

# GENERAL CATALOGUE



○ Headquarter ○ Global warehouse ○ Training center ○ Global subsidiary ○ Manufacturing base



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Established in Qingdao, China in 1984, the Haier Group is a world-leading provider of solutions for a better life. With ongoing and sustainable innovation and entrepreneurship, Haier always upholds the principle of "prioritizing people's value". In September 2005, Mr. Zhang Ruimin, Chairman of the Board and CEO of Haier Group, proposed the Rendanheyi Management Model, whose contemporary features, universality and social characteristics have achieved trans-industry and trans-culture fusion and replication. Focusing on user experience and keeping abreast of the times, Haier has experienced six strategic stages: brand building strategy, diversification strategy, internationalization strategy, global branding strategy, networking strategy and ecosystem brand strategy, growing from the once collectively owned small factory on the verge of bankruptcy into an ecosystem that leads the world in the IoT era. As the world's first and only IoT ecosystem brand, Haier has been included on the list of BrandZ Most Valuable Global Brands for three consecutive years and listed in "The World's 500 Most Influential Brands" of the World Brand Lab for 17 years straight. Haier serves over 1 billion families in 160 countries or regions around the world. To date, Haier has successfully floated three listed companies (Haier Smart Home, Haier Biomedical, INKON Life), five large-scale hightech enterprises and 37 medium-sized high-tech companies. Moreover, the Group has established 10+N innovation ecosystems, 28 industrial parks, 122 manufacturing centers, 108 marketing centers and 240,000 sales networks globally.

The Haier Group owns several ecosystem brands and new acquisitions, including Haier, Casarte, Leader, GE Appliances, Fisher & Paykel, AQUA, Candy, COSMOPlat, THREE-WINGED BIRD, Ririshun, Yingkang Life, Haina Cloud, HCH and Haier Brothers as key examples.

Haier has topped Global Major Appliances Brand Rankings by Euromonitor International for 12 consecutive years. The Group's subsidiary Haier Smart Home is among the list of Fortune's Global 500 and World's Most Admired Companies and Forbes' World's 2,000 Largest Public Companies. The COS- MOPlat industrial Internet platform under the Haier Group has topped the cross-sector and cross-field industrial internet platforms of the Ministry of Industry and Information Technology of the People's Republic of China for two years straight. The company was named a leader in Industrial IoT platforms by Forrester and was designated by ISO, IEEE, and IEC, the three major international standard organizations, to lead the drafting of international standards for mass customization models.

Upholding the vision of "creating new growth engine in the era of IoT with the Rendanheyi Model", Haier is committed to working with its world-class ecosystem partners to continuously build and upscale the brand, scenario brand and ecosystem brand, and to set up IoT ecosystems in clothing, food, accommodation, travel, health, elderly care, biomedicine and education, and to tailor personalized smart life for users around the globe.



Haier Biomedical was founded to focus on the design, manufacturing, marketing and sales of low temperature storage equipment for biomedical samples. In 2019, the company successfully listed on the Shanghai Stock Exchange Science and Technology Innovation Board. Expanding more broadly within life science applications, Haier Biomedical utilizes digital technology within its new generation IoT-enabled products to provide comprehensive, customer-centric solutions for common challenges within applications such as blood supply management, vaccine delivery programmes, biobanks, biological sample management, reagent storage and pharmaceutical supply chain.



After more than ten years of development, Haier Biomedical has more than 700 patents. Haier Biomedical's aerospace medical cold storage refrigerators have been carried on the Shenzhou spacecraft into space multiple times, and the ULT freezers have been carried on the research vessel, Xuelong, supporting the Antarctic scientific research programme. Haier Biomedical also assisted in the development of the Chinese Bone Marrow Bank, National Gene Bank and many national strategic support projects.

In 2018 a series of Smart solutions were launched - U-Blood, U-Vaccine, U-Biobank and U-Reagent and U-Lab, these solutions are based on Haier Biomedical's IoT expertise and the core technology advantages in the biomedical cold chain.



The U-Blood solution is based on IoT-enabled blood refrigerators, linking blood collection, blood delivery and clinical blood use settings to ensure in real-time the traceability of blood information from "blood donor" to "blood user". This solution upgrades the users to a model which speeds up blood type matching and blood delivery times, reduces reagent usage, and costs and achieves zero blood wastage, providing better value and better patient outcomes and care.

The U-Vaccine solution is based on the IoT-enabled vaccine refrigerators, providing transparent end-to-end management of vaccines, ensuring vaccine safety and improving vaccination efficiency, security and reliability from manufacturer to inoculation.

Haier Biomedical built the first ecological solution for safe vaccine storage including solar-powered vaccine refrigerators, to effectively ensure the safety of children's vaccination in countries along the Belt and Road and emerging economies, including hard to reach areas due to lack of infrastructure and or access to a sustainable electricity supply. As the first company to be selected into the World Health Organization PQS procurement catalogue, Haier Biomedical has been cooperating with the WHO organization and other internationally recognized NGO's to safeguard the health of 200 million children worldwide.



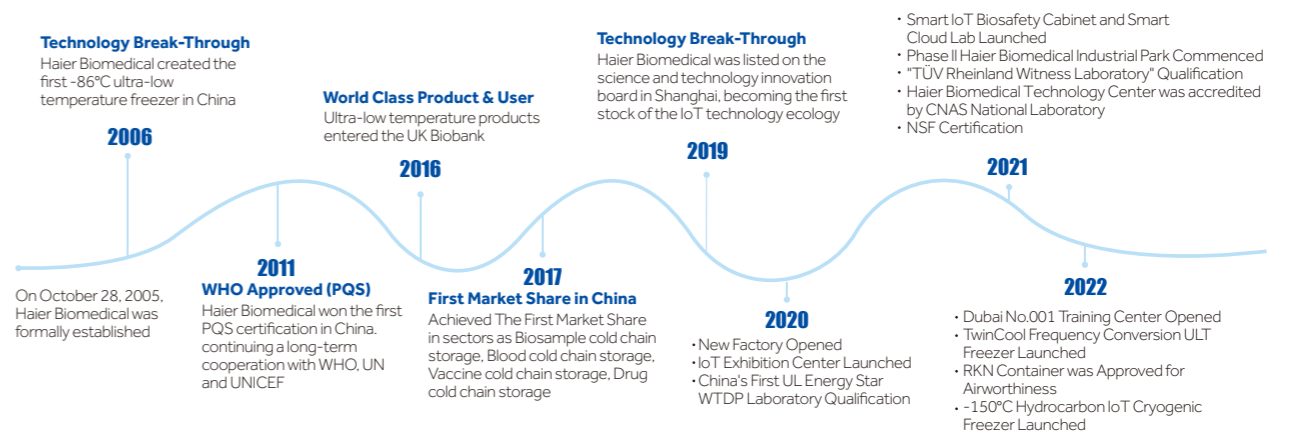
IoT-enabled ultra-low temperature freezers are used with the U-Biobank software solution which links sample collection, storage and application scenarios to achieve efficient sample management, precise sample positioning, one-click access and fully traceable data for compliance.

The U-Reagent solution solves a common and significant problem of 'loss' within reagent management, enabling zero wastage of pharmaceutical reagents, quick inventory and real-time information, creating efficient and more cost-effective reagent supply chain management.

Haier Biomedical is a corporate and socially responsible organization to its stakeholders and the world at large and through product innovations, solar-powered products and world-leading energy-saving refrigeration technologies it provides environmentally-friendly products to over 150 countries.

Utilizing IoT solutions within manufacturing, Haier Biomedical can monitor and control, in real-time, complex automated processes. This delivers significant benefits in terms of energy conservation, facility and resource management, production flow monitoring and inventory management to quality control, packaging, logistics and supply chain optimization. It ensures its manufacturing operations, technological developments and supply chain and customers collectively support sustainable business practices.

### Haier Biomedical Development Stages:



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**Haier Biomedical**  
Intelligent Protection of Life Science



**-150°C**  
**Cryo Freezer**

# -150°C Cryo Freezer



A mechanical cryogenic freezer is used for the long-term cryopreservation of samples such as cell cultures, tissue samples, bacteria, viruses and non-biological products such as electronics. Applications include cord blood preservation, biobanks, reproductive procedures, blood banks, life science research, biomedical engineering and fisheries. Mechanical cryopreservation is a safe alternative to LN<sub>2</sub> and can reduce or eliminate the reliance on LN<sub>2</sub>, reducing safety concerns.

## Hydrocarbon Energy Saving

- Includes specialist industrial compressor, hydrocarbon refrigerant, dual-compressors 4-stage cascade refrigeration system, which delivers excellent energy-efficiencies
- Energy-efficient fan design with intelligent start/stop

## Superior Uniformity

- The temperature uniformity is  $\pm 5^{\circ}\text{C}$  with the setting temperature of  $-150^{\circ}\text{C}$

## Safe, Secure and Reliable

The standard ambient temperature ranges from  $10^{\circ}\text{C}$  to  $32^{\circ}\text{C}$ . The pressure state of the system can be automatically adjusted by the pressure controller to prevent the pressure from being too high to effect the freezer operation. Multiple alarms, including high and low temperature, power failure, door ajar, hot condenser, low battery, sensor error, and high ambient temperature.

## Environmentally Friendly

- HC refrigerant, truly environmentally-friendly refrigeration system with zero global warming potential (GWP)
- LBA polyurethane foam has low GWP and is significantly lower than most HFCs commonly used, offering better environmental protection

## Low Noise

Noise-reduction features and structure noise reduction design, the noise 55 dB (A)



## Specifications

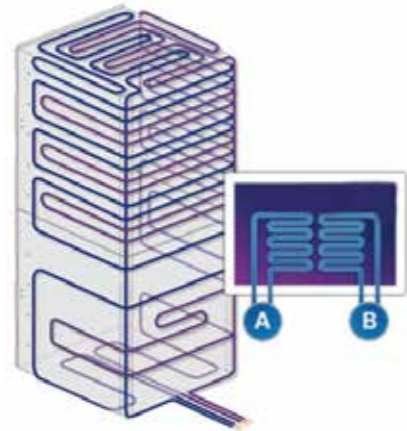
Model		DW-150W209	
Technical Data	Cabinet Type	Chest	
	Climate Class	N	
	Cooling Type	Direct Cooling	
	Defrost Mode	Manual	
	Refrigerant	HC	
	Sound Level (dB(A))	55	
Performance	Cooling Performance ( $^{\circ}\text{C}$ )	-150	
	Temperature Range ( $^{\circ}\text{C}$ )	-130~-150	
Control	Controller	Microprocessor	
	Display	LCD Touchscreen	
Electrical Data	Power Supply (V/Hz)	220~240/50	
	Electrical Current (A)	10	
	Power Consumption (kWh/24h)	25	
Construction	Capacity (L/Cu.Ft)	209/7.4	
	Net/Gross Weight (approx)	kg	260/295
		lbs	573.2/650.4
	Interior Dimension (W*D*H)	mm	667*462*677
		in	26.3*18.2*26.7
	Exterior Dimension (W*D*H)	mm	1650*860*1010
		in	65.0*33.9*39.8
Packing Dimension (W*D*H)	mm	1810*940*1190	
	in	71.3*37.0*46.9	
Loading Quantities	Container load (20'/40'/40'H)	6/13/13	
Alarms	High/Low Temperature	Y	
	Hot Condenser	Y	
	Power Failure	Y	
	High/Low Voltage	Y	
	Sensor Error	Y	
	Low Battery	Y	
	High Ambient Temperature	Y	
	Door Ajar	Y	
Accessories	Caster	Y	
	Foot	Y	
	Porthole	Y/1	
	Inner Doors	2	
	USB Interface	Y	
	Remote Alarm (Dry contacts)	Y	
	5V Power Supply Port	Y	
	Temperature Recorder	Optional	
	RS485 Port	Y	
	LN <sub>2</sub> Backup System	Optional	
IoT Module	Optional		
Freezing Rack	DCJ-10-A(SUS304) or DCJ-12-A(SUS304) (Quantity): 12		
Certification	CE	Y	

Product appearance and specifications are subject to change without notice

**TwinCool  
Frequency  
Conversion  
ULT Freezer**



### Product Advantages



**Dual refrigeration system for optimal reliability and security**  
Two independent hydrocarbon (HC) refrigeration systems, each can maintain -80°C ensuring the safety of stored samples



**World-leading Energy Saving Refrigeration Technology**  
Intelligent frequency conversion technology and HC refrigeration system delivers a 50% reduction in energy usage when compared to traditional HFC refrigeration systems



**Environmental Protection**  
Environmentally friendly hydrocarbon refrigerant and LBA foam material

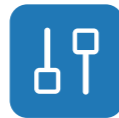


**Optional IOT & Sample Management System (Professional Edition)**  
The optional IoT monitors the operating status of the equipment in real time. Equipped with multiple alarm functions and a self-diagnostics system to identify and warn users to ensure sample safety

### Ergonomic Design



**Low Noise Design**  
Optimised systems and noise-reducing cabinet design lower noise out to 53dB for a quieter working experience



**Adjustable Sample Loading Tray (Optional)**  
The adjustable height sample load tray provides users with a convenient place to hold samples while opening and accessing storage compartments



**Large loading capacity**  
Maximum Capacity: 600 boxes (2 inch boxes with 10\*10 configuration) 60,000 samples can be stored



**Intelligent Control**  
10.1-inch high-performance touch screen, sensitive touch operation. Using the optional IoT module, users can check the real-time operating status from an App

**Ergonomic design**  
Document holder for easy storage of documents



**High quality door opening experience**  
The ergonomic chamfer design of the handle ensures smooth operation and maximum durability



**Adjustable feet**  
For easy positioning and levelling



**Magnetic filter screen**  
Filter screen is easy to clean



DW-86L828ST

**Microcomputer control**  
Microcontroller with 10.1 inch LCD touch screen displays temperature and other important data. Temperature display precision is 0.1°C

**Multiple alarms**  
Including high/ low temperature alarm, sensor error alarm, hot condensor alarm, power failure alarm, low battery alarm, door ajar alarm, high ambient temperature alarm, etc



**Multiple safety lock**  
Standard mechanical lock, optional electromagnetic lock. Optional fingerprint lock and NFC for optimal security and access

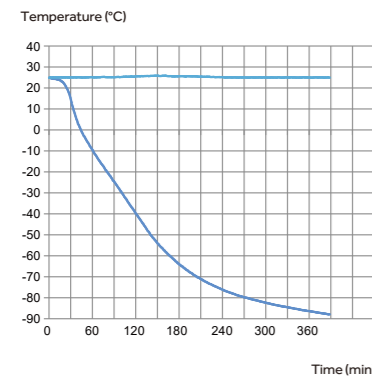


**Networking function**  
Equipped with RS485 interface to connect multiple freezers

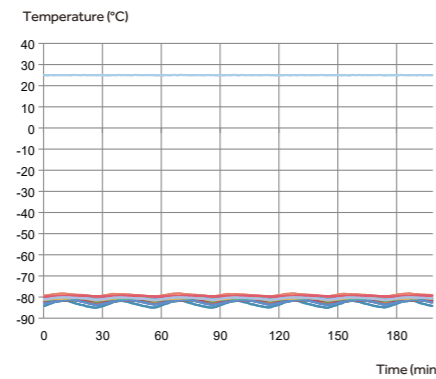


### Temperature Curve

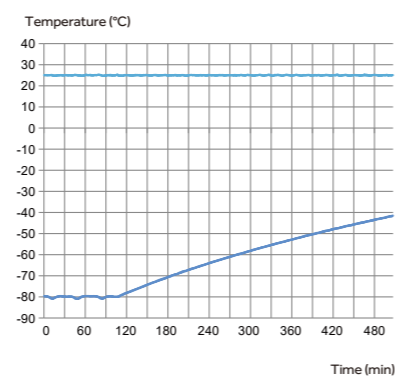
Temperature Cool Down Curve



Stability Curve



Temperature Recovery Curve

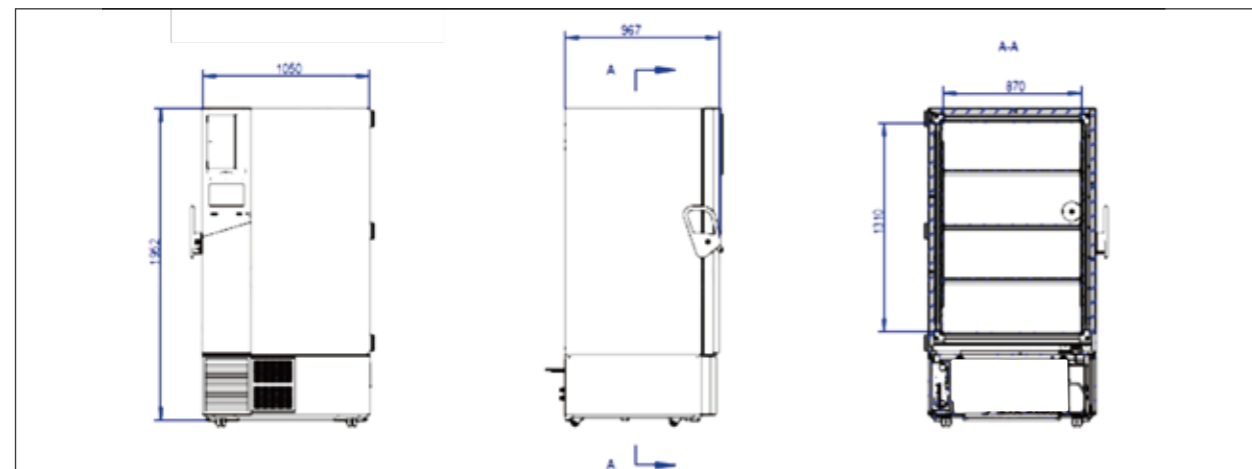


— 3<sup>rd</sup> centre  
— amb temp

— ave temp  
— 1<sup>st</sup> center temp  
— 2<sup>nd</sup> left outer temp  
— 2<sup>nd</sup> right inner temp  
— 3<sup>rd</sup> center temp  
— 1<sup>st</sup> left inner temp  
— 1<sup>st</sup> right outer temp  
— 2<sup>nd</sup> center temp  
— 3<sup>rd</sup> left inner temp  
— 3<sup>rd</sup> right outer temp

— 3<sup>rd</sup> centre  
— amb temp

### Product Dimensions



### Specifications

	Model	DW-86L828ST	
Technical Data	Cabinet Type	Upright	
	Climate Class	N	
	Cooling Type	Direct cooling	
	Defrost Mode	Manual	
	Refrigerant	HC	
	Sound Level (dB(A))	53	
Performance	Cooling Performance (°C)	-86	
	Temperature Range (°C)	-40--86	
Control	Controller	Microprocessor	
	Display	LCD	
Electrical Data	Power Supply (V/Hz)	220-240/50/60	
	Electrical Current (A)	6.5	
Dimensions	Capacity (L/Cu.Ft)	828/29.2	
	Net/Gross Weight	kg	380/410
		lbs	837.7/914.9
	Interior Dimensions (W*D*H)	mm	870*716*1310
		in	34.3*28.2*51.6
	Exterior Dimensions (W*D*H)	mm	1145*998*1980
		in	45.1*39.3*78.0
	Packing Dimensions (W*D*H)	mm	1190*1045*2150
in		46.9*41.1*84.6	
Cabinet Width (without handle and hinge)	mm	1050	
Container Load (20'/40'/40'H)		8/20/20	
Functions	High/Low Temperature	Y	
	Hot Condenser	Y	
	Power Failure	Y	
	High/Low Voltage	Y	
	Sensor Error	Y	
	Low Battery	Y	
	High Ambient Temperature	Y	
	Door Ajar	Y	
Accessories	Caster	Y	
	Foot	Y	
	Porthole	Y/2	
	Shelves/ Inner Doors	3/4	
	USB Interface	Y	
	Remote Alarm	Y	
	5V Power Supply Port	Y	
	Temperature Chart Recorder	Optional	
	RS232/485 Port	NA/Standard	
	NFC	Optional	
	Fingerprint	Optional	
	IoT module	Optional	
	CO <sub>2</sub> Backup System	Optional	
LN <sub>2</sub> Backup System	Optional		
Freezing Rack; DCJ-55-A or DCJ-55-B; (Quantity)	24		
Others	Certification	CE	



**TwinCool  
ULT Freezer**

### Scope of Application

The TwinCool ULT freezer can be used for the storage and protection of valuable samples which require strict and continuous storage conditions, designed to operate even in the event of a compressor failure. Suitable for viruses, pathogens, blood cells and other biological sample cold storage applications found within hospitals, disease control, research institutions and biomedical engineering. Also used to store special materials and other products within electronics and chemicals industries.

### Advanced Hardware System



#### Smart Full-size Touch Screen

10-inch touch screen with state-of-art user interface design, coupled with sample management system provides optimal user experience.

#### A Dual independent refrigeration systems for maximum sample safety

The dual refrigeration systems run independently and alternately, both reaching -80°C, such that if one system fails the other will maintain temperature to ensure sample storage safety.

#### B High speed refrigeration system for faster pull down and temperature recovery after door opening

Utilizing auto-cascade hydrocarbon (HC) refrigeration technology to deliver fast temperature pull down. From an ambient of 25°C it takes just 180 minutes to reach -80°C. It provides a quick temperature recovery after door opening, with the internal temperatures returning to -75°C within 1 minute, guaranteeing safety of samples.

#### C World-leading energy saving refrigeration technology

The HC refrigeration technology coupled with superinsulation, which increases the insulation efficiency by 30%, and a cabinet designed to reduce heat loss ensures an energy efficient freezer. The 578L model has a power consumption of 11 kWh/day and is certified by The National Quality Certification Center for Energy Saving and Environmental Protection.

### Optional IOT & Sample Management System (Professional Edition)



#### Simplified Sample Management Experience

Barcode scanner for simple, effortless and precise identification. Input and retrieve your samples with higher precision and efficiency



#### Wireless Monitoring Connectivity

Check the real-time operating status via mobile phones or palmtop, simple and reliable

### Friendly Design



#### Safe and secure

Equipped with key lock, padlock and optional electromagnetic lock, with optional fingerprint lock, providing multiple safeguards for sample safety



#### Low noise design, reducing the noise down to 53dB

Special noise-reduction design plus super silent compressor technology and energy-saving fan, considerably lowers noise level



#### Cloud data storage available

Store hundreds of millions of scientific research and sample information in the cloud server



#### Optimized insulation

Double foaming for both inner and outer doors and five-layer sealing design and optimized super-thick VIP thermal insulation technology, extends temperature holdover time during power failure and increases insulation efficiency by 30%

### Specifications

Model	DW-86L578ST	DW-86L578SAT	DW-86L728ST	DW-86L728SAT		
Technical Data	Cabinet Type	Upright	Upright	Upright	Upright	
	Climate Class	N	N	N	N	
	Cooling Type	Direct cooling	Direct cooling	Direct cooling	Direct cooling	
	Defrost Mode	Manual	Manual	Manual	Manual	
	Refrigerant	HC	HC	HC	HC	
	Sound Level (dB(A))	53   52	53	50   53	53	
Performance	Cooling Performance (°C)	-86	-86	-86	-86	
	Temperature Range (°C)	-40~-86	-40~-86	-40~-86	-40~-86	
Control	Controller	Microprocessor	Microprocessor	Microprocessor	Microprocessor	
	Display	LCD Touchscreen	LCD Touchscreen	LCD Touchscreen	LCD Touchscreen	
Electrical Data	Power Supply (V/Hz)	220~240/50	120/60	208~230/60	208~230/60	
	Electrical Current (A)	10	18	10	10   18	
	Power Consumption (kWh/24h)	12	10	10	12   11	
Construction	Capacity (L/Cu.Ft)	578/20.4	578/20.4	728/25.7	728/25.7	
	Net/Gross Weight (approx)	kg	325/355	325/355	350/385	350/385
		lbs	716.5/782.6	716.5/782.6	771.6/848.8	771.6/848.8
	Interior Dimension (W*D*H)	mm	620*716*1310	620*716*1310	766*716*1310	766*716*1310
		in	24.4*28.2*51.6	24.4*28.2*51.6	30.2*28.2*51.6	30.2*28.2*51.6
	Exterior Dimension (W*D*H)	mm	895*998*1980	895*998*1980	1046*998*1980	1046*998*1980
in		35.4*39.3*78.0	35.4*39.3*78.0	41.2*39.3*78.0	41.2*39.3*78.0	
Packing Dimension (W*D*H)	mm	950*1055*2150	950*1055*2150	1100*1105*2150	1100*1105*2150	
	in	37.4*41.5*84.6	37.4*41.5*84.6	43.3*43.5*84.6	43.3*43.5*84.6	
Loading Quantities	Container Load (20'/40'/40'H)	12/24/24	12/24/24	10/20/20	10/20/20	
	High/Low Temperature	Y	Y	Y	Y	
Alarms	Hot Condenser	Y	Y	Y	Y	
	Power Failure	Y	Y	Y	Y	
	High/Low Voltage	Y	Y	Y	Y	
	Sensor Error	Y	Y	Y	Y	
	Low Battery	Y	Y	Y	Y	
	High Ambient Temperature	Y	Y	Y	Y	
	Door Ajar	Y	Y	Y	Y	
	Caster	Y	Y	Y	Y	
	Foot	Y	Y	Y	Y	
Porthole	Y/2	Y/2	Y/2	Y/2		
Accessories	Shelves/Inner Doors	3/4	3/4	3/4	3/4	
	USB Interface	Y	Y	Y	Y	
	Remote Alarm (Dry contacts)	Y	Y	Y	Y	
	5V Power Supply Port	Y	Y	Y	Y	
	Temperature Recorder	Optional	Optional	Optional	Optional	
	RS485 Port	Y	Y	Y	Y	
	CO <sub>2</sub> Backup System	Optional	Optional	Optional	Optional	
	LN <sub>2</sub> Backup System	Optional	Optional	Optional	Optional	
Certifications	CE	Y	/	/	Y	
	UL	/	Y	Y	/	
	ENERGY STAR	Y	Y	Y	Y	

The TwinCool ultra-low temperature freezer of Haier Biomedical provides the highest level of protection for your valuable samples.



DW-86L578S

## Safer by Design

Haier Biomedical's ultra low temperature freezers with intelligent TwinCool technology are designed to provide optimal cabinet reliability, longevity, efficiency and sample protection. This super efficient technology also improves the energy efficiency of our third generation ULT freezers and leads the way in terms of product innovation.

### Intelligent TwinCool Refrigeration System

Two independent refrigeration systems are designed to ensure optimal reliability, longevity and efficiency. Depending on the load demands and ambient conditions, one or both refrigeration systems will operate on demand, ensuring the samples are fully protected under the worst possible condition.



#### Maximum Sample Security

TwinCool system means extra insurance for temperature. Each independent refrigeration system can maintain -80°C separately.



#### Fast Cabinet Pull Down

Fast and efficient cabinet pulldown, it usually takes an average of three hours to reach -80°C at 25°C ambient. This means the temperature recovery after door opening is excellent ensuring the stored samples are not exposed to undesirable temperatures.



#### Maximum Energy Efficiency

The TwinCool ultra-low temperature system operates with 12 kWh/day.



#### World-leading Energy Saving Refrigeration Technology

The Haier hydrocarbon refrigeration technology uses less than 50% energy compared to traditional CFC refrigerants to reduce the operating cost. The refrigerants do not contain fluorine or chlorine giving it a GWP value of just three, which is better for the environment.



#### Reduced Running Costs

VIP thermal insulation system is designed to significantly reduce heat gain and operating cost.



**Energy Saving Refrigeration**  
High efficiency cooling fans and compressors, combined with hydrocarbon refrigerants, ensure energy savings and long-term sample security



**Multilayered Sealing Structure**  
Multilayered gaskets decrease heat loss and guarantee excellent warm up times in the event of a power failure



**Pressure Equalisation Port**  
Heated Pressure Equalization Port allows users to re-open the main door quickly when entering  
Adopts chromium plating, rust-proof



**Improved Handle Design**  
Lockable handle safeguards your precious samples. A padlock can also be added for extra sample safety



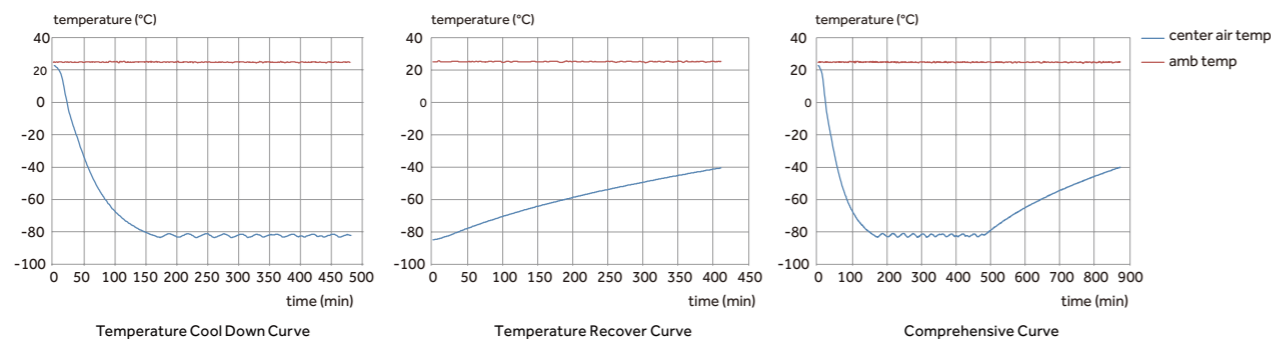
**USB Interface**  
Enables users to download historical temperature data for compliance/auditing purposes



**Multi-level Alarms**  
Alarm functions include high, low temperature, sensor error, power failure, high ambient, clean filter and door ajar

DW-86L578S

**DW-86L578S | TYPICAL PERFORMANCE CHARACTERISTICS AT 25°C AMBIENT**



**Specifications**

	Model	DW-86L578S	DW-86L728S	
Technical Data	Cabinet Type	Upright	Upright	
	Climate Class	N	N	
	Cooling Type	Direct Cooling	Direct Cooling	
	Defrost Mode	Manual	Manual	
	Refrigerant	HC	HC	
Performance	Sound Level (dB(A))	53	50	
	Cooling Performance (°C)	-86	-86	
Control	Temperature Range (°C)	-40~-86	-40~-86	
	Controller	Microprocessor	Microprocessor	
Electrical Data	Display	LED	LED	
	Power Supply (V/Hz)	220~240/50	220~240/50	
	Electrical Current (A)	10	10	
	Power Consumption (kWh/24h)	12	12	
Construction	Capacity (L/Cu.Ft)	578/20.4	728/25.7	
	Net/Gross Weight (approx)	kg	325/355	350/385
		lbs	716.5/782.6	771.6/848.8
	Interior Dimension (W*D*H)	mm	620*716*1310	766*716*1310
		in	24.4*28.2*51.6	30.2*28.2*51.6
	Exterior Dimension (W*D*H)	mm	895*998*1980	1046*998*1980
		in	35.4*39.3*78.0	41.2*39.3*78.0
	Packing Dimension (W*D*H)	mm	950*1055*2150	1100*1105*2150
in		37.4*41.5*84.6	43.3*43.5*84.6	
Loading Quantities	Container load (20'/40'/40'H)	12/24/24	10/20/20	
	High/Low Temperature	Y	Y	
Alarms	Hot Condenser	Y	Y	
	Power Failure	Y	Y	
	Sensor Error	Y	Y	
	Low Battery	Y	Y	
	High Ambient Temperature	Y	Y	
	Door Ajar	Y	Y	
	Caster	Y	Y	
Accessories	Foot	Y	Y	
	Porthole	Y/2	Y/2	
	Shelves/Inner doors	3/4	3/4	
	USB Interface	Y	Y	
	Remote Alarm (Dry contacts)	Y	Y	
	5V Power Supply Port	Y	Y	
	Temperature Recorder	Optional	Optional	
	RS485	Y	Y	
	CO <sub>2</sub> Backup System	Optional	Optional	
	LN <sub>2</sub> Backup System	Optional	Optional	
Certifications	CE	Y	Y	
	ENERGY STAR	Y	Y	

S suffix - Dual independent refrigeration systems  
Product appearance and specifications are subject to change without notice



Frequency  
Conversion ULT  
Freezer

### Scope of Application

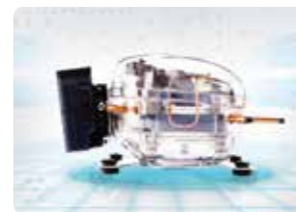
Applicable for products and samples which require strict storage conditions such as viruses, pathogens, red blood cells, white blood cells, skin, bones, bacteria, semen, biological products, electronics and special materials. Suitable for long term storage applications and compliant with typical storage requirements found in hospitals, disease control and prevention centers, scientific research institutions, biomedical engineering institutes, agriculture/ fishery companies as well as the electronics and chemical industry.

### Advanced Hardware System



#### Smart Full-size Touch Screen

10-inch capacitive touch screen, state-of-art UI design coupled with sample management system to provide the optimal user experience.



#### HC & Variable Frequency Drive Refrigeration System for Additional Energy Saving

Advanced innovative design delivers excellent energy savings. The energy consumption is down to a single digit.

### Optional IoT Software System



#### Simplified Sample Management Experience

Optional barcode scanner for simple, effortless and precise identification. Input and retrieve your samples with higher precision and efficiency



#### Wireless Monitoring Connectivity

Check the real-time operating status via mobile phones or palmtop, simple and reliable

#### A Quicker product access, identification and retrieval

Instead of a manual system, the one-gun, one-code and one-key operation plus touch screen synchronization means you can access and retrieve your samples within seconds

#### B 24-hour sample protection

Using Haier's app and IoT technology the unit can be monitored and can self-diagnose faults, ensuring you are always aware of your unit's status and able to make real-time and informed choices to protect your samples

#### C Cloud data storage available

Store hundreds of millions of scientific research and sample information in the cloud server

### Friendly Design



#### Safe and secure

Standard equipped with key lock, padlock and electromagnetic lock with optional fingerprint lock, providing multiple safeguards for sample safety



#### Low noise design, reducing the noise down to 53dB

Special noise-reduction design plus super silent compressor technology and energy-saving fan, considerably lowers noise level



#### Super energy efficient with three environmentally friendly innovations

Ultra-low power consumption, down to less than 10kWh/day, ensuring a world leading energy saving performance



#### Optimized insulation

Double foaming for both inner and outer doors and five-layer sealing design and optimized super-thick VIP thermal insulation technology, extends temperature holdover time during power failure and increases insulation efficiency by 20%

### Specifications

Model	DW-86L579BPT	DW-86L729BPT	DW-86L829BPT	DW-86L959BPT	
Technical Data	Cabinet Type	Upright	Upright	Upright	
	Climate Class	N	N	N	
	Cooling Type	Direct Cooling	Direct Cooling	Direct Cooling	
	Defrost Mode	Manual	Manual	Manual	
	Refrigerant	HC	HC	HC	
	Sound Level (dB(A))	43.5	43.5	43.5	
Performance	Cooling Performance (°C)	-86	-86	-86	
	Temperature Range (°C)	-40~-86	-40~-86	-40~-86	
Control	Controller	Microprocessor	Microprocessor	Microprocessor	
	Display	Touch Screen LCD	Touch Screen LCD	Touch Screen LCD	
Electrical Data	Power Supply (V/Hz)	100-230/50/60	100-230/50/60	110-120/60 208-230/50/60	
	Electrical Current (A)	14	14	15 6 20 9	
Dimensions	Capacity (L/Cu.Ft)	579/20.4	729/25.7	829/29.2 959/33.9	
	Net/Gross Weight (approx)	kg	325/355	350/385	380/415 450/485
		lbs	716.5/782.6	771.6/848.8	837.7/914.9 992.1/1069.2
	Interior Dimension (W*D*H)	mm	620*716*1310	766*716*1310	870*716*1310 1016*716*1310
		in	24.4*28.2*51.6	30.2*28.2*51.6	34.3*28.2*51.6 40.0*28.2*51.6
	Exterior Dimension (W*D*H)	mm	895*998*1980	1046*998*1980	1145*998*1980 1296*998*1980
		in	35.2*39.3*78.0	41.2*39.3*78.0	45.1*39.3*78.0 51.0*39.3*78.0
	Packing Dimension (W*D*H)	mm	950*1055*2150	1100*1105*2150	1193*1048*2127 1358*1098*2127
in		37.4*41.5*84.6	43.3*43.5*84.6	46.9*41.1*84.6 53.7*43.5*84.6	
Container load (20'/40'/40'H)	12/24/24	10/20/20	8/20/20	8/16/16	
Functions	High/Low Temperature	Y	Y	Y Y	
	Hot Condenser	Y	Y	Y Y	
	Power Failure	Y	Y	Y Y	
	High/Low Voltage	Y	Y	Y Y	
	Sensor Error	Y	Y	Y Y	
	Low Battery	Y	Y	Y Y	
	High Ambient Temperature	Y	Y	Y Y	
	Door Ajar	Y	Y	Y Y	
	Start-up Delay	Y	Y	Y Y	
	Accessories	Caster	Y	Y	Y Y
Foot		Y	Y	Y Y	
Porthole		Y/2	Y/2	Y/2 Y/2	
Shelves/Inner Doors		3/4	3/4	3/4 3/4	
USB Interface		Y	Y	Y Y	
Remote Alarm		Y	Y	Y Y	
5V Power Supply Port		Y	Y	Y Y	
Temperature Chart Recorder		Optional	Optional	Optional Optional	
RS485 Port		Y	Y	Y Y	
CO <sub>2</sub> Backup System		Optional	Optional	Optional Optional	
LN <sub>2</sub> Backup System	Optional	Optional	Optional Optional		
Certifications	CE	Y	Y	/ Y / Y	
	UL	Y	Y	/ Y / Y	
	ENERGY STAR	Y	Y	Y Y Y Y	

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

Haier Biomedical's SmartFrequency technology manages the compressor speeds on demand. The ultra-low temperature freezers can thus achieve the world-leading energy efficiency in ultra-low temperature.

### Smarter by Design

The SmartFrequency Conversion range of ultra low temperature freezers have been designed and developed at the Haier Biomedical R&D Institute. They are certified by one of the world's leading energy conservation and environmental protection organisations.



**DW-86L829BP**



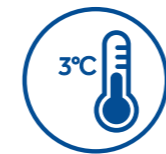
#### Intelligent frequency Conversion technology

Two variable speed compressors are controlled for optimal freezer performance. Low energy consumption is achieved.



#### Maximum energy efficiency

Our SmartFrequency Technology, coupled with our environmentally safe and friendly hydrocarbon refrigeration system, allows the Haier freezers to operate at a low level of energy of 8.2 kWh/day.



#### Precise temperature control

The innovative control algorithm balances the effects of temperature loss with the unique frequency conversion refrigeration system, ensuring the cabinet temperature stability of  $\pm 3^{\circ}\text{C}$ .



#### Frequency conversion Adaptive technology

Variable speed compressors in Haier Biomedical freezers are operated to produce the capacity that matches the demand of the load. The control system automatically tunes the speed of the compressors to optimize the operation.



#### World-leading energy saving Refrigeration technology

Our hydrocarbon refrigeration technology can save energy by 50%, significantly reducing operator's cost. The refrigerants do not contain fluoride and chloride. The global warming potential is extremely low at 3. Thus they are very friendly to the environment.



#### Minimal sound level output

Adaptive control technology controls the fans and compressors to reduce the sound level to 43.5 dB(A).



**Energy Saving Refrigeration**  
High efficiency cooling fans and compressors, combined with hydrocarbon refrigerants, ensure energy savings and long-term sample security

**Multilayered Sealing Structure**  
Triple layer of gaskets split between main and inner doors decreases heat loss and guarantee excellent warm up times in the event of a power failure

**Pressure Equalisation Port**  
Heated port with spring assisted mechanism to prevent icing on the vent allows users to reopen the main door soon after entering. Adopts chromium plating, rust-proof

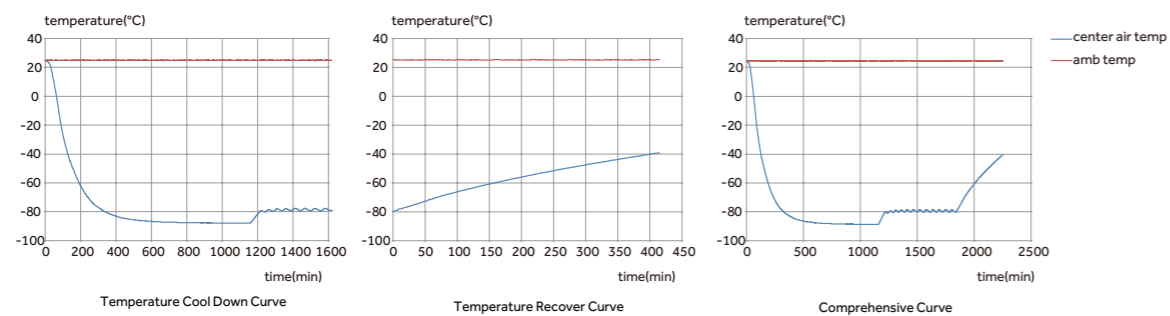
**Improved Handle Design**  
Lockable handle with unique key prevents other Haier freezer owner's access to your precious samples, also comes with space for a padlock for that extra security

**USB Interface**  
Enables users to download historical temperature data for compliance/auditing purposes

**Multilevel Alarms**  
Alarming functions that include high and low temperature, sensor error, power failure, high ambient, clean filter and door ajar

DW-86L829BP

DW-86L829BP | TYPICAL PERFORMANCE CHARACTERISTICS AT 25°C AMBIENT



Specifications

Model	DW-86L579BP	DW-86L729BP	DW-86L829BP	DW-86L959BP
<b>Technical Data</b>				
Cabinet Type	Upright	Upright	Upright	Upright
Climate Class	N	N	N	N
Cooling Type	Direct Cooling	Direct Cooling	Direct Cooling	Direct Cooling
Defrost Mode	Manual	Manual	Manual	Manual
Refrigerant	HC	HC	HC	HC
Sound Level (dB(A))	43.5	43.5	43.5	47
<b>Performance</b>				
Cooling Performance (°C)	-86	-86	-86	-86
Temp Range (°C)	-40 ~ -86	-40 ~ -86	-40 ~ -86	-40 ~ -86
<b>Control</b>				
Controller	Microprocessor	Microprocessor	Microprocessor	Microprocessor
Display	LED	LED	LED	LED
<b>Electrical Data</b>				
Power Supply (V/Hz)	100 ~ 230/50/60	100 ~ 230/50/60	208 ~ 230/50/60	208 ~ 230/50/60
Electrical Current (A)	14	14	6	7
Power Consumption (kWh/24h)	7.5	8	8.2	9.8
<b>Construction</b>				
Capacity (L/Cu.Ft)	579/20.4	729/25.7	829/29.2	959/33.9
Net/Gross Weight (approx)	kg	325/355	350/385	380/415
	lbs	716.5/782.6	771.6/848.8	837.7/914.9
Interior Dimensions (W*D*H)	mm	620*716*1310	766*716*1310	870*716*1310
	in	24.4*28.2*51.6	30.2*28.2*51.6	34.3*28.2*51.6
Exterior Dimensions (W*D*H)	mm	895*998*1980	1046*998*1980	1145*998*1980
	in	35.4*39.3*78.0	41.2*39.3*78.0	45.1*39.3*78.0
Packing Dimension (W*D*H)	mm	950*1055*2150	1100*1105*2150	1193*1048*2127
	in	37.4*41.5*84.6	43.3*43.5*84.6	46.9*41.1*84.6
<b>Loading Quantities</b>	Container Load (20'/40'/40'H)	12/24/24	10/20/20	9/20/20
<b>Alarms</b>	Remote Alarm (Dry contacts)	Y	Y	Y
High/Low Temp	Y	Y	Y	Y
Hot Condenser	Y	Y	Y	Y
Power Failure	Y	Y	Y	Y
Sensor Error	Y	Y	Y	Y
Low Battery	Y	Y	Y	Y
High Ambient Temp	Y	Y	Y	Y
Door Ajar	Y	Y	Y	Y
<b>Accessories</b>	Caster	Y	Y	Y
Foot	Y	Y	Y	Y
Porthole	Y/2	Y/2	Y/2	Y/2
Shelves/ Inner Doors	3/4	3/4	3/4	3/4
USB Interface	Y	Y	Y	Y
5V Power Supply Port	Y	Y	Y	Y
Temp Recorder	Optional	Optional	Optional	Optional
RS485 Port	Y	Y	Y	Y
CO <sub>2</sub> Backup System	Optional	Optional	Optional	Optional
LN <sub>2</sub> Backup System	Optional	Optional	Optional	Optional
<b>Certifications</b>	CE	Y	Y	Y
UL	Y	Y	Y	Y
ENERGY STAR	Y	Y	Y	Y

BP suffix - Variable frequency inverter compressor  
Product appearance and specifications are subject to change without notice

Haier water-cooled ULT freezers are designed to meet strict requirements for storage of plasma, biological materials, vaccines, reagents, specimens, and other valuable samples. They are ideal for installations in hospitals, clinics, blood banks and medical research facilities where freezer heat must be removed by cooling water.



