

# **CRYOGENIC STORAGE CABINET**

## **USER'S GUIDE**

- Please read the instruction manual and save it for reference before installation and use.
- Please follow the operating procedures and precautions of this manual.
- In case of malfunction, please do not repair it yourself or repair it by our unauthorised maintenance department. Please contact the local authorized maintenance department.
- Production standard for this product  
GB4706.13-2004  
GB/T 20154-2014

# 1. The main performance and main features of this product

- The double-layer door seal foam insulation door is convenient to use and reduces the loss of cold air to save energy.
- It adopts copper tube fin air-cooled condenser, High energy efficiency ratio
- Because of the thick insulation layer, it can effectively reduce the loss of cold air to save energy and extend the service life of the compressor.
- Adopt stainless steel liner and plate and tube type refined copper tube evaporator
- It adopts imported microcomputer temperature controller to accurately control temperature. Digital display box temperature, intuitive and generous

## 2. Precautions

“” This mark indicates that it is harmful to the human body, or that the method of use is harmful to the product, or that the user of the alarm should pay special attention.

- ✧  It is forbidden to unpack and then transport
- ✧ This product is recommended to operate at ambient temperatures below 32 ° C.
- ✧  The inclination Angle of the box body shall not be greater than 45° in the process of product handling, Avoid causing compressor failure.
- ✧  Product operation should be placed on a flat and strong ground. (The tilt angle of the cabinet cannot be greater than 45°)
- ✧  Keep the product away from heat and direct sunlight when the product is running
- ✧  The product is stored in a dry and well ventilated room with no corrosive gases around it.
- ✧  If the product needs to be shut down for a long time, the inside and outside of the box should be kept dry and protected from dust.
- ✧  The power supply voltage should be kept at 187V~242V/50Hz. If the voltage is unstable, it should be equipped with a power supply regulator of 3000VA or higher.

- ✧ ⚠ A separate single-phase three-hole socket and a suitable fuse must be provided for the cryostat.
- ✧ ⚠ A reliable separate ground wire must be installed for the cryopreservation tank. The ground wire must not be connected to the gas pipe, heating pipe, water pipe, or the neutral wire of the single-phase power supply.
- ✧ ⚠ When the product is running, it must not be against the wall. The compressor room must have more than 30cm space, so that the system can dissipate heat in time to ensure normal operation.
- ✧ ⚠ It is forbidden to splash water into the control panel and compressor room while flushing the floor. It is also not allowed to operate the product in an environment with relative humidity greater than 85% to avoid electric shock accidents.
- ✧ ⚠ It is strictly forbidden to store flammable, explosive and volatile dangerous goods and strong acid strong alkali.
- ✧ ⚠ The cryogenic storage box should not be used in a flammable or explosive atmosphere. Do not spray flammable materials such as paint or paint near the box to avoid fire.

### **3. The scope of application of this product**

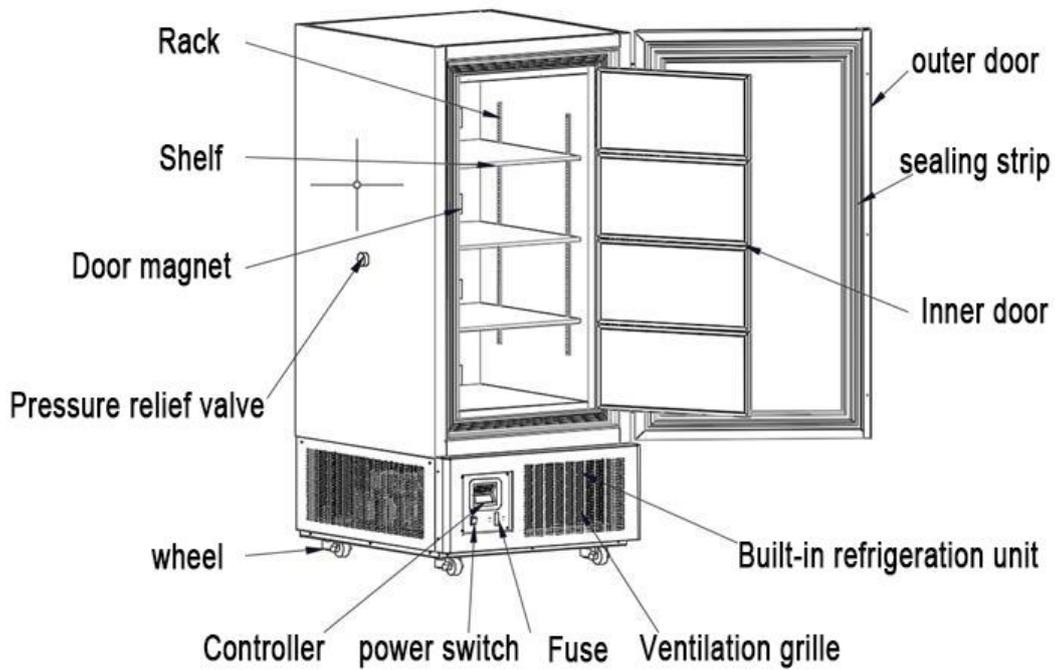
This product can be used in scientific research, cryogenic preservation of special ice cream products and low temperature experiments of special materials, etc. It is widely used in food freezing, scientific research institutes, industrial and mining enterprises, bioengineering research, electronic chemicals, offshore fishing and other industries.

## 4. Preparation for use

- After unpacking, remove all outer packaging materials.
- Check the random attachments and materials: Please check the attachments and materials in the box according to the packing list [see the relevant page of this manual].
- Please place the cryostat in a suitable location [please refer to the relevant clauses in the precautions].
- It is best to clean before use [please refer to the relevant provisions in the maintenance and maintenance].

