

# Controlled Rate Freezer

## Scope of Application:

Suitable for primary cells and cooling cells that are highly sensitive to temperature changes.

## Innovative Design

- Information traceability
- Precise temperature control
- One-click freezing
- 7-inch touch screen



## Product Advantages



### Precise Temperature Control

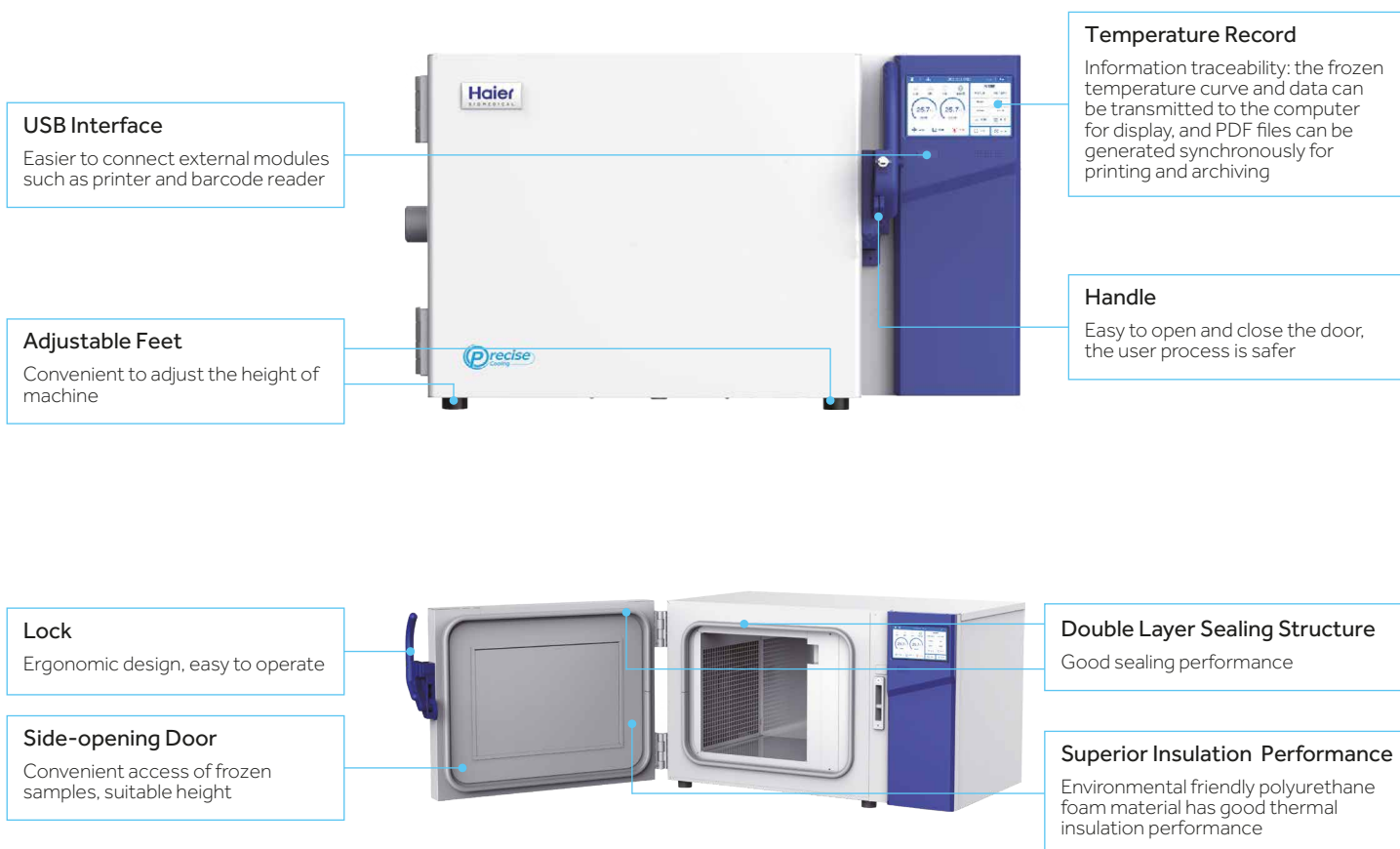
- Fine temperature control, the temperature rises and fall rate can be controlled in a large range, can achieve the cooling rate of 0.1-99°C/min
- Stable temperature control, double solenoid valve design and special jet ring design, stable temperature control, effectively reduces cell damage
- Precise temperature control, ADRC control algorithm, temperature fluctuation range is  $\pm 0.5^{\circ}\text{C}$
- 21 CFR Part 11-compliance  
Use of electronic records and signatures during the manufacturing process, that may help improve operational efficiency, improve system security, and decrease the number of records with defects



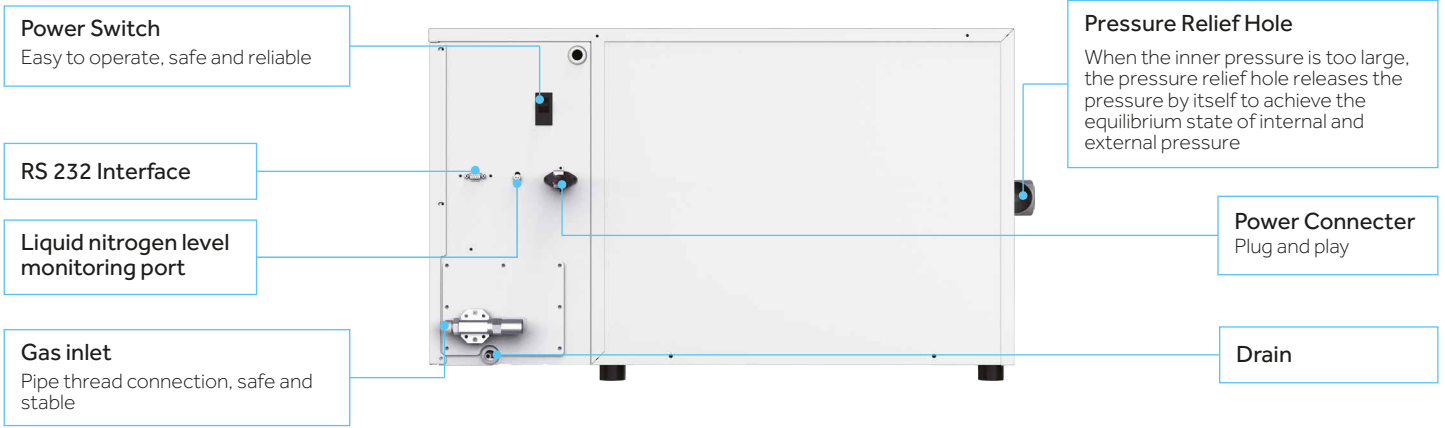
### Ergonomic Design

- 7-inch touch LCD screen, easy to operate
- Liquid nitrogen allowance warning: Real-time display of liquid nitrogen allowance, timely warning when it is lower than 20%
- Single handle press lock, simple and labor-saving, locking function, and the safety of the test process is guaranteed
- Equipped with a real-time temperature curve printer and electronically archived temperature records

## Product Functions



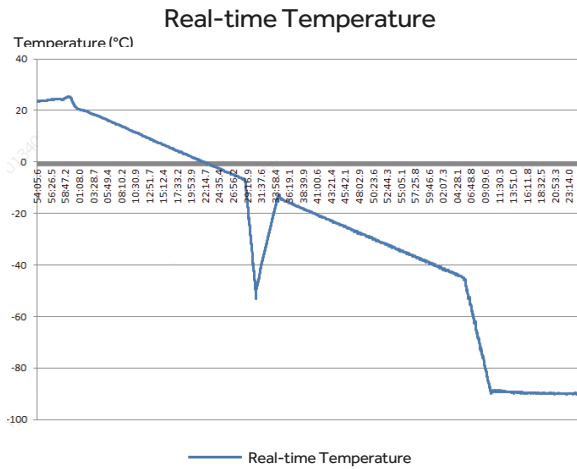
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## Product Performance

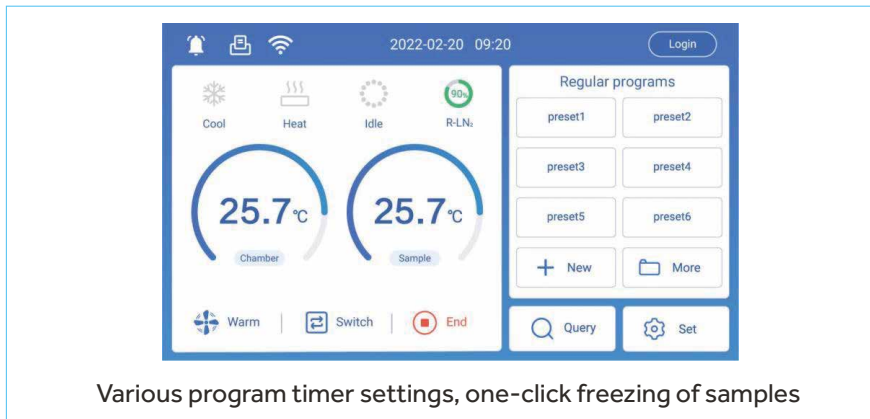


ADRC control algorithm, more accurate temperature control, temperature fluctuation range is  $\pm 0.5^{\circ}\text{C}$



Double solenoid valve design and special jet ring design to realize the cooling rate of  $0.1\sim 99^{\circ}\text{C}/\text{min}$   
The heating rate is  $0.1\sim 12^{\circ}\text{C}/\text{min}$  by heater design

## One-click Freezing



## Specifications



Model	CJ-L19	CJ-L37	CJ-L54
Effective Volume(L)	19	37	54
Temperature Range(°C)	-180-50		
Cooling Rate(°C/min)	0.1-99.9		
Heating Rate(°C/min)	0.1-12		
Temperature Uniformity(°C)	<2		
Power Supply (V/Hz)	220-50/60		
Display Screen	7 "colorful LCD touch screen		
Refrigerant	Liquid nitrogen		
Liquid Nitrogen Monitoring	Alarm reminder for liquid nitrogen less than 20%		
Exterior Dimensions (W*D*H mm)	775*571*527	941*571*527	1093*571*527
Interior Dimensions (W*D*H mm)	170*340*330	330*340*330	485*340*330
Packing Dimensions (W*D*H mm)	890*710*705	1050*700*705	1200*710*705
Net/Gross Weight (Kg)	66/106	73/114.5	84.5/118
Serial Port Form	USB Interface/RS232 serial port		
Accessories	1 Printer, 2 Sample probe		
Certification	CE		

## Optional Freezing Rack



Description	Dimensions (W*D*H mm)	Vials/Bags Per Rack	Number of Racks		
			Model		
			CJ-L19	CJ-L37	CJ-L54
2/5ml freezing rack	308*327*300	810(2ml vial) 486(5ml vial)		1	1+1
2/5ml freezing rack	143*326*300	550(2ml vial) 330(5ml vial)	1		
50ml freezing rack	100*153*259	13(25/50ml bag)	3	6	9
250ml freezing rack	160*240*256	8(250/500ml bag)	1	2	3
100ml freezing rack	112*164*301	10(100ml bag)	2	4	6



Vials Freezing Rack

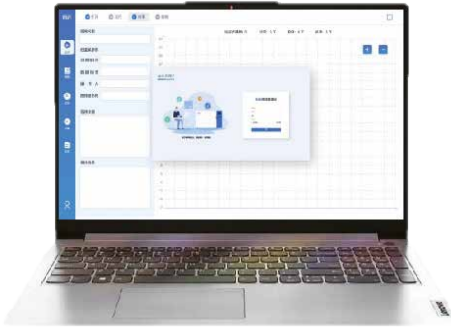


Bag Freezing Rack



Bag Freezing Box

## PC Software(with PC)



- Optimized profile design and easy to operate.
- Real-time acquisition of freezing curve, sample temperature, operating steps, etc.
- Remote control of controllable rate freezer.
- Update and enhance the creation of freezing programs.
- Realize the comparative analysis of historical data, output running records and print program reports.

## Self-pressurized LN<sub>2</sub> Storage



Model	YDZ-100/1.5
Volume of LN <sub>2</sub> (L)	100
Static Evaporation (L/Day)	1.3
LN <sub>2</sub> Output (L/Min)	4
Height (mm)	1185
Outside Diameter (mm)	606
Empty Weight (kg)	75
Full Weight (kg)	157
Pressure Parameters (MPa)	1. Standard working pressure 0.09 2. Maximum working pressure 0.15 3. First stage safety valve relief pressure 0.15 4. Second stage safety valve release pressure 0.24 5. Pressure gauge range 0-0.25

\*Haier Biomedical reserves the right to change products and specifications without prior notice.