**Advantages**

- Intelligent frequency conversion technology
- Advanced control Touchscreen
- Higher efficiency to yield more energy savings of up to 20%
- Approximately 90% of the compressor heat generated during operation is removed by the cooling water, thus posting little impact to a laboratory's ambient
- Use less air-conditioning power for a comfortable laboratory condition
- Advanced control
- Low sound level
- Smart coolant control
- High quality industry grade hermetically sealed compressors
- Pressure protection system due to lack of water flow



**Specifications**



	Model	DW-86L828W	DW-86L959W	
Technical Data	Cabinet Type	Upright	Upright	
	Climate Class	N	N	
	Cooling Type	Direct cooling	Direct cooling	
	Defrost Mode	Manual	Manual	
	Refrigerant	HC	HC	
	Sound Level (dB(A))	43.5	47	
Performance	Cooling Performance (°C)	-86	-86	
	Temperature Range (°C)	-40~-86	-40~-86	
Control	Controller	Microprocessor	Microprocessor	
	Display	LCD Touch Screen	LCD Touch Screen	
Electrical Data	Power Supply (V/Hz)	208~230/50/60	208~230/50/60	
	Electrical Current (A)	6	7	
Dimensions	Capacity (L/Cu.Ft)	828/29.2	959/33.9	
	Net/Gross Weight (approx)	kg	380/415	450/485
		lbs	837.7/914.9	992.1/1069.2
	Interior Dimension (W*D*H)	mm	870*716*1310	1016*716*1310
		in	34.3*28.2*51.6	40.0*28.2*51.6
	Exterior Dimension(W*D*H)	mm	1145*998*1980	1296*998*1980
		in	45.1*39.3*78.0	51.0*39.3*78.0
	Packing Dimension (W*D*H)	mm	1190*1045*2150	1358*1098*2127
		in	46.9*41.1*84.6	53.7*43.5*84.6
	Container Load (20'/40'/40'H)		8/20/20	8/16/16
Alarms	High/Low Temperature	Y	Y	
	Hot Condenser	Y	Y	
	Power Failure	Y	Y	
	High/Low Voltage	Y	Y	
	Sensor Error	Y	Y	
	Low Battery	Y	Y	
	High Ambient Temperature	Y	Y	
	Door Ajar	Y	Y	
Accessories	Caster	Y	Y	
	Foot	Y	Y	
	Porthole	Y/2	Y/2	
	Shelves/Inner doors	3/4	3/4	
	USB Interface	Y	Y	
	Remote Alarm (Dry contacts)	Y	Y	
	5V Power Supply Port	Y	Y	
	Temperature Recorder	Optional	Optional	
	Rs485 Port	Y	Y	
	CO <sub>2</sub> Backup System	Optional	Optional	
	LN <sub>2</sub> Backup System	Optional	Optional	
Others	Certification	CE	CE	

Product appearance and specifications are subject to change without notice

Haier Biomedical Salvum brand of ULT freezers has been designed to deliver energy savings and reduced carbon footprint. This range uses environmentally safe hydrocarbon refrigerants and high efficiency fan motors to maximize the cooling ability of the system and reduce energy consumption. While providing sample safety, the freezer design makes energy savings possible for laboratories.



DW-86L829



DW-86L579

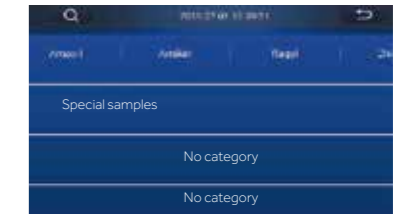


**Large Intelligent LCD Screen Visual Management**

10-inch high-performance LCD capacitive screen, sensitive touch operation; intuitive display of inside temperature, ambient temperature, input voltage and other data and temperature curves.

**Inventory Management System**

The single version of the inventory management allows users who do not have a racking system within the freezer to easily record item locations, entry and exit records.



**Single version (standard)**



**Professional version(optional)**

In instances where customers use racking systems, the optional professional version of the inventory management is available. Freezer racks, boxes, and vials can easily record item locations and entry and exit records, facilitate item inventory and statistics, realize multi-screen interaction and reduce errors through secondary verification.

The freezer comes with the single version as standard.

**Equipped with Multiple Interfaces**

- Standard USB interface, capable of storing data for 10 years
- Standard remote alarm terminal RS485 port



**Multiple Options for Safe Management and Control Systems**

Standard password lock, optional fingerprint module, punch card module, face recognition, realizing safe and secure multi-user management.

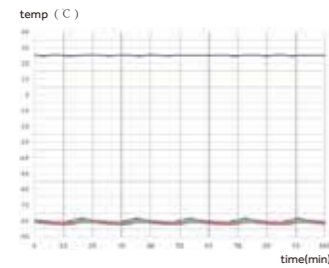
### Optional IoT System Realizes Real-time Monitoring

The IoT APP can monitor the operating status of the equipment anytime and anywhere. Equipped with multiple alarm functions and able to self-diagnose system faults to ensure sample safety. (Contact your local area representative to check local availability.)



### Safe and Secure with Multiple Alarms

Multiple alarm functions include high temperature alarm, low temperature alarm, sensor failure alarm, power failure alarm, low battery alarm, door ajar alarm and high ambient temperature alarm.



### Precise Temperature Control Ensures Safe Storage

Adjustable temperature set-point between -40°C ~ -86°C and the ability to monitor temperature curves in real time, equipped with sophisticated temperature safety alarm system to ensure product safety.

### Ergonomic Design



#### Narrow Door Design

The freezer can pass through an 750mm wide door when the door is open



#### New Handle Design

Adopting exclusive slide design, easy to open and close the door



#### Pressure Equalization Port

Equipped with pressure equalization port, realize easy opening Adopts chromium plating, rust-proof



#### Porthole

Two portholes as standard, allows for independent testing of cabinet temperature



#### Filter Design

Tool-free removable filter design, easy and quick to clean the filter



#### Detachable Inner Door Design

Tool-free detachable inner door, realizing easy and quick defrost

### Specifications

Model	DW-86L419	DW-86L579	DW-86L729	DW-86L829		
Technical Data	Cabinet Type	Upright	Upright	Upright	Upright	
	Climate Class	N	N	N	N	
	Cooling Type	Direct cooling	Direct cooling	Direct cooling	Direct cooling	
	Defrost Mode	Manual	Manual	Manual	Manual	
	Refrigerant	HC	HC	HC	HC	
Performance	Sound Level (dB(A))	47	47	52	52	
	Cooling Performance (°C)	-86	-86	-86	-86	
Control	Temp Range (°C)	-40~-86	-40~-86	-40~-86	-40~-86	
	Controller	Microprocessor	Microprocessor	Microprocessor	Microprocessor	
Electrical Data	Display	LCD Touchscreen	LCD Touchscreen	LCD Touchscreen	LCD Touchscreen	
	Power Supply (V/Hz)	220~240/50	220~240/50	220~240/50	220~240/50	
	Electrical Current (A)	5	5.5	9	10	
Construction	Power Consumption (kWh/24h)	8	9	10	11	
	Capacity (L/Cu.Ft)	419/14.8	579/20.45	729/25.75	829/29.3	
	Net/Gross Weight (approx)	kg	255/286	300/330	350/385	380/410
		lbs	562.2/630.5	661.4/727.5	771.6/848.8	837.7/903.9
	Interior Dimensions (W*D*H)	mm	465*716*1310	620*716*1310	766*716*1310	870*716*1310
		in	18.3*28.2*51.6	24.4*28.2*51.6	30.2*28.2*51.6	34.3*28.2*51.6
Exterior Dimensions (W*D*H)	mm	830*980*1980	903*980*1960	1049*980*1980	1153*980*1980	
	in	32.7*38.6*78.0	35.6*38.6*77.2	41.3*38.6*78.0	45.4*38.6*78.0	
Packing Dimension (W*D*H)	mm	874*1073*2127	948*1078*2127	1100*1105*2150	1190*1045*2150	
	in	35.3*42.4*84.1	37.4*41.5*83.9	43.3*43.5*84.6	46.9*41.1*84.6	
Loading Quantities	Container Load (20'/40'/40'H)	12/26/26	12/24/24	10/20/20	9/20/20	
Alarms	High/Low Temp	Y	Y	Y	Y	
	Hot Condenser	Y	Y	Y	Y	
	Power Failure	Y	Y	Y	Y	
	High/Low Voltage	Y	Y	Y	Y	
	Sensor Error	Y	Y	Y	Y	
	Low Battery	Y	Y	Y	Y	
	High Ambient Temp	Y	Y	Y	Y	
	Door Ajar	Y	Y	Y	Y	
Accessories	Caster	Y	Y	Y	Y	
	Foot	Y	Y	Y	Y	
	Porthole	Y/2	Y/2	Y/2	Y/2	
	Shelves/ Inner Doors	3/2	3/4	3/4	3/4	
	USB Interface	Y	Y	Y	Y	
	Remote Alarm (Dry contacts)	Y	Y	Y	Y	
	5V Power Supply Port	Y	Y	Y	Y	
	Temp Recorder	Optional	Optional	Optional	Optional	
	RS485 Port	Y	Y	Y	Y	
	CO <sub>2</sub> Backup System	Optional	Optional	Optional	Optional	
LN <sub>2</sub> Backup System	Optional	Optional	Optional	Optional		
Certification	CE	Y	Y	Y	Y	
	Energy star	/	Y	Y	Y	

Product appearance and specifications are subject to change without notice

This product line is designed and manufactured for long term storage of various biological products, including viruses, germs, erythrocytes and leucocytes. Applications can be found in blood banks, hospitals, epidemic prevention services, research institutes, biological engineering institutes, laboratories in electronic and chemical plants.



**Advantages**

- World leading energy-efficient
- Hydrocarbon refrigeration system
- Slim cabinet design
- Reliable sample protection
- Malfunction alarms
- Excellent insulation performance



**Insulation and System Design**

- Special V-I-P (Vacuum Insulation Panel) insulation system reduces the heat gain by 25%
- High efficiency HC refrigeration system improves the overall efficiency by 45%
- Four individual insulated inner doors reduce the cold air loss to the minimum
- Heated Pressure Equalization Port makes re-accessing the unit fast
- About 50 dba sound level

**Safe and Reliable Storage**

- Superior temperature uniformity
- Dependable fans, compressors and other system related components

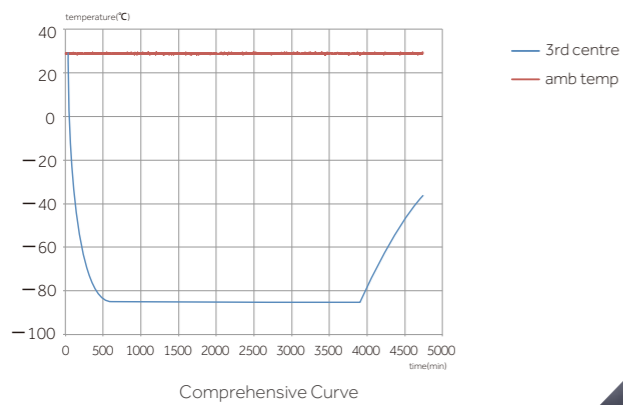
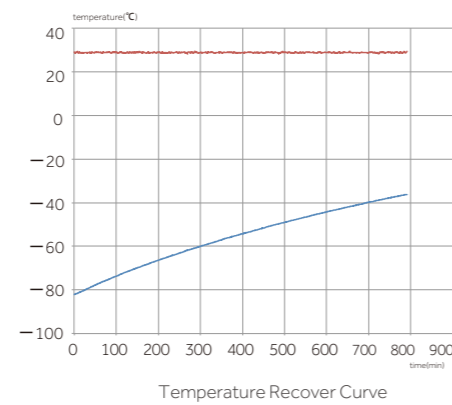
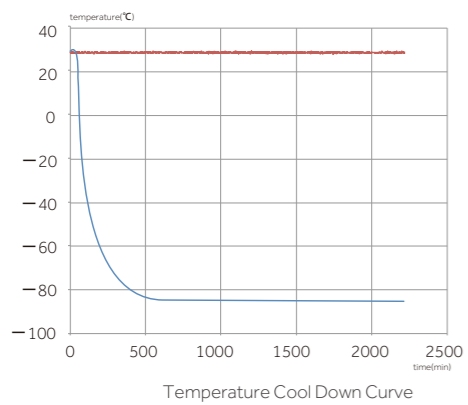
**Alarms (Visual and Audible)**

- Adjustable High/Low temperature alarm
- Sensor error
- Low battery
- Door ajar
- Power failure
- Hot condenser
- High ambient
- Remote alarm contact

### Extended Warm up Time During Power Failure

- Warm up time measures the time taken for temperature to rise up (from -80°C to -50°C) at 25°C ambient when the power is interrupted.
- Haier has the longest warm up time when compared with other major brands in the market.

#### TYPICAL PERFORMANCE CHARACTERISTICS AT 25°C AMBIENT



#### 4 Individual Removable Foam Inner Doors

- 4 individual inner doors can be opened independently to minimize frost buildup inside the chamber.
- Unique door seal design for the minimum loss of cold temperature during a door opening.
- Compatibility with existing racking system from competitors.
- Stainless steel handle to ensure proper strength for door latching.
- Some interior door handles have been upgraded to stainless steel for more comfortable door opening experience

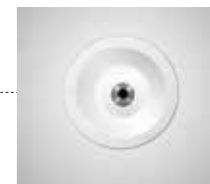


#### Excellent Doors Seals

- Total of five gaskets to safeguard the freezer temperature, including four seals for the exterior door, one for each inner door



- Optimized slideway design, easier to open and close the door



#### Pressure Equalization Port

- Heated port with spring-assisted mechanism to prevent icing on the vent.
- Allows re-accessing the freezer after initial door opening.
- Adopts chromium plating, rust-proof



#### Circular- chart Recorder (Optional)

- Front-mounted.
- For independent temperature monitoring.

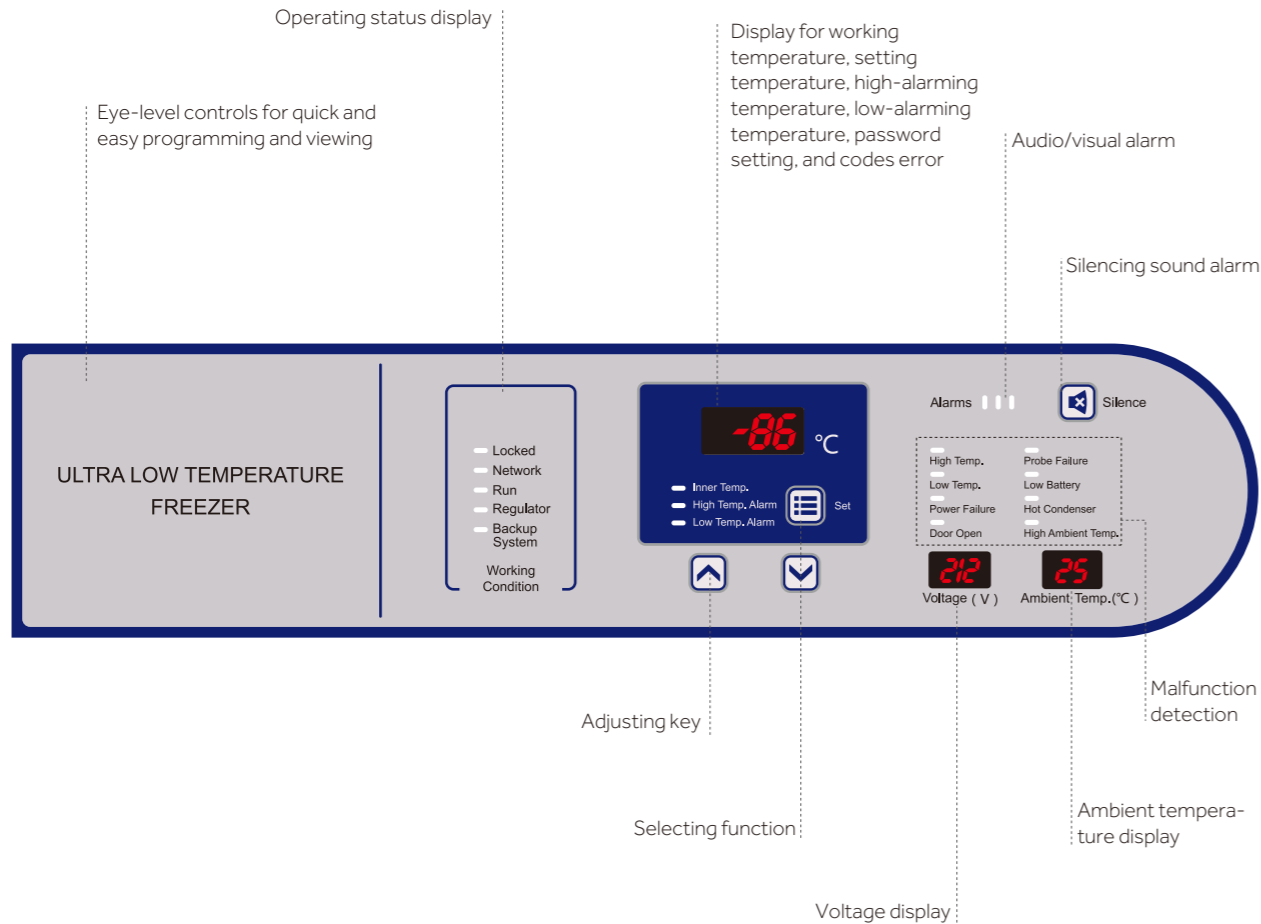


DW-86L728J

#### High Efficiency Refrigeration Components

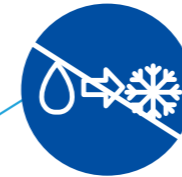


Two port holes for ease of temperature monitoring



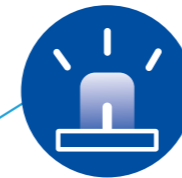
### Specifications

Alarm	Alarm Triggering Condition
High Temperature	Temperature reaches the warm alarm limit
Low Temperature	Temperature reaches the low alarm limit
Power Failure	Equipment loses power
Door Ajar	Door opening time exceeds set time, settable between 0 and 20 minutes
Sensor Error	E0.Ambient sensor fails E1.Condenser sensor fails E2.Main cabinet temperature control sensor fails E3.Heat exchanger sensor fails E4.Heat exchanger temperature fails
Low Battery	Battery capacity runs low or battery switch is not turned on
Hot Condenser	1. Condensers filter element is clogged 2. Ambient temperature is too high
High Ambient Temperature	Ambient temperature exceeds 32°C



Field proven reliability

- Unique insulated inner door design for four separate storage compartments to minimize frost buildup inside the chamber
- Specialized control system design for a well-balanced operation of cascade refrigeration system
- Positive field proven reliability record



Safety

- Malfunction alarms including high and low temperature, power failure, sensor error, clean -filter, and extremely high ambient
- Capable of producing two types of alarm outputs: audible buzzer and visible flashing light
- Multiple built-in system protection features including user-settable protection code for controls, user settable delay to start, voltage compensation system, and protection against extreme high voltages
- Door open feature standard and USB port for temperature data downloading standard on upright models
- Remote alarm contacts



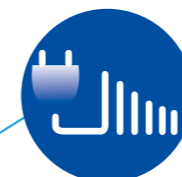
Installation & Application

- Wide range operating voltage system from 185V to 260 V designed to allow units installed in areas with poor voltage condition
- Suitable for 10°C to 32°C ambient temperature
- Input voltage and ambient temperature shown simultaneously for ease of monitoring environmental conditions
- Robust door latch designed for secure door closing
- Compact casters for ease of maneuvering



Low sound level

- Specialized refrigeration system design using whisper quiet fan and compressors
- Freezer chassis designed to absorb vibration and sound



Energy saving

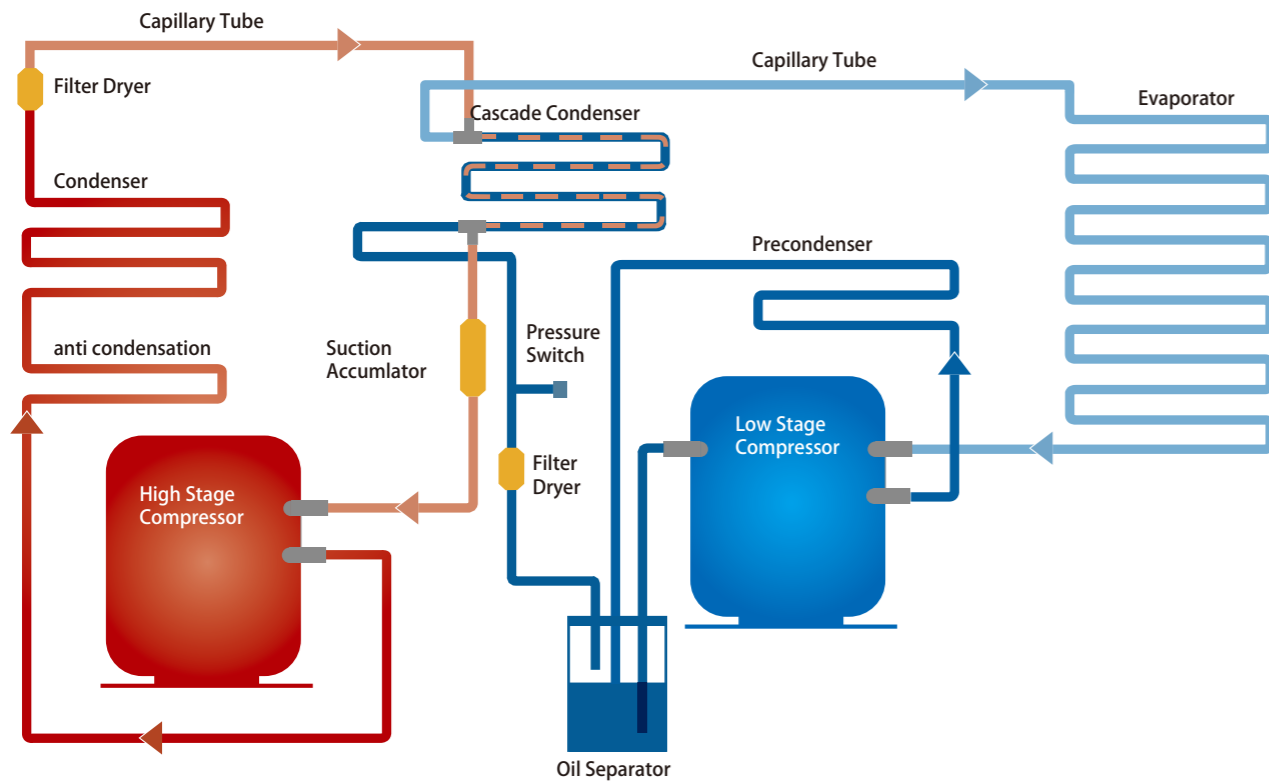
- Unique door seal design for the minimum loss of cold temperature during a door opening
- High performance VIP insulation panels to minimize cabinet heat gain and to improve temperature stability
- Patented cabinet insulation system designed for optimal performance of cold storage temperature and minimal frost buildup
- Unique design of independent insulated inner door systems for independent access of storage space to provide the maximum protection of stored samples












Key design features

- Microprocessor-controlled system designed for controllable range of -40°C to -86°C for cabinet space with 1°C increment
- Large LED display for cabinet temperature, set temperature, ambient temperature, and input voltage
- Settable high temperature and low temperature alarms
- Automatic clean-filter alarm and sensor error alert
- Adjustable storage shelf height
- Optional temperature recorder, storage racks and storage boxes

# Heat Exchange Circulation System



	<b>Filter dryer</b> • Filtration and drying device for water and debris
	<b>Capillary tube for high stage</b> • Expansion device for high stage liquid refrigerant
	<b>Capillary tube for low stage</b> • Expansion device for low stage refrigerant
	<b>High stage condenser</b> • Extra-large air cooled condenser dissipates product heat content efficiently.
	<b>Low stage evaporator</b> • Heat exchanger for expanded low stage refrigerant
 	<b>Ultra low noise compressor</b> • Compressor provides reliable performance with ultra low noise • Specially designed low stage evaporator yields excellent temperature uniformity and recovery after loading and door opening. • Both high and low stage compressors are industrial grade hermetically sealed compressor designed for low temperature application. Sound level is extremely low.
	<b>Cascade condenser</b> • Heat exchanger between the high and low temperature stage in the system
	<b>Temprite oil separator</b> • Temprite oil separator can effectively separate oil and water to improve the refrigeration performance

Suitable for clinical, medical, scientific research, quarantine and other departments to store items under low temperature conditions. Applicable for universities, hospitals, disease prevention and control centers, blood stations, scientific research institutes, electronics and chemical enterprise laboratories and biomedical engineering research institutes. For storage of biological products and biological samples such as red and white blood cells, viruses, bone and bacteria. Also used for electronic devices and other materials used for cryogenic tests.



**DW-86L100J**



**Energy Efficient, Safe and Reliable**

High efficiency HC refrigeration system, optimised for energy efficiency delivering a power consumption figure of just 5.5kW/24hrs.



**Personal ULT Storage**

810mm cabinet height makes it easy to place on or under counter, saving storage space. Stackable design.



**Ergonomic design**

Ergonomic handle design ensures easy one-hand door opening.



**Low noise**

Optimized noise reduction cabinet and system design, emits sound level of only 46.8dB.



**VIP insulation and multilayered sealing design**

70mm insulating layer with 25mm VIP and 4 layers of gasket improves energy efficiency and reduces heat loss to deliver excellent warm up times in event of power failure.



**Optional IoT Module**

Real time monitoring of cabinet temperature, temperature setting, high and low temperature alarm value, temperature curve, alarm log and event log.

- User-settable parameters such as set point and alarms.
- Real-time cabinet temperature display, alarm information, power supply and compressor start/stop state.
- Standard USB port capable of storing >15 years of operating data for compliance.



Filter is easy to remove and clean without the need for tools.

4 casters + 2-foot locks, easy to move, lock and level.



Ergonomic design for easy door opening and closing. Lockable and equipped with 4 keys as standard with the ability to add a padlock for extra security when required.



Double stainless-steel inner doors to prevent cooling loss when opening the outer door, easy to clean.



**Microprocessor control system**

- Microcomputer electronic thermostat, LED temperature display, display precision 1°C, adjustable cabinet temperature set point -40°C--86°C.
- Cabinet temperature/voltage/ambient temperature checking are available.
- Multiple alarm functions: high temperature alarm, low temperature alarm, sensor fault alarm, power failure alarm, low battery power alarm, open door alarm and high ambient temperature alert.
- Sound and light alarm mode, attachable to remote alarm interface.
- Battery backup alarm function operates continuously for >24hrs in the event of a power outage.
- Standard configuration: RS485 port and USB interface.
- Standard 5V power supply available for test equipment.
- Optional IoT module.



**Superior thermal insulation performance**

70mm super thick insulation layer design, aviation vacuum insulation material VIP, thickness of 25 mm or more, 4 layers of silicone seal, superior thermal insulation and energy saving effect.



**Porthole**

Portholes as standard, allows for independent testing of cabinet temperature.



**Security lock**

Standard door lock and padlock to ensure sample security and prevent unauthorised access.



**USB data storage**

Capable of storing more than 15 years of data.

**Specifications**

Model	DW-86L338J			DW-86L338JA			DW-86L388J			DW-86L486E			DW-86L490J		DW-86L490JA		DW-86L578J			DW-86L578JA			DW-86L628E														
Technical Data	Cabinet Type	Upright						Upright						Upright						Upright																	
	Climate Class	N						N						N						N																	
	Cooling Type	Direct cooling						Direct cooling						Direct cooling						Direct cooling																	
	Defrost Mode	Manual						Manual						Manual						Manual																	
	Refrigerant	HC						HC						HC						HC																	
	Sound level (dB(A))	50						50						49						50																	
Performance	Cooling Performance (°C)	-86						-86						-86						-86																	
	Temperature Range (°C)	-40~-86						-40~-86						-40~-86						-40~-86																	
Control	Controller	Microprocessor						Microprocessor						Microprocessor						Microprocessor																	
	Display	LED						LED						LED						LED																	
Electrical Data	Power Supply (V/Hz)	220~240/50		115/60		208~230/60		220~240/50		220~240/50		220~240/50		208~230/60		220~240/50		120/60		208~230/60		220~240/50															
	Electrical Current (A)	7.5		12		7.5		7.5		10		8		8		7.5		12		9		11															
	Power Consumption(kWh/24h) (set -80°C at 25°C ambient)	10		7.5		8.2		11		13		11.5		11.5		12		8.5		8.5		14															
Construction	Capacity (L/Cu.Ft)	338/11.9						388/13.7						486/17.1						490/17.3						578/20.4						626/22.1					
	Net/Gross Weight (approx)	kg	238/278		255/286		290/310		290/310		295/335		295/335		300/330		300/330		301/323		301/323		301/323														
		lbs	524.7/612.9		562.2/630.5		639.3/683.4		639.3/683.4		650.4/738.5		650.4/738.5		661.4/727.5		661.4/727.5		664.0/712.0		664.0/712.0		664.0/712.0														
	Interior Dimension (W*D*H)	mm	465*630*1165		465*716*1310		590*630*1310		590*630*1310		590*630*1310		590*630*1310		620*716*1310		620*716*1310		760*630*1310		760*630*1310		760*630*1310														
		in	18.3*24.8*45.9		18.3*28.2*51.6		23.3*24.8*51.6		23.3*24.8*51.6		23.2*24.8*51.6		23.2*24.8*51.6		24.4*28.2*51.6		24.4*28.2*51.6		29.9*24.8*51.6		29.9*24.8*51.6		29.9*24.8*51.6														
	Exterior Dimension (W*D*H)	mm	830*893*1846		830*980*1980		953*900*1980		953*900*1980		873*900*1980		873*900*1980		903*980*1960		903*980*1960		1035*900*1980		1035*900*1980		1035*900*1980														
in		32.7*35.2*72.7		32.7*38.6*78.0		37.5*35.4*78.0		37.5*35.4*78.0		34.4*35.4*78.0		34.4*35.4*78.0		35.6*38.6*77.2		35.6*38.6*77.2		40.7*35.4*78.0		40.7*35.4*78.0		40.7*35.4*78.0															
Packing Dimension (W*D*H)	mm	878*973*2027		893*1078*2135		998*998*2127		998*998*2127		998*998*2127		998*998*2127		953*1058*2097		953*1058*2097		1080*965*2150		1080*965*2150		1080*965*2150															
	in	34.4*38.2*79.1		35.2*42.4*84.1		39.2*39.2*84.6		39.2*39.2*84.6		36.4*38.8*84.6		36.4*38.8*84.6		37.4*41.5*83.7		37.4*41.5*83.7		42.5*38.0*84.6		42.5*38.0*84.6		42.5*38.0*84.6															
Loading Quantities	Container load (20'/40'/40'H)	12/24/24						12/24/24						12/24/24						12/24/24																	
Alarms	High/Low Temperature	Y						Y						Y						Y																	
	Hot Condenser	Y						Y						Y						Y																	
	Power Failure	Y						Y						Y						Y																	
	Sensor Error	Y						Y						Y						Y																	
	Low Battery	Y						Y						Y						Y																	
	High Ambient Temperature	Y						Y						Y						Y																	
	Door Ajar	Y						Y						Y						Y																	
	Caster	Y						Y						Y						Y																	
Accessories	Foot	Y						Y						Y						Y																	
	Porthole	Y/2						Y/2						Y/2						Y/2																	
	Shelves/Inner doors	3/2						3/2						3/4						3/4																	
	USB Interface	Y						Y						Y						Y																	
	Remote Alarm (Dry contacts)	Y						Y						Y						Y																	
	5V Power Supply Port	Y						Y						Y						Y																	
	Temperature Recorder	Optional						Optional						Optional						Optional																	
	RS232/485 Port	Optional						Optional						Optional						Optional																	
	CO <sub>2</sub> Backup System	Optional						Optional						Optional						Optional																	
	LN2 Backup System	Optional						Optional						Optional						Optional																	
Certifications	CE	Y		/		Y		Y		Y		/		Y		/		/		/		Y															
	UL	/		Y		/		/		/		Y		/		Y		Y		Y		/															
	ENERGY STAR	/		/		/		/		/		/		Y		Y		/		/		/															

· Product appearance and specifications are subject to change without notice  
· DW-86L338J/490J/578/628/959 stainless steel interior optional

**Specifications**

Model	DW-86L728J			DW-86L728JA			DW-86L828J		DW-86L828JA		DW-86L100J		DW-86W100J		DW-86W420J		DW-86W420JA				
Technical Data	Cabinet Type	Upright						Upright				Upright		Chest		Chest					
	Climate Class	N						N				N		N		N					
	Cooling Type	Direct cooling						Direct cooling				Direct cooling		Direct cooling		Direct cooling					
	Defrost Mode	Manual						Manual				Manual		Manual		Manual					
	Refrigerant	HC						HC				HC		HC		HC		HC			
	Sound level (dB(A))	50						50		51.5		46.8		49		50					
Performance	Cooling Performance (°C)	-86						-86				-86		-86		-86		-86			
	Temperature Range (°C)	-40~-86						-40~-86				-40~-86		-40~-86		-40~-86		-40~-86			
Control	Controller	Microprocessor						Microprocessor				Microprocessor		Microprocessor		Microprocessor		Microprocessor			
	Display	LED						LED				LED		LED		LED		LED			
Electrical Data	Power Supply (V/Hz)	220~240/50		120/60		208~230/60		220~240/50		208~230/60		220~240/50		120/60		220~240/50		220~240/50		208~230/60	
	Electrical Current (A)	10		18		10		10		10		3		6.5		4		7.5			
	Power Consumption (kWh/24h)	10.5		10.5		10.5		12		12		5.5		5.5		5		12.5			
Construction	Capacity (L/Cu.Ft)	728/25.7						828/29.2				100/3.5		100/3.5		420/14.8					
	Net/Gross Weight (approx)	kg		345/385		380/410		380/410		380/410		108/132		138/160		310/357					
		lbs		760.6/848.8		837.7/903.9		837.7/903.9		837.7/903.9		238/291		304.2/352.7		683.4/787.0					
	Interior Dimension (W*D*H)	mm		766*716*1310		870*716*1310		870*716*1310		870*716*1310		330*481*630		470*450*480		1367*462*652					
		in		30.2*28.2*51.6		34.3*28.2*51.6		34.3*28.2*51.6		34.3*28.2*51.6		13*19*25		18.5*17.7*18.9		53.8*18.2*25.7					
	Exterior Dimension (W*D*H)	mm		1049*980*1980		1145*980*1980		1145*980*1980		1145*980*1980		770*660*810		769*825*1120		2130*870*1020					
in		41.3*38.6*78.0		45.1*38.6*78.0		45.1*38.6*78.0		45.1*38.6*78.0		30*26*32		30.3*32.5*44.1		83.9*34.3*40.2							
Packing Dimension (W*D*H)	mm		1093*1048*2127		1193*1048*2127		1193*1048*2127		1193*1048*2127		844*724*860		845*855*1250		2200*890*1160						
	in		42.9*41.3*84.6		46.9*41.1*84.6		46.9*41.1*84.6		46.9*41.1*84.6		32*28*38.5		33.3*33.7*49.2		90.6*38.2*45.8						
Loading Quantities	Container load (20'/40'/40'H)	12/20/20		8/20/20		8/20/20		8/20/20		44/88/88		12/24/48		6/12/24							
Alarms	High/Low Temperature	Y		Y		Y		Y		Y		Y		Y		Y					
	Hot Condenser	Y		Y		Y		Y		Y		Y		Y		Y					
	Power Failure	Y		Y		Y		Y		Y		Y		Y		Y					
	High/Low Voltage	/		/		/		/		/		/		/		/					
	Sensor Error	Y		Y		Y		Y		Y		Y		Y		Y					
	Low Battery	Y		Y		Y		Y		Y		Y		Y		Y					
	High Ambient Temperature	Y		Y		Y		Y		Y		Y		Y		Y					
	Door Ajar	Y		Y		Y		Y		Y		Y		Y		Y					
Accessories	Caster	Y		Y		Y		Y		Y		Y		Y		Y					
	Foot	Y		Y		Y		Y		Y		Y		Y		Y					
	Porthole	Y/2		Y/2		Y/2		Y/2		Y/1		Y/1		Y/1		Y/1					
	Shelves/Inner doors	3/4		3/4		3/4		3/4		1/2		-/1		-/3		-/3					
	USB Interface	Y		Y		Y		Y		Y		Y		Y		Y					
	Remote Alarm	Y		Y		Y		Y		Y		Y		Y		Y					
	5V Power Supply Port	Y		Y		Y		Y		Y		Y		N/A		N/A					
	Temperature Recorder	Optional		Optional		Optional		Optional		Optional		Optional		Optional		Optional					
Rs232/485 Interface	Optional		Optional		Optional		Optional		Optional		Optional		Optional		Optional						
CO <sub>2</sub> Backup System	Optional		Optional		Optional		Optional		Optional		Optional		Optional		Optional						
LN <sub>2</sub> Backup System	Optional		Optional		Optional		Optional		Optional		Optional		Optional		Optional						
Certifications	CE	Y	/	/	Y	/	Y	/	Y	/	Y	/	Y	/	Y	/	Y	/			
	UL	/	Y	Y	/	Y	/	Y	/	Y	/	Y	/	Y	/	Y	/	Y			
	ENERGY STAR	Y	Y	/	Y	Y	Y	Y	Y	/	/	/	/	/	/	/	/	/			

# -86°C ULT Freezer

Suitable for pharmaceutical, clinical and medical research use, for the long-term storage of samples and products under ultra-low temperature conditions.

## Advantage



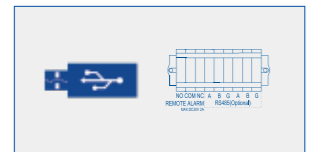
### Auto-cascade Hydrocarbon (HC) Refrigeration Technology

Utilizing imported auto-cascade hydrocarbon compressor, with superior refrigeration effect and energy saving



### Microprocessor Control System

Microprocessor control, with temperature display precision at 0.1°C. Internal temperature is adjustable from of -40°C ~ -86°C



### Multiple Ports

Enables users to download historical temperature data (up to 15 years) Equipped with remote alarm function and RS485 port



### Quick Access Filter Design

Tool-free removable filter design, easy and quick to clean the filter



DW86L51J



### Excellent Doors Seals

Total six gaskets to safeguard the freezer temperature, including a 70mm insulation layer, a 25mm vacuum VIP and 4 layers of silicone seal



### Stainless Steel Inner Door

Prevents loss of internal air to keep samples safe



### Ergonomic Design

Unique hook slide handle design, allows users to open and close the door with one hand

### Internal Lock

Standard internal lock with 4 keys, which can be managed by different people



### Porthole

One porthole as standard, allows for independent testing of cabinet temperature

# Flexible, Portable Mini-ULT Freezer

## Specifications

Model	DW-86L51J	DW-80WZ15	
Power Supply (V/Hz)	220~240/50	220V/50 DC 24	110V/60 DC 24
Effective Capacity (L)	51	15	
Temperature (°C)	-40~-86	-80~-60	
External Dimensions (W*D*H)(mm)	532*640*806	690*320*500	
Internal Dimensions (W*D*H)(mm)	330*481*316	260*180*330	
Net/Gross Weight (Kg)	73/86	27/33	
Rack Model	DCJ-53-B	/	
Freezer Rack Quantity	2	/	
Freezer Box Quantity	30	/	
Sample Size (2ml)	3000	/	

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

## Advantage



DW-80WZ15



### HC Energy Saving

High quality HC high-efficiency compressor with optimized refrigeration system, which can save 50% on power consumption.



### One Unit for Multiple Applications

\*Vehicle-mounted transportation with 24V(DC) power supply  
\*Long-term storage with 110V power supply.



### Superior Uniformity

Built-in evaporator, fast cool down refrigeration, the temperature is safe, secure and reliable with the uniformity of ±3°C at key characteristic points.

## Ergonomic Design



### Light Weight

The whole unit weighs 27kg, easy to carry.



### Superior Insulation Performance

25mm VIP + 70mm thick LBA foam insulation layer design, dual seal strips for better insulation.



### Safety Lock Catch

Simple adjustable mechanical lock with lock catch, and it can be equipped with an external lock to guarantee the safety of sample transportation and storage.



### Metal Handle

Hidden metal handle, stylish and comfortable, safe and durable, easy to carry.

## Advantage

- Small footprint, light and easy for installation
- User adjustable temperature setting
- Simple to program and operate
- Flexible – Can be installed on any ULT freezer, which has a port hole
- The CO<sub>2</sub> injection pipe is designed in combination of filter, to prevent the blockage of CO<sub>2</sub> back-up system

## Safety

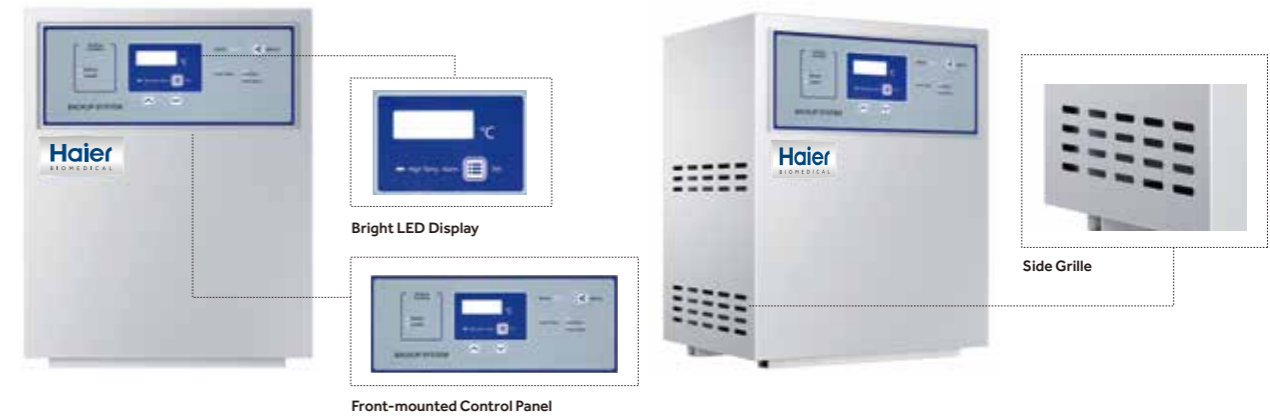
- Liquid CO<sub>2</sub> test button to ensure the backup system is working
- Low CO<sub>2</sub> alarm system alerts the user when liquid CO<sub>2</sub> bottle is low in liquid level
- Ultra-low sound level compressors

## Reliability

- Stainless steel covering, more elegant
- Stainless steel input pipe design, allows for flexibility and ease of cylinder positioning
- Durable battery lasts up to 48 hours



LN<sub>2</sub> backup cooling system is an independent refrigeration system generally used for a -150°C mechanical cryo freezer. When there is a loss of power or the temperature of the freezer rises to the high alarm set point, the LN<sub>2</sub> backup system can be automatically activated to inject LN<sub>2</sub> into the chamber to maintain the freezer temperature. The backup system operates on a rechargeable battery when there is a loss of mains power.



## Features

- Interlocked design to turn off the LN<sub>2</sub> injection when the door is opened
- Protection circuit to prevent over-charging battery
- Light weight and portable design, suitable for installation on top of a freezer
- Alarm functions to include low battery and sensor error

## Specifications



## Specifications

	Model	HBX-IC
Technical Data	Climate Class	N
	Cooling Type	Direct cooling
	Refrigerant	CO <sub>2</sub>
Performance	Cooling Performance (°C)	-70
	Temperature Range (°C)	-40~-70
Control	Controller	Thermostat
	Display	LED
Electrical Data	Power Supply (V/Hz)	220-240/50 208-230/60
	Power (W)	115/60 20
	Electrical Current (A)	0.25
	Net/Gross Weight (approx)	11.2/14 24.7/30.86
Dimensions	Exterior Dimensions (W*D*H)	200*400*160 7.8*15.7*6.3
	Packing Dimensions (W*D*H)	370*530*330 14.6*20.9*13
	Alarms	CO <sub>2</sub> Margin Insufficient Alarm Low Battery Alarm Sensor Error Alarm Main Power Off Alarm Charge Indicator CO <sub>2</sub> Injection Test Button
Accessories	Foot	4
Others	Certification	CE/UL

Product appearance and specifications are subject to change without notice

	Model	HBX-IIA
Technical Data	Cabinet Type	Horizontal
	Cooling Type	Direct cooling
	Refrigerant	LN <sub>2</sub>
Performance	Cooling performance (°C)	-135
	Temperature Range (°C)	-90~-135
Control	Controller	Thermostat
	Display	LED
Electrical Data	Power Supply (V/Hz)	220-240/50 208-230/60
	Power (W)	115/60 20
	Electrical Current (A)	0.05
Dimensions	Net/Gross Weight (approx)	15/17 33.1/37.5
	Exterior Dimensions (W*D*H)	360*305*445 14.2*12.0*17.5
	Packing Dimensions (W*D*H)	417*357*698 16.4*14.1*27.5
Alarms	Low Battery Alarm	Y
	Sensor Error Alarm	Y
	Main Power Off Alarm	Y
	Charge Indicator	Y
Others	Certification	CE/UL

Product appearance and specifications are subject to change without notice

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

## Product Functions

**USB Interface**  
Easier to connect external modules such as printer and barcode reader

**Adjustable Feet**  
Convenient to adjust the height of machine

**Temperature Record**  
Information traceability: the frozen temperature curve and data can be transmitted to the computer for display, and PDF files can be generated synchronously for printing and archiving

**Handle**  
Easy to open and close the door, the user process is safer

**Lock**  
Ergonomic design, easy to operate

**Side-opening Door**  
Convenient access of frozen samples, suitable height

**Double Layer Sealing Structure**  
Good sealing performance

**Superior Insulation Performance**  
Environmental friendly polyurethane foam material has good thermal insulation performance

**Power Switch**  
Easy to operate, safe and reliable

**RS 232 Interface**

**Liquid nitrogen level monitoring port**



**Gas inlet**  
Pipe thread connection, safe and stable

**Pressure Relief Hole**  
When the inner pressure is too large, the pressure relief hole releases the pressure by itself to achieve the equilibrium state of internal and external pressure

**Power Connector**  
Plug and play

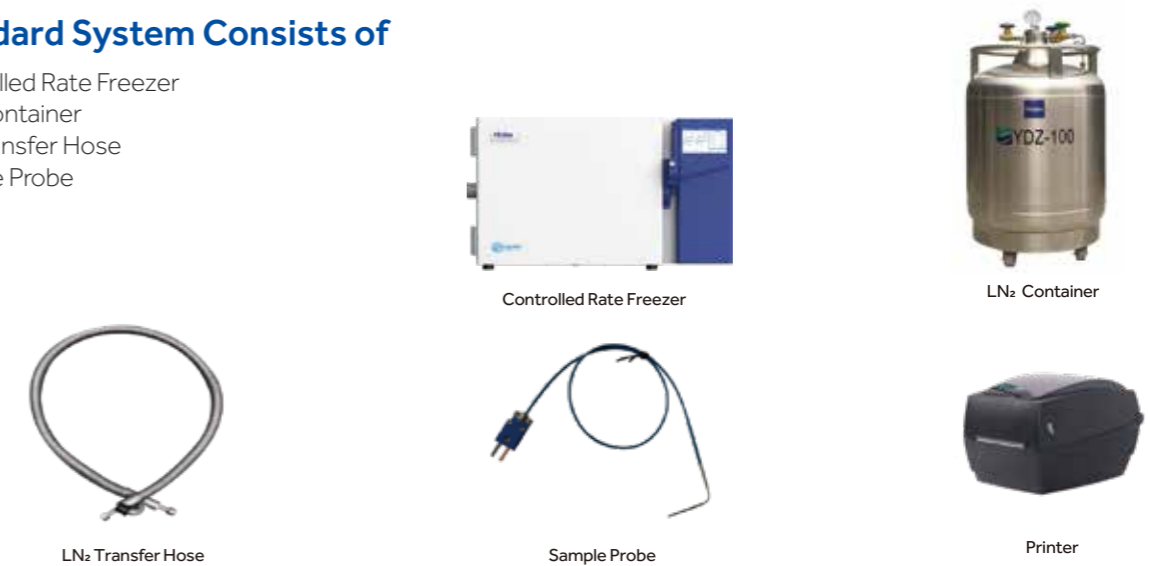
**Drain**

## 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, ADCR control algorithm, temperature fluctuation range is  $\pm 0.5^{\circ}\text{C}$
- 
**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

## Standard System Consists of

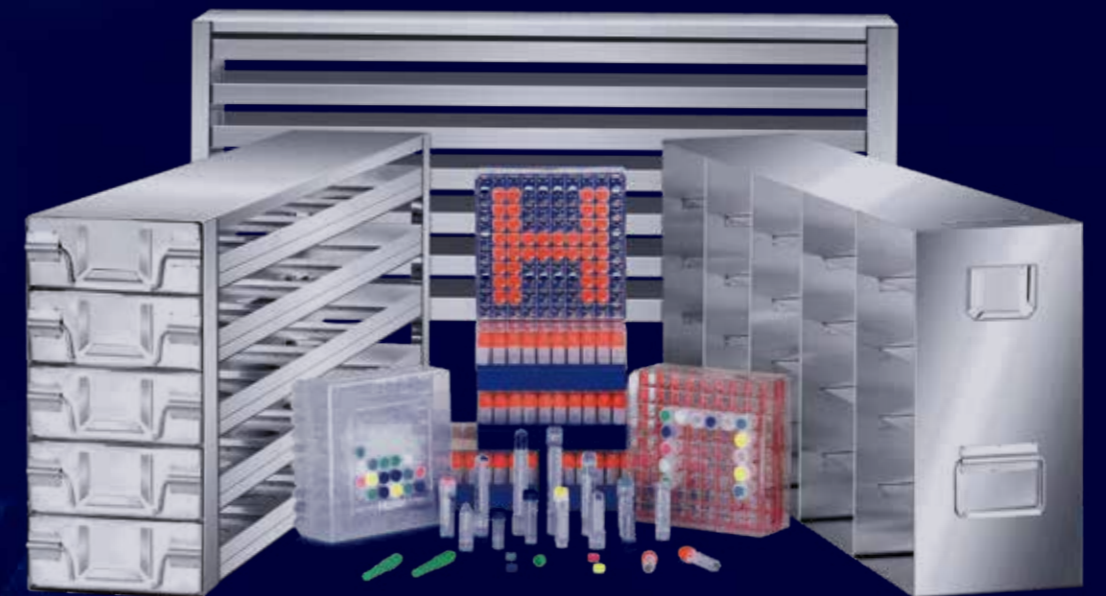
- Controlled Rate Freezer
- LN<sub>2</sub> Container
- LN<sub>2</sub> Transfer Hose
- Sample Probe
- Printer



## Specifications

Model	Power Supply (V/Hz)	Rated Power (W)	Effective Volume (L)	Temperature Range (°C)
CJ-L37	220~240/50/60	1300	37	-180~50
Display Screen	Serial Port Form	Exterior Dimensions (W*D*H mm)	Interior Dimensions (W*D*H mm)	Net Weight (Kg)
7" colorful LCD touch screen	USB Interface/RS232 serial port	941/571/572	330/340/330	73

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



## Lab Consumables Storage Solutions

# Prefabricated Coded Cryogenic Tubes

Haierh prefabricated coded cryogenic tubes, using SBS international standardized layout, prefabricated data matrix standard code, matching automation equipment, batch decoding and opening, to achieve efficient sample library management



The fusion technology integrates the label and the tube, the durable and corrosion-resistant label adheres securely

Standard interface, suitable for multichannel cap spinners and automation equipment

Sealing rubber gasket design, aviation grade sealing, ensuring no leakage of samples

The batch scanner can quickly scan the prefabricated codes of the whole box and synchronously consolidate the box information

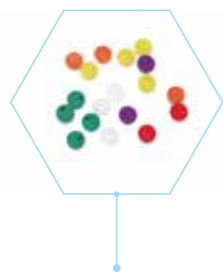
Classification	96-well cryogenic tube		48-well cryogenic tube	24-well cryogenic tube			6-well cryogenic tube
<b>Model</b>	BB-CVO9605 -PS2D4(B)	BB-CVO9610 -PS2D4(B)	BB-CVO4820 -PS2D4(B)	BB-CVO2425 -SS2D(B)	BB-CVO2450 -SS2D(B)	BB-CVO24100 -SS2D(B)	BB-CVO0620 -PS2D(B)
<b>Parameter</b>	0.5mL, four codes in one prefabricated QR code cryogenic tube, slender, equipped with SBS standard 96 (8*12) cryogenic box	1.0mL, four codes in one prefabricated QR code cryogenic tube, slender, equipped with SBS standard 96 (8*12) cryogenic box	2.0mL, four codes in one prefabricated QR code cryogenic tube, standard, equipped with SBS standard 48 (8*6) cryogenic box	3.0mL, prefabricated QR code cryogenic tube, wide and thick, equipped with SBS standard24 (4*6) cryogenic box	5.0mL, prefabricated QR code cryogenic tube, wide and thick, equipped with SBS standard24 (4*6) cryogenic box	10.0mL, prefabricated QR code cryogenic tube, wide and thick, equipped with SBS standard24 (4*6) cryogenic box	20.0mL, prefabricated QR code cryogenic tube, wide and thick, equipped with SBS standard6 (2*3) cryogenic box
<b>Tube dimension (mm)</b>	34.5*8.4	47.7*8.4	47*11.8	30.4*16.8	47.4*16.8	86.5*16.8	35.7*35.6
<b>Box dimension (mm)</b>	86*128*38.5	86*128*50.8	86*128*50.8	86*128*38.5	86*128*50.8	127.76*85.48*89.7	86*128*38.5
<b>Max capacity/ Operating capacity</b>	0.7ml/0.63ml	1.10ml/0.98ml	2.43ml/2.16ml	3.45ml/3.07ml	5.94ml/5.29ml	11.9ml/10.7ml	22.8ml/20.29ml
<b>Minimum operating temperature °C</b>	-196	-196	-196	-196	-196	-196	-196
<b>Sets/Case</b>	4800	4800	2400	1200	1200	1200	300
<b>Package</b>	10box/medium case 5medium box/case	10box/medium case 5medium box/case	10box/medium case 5medium box/case	10box/medium case 5medium box/case	10box/medium case 5medium box/case	10box/medium case 5medium box/case	10box/medium case 5medium box/case

Note: Please operate in strict accordance with the preservation method of laboratory samples. Do not store the cryogenic tube directly in the liquid nitrogen in the liquid nitrogen tank. It is recommended to store it in the gas-phase liquid nitrogen above the liquid nitrogen.



# Cryogenic Tubes

Haierh cryogenic vials are made of medical-grade polypropylene and pass strict tests to ensure quality and biosafety of samples stored within biobanks.



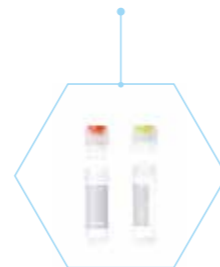
Removable color code design to classify samples by color depending on the actual needs







Vial caps available in multiple colors for easy classification



Clear scale and large writing area to facilitate the accurate marking of samples

Both internal thread design and external thread design are available to meet the different sample storage requirements



Classification	External Thread Cryogenic Vial				Internal Thread Cryogenic Vial	
						
<b>Model</b>	H-OS05	H-OS15	H-OS2	H-OS5	H-IS1	H-IS2
<b>Parameter</b>	0.5ml cryogenic vial: external-threaded and self-standing; with scale and white writing area; temperature range -196°C to 121°C	1.5ml cryogenic vial: external-threaded and self-standing; with scale and white writing area; temperature range -196°C to 121°C	2ml cryogenic vial: external-threaded and self-standing; with O-type washer, scale and white writing area; temperature range -196°C to 121°C	5ml cryogenic vial: external-threaded and self-standing; with O-type washer, scale and white writing area; temperature range -196°C to 121°C	1ml cryogenic vial: internal-threaded and self-standing; with O-type washer, scale and white writing area; temperature range -196°C to 121°C	2ml cryogenic vial: internal-threaded and self-standing; with O-type washer, scale and white writing area; temperature range -196°C to 121°C
<b>Sets/Case</b>	1000	1000	1000	1000	1000	1000
<b>Package</b>	100 pcs/bag, 10 bags/case	100 pcs/bag, 10 bags/case	100 pcs/bag, 10 bags/case	100 pcs/bag, 10 bags/case	100 pcs/bag, 10 bags/case	100 pcs/bag, 10 bags/case

Note: Please operate in strict accordance with the preservation method of laboratory samples. Do not store the cryogenic tube directly in the liquid nitrogen in the liquid nitrogen tank. It is recommended to store it in the gas-phase liquid nitrogen above the liquid nitrogen.

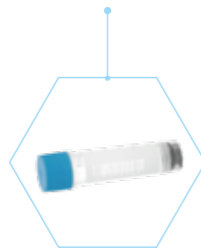
# 2D Cryogenic Tubes

Hoierh 2D cryogenic tube solution is composed of prefabricated QR coded cryogenic tubes and coded cryogenic box. Users can achieve high throughput sample information management when combined with the Hoierh high-speed batch scanner



Prefabricated 2D code at the bottom of the tube, laser etching technology, wear resistant and corrosion resistant

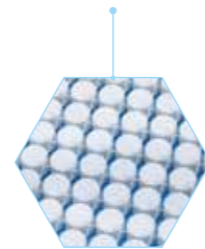
Manufactured with both bar and digital codes in one, the same tube can requirements



Associate tubes and box data by scanning the cryogenic box bar code with Hoierh batch scanner



The transparent grid design of the lid enables quick positioning and picking of samples

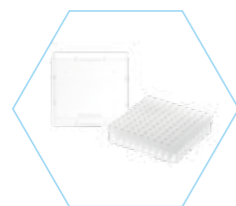


Classification	2D Cryogenic tube	
<b>Model</b>	H-OS05D-1	H-OS15D-1
<b>Parameters</b>	0.5ml 2D cryogenic tube (boxed), external-threaded, self-standing, with scale, bottom QR code, side bar code+digital code, -196°C--121°C	1.5ml 2D cryogenic tube (boxed), external-threaded, self-standing, with scale, bottom QR code, side bar code+digital code, -196°C--121°C
<b>Sets/Case</b>	1200	1200
<b>Package</b>	100 pcs/box, 12 box/case	100 pcs/box, 12 box/case

Note: Please operate in strict accordance with the preservation method of laboratory samples. Do not store the cryogenic tube directly in the liquid nitrogen in the liquid nitrogen tank. It is recommended to store it in the gas-phase liquid nitrogen above the liquid nitrogen.

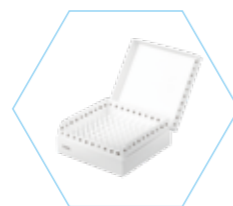
# Frozen Storage Box

Haierh freezer boxes are suitable for different tube sizes (0.5ml, 1ml, 2ml) providing users with flexibility whilst ensuring safe sample storage



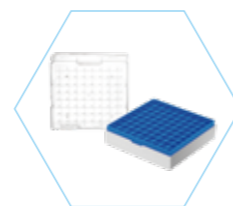
**PP Freezer Box**

Made of polypropylene, it is highly corrosion-resistant and can withstand freezing and thawing repeatedly. It is used together with 0.5-2ml cryogenic vials and is suitable to be placed in a low-temperature or ultra-low-temperature environments. The corner design of the box ensures the lid cover can be fixed into place quickly.



**Coated Cardboard Freezer Box**

Made of strong cardboard and covered by a film, it is water-proof and corrosion-resistant. With plastic partitions, it can achieve accurate positioning. Also, the flip cover design facilitates the quick storage of samples.



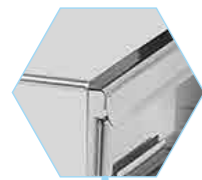
**PC Freezer Box**

Made of high-strength polycarbonate, it is highly corrosion-resistant. It is suitable to be used together with 0.5-2ml cryogenic vials, suitable for liquid and vapor phase storage. Available in a variety of colours for easy classification.

Classification	Papery Freezer Box		PP Freezer Box		PC Freezer Box			
<b>Model</b>	H-B81-2P	H-B100-2P	H-B81-2PP	H-B100-2PP	T130	T142	H-B81-2PC	H-B100-2PC
<b>Parameter</b>	Coated cardboard freezer box; 2-inch and 81-cell; white; flip cover	Coated cardboard freezer box; 2-inch and 100-cell; white; flip cover	81-well PP freezer box; temperature range -121°C to 90°C; all vials in each carton must be of the same color (white, red, blue, and green are optional); flat cover	100-well PP freezer box; temperature range -121°C to 90°C; all vials in each carton must be of the same color (white, red, blue, and green are optional); flat cover	2-inch 81-well freezer box with the base made of PP, the cover made of PC, and a numeric grid on the cover; suitable for use in a liquid nitrogen environment	2-inch 100-well freezer box with the base made of PP, the cover made of PC, and a numeric grid on the cover; suitable for use in a liquid nitrogen environment	81-well PC freezer box; temperature range -196°C to 121°C; all vials in each carton must be of the same color (white, red, blue, and green are optional); flat cover	100-well PC freezer box; temperature range -196°C to 121°C; all vials in each carton must be of the same color (white, red, blue, and green are optional); flat cover
<b>Sets/Case</b>	50	50	50	50	50	50	50	50
<b>Package</b>	50 pcs/case	50 pcs/case	50 pcs/case	50 pcs/case	50 pcs/case	50 pcs/case	50 pcs/case	50 pcs/case

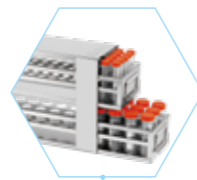
# Freezer Racks

The Haierh freezer rack is made of quality, high strength, corrosion-resistant 304 stainless steel. It's rigid structure and rapid conductivity ensure safe and efficient inventory storage for freezer samples.



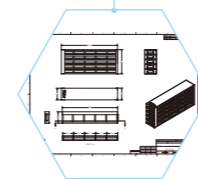
Manufactured and specially welded to ensure a durable rack with smooth surface

Easy grip handle design



Different configurations are available dependent on requirements

Customized racking is available for different storage requirements



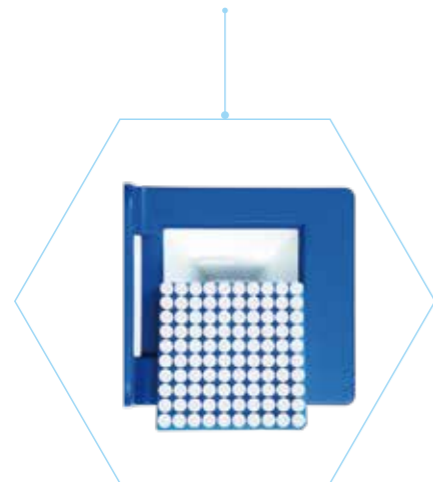
Classification	Model	Parameter	Sets/Case
Sliding-drawer freezer rack	DCJ-55-B(SUS201)	5*5 freezer rack; SUS201; drawer/top and bottom of rack/guide rail thickness 0.6 mm; rack column thickness 1.0;	1
	DCJ-55-B(SUS304)	5*5 freezer rack; SUS304; drawer/top and bottom of rack/guide rail thickness 0.6 mm; rack column thickness 1.0;	1
	DCJ-54-B(SUS201)	5*4 freezer rack; SUS201; drawer/top and bottom of rack/guide rail thickness 0.6 mm; rack column thickness 1.0;	1
	DCJ-54-B(SUS304)	5*4 freezer rack; SUS304; drawer/top and bottom of rack/guide rail thickness 0.6 mm; rack column thickness 1.0;	1
	DCJ-53-B(SUS201)	5*3 freezer rack; SUS201; drawer/top and bottom of rack/guide rail thickness 0.6 mm; rack column thickness 1.0;	1
	DCJ-53-B(SUS304)	5*3 freezer rack; SUS304; drawer/top and bottom of rack/guide rail thickness 0.6 mm; rack column thickness 1.0;	1
	DCJ-44-B(SUS201)	4*4 freezer rack; SUS201; drawer/top and bottom of rack/guide rail thickness 0.6 mm; rack column thickness 1.0;	1
	DCJ-44-B(SUS304)	4*4 freezer rack; SUS304; drawer/top and bottom of rack/guide rail thickness 0.6 mm; rack column thickness 1.0;	1
	DCJ-35-B(SUS304)	(3 inch)3*5 freezer rack; SUS304; drawer/top and bottom of rack/guide rail thickness 0.6 mm; rack column thickness 1.0;	1
	DCJ-34-B(SUS304)	(3 inch)3*4 freezer rack; SUS304; drawer/top and bottom of rack/guide rail thickness 0.6 mm; rack column thickness 1.0;	1
Side-access freezer rack	DCJ-55-A(SUS304)	5*5 freezer rack; SUS304; top and bottom of rack thickness 0.6 mm; rack column thickness 1.0; handgrip;	1
	DCJ-54-A(SUS304)	5*4 freezer rack; SUS304; top and bottom of rack thickness 0.6 mm; rack column thickness 1.0; handgrip;	1
	DCJ-35-A(SUS304)	(3 inch)3*5 freezer rack; SUS304; top and bottom of rack thickness 0.6 mm; rack column thickness 1.0; handgrip;	1
	DCJ-34-A(SUS304)	(3 inch)3*4 freezer rack; SUS304; top and bottom of rack thickness 0.6 mm; rack column thickness 1.0; handgrip;	1
	DCJ-44-A(SUS304)	4*4 freezer rack; SUS304; top and bottom of rack thickness 0.6 mm; rack column thickness 1.0; handgrip;	1
SBS freezer rack	DCJ-57-B(SUS304)	5*7 freezer rack; SUS304; drawer/top and bottom of rack/guide rail thickness 0.6 mm; rack column thickness 1.0;	1
	DCJ-77-B(SUS304)	7*7 freezer rack; SUS304; drawer/top and bottom of rack/guide rail thickness 0.6 mm; rack column thickness 1.0;	1
	DCJ-56-B(SUS304)	5*6 freezer rack; SUS304; drawer/top and bottom of rack/guide rail thickness 0.6 mm; rack column thickness 1.0;	1
	DCJ-57-B(SUS201)	5*7 freezer rack; SUS201; drawer/top and bottom of rack/guide rail thickness 0.6 mm; rack column thickness 1.0;	1
	DCJ-77-B(SUS201)	7*7 freezer rack; SUS201; drawer/top and bottom of rack/guide rail thickness 0.6 mm; rack column thickness 1.0;	1
	DCJ-56-B(SUS201)	5*6 freezer rack; SUS201; drawer/top and bottom of rack/guide rail thickness 0.6 mm; rack column thickness 1.0;	1
Chest-type freezer rack	DCJ-6-A(SUS304)	6-layer vertical, freezer rack, SUS304; top and bottom of rack thickness 0.6 mm; rack column thickness 1.0;	1
	DCJ-8-A(SUS304)	8-layer vertical, freezer rack, SUS304; top and bottom of rack thickness 0.6 mm; rack column thickness 1.0;	1
	DCJ-10-A(SUS304)	10-layer vertical, freezer rack, SUS304; top and bottom of rack thickness 0.6 mm; rack column thickness 1.0;	1
	DCJ-12-A(SUS304)	12-layer vertical, freezer rack, SUS304; top and bottom of rack thickness 0.6 mm; rack column thickness 1.0;	1
Centrifugal tube freezer rack	SDCJ-15ml	5*22, SUS304; drawer/top and bottom of rack/guide rail thickness 0.6 mm; rack column thickness 1.0;	1
	SDCJ-50ml	3*16, SUS304; drawer/top and bottom of rack/guide rail thickness 0.6 mm; rack column thickness 1.0;	1

# High Speed Batch Scanner

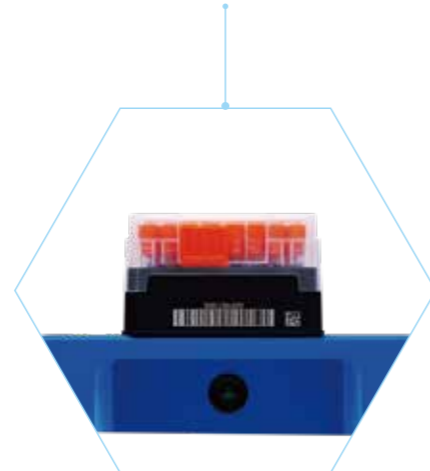
The Haier high speed batch scanner can be used to scan various coded, boxed prefabricated code cryogenic tubes to achieve high-speed identification and efficient management of samples.



Intelligent induction of tube boxes, automatic light filling function, adapt to different applicable scenarios



Reading synchronously the bottom code of freezing tubes and of boxes



Detachable module design, compatible with SBS, square and other multi-specification cryogenic box



Ergonomic design: anti-loss hook design, more user-friendly

Classification	Model	Parameter	Sets/Case	Package
High speed batch scanner	HS-SBS-001	Batch scanning, high-speed scanning, side code scanning, suitable for 10*10/SBS and other specifications of prefabricated coded standard cryogenic tube/box of various brands	1	1 set/case
	HS-SBS-002	Batch scanning, high-speed scanning, side code scanning, suitable for 10*10/SBS and other specifications of prefabricated coded standard cryogenic tube/box of various brands	1	1 set/case
Top batch scanner	HS-100-002	Batch scanning, high-speed scanning, top scanning, suitable for scanning of 10*10/9*9 cryogenic tube, centrifuge tube, etc. (two-dimensional code label is pasted on the top)	1	1 set/case

# Single Tube Scanner

The Hoierh single tube scanner is flexible and quick to scan the samples' information



Wireless communication distance up to 30 meters



Support battery charging and replacement, can work for 20 hours or standby for 50 hours when fully charged



Excellent DPM code reading ability, suitable for all kinds of precision code recognition, fast and accurate

Classification	Model	Parameter	Sets/ case	package
Single tube scanner	HS-H-001	Handheld scanner, provide single cryogenic tube or cryogenic box, scanner recognition one-dimensional code/two-dimensional code function, plug and play	1	1 set/case
	HS-W-001	Wireless handheld scanner, provide single cryogenic tube or cryogenic box, scanner recognition one-dimensional code/ two-dimensional code function, plug and play	1	1 set/case
	HS-T-001	Desktop scanner, provide single cryogenic tube or cryogenic box, scanner recognition one-dimensional code/two-dimensional code function, plug and play	1	1 set/case

The Hoierh batch cover opener opens or closes the multi-channel cap which provides increased efficiency compared to manual operation and reduces the risk of contact with biochemical reagents and other safety risks



Simultaneously open up to 8 channels at one time



Key design, convenient and fast removal of cover



Support design, convenient storage opened batch tube cover

Classification	Model	Parameter	Sets/ case	package
Batch cover opener	BQ-OP8	The 8-channel hand-held electric cover opener can open the prefabricated QR code cryogenic tube (8x12) with 8 cryogenic tube covers in a row, or (diamond layout 8x6) with 4 cryogenic tube covers in a row	1	1 set/case
	BQ-OP4	The 4-channel hand-held electric cover opener can open the prefabricated QR code cryogenic tube (4x12) with 4 cryogenic tube covers in a row, or (4x6) with 4 cryogenic tube covers in a row	1	1 set/case

# Low Temperature Label Printer

The low-temperature printer allows users to print different labels that are durable, stable, and resistant to wear, ensuring the long-term safety of sample information.



Suitable for all kinds of experimental instruments, resistant to solvent and chemical corrosion, repeated freezing and thawing without falling off

Touch operation for quick adjustment of printer Settings

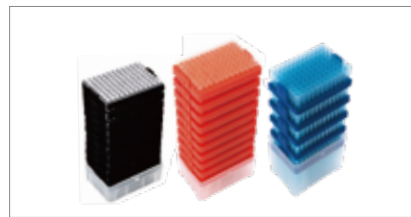


High performance printing, meet the high requirements of biobank processing

Classification	Product number	Model	Supporting printer	Parameter	Loading capacity
Printer	i5100 300dpi	Printer i5100 300dpi	\	Thermal transfer printer, printing accuracy 300dpi, maximum printing speed 300mm/s	1 set/case
	BBP12	Brady BBP12 printer	\	Printing accuracy 300dpi, low-end printing	1 set/case
	i5100 600dpi	Printer i5100 600dpi	\	Thermal transfer printer, printing accuracy 600dpi, maximum printing speed 150mm/s	1 set/case
Ribbon	IP-R4302	Ribbon IP R4302	i5100 300dpi	60mm*300m/roll, used together with IP 300; Print about 4-5 rolls of labels (B490A or B490B)	1 roll/bag
	IP-R4902	Ribbon IP-R4902	i5100 300dpi	60mm*300m/roll, used together with IP 300; Print about 4-5 rolls of labels (B6422)	1 roll/bag
	R4313	Ribbon R4313	BBP11/BBP12	110mm*74m/roll, used with BBP11/BBP12 printer	1 roll/bag
Label	THT-152-053-3-2A	B053 material (25.4*9.53mm)*2 two rows of labels	i5100 300dpi	Label for room temperature use. The label material is synthetic paper, and the use temperature range is -20°C-+80°C; Two labels in a row, 3000 pcs/roll, and the matching ribbon is IP-R4302	3000 pcs/roll
	THT-152-053-3-RP	B053 material 25.4*9.53mm one in a row	i5100 300dpi	Label for normal temperature use. The label material is synthetic paper, and the use temperature range is -20°C-+80°C; Two labels in a row, 4000 pcs/roll, and the matching ribbon is IP-R4302; Customized, pre printed coding	4000 pcs/roll
	THT-163-6422-3	B6422 lable 25.4mm*9.53mm + D=9.53mm	i5100 300dpi	Apply to cryogenic tube below 2ml; Environment temperature above 40 °C	3000 pcs/roll
	THT-163-490-3	B490 material 25.4mm*9.53mm + D=9.53mm	i5100 300dpi	Apply to cryogenic tube below 2ml and pasted on the wall and round cover of the cryogenic tube; Can withstand can be directly pasted after taking out the cryogenic tube in liquid nitrogen at room temperature	3000 pcs/roll
	THT-152-490-3	B490 material 25.4mm*9.53mm	i5100 300dpi	Apply to cryogenic tube below 2ml, only pasted on the wall of cryogenic tube; Can withstand can be directly pasted after taking out the cryogenic tube in liquid nitrogen at room temperature	3000 pcs/roll
	THT-151-490-3	B490 material 15.24mm*10.16mm+D=8.26mm	i5100 300dpi	Apply to cryogenic tube below 2ml and pasted on the wall and round cover of the cryogenic tube; Can withstand can be directly pasted after taking out the cryogenic tube in liquid nitrogen at room temperature	3000 pcs/roll
	THT-351-490-3	B490 material 35mm*10mm+D=9.53mm	i5100 300dpi	Apply to 2ml cryogenic tube and pasted on the wall and round cover of the cryogenic tube; Can withstand can be directly pasted after taking out the cryogenic tube in liquid nitrogen at room temperature	3000 pcs/roll
	THT-163-499-3	B499 material 25.4*9.53+D=9.53mm	i5100 300dpi	Apply to cryogenic tube below 2ml and pasted on the wall and round cover of the cryogenic tube; Pasted at room temperature and used in the environment above -150°C	3000 pcs/roll
	THT-152-499-3	B499 material 25.4*9.53mm	i5100 300dpi	Apply to cryogenic tube below 2ml, only pasted on the wall of cryogenic tube; Pasted at room temperature and used in the environment above -150°C	3000 pcs/roll
	THT-163-461-3	B461material 65*9.53mm,3000 pcs / roll, liquid nitrogen direct paste	i5100 300dpi	Apply to cryogenic tube below 2ml, 1.8ml/1.6ml/1.5ml cryogenic tubes are recommended, and pasted on the wall and round cover of the cryogenic tube; Winding type, can be directly pasted after taking out the cryogenic tube in liquid nitrogen	3000 pcs/roll
	THT-152-461-3	B461material 65*9.53mm	i5100 300dpi	Apply to cryogenic tube below 2ml, 1.8ml/1.6ml/1.5ml cryogenic tubes are recommended, only pasted on the wall of cryogenic tube; Winding type, can be directly pasted after taking out the cryogenic tube in liquid nitrogen	3000 pcs/roll
	THT-163-492-3	B492 material 25.4*9.53mm+D=9.53mm	i5100 300dpi	Apply to cryogenic tube below 2ml, 1.8ml/1.6ml/1.5ml cryogenic tubes are recommended, and pasted on the wall and round cover of the cryogenic tube; Winding type, can be directly pasted after taking out the cryogenic tube in liquid nitrogen	3000 pcs/roll
	THT-163-492-3	B492 material 25.4*9.53+D=9.53mm (Discounts for more than 10 volumes)	i5100 300dpi	Apply to cryogenic tube below 2ml, 1.8ml/1.6ml/1.5ml cryogenic tubes are recommended, and pasted on the wall and round cover of the cryogenic tube; Winding type, liquid nitrogen direct pasting	3000 pcs/roll
	THT-136-499-3	B499 material 38.1*19.08mm,3000 pcs/roll	i5100 300dpi	Apply to 1.8ml-5ml cryogenic tube, only pasted on the wall of cryogenic tube; Can withstand liquid nitrogen after pasting at room temperature	3000 pcs/roll
	THT-215-490-3	B490 material 25*15mm,3000 pcs/roll	i5100 300dpi	Apply to 1.8ml-5ml cryogenic tube, only pasted on the wall of cryogenic tube; Can withstand can be directly pasted after taking out the cryogenic tube in liquid nitrogen at room temperature	3000 pcs/roll
	THT-163-490-2-SC	B490 material 25.4*9.53mm+D=9.53mm, 2000pcs/roll	BBP12	Apply to cryogenic tube below 2ml and pasted on the wall and round cover of the cryogenic tube; Can withstand can be directly pasted after taking out the cryogenic tube in liquid nitrogen at room temperature	2000 pcs/roll
THT-152-490-2-SC	B490 material 25.4*9.53mm,2000 pcs/roll	BBP12	Apply to cryogenic tube below 2ml, only pasted on the wall of cryogenic tube; Can withstand can be directly pasted after taking out the cryogenic tube in liquid nitrogen at room temperature	2000 pcs/roll	



### Racked Tips



#### Product features

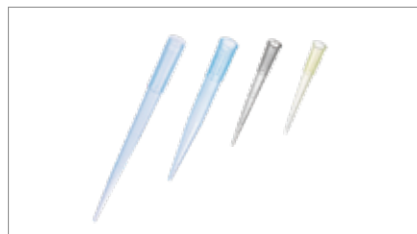
- Box-packed and racked design
- Various packaging methods to meet the needs of different scenarios



### Box-Packed Tips



### Pipette Tips

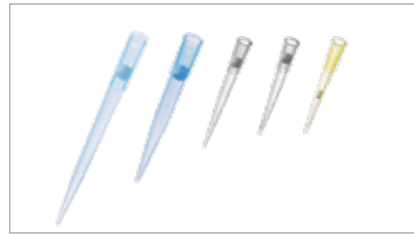


#### Product features

- Medical polypropylene (PP)
- Matching most brands of single-channel and multi-channel pipettes
- 100,000 grade dust-free workshop. The product is free from pyrogen, endotoxin, DNase and RNase
- The inner wall is smooth and the liquid residue is minimized to ensure accurate suction
- Temperature range: -80°C ~121°C, no deformation after high temperature and high pressure
- Clear scale, high clarity, visual confirmation of pipette suction



### Filter Pipette Tips

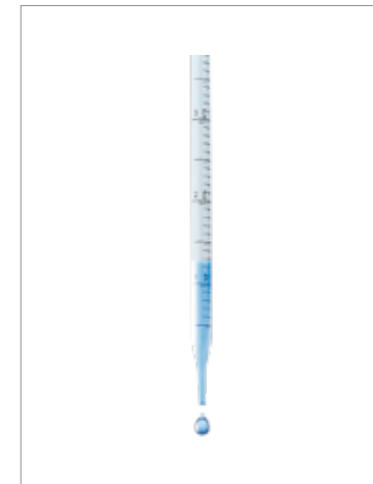


#### Product features

- Super hydrophobicity, the hydrophobic filter element forms a strong barrier to the aerosol, eliminating the risk of cross contamination between the sample and the pipette
- Ultra-fine grinding molding technology, demoulding without agent guarantees better product quality
- Ultra-fine point ensures smooth sample absorption
- Innovative design to ensure good flexibility, sealing and compatibility



### Serological Pipettes



#### Product features

- Serum pipettes are suitable for tissue culture and cell culture and other biological research.
- They are made of high clarity polystyrene and they are individually packaged in paper-plastic bags.
- Different sizes of pipettes are distinguished by different colors.
- No pyrogen, no cytotoxicity, no hemolysis
- Polyolefine filter element to prevent pollution
- Free from DNase and RNase



### Automated Pipette Tips






#### Product features

- Manufactured using transparent polymer polypropylene (PP) material, the surface is specially treated to deliver superior hydrophobicity to ensure the accuracy of the experimental data
- The conical front design means the tips are ideal for pipetting of micro samples
- Smooth inner surface, greatly diminishes the sample residue, effectively reducing waste
- The unique lengthened design reduces the risk of cross-contamination, it also provides an air-tight and secure connection to a wide variety of workstation brands, making these tips flexible and adaptable to a range of laboratory robotic applications
- Each batch of tips are tested according to rigorous quality procedures to ensure they are contaminant-free. Tips are independently tested and certified free from DNase, RNase, ATP and pyrogens



# Liquid Handling

Classification	No.	Model	Specification	Loading Quantity (Per Case)	Package
 Universal Pipette Tips	1	B10T	10µL tip, bag-packed, basic type, colorless	20000	1000Pcs/bag,20Bags/case
	2	B01TL	0.1-10µL extended tip, bag-packed, basic type, colorless	10000	1000Pcs/box,10Boxes/case
	3	B05TL	0.5-10µL extended tip, bag-packed, basic type, colorless	20000	1000Pcs/bag,20Bags/case
	4	B200Y	200µL tip, bag-packed, basic type, yellow	20000	1000Pcs/bag,20Bags/case
	5	B250T	250µL tip, bag-packed, basic type, colorless	20000	1000Pcs/bag,20Bags/case
	6	B350T	350µL tip, bag-packed, basic type, colorless	20000	1000Pcs/bag, 20Bags/case
	7	B1000B	1000µL tip, bag-packed, basic type, blue	5000	1000Pcs/bag,5Bags/case
	8	B1250B	1250µL tip, bag-packed, basic type, blue	5000	1000Pcs/bag,5Bags/case
	9	X10T0	10µL tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	10	X01TL0	0.1-10µL extended tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	11	X05TL0	0.5-10µL extended tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	12	X200Y0	200µL tip, box-packed, sterile, yellow	4800	96Pcs/box,50Boxes/case
	13	X250T0	250µL tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	14	X350T0	350µL tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	15	X1000B0-100	1000µL tip, box-packed, sterile, blue	5000	100Pcs/box,50Boxes/case
	16	X1000B0-96	1000µL tip, box-packed, sterile, blue	4800	96Pcs/box,50Boxes/case
	17	X1250B0	1250µL tip, box-packed, sterile, blue	4800	96Pcs/box,50Boxes/case
 Filter Pipette Tips	18	FB10T	10µL filter tip bag-packed, colorless	20000	1000Pcs/bag,20Bags/case
	19	FB01TL	0.1-10µL extended filter tip, bag-packed, colorless	10000	1000Pcs/box,10Boxes/case
	20	FB05TL	0.5-10µL extended filter tip, bag-packed, colorless	20000	1000Pcs/bag,20Bags/case
	21	FB20Y	20µL filter tip, bag-packed, yellow	20000	1000Pcs/bag,20Bags/case
	22	FB50Y	50µL filter tip, bag-packed, yellow	20000	1000Pcs/bag,20Bags/case
	23	FB100Y	100µ filter tip, bag-packed, yellow	20000	1000Pcs/bag,20Bags/case
	24	FB200Y-150	200µL(1-150ul) filter tip, bag-packed, yellow	20000	1000Pcs/bag,20Bags/case
	25	FB200T-200	200µL(1-200ul) filter tip, bag-packed, colorless	20000	1000Pcs/bag,20Bags/case
	26	FB300T	300µL(1-300ul) filter tip, bag-packed, colorless	20000	1000Pcs/bag,20Bags/case
	27	FB1000B	1000µL filter tip bag-packed, blue	5000	1000Pcs/bag,5Bags/case
	28	FB1250B	1250µL filter tip bag-packed, blue	5000	1000Pcs/bag,5Bags/case
	29	FX10T0	10µL filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	30	FX01TL0	0.1-10µL extended filter tip box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	31	FX05TL0	0.5-10µL extended filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	32	FX20Y0	20µL filter tip, box-packed, sterile, yellow	4800	96Pcs/box,50Boxes/case
	33	FX50Y0	50µL filter tip, box-packed, sterile, yellow	4800	96Pcs/box,50Boxes/case
	34	FX100Y0	100µL filter tip, box-packed, sterile, yellow	4800	96Pcs/box,50Boxes/case
	35	FX200Y0-150	200µL(1-150ul)filter tip, box-packed, sterile, yellow	4800	96Pcs/box,50Boxes/case
	36	FX200T0-200	200µL(1-200ul)filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	37	FX300T0	300µL(1-300ul)filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	38	FX500B0	500µL filter tip, box-packed, sterile, blue	4800	96Pcs/box,50Boxes/case
	39	FX1000B0-100	1000µL filter tip, box-packed, sterile, blue	5000	100Pcs/box,50Boxes/case
	40	FX1000B0-96	1000µL filter tip, box-packed, sterile, blue	4800	96Pcs/box,50Boxes/case
	41	FX1250B0	1250µL filter tip, box-packed, sterile, blue	4800	96Pcs/box,50Boxes/case

Classification	No.	Model	Specification	Loading Quantity (Per Case)	Package
 Low Retention Tips	42	AB10T	10µL low retention tip, bag-packed, colorless	20000	1000Pcs/bag,20Bags/case
	43	AB01TL	0.1-10µL extended low retention tip, bag-packed, colorless	10000	1000Pcs/box,10Boxes/case
	44	AB05TL	0.5-10µL extended low retention tip, bag-packed, colorless	20000	1000Pcs/bag,20Bags/case
	45	AB200T	200µL low retention tip, bag-packed, colorless	20000	1000Pcs/bag,20Bags/case
	46	AB250T	250µL low retention tip, bag-packed, colorless	20000	1000Pcs/bag,20Bags/case
	47	AB350T	350µL low retention tip, bag-packed, colorless	20000	1000Pcs/bag,20Bags/case
	48	AB1000T	1000µL low retention tip, bag-packed, colorless	5000	1000Pcs/bag,5Bags/case
	49	AB1250T	1250µL low retention tip, bag-packed, colorless	5000	1000Pcs/bag,5Bags/case
	50	AX10T0	10µL low retention tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	51	AX01TL0	0.1-10µL extended low retention tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	52	AX05TL0	0.5-10µL extended low retention tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	53	AX200T0	200µL low retention tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	54	AX250T0	250µL low retention tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	55	AX350T0	350µL low retention tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	56	AX1000T0	1000µL low retention tip, box-packed, sterile, colorless	5000	100Pcs/box,50Boxes/case
	57	AX1250T0	1250µL low retention tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	<b>Racked Tip</b>	58	AFX10T0	10µL low retention filter tip, box-packed, sterile, colorless	4800
59		AFX01TL0	0.1-10µL extended low retention filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
60		AFX05TL0	0.5-10µL extended low retention filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
61		AFX200T0-150	200µL(1-150ul) extended low retention filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
62		AFX200T0-200	200µL(1-200ul) extended low retention filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
63		AFX300T0	300µL(1-300ul) extended low retention filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
64		AFX1000T0-100	1000µL extended low retention filter tip, box-packed, sterile, colorless	5000	100Pcs/box,50Boxes/case
65		AFX1000T0	1000µL extended low retention filter tip, box-packed, sterile, colorless	4800	100Pcs/box,50Boxes/case
66		AFX1250T0	1250µL extended low retention filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
<b>Serological Pipettes</b>	67	D10Y0	10ul racked tip, sterile	4800	960Pcs/rack,10Racks/case
	68	D200Y0	200ul racked tip, sterile	4800	960Pcs/rack,10Racks/case
	69	D1250Y0	1250ul racked tip, sterile	4800	480Pcs/rack,10Racks/case
	70	PIP1	Pipette 1ml, one-step forming	1000	50Pcs/bag,20bags/case
	71	PIP2	Pipette 2ml, one-step forming	1000	50Pcs/bag,20bags/case
<b>Automated Pipette Tips</b>	72	PIP5	Pipette 5ml, one-step forming	200	50Pcs/bag,4bags/case
	73	PIP10	Pipette 10ml, one-step forming	200	50Pcs/bag,4bags/case
	74	PIP25	Pipette 25ml, two-step forming	200	50Pcs/bag,4bags/case
	75	PIP50	Pipette 50ml, two-step forming	100	25Pcs/bag,4bags/case
<b>Automated Pipette Tips</b>	76	FX200E0-T	200µl tip, black, conductive, filter element, sterilize, Blister box packing	2304	96pcs/box, 24boxes/case
	77	FX1000E0-T	1000µl tip, black, conductive, filter element, sterilize, Blister box packing	2400	96pcs/box, 25boxes/case
	78	FX50E0-H	50µl tip, black, conductive, filter element, sterilize, Blister box packing	5760	96pcs/box, 60boxes/case
	79	FX300E0-H	300µl tip, black, conductive, filter element, sterilize, Blister box packing	5760	96pcs/box, 60boxes/case
	80	FX1000E0-H	1000µl tip, black, conductive, filter element, sterilize, Blister box packing	3840	96pcs/box, 40boxes/case

# Centrifuge Tube



## 15ml/50ml Centrifuge Tube

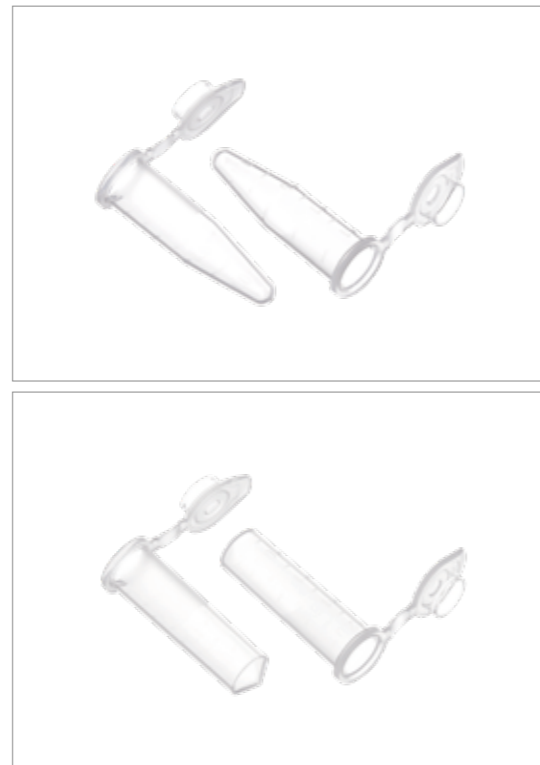


### Product features

- Black clear scale line and white writing area
- Recommended maximum centrifugal force: 12000×g  
Electron beam sterilization
- Free from DNase, RNase and pyrogens
- Temperature range: -80°C~120°C
- Easy grip cap for single-handed operation, reliable sealing
- Frame-packed and bag-packed



## Microcentrifuge Tube



### Product features

- PP material complies with USP-6, free from heavy metals
- Endotoxin content is less than 0.1 EU
- Temperature range: -80°C~120°C
- RCF: 30000xg
- The cover is easy to puncture and comfortable to handle
- Free from DNase, RNase and pyrogens

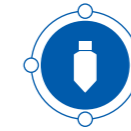


## 500ml Centrifuge Bottle



### Product features

- Suitable for high capacity centrifugation
- Sterile and free from pyrogens



## 250ml Centrifuge Bottle



- Polypropylene (PP) material, sealed pipe cover
- 250ml and 500ml centrifuge bottles

Classification	No.	Model	Specification	Loading Quantity (Per Case)	Package
Centrifuge Tube	1	CEN-06T	0.6ml Microcentrifuge tube, colorless	10000	1000Pcs/box, 10boxes/case
	2	CEN-15T	1.5ml Microcentrifuge tube, colorless	5000	500Pcs/box, 10boxes/case
	3	CEN-2T	2ml Microcentrifuge tube, colorless	5000	500Pcs/box, 10boxes/case
	4	CEN-15CB0	15ml Conical centrifuge tube, sterile, bag-packed	500	25Pcs/bag, 20bags/case
	5	CEN-15CS0	15ml Conical centrifuge tube, sterile, racked	500	50Pcs/rack, 10Racks/case
	6	CEN-50CB0	50ml Conical centrifuge tube, sterile, bag-packed	500	25Pcs/bag, 20bags/case
	7	CEN-50CS0	50ml Conical centrifuge tube, sterile, racked	500	25Pcs/rack, 20Racks/case
Centrifuge Bottle	8	EN-500B	500ml Centrifuge bottle	40	8Pcs/bag, 40Pcs/case
	9	CEN-250B	250ml Centrifuge bottle	102	4Pcs/bag, 100Pcs/case



### Cell Culture Dish



#### Product features

- Cell culture dishes are ideal for all types of culturing. Flat transparent surface for distortion-free observation under microscope. Numeric indicators at the bottom for easy identification of cell locations
- Free from pyrogens and endotoxins
- Made from high clarity medical polystyrene
- Flat transparent surface for distortion-free observation under microscope
- Electron beam sterilization
- Vacuum Gas Plasma treated for uniform and consistent cell attachment
- Stackable for easy storage and handling



### Cell Culture Plate



### Cell Culture Bottle



#### Product features

- Packaged in sterile self-sealing bag
- Stackable design, safe & stable, easy for storage
- Clear lot numbers for batch traceability
- Unique patent design, no dead angle in bottle
- High definition, 100% polystyrene
- Electron beam sterilization
- Free from pyrogens and endotoxins
- Permeable cover (filter cover), 0.22µm hydrophobic membrane to facilitate air exchange and prevent microbial pollution

#### Product features

- Electron beam sterilization
- Vacuum plasma treatment
- DuPont Tyvek hot melt independent packaging, moistureproof, waterproof
- Free from pyrogens and endotoxins
- Made from high clarity, 100% polystyrene
- Clear lot numbers for batch traceability
- Products are available in bags or with brackets



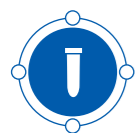
### Erlenmeyer Flasks with Flat Cap



#### Product features

PETG/PE flat-bottomed erlenmeyer flask saves preparation time and avoids the risk of contamination, making it an ideal choice for cell suspension culture, medium configuration, mixing and storage. The high clarity PETG/PE is firm and hard to crack, which reduces any personnel safety risks and is an ideal choice for shaker culture applications.

Classification	Model	Specification	Loading Quantity (Per Case)	Package
TCT Cell Culture Plate	CELL-B6-P	6-well cell culture plate, plasma treatment	50	1Pcs/bag, 50bags/case
	CELL-B12-P	12-well cell culture plate, plasma treatment	50	1Pcs/bag, 50bags/case
	CELL-B24-P	24-well cell culture plate, plasma treatment	50	1Pcs/bag, 50bags/case
	CELL-B48-P	48-well cell culture plate, plasma treatment	50	1Pcs/bag, 50bags/case
	CELL-B96-P	96-well cell culture plate, plasma treatment	65	1Pcs/bag, 65bags/case
Cell Culture Bottle	CELL-T25-P	T25 cell culture bottle, 25cm <sup>2</sup> , vented caps, plasma treatment	300	12Pcs/bag, 25bags/case
	CELL-T75-P	T75 cell culture bottle, 75cm <sup>2</sup> , vented caps, plasma treatment	90	5Pcs/bag, 18bags/case
	CELL-T175-P	T175 cell culture bottle, 175cm <sup>2</sup> , vented caps, plasma treatment	50	5Pcs/bag, 10bags/case
Cell Culture Dish	CELL-D100-P	100mm cell culture dish, plasma treatment	300	10Pcs/bag, 30bags/case
	CELL-D60-P	60mm cell culture dish, plasma treatment	500	10Pcs/bag, 50bags/case
	CELL-D35-P	35mm cell culture dish, plasma treatment	500	10Pcs/bag, 50bags/case
Erlenmeyer Flasks with Flat Cap	CELL-SB125-PC	125ml Triangular cell shaking flask, vented caps (PC)	50	1Pcs/bag, 50bags/case
	CELL-SB250-PC	250ml Triangular cell shaking flask, vented caps (PC)	50	1Pcs/bag, 50bags/case
	CELL-SB500-PC	500ml Triangular cell shaking flask, vented caps (PC)	25	1Pcs/bag, 25bags/case
	CELL-SB1000-PETG	1000ml Triangular cell shaking flask, vented caps (PETG)	25	1Pcs/bag, 25bags/case



### Single Tube (Flat Cover)



PCR single tube is made from polypropylene (PP). The thin wall and smooth surface of the tube ensure the effectiveness and uniformity of heat transfer between samples, which is suitable for most PCR and real-time PCR instruments. With excellent sealing properties the reaction volume loss is less than 0.2% when using the heat cover.

#### Product features

- Pure polypropylene, it has thin and uniform wall for optimal heat transfer
- The easy-to-open tube and tube lid fasten securely to prevent leakage
- Free from DNase, RNase, pyrogens, PCR inhibitors



### PCR 96-Well Plate



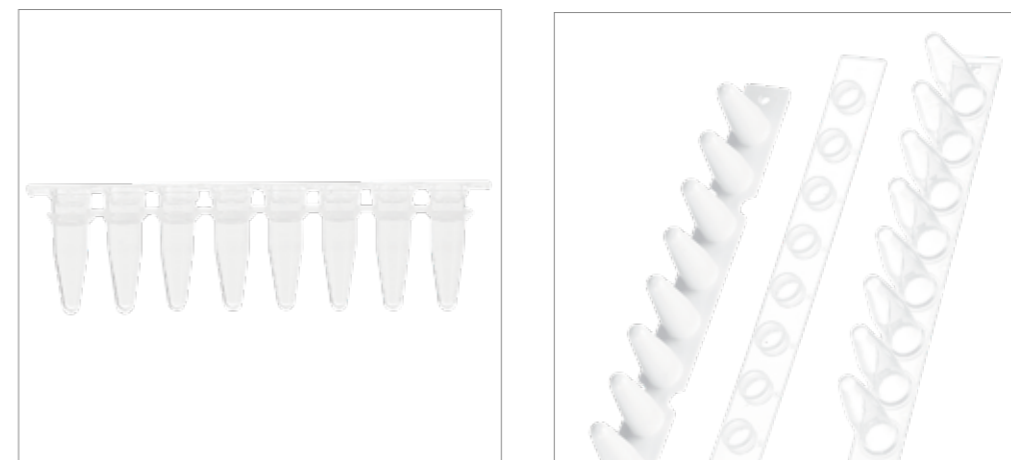
#### Product features

This standard 96-well plate is manufactured in accordance with high quality standards to produce a reliable plate, delivering excellent uniformity across experiments. The uniform, thin walled well design can accommodate either tube caps or sealing plate film

- Polypropylene(PP)
- Suitable for 0.1ml, 0.2ml thermal cycle modules
- Free from DNase, RNase and endotoxins



### 8-Strip Tubes and Caps



#### Product features

- Pure polypropylene, it has a thin and uniform wall for optimal heat transfer
- The 8-strip easy-to-open tube and tube cover fasten securely to prevent leakage
- It is suitable for the PCR instrument with the corresponding model specification
- Suitable for 0.1ml/0.2ml 8-strip tubes or 96-well plate
- Superior sealing property
- Flat caps work for QPCR experiments better

Classification	Model	Specification	Loading Quantity (Per Case)	Package
PCR Tube	PCR-021T	0.2ml PCR single tube, transparent, flat cover	10000	1000Pcs/bag,10bags/case
	PCR-A-028T	Conventional type A-0.2ml PCR 8-strip tube+optical flat cover, transparent	1250	125 Strips/bag,10bags/case
	PCR-A-028W	Conventional type A-0.2ml PCR 8-strip tube+optical flat cover, white	1250	125 Strips/bag,10bags/case
	PCR-A-018T	Conventional type A-0.1ml PCR 8-strip tube+optical flat cover, transparent	1250	125 Strips/bag,10bags/case
	PCR-A-018W	Conventional type A-0.1ml PCR 8-strip tube+optical flat cover, white	1250	125 Strips/bag,10bags/case
	PCR-B-028T	Strength type B-0.2ml PCR 8-strip tube+optical flat cover, transparent	1250	125 Strips/bag,10bags/case
	PCR-B-018T	Strength type B-0.1ml PCR 8-strip tube+optical flat cover, transparent	1250	125 Strips/bag,10bags/case
PCR Plate	PCR-96B-02HT	0.2ml 96-well PCR plate-Half skirt edge, transparent	50	10Pcs/bag,5bags/case
	PCR-96B-02NT	0.2ml 96-well PCR plate-No skirt edge, transparent	50	10Pcs/bag,5bags/case
	PCR-96B-02NW	0.2ml 96-well PCR plate-No skirt edge, white	50	10Pcs/bag,5bags/case
	PCR-96B-01NT	0.1ml 96-well PCR plate-No skirt edge, transparent	50	10Pcs/bag,5bags/case
	PCR-96B-01NW	0.1ml 96-well PCR plate-No skirt edge, white	50	10Pcs/bag,5bags/case
	PCR-96B-02HTB	0.2ml 96-well PCR plate-Half skirt edge, transparent, black writing	50	10Pcs/bag,5bags/case
	PCR-96B-02NTB	0.2ml 96-well PCR plate-No skirt edge, transparent, black writing	50	10Pcs/bag,5bags/case
	PCR-96B-01HT(Roche)	0.1ml 96-well PCR plate-Half skirt edge, transparent,(Suitable for Roche PCR instrument)	50	10Pcs/bag,5bags/case
	PCR-96B-01HW(Roche)	0.1ml 96-well PCR plate-Half skirt edge, white(Suitable for Roche PCR instrument)	50	10Pcs/bag,5bags/case
	PCR-96B-01HT(ABI)	ABI 0.1ml 96-well PCR plate-Half skirt edge, transparent	50	10Pcs/bag,5bags/case
	PCR-96B-02HT(ABI)	ABI 0.2ml 96-well PCR plate-Half skirt edge, transparent	50	10Pcs/bag,5bags/case
	PCR-MEM	PCR sealing plate film, pressure-sensitive, transparent, box-packed	100	100 Pcs/box

# Biomedical Freezer



# -60°C Biomedical Freezer

A versatile low-temperature freezer installed in hospitals, blood stations, diseases control & prevention centers, research institutions, bioscience laboratories and medical laboratories. It is suitable for storing a wide variety of biological products including viruses, bacteria, red blood cells, white blood cells, skin, bone and semen as well as ocean-going supplies and electronic devices. It can also provide a low-temperature environment for testing of special materials.

The secondary application is for the storage of fishery products such as tuna, Australian lobster, salmon, South American shrimps, Argentina red shrimp, top-quality beef, kanpachi, octopus, yellowtail, bonito fish, grouper, and fugu rubripes. This is a requirement for fishery products for human consumption and hence these freezers are popular among professional oceanic fisherman, seafood distributors, speciality seafood stores and sushi restaurants and commercial food manufacturers.



DW-60W258



German made energy efficient compressor



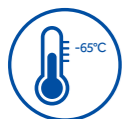
Digital temperature control display



Dual-seal design



Efficient and reliable fan



Quickly freeze sea food products to retain their original taste, structure and freshness.



Low noise output, noise cancelling technology yields a smoother operation and a sound level of less than 43dB(A).



Multiple alarm system includes temperature alarm, and sensor error alarm.



HC refrigerant system is optimized to improve refrigeration efficiency by 30 %, and save energy by about 50%.

Single compressor auto cascade refrigeration system provides high efficient cooling power. Insulation thickness is 100 mm for optimal protection of cold temperature and saving energy.



Creative dual seals design retains cold temperature more effectively, and eliminates condensation on gaskets.



Interior material is certified food grade 304 stainless steel, ensuring safe contact between food and interior liner.



Interior lock design ensures product safety. Lockable casters permit ease of installation and maneuvering.



Water proof digital control delivers precise temperature for storage. Display and control system are easy to use.

## Specifications

	Model	DW-60W138	DW-60W258	DW-60W388	
Technical Data	Cabinet Type	Chest	Chest	Chest	
	Climate Class	N	N	N	
	Cooling Type	Direct Cooling	Direct Cooling	Direct Cooling	
	Refrigerant	HC	HC	HC	
	Sound Level ((dB(A))	43	43	43	
Performance	Cooling performance (°C)	-60	-60	-60	
	Temperature Range (°C)	-30~-60	-30~-60	-30~-60	
Control	Controller	Microprocessor	Microprocessor	Microprocessor	
	Display	LED	LED	LED	
Electrical Data	Power Supply (V/Hz)	220-240/50	220-240/50	220-240/50	
	Power (W)	370	410	420	
	Electrical Current (A)	3	3	3.5	
	Power Consumption (kWh/24h)	4.5	5.5	6.5	
Construction	Capacity (L/Cu.Ft)	138/4.9	258/9.1	388/13.7	
	Net/Gross Weight (approx)	kg	62/75	88/108	105/130
		lbs	137/165	194/238	232/287
	Interior Dimensions (W*D*H)	mm	580*445*620	1000*445*620	1450*445*620
		in	22.8*17.5*24.4	39.4*17.5*24.4	57.1*17.5*24.4
	Exterior Dimensions (W*D*H)	mm	790*770*950	1210*770*950	1655*770*950
		in	31.1*30.3*37.4	47.6*30.3*37.4	65.2*30.3*37.4
Packing Dimensions (W*D*H)	mm	815*800*990	1255*800*990	1695*800*990	
	in	32.1*31.5*39	49.4*31.5*39	66.7*31.5*39	
Loading Quantities	Container Load (20'/40'/40'H)	28/56/56	22/46/46	14/28/28	
Alarms	High/Low Temp	Y	Y	Y	
	Sensor Error	Y	Y	Y	
Accessories	Caster	Y	Y	Y	
	Porthole	Y	Y	Y	
Certification	CE	Y	Y	Y	

Product appearance and specifications are subject to change without notice

# -40°C Biomedical Freezer

This product is designed to store vaccines, blood plasma and many other biological materials. Suitable for scientific research institutes, blood stations, hospitals, centers for disease control and prevention, and material science, electronics and chemical laboratories.



**DW-40W138J/255J/380J**

## Scope of Application:



### Temperature Control

- Microcomputer control, digital temperature display, display precision is 0.1°C. Adjustable temperature set point -20°C--40°C
- User settable temperature alarms



### Safety System

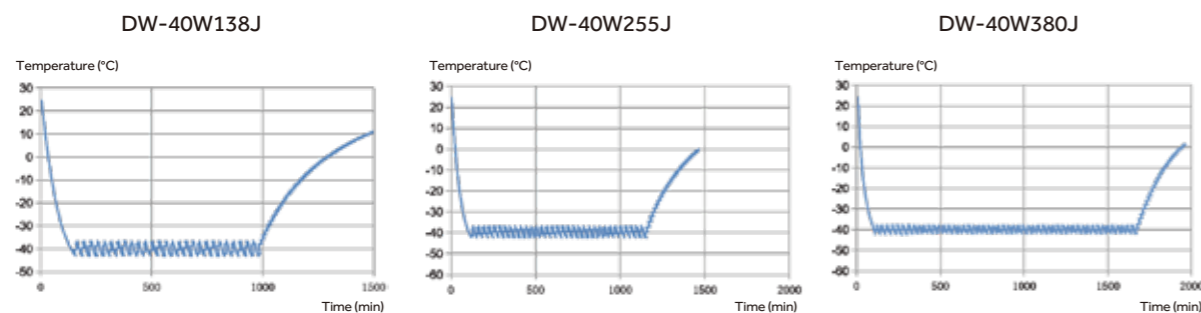
- Multiple alarms: high/low temperature alarm/sensor error alarm/power failure alarm. Optional high ambient warning and remote alarm contacts
- Battery backed-up alarm will alert for more than 24 hours in case of power failure
- Equipped with overcurrent protector for safety



### Refrigeration System

- Durable, market-leading brand compressors and EBM condensing fan ensure a high refrigeration efficiency and maximizes temperature performance
- High density insulation layer delivers superior insulation performance
- Evaporator and condenser design delivers excellent refrigeration efficiencies
- Non-toxic, environmentally-friendly hydrocarbon refrigerants

## Temperature Curve



## Specifications

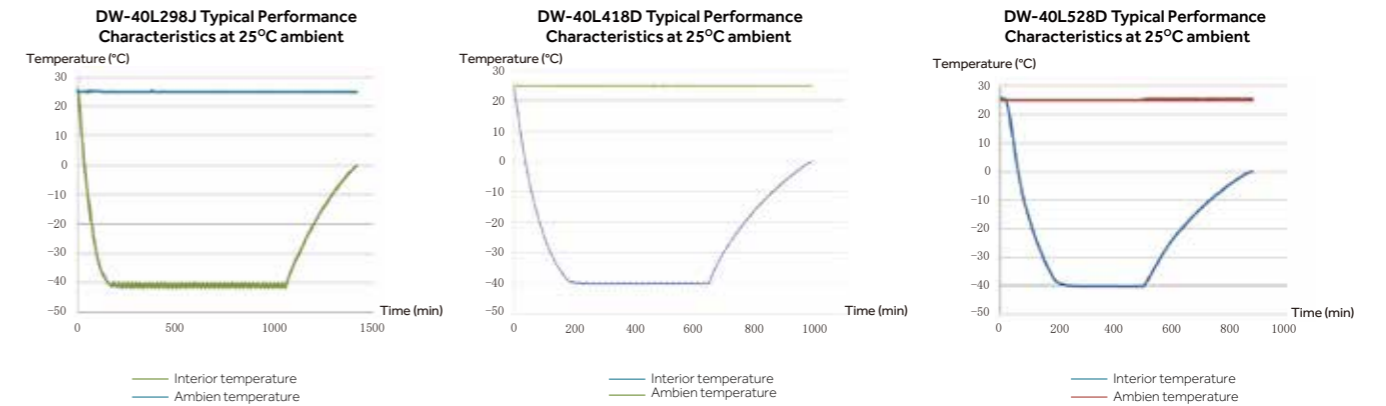
	Model	DW-40W138J	DW-40W255J	DW-40W380J	
Technical Data	Cabinet Type	Chest	Chest	Chest	
	Climate Class	SN N	SN N	SN N	
	Cooling Type	Direct cooling	Direct cooling	Direct cooling	
	Defrost Mode	Manual	Manual	Manual	
	Refrigerant	HC	HC	HC	
	Sound Level (dB(A))	42	42	42	
Performance	Cooling Performance (°C)	-40	-40	-40	
	Temperature Range (°C)	-20--40	-20--40	-20--40	
Control	Controller	Microprocessor	Microprocessor	Microprocessor	
	Display	LCD	LCD	LCD	
Electrical Data	Power Supply (V/Hz)	220-240/50	220-240/50	220-240/50	
	Power (W)	260	370	450	
	Electrical Current (A)	2.3	3.1	2.9	
Dimensions	Capacity (L/Cu.Ft)	138/3.9	255/9.0	380/13.4	
	Net/Gross Weight (approx)	kg	52/65	76/96	90/115
		lbs	114.6/143.3	167.5/211.6	198.4/253.5
	Interior Dimensions (W*D*H)	mm	580*445*620	1000*445*620	1450*445*620
		in	22.8*17.5*24.4	39.4*17.5*24.4	57.1*17.5*24.4
	Exterior Dimensions (W*D*H)	mm	790*770*950	1210*770*950	1655*770*950
		in	31.1*30.3*37.4	47.6*30.3*37.4	65.2*30.3*37.4
	Packing Dimensions (W*D*H)	mm	815*800*990	1255*800*990	1695*800*990
		in	32.1*31.5*39	49.4*31.5*39	66.7*31.5*39
	Container Load (20'/40'/40'H)		28/56/56	22/46/46	14/28/28
Alarms	High/Low Temperature	Y	Y	Y	
	Remote Alarm	Optional	Optional	Optional	
	Power Failure	Y	Y	Y	
	Sensor Error	Y	Y	Y	
	High Ambient Temperature	Optional	Optional	Optional	
Accessories	Caster	Y	Y	Y	
	Porthole	Y	Y	Y	
	USB Interface/RS485	Optional (USB or RS485, either-or)	Optional (USB or RS485, either-or)	Optional (USB or RS485, either-or)	
Others	Certificate	CE	CE	CE	

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

# -40°C Biomedical Freezer

Suitable for the storage of plasma, biological material, reagents and other essential items. Used within hospitals, disease prevention, academia and commercial laboratories.

## Temperature Curve



DW-40L298J/418D/528D

## Specifications

Model		DW-40L298J	DW-40L418D	DW-40L528D	
Technical Data	Cabinet Type	Upright	Upright	Upright	
	Climate Class	SN N	SN N	SN N	
	Cooling Type	Direct cooling	Direct cooling	Direct cooling	
	Defrost Mode	Manual	Manual	Manual	
	Refrigerant	HC	HC	HC	
	Sound Level (dB(A))	39.2	41.7	46.6	
Performance	Cooling Performance (°C)	-40	-40	-40	
	Temperature Range (°C)	-20~-40	-20~-40	-20~-40	
Control	Controller	Microprocessor	Microprocessor	Microprocessor	
	Display	LED	LED	LED	
Electrical Data	Power Supply (V/Hz)	220-240/50	220-240/50	220-240/50	
	Power (W)	570	640	630	
	Electrical Current (A)	4.1	4.2	5.7	
Dimensions	Capacity (L/Cu.Ft)	298/10.5	418/14.8	531/18.8	
	Net/Gross Weight	kg	125/140	145/165	180/205
		lbs	275.6/308.6	319.7/363.8	396.8/451.9
	Interior Dimensions (W*D*H)	mm	541*443*1218	554*620*1230	704*620*1230
		in	21.3*17.4*48.0	21.8*24.4*48.4	27.7*24.4*48.4
	Exterior Dimensions (W*D*H)	mm	770*710*1828	790*845*1878	940*845*1878
		in	30.3*28.0*72.0	31.1*33.3*73.9	37.0*33.3*73.9
	Packing Dimensions (W*D*H)	mm	832*757*1992	852*927*2044	997*927*2044
		in	32.8*29.8*78.4	33.5*36.5*80.5	39.3*36.5*80.5
	Container Load (20'/40'/40'H)		21/42/42	12/28/28	12/24/24
Alarms	High/Low Temperature	Y	Y	Y	
	Remote Alarm	Y	Y	Y	
	Power Failure	Y	Y	Y	
	Sensor Error	Y	Y	Y	
	Low Battery	Y	Y	Y	
	High Ambient Temperature	Y	Y	Y	
	Door Ajar	Y	Y	Y	
Accessories	Caster	Y	Y	Y	
	Foot	Y	Y	Y	
	Porthole	Y	Y	Y	
	Drawers/Inner Door	Optional/2	Optional/-	Optional/-	
	USB Interface	Optional	Optional	Optional	
	RS485	Optional	Optional	Optional	
Certification	Temperature Recorder	Optional	Optional	Optional	
	CE	Y	Y	Y	

### Scope of Application:

**HC energy-saving**  
High efficiency hydrocarbon compressor and refrigeration technology for a lower energy consumption

**Environmental protection**  
Hydrocarbon refrigerant, LBA foam polyurethane insulation layer

**Superior uniformity**  
With the optimized system design, the temperature uniformity of the characteristic point is  $\pm 3^{\circ}\text{C}$ , and the uniformity of the whole temperature zone is controlled within  $\pm 5^{\circ}\text{C}$

**Adjustable shelves**  
Built-in evaporator and adjustable shelves provides large available interior space. Users can store items of different sizes as needed

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## -40°C Biomedical Freezer (Double Doors Type)

The double door -40°C biomedical freezer models offer a large capacity storage space with rapid cooling. Integrated design of cold shelf and evaporator provides additional refrigeration efficiency. Designed to store vaccines, blood plasma and many other biological materials. Installations can be found in research institutions and clinical sites in the life science, pharma, biotech, medical and electronics sectors.

The DW-40L348 is based on the original work horse platform of DW-40L508. The new freezer model operates with two capillary tubes and is equipped with dual gaskets to improve the temperature uniformity through the chamber drastically. It can be installed to satisfy tougher application requirements in universities, research institutions and blood banks.



DW-40L508

DW-40L348



Control panel



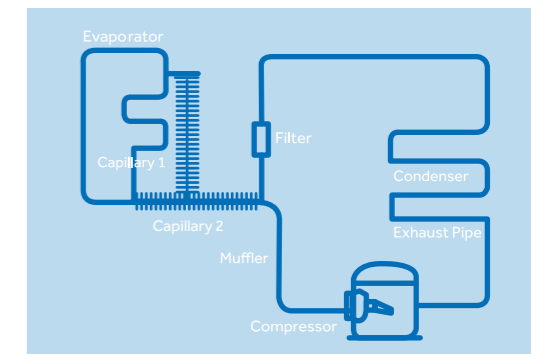
Drawer



Shelf

### Reliability and Key Features

- Rated for -40°C at 32°C ambient
- Rapid cooling with shelf evaporator
- Improved temperature uniformity with dual capillary tube design at the range of -20°C to -40°C
- Improved door seal design with two gaskets maintains cabinet temperature more efficiently
- Reduced frost buildup
- 90mm insulation thickness for additional robustness, less power consumption and better temperature retaining ability
- Drawer design maximizes storage space. One unit can hold 360 bags of 230 ml blood bags
- Optional USB interface



### Safety

- Multiple malfunction alarms include high/low temperature, power failure, sensor error, low battery, high ambient temperature
- Two types of alarms: buzzer and flashing light, remote alarm



### Ergonomic Design

- LED digital display for clear observation
- Double door design with independent locks reduces air leakage to ensure temperature stability and lower power consumption
- Tracks to label drawers for product identification



# -40°C Biomedical Freezer (Upright)



## Key Features

- Microprocessor control, adjustable temperature range :-20°C to -40°C
- LED digital display and increment at 0.1°C
- Permanently lubricated cooling fan for safety and longevity
- Rapid cooling with shelf evaporator
- Removable double outer door seal design, good sealing effect and energy saving

## Ergonomic Design

- USB data logging and temperature recorder (optional)
- Padlock with stainless steel cylinder for safe storage
- Drawers are designed with label holders for item identification

## Safety

- Multiple malfunction alarms include high/low temperature, sensor error, power failure, high ambient temperature, low battery, door ajar
- Alarm Types: buzzer, flashing light, remote alarm



Reliable Performance



USB



Malfunction Alarms



Double Outer Door Seal



Padlock



Caster and feet



Removable double outer door seal



## Reliability and Key Features

- High efficiency low temperature compressor with known field reliability
- Chemically stable, CFC-free, commercially available and environmentally safe refrigerant
- Permanently lubricated cooling fan for safety and longevity, high density insulation foam for stable and long term storage temperature
- Optimized refrigeration system designed to maximize cooling effect and temperature uniformity
- Microprocessor control, digital display, adjustable temperature range: -20°C--40°C
- LCD digital display for clear observation
- Wide voltage tolerance design with applicable voltage range of 198-252 V/AC



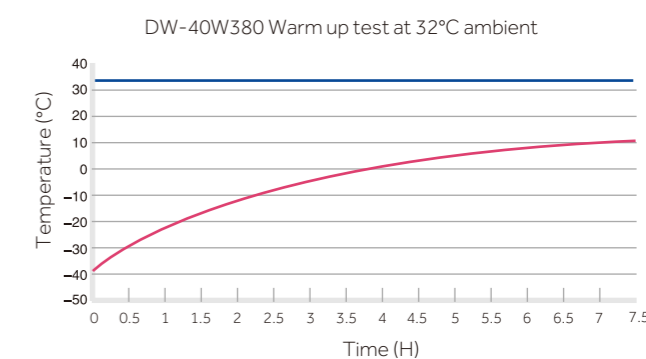
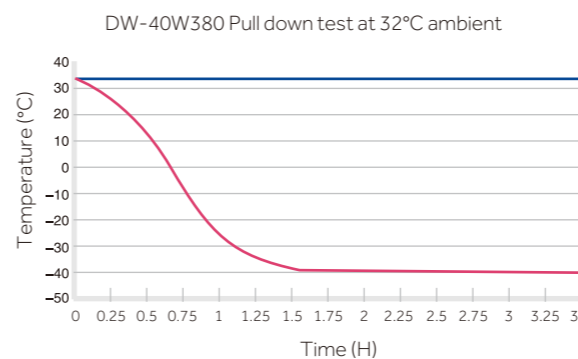
Inner

## Safety

- Multiple malfunction alarms to detect high / low temperature, sensor error and power failure
- Two types of alarm indications: audible buzzing and visual flashing light

## Ergonomic Design

- Door lock for storage safety
- Standard ø25mm access port for testing
- Corrosion proof cabinet interior design
- Suitable for a variety of storage baskets



**-40°C Biomedical Freezer****Specifications**

Model	DW-40L92	DW-40L262	DW-40L278	DW-40L348	DW-40L508	DW-40L568J	DW-40W138J	DW-40W255J	DW-40W380J		
Technical Data	Cabinet Type	Upright	Upright	Upright	Upright, Double Door	Upright, Double Door	Upright	Chest	Chest	Chest	
	Climate Class	SN N	SN N	SN N	SN N	SN N	SN N	SN N	SN N	SN N	
	Cooling Type	Direct cooling	Direct cooling	Direct Cooling	Direct Cooling	Direct Cooling	Direct cooling	Direct cooling	Direct cooling	Direct cooling	
	Defrost Mode	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual	
	Refrigerant	HC	HC CFC-Free	HC CFC-Free	HC	HC CFC-Free	HC	HC	HC	HC	
Performance	Sound Level (dB(A))	29	41 44	40 44	41	41 45	44	42	42	42	
	Cooling Performance (°C)	-40	-40	-40	-40	-40	-40	-40	-40	-40	
Control	Temperature Range (°C)	-20~-40	-20~-40	-20~-40	-20~-40	-20~-40	-20~-40	-20~-40	-20~-40	-20~-40	
	Controller	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	
Electrical Data	Display	LCD	LCD	LED	LED	LED	LCD	LCD	LCD	LCD	
	Power Supply (V/Hz)	220-240/50/60	220-240/50/60 115/60	220-240/50 220-240/50/60	220-240/50	220-240/50 208-230/60	220-240/50	220-240/50	220-240/50	220-240/50	
	Power (W)	340	310 600	275 370	280	285 510	340	260	370	450	
	Electrical Current (A)	2.2	2 7.5	2.9 5.1	2.9	2.9 5.6	2.8	2.3	3.1	2.9	
	Power Consumption(kWh/24h)	1.4	2.6 4.3	3.1 5.3	3.3	3.8 6.6	4	/	/	/	
Construction	Capacity (L/Cu.Ft)	92/3.2	262/9.3	278/9.8	348/12.3	490/17.3	568/20.1	138/3.9	255/9.0	380/13.4	
	Net/Gross Weight (approx)	kg	46/51	88/93	115/135	137/145	164/200	190/215	52/65	76/96	90/115
		lbs	101.4/112.4	194.0/205.0	253.5/297.6	302.0/320.0	361.6/440.9	418.9/474	114.6/143.3	167.5/211.6	198.4/253.5
	Interior Dimensions (W*D*H)	mm	435*410*635	480*465*1430	520*435*1230	535*610*1228	685*610*1228	610*755*1260	580*445*620	1000*445*620	1450*445*620
		in	17.1*16.1*25.0	18.9*18.3*56.3	20.5*17.1*48.4	21.1*24.0*48.3	27.0*24.0*48.3	24/29.7/49.6	22.8*17.5*24.4	39.4*17.5*24.4	57.1*17.5*24.4
	Exterior Dimensions (W*D*H)	mm	640*610*810	700*705*1665	770*710*1810	790*845*1860	940*845*1860	848*951*1780	790*770*950	1210*770*950	1655*770*950
in		25.2*24.0*31.9	27.6*27.8*65.6	30.3*28.0*71.3	31.1*33.3*73.2	37.0*33.3*73.2	33.4/37.4/70.1	31.1*30.3*37.4	47.6*30.3*37.4	65.2*30.3*37.4	
Packing Dimensions (W*D*H)	mm	660*700*900	775*760*1880	832*757*1992	852*927*2044	997*927*2044	900*1035*1910	815*800*990	1255*800*990	1695*800*990	
	in	26.0*27.6*35.4	30.5*29.9*74.0	32.8*29.8*78.4	33.5*36.5*80.5	39.3*36.5*80.5	35.4/40.7/75.2	32.1*31.5*39	49.4*31.5*39	66.7*31.5*39	
Loading Quantities	Container Load (20'/40'/40'H)	48/102/102	21/45/45	21/42/42	12/26/26	12/24/24	12/26/26	28/56/56	22/46/46	14/28/28	
Alarms	High/Low Temperature	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Remote Alarm	Y	Y	Y	Y	Y	Y	Optional	Optional	Optional	
	Power Failure	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sensor Error	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Low Battery	/	/	Y	Y	Y	/	/	/	/	
	High Ambient Temp	Y	Y	Y	Y	Y	Y	Optional	Optional	Optional	
	Door Ajar	Y	Y	Y	/	/	Y	/	/	/	
Accessories	Caster	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Foot	Y	Y	Y	Y	Y	Y	/	/	/	
	Porthole	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Drawers/Inner Doors	3/-	7/-	6/-	12/-	10/-	- / 2	/	/	/	
	USB Interface	Optional	Optional /	Optional	Optional	Optional	Optional	Optional	Optional	Optional	
	RS485	Optional	Optional	Optional	Optional	Optional	Optional	(USB or RS485, either-or)	(USB or RS485, either-or)	(USB or RS485, either-or)	
	Temperature Recorder	/	/	Optional	Optional	Optional	Optional	/	/	/	
Certification	CE	Y /	Y	Y	Y	Y	Y	CE	CE	CE	

# -30°C Biomedical Freezer

## Typical Installation and Application

Applicable for blood stations, hospitals, CDC's, scientific research institutes, chemical industry and other related industries. The -30°C Biomedical Freezer can cryopreserve plasma, biological products, components, materials, and other items that need to be kept at low temperature.



DW-30L1280F

## Product Advantages

Supersized double outer doors, 70mm insulation layer

Microcomputer control, LED digital temperature display with inside temperature accuracy of 0.1°C

**Safe lock**  
Electronic mortise lock design, with NFC clocking-in function (fingerprint optional)

**Standard USB port**  
Capable of storing more than 15 years of data



**Low noise**  
Optimal system and engine noise reduction design, the temperature can cool down to -30°C within 3 hours

**Casters and feet**  
4 omnidirectional casters + 2 level legs, easy to move, lock and level

**Bottom strainer drawable design**  
Easy to clean



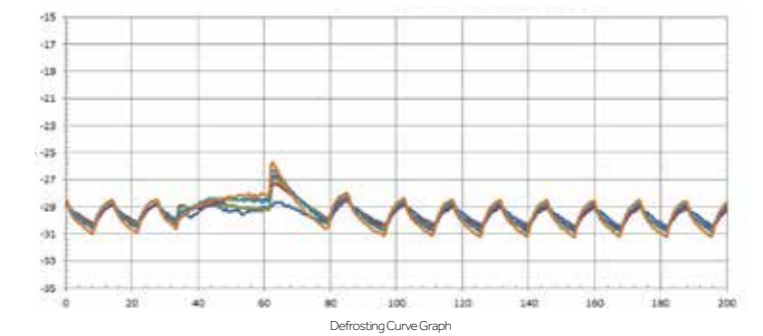
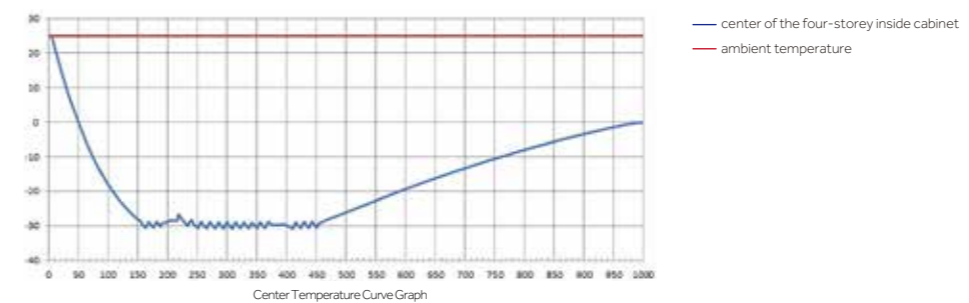
## Key Features

**Hydrocarbon energy saving: green and environmentally friendly**  
Using green and eco-friendly hydrocarbon refrigeration system, based on the principle of zero damage to the ozone layer with zero greenhouse effect, while reducing energy consumption to 8kW/24H.

**Intelligent defrosting: prolongs the defrosting cycle, safeguarding the stability of the storage temperature**  
Compared with traditional timed defrosting, the intelligent defrosting technology reduces the defrosting frequency by half, effectively draws down the temperature fluctuation caused by defrosting during the sample storage cycle by intelligently identifying the amount of frost on the evaporator.

**Dual independent refrigeration systems: Superior safety**  
Auto defrosting system+constant refrigeration system, has successfully solved the industries problem that inside temperatures rise sharply when fan cooling refrigerators defrost; If one system fails, the other one would reach -25 °c quickly, which doubles the safety of the sample; With air cooling technology, the inside uniformity can reach ±3 C (±5 C during the defrosting period).

**Advanced defrosting technology eradicates the hidden danger of electric leakage**  
Haier Biomedical applies full-automatic hot gas defrosting technology throughout the whole unit. Compared with heater wire defrosting technology, Haier Biomedical's technology eliminates the risk of electric leakage occurring due to wire aging, providing extra security and safety.



**Specifications**

Model		DW-30L1280F	
Technical Data	Cabinet Type	Upright	
	Climate Class	N	
	Cooling Type	Air cooling	
	Defrost Mode	Automatic (Evaporator), Manual (Inner cabinet & Door frame)	
	Refrigerant	HC	
	Noise (dB(A))	45.4(220V/50Hz)	
Performance	Cooling Performance (°C)	-30	
	Temp Range (°C)	-10~-30	
Control	Controller	Microprocessor	
	Display	LED	
Electrical Data	Power Supply (V/Hz)	220~240/50	
	Power (W)	900W (220V/50Hz)	
	Electrical Current (A)	4.5	
	Power Consumption (kWh/24h)	8	
Construction	Capacity (L/Cu.Ft)	1280/45.2	
	Net/Gross Weight(approx)	kg	420/480
		lbs	924/1056
	Interior Dimension(W*D*H)	mm	1320*752*1260
		in	52/29.6/49.6
	Exterior Dimension(W*D*H)	mm	1520*1065*1980
in		60/42/78	
Packing Dimension(W*D*H)	mm	1570*1080*2130	
	in	61.8/42.5/83.8	
Loading Quantities	Container Load (20'/40'/40'H)	7/14/14	
Alarms	High/Low Temperature	Y	
	Remote Alarm	Y	
	Power Failure	Y	
	Sensor Error	Y	
	Low Battery	Y	
	High Ambient Temperature	Y	
	Door Ajar	Y	
Accessories	Castor	Y	
	Foot	Y	
	Porthole	Y	
	Drawers	12	
	USB Interface	Y	
	RS485	Y	
Certification	CE	Y	

F suffix - Forced air cooling

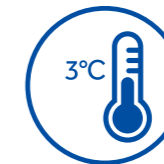
Product appearance and specifications are subject to change without notice

**Typical Installation and Application**

Suitable for sample storage within blood banks, hospitals, disease control centres, research institutes, electronic, chemical and other industries, cryopreservation of plasma, biologics and other products, also suitable for cold tests for components and materials.

**DW-30L818BP****Key Features****Energy saving with variable frequency inverter technology**

Optimized refrigeration system with a high efficiency inverter compressor to reduce energy consumption.

**Excellent temperature uniformity in a large storage space**

Features built-in evaporator, large storage space and adjustable shelf, providing faster temperature pulldown and a better temperature uniformity of set point  $\pm 3^{\circ}\text{C}$ .

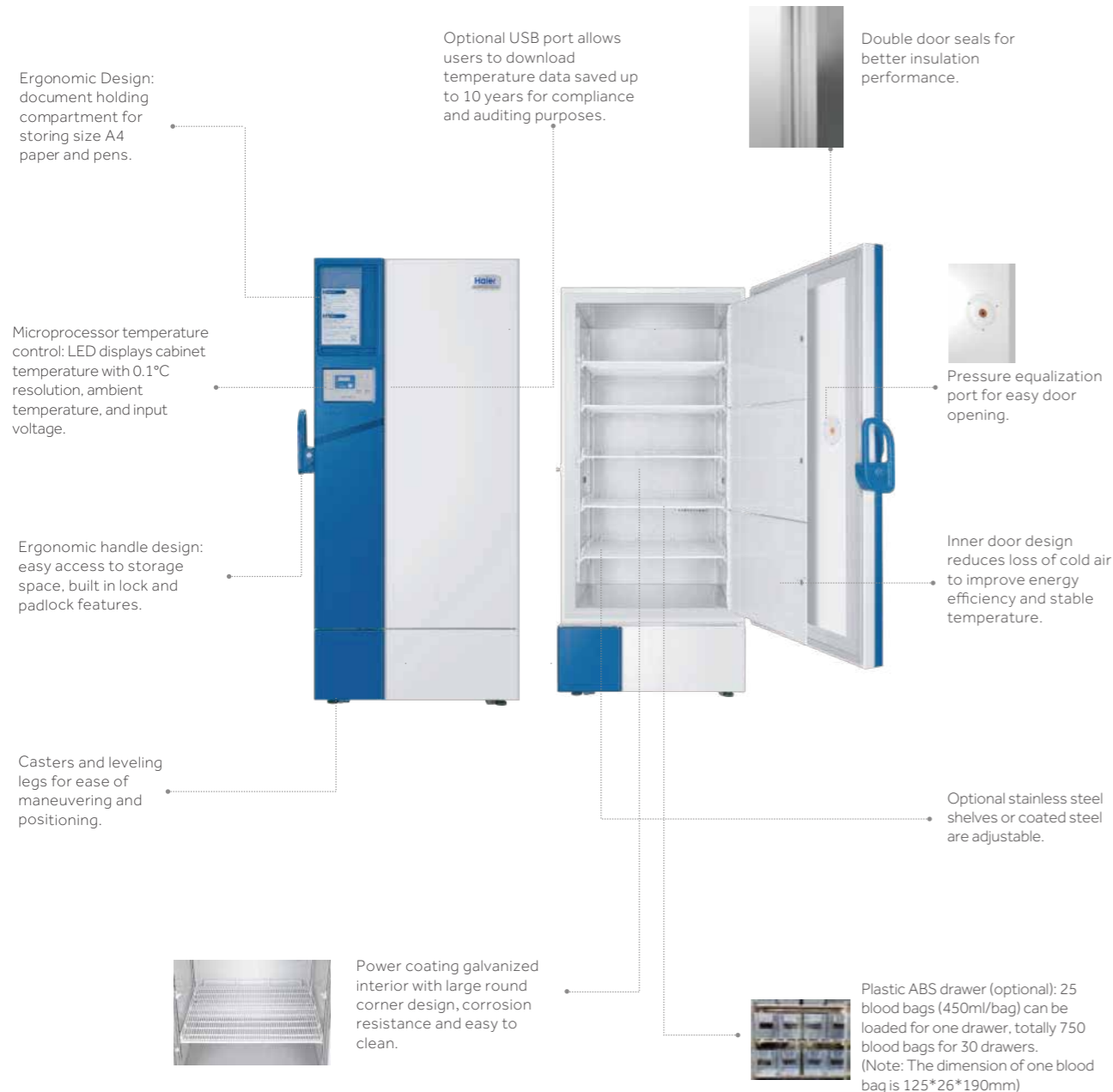
**Low noise**

Sound reduction design lowers the sound level to 37dB(A) at 220V/50Hz.

**Environment Friendly**

1)HC refrigeration system contains zero chlorine and fluorine, which is better for the environment.  
2)Urethane foam insulation complies with European ROHS regulation.

**Product Advantages**



DW-30L818BP

**Microprocessor Control System**

- Microprocessor-based temperature control.
- Large LED displays cabinet temperature with 0.1 °C resolution with adjustable temperature setting from -10 °C to -30 °C.
- Cabinet temperature, ambient temperature and voltage are shown on the panel.
- Alarm conditions include high and low temperature, sensor error, power failure, low battery, door ajar and high ambient.
- Alarm modes are audible and flashing lights. Remote alarm terminals are available.
- Battery supports display and alarm system for forty eight hours after power outage.
- Optional features are IoT module, USB port, temperature recorder and NFC swipe card functions.

**Insulation**

- 70 mm thick insulation.
- Inner doors for better thermal efficiency.

**Porthole**

- Two standard portholes allow ease of temperature testing.

**Security Lock**

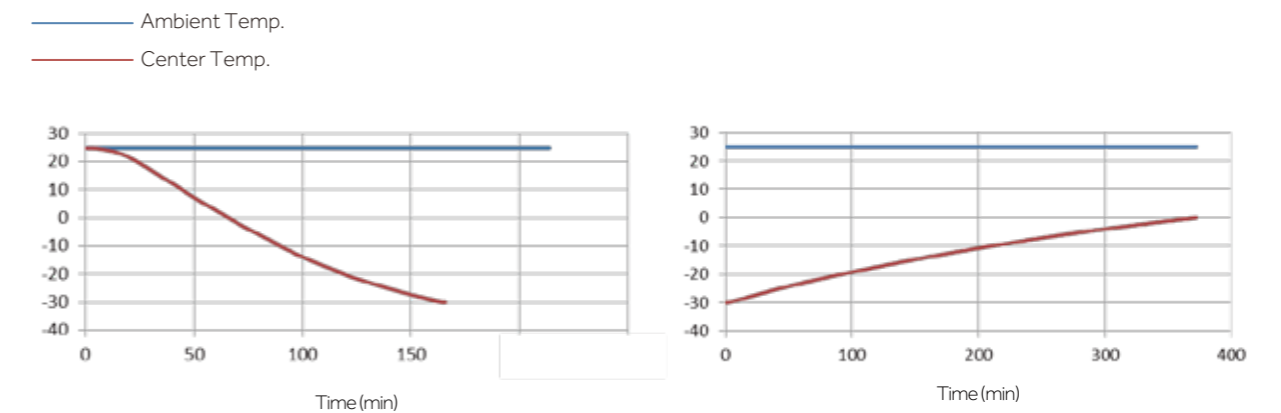
- Lock is standard. Magnetic lock is optional for added protection and security

**Temperature Recorder**

- Optional temperature recorder for temperature recording and compliance.



**Typical Performance Characteristics at 25°C ambient**



# -30°C Biomedical Freezer

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## Product Advantages

**Easy to clean and corrosion resistant**  
Electric zinc plate powder sprayed internal liner and large round corner design and coated steel plate exterior design ensure reliable corrosion prevention which is easy to clean.

Ergonomic handle design: easy access to storage space, built in lock and padlock features.

4 multi-directional casters and 2 lockable feet make it easy to move, level and lock in place.

Double seal design provides better insulation and saves energy.

Inner doors prevent rapid loss of cold air, saving energy and reducing temperature fluctuations.

**Flexible internal storage**  
Equipped with 5 plastic coated steel wire shelves with optional stainless steel shelves, which are adjustable to meet the different requirements of users.

Plastic ABS drawer (optional): 25 blood bags (450ml/bag) can be loaded for one drawer, totally 750 blood bags for 30 drawers.  
(Note: The dimension of one blood bag is 125\*26\*190mm)

Microcomputer electronic thermostat, LCD digital display of inside temperature, with 0.1°C display accuracy.

DW-30L818

## Specifications

	Model	DW-30L818	DW-30L818BP	
Technical Data	Cabinet Type	Upright	Upright	
	Climate Class	SN N	SN N	
	Cooling Type	Direct Cooling	Direct Cooling	
	Defrost Mode	Manual	Manual	
	Refrigerant	HC	HC	
	Sound Level (dB(A))	44	37 (220V/50Hz)	
Performance	Cooling Performance (°C)	-30	-30	
	Temp Range (°C)	-10--30	-10--30	
Control	Controller	Microprocessor	Microprocessor	
	Display	LCD	LED	
Electrical Data	Power Supply (V/Hz)	220-240/50	100-230/50/60	
	Power (W)	380	680	
	Electrical Current (A)	2.8	7.7	
	Power Consumption (kWh/24h)	3.5	3.3	
Construction	Capacity (L/Cu.Ft)	818/28.8	818/28.8	
	Net/Gross Weight (approx)	kg	205/235	210/240
		lbs	451.9/518.1	463.0/529.1
	Interior Dimension (W*D*H)	mm	750*755*1460	750*755*1460
		in	29.5*29.7*57.5	29.5/29.7/57.5
	Exterior Dimension (W*D*H)	mm	988*951*1980	988*951*1980
in		38.9/37.4/78.0	38.9/37.4/78.0	
Packing Dimension (W*D*H)	mm	1040*1060*2150	1040*1060*2150	
	in	40.9/41.7/84.6	40.9/41.7/84.6	
Loading Quantities	Container Load (20'/40'/40'H)	10/22/22	10/22/22	
	High/Low Temperature	Y	Y	
Alarms	Remote Alarm	Y	Y	
	Power Failure	Y	Y	
	Sensor Error	Y	Y	
	Low Battery	/	Y	
	High Ambient Temperature	Y	Y	
	Door Ajar	Y	Y	
	Castor	Y	Y	
Accessories	Foot	Y	Y	
	Porthole	Y	Y	
	Inner Doors	3	3	
	Temperature Recorder	Optional	Optional	
	USB Interface	Optional	Optional	
	RS485 Port	Optional	Y	
	Certification	CE	Y	Y

BP suffix - Variable frequency inverter compressor

Product appearance and specifications are subject to change without notice

# -30°C Biomedical Freezer (Upright)

This freezer is designed for storage of critical and temperature sensitive biological samples, laboratory products and medical products in institutions such as blood banks, hospitals and research laboratories.



## Key Features

- Forced air and auto defrost design: -30°C storage temperature with automatic defrost cycles guided by time and temperature, ensure maximum temperature stability and minimize energy use
- High-performance refrigeration system: achieves excellent temperature uniformity with intelligent operation control at -30°C
- Microprocessor control with digital display: 0.1°C control increments, adjustable range of -10°C to -30°C



Door lock and padlock



Backup battery protection



USB



Malfunction Alarms

## DW-30L420F



Drawer (Optional)



Microprocessor control panel



Air distribution



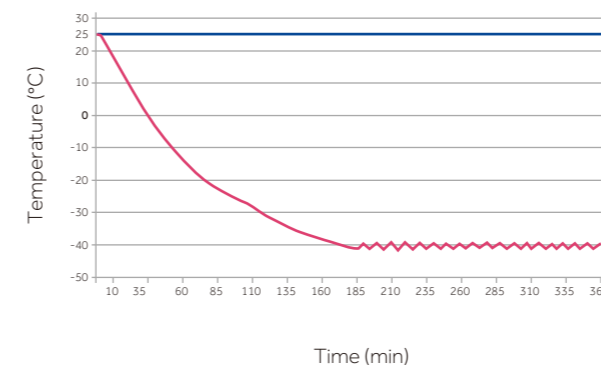
## Safety

- Alarm system includes audible and visual alerts. Alarms include high and low temperature, sensor error, power failure, door ajar, low battery and high ambient temperature. Remote contacts are standard
- Backup battery provides continuous monitoring and displays the interior temperature for up to 48hrs in the event of a mains power failure
- Standard USB port on DW-30L420F allows users to download temperature data
- Lockable door with padlock for added sample security

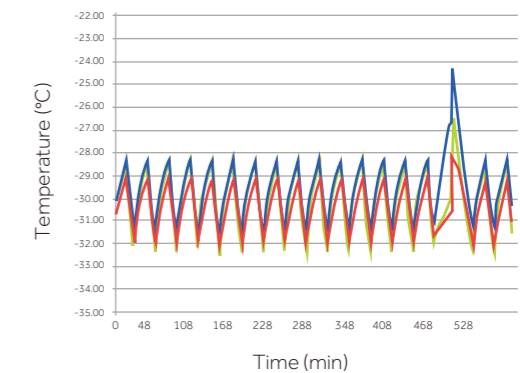
## Ergonomic Design

- Self-closing door with 90° stay-open feature conserves energy and helps maintain temperature uniformity to protect your valuable samples
- Corrosion-free interior brushed stainless steel liner and exterior coated steel plate
- 5 adjustable stainless steel shelves and optional drawer
- Casters and levelling legs, easy to move and lock

Pull down test at 25°C ambient



Temperature Uniformity



\*Freezer set-point -30 °C, ambient temperature 25 °C



## -30°C Biomedical Freezer

Haier Biomedical -30°C biomedical freezer with smart control and energy-saving hydrocarbon refrigeration system for safe and reliable product storage.



DW-30L278



DW-30L508

### Application

Biomedical and life science laboratories within blood banks, hospitals, disease control centres and research institutes as well as electronics and chemical industries. Used for cryopreservation of plasma, biological samples and other products and cold tests for components and materials.

### Advantages

- **High-efficiency and energy-saving compressor and refrigeration system**

Industrial grade energy-saving compressor and optimized cooling system reduces power consumption by more than 55% compared with older models.

- **Green and environmentally friendly**

Hydrocarbon refrigerant compressor system and use of hydrocarbon refrigerants makes the refrigeration system completely green and environmental friendly. Built with isopentane foam polyurethane insulation, which complies with European RoHS Directive.

- **Superior temperature uniformity**

Evaporator-shelf design speeds up the cooling process and provides a more uniform temperature distribution. The temperature uniformity at specific points throughout the unit is  $\pm 4^{\circ}\text{C}$ .

- **Low sound level**

Sound-reducing design with optimized system reduces the sound level, smoother operation eliminates high-pitched noise.

### Key Features



- **Microprocessor control system:**

- Microprocessor temperature controller, LCD temperature display, display accuracy at  $0.1^{\circ}\text{C}$ .
- Adjustable temperature setting from  $-10^{\circ}\text{C}$  to  $-30^{\circ}\text{C}$
- Multiple alarm functions including high temperature alarm, low temperature alarm, sensor error alarm and power failure alarm
- Sound and flash alarm
- Alarm lasts for more than 24 hours after power failure



- **Excellent temperature-retaining ability**

High efficient insulation and double-sealing design improves temperature performance, energy efficiency and system reliability



- **Lock**

Lock latch and key lock double-lock design provides an extra level of security



- **Porthole**

Porthole design is standard



- **Recorder**

Optional chart temperature recorder available

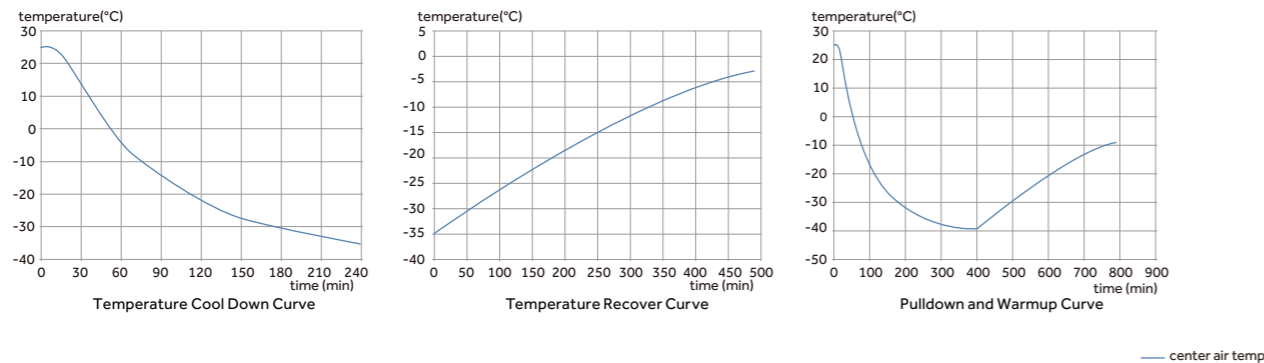


# -30°C Biomedical Freezer



DW-30L508

### DW-30L508 | TYPICAL PERFORMANCE CHARACTERISTICS AT 25°C AMBIENT



## Specifications

Model	DW-30L420F		DW-30L278	DW-30L508	
Technical Data	Cabinet Type	Upright		Upright	Upright, Double Door
	Climate Class	SN N		SN N	SN N
	Cooling Type	Forced air Cooling		Direct Cooling	Direct Cooling
	Defrost Mode	Automatic (Evaporator), Manual (Inner cabinet & Door frame)		Manual	Manual
	Refrigerant	HC		HC	HC
	Sound Level (dB(A))	46	40	41	43
Performance	Cooling Performance (°C)	-30		-30	-30
	Temperature Range (°C)	-10--30		-10--30	-10--30
Control	Controller	Microprocessor		Microprocessor	Microprocessor
	Display	LED		LCD	LCD LED
Electrical Data	Power Supply (V/Hz)	220-240/50	208-230/60	220-240/50	220-240/50 115/60
	Power (W)	460/1000(Defrost)		330	530 600
	Electrical Current (A)	4.0/5.8(Defrost)		2	3 5.4
	Power Consumption (kWh/24h)	4.6	5.3	2.3	2.8 2.8
Construction	Capacity (L/Cu.Ft)	420/14.8		278/9.8	490/17.3
	Net/Gross Weight (approx)	kg	195/225	115/135	164/200
		lbs	429.9/496.0	253.7/297.7	361.6/440.9
	Interior Dimension (W*D*H)	mm	685*610*1028	520*435*1230	685*610*1228
		in	27.0*24.0*40.5	20.5*17.1*48.4	27.0*24.0*48.3
	Exterior Dimension (W*D*H)	mm	950*920*1900	745*675*1810	915*810*1860
in		37.4*36.2*74.8	29.3*26.6*71.3	36.0*31.9*73.2	
Packing Dimension (W*D*H)	mm	980*935*2040	805*725*1970	980*905*2040	
	in	38.6*36.8*80.3	31.7*28.5*77.6	38.6*35.6*80.3	
Loading Quantities	Container Load (20'/40'/40'H)	12/24/24		23/46/46	12/26/26
Alarms	High/Low Temperature	Y		Y	Y
	Remote Alarm	Y		/	/ Y
	Power Failure	Y		Y	Y /
	Sensor Error	Y		Y	Y
	Low Battery	Y		/	/
	High Ambient Temperature	Y		/	/
	Door Ajar	Y		/	/
	Caster	Y		Y	Y
Accessories	Foot	Y		Y	Y
	Porthole	Y		Y	Y
	Drawers/Inner Doors	-/3	6/-	6/-	10/-
	Temperature Recorder	Optional		Optional	Optional
	USB Interface	Y	Optional	/	/
	RS485	Optional		/	/
Certifications	CE	Y	/	Y	Y /
	UL	/	/	/	/ Y

Product appearance and specifications are subject to change without notice

# -25°C Biomedical Freezer

The Haier Biomedical -25°C biomedical freezer maximises storage space. Integrated cold shelf and evaporator design provides maximum refrigeration efficiency.



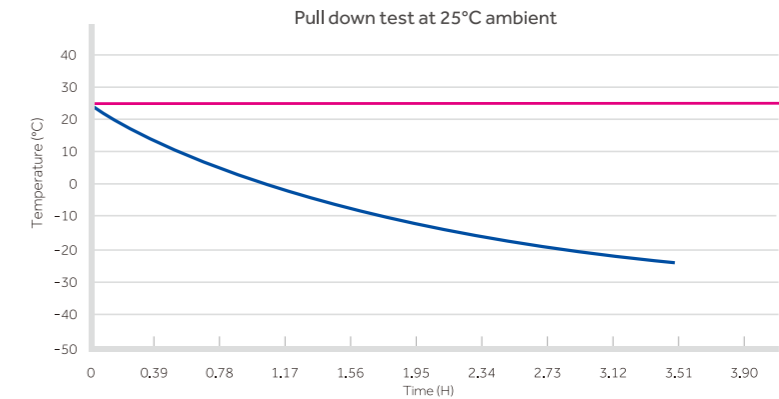
DW-25L92/262

## Reliability and Key Features

- Chemically stable, HC commercially available and environmentally safe refrigerant
- High density foam insulation for rigidity and stable storage temperature
- Microprocessor control, digital display, adjustable temperature range: -10°C~-25°C
- LED digital display for clear observation
- Wide voltage tolerance design with applicable voltage range of 187~242 V/AC

## Safety

- Multiple malfunction alarms including high low temperature, sensor error
- Two types of alarm indications: audible buzzing and visible flashing light
- Door lock for storage safety
- Storage drawer



## Specifications

	Model	DW-25L92		DW-25L262		
Technical Data	Cabinet Type	Upright		Upright		
	Climate Class	SN N		SN N		
	Cooling Type	Direct Cooling		Direct Cooling		
	Defrost Mode	Manual		Manual		
	Refrigerant	HC		HC		
	Sound level ((dB(A))	27	28	34	34	
Performance	Cooling Performance (°C)	-25		-25		
	Temperature Range (°C)	-10~-25		-10~-25		
Control	Controller	Microprocessor		Microprocessor		
	Display	LCD		LCD		
Electrical Data	Power Supply (V/Hz)	220~240/50	115/60	220~240/50	115/60	
	Power (W)	255	125	270	135	
	Electrical Current (A)	1.2	1.8	1.4	2.6	
	Power Consumption (kWh/24h)	0.65	0.49	0.95	0.73	
Construction	Capacity (L/Cu.Ft)	92/3.2		262/9.3		
	Net/Gross Weight (approx)	kg	46/51		88/93	
		lbs	101.4/112.4		194.0/205.0	
	Interior Dimensions (W*D*H)	mm	435*410*635		480*465*1430	
		in	17.1*16.1*25.0		18.9*18.3*56.3	
	Exterior Dimensions (W*D*H)	mm	640*610*810	700*705*1665	700*705*1730	
in		25.2*24.0*31.9	27.6*27.8*65.6	27.6*27.8*68.1		
Packing Dimensions (W*D*H)	mm	660*700*900	775*760*1880	775*760*1890		
	in	26.0*27.6*35.4	30.5*29.9*74.0	30.5*29.9*74.4		
Loading Quantities	Container Load (20'/40'/40'H)	48/108/108		21/45/45		
Alarms	High/Low Temp	Y		Y		
	Sensor Error	Y		Y		
	Door Ajar	Y		Y		
	Remote Alarm	Y		Y		
Accessories	Caster	Y		Y		
	Foot	Y		Y		
	Porthole	Y		Y		
	Drawers	3		7		
Certifications	USB Interface	Optional	/	Optional	/	
	RS485	Optional		Optional		
	CE	Y	/	Y	/	
UL	/	Y	/	Y		

Product appearance and specifications are subject to change with out notice



Spark Free  
Refrigerator/Freezer



### Typical Installation

Spark free refrigerators are installed typically in many different laboratories and research facilities to store chemical or experimental reagents that are flammable, explosive, evaporative or corrosive.



### Product Advantages

#### ATEX II C-T6 E.U. Explosion Proof Certification

Explosion proof features include antistatic liner, gasket, explosion proof fan motor, over current and voltage protection. ATEX II C-T6 explosion proof certification for Haier's Laboratory refrigerator ensures safety in your work place.

#### 3~16°C Setting Temperature Range

Smart temperature control system limits the temperature variance within  $\pm 3^{\circ}\text{C}$ . Adjustable set point for the range of  $3^{\circ}\text{C} \sim 16^{\circ}\text{C}$ , factory default set temperature is  $5^{\circ}\text{C}$ , controlling the temperature inside the chamber is  $2 \sim 8^{\circ}\text{C}$ .

#### One-touch Search for Historic Data

The highest and lowest historic temperature data is saved and can be checked with one key stroke.

#### High Efficiency HC Cooling Technology

The hydrocarbon refrigeration system operates at a much higher efficiency and reduces the energy consumption by about 50 percent.

### Ergonomic Design

#### High Strength Glass Shelves

Tempered glass shelves hold 40 kg of products per shelf.

#### Low Noise

Noise cancelling technology reduces the sound level to less than 40 dB(A) for a much-improved environment.



#### Dual Lock Design with Multiple Alarm Systems

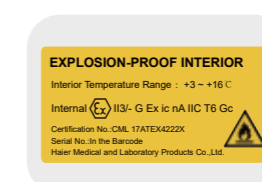
A mortise lock is standard on the door. Standard alarms include high and low temperature, door ajar, and sensor errors.



Cabinet Structure



Glass Shelve



ATEX Certification Label



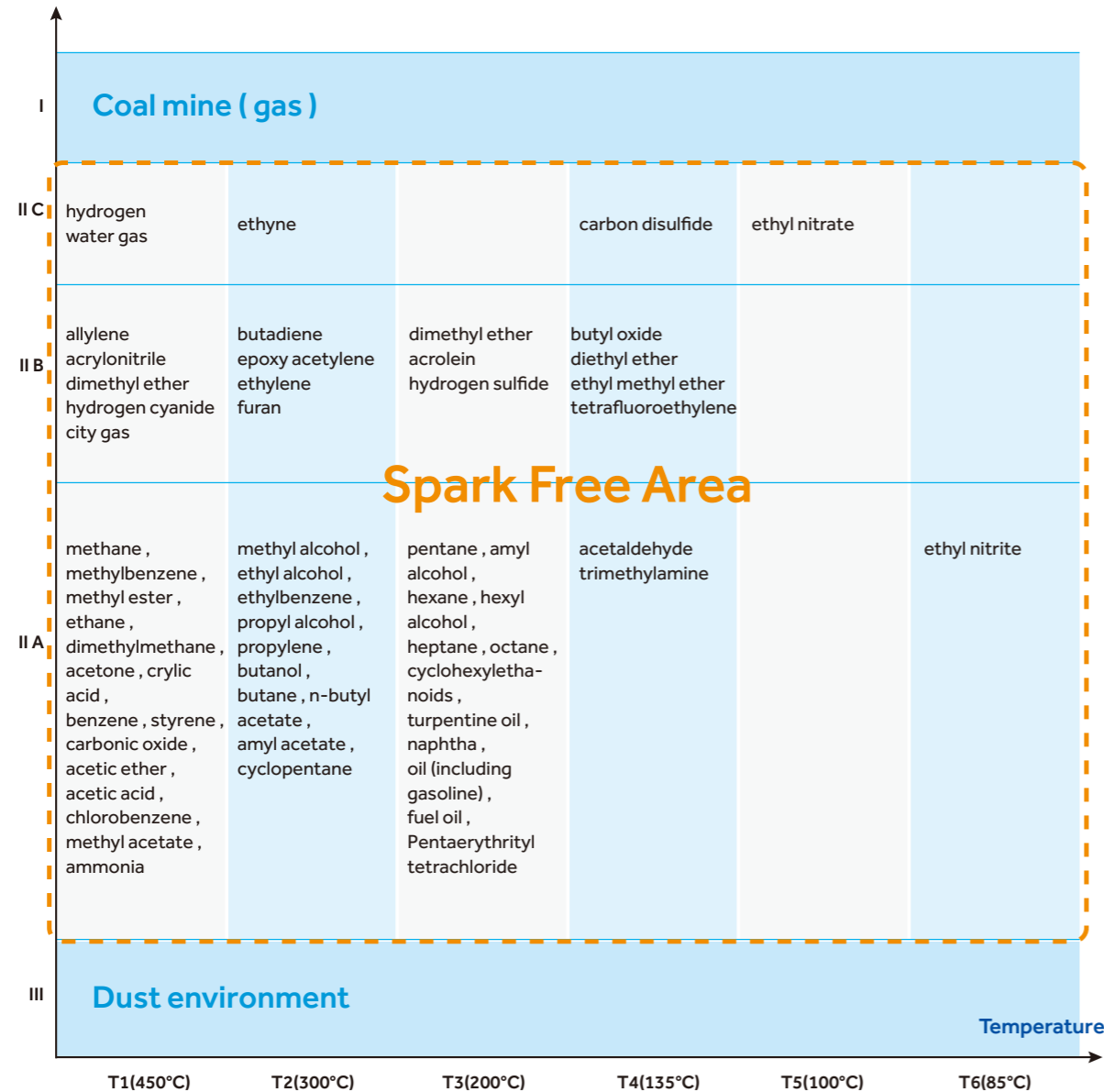
Explosion Proof Cabinet/Fan

# Spark Free Refrigerator

## Application Range

Haier spark free refrigerators are ATEX certified in the application range II 3G Ex ic nA II T6, which means the appliances can be found in the whole II zone environment (including II A and II B, II C), a typical environment within many biochemistry laboratories.

### Explosive-proof Rating



## Specifications

Model	HLR-118SF	HLR-310SF	HLR-118FL	HLR-310FL	
Type	Under-Counter	Upright	Under-Counter	Upright	
Climate Class	N	N	N	N	
Cooling Type	Forced Air Cooling	Forced Air Cooling	Forced Air Cooling	Forced Air Cooling	
Defrost Mode	Auto	Auto	Auto	Auto	
Refrigerant	R600a	R600a	R600a	R600a	
Sound Level (dB(A))	40	40	40	40	
Temperature Range (°C)	3-16°C Adjustable	3-16°C Adjustable	3-16°C Adjustable	3-16°C Adjustable	
Ambient Temperature (°C)	16-32	16-32	16-32	16-32	
Controller	Microprocessor	Microprocessor	Microprocessor	Microprocessor	
Display	LED	LED	LED	LED	
Power Supply (V/Hz)	220-240/50	220-240/50	220-240/50	220-240/50	
Power (W)	55	210	55	210	
Electrical Current (A)	1.2	1.26	1.2	1.26	
Power Consumption (kWh/24h)	0.56	1.05	0.56	1.05	
Capacity (L/Cu.Ft)	118/4.2	310/10.9	118/4.2	310/10.9	
Net/Gross Weight (approx)	kg	44/49	72/83	44/49	
	lbs	97/108	158.7/183	97/108	158.7/183
Interior Dimensions (W*D*H)	mm	515*415*630	560*500*1290	515*415*630	560*500*1290
	in	20.3*16.3*24.8	22.0*19.7*50.8	20.3*16.3*24.8	22.0*19.7*50.8
Exterior Dimensions (W*D*H)	mm	597*635*810	605*598*1840	597*635*810	605*598*1840
	in	23.5*25*31.9	23.8*23.6*73.6	23.5*25*31.9	23.8*23.6*73.6
Packing Dimensions (W*D*H)	mm	680*690*910	660*670*2020	680*690*910	660*670*2020
	in	26.8*27.2*35.8	26*26.4*79.5	26.8*27.2*35.8	26*26.4*79.5
Container Load (20'/40'/40'H)	48/96/96	24/51/51	48/96/96	24/51/51	
High/Low Temperature	Y	Y	Y	Y	
Sensor Error	Y	Y	Y	Y	
Door Ajar	Y	Y	Y	Y	
Caster	2	4	2	4	
Foot	2	2	2	2	
Shelves/Baskets	2/1	4/0	2/1	4/0	
Water Tray	1	1	1	1	
Padlock Adapter Kit/Quantity	/	1	/	1	
Built-in Key Door Lock/Quantity	1	1	1	1	
CE	Y	Y	Y	Y	
ATEX	Y	Y	Y	Y	

Product appearance and specifications are subject to change without notice

**Warning: Do not store open containers of volatile substances in this refrigerator.**

**-30°C Spark Free Freezer**

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**Typical Installation**

It can be used for safe storage of potentially flammable items and other temperature sensitive samples at low temperatures. Applications found within life science, medical, electronics and chemical industries.



DW-30L278SF



DW-30L278SF/FL

**Product Advantages****Explosion Proof Interior**

The SF series is composed of a non-anti-static liner, door lining and drawers; the FL series is composed of an anti-static liner, door lining and drawers. Equipped with an overcurrent and overvoltage protection system with all components earthed to ensure static is discharged safely. Certified to ATEX IIC-T6 EU and can be used in zone 2 environments.

**Hydrocarbon Energy-saving**

- Utilizing a hydrocarbon compressor and hydrocarbon refrigerant resulting in a more eco-friendly refrigeration system.
- Cyclo-isopentane foaming polyurethane insulation and manufactured with materials that comply with the European ROHS directive for environmental protection.
- The hydrocarbon energy-saving and high-efficiency compressor results in an optimized refrigeration system which is more energy efficient than older models.

**Excellent Temperature Uniformity**

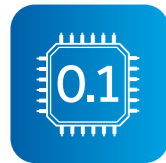
An evaporator shelf design is adopted inside the freezer whereby the evaporation plate serves as a shelf, to ensure faster cooling and a more uniform temperature. The temperature uniformity at points throughout the unit is  $\pm 4^{\circ}\text{C}$ .

**Low Noise**

Cabinet structure and refrigeration system noise reduction design lowers noise level to less than 40dB(A) and eliminating any harsh high-frequency noises.

**Laboratory Deep Freezer with explosion-proof interior**  
 Interior Temp. Range : -10 ~ -25 °C (DW-25L92FL/SF)  
 -10 ~ -30 °C (DW-30L278FL/SF)  
 Internal  $\text{Ex}$  II3/- G Ex ic IIC T6 Gc  
 Certification No.: CML 18ATEX4058X  
 Serial No.: In the Barcode  
 Haier Medical and Laboratory Products Co., Ltd.

**Anti-static operating instruction**  
 1. Clean plastic parts with a damp cloth only.  
 2. Do not use a dry cloth to clean plastic parts.  
 3. Danger of sparks due to electrostatic discharge.  
 4. Warning - potential electrostatic charging hazard - see instructions.

**-30°C Spark Free Freezer****125/126****Key Features****Microprocessor-controlled system**

- Microprocessor electronic thermostat, LCD temperature display to an accuracy of 0.1°C;
- Adjustable set point of between -10~-30°C;
- Alarm functions include a high and low temperature alarm, sensor error alarm and power failure alarm;
- Audible and visual alarm;
- Display/Alarm is battery backed up for 24 hours in the event of a power failure.

**Good thermal insulation**

The super-thick insulation layer and removable door gasket design improves the thermal insulation and energy-saving effects to enhance the reliability of the freezer.

**Safety lock**

Dual-lock design of lock catch and key lock. An external padlock can be added for additional security.

**Warning sticker**

The SF series adopts the non-anti-static liner and front-operated yellow warning sticker to warn users about safe operation requirements and ensure safe use.

**Drawers**

The SF series of freezer are provided with six plastic drawers and the FL series are provided with six drawers made of anti-static materials. Each drawer has a warning sticker slot to meet different storage and identification requirements.

**Caster**

Caster and levelling feet design, easy to move and fix in place.

**Specifications**

Model	DW-30L278SF		DW-30L278FL		
Technical Data	Cabinet Type	Upright		Upright	
	Climate Class	SN N		SN N	
	Cooling Type	Direct Cooling		Direct Cooling	
	Defrost Mode	Manual		Manual	
	Refrigerant	HC		HC	
	Sound Level(dB(A))	40		40	
Performance	Cooling Performance(°C)	-30		-30	
	Temperature Range (°C)	-10~-30		-10~-30	
Control	Controller	Microprocessor		Microprocessor	
	Display	LCD		LCD	
Electrical Data	Power Supply(V/Hz)	220-240/50		220-240/50	
	Power(W)	330		330	
	Electrical Current(A)	2.0		2.0	
Construction	Capacity(L/Cu.Ft)	278/9.8		278/9.8	
	Net/Gross Weight(approx)	kg	115/135		115/135
		lbs	254/298		254/298
	Interior Dimensions(W*D*H)	mm	520*435*1230		520*435*1230
		in	20.5*17.1*48.4		20.5*17.1*48.4
	Exterior Dimensions(W*D*H)	mm	745*675*1810		745*675*1810
		in	29.3*26.6*71.3		29.3*26.6*71.3
	Packing Dimensions(W*D*H)	mm	805*725*1970		805*725*1970
in		31.7*28.5*77.6		31.7*28.5*77.6	
Loading Quantities	Container Load (20'/40'/40'H)	23/46/46		23/46/46	
Alarms	High/Low Temperature	Y		Y	
	Remote Alarm	/		/	
	Power Failure	Y		Y	
	Sensor Error	Y		Y	
	Door Ajar	/		/	
Accessories	Caster	Y		Y	
	Foot	Y		Y	
	Drawers/Inner Doors	6/-		6/-	
Others	Certification	CE ATEX		CE ATEX	
	Interior Material/Colour	PS Plate/Grey		Antistatic PS Plate/Black	

Product appearance and specifications are subject to change without notice





**Laboratory  
Refrigerator**

# Laboratory Refrigerator

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## Typical Installation

Used to store chemicals, reagents and consumables within laboratories and research facilities.

## Product Advantages

### Precise Control of Temperature

Adjustable set temperature range is 3°C to 16°C. A smart temperature control system keeps the internal temperature variation within  $\pm 3^\circ\text{C}$  inside the chamber.

### High Efficiency HC Cooling Technology

The hydrocarbon refrigeration system operates at a much higher efficiency and reduces the energy consumption by about 50 percent.

## Ergonomic Design

### One-touch search for historic data

The highest and lowest historic temperature data is saved and can be checked with one key stroke.

### Low Noise

Noise cancelling technology reduces the sound level to less than 40 dB(A) for an improved working environment.

### Automatic Door Closing Function

### High Strength Glass Shelves

Tempered glass shelves hold 20 kg of products per shelf.

### Dual lock design with multiple alarm systems

A mortise lock is standard on the door with option to add a padlock for additional security. Standard alarms include high and low temperature, door opening, and sensor errors.



Cabinet Structure



Glass Shelf



Fan/Interior Light



Display Board

## Specifications

	Model	HLR-310F	
Technical Data	Type	Upright	
	Climate Class	N	
	Cooling Type	Forced Air Cooling	
	Defrost Mode	Auto	
	Refrigerant	R600a	
	Sound Level (dB(A))	40	
Performance	Temperature Range (°C)	3-16 Adjustable	
	Ambient Temperature (°C)	16-32	
Control	Controller	Microprocessor	
	Display	LED	
Electrical Data	Power Supply (V/Hz)	220-240/50	
	Power (W)	225	
	Electrical Current (A)	1.6	
	Power Consumption (kWh/24h)	1.05	
Construction	Capacity (L/Cu.Ft)	310/10.9	
	Net/Gross Weight (approx)	kg	72/83
		lbs	158.7/183
	Interior Dimensions (W*D*H)	mm	560*500*1290
		in	22.0*19.7*50.8
	Exterior Dimensions (W*D*H)	mm	605*598*1840
		in	23.8*23.6*73.6
	Packing Dimensions (W*D*H)	mm	660*670*1920
in		26.0*26.4*75.6	
Loading Quantities	Container Load (20'/40'/40'H)	24/51/51	
Alarms	High/Low Temperature	Y	
	Sensor Error	Y	
	Door Ajar	Y	
Accessories	Caster	4	
	Foot	2	
	Porthole	Y	
	Shelves	4	
	Temperature Setting Mode	Password Protection	
Certification	Temperature Sensor	1 Resistance Thermometer	
	CE	Y	

Product appearance and specifications are subject to change without notice

# Fluid Warming Cabinet

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## Application

Heating applications include warming of liquid medicine, nutrient solution, rinsing liquid and physiological saline. Installations can be found in operating rooms, ICU, emergency rooms, wards and other related areas.

## Product Features

- Fast heating speed: variable power PTC heating module with fast heating speed and energy saving.
- UV sterilization: UV light sterilization in the cabinet with a variety of optional sterilization methods for effective prevention of possible contamination.
- Multiple overheat protections: electronic control + mechanical temperature control + overheat protection, multiple temperature control to ensure heating safety.
- Environmentally friendly: no compressor or external fan, extremely quiet with no disturbance to the airflow in the operating room and no effect on temperature, reduces risks of cross-contamination.

## Product Advantages

- Fast and efficient heating.
- Standard UV sterilization for effective sterilization and other sterilization options available.
- Multiple over heating protections to ensure product viability.
- Two-sensor.

## Ergonomic Design

- Large and clear 7-inch LCD touch screen.
- Easy to clean stainless steel interior and flat external surfaces.
- Multiple alarms for over-heating protection.



Internal Structure



7 Inch LCD Screen



UV Sterilization Lamp

## Specifications

Model		HYR-111	
Technical Data	Cabinet Type	Upright, one glass door	
	Climate Class	SN	
	Warming Type	Forced air warming	
	Sound Level (dB(A))	42	
Performance	Temperature Range (°C)	26°C-50°C, above ambient temperature	
Control	Controller	Microprocessor	
	Display	LCD Touch Screen	
Electrical Data	Power Supply (V/Hz)	220/50	
	Power(W)	130	
	Power Consumption (kWh/24h)	0.59	
Construction	Capacity (L/Cu.Ft)	111/3.9	
	Net/Gross Weight (approx)	kg	58/68
		lbs	127.6/149.6
	Interior Dimensions (W*D*H)	mm	477*528*462
		in	18.67*20.67*18.1
	Exterior Dimensions (W*D*H)	mm	597*682*833
		in	23.37*26.7*32.61
Packing Dimensions (W*D*H)	mm	680*742*913	
	in	26.6*29.1*35.7	
Loading Quantities	Container load (20'/40'/40'H)	48/96/96	
Alarms	High/Low Temperature	Y	
	Sensor Error	Y	
	Door Ajar	Y	
Accessories	Caster	Y	
	Foot	Y	
	Porthole	Y	
	Shelves	Y	

Product appearance and specifications are subject to change without notice



Pharmacy  
Refrigerator



# Combined Refrigerator and Freezer

This product is designed to store frozen plasma, biomaterials, vaccines, electronic devices and low temperature tests of special materials, in blood stations, hospitals, epidemic prevention stations, universities, scientific research institutes, electronic chemical industry and other enterprise laboratories.

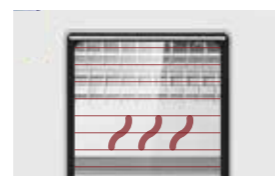


HYCD-319A

## Ergonomic Design



Equipped with padlocks in both refrigerator and freezer to ensure storage safety



Equipped with electrically heated glass to prevent condensation effectively



Two test holes for both refrigerator and freezer as standard, allow independent testing of cabinet temperature



Refrigerator and freezer are equipped with self-closing hinges to avoid door ajar (less than 90° self-closing)



### Multipurpose and Space Efficient

- One cabinet with two independent chambers, both are self-contained and independently controlled with individual doors
- Refrigerator chamber is equipped with a double-paned glass viewing window and LED interior lighting



### Environment Friendly

Hydrocarbon refrigerant (R600a for refrigerator / R290 for freezer) and CFC-free polyurethane insulation for reduced global warming potential



### Stainless Steel Interior

The interior of refrigerator and freezer are both made of stainless steel, which is easy to clean and corrosion-proof



### Microprocessor Controller with Digital Display

- Refrigerator temperature 2-8°C with resolution of 0.1°C
- Freezer temperature -40~-10°C with resolution of 1°C
- Multiple alarm functions with remote alarm contact to ensure safe monitoring

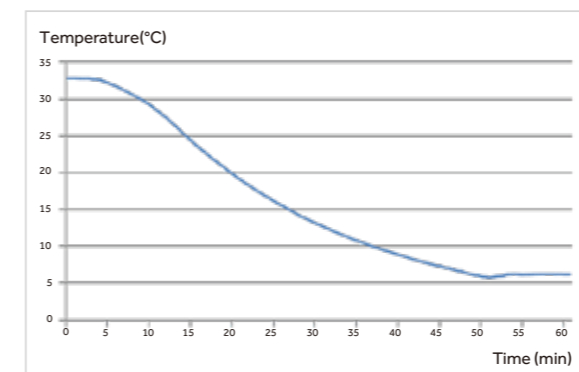


### High Performance

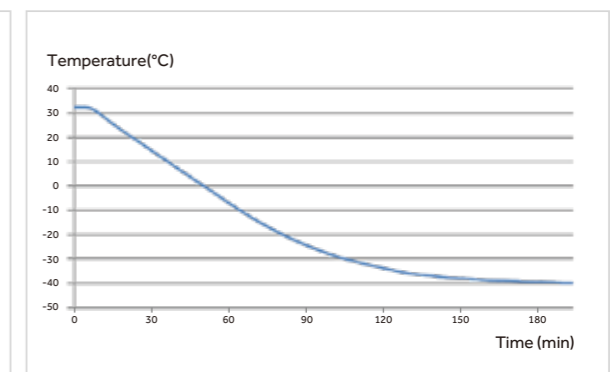
- Refrigerator: Forced-air cooling system with cycle defrost, temperature uniformity±3°C
- Freezer: Cold wall cooling system, manual defrost, temperature uniformity±5°C
- Standard USB port & optional printer, easy to get temperature record

## Product Performance

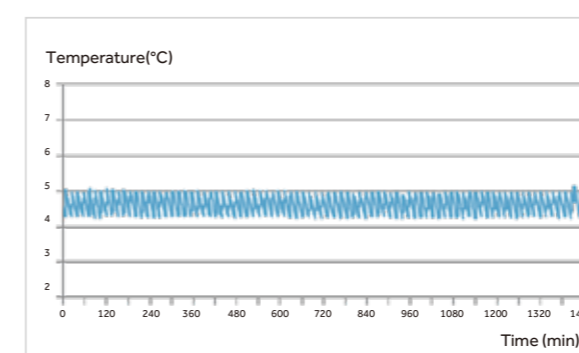
Refrigerator Cool Down Curve



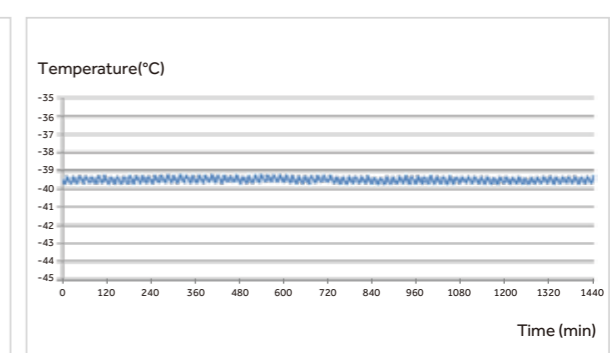
Freezer Cool Down Curve



Refrigerator Stability Curve



Freezer Stability Curve



# Combined Refrigerator and Freezer

137/138

## Main Application

This product is designed to store blood plasma, biological products, vaccines, medicines and chemical reagents.



HYCD-469



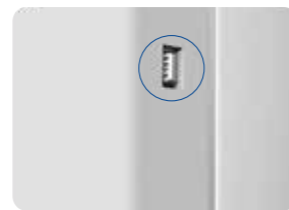
Temperature Control



Security Guaranteed



Variable Frequency Hydrocarbon Refrigeration System



Data Storage

## Key Features

### Temperature Control

- Refrigerator temperature ranges from 2°C to 8°C.
- Freezer temperature ranges adjustable from -10°C to -40°C.
- Microprocessor temperature control accuracy 0.1°C (refrigerator) and 1°C (freezer).

### Safety

- Separate doors for refrigerator and freezer with independent lock catches, dual padlocks available to ensure product safety.
- Multiple alarm functions including high or low temperature, sensor error, high ambient temp, power failure and remote alarm.
- Two types of alarm indications: audible buzzer and visible flashing light.

### Refrigerator System

- Refrigerator and freezer have independently controlled variable frequency refrigeration systems, standalone displays as well as separate on and off controls.
- Robust compressor system operating with environmentally friendly hydrocarbon refrigerant.
- Refrigerator with high quality and high efficiency cooling fan provides better temperature uniformity and stability.

## Ergonomic Design

- Large LED screen display for excellent user interface experience.
- USB port automatically saves temperature data for up to 10 years for convenient inquiry and record keeping.
- Optional printer to simultaneously print out temperatures of the refrigerator and the freezer.
- Four casters and two levelling legs design for ease of maneuvering.

## Specifications

Model		HYCD-319A	HYCD-469	HYCD-469A	HYCD-469A (115V)	
Technical Data	Cabinet Type	Upright	Upright	Upright	Upright	
	Climate Class	N	N (16-32°C)	N (16-32°C)	N (16-32°C)	
	Cooling Type	Refrigerator: Forced air cooling Freezer: Direct cooling	Refrigerator: Forced air cooling Freezer: Direct cooling	Refrigerator: Forced air cooling Freezer: Direct cooling	Refrigerator: Forced air cooling Freezer: Direct cooling	
	Defrost Mode	Refrigerator: Auto / Freezer: Manual	Refrigerator: Auto / Freezer: Manual	Refrigerator: Auto / Freezer: Manual	Refrigerator: Auto / Freezer: Manual	
	Refrigerant	Refrigerator: R600a 45g / Freezer: R290 60g	Refrigerator: R600a / Freezer: R290	Refrigerator: R600a / Freezer: R290	Refrigerator: R600a / Freezer: R290	
	Sound Level (dB(A))	50	45	45	52	
Performance	Temperature Range (°C)	Refrigerator: 2-8 / Freezer: -15--40	Refrigerator: 2-8 / Freezer: -10--40	Refrigerator: 2-8 / Freezer: -10--40	Refrigerator: 2-8 / Freezer: -15--40	
Control	Controller	Microprocessor	Microprocessor	Microprocessor	Microprocessor	
	Display	LED	LED	LED	LED	
Electrical Data	Power Supply (V/Hz)	115/60	220-240/50/60	220-240/50/60	115V/60	
	Power (W)	640	640	640	640	
	Electrical Current (A)	6	3	3	7	
Dimensions	Capacity (L/Cu.Ft)	Refrigerator: 200/7.06; Freezer: 100/3.53	Refrigerator: 269/9.5; Freezer: 200/7.1	Refrigerator: 269/9.5; Freezer: 200/7.1	Refrigerator: 245/8.65; Freezer: 200/7.1	
	Net/Gross Weight (approx)	kg	145/160	176/207	176/207	176/207
		lbs	319.7/352.7	388.0/456.4	388.0/456.4	388.0/456.4
	Interior Dimensions (W*D*H)	mm	Refrigerator: 605*510*720 Freezer: 515*465*440	Refrigerator: 593*585*800 Freezer: 553*545*660	Refrigerator: 593*585*800 Freezer: 553*545*660	Refrigerator: 593*585*800 Freezer: 553*545*660
		in	Refrigerator: 23.8*20*28.3 Freezer: 20.2*18.3*17.3	Refrigerator: 23.3*23.0*31.5 Freezer: 21.8*21.5*26.0	Refrigerator: 23.3*23.0*31.5 Freezer: 21.8*21.5*26.0	Refrigerator: 23.3*23.0*31.5 Freezer: 21.8*21.5*26.0
	Exterior Dimensions (W*D*H)	mm	735*660*1810	738*834*1975	738*834*1975	738*834*1975
		in	28.9*26.0*71.3	29.1*32.8*77.8	29.1*32.8*77.8	29.1*32.8*77.8
	Packing Dimensions (W*D*H)	mm	775*720*1930	800*875*2100	800*875*2100	800*875*2100
		in	30.5*28.3*76	31.5*34.4*82.7	31.5*34.4*82.7	31.5*34.4*82.7
	Container Load (20'/40'/40'H)		21/43/43	14/28/28	14/28/28	14/28/28
Alarms	High/Low Temperature	Y	Y	Y	Y	
	Sensor Error	Y	Y	Y	Y	
	Power Failure	Y	Y	Y	Y	
	Door Ajar	Y	Y	Y	Y	
	Remote Alarm	Y	Y	Y	Y	
	High Ambient Temperature	Y	Y	Y	Y	
	Low Battery	Y	Y	Y	Y	
Accessories	Caster	Y/4	Y	Y	Y	
	Foot	Y/2	Y	Y	Y	
	Porthole	Y/2	Y	Y	Y	
	Shelves/Drawers	Refrigerator: 3/1; Freezer: 1 (For supporting the upper drawer)/2 (without sliding rack)	Refrigerator: 3/0 Freezer: 3/0 (Max 3 Drawers optional, without sliding rack)			
	USB Interface	Y	Y	Y	Y	
Others	Certification	UL, NSF/ANSI 456	CE	CE	UL	

# Combined Refrigerator and Freezer

## Scope of Application

This product is designed to store frozen plasma, biomaterials, vaccines, electronic devices and low temperature tests of special materials, in blood stations, hospitals, epidemic prevention stations, universities, scientific research institutes, electronic chemical industry and other enterprise laboratories.



HYCD-282

HYCD-282A

## Product Advantages



**Refrigerator & Freezer Combination**  
Independent control panel display for refrigerator section and freezer section



**Multiple Alarms**  
High/low temperature, door ajar, power failure, sensor error, low battery, high ambient temperature and remote alarm

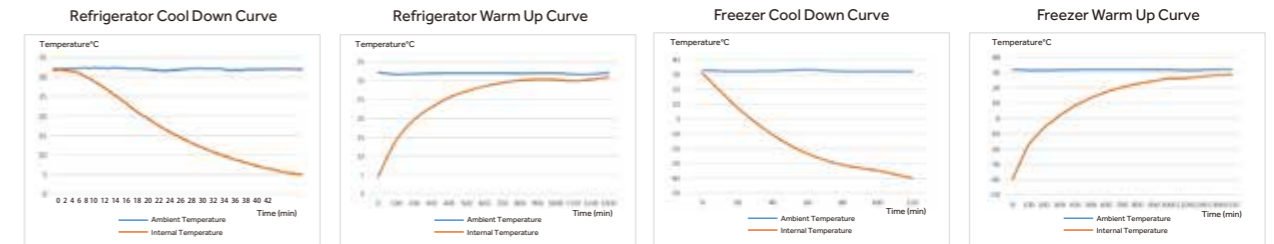


**Energy Conservation and Environmental Protection**  
Frequency conversion compressor and hydrocarbon system, Energy conservation and environmental protection



**High Display Precision**  
Refrigerator room display precision is 0.1°C

## Product Performance



## Specifications

Model		HYCD-282	HYCD-282A
Technical Data	Cabinet Type	Upright	Upright
	Climate Class	N	N
	Cooling Type	Refrigerator: Forced air cooling Freezer: Direct cooling	Refrigerator: Forced air cooling Freezer: Direct cooling
	Defrost Mode	Refrigerator: Auto / Freezer: Manual	Refrigerator: Auto / Freezer: Manual
	Refrigerant	Refrigerator: R600a / Freezer: R290	Refrigerator: R600a / Freezer: R290
	Sound Level (dB(A))	43	43
Performance	Temperature Range (°C)	Refrigerator: 2-8 / Freezer: -10--40	Refrigerator: 2-8 / Freezer: -10--40
Control	Controller	Microprocessor	Microprocessor
	Display	LED	LED
Electrical Data	Power Supply (V/Hz)	220-240/50/60	220-240/50/60
	Power (W)	410	410
	Electrical Current (A)	2.5	2.5
Dimensions	Capacity (L/Cu.Ft)	Refrigerator: 185/6.5; Freezer: 97/3.4	Refrigerator: 185/6.5; Freezer: 97/3.4
	Net/Gross Weight (approx) kg	145/160	145/160
	Interior Dimensions (W*D*H) mm	Refrigerator: 605*510*720 Freezer: 515*465*440	Refrigerator: 605*510*720 Freezer: 515*465*440
	Exterior Dimensions (W*D*H) mm	735*660*1810	735*660*1810
	Packing Dimensions (W*D*H) mm	775*720*1930	775*720*1930
	Container Load (20'/40'/40'H)	21/43/43	21/43/43
Alarms	High/Low Temperature	Y	Y
	Door Ajar	Y	Y
	Remote Alarm	Y	Y
	Power Failure	Y	Y
	Sensor Error	Y	Y
	Low Battery	Y	Y
	High Ambient Temp	Y	Y
Accessories	Caster	Y/4	Y/4
	Foot	Y/2	Y/2
	Porthole	Y/2	Y/2
	Shelves/Drawers	Refrigerator: 3/1; Freezer: 0/2	Refrigerator: 3/1; Freezer: 0/2
	Stylus Printer	Optional	Optional
	USB Interface	Y	Y
Others	Certification	CE	CE
Compressor Type		Frequency Conversion Compressor	Frequency Conversion Compressor
Compressor Quantity		2	2

Product appearance and specifications are subject to change without notice

# RFID Refrigerator

## Smart Management of Medicine and Reagents Starts with IoT Technology

Perform statistical analysis of market data and medicine or reagents usage to report on market trends providing highly useful feedback to production and sales.



HYC-509R



### Smart IoT System Makes Storage Management Simple, Precise and Effective

RFID based smart IoT management system permits automatic management of stored products are automatically



Smart RFID label



Smart RFID shelf



Industrial-grade IoT Network Module Group

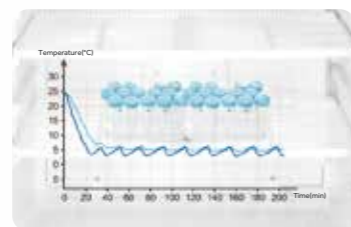


### Authorized Management for Material Flow at Controllable Risk

NFC authorized management system is traceable.



### Statistical Analysis of Test Data, Precise Verification and Scientific Instruction



### Precise Temperature Control Ultimate Safety of Test Reagents

2°C - 8°C storage temperature, real-time monitoring of cabinet temperature



### Intelligent Accurate Recording

Intelligent touch screen for quick check of warehouse in-and-out records



### Manage Market Data to Support Scientific Production Scheduling

Perform statistical analysis of market data and medicine or reagents usage to report on market trends providing highly useful feedback to production and sales.



### Effective Management of Sales Channels

Sales channels can provide timely feedback information to improve shipping, refilling, dispatching and inventory control, to provide continuity on supply and to optimize inventory level.

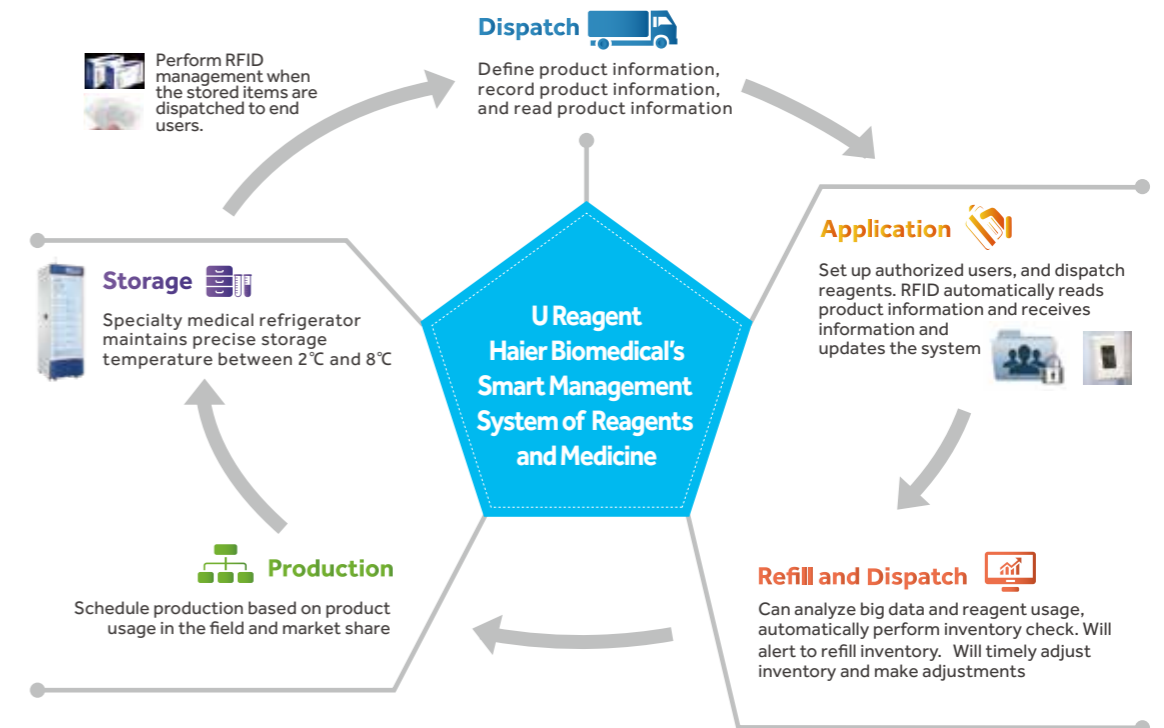


### Reagent Handling Process is Traceable and Controllable

Shipping and receiving processes of reagents are automatically monitored and controlled for authorized users. Every box of reagents is traceable.

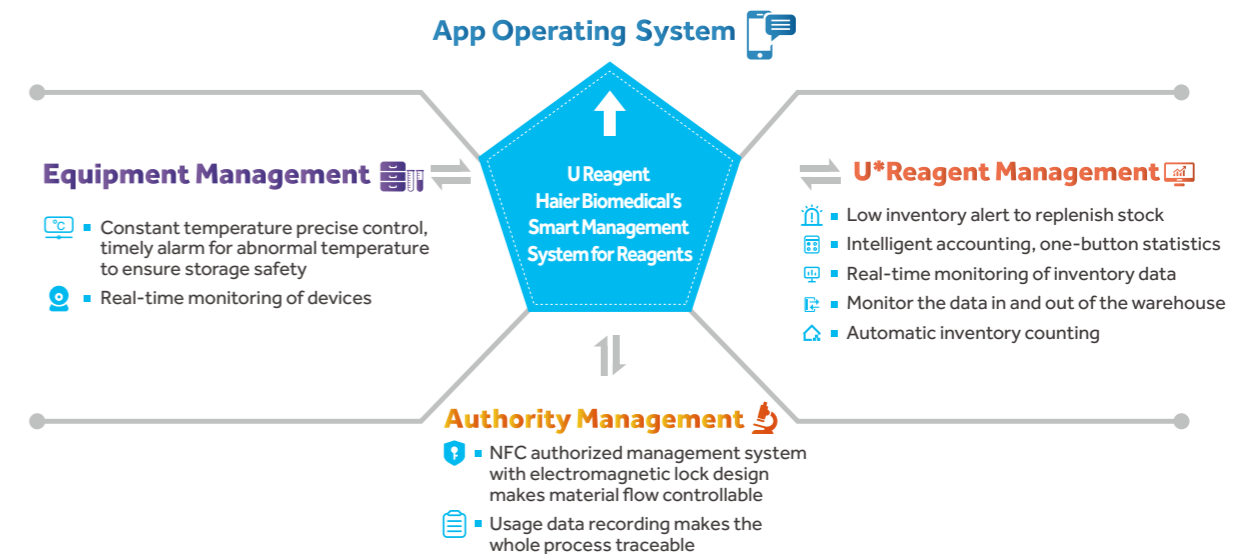
## Smart Management of Products

(It is suitable for manufacturing industry)



## From storage to use, the entire process is automatically and smartly controlled

(It is suitable for pharmaceutical factories, laboratories and hospitals)



## Product Specification

Model	Voltage (V/Hz)	Power (W)	External Dimensions (W*D*H) (mm)	Internal Dimensions (W*D*H) (mm)	Effective Volume (L)	Net Weight / Gross Weight (Kg)	Shelf	Touch Screen
HYC-509R	220~240/50/60	470	693*813*1981	593*585*1500	509	180/215	6	Yes
HYC-390R	220~240/50/60	380	720*710*1965	530*555*1380	390	116/139	5	No



# Pharmacy Refrigerator

Advanced Pharmacy Refrigerator with Touchscreen

# Pharmacy Refrigerator

Advanced Pharmacy Refrigerator with LED Display



HYC-1099TF

HYC-509T

HYC-1099T

HYC-509TF



HYC-1099F

HYC-509

HYC-1099

HYC-509F

## Product Advantages



### Intelligent and Interactive Touchscreen Control

- An intelligent, high definition liquid crystal touch screen control system, allows users to view temperature graphs, operation status, events and alarm records



### Data Storage

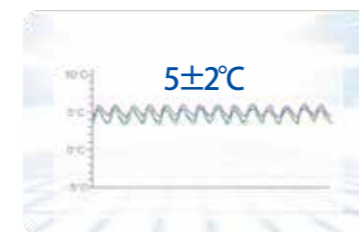
- Standard USB, optional printer, capable of storing 10 years' temperature data, historical data can be checked and traced



### Secure Access and Authorized Management

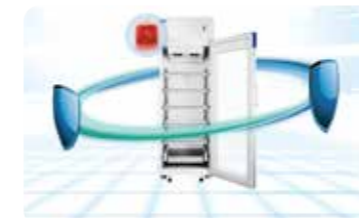
- NFC authority system works with a magnetic lock system to ensure product safety. In addition, access to unit and stored products is traceable
- Finger print module is optional for additional safety

## Product Advantages



### Precise Temperature Control and Reliable Operation

- Advanced control system
- Six sensors
- High efficiency air flow system
- Precise temperature control
- Uniform temperature distribution
- VFD driven compressor
- High-efficiency fan motor



### Multiple Features for Sample Security And Protection

- Audible buzzer and visual flashing lights for alarm system as standard
- Alarm system includes door ajar, temperature, sensor malfunction, battery, loss of power and clogged condenser
- Remote alarm contact terminals as standard
- Supplied with mechanical lock as standard, there is an optional magnetic lock for added product safety



### Environmentally Friendly Refrigeration

- R600a Hydrocarbon refrigeration system does not have any negative impacts of the ozone layer, with zero global warming effect

## Pharmacy Refrigerator

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## Specifications

Model		HYC-509	HYC-509F	HYC-509T	HYC-509TF	HYC-1099	HYC-1099F	HYC-1099T	HYC-1099TF	
Technical Data	Cabinet Type	Upright, single glass door	Upright, single solid door	Upright, single glass door	Upright, single solid door	Upright, double glass door	Upright, double solid door	Upright, double glass door	Upright, double solid door	
	Climate Class	N	N	N	N	N	N	N	N	
	Cooling Type	Forced air cooling	Forced air cooling	Forced air cooling	Forced air cooling	Forced air cooling	Forced air cooling	Forced air cooling	Forced air cooling	
	Defrost Mode	Auto	Auto	Auto	Auto	Auto	Auto	Auto	Auto	
	Refrigerant	HC	HC	HC	HC	HC	HC	HC	HC	
	Sound Level (dB(A))	40	40	40	40	43	43	43	43	
Performance	Temperature Range (°C)	2-8	2-8	2-8	2-8	2-8	2-8	2-8	2-8	
Control	Controller	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	
	Display	LED	LED	Touchscreen	Touchscreen	LED	LED	Touchscreen	Touchscreen	
Electrical Data	Power Supply (V/Hz)	220-240/50/60	220-240/50/60	220-240/50/60	220-240/50/60	220-240/50/60	220-240/50/60	220-240/50/60	220-240/50/60	
	Power (W)	370	315	370	315	470	440	470	440	
	Electrical Current (A)	1.85	1.75	1.85	1.75	2.5	2.25	2.5	2.25	
	Power Consumption (kWh/24h)	5.9	5.3	5.9	5.3	6.8	6	6.8	6	
Construction	Capacity (L/Cu.Ft)	509/17.97	509/17.97	509/17.97	509/17.97	1099/38.5	1099/38.5	1099/38.5	1099/38.5	
	Net/Gross Weight (approx)	kg	180/215	175/210	180/215	175/210	340/400	330/390	340/400	330/390
		lbs	396/473	385/462	396/473	385/462	748/1000	726/858	748/1000	726/858
	Interior Dimensions (W*D*H)	mm	593*585*1500	593*585*1500	593*585*1500	593*585*1500	1295*585*1500	1295*585*1500	1295*585*1500	1295*585*1500
		in	23.21*22.9*58.8	23.21*22.9*58.8	23.21*22.9*58.8	23.21*22.9*58.8	50.7*22.9*58.8	50.7*22.9*58.8	50.7*22.9*58.8	50.7*22.9*58.8
	Exterior Dimensions (W*D*H)	mm	693*813*1981	693*813*1981	693*813*1981	693*813*1981	1395*813*1981	1395*813*1981	1395*813*1981	1395*813*1981
		in	27.1*31.9*77.7	27.1*31.9*77.7	27.1*31.9*77.7	27.1*31.9*77.7	54.7*31.9*77.7	54.7*31.9*77.7	54.7*31.9*77.7	54.7*31.9*77.7
	Packing Dimensions (W*D*H)	mm	800*875*2100	800*875*2100	800*875*2100	800*875*2100	1525*900*2100	1525*900*2100	1525*900*2100	1525*900*2100
in		31.3*34.3*82.3	31.3*34.3*82.3	31.3*34.3*82.3	31.3*34.3*82.3	59.8*35.3*82.3	59.8*35.3*82.3	59.8*35.3*82.3	59.8*35.3*82.3	
Loading Quantities	Container Load (20'/40'/40'H)	14/28/28	14/28/28	14/28/28	14/28/28	7/14/14	7/14/14	7/14/14	7/14/14	
Alarms	High/Low Temperature	Y	Y	Y	Y	Y	Y	Y	Y	
	Power Failure	Y	Y	Y	Y	Y	Y	Y	Y	
	Sensor Error	Y	Y	Y	Y	Y	Y	Y	Y	
	Low Battery	Y	Y	Y	Y	Y	Y	Y	Y	
	Door Ajar	Y	Y	Y	Y	Y	Y	Y	Y	
	Remote Alarm	Y	Y	Y	Y	Y	Y	Y	Y	
Accessories	Caster	Y	Y	Y	Y	Y	Y	Y	Y	
	Foot	Y	Y	Y	Y	Y	Y	Y	Y	
	Porthole	Y	Y	Y	Y	Y	Y	Y	Y	
	Shelves/Drawers	6/Optional	6/Optional	6/Optional	6/Optional	12/Optional	12/Optional	12/Optional	12/Optional	
	USB Interface	Y	Y	Y	Y	Y	Y	Y	Y	
Certification	CE	Y	Y	Y	Y	Y	Y	Y	Y	

T suffix - Advanced with touchscreen

Product appearance and specifications are subject to change without notice

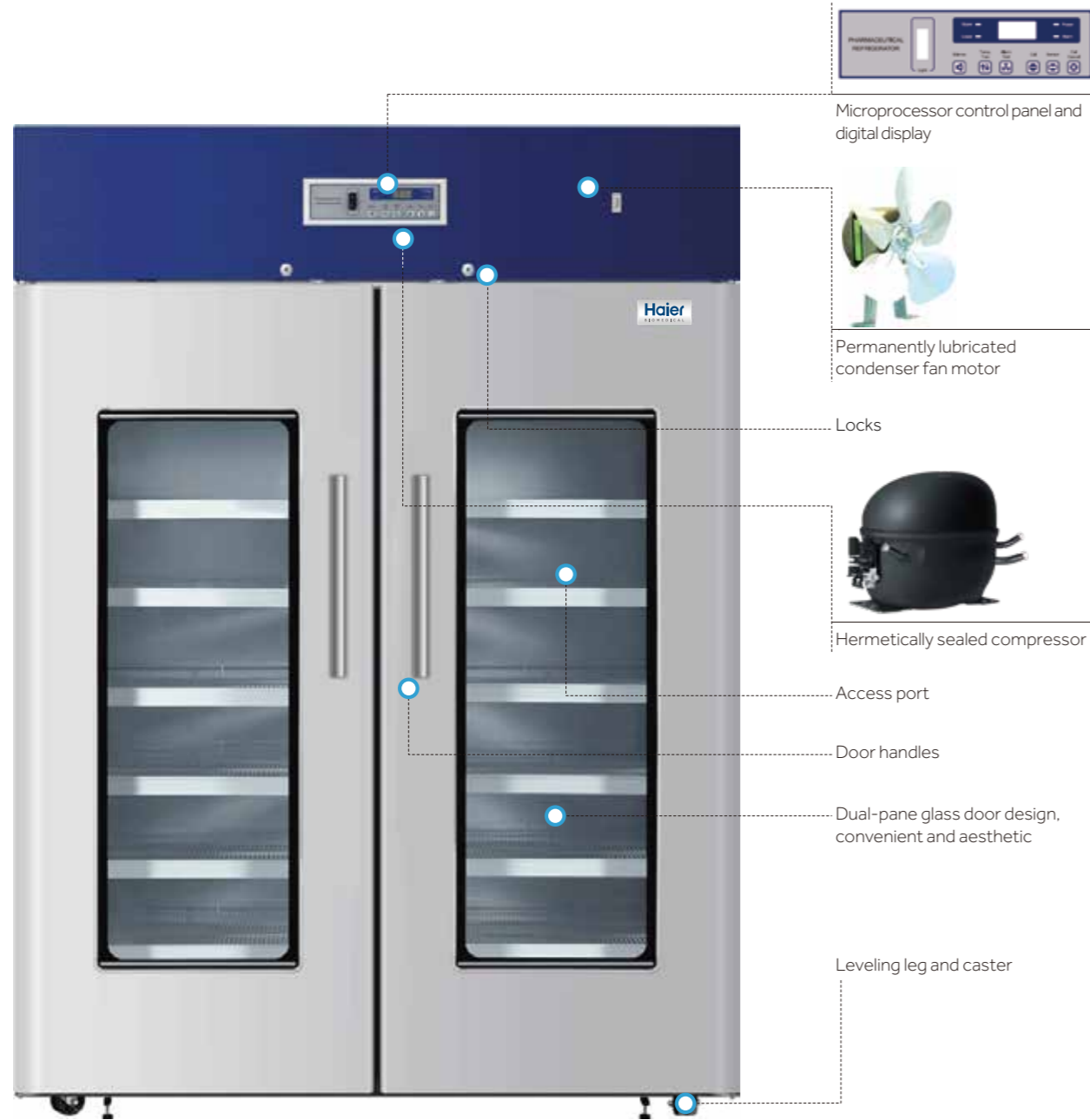
# Pharmacy Refrigerator

## Standard Pharmacy Refrigerator

# Pharmacy Refrigerator

## Standard Pharmacy Refrigerator

The Haier pharmacy refrigerators are suitable for pharmacies, drug stores, pharmaceutical companies, hospitals, clinics and other pharmaceutical storage areas such as storage and logistics.



Microprocessor control panel and digital display



Permanently lubricated condenser fan motor

Locks



Hermetically sealed compressor

Access port

Door handles

Dual-pane glass door design, convenient and aesthetic

Leveling leg and caster

**HYC-1378**

### Durable and Reliable - Key Features

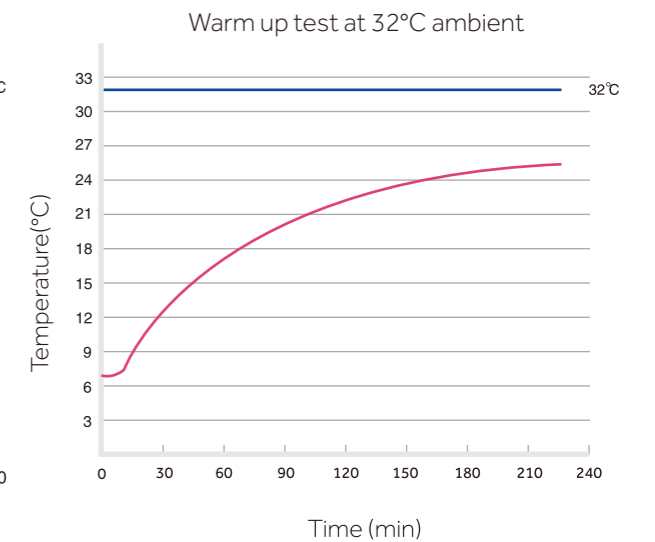
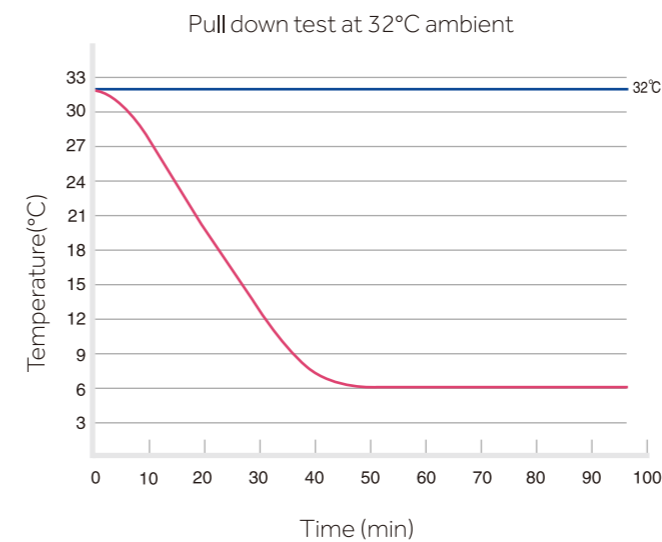
- Energy efficient hydrocarbon (HC) refrigeration system
- Permanently lubricated cooling fan for safety and longevity
- Forced-air cooling with optimized air distribution system designed to achieve maximum temperature uniformity and stability
- Optimized refrigeration system design for more effective cooling and speedy recovery
- Temperature variation within  $\pm 3^{\circ}\text{C}$
- Chamber temperature range 2~8 $^{\circ}\text{C}$
- Microprocessor control with large digital display. Adjustable temperature with an increment of 0.1 $^{\circ}\text{C}$
- Wide voltage tolerance suitable for regions with an unstable voltage supply
- Designed for ambient temperature 10 $^{\circ}\text{C}$ -32 $^{\circ}\text{C}$  with humidity below 85%

### Safety

- Equipped with a complete temperature alarm system featuring audible buzzer and visible flashing light
- Capable of alerting failures due to high or low temperature, sensor error, door ajar, remote alarm, power failure and low battery

### Ergonomic Design

- Optimized space utilization design with multi-level and adjustable shelf height to accommodate the different storage requirements of varied sized pharmaceutical products.
- Safety lock to prevent unauthorized access
- Caster design and levelling feet
- Interior light



# Pharmacy Refrigerator

## Standard Pharmacy Refrigerator

The product is applicable to pharmacies, pharmaceutical factories, quarantine stations, health centers and hospitals, used to store biological products and those need to be stored at a temperature between 2-8°C.



220V/50HZ

115V/60HZ

HYC-639



**Energy Saving**

70mm thick foam layer, optimized refrigeration system, low power consumption, less than 6 kWh per day.



**Environmentally-friendly**

Hydrocarbon refrigerant, truly completely environmental protection refrigeration system. Polyurethane insulation layer, the whole series adopts European ROHS directive materials, environmental protection.



**Better Uniformity**

Finned evaporator, double fan system. The temperature is more uniform, the characteristic point temperature uniformity is  $\pm 2^{\circ}\text{C}$ .



**Low Noise**

Optimized system and structure noise reduction design.



**Multi-channel Sensor, Reliable and Safe**

Equipped with upper display sensor, lower display sensor, defrosting sensor, control sensor, ambient temperature sensor, condenser dirty sensor.



**Microprocessor control system:**

Microcomputer electronic temperature controller, LED temperature display, the display accuracy is  $0.1^{\circ}\text{C}$ . Multiple alarm functions like high temperature alarm, low temperature alarm, sensor error alarm, power failure alarm, low battery alarm, door ajar, condenser dirty alarm, high ambient temperature alarm, etc. Audio and visual alarm. The equipment can be connected to the remote alarm interface.



**Insulation**

70mm-thick foam insulation layer to provide better insulation



**Porthole**

Standard equipped with a porthole to facilitate the user to test



**Security lock**

Equipped with safety lock, safe storage of drugs



**Temperature Recorder**

Standard equipped with USB port, the printer and RS485 interface are optional.

**Material**

The inner liner is equipped with spraying steel plate for easy cleaning

**Casters and levelling leg design**

Standard equipped with 4 universal casters and 2 adjustable feet to move and fix the equipment

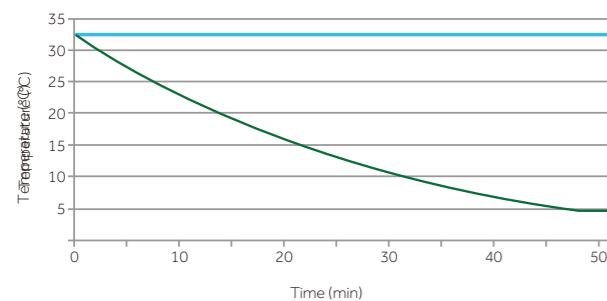
**Shelves**

Standard equipped with 4 shelves

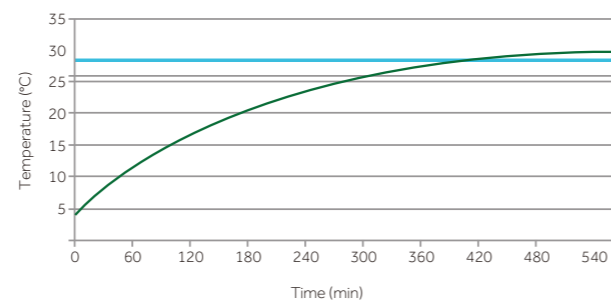


**Typical Performance Characteristics in 32°C Ambient Temp.**

**Cool down curve**



**Warm up curve**



— Center Temp(For 220V/50HZ)  
 — Ambient Temp(For 220V/50HZ)

# Pharmacy Refrigerator

## Standard Pharmacy Refrigerator

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Used for storage of biological products, vaccines, drugs, reagents, etc., the unit is widely used in pharmacies, pharmaceutical factories, hospitals, CDC, laboratories as key examples.



HYC-410

### Superior Performance

- Microcomputer controller, LED temperature display, accuracy 0.1°C
- Fin type evaporator and double fan system, temperature uniformity  $\pm 2^{\circ}\text{C}$
- R600a hydrocarbon refrigerant, LBA foaming agent, energy saving and environmental protection
- Optimized system and structure design, noise down to 41 dB(A)
- Panoramic glass door, LED lighting, goods are clear at a glance
- Heated door to prevent condensation
- Standard with 1 test hole, convenient for user to test

### Safe

- Equipped with built-in lock and security latch to accommodate a padlock, safe and reliable storage
- Multiple alarms: High and low temperature, sensor error, power failure, low battery, door ajar, high ambient temperature and communication fault alarm
- Alarm mode: audible buzzer and flashing light, remote alarm. The alarm will continue for 24 hours after power failure

### Product Details

#### Material:

HIPS adsorption liner,  
sprayed steel case

#### Shelves:

Standard with 6 shelves



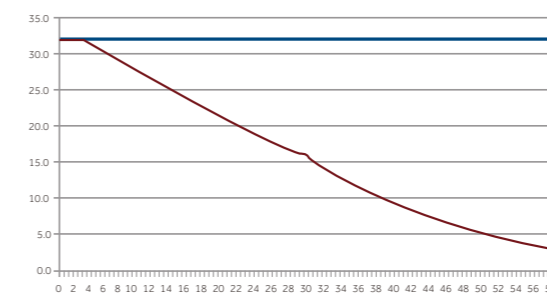
#### Caster and foot:

Standard equipped with 4 universal casters and 2 adjustable feet, ensure the refrigerator moving and fixed

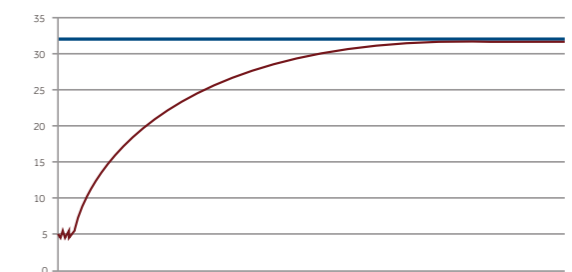
\*Optional: USB, printer, RS485/232 interface

### Product Performance

Cool down curve



Warm up curve



At 32°C ambient temperature, the cooling time is about 50 minutes, the heating time is about 8 hours

— Ambient Temp.  
— Test point Temp.

# Pharmacy Refrigerator

## Standard Pharmacy Refrigerator

New and improved Haier pharmacy refrigerators now offer an improved temperature profile and more user-friendly control features.



### Technical Advantages

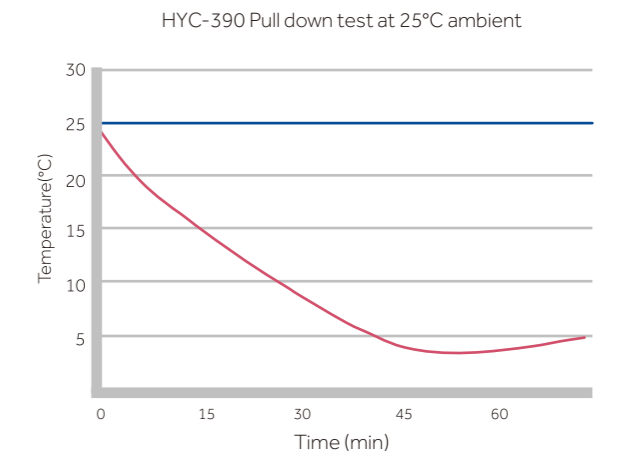
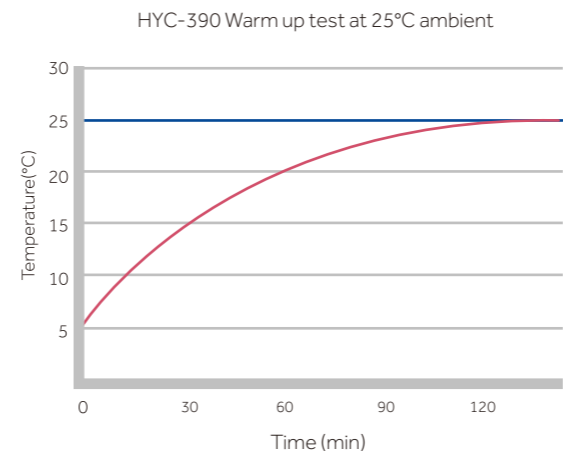
- Accurate temperature control maintains 2°C to 8°C throughout the unit with an adjustable increment at 0.1°C
- Improved user interface includes a data storage capacity of up to 10 years
- Oversized air-cooled condenser improves the robustness of the refrigeration system, reliability and refrigeration efficiency

### Ergonomic Design

- The temperature data of the newly improved storage management system is downloadable from the USB port
- Traceability of temperature data
- Heated double-pane glass door allows a clear view of stored products without condensation at 32°C and 85% relative humidity ambient conditions
- LED interior light saves energy and provides bright lighting of interior for easy product location and identification
- Shelves with label holders meet demands required for quick and effective product archiving and retrieving

### Safety

- Microprocessor control with digital display
- Temperature uniformity within 3°C
- Malfunction alarms include high/low temperature, door ajar, sensor error, power failure, low battery and remote alarm interface



# Pharmacy Refrigerator

## Standard Pharmacy Refrigerator

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The product is used to store biological drugs and items at a temperature of 2-8°C. Typically used within pharmacy, pharma production, public health, hospitals and other life science laboratories.



HYC-309

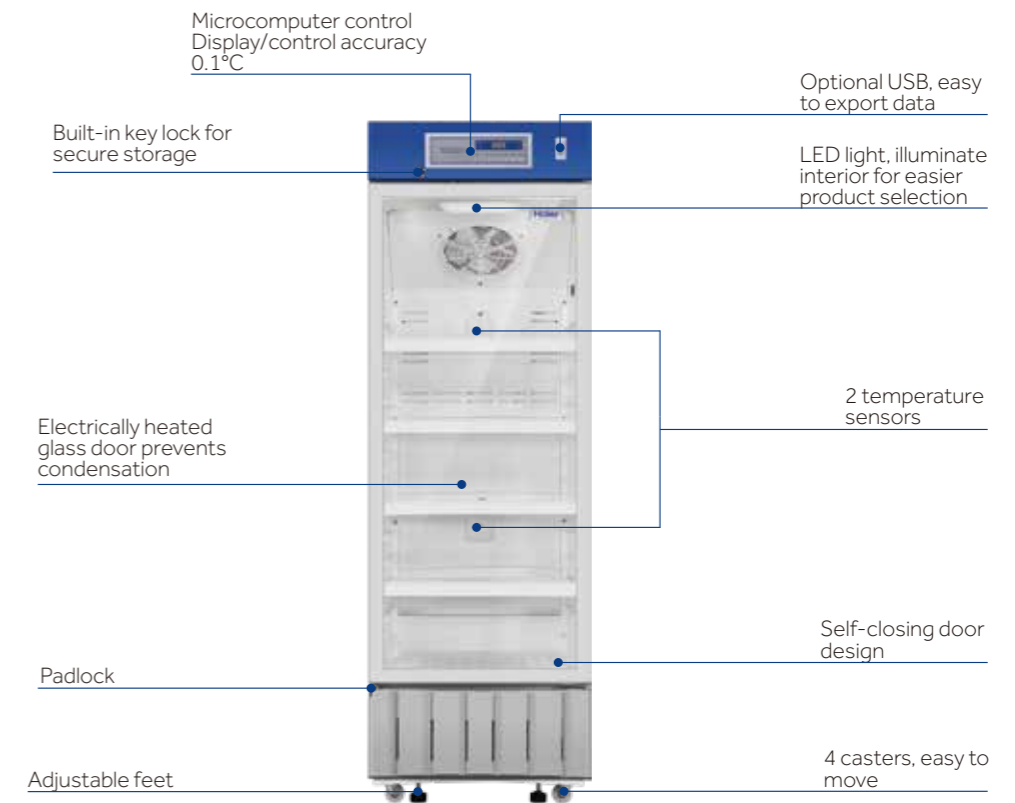
### Superior performance

- Microcomputer controller, display/control accuracy 0.1°C
- Temperature range 2-8°C, temperature uniformity  $\pm 2^{\circ}\text{C}$
- Energy-efficient conversion compressors and non-toxic, environmentally-friendly hydrocarbon refrigerant
- Self-closing door design
- Electrically heated glass door prevents condensation
- Multiple interface options - USB, RS485 and printer

### Safe and reliable

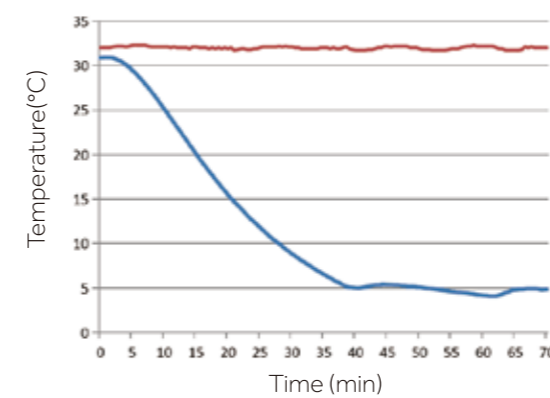
- Key lock and provision for padlock to ensure safe and secure product storage
- Multiple alarms: High/Low temperature alarm, high ambient temperature alarm, door ajar alarm, power failure, low battery, sensor error, comms error and remote alarm contacts
- Alarm mode: Audible/visual and remote alarm with battery back-up which continuously alarms for up to 48 hours in the event of a power failure

### Product Details

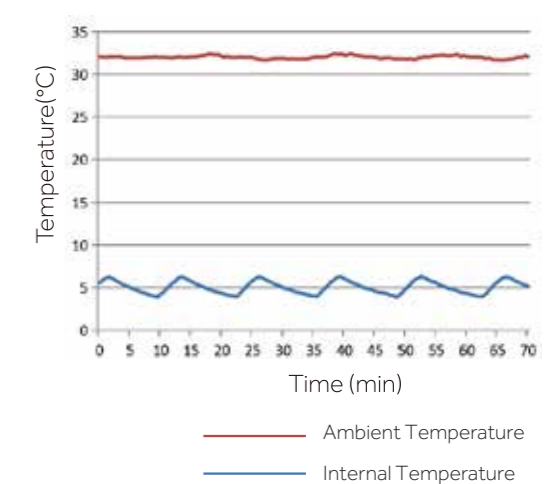


### Temperature Curve

Cool Down Curve  
at 32°C Ambient temperature



Stability Curve  
at 32°C Ambient temperature



## Under-Counter Pharmacy Refrigerator

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### Easy to Install, Ergonomic and Reliable

Haier are pioneers in under-counter pharmacy refrigerator design and manufacturing, offering ultra-low noise system, safety lock, complete alarm system for sample safety and protection.



HYC-118

HYC-118A

### Reliability and Key Features

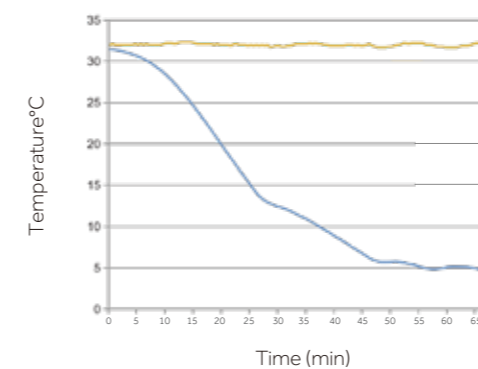
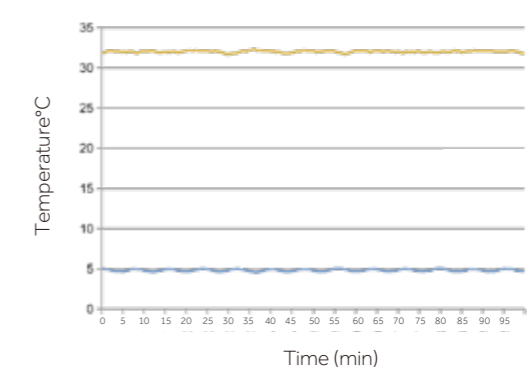
- Energy efficient hydrocarbon (HC) refrigeration system
- Permanently lubricated cooling fan for safety and longevity
- Forced-air cooling with optimized air distribution system designed to achieve maximum temperature uniformity and stability
- Optimized refrigeration system design for more effective cooling and speedy recovery
- Temperature variation within  $\pm 3^{\circ}\text{C}$
- Chamber temperature range  $2\text{--}8^{\circ}\text{C}$
- Microprocessor control, digital display and temperature adjustment with an increment of  $0.1^{\circ}\text{C}$
- Designed for ambient temperature  $10\text{--}32^{\circ}\text{C}$  with humidity below 70%

### Safety

- Equipped with a complete temperature alarm system featuring audible buzzer and visual flashing light
- Capable of alerting failures due to high and low temperature, sensor error, door ajar, power failure, and remote alarm interface

### Ergonomic Design

- Interior LED light
- Safety lock to prevent unauthorized access

HYC-118 Warm up test at  $25^{\circ}\text{C}$  ambientHYC-118 Pull down test at  $25^{\circ}\text{C}$  ambient

— Ambient Temperature — Internal Temperature





# Pharmacy Refrigerator

## Specifications



Model	HYC-68		HYC-68A		HYC-118		HYC-118A		HYC-290		HYC-309		HYC-390		HYC-410		HYC-639		HYC-390F		HYC-610		HYC-940		HYC-940C		HYC-940F		HYC-1378					
<b>Technical Data</b>	Cabinet Type		Upright, Solid Door		Upright, Glass Door		Upright, Solid Door		Upright, Glass Door		Upright, Single Door		Upright		Upright, Single Door		Upright, single door		Upright, single door		Upright, Single Door		Upright, Single Door		Upright, Double Glass Door		Upright, Double Glass Door		Upright, Double Solid Door		Upright, double door			
	Climate Class		N		N		N		N		N		N		N		N		ST		N		N		N		N		N		N			
	Cooling Type		Forced Air Cooling		Forced Air Cooling		Forced Air Cooling		Forced Air Cooling		Forced Air Cooling		Forced air cooling		Forced Air Cooling		Forced air cooling		Forced air cooling		Forced Air cooling		Forced Air Cooling		Forced Air Cooling		Forced Air Cooling		Forced Air Cooling		Forced Air Cooling			
	Defrost Mode		Auto		Auto		Auto		Auto		Auto		Auto		Auto		Auto		Auto		Auto		Auto		Auto		Auto		Auto		Auto			
	Refrigerant		HC		HC		HC		HC		HC		HC		HC		HC		HC		HC		HC		HC		HC		HC		HC			
	Sound Level (dB(A))		41		41		41		41		43		43		41		43		46		43		43		43		45		43		45			
<b>Performance</b>	Temperature Range (°C)		2-8		2-8		2-8		2-8		2-8		2-8		2-8		2-8		2-8		2-8		2-8		2-8		2-8		2-8		2-8			
<b>Control</b>	Controller		Microprocessor		Microprocessor		Microprocessor		Microprocessor		Microprocessor		Microprocessor		Microprocessor		Microprocessor		Microprocessor		Microprocessor		Microprocessor		Microprocessor		Microprocessor		Microprocessor		Microprocessor			
	Display		LED		LED		LED		LED		LED		LED		LED		LED		LED		LED		LED		LED		LED		LED		LED			
<b>Electrical Data</b>	Power Supply (V/Hz)		220-240/50		115/60		220-240/50		115/60		220-240/50/60		115/60		220-240/50/60		115/60		220-240/50/60		115/60		220-240/50/60		115/60		220-240/50/60		115/60		220-240/50/60			
	Electrical Current (A)		0.85		1.7		0.85		1.7		1.4		1.4		1.5		1.5		2.2		1.8		1.5		2.4		1.8		2.0		2.15		2.5	
<b>Dimensions</b>	Capacity (L/Cu.Ft)		68/2.4		68/2.4		118/4.2		118/4.2		290/10.2		309/10.91		390/13.8		410		639/22.6		600/21.2		390/13.8		610/21.6		890/31.4		890/31.4		890/31.4		1378/48.7	
	Net/Gross Weight (approx)		kg		38/40		38/40		41/46		46/51		105/127		77/87		116/139		116/139		200/240		106/129		204/227		227/279		207/259		207/259		310/360	
			lbs		83.8/88.2		83.8/88.2		90.5/101.5		101.5/112.5		231.6/280.1		169.76/191.80		255.8/306.6		255.7/306.4		551.15/639.33		233.8/284.5		449.7/500.4		500.4/615.1		456.4/571.1		456.4/571.1		683.4/793.7	
	Interior Dimensions (W*D*H)		mm		415*385*505		415*385*505		515*415*630		515*415*630		530*555*1080		525*500*1290		530*555*1380		530*590*1380		620*706*1520		530*555*1380		680*640*1400		1030*590*1425		1030*590*1425		1030*590*1425		1320*700*1500	
			in		16.3*15.2*19.9		16.3*15.2*19.9		20.3*16.3*24.8		20.3*16.3*24.8		20.9*21.9*42.5		20.67*19.69*50.79		20.9*21.9*54.3		20.9*22.8*54.3		24.4*27.8*59.8		20.9*21.9*54.3		26.8*25.2*55.1		40.6*23.2*56.1		40.6*23.2*56.1		40.6*23.2*56.1		52.0*27.6*59.1	
	Exterior Dimensions (W*D*H)		mm		495*580*660		495*580*660		597*635*810		597*635*810		665*710*1665		600*630*1840		665*710*1965		665*710*1965		760*897*1993		665*710*1965		780*840*1945		1130*755*1980		1130*755*1980		1130*755*1980		1440*950*1980	
			in		19.5*22.8*26.0		19.5*22.8*26.0		23.5*25.0*31.9		23.5*25.0*31.9		26.2*28.0*65.6		23.62*24.80*72.44		26.2*28.0*77.4		26.2*28.0*77.4		29.9*35.3*78.5		26.2*28.0*77.4		30.7*33.1*76.6		44.5*29.7*78.0		44.5*29.7*78.0		44.5*29.7*78.0		56.7*37.4*78.0	
	Packing Dimensions (W*D*H)		mm		540*640*710		540*640*710		680*690*910		680*690*910		690*790*1810		660*670*2060		690*790*2110		675*790*2115		873*997*2143		690*790*2110		865*945*2090		1250*850*2130		1250*850*2130		1250*850*2130		1570*1010*2120	
			in		21.3*25.2*28.0		21.3*25.2*28.0		26.8*27.2*35.8		26.8*27.2*35.8		27.1*31.0*71.1		25.98*26.38*81.10		27.1*31.0*82.9		26.6*31.1*83.3		34.5*39.3*84.4		27.1*31.0*82.9		34.1*37.2*82.3		49.2*33.5*83.9		49.2*33.5*83.9		49.2*33.5*83.9		61.8*39.8*83.5	
	Container Load (20°/40°/40°H)		102/204/204		102/204/204		48/96/96		48/96/96		22/44/44		24/48/48		22/44/44		23/48/48		12/26/26		22/44/44		12/26/26		11/23/23		11/23/23		11/23/23		7/14/14			
<b>Alarms</b>	High/Low Temperature		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y			
	Remote Alarm		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y			
	Power Failure		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y			
	Sensor Error		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y			
	Low Battery		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y			
	Door Ajar		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y			
<b>Accessories</b>	Caster		N		N		Y/2		Y/2		Y		4		Y		4		Y/4		Y		Y		Y		Y		Y		Y			
	Foot		Y/2		Y/2		Y/2		Y/2		Y		2		Y		2		Y/2		Y		Y		Y		Y		Y		Y			
	Porthole		Y		Y		Y		Y		Y		1		Y		Y		Y		Y		Y		Y		Y		Y		Y			
	Shelves/Drawers		2/1		2/1		3/1		3/1		5/-		5/-		7/-		6		4/-		7/-		6/-		12/-		12/-		12/-		12/-			
	USB Interface		Optional		Optional		/		/		Y		Optional		Optional		Y		Optional		Optional		Y		Optional		Optional		Optional		Optional			
	Printer		N/A		N/A		N/A		N/A		Optional		Optional		Optional		Optional		Optional		Optional		Optional		Optional		Optional		Optional		Optional			
	Temperature Recorder		N/A		N/A		N/A		N/A		/		/		/		N/A		/		Optional		Optional		Optional		Optional		Optional		Optional			
<b>Others</b>	Certification		CE		UL		CE		UL		CE		UL		UL		CE		CE, ENERGY STAR		CE		UL, ENERGY STAR, ANSI 456		CE, ENERGY STAR		CE		UL		CE			

Product appearance and specifications are subject to change without notice



## Blood Bank Solutions

# Automated Blood Management Refrigerator



## Information Flow



- Microcomputer Control**  
The temperature inside the unit is controlled within  $4\pm 1^{\circ}\text{C}$  with temperature control accuracy of  $0.1^{\circ}\text{C}$  and the large high-definition LCD touch screen display makes it convenient to observe.
- Multiple Fault Alarms**  
High/low temperature alarm, power failure alarm, door ajar, sensor error alarm, and low battery alarm. It is configured with remote alarm interface with two alarm modes (sound buzzer alarm and light flashing alarm).
- Inverter Compressor**  
High efficiency and energy saving, low noise and long service life.
- Speed Control Condenser Fan**  
High efficiency and energy saving, low noise and long service life.
- Three-layer Glass Foam Door**  
With large viewing three-layer glass foam door design, surface glass with LOW-E film to reduce heat transfer efficiency with no condensation at  $25^{\circ}\text{C}$  and 85% humidity environment.
- Double Protection of Mechanical Door Lock and Electromagnetic Lock**  
Electromagnetic lock can realize NFC card punching unlocking and fingerprint unlocking function.
- Standard USB Port**  
With optional disc temperature recorder.

## Operation Instructions

### Blood Bag Inbound:



### Blood Bag Outbound:



## Specifications

Product Model No.	Voltage (V/Hz)	Internal Temperature ( $^{\circ}\text{C}$ )	External Dimension (W*D*H mm)	Internal Dimension (W*D*H mm)	Effective Volume (L)	NW / GW (Kg)	Stainless Steel Shelf (layers)	Loading Capacity (400 ml blood bag)
HXC-429TR	230V-50/60Hz	$4\pm 1$	625*940*1830	505*680*1315	429	190/230	5	120
HXC-629TR	230V-50/60Hz	$4\pm 1$	765*940*1980	645*680*1455	629	235/280	6	192
HXC-1369TR	230V-50/60Hz	$4\pm 1$	1545*940*1980	1425*680*1455	1369	430/490	12	384

# Automated Blood Management

## Scope of Application

Suitable for blood transfusion departments, operating rooms, and emergency rooms, etc. of the hospitals

## Product Advantages

### Drastically Improves the Speed of Delivery

Innovative blood bank system, enables the blood to be advanced to the operating room to achieve 1-minute rapid blood collection.



### Reduce Waste and Improve Efficiency

Electronic blood matching within 1 minute, reducing the cross matching time and reagent consumption. Quick and precise blood matching, combined with intelligent lighting indicators guide, guarantees the accurate identification and safe use of blood, without waste.



### Intelligent Blood Management System

Allows integration and coordination of blood recovery within hospitals and blood allocation between hospitals and even across regions through the blood network cloud platform. Enabling the rational use of blood upon demand, thus reducing resource consumption.



### Intelligent Blood Management System

Quickly and accurately identify blood bag location using onboard blood information management system.

The patient's blood matching information is shown and a blood bag automatically selected and a request for the bag is sent.

The system reads the blood information and light up indicators guide the user to the correct blood bag location.

Blood information is cross-checked and blood is issued. Inventory is automatically updated within the blood management system.

## Specifications

	Model	HXC-149R		HXC-429R		HXC-629R		HXC-629RB		
Technical Data	Type	Drawer-Type		Drawer-Type		Drawer-Type		Drawer-Type		
	Climate Class	N		N		N		N		
	Cooling Type	Forced air cooling		Forced air cooling		Forced air cooling		Forced air cooling		
	Defrost Mode	Auto		Auto		Auto		Auto		
	Refrigerant	R600a		R600a		R600a		R600a		
Performance	Sound Level (dB(A))	40		41		41		41		
	Temperature Range (°C)	4±1		4±1		4±1		4±1		
Control	Ambient Temperature (°C)	16-32		16-32		16-32		16-32		
	Controller	Microprocessor		Microprocessor		Microprocessor		Microprocessor		
Electrical Data	Display	LCD Touchscreen		LCD Touchscreen		LCD Touchscreen		LCD Touchscreen		
	Power Supply (V/Hz)	220-240/50	230-/50/60	220-240/50	230-/50/60	220-240/50	230-/50/60	115/60		
	Power (W)	250		280		300		300		
	Electrical Current (A)	1.5		1.8		1.9		3		
Construction	Power Consumption (kWh/24h)	2.6		2.9		3.1		3.6		
	Capacity (L/Cu.Ft)	149/5.3		429/15.1		629/22.2		629/22.2		
	Blood Storage Capacity (450ml blood bags)	18		60		88		88		
	Net/Gross Weight (approx)	kg	129/179		245/280		295/335		295/335	
		lbs	283.8/ 393.8		539/616		649/737		649/737	
	Interior Dimensions (W*D*H)	mm	505*560*610		505*680*1315		645*680*1455		645*680*1455	
		in	19.7*32.3*23.8		19.7*26.5*51.3		25.2*26.5*56.7		25.2*26.5*56.7	
	Exterior Dimensions (W*D*H)	mm	625*820*1425		925*940*1830		1065*940*1980		1065*940*1980	
		in	24.4*30.2*55.6		36.1*36.7*71.4		41.5*36.7*77.2		41.5*36.7*77.2	
	Packing Dimensions (W*D*H)	mm	740*945*1575		725*985*1940		875*995*2090		875*995*2090	
in		28.9*36.9*61.4		28.3*38.4*75.7		34.1*38.8*81.5		34.1*38.8*81.5		
Loading Quantities	Container load (20'/40'/40'H)	18/36/36		18/35/35		12/26/26		12/26/26		
Alarms	High/Low Temperature	Y		Y		Y		Y		
	Power Failure	Y		Y		Y		Y		
	Sensor Error	Y		Y		Y		Y		
	Low Battery	Y		Y		Y		Y		
	Door Ajar	Y		Y		Y		Y		
Accessories	Caster	4		4		4		4		
	Foot	2		2		2		2		
	Porthole	Y		Y		Y		Y		
	Drawers	9		30		44		44		
	USB Interface	Y		Y		Y		Y		
	Temperature Recorder	Y		Y		Y		Y		
	Remote Alarm	Y		Y		Y		Y		
Certifications	RS485	Y		Y		Y		Y		
	CE	Y	/	Y	/	Y	/	/	/	
	UL	/	Y	/	Y	/	Y	Y		

R suffix - RFID with IoT model for blood bag management  
Product appearance and specifications are subject to change without notice

# Unattended Self-service Blood Distribution Refrigerator

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## Self-Service Blood Distribution with Smart IoT Technology

### Self-service blood distribution for blood transfusion departments

- After blood cross matching is completed for the blood bags, specified blood collection permissions will be allocated to the different blood using departments to achieve self-help blood distribution; self-help blood collection at night can save labor cost and improve efficiency.

### Mobile blood storage points set up by blood stations

- The refrigerators may be used as mobile blood storage points in hospitals to guarantee the applications of emergency blood use, achieve zero waiting for blood use, and guarantee the timely blood use of patients.



HXC-629ZZ

## Product Advantages

### Electronic checking and bar code management

- Blood bag warehouse-in and warehouse-out management can be achieved by scanning the blood donation codes and the product codes on the bags.
- The system can take the specified blood bags for the work staff accurately after identifying the operators and checking the blood bags to be error-free.



A drawer corresponds to a lock

### Safe and reliable, making blood collection process traceable

- Equipped with fingerprint module and NFC card punching module, providing dual permission modes to open the electromagnetic lock;
- Each drawer is equipped with an independent electronic lock to ensure that only the unique and correct blood bag can be taken out in each blood collection operation;
- The camera module can take photos of the operators automatically and transmit them to the platform to achieve operation information traceability.



Self-service printing

### Ergonomic design

- Smart dual screen setting realizes simple and intuitive LCD screen display and better user-machine interactions.
- Upon checking of the warehouse-out blood bag's information, self-help printing of Blood Collection Sheet for Clinical Blood Transfusion and Blood Distribution Record Sheet is available.

### User-machine interaction, making management visual

- The intelligent blood management system can display the blood donation codes, product codes, blood types, blood quantities, expiry dates and other information of the stored blood bags in real time, realizing one-key query of the stock blood information.
- It can clearly show the storage location of the blood bag with the closest expiry date and follow the first-in-first-out management practices.

### Real-time control of freezer temperature

- Double temperature control composed of 6 high precision sensors and mechanical thermostat against low temperature makes control more accurate and maintains the refrigerator temperature constant at  $4\pm 1^{\circ}\text{C}$ .

## Specifications

Model	Voltage (V/Hz)	Power (W)	Temperature inside the refrigerator (°C)	Uniformity (°C)
HXC-629ZZ	220-240/50/60	300	2-6	4±1
External dimensions (W*D*H mm)	Internal dimensions (W*D*H mm)	Effective volume (L)	Blood bag volume (400ml blood bag)	Overall construction
1290*940*1980	645*680*1455	629	72	Single door

## Advanced Blood Bank Refrigerator with LCD Touchscreen



HXC-1369T

HXC-629T

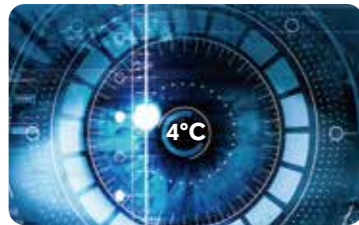
HXC-429T

HXC-149T

## Product Advantages

**Control Interface**

- The simple and intuitive high-definition LCD touch screen can display temperature graph, working status, events and alarm record.

**Microprocessor Control**

- A dual control system of six high-precision sensors and mechanical thermostat ensures that the temperature inside the cabinet is maintained at  $4 \pm 1^\circ\text{C}$ .

**Stable and Reliable Operation**

- The refrigeration system is powered with a high-quality, energy-efficient inverter compressor and variable speed fan motors. Temperature control responds quickly and reliably for a more uniform temperature using less power and lower noise.

**Multiple Safety Protection**

- Multiple alarms include high and low temperature, power failure, door ajar, sensor error, and low battery. Sound buzzer, visual flashing light and remote contacts are standard alarm features. Built-in battery provides power to the alarm system in the event of a main power failure. Fingerprint and standard NFC swipe card module are optional.
- Optional fingerprint and standard NFC swipe card module.

## Advanced Blood Bank refrigerator with LED Display

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HXC-1369

HXC-629

HXC-429

HXC-149

## Product Advantages

**With Multiple Temperature Control to Guarantee Constant and Precise Temperature**

- The inside temperature is constant within  $4 \pm 1^\circ\text{C}$ , the digital temperature display resolution at  $0.1^\circ\text{C}$ .
- Equipped with 6 high-precision sensors and a mechanical thermostat which enables more accurate air cooling and temperature control to ensure uniform temperature inside the unit, maintained within the specified temperature range. The multi-layer inner door design reduces thermal loss after door openings and further ensures the temperature stability inside the cabinet.

**With Multiple Safety Guarantees to Provide Worry-Free Service**

- Equipped with complete alarm function, including alarm on high and low temperature, power failure, door ajar, sensor error, and low battery. Two alarm modes including audible buzzer and visual lights with remote alarm interface.
- Back-up battery design ensures alarm and temperature readings continue to operate in the event of a main power failure.
- NFC swipe card module, with safer storage management.

**Standard USB Interface**

- Ability to record temperature data for ten years by using the USB interface, an optional disc temperature recorder is also available

## Blood Bank Refrigerator

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## Specifications

Model	HXC-149		HXC-429		HXC-629		HXC-629B		HXC-1369		HXC-149T		HXC-429T		HXC-629T		HXC-629TB		HXC-1369T			
Technical Data	Type	Basket-Type		Basket-Type		Basket-Type		Basket-Type		Basket-Type		Drawer-Type		Drawer-Type		Drawer-Type		Drawer-Type		Drawer-Type		
	Climate Class	N		N		N		N		N		N		N		N		N		N		
	Cooling Type	Forced air cooling		Forced air cooling		Forced air cooling		Forced air cooling		Forced air cooling		Forced air cooling		Forced air cooling		Forced air cooling		Forced air cooling		Forced air cooling		
	Defrost Mode	Auto		Auto		Auto		Auto		Auto		Auto		Auto		Auto		Auto		Auto		
	Refrigerant	R600a		R600a		R600a		R600a		R600a		R600a		R600a		R600a		R600a		R600a		
Performance	Sound Level (dB(A))	39		40		40		41		41		39		40		40		41		41		
	Temperature Range (°C)	4±1		4±1		4±1		4±1		4±1		4±1		4±1		4±1		4±1		4±1		
Control	Ambient Temperature (°C)	16-32		16-32		16-32		16-32		16-32		16-32		16-32		16-32		16-32		16-32		
	Controller	Microprocessor		Microprocessor		Microprocessor		Microprocessor		Microprocessor		Microprocessor		Microprocessor		Microprocessor		Microprocessor		Microprocessor		
Electrical Data	Display	LED		LED		LED		LED		LED		LCD		LCD		LCD		LCD		LCD		
	Power Supply (V/Hz)	220-240/50 230~/50/60		220-240/50 230~/50/60		220-240/50 230~/50/60		115/60		220-240/50 230~/50/60		220-240/50 230~/50/60		220-240/50 230~/50/60		220-240/50 230~/50/60		115/60		220-240/50 230~/50/60		
	Power (W)	240		245		255		255		400		240		245		255		255		400		
	Electrical Current (A)	1.4		1.5		1.5		3		2		1.4		1.5		1.5		3		2		
	Power Consumption (kWh/24h)	2.5		2.8		2.9		3.6		3.5		2.5		2.8		2.9		3.6		3.5		
Construction	Capacity (L/Cu.Ft)	149/5.3		429/15.1		629/22.2		629/22.2		1369/48.3		149/5.3		429/15.1		629/22.2		629/22.2		1369/48.3		
	Blood Storage Capacity (450ml blood bags)	60		195		312		312		624		60		195		312		312		624		
	Net/Gross Weight (approx)	kg	97/125		169/204		187/217		187/217		345/410		108/136		182/217		212/252		212/252		380/445	
		lbs	213.4/275		371.8/448.8		411.4/477.4		411.4/477.4		759/902		237.6/299.2		400.4/477.4		466.4/554.4		466.4/554.4		836/979	
	Interior Dimensions (W*D*H)	mm	505*560*610		505*680*1315		645*680*1455		645*680*1455		1425*680*1455		505*560*610		505*680*1315		645*680*1455		645*680*1455		1425*680*1455	
		in	19.7*32.3*23.8		19.7*26.5*51.3		25.2*26.5*56.7		25.2*26.5*56.7		55.6*26.5*56.7		19.7*32.3*23.8		19.7*26.5*51.3		25.2*26.5*56.7		25.2*26.5*56.7		55.6*26.5*56.7	
	Exterior Dimensions (W*D*H)	mm	625*820*1150		625*940*1830		765*940*1980		765*940*1980		1545*940*1980		625*820*1150		625*940*1830		765*940*1980		765*940*1980		1545*940*1980	
in		24.4*30.2*44.9		24.4*36.7*71.4		29.8*36.7*77.2		29.8*36.7*77.2		60.3*36.7*77.2		24.4*30.2*44.9		24.4*36.7*71.4		29.8*36.7*77.2		29.8*36.7*77.2		60.3*36.7*77.2		
Packing Dimensions (W*D*H)	mm	720*920*1220		725*985*1940		875*995*2090		875*995*2090		1610*995*2090		720*920*1220		725*985*1940		875*995*2090		875*995*2090		1610*995*2090		
	in	28.1*35.9*47.6		28.3*38.4*75.7		34.1*38.8*81.5		34.1*38.8*81.5		62.8*38.8*81.5		28.1*35.9*47.6		28.3*38.4*75.7		34.1*38.8*81.5		34.1*38.8*81.5		62.8*38.8*81.5		
Loading Quantities	Container load (20'/40'/40'H)	18/38/76		18/35/35		12/26/26		12/26/26		7/14/14		18/38/76		18/35/35		12/26/26		12/26/26		7/14/14		
Alarms	High/Low Temperature	Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		
	Power Failure	Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		
	Sensor Error	Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		
	Low Battery	Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		
	Door Ajar	Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		
	Dirty condenser	Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		
Accessories	Caster	4		4		4		4		4		4		4		4		4		4		
	Foot	2		2		2		2		2		2		2		2		2		2		
	Porthole	Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		
	Baskets	6		15		24		24		48		6		15		24		24		48		
	Shelves/Drawers	2/0		5/0		6/0		6/0		12/0		0/2		0/5		0/6		0/6		0/12		
	Inner doors	2		5		6		6		12		0		0		0		0		0		
	USB Interface	Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		
	Remote Alarm	Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		
Temperature Recorder	Optional		Y		Y		Y		Y		Optional		Y		Y		Y		Y			
Certifications	CE	Y	/	Y	/	Y	/	/	Y	/	Y	/	Y	/	Y	/	/	/	Y	/		
	UL	/	Y	/	Y	/	Y	Y	/	Y	/	Y	/	Y	/	Y	Y	Y	/	Y		

T suffix - Advanced with touchscreen

Product appearance and specifications are subject to change without notice

## 4°C Blood Bank Refrigerator

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Haier Biomedical's 4 °C Medical Blood Bank Refrigerator  
High efficiency, energy-saving, safe and reliable, smart control.



**HXC-106**



### Microprocessor Control System

The temperature range is  $4 \pm 1^\circ\text{C}$ , with temperature accuracy of  $0.1^\circ\text{C}$ .



### Air Cooling Design

The temperature in all corners of the cabinet is maintained within the calibrated temperature range, and the test hole design is added to meet the actual needs of the user.



### Multiple Fault Alarms

High and low temperature alarm, power failure alarm, door ajar alarm, sensor error alarm, low battery with a remote alarm interface, two alarm modes (sound beeping alarm and light flashing alarm).



### Multiple Protection

Startup delay protection, stop interval protection, display panel password protection, power failure memory data protection, sensor error protection.



### Remote Alarm Function

Can connect alarm to other rooms to achieve alarm function.



### Automatic Evaporation of Condensed Water after Collection

Avoid the trouble of manual treatment of condensed water.

## Product Features

### Door design

Vertical single door design, double layer electric heated glass door and self-closing function.

### Materials

The shell and inner liner are sprayed with steel plate, which is anticorrosive and bacteriostatic.

### Compressor

Deeply optimized refrigeration system, international brand compressor, energy saving, low noise, long service life.

### Interior lighting:

The cabinet is equipped with LED lights and external independent light switches.

### Door lock and door lock alarm:

Prevent random door opening.

### Door handle:

Easy to open

### Foot:

Stable and adjustable

### LED digital display:

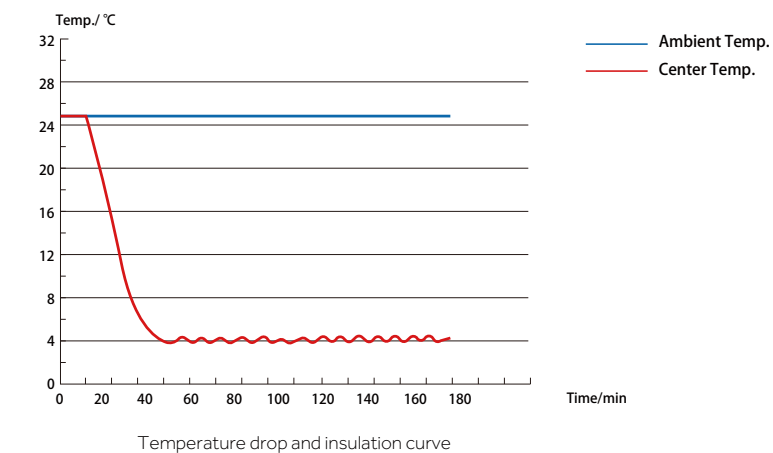
The internal temperature  $2-6^\circ\text{C}$ , digital display of upper and lower temperature, the average temperature display and the resolution of  $0.1^\circ\text{C}$ .

### Air cooling design:

Ensure that the temperature in any corner of the box is maintained within the calibration temperature range.

The temperature measuring box is used to monitor the temperature in the cabinet in real time.

3 shelves, 4 blood baskets, blood basket with a label slot, easy to label. Capable of storing 54 bags of 400ml blood totally.





# 4°C Blood Bank Refrigerator

The blood bank refrigerator is designed for blood collection housing, providing a safe and secure 2-6°C storage environment after the blood has been collected.



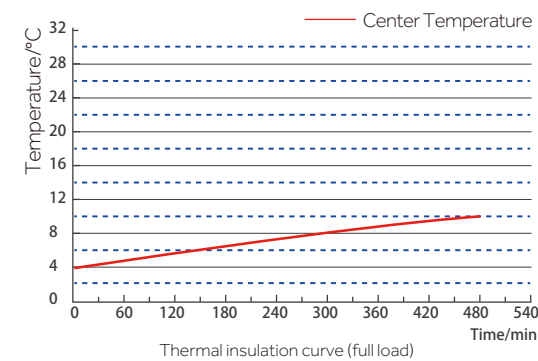
HXC-279

### Safe storage and optimum operation experience

- 60mm thick foam layer, superior insulation, ensuring the temperature is stable in the refrigerator;
- Five shelves and five inner doors design minimizes the cold loss;
- 15 blood baskets with labels. The maximum blood storage capacity is 135 bags (400/450ml);

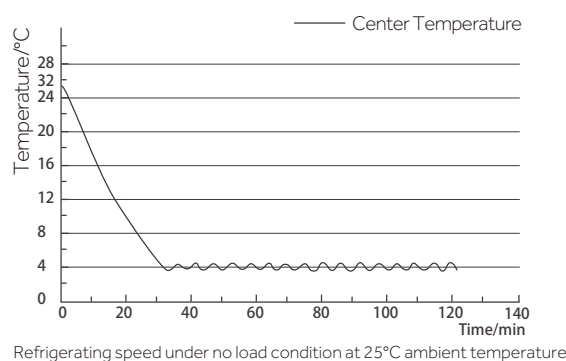
### Long insulation time

Under full load and power off conditions, holdover time for 4°C to 6°C is more than 150 minutes, more secure.



### Rapid refrigeration, high efficiency

It can reach set temperature within 35 mins under no load condition at room temperature.



## Specifications

	Model	HXC-106	HXC-279	
Technical Data	Type	Basket-Type	Basket-Type	
	Climate Class	N	N	
	Cooling Type	Forced air cooling	NForced air cooling	
	Defrost Mode	Auto	Auto	
	Refrigerant	HC	CFC free	
	Sound level (dB(A))	42	41	
Performance	Temperature Range (°C)	4±1	4±1	
	Ambient Temperature (°C)	10-38	16-32	
Control	Controller	Microprocessor	Microprocessor	
	Display	LED	LED	
Electrical Data	Power Supply (V/Hz)	220-240/50/60	220/50	
	Power (W)	253	2.6	
	Electrical Current (A)	1.6	400	
	Power Consumption (kWh/24h)	3.8	5.1	
Construction	Capacity (L/Cu.Ft)	106/3.75	279/9.85	
	Blood Storage Capacity	54 (400ml blood bags)	135/120 bags (400/450 ml blood bags)	
	Net/Gross Weight (approx)	(kg)	49/52	113
		(lbs)	108.03/114.64	249
	Interior Dimensions (W*D*H)	(mm)	430*350*830	505*410*1315
		(in)	16.93*13.78*32.68	19.8*16.1*51.8
	Exterior Dimensions (W*D*H)	(mm)	500*514*1055	660*705*1700
(in)		19.69*20.24*41.54	26.0*27.8*67.0	
Packing Dimensions (W*D*H)	(mm)	565*615*1145	730*760*1890	
	(in)	22.24*24.21*45.08	28.7*29.9*74.4	
Loading Quantities	Container load (20'/40'/40'H)	36/72/72	24/48/48	
	High/Low Temperature	Y	Y	
Alarms	Power Failure	Y	Y	
	Sensor Error	Y	Y	
	Low Battery	Y	Y	
	Door Ajar	Y	Y	
	Caster	Y	Y	
Accessories	Foot	Y	Y	
	Porthole	Y	Y	
	Shelves/Baskets	3/4	5/15	
	Inner doors	/	5	
	Remote Alarm	Y	Y	
	USB Interface	/	Y	
Certification	CE	Y	/	

Product appearance and specifications are subject to change without notice

Applicable for the storage of blood and blood related products and other items that need to be stored at 2-6°C in hospitals and blood stations.



HXC-158

### Innovative Design

- Frequency Conversion Compressor
- Adjustable Shelf And Basket
- Condensation Free Design
- Intelligent Alarm

### Product Advantages



#### Adjustable Shelves

The shelves are adjustable to any height to fulfill different requirements



#### Three Types of Alarm

Audible buzzer, visible flashing light, remote alarm



#### Five Alarm Functions

High/low temperature, power failure, sensor error, low battery, door ajar



#### Superior Performance

Adopting air cooling technology for the inside temperature uniformity and stability

### Specifications

Model		HXC-158	HXC-158B	
Technical Data	Type	Basket-Type	Drawer-Type	
	Climate class	ST	ST	
	Cooling type	Forced air cooling	Forced air cooling	
	Defrost mode	Auto	Auto	
	Refrigerant	HC	HC	
	Noise (dB(A))	42	42	
Performance	Temperature range (°C)	4±1	4±1	
	Ambient temperature (°C)	10-38	10-38	
Control	Controller	Microprocessor	Microprocessor	
	Display	LED	LED	
Electrical Data	Power supply (V/Hz)	220-240/50/60	220-240/50/60	
	Power (W)	320	320	
	Electrical current (A)	2.6	2.6	
Dimensions	Capacity (L/Cu.Ft)	158/5.6	158/5.6	
	Blood storage capacity (450ml blood bags)	84	84	
	Net/Gross weight (approx)	kg	107/120	113/126
		lbs	235.9/264.6	249.1/277.8
	Interior dimensions (W*D*H)	mm	460*370*950	460*370*950
		in	18.1*14.6*37.4	18.1*14.6*37.4
	Exterior dimensions (W*D*H)	mm	560*570*1530	560*570*1530
		in	22.0*22.4*60.2	22.0*22.4*60.2
	Packing dimensions (W*D*H)	mm	645*675*1680	645*675*1680
		in	25.4*26.6*66.1	25.4*26.6*66.1
Alarms	Container load (20'/40'/40'H)	27/54/54	27/54/54	
	High/Low temperature	Y	Y	
	Power failure	Y	Y	
	Sensor error	Y	Y	
	Low battery	Y	Y	
	Door ajar	Y	Y	
	Remote alarm	Y	Y	
Accessories	Caster	Y	Y	
	Foot	Y	Y	
	Test hole	Y	Y	
	Shelves/Basket	4/4	-	
	Drawers/Inner doors	-/2	4/-	
	USB interface	Optional	Optional	
	Temp recorder	Optional	Y	
Others	Certification	CE	CE	

## RFID Solution with Real-Time IoT Technology



DW-30L1280FT

- RFID radio frequency, accurate management of plasma information, with automatic inventory and quick inquiry function.
- Hydrocarbon refrigeration, efficient and quick.
- Mobile terminal bio-link APP ensures real-time monitoring.
- Multiple alarms, safe and reliable.
- 10-inch large screen, easy to operate and more intuitive display.
- NFC permission management system combined with an electromagnetic lock, controllable flow direction and traceable information.

### 10-inch large touch screen, easy to operate, intuitive display.



- The 10-inch large touch screen ensures an easier operating experience. Capable of displaying interior real-time temperature, ambient temperature, temperature set point, input voltage, network status, user login status, temperature curve and new message/notebook, etc. Query interface can display plasma donation code, product code, blood type, blood volume, period of validity, etc.

### Equipped with IoT function, ensuring real-time temperature monitoring.



- Equipped with IoT function, capable of sending users the equipment alarm information in the form of text messages. Download bio-link APP to monitor and check cabinet temperature, alarms and event logs from anywhere at anytime.

### Bottom air inlet system, low noise



- Equipped with a special filter, ensuring the cleanness and safety of interior air.



### Multi-compartment Storage Basket

- Multi-compartment storage basket design, streamlines plasma storage and placement, easy to access.



### Dual Cooling System, Frost Free

- Equipped with dual cooling system, if one system fails, the other system can maintain the interior temperature at -25°C for an extended period, safe and reliable.
- RFID read-write board can read plasma label information, providing inventory plasma information statistics. Supports automatic inventory, one-key inventory and plasma in-out stock storage information.

## Specifications

Model	Voltage (V/Hz)	Interior Temperature (°C)	Exterior Dimension (W*D*H mm)	Interior Dimension (W*D*H mm)	Effective Volume (L)	N.W./G.W. (kg)	loading Qty (bag)
DW-30L1280FT	220/50	-10--35	1520*1065*1980	1320*752*1260	1280	440/505	576

# Plasma Apheresis System

The process is completely traceable with intelligent interconnection methods, this design improves the safety and security for the donor.



### Identity Recognition

Built-in intelligent identity recognition system can identify a person immediately and accurately through multiple sources, such as face, ID card and fingerprint as key examples.

### Intelligent identification, safe and effective error prevention system

Precise control and accurate identification of the anticoagulant bags, improved safety, reliability and security.

### Smart IoT

Intelligent interconnection with the management system, data at a glance, clear and convenient.

### Ergonomic

Suitable for plasma stations and mobile collections with limited space.

## Ergonomic Design



Intelligent connectivity which ensures automatic data collection and processing.



Large color touch screen, easy to operate.



The unit is small in size, movable and easy to use, which reduces the burden of users.



Optimized system and structural noise reduction design, low operating noise.



## The whole process of blood component (plasma) separation is traceable

- The whole process can be automatically monitored and managed.
- Automatic recording and uploading data.
- Precise control of data is immediate.



### Data and identity protection system

The separator can collect information in multiple dimensions including ID card, face, fingerprint and bar code. Then the system will recognize the accurate information from the database, ensuring no inaccuracy of donor or recipient information being contaminated.



### A messenger who automatically processes data information

The separator can record and upload consumables and collect data automatically and intelligently without manpower, this improves efficiency and prevents errors, which saves medical staff precious time and reduces stress.



### Comprehensive monitoring surveillance system

All-directional multi-angle monitoring plasma collection process. Exclusive design of blood pump and anticoagulation pump. Adaptive compensation function is more compatible with consumables from different manufacturers. No wearing parts. Stable flow. Accurate control of blood cell access ratio. Multi-level alarm system can find any errors.



### The monitor prevents manual process errors

The separator will emit an alarm sound and corresponding text prompt when there is any mishanging of anticoagulant. If this occurs the system is unable to carry out the next operation, which completely eliminates the risk of infusion error, and avoids any accident that endangers the safety of the plasma donor.



### Compatible with accurate capacity optimization

It can be used with 160ml anticoagulant bags to accurately match actual needs, which means cost reduction and environmentally friendly improvements. Consumables are versatile and compatible with multiple models.



### The pioneer to maintain blood activity perfectly

Centrifuge cup adopts new patented technology to gently protect blood activity so that blood is safer.

## Specifications

Model	Power supply (V/Hz)	Exterior dimensions (W*D*H) (mm)	Gross weight (kg)
XJ-II	220-/50	540*510*770	29

Parameters	Amount collected per cycle (g)	Total plasma collection (g)	Pump speed (ml/min)	Return speed (ml/min)	Anticoagulant (Citrate) to whole blood ratio	Centrifuge speed (r/min)
Range	0-300	0-1000	20-100	20-100	1:12-1:16	7000
Preset	230	600	80	80	1:16	7000
Precision	1	1	≤2	≤2	<1	≤2.5%

This product is composed of a mainframe (Centrifuge, blood pump, anticoagulant pump, weighing scale, display screen, air detector, pressure detector, control panel) and a pressure cuff, excluding the matching disposable pipe consumables.

# Plasma Blast Freezer

Mainly applicable to the quick-frozen treatment of plasma products in blood stations or medical institutions.

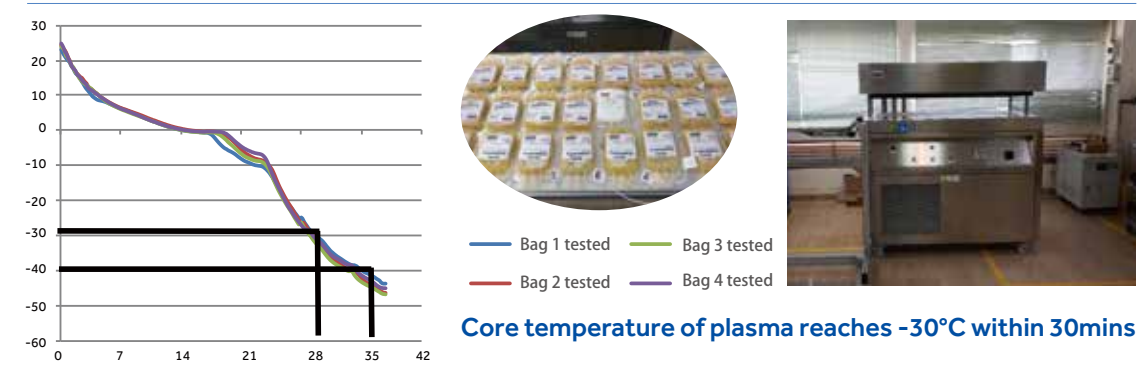


**XSD-24FL**

## Features

- Traceability of each freezing cycle
- Maximum freezing efficiency
- Able to freeze all types and different sized plasma bags
- Easy-to-use interface
- Fast pre-cooling process
- Pneumatic lift
- Rollable, ready-to-plug in or external solution
- Night storage control
- Stainless steel plates
- Air cooled solutions

## Performance Curve



## Specifications

Model	Climate type	Power supply	Freezing capacity	Cooling method	Power cord	Dimension (head cover open) (mm)	Dimension (head cover close) (mm)	G.W/N.W (kg)
XSD-24FL	N	3N 400V/50hz/60hz	16 bags of 1000ml plasma or 24 bags of 500ml plasma	Forced air cooling	Crimp PTB	1455*915*1575	1455 *915*1375	480/550

## Standard Parts List

Picture	Description	Basic Solution	Premium Solution	List of Configuration	Features & Functions
	Blast Freezer	●	●	1. XSD-24FL Blast Freezer 2. Analog sensor × 1 3. User's Manual × 1 4. Plug-in power cord × 1 5. Host computer software × 1 6. Dummy bag × 2	1. Rapid freezing of plasma, defrosting and locking 2. Pulls down the central temperature of blood bag to -30°C within 30mins 3. Standard software for host computer, to support query and printing of refrigeration data

## Optional Parts List

Picture	Description	Basic Solution	Premium Solution	List of Configuration	Features & Functions
	Scanner	●	●	Wireless scanner × 1	1. Enables the user to input the barcode of blood bag 2. Wireless device for more convenient operation 3. Ensures accurate and quick scanning
	Pallet Cart	○	●	Pallet cart for plasma transfer × 1	1. Made of aluminum alloy sections, firm and durable 2. Universal wheels, for convenient operation
	Tray	○	●	Tray for plasma transfer × 1	1. Made of aluminum to ensure high thermal conductivity 2. Put in and take out conveniently and effectively plasma by using the tray
	Analog Sensor	○	●	Analog sensor × 1	Supports the accurate regulation of blood bag
	Dummy Bag	○	●	Dummy bag × 1	Equipped with internal temperature measuring tube, convenient for determining the temperature at the center of blood bag

# Plasma Blast Freezer

Mainly applicable to the quick-frozen treatment of plasma products in blood stations or medical institutions.



**XSD-48WFL**

## Ergonomic Design



### Flexible set up

The storage temperature, freezing time, and defrosting time can be flexibly set as required



### Simple operation

All pre-cooling, freezing, defrosting procedures are controlled by PLC control module, simple operation, avoid wrong operation, ensure plasma safety



### Rapid-freezing tray design

Rapid-freezing tray design, not only to improve the efficiency of plasma rapid-freezing, but also easy to save labor



### Electric lifting system

Height control is more accurate and quieter than pneumatic lifting system



### Password protection

Parameter setting is password protected to ensure plasma safety



### Friendly interface

Friendly interface display design, clearer temperature observation

## Product Advantages



### Low rapid-freezing temperature

Rapid-freezing temperature can be reduced to -60°C, superior performance



### Data is printable and the information traceable

Plasma storage data and corresponding curves can be exported via USB, which is convenient for information traceability



### Precise temperature control, control precision 1°C

PLC control module, the system is stable and reliable, temperature control precision 1°C, to ensure the safety of plasma



### Plate Rapid-Freezing, efficient Cooling

The central temperature of full-load plasma can be quickly frozen to below -30°C within 45 minutes, which effectively guarantees the activity of factor VIII



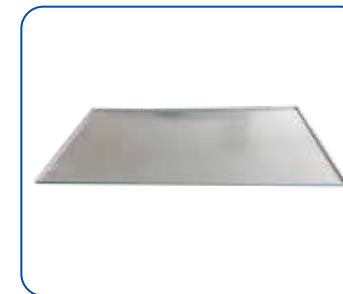
### Efficient core components, energy saving

High efficiency compressor and dual-cooling system, better performance; Hydrocarbon refrigerant, energy saving and environmental protection

## Optional Accessories

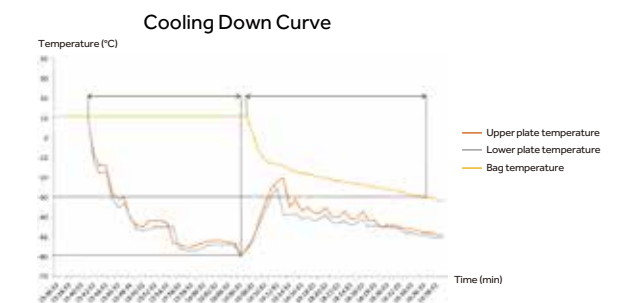


Trolley



Tray

## Temperature Curve



## Specifications

Model	Cooling Type	Power Supply	Cooling Method	Power Cord
XSD-48WFL	Plate contact quick-freezing	3N 380V-50HZ/60HZ	Forced air cooling	Plug and play

External Dimensions (mm)		Weight (kg)		Plasma Bag Capacity		
Indoor machine	Outdoor machine	Indoor machine	Outdoor machine	1000ml bag	350ml bag	250ml bag
2040*880*1895	1500*860*1850	320	360	32	80	80

Product appearance and specifications are subject to change without notice

# Plasma Blast Freezer

Mainly applicable to the quick-frozen treatment of plasma products in blood stations, plasma stations or medical institutions



**XSD-24WFL**

## Ergonomic Design



### Rapid-freezing tray design

Rapid-freezing tray design, not only to improve the efficiency of plasma rapid-freezing, but also easy to save labor



### Simple operation

All pre-cooling, freezing, defrosting procedures are controlled by PLC control module, simple operation, avoid wrong operation, ensure plasma safety



### Electric lifting system

Height control is more accurate and quieter than pneumatic lifting system



### Password protection

Parameter setting is password protected to ensure plasma safety



### Flexible setup

The storage temperature, freezing time, and defrosting time can be flexibly set as required



### Friendly interface

Friendly interface display design, clearer temperature observation

## Product Advantages



### Plate rapid-freezing

Contact refrigeration of upper and lower cold plates. Blood bags are placed between the upper and lower cold plates to achieve rapid freezing through contact and heat conduction. The appearance of quick-frozen blood bags is smooth



### Double stage cooling system

The refrigeration efficiency is 20% higher than that of single stage. Compared with single-stage compressor, double-stage compressor is more stable, more efficient and has a faster cooling speed at low temperature



### Split-style design

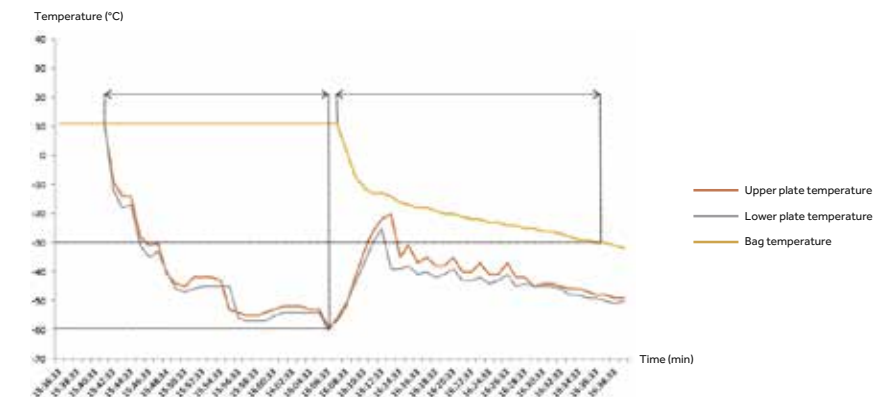
By installing the compressor and fan outdoors, the indoor noise and heat dissipation are greatly reduced, and the working comfort of users is improved



### Intelligent screen

The 10-inch touch screen is convenient to view the temperature curve and data, record the rapid-freezing time in real time, and adjust the temperature parameters through the display screen, which is efficient and quick

## Cooling Down Curve



## Specifications

Model	Rapid-cooling Type	Power Supply (V/Hz)	Cooling Method	Power Cord	Exterior Dimensions (W*D*H)(mm)	Weight (Kg)
XSD-24WFL	Plate contact quick-freezing	3N 380-50/60	Forced air cooling	Plug and play	(Indoor machine / Outdoor machine) 1455*915*1465 1340*760*1640	(Indoor machine / Outdoor machine) 320/360

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

# Platelet Incubator with Agitator

This incubator includes an integrated platelet agitator and is designed to create the optimal storage environment of platelets after collection. Suitable for hospitals, blood stations and research applications.

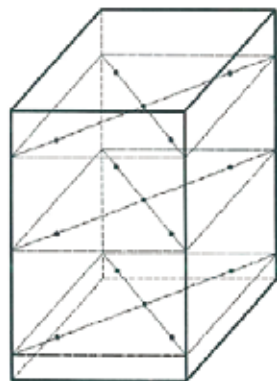


HXZ-149



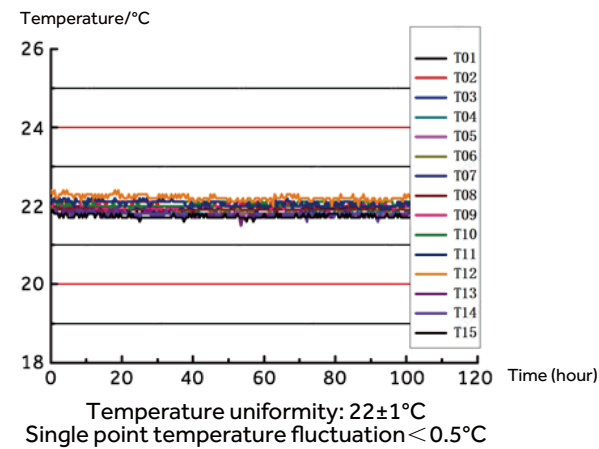
HXZ-1369

## Product Performance



HXZ-149 15 test points

HXZ-149 Running temperature curve (Empty loaded)



## Product Advantages



### Data Traceability

- Real-time temperature monitoring, records and stores historical data, alarm records and events
- USB interface, convenient and safe data transfer



### Energy Saving

Semiconductor temperature control technology, PID algorithm adjustment, energy saving 30% than the traditional compressor



### Multiple Alarms

Multiple alarms including overtemperature alarm, power failure alarm, sensor failure alarm, door ajar alarm, low battery alarm, abnormal alarm of oscillating motor, remote alarm ensures maximum safety



### Superior Insulation Performance

60mm thickened foam layer. In the event of a power failure within a 25°C ambient and an empty load, the warm up time from 22°C to 24°C in the center of the chamber is more than 4 hours



### Reliable Oscillation

The agitator mechanism is equipped with an alarm and calibration device to ensure platelet quality



### Precise Temperature Control

Semiconductor temperature control, internal temperature is maintained at 22°C±1°C



### Low Noise

Semiconductor and EBM oscillating motor provide a quiet working environment



### Ultraviolet Disinfection

The UV disinfection function helps maintain a sterile environment

## Specifications

Model	HXZ-149	HXZ-1369
Temperature (°C)	22 ± 1	22 ± 1
Oscillation Range (mm)	50	50
Oscillation Frequency (times/min)	60	60
Power Supply (V/Hz)	220/50	220/50
Exterior Dimensions (mm)	625*795*1050	1545*915*1945
Interior Dimensions (mm)	505*560*610	1425*680*1455
Effective Capacity (L)	149	1369
Tray	9	18
Maximum Storage Capacity (bag)	36	216
Net Weight (kg)	114	345

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





**Transport  
Cooler**

# Transport Cooler for Biological Products

## Temperature Range 0~10°C

### Active Cooling Solution



HZY-8Z/8ZA



HZY-15Z/15ZA

- Accurate control of the temperature between 2-6°C
- PCM ice raft
- Constant temperature
- Complete process with cold chain monitoring
- Replace the traditional Insulation method with haier's transport cooler for transport
- Blood from blood transfusion department to clinical blood transfusion point



#### Low Noise

- The ultra-quiet fan is equipped with air outlets on both sides, noise level less than 34 dB providing a more comfortable environment.



Air Duct Structure



#### Easy to Clean

- The inner liner adopts aluminium oxidation process to make it smooth inside and easy to clean.



Internal Structure

### Product Features

Semiconductor for active cooling, energy saving and environmental protection.

- Connect to power to cool unit to temperature, during transportation (without power) the unit will hold temperature. Small and easy to carry.

2~6 °C precise temperature control, suitable for storage of biological products such as blood, medicines and reagents etc.

- Temporary blood storage to ensure blood safety at clinical blood stations.

Embedded with 4 °C phase change PCM ice pack for cold storage, providing long insulation after power off to ensure blood safety during the transportation.



4 °C PCM Ice Pack

- The PCM ice pack uses a 4°C phase change material with a freezing point greater than 2°C to ensure the low temperature preservation of blood and other biological samples.
- At 25 °C under no load, the time for temperature inside the box rises to 10 °C is more than 1 hour.
- At 25 °C under full load, the time for temperature inside the box rises to 10 °C is more than 2 hour.

Multiple Fault Alarms, Making It Safer to Use.

- High/low temperature alarm, power failure alarm, and sensor error alarm.

The Power Supply Is Configured with Cigarette Lighter Plug, Easy for Vehicle Transportation.

- The power supply is configured to fit the vehicles internal power plug, easy for vehicle transportation.

### Passive Cooling Solution

- Multi-function handle with casters for easy transportation
- Multi dimensional binding of orders and blood, and whole process with cold chain monitoring
- From blood collection vehicle/blood donation house to blood center/blood station from blood center/blood station to hospital

### Product Features

- LCD screen, real-time display of inside temperature, battery level and other information.
- Electromagnetic lock as standard, ability to scan QR code to open the unit, safeguarding the stored items.
- 4°C ice pack ensures cool storage temperatures with zero freezing to keep blood within safe storage temperature guidelines during transportation.



HZY-5B



HZY-35B

### Product Features

- Real-time display of inside temperature.
- Integrated cold storage ice pack box, easy to access ice pack.
- Rotational moulding shell, anti-knocking, easy to carry.
- Multifunctional handle, sided casters, easy to be transported on flat road.

# Transport Cooler for Biological Products

195/196

## Specifications



	Model	HZY-5B	HZY-8Z	HZY-15Z
Technical Data	Storage Temperature (°C)	/	2-6	2-6
	Operating Temperature (°C)	2-10	2-10	2-10
Construction	Net / Gross Weight (kg)	2/3	3.5/5	6/8
	Exterior Dimensions (W*D*H mm)	285x186x200	320x265x260	520x300x270
	Interior Dimensions (W*D*H mm)	220x118x126	230x140x170	430x150x180
	Packing Dimensions (W*D*H mm)	357x277x287	393x362x367	595x375x404
	Blood Bag Capacity	5	8	15
Functions	Foam material	High density foam	Polyurethane Cycloisopentane	Polyurethane Cycloisopentane
	Refrigeration method	Passive cooling	Semiconductor active refrigeration	Semiconductor active refrigeration
	Warm up time	3 hours (32°C ambient temperature load situation)	2 hours (32°C ambient temperature load situation)	2 hours (32°C ambient temperature load situation)
	Shell/liner	ABS/ABS	ABS/ aluminium plate	ABS/ aluminium plate
	Alarm	Low Battery	High temperature,sensor error, power off	High temperature,sensor error, power off
	Battery	Lithium Battery	Rechargeable lithium battery	Rechargeable lithium battery
	Certification	CE	/	Y



		HZY-8ZA	HZY-15ZA	HZY-35B
Technical Data	Storage Temperature (°C)	2-6	2-6	/
	Operating Temperature (°C)	2-10	2-10	2-10
Construction	Net / Gross Weight (kg)	4/5	6/8	9/12
	Exterior Dimensions (W*D*H mm)	320x265x260	520x300x270	550x328x370
	Interior Dimensions (W*D*H mm)	230x140x170	430x150x180	450x232x295
	Packing Dimensions (W*D*H mm)	393x362x367	595x375x404	674x455x490
	Blood Bag Capacity	8	15	35
Functions	Cold Chain Monitoring	Y	Y	/
	NFC Unlock	/	Y	/
	Foam material	Polyurethane Cycloisopentane	Polyurethane Cycloisopentane	Polyurethane Cycloisopentane
	Refrigeration method	Semiconductor active refrigeration	Semiconductor active refrigeration	Passive cooling
	Warm up time	2 hours (32°C ambient temperature load situation)	2 hours (32°C ambient temperature load situation)	6 hours (43°C ambient temperature load situation)
	Shell/liner	ABS/ aluminium plate	ABS/ aluminium plate	HDPE/HDPE
	Alarm	High temperature,sensor error, power off	High temperature,sensor error, power off	/
Battery	Rechargeable lithium battery	Rechargeable lithium battery	Button battery	
Certification	CE	/	/	Y

Product appearance and specifications are subject to change without notice

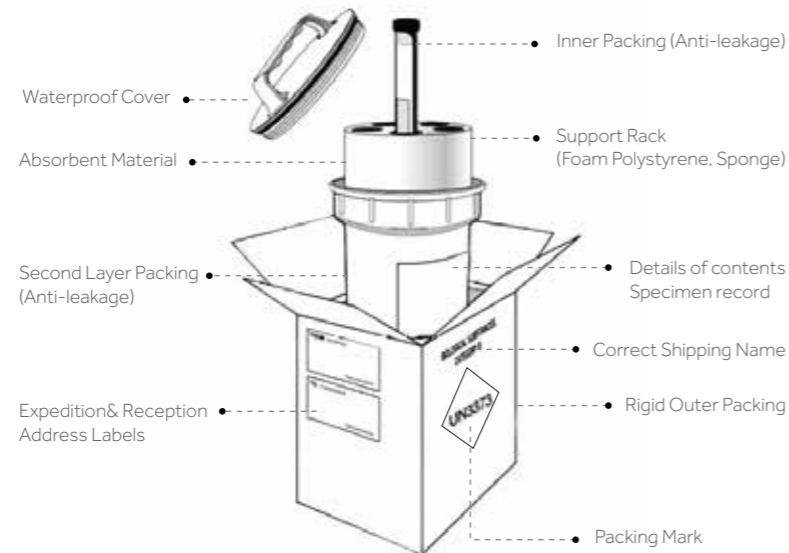
### Transport Cooler for the Infectious Material

The virus is high-risk specimen, and if there is collision during the transportation or transmission, there will be a risk of leakage and re-infection. A solution is urgently needed to ensure the viability of the samples and the safety of transport personnel.

### Packaging System

#### Three-layer packaging:

- **Main container**  
Test tube with cap (user configures according to business)
- **Auxiliary container**  
≥95kPa pressure sealed tank (EPS or EPE bracket for fixing test tube, 16 hole D10 test tube and 2 hole D15 test tube)
- **Outer packaging**  
Transfer box (ice row, foam used to fix sealed container, activated carbon and other adsorbed substances, sample labeling)



### Active Cooling



HZY-8Z (Specimen)



HZY-15Z (Specimen)

### Product Advantages



#### Active semiconductor cooling, energy saving and environment friendly

Active semiconductor cooling, energy saving and environmental protection, built-in cooling function, cooling after power on.



#### Precise temperature control

Precise temperature control at 2°C ~ 6°C is suitable for the temporary storage of biological products such as serum and blood specimens.



#### Built-in, 4°C phase change PCM, ice row cooling, long-term insulation after power failure, to ensure the safety of specimen

Under the condition of no load at 25°C, the temperature of the air in the box rising to 10°C takes 1 hour; under the loading condition of 25°C, the air temperature in the box rising to 10°C takes 2 hours.



#### Multiple fault alarms, safer to use

High and low temperature alarm, power failure alarm, sensor error alarm.



#### The power supply is equipped with a car cigarette lighter plug, which is convenient for vehicle transport

The power supply can support 12V and 100~240V conversion, so the container can be put into the car to plug in and transfer.

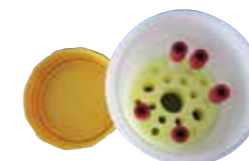
### Auxiliary Container



HZY-8Z (Specimen)



HZY-15Z (Specimen)



#### Pressure sealed tank (EPS or EPE holder for fixing test tubes, 16-hole D10 test tube and 2-hole D15 test tube)

The pressure-sealed tank remains intact at the temperature of the refrigerant used, as well as the temperature and pressure that may occur after loss of refrigeration. Under the condition of no leakage, it can withstand the internal pressure of 95kPa, and can ensure that it will not be damaged in the temperature range of -40°C to + 55°C.

# Transport Cooler for Infectious Materials

199/200

## Passive Cooling



UN2814 transport cooler  
HZY-10B (P620)

## Product Advantages



### Passive cooling, long heat preservation time, suitable for air transportation;

At 32°C ambient temperature, the temperature inside the box (pre-cooled in advance) rising to 10°C takes 7 hours(P650) and 8 hours(P620) separately.



### PCM ice row, frozen at 4°C, to ensure the safety of specimen storage;

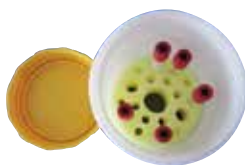


The shell is made of aluminum-magnesium alloy, with high strength; Meeting the P620 packaging requirements of Class A infectious substances(HZY-10B) and the P650 packaging requirements of Class B infectious substances(HZY-10B) separately.

## Auxiliary Container



HZY-10B (P620)



### Pressure sealed tank (EPS or EPE holder for fixing test tubes, 16-hole D10 test tube and 2-hole D15 test tube)

The pressure-sealed tank remains intact at the temperature of the refrigerant used, as well as the temperature and pressure that may occur after loss of refrigeration. Under the condition of no leakage, it can withstand the internal pressure of 95kPa, and can ensure that it will not be damaged in the temperature range of -40°C to + 55°C.

## Specifications

Model	HZY-8Z	HZY-15Z
Use	Transfer of biological specimens, etc	Transfer of biological specimens, etc
Type	Active cooling, portable	Active cooling, portable
Internal dimensions (W*D*H mm)	230*140*170	430*150*180
External dimensions (W*D*H mm)	320*265*260	520*300*270
Loading quantity	1 transport tank	2 transport tanks
Effective volume	6L, 1 built-in specimen seal can	12L, 2 built-in specimen seal cans
Specimen seal can dimension (mm)	H160*D130	H160*D130
Tube storage capacity	16 pcs D10 test tubes (small), 2 pcs D15 test tubes (large)	
Net weight (kg)	3.5	6
Controller	Microprocessor control	Microprocessor control
Temporary storage temperature (°C)	2-6	2-6
Transfer temperature (°C)	2-10	2-10
Holdover time (25°C, no load) (h)	1	1
Holdover time (25°C, full load) (h)	2	2
External material	ABS, high-density EPS foam filling	ABS, high-density EPS foam filling
Internal material	Aluminum plate	Aluminum plate
Door material	ABS, high-density EPS foam filling	ABS, high-density EPS foam filling
Cold storage	PCM ice-pack for cold storage	PCM ice-pack for cold storage
Cooling type	Optimized semiconductor cooling	Optimized semiconductor cooling
Cooling fan	ADDA fan	ADDA fan
Temperature control and display	Microprocessor control, dual sensors for control and display, display accuracy 0.1 °C	
Alarms	Sensor failure alarm, high temperature alarm, power failure alarm	

## Specifications

Model	HZY-10B (P620)
Purpose	Disease control centers, hospitals, etc. are used for transport of infectious substance specimens (air transportation)
Type	Passive cooling
Internal dimensions (W*D*H mm)	345*225*182
External dimensions (W*D*H mm)	430*312*272
Loading quantity	2 transport tanks
Effective volume	14L with 2 built-in specimen sealed tanks
Specimen sealed tank size (mm)	H160*D130
Number of test tubes (Single tank)	16 test tubes D10 (small), 2 test tubes D15 (large)
Net weight (kg)	8
Transport temperature (°C)	2-10
Thermal insulation time (32°C full load) (h)	8
Cabinet material	Aluminum magnesium alloy box shell
Thermal insulation material	EPP foam liner
Cool storage mode	PCM ice pack cold storage

### Medical Transport Cooler



-  High strength material, anti-collision, non-toxic and harmless, UV resistant.
-  The outer-unit body is equipped with an integrated handle, which is firmly installed and durable.
-  Real-time display of temperature inside the cooler, making the temperature monitoring more intuitive.
-  Specially positioned ice packs, partitioned storage, easy to operate.
-  Professional & innovative sealed design ensuring zero cold leakage to achieve safe, secure and reliable long-term cooling preservation.

### Typical Application

Cold chain transportation for samples, reagents, blood products, specimens and drugs.

### Specifications







Model	FS-12LS	FS-18LS	FS-35LS	FS-54LS	FS-100L	FS-110L
Temperature Range (°C)	0-10	0-10	0-10	0-10	0-10	0-10
Duration (h)	≥24	≥24	≥24	≥24	≥24	≥24
Exterior Dimensions (W*D*H)(mm)	440*262*308	440*262*308	570*305*365	615*395*450	680*500*540	832*515*524
Interior Dimensions (W*D*H)(mm)	325*170*225	363*203*244	475*245*270	520*310*355	580*400*440	732*421*425
Qty of Icepacks (Pcs)	4	4	4	4	4	6
Net Weight (kg)	6.2	6.5	9.5	18.5	22	19

Note: -25~-15°C and 15-25°C are available with optional ice packs. The standard ice packs can only achieve 0-10°C temperature storage.

### Temperature Range -20~10°C








ALG50

-  Low voltage battery protection
-  LED lighting
-  Widescreen LCD display
-  Real-time voltage display
-  Detachable temperature sensor
-  Standard basket








BCD60

-  Low voltage battery protection
-  LED lighting
-  Detachable temperature sensor
-  Widescreen LCD display
-  Real-time voltage display

## Cold Chain Transport Cooler



BCD115

-  Low voltage battery protection
-  LED lighting
-  Detachable temperature sensor
-  Widescreen LCD display
-  Real-time voltage display

### Specifications




	ALG50	BCD60	BCD115
Capacity (L)	50	60	115
Climate Type	T, ST, SN, N	T, ST, SN, N	T, ST, SN, N
Net Weight (Kg)	16.7	24.0	28.6
Operating Temperature (°C)	-20~ +10 (at 25°C)	-18~ +10 (at 32°C)	-18~ +10 (at 32°C)
Power (W)	55	70	70
Refrigerant	R134a	R134a	R134a
Insulation Material	C5H10/C-Pentane	C5H10/C-Pentane	C5H10/C-Pentane
Exterior Dimensions (W*D*H)	mm 630*404*530	mm 621*485*569	mm 811*482*672
Packing Dimensions (W*D*H)	mm 715*450*625	mm 718*578*638	mm 906*575*745
Voltage Power Supply	AC110-240V, 50/60Hz	AC110-240V, 50/60Hz	AC110-240V, 50/60Hz
	DC 12V/24V	DC 12V/24V	DC 12V/24V
Power Consumption (kWh/24h)	0.23	0.25	0.25

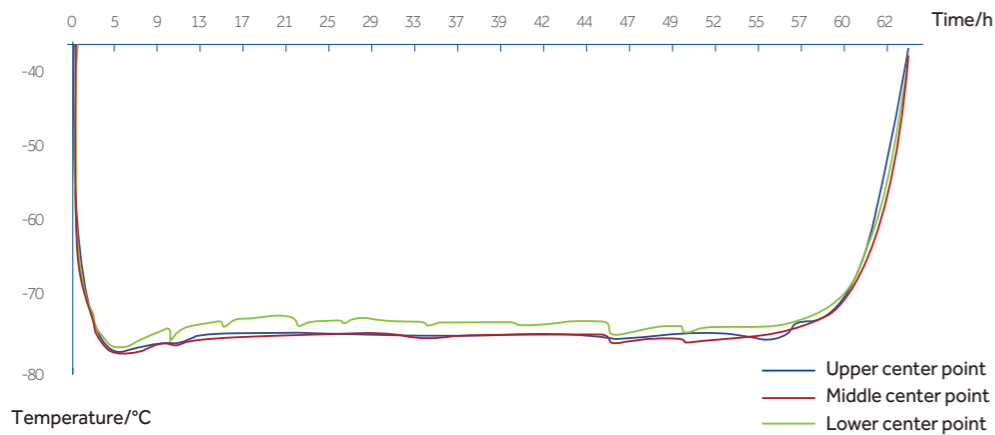
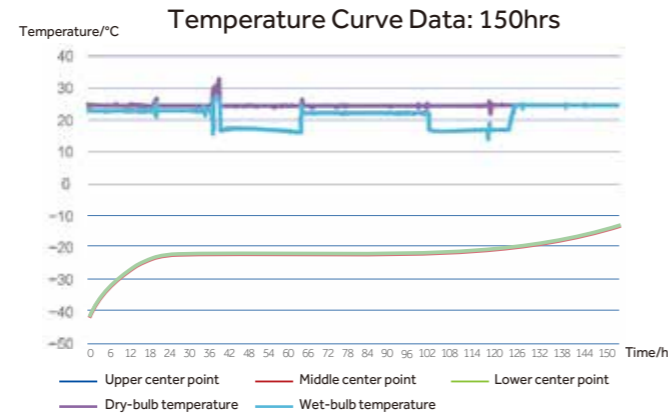
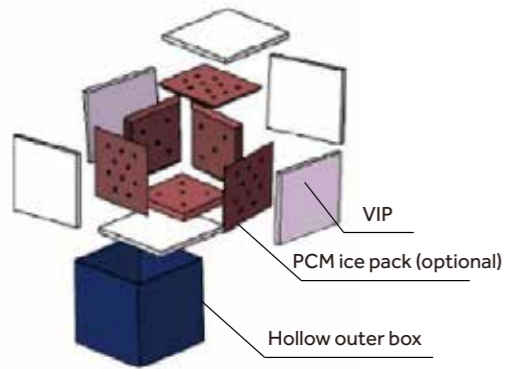
Temperature Range -25~-10 / 2-8/15-25°C

## Intelligent Control Cold Chain Transport Cooler

### Product Advantages



-  **Check the insulation status at any time**  
Real-time upload setting parameters, operation parameters, operation curve, alarm record and event record. Monitor the operation of the transport cooler through the UCool system to visualize the complete process and traceability of information.
-  **Stable performance, long service life**  
The product adopts VIP insulation technology which has an insulation performance of 5-8 times that of polyurethane foam, and significant extended time temperature control that handles the changing transportation conditions and environment; It has long service life by adopting nanometer core material.
-  **Light weight, easy to carry**  
Light product with ergonomic design is easy to carry.



Specifications

Model	BW25-8A	BW25-12A	BW50-12A	BW25-18A	BW25-36A	BW50-36A	BW25-64A
Temperature Range (°C)	-25~-15/2-8/ 15-25/-90~-60	-25~-15/2-8/ 15-25/-90~-60	-25~-15/2-8/ 15-25/-90~-60	-25~-15/2-8/ 15-25/-90~-60	-25~-15/2-8/ 15-25/-90~-60	-25~-15/2-8/ 15-25/-90~-60	-25~-15/2-8/ 15-25/-90~-60
Exterior Dimensions (W*D*H)(mm)	455*295*295	410*345*355	470*400*410	510*350*355	515*450*460	575*510*510	590*525*525
Packing Dimensions (W*D*H)(mm)	546*381*389	504*436*444	560*492*500	607*439*447	609*541*549	665*597*605	679*611*619
Interior net Dimensions (W*D*H)(mm)	310*215*215	270*270*270	270*270*270	370*270*270	370*370*370	370*370*370	440*440*440
Payload Size (with ice pack)(mm)(optional)	270*175*175 (8L)	230*230*230 (12L)	230*230*230 (12L)	330*230*230 (18L)	330*330*330 (36L)	330*330*330 (36L)	400*400*400 (64L)
Net Weight (kg)	4	4.8	9.8	5.6	8.2	16.4	11
Gross Weight (kg)	6	6.8	12.5	8.2	11.2	20	14.8
Recorder Monitoring	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Heat Insulating Material	VIP	VIP	VIP	VIP	VIP	VIP	VIP
Insulation Thickness (mm)	25	25	50	25	25	50	25
Daily Consumption of Dry Ice (kg)	1.5	1.6	0.75	1.85	2.5	1.5	2.7
Safety Margin (kg)	1	1	1	1	2	2	2

Note: The safety margin is the minimum amount of dry ice required to keep the temperature in the box not higher than -70°C.

Temperature Range -20~22°C

Active Cooling

Product Advantages

DC Frequency Conversion Technology

DC frequency conversion compressor, superior energy efficiency.

Tilt Protection Function

Electronic gyroscope in board, effective protection for compressors.

Integrated Main Body

Rotational molding body better adapted to complex transport environments.

Multiple Power Supply

Supports AC and DC power.



HZY-40Z

Unique Designs

- The body and door use integrated rotomolding.
- Optional: Electromagnetic lock, with password lock equipped, more secure.
- Using environmental LBA CFC-free foaming materials, thermal insulation performance is increased by up to 5%.
- Forced air cooling method, the temperature is more uniform.
- The body is equipped with a handle for easy carry.
- Built-in UVC ultraviolet lamp for regular disinfection.
- Optional: Casters to facilitate transport.
- 3 in 1 wide temperature range, multiple functions within one unit, greater cost savings.

Specifications

Model	Exterior Dimension (W*D*Hmm)	Interior Dimension (W*D*H mm)	Capacity (L)	Door	Foam Materials	Compressor	Basket Load Bearing(KG)	Working Mode	Outer Shell/ Inner Liner	Condenser/ Evaporator
HZY-40Z	800*550*505	338*348*285	33	Rotational moulding integrated forming foam door	LBA	DC variable frequency compressor	≤35	Forced air cooling and heating	Rotational moulding	Microchannel/ Fin type

Controller	Refrigerant	Light	UV Lamp	Net Weight (KG)	Temperature Range(°C)	Power Supply	Max power (W)	Power Consumption (Kwh/24h)	Electro-magnetic Lock	USB
Microprocessor	HFC	LED 1W	UVC 1W	42	-20to 22	AC 110-240V 50/60Hz DC 12/24V	90	1.5	Optional coded lock	Optional



It is suitable for biobanks, vaccination production and transportation users.

Temperature Range -80~-60°C



Product Advantages

- HC Energy Saving**  
High quality HC high-efficiency compressor with optimized refrigeration system, which can save 50% on power consumption.
- One Unit for Multiple Applications**  
\*Vehicle-mounted transportation with 24V(DC) power supply  
\*Long-term storage with 220V power supply.
- Superior Uniformity**  
Built-in evaporator, fast cool down refrigeration, the temperature is safe, secure and reliable with the uniformity of  $\pm 3^{\circ}\text{C}$  at key characteristic points.



Ergonomic Design

- Lightweight**  
The whole unit weighs 27kg, easy to carry.
- Superior Insulation Performance**  
25mm VIP + 70mm thick LBA foam insulation layer design, dual seal strips for better insulation.
- Safety Lock Catch**  
Simple adjustable mechanical lock with lock catch, and it can be equipped with an external lock to guarantee the safety of sample transportation and storage.
- Metal Handle**  
Hidden metal handle, stylish and comfortable, safe and durable, easy to carry.

Specifications

Model	Power Supply	Temp Range (°C)	Exterior Dimensions (W*D*H mm)	Interior Dimensions (W*D*H mm)	Effective Capacity (L)	Net/Gross Weight (Kg)
DW-80WZ15	220V 50Hz DC24V	-80~-60	690*320*500	260*180*330	15	27/33

## Low Temperature Transport Trolley YDC-3000H

### Mobile Cryogenic Transfer Operation Platform

The unit can be used to preserve plasma and biomaterials during transportation. It is suitable for deep hypothermia operation and transportation of samples in hospitals, various biobanks and laboratories. High quality stainless steel in combination with the thermal insulation layer ensures the effectiveness and durability of the low temperature transport trolley.



### Product Advantages

#### Touch Screen

LCD touch operation



#### USB Data Export

It has its own USB interface and supports USB data export.



#### Real Time Monitoring

The instrument monitors the temperature and liquid level in real time and displays the expected remaining service time. Continuous working hours up to 24 hours.



### User Friendly Design



#### Appearance Spray

The appearance of spray, not easily affected by stains.



#### Caster Design

Integrated design, universal caster at the bottom, easy to move.



#### Polymer Materials

The new type of environmentally-friendly polymer material is used inside the cover plate, which is more appealing, more environment-friendly and more advanced than the commonly used pearl foam and polyurethane materials.



#### The Insulation Cover can be Magnet Absorbed

The insulation cover can be magnet absorbed to the side of vehicle, which is convenient to extract, and the space reserved at the bottom can be used to store other tools.

### Technical Parameters

Product Model	Dimensions (L*W*H mm)	Frozen Storage Space (L*W*H mm)	Liquid Nitrogen Under Tray (L)	Maximum Storage				
				5*5 Freezing Boxes (ea)	10*10 Freezing Boxes (ea)	50ml Blood Bag Boxes (ea)	200ml Blood Bag Boxes (ea)	2ml Cryopreservation Tube (ea)
YDC-3000H	1295*523*1095	900*335*163	33	65	30	105	50	3000

**Vaccine  
Storage Solution**

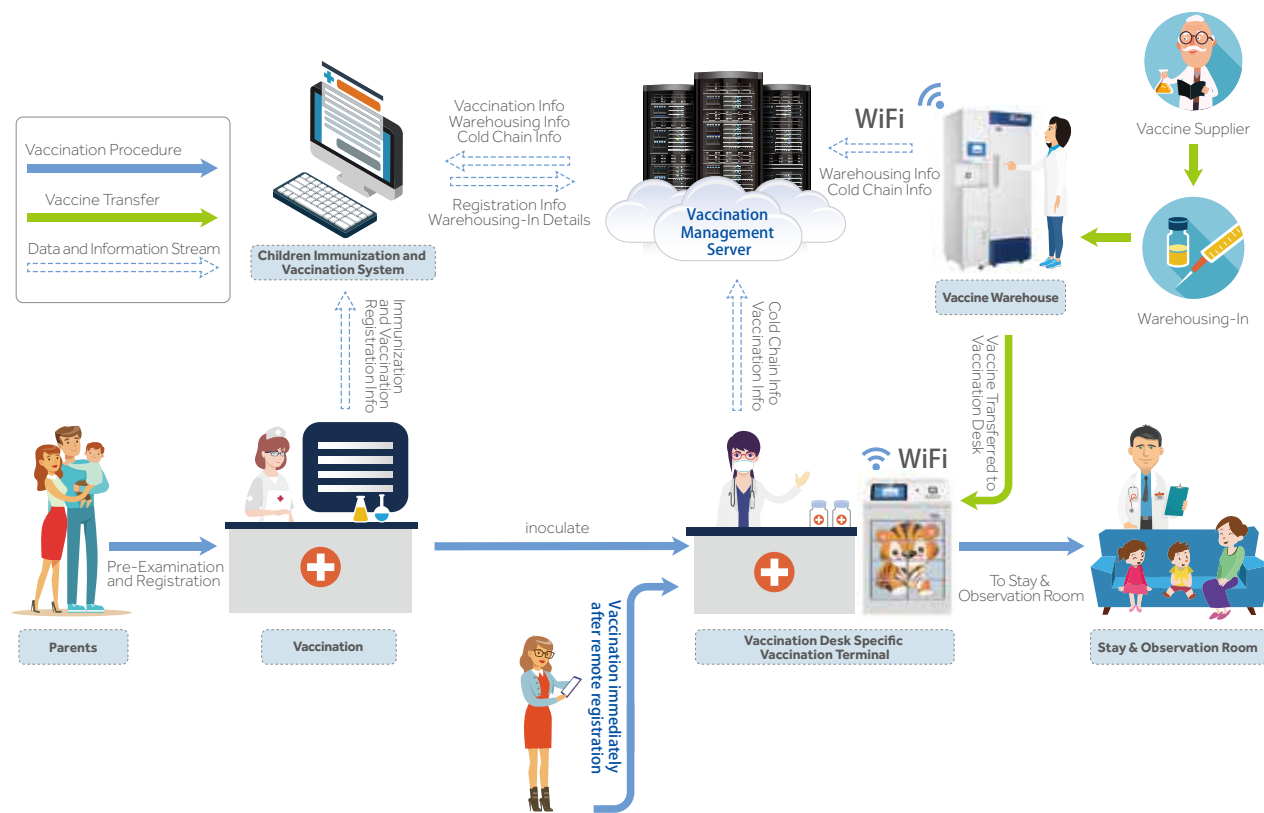
# Smart Vaccine refrigerator

## Haier Smart Vaccine

Haier Biomedical developed the Smart Vaccination Solution, by improving the conventional vaccination process, adopting advanced refrigeration technology, automation and intelligent vaccine delivery by incorporating IoT technologies. By connecting and leveraging the existing digital outpatient service system, the vaccination process can be managed as follows:

- After the vaccination record is scanned, the IoT based vaccination refrigerator will automatically and immediately eject the required vaccine.
- A 'double check' scan of the medical code to confirm a "Correct" & "Valid" vaccine prior to patient administration.
- Standardised vaccination process produces zero error.
- The vaccination records will be uploaded in real-time to the system. Records are traceable, making it possible to trace a specific vaccine code back to a specific child.

## Smart Vaccine Safe Vaccination Solution



## Safe, Worry-free and Intelligent Vaccine Management

### 3 Key Advantages

- Right patient-vaccine information management system (VIMS) confirms correct patient required for the vaccination
- Right vaccine-vaccine is automatically selected and delivered and double-checked by VIMS to ensure right medicine can and should be administered
- Exchange of vaccine, child and vaccination information, end-to-end visibility and transparency, plus immediate freezing of vaccines upon expiration or in question, ensure the high reliability of the vaccination programme.

## Smart Vaccine Storage Solution

Vaccine storage management is an essential step to ensure vaccine safety. However, most of the vaccine storage refrigerators used by the vaccination stations are household refrigerators or ordinary medical refrigerators, without storage management functions, making it difficult to operate a first-in-first-out methodology. Haier's intelligent vaccine preservation refrigerator solves the problem of manual (pen and paper) vaccine management, which is time-consuming and laborious.






## Smart Vaccine Refrigerator

Smart Vaccine Preservation Refrigerator and Smart Vaccination Refrigerator are provided with a VIMS (Vaccine Information Management System) software to improve the vaccination experience.

- Smart Vaccine Preservation Refrigerator can improve the work efficiency of nurses by removing manual inventory-taking and warehouse operations by leveraging the classification based storage, electronic regulatory code based management, data and information stream management.

 <p>HYC-361</p>	<p><b>Classification based storage</b></p> <p>Each standard refrigerator is provided with 21 compartments in 7 layers. Each compartment can distinguish different lots of vaccines by applying specific first-in-first-out rules. Different kinds of vaccines can be stored upon such classification to effectively reduce the errors during the warehousing-in / out operations.</p> 	<p><b>The smallest package units</b></p> <p>The warehousing-in/out operations are verified based on the electronic regulatory codes to realize the full digitalization and automation of vaccine management, and guarantee the accuracy and validity of vaccine storage data.</p> 	<p><b>Data and information streams</b></p> <p>The data can be exchanged quickly between the vaccine warehouse and the vaccination desk. Vaccination program manager or disease control centre manager utilizes the vaccination management server, to monitor in real-time all vaccines stored by each vaccination station/centre.</p> 
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- The Smart Vaccination Refrigerator, used at vaccination stations, can reduce the workload of nurses during the dispensing and checking of vaccines. The automated accurate vaccine dispensing, minimum temperature fluctuation, reconfirmation of vaccine information, electronic information system, integrated nurse station and other functions ensure zero vaccination error.

 <p>HYC-61</p>	<p><b>Automated accurate vaccine dispensing</b></p> <p>The vaccine will be ejected automatically after the Vaccination Record is scanned. The Regulatory Code will be scanned automatically to reconfirm the information of vaccine, including the inventory, expiration dates and cold chain early warnings. The time of dispensing can be shortened, and the rate of vaccination errors can be reduced effectively.</p> 	<p><b>Reduce temperature fluctuation</b></p> <p>The refrigerator is divided into 8 independent chambers, and the small door of each chamber can be opened for taking out the vaccine required as quick as possible, to minimize the door opening time. The internal temperature fluctuation can be minimized to ensure the safe storage of vaccines.</p> 	<p><b>A Double Check</b></p> <p>The warehousing-in/out and dispensing of vaccines can be verified by using the electronic regulatory codