCMT-X50	TCMT-X30
Suitable for 65~175L	Suitable for 30~50L	Suitable for 50L	Suitable for 30~35L

8.2 Automatic liquid nitrogen transfer pump

liquid nitrogen pump series is to vaporize a small amount of liquid nitrogen stored in the cont ainer, so that the liquid nitrogen contained in the container is discharged to achieve the purpose of replenishing liquid nitrogen to other containers. Advantages such as low rate loss.

TcCryo automatic liquid nitrogen transfer pump is a high-precision intelligent transfer equip ment integrating pressure measurement, display control and integration.

It has the characteristics of simple operation, good shock resistance, high control accuracy, fast bo osting, rapid liquid drainage, small liquid nitrogen loss and long service life.It can realize various f unctions such as easy start under low pressure, high pressure stop control, and the full range of co ntrol pressure can be set.

The liquid nitrogen is rapidly vaporized in the vaporization chamber, resulting in a low pressure (≤ 0.08MPa), and the liquid nitrogen is automatically discharged from the liquid nitrogen container.A void the disadvantages of damage to the liquid nitrogen container and a large amount of volatilizat ion loss of liquid nitrogen due to manual dumping.It is an ideal equipment for animal husbandry, medical and scientific research users to realize a small amount of liquid nitrogen transfer.

TCLNP-50

TCLNP-50A

Model	Compatible container diameter （mm）	Discharge pressure （≤MPa）	Discharge speed （L/min）
TCLNP-50	50	0.03	3-5
TCLNP-50A	50	0.05	6-8

8.3 Liquid nitrogen level monitoring alarm

TCLMA-D1 is a liquid nitrogen level monitoring alarm that uses Swiss imported high-precision sensor probe to ensure the excellent measurement of the product. The dual -section 18650 large -capacity battery is powered by power. The USB port can be connected to external power supply and charging. The ultra -low power consumption design can be used for 4 months (reporting real -time data once every 10 minutes). The data actively reports to the cloud monitoring platform. There is no need to monitor the host, the collector and other equipment, and set the related parameters such as the upper and lower limit of temperature. When the ambient temperature exceeds the upper and lower limit, the power is too low, the external power supply is broken and the equipment is offline, the alarm will be triggered immediately The alarm notification can be sent to the mailbox and mobile phone text message. Support web pages, mobile app login to view and export real -time data, real -time curve, alarm records, historical records, etc.

Scope

Widely used in liquid nitrogen -nitrogen -low temperature equipment, pharmacy, cold chain transportation, laboratory and other places.

Features

- Cloud monitoring: high temperature, low temperature, high humidity, low humidity, offline, low battery and power failure; no need to monitor equipment such as hosts and collectors; offline recording function; normal monitoring and data recording when disconnected; automatic reporting to the cloud platform after network connection.
- Log in to web site and mobile APP to view data, support SMS and email alarm.
- Preparation for LCD large screen display design, generous and beautiful, super stability and anti-interference ability.
- Used large capacity 18650 batteries, rechargeable, anti-reverse connection of batteries, anti-burn of batteries, ultra-low power design, battery power supply alone can last for four months (report interval is 10 minutes).
- Imported high-precision probes, high measuring accuracy, wide range and good consistency.

Type	TCLMA-D1
Sensor type	2 meters per external
Temperature measurement range	-200℃~200℃
Temperature measurement accuracy	±0.1℃
Local storage capacity	100,000 groups
Output interface	WIFI ， USB
Battery capacity	Two knots 6000mAh
Rated voltage	USB power supply: 5V 18650 battery power supply: 3.7V