## 5. Product structure diagram

Vertical low temperature refrigerator structure diagram



## 6. Start the test machine

- The power outlet must use a three-hole socket of 16A or more.
- After the system is powered on for 3 minutes, the system will automatically start the compressor work. The system enters a normal cooling state.
- After the system works, if the temperature inside the box drops significantly, the system works normally.

## 7. Product model and main technical parameters

Model	DW-25L280	DW-25L500	DW-25L730	DW-25L980	DW-25L1120
Parameters					
Capacity	289L	502L	736L	980L	1120L
Temperature	0°C ~ -25°C				
Power voltage	~220V/60Hz				

Power consumption (kW • h/24h)	4.2	7.5	11.8	12.3	13.5
Power (W)	350	620	900	950	980
Protective class	I				
Climate class	N				
Alarm sytem	Sound and light				
Refrigerants	R404a				
Refrigerant charge	--	--	--	--	--
Dimension (mm) W×D×H	620X645X15 70	850×960× 1860	940×980× 1920	1090×1010× 2025	1240×1000× 2000
Storage room Dimension (mm) W×D×H	440X425X98 5	610×690× 1195	760×740× 1285	910×775× 1365	1060×760× 1365
NET Weight	116kg	192kg	240kg	270kg	290kg

**【Note: The technical parameters in this table are measured under standard conditions. If there is any change, please refer to the nameplate of the box without prior notice. 】**

## 8. Controller function and basic operation

**KELD controller(Made in Spain )**

**Controller operation instructions ( See Appendix - Temperature Controller )**

## 9. Store item guide

- **Run the system for the first time: Run the system before storing the items, wait for the temperature inside the box to drop to the set temperature, and then store 1/2 items.**
- **Can't put too many items at once**
- **This product is a device for maintaining an ultra-low temperature environment, not a quick freezing device.**
- **When storing plastic bag products, be careful not to get close to the metal edge to avoid scratching the plastic bag.**
- **Ensure that there are enough gaps before the item to ensure the cooling effect**

## 10. Product maintenance and maintenance

- **Cabinet cleaning:** Clean the inner and outer surfaces of the cryostat and apply a non-corrosive neutral detergent. After cleaning, dry with a dry cloth.  
⚠ **Note:** It is strictly forbidden to wash the inner and outer surfaces of the box directly with water, so as not to affect the electrical insulation performance of the electrical appliance.
- Use a soft brush or vacuum cleaner to remove dust from the condenser to maintain good condensation.
- Frequent rubbing of a small amount of talcum powder on the door seal can extend the life of the seal.
- When the cryogenic storage box is operated for a long time, the door seal, the cabinet mouth and the inner side wall of the box are prone to frost accumulation. If the frost layer is too thick, the sealing performance and the cooling performance will be affected. Please use a defrosting shovel to periodically defrost and wipe with a dry cloth.
- Use a non-corrosive neutral detergent on the inside and outside of the cleaning tank. After cleaning, dry with a dry cloth.
- **Shutdown:** When the storage box is deactivated, the power plug should be unplugged and cleaned as described above. After drying naturally, cover the plastic bag and place it in a well ventilated place.

## 11. Not a malfunction

- There is a sound of running water inside the box, which is the sound of the refrigerant flowing.
- compressor surface temperature high, Normal temperature range: 70~90°C
- There is a slight heat on both sides of the product box. Because there is a dew prevention tube inside the box
- Condensed dew on the door seal. Reasons for high ambient relative humidity

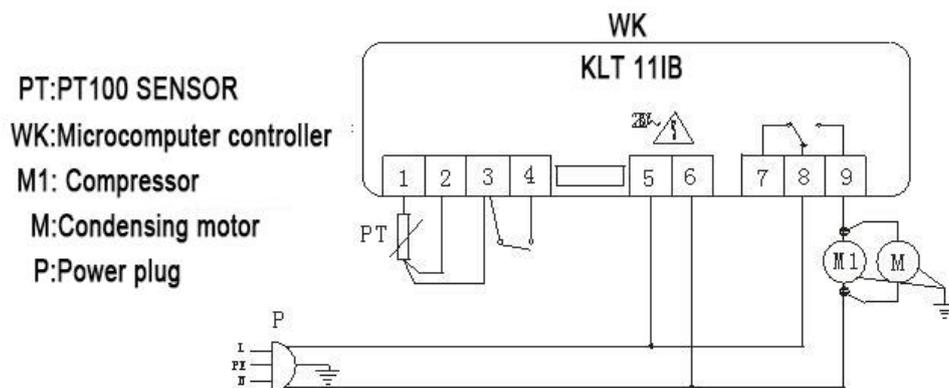
## 12. Failure analysis

phenomenon	Cause
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The system is not running	Is the power contact good? Is the power supply voltage within the normal range?
The compressor is not running	Is the temperature setting correct?
After the temperature reaches the set value, it continues to drop.	Is the temperature setting correct?
The compressor is not running	Compressor failure, controller or control line damage
Temperature does not reach the set value	Is the door not closed? Are there too many items placed? Does the ambient temperature exceed the product requirements?
Too much noise	Whether the cabinet touches the wall panel or other objects to cause resonance

## 13. Controller circuit schematic

### ➤ KELD controller wiring diagram (KLT 111B)



## **Product QC certification**

Product name: \_\_\_\_\_

Product model: \_\_\_\_\_

Product code: \_\_\_\_\_

Quality inspector: \_\_\_\_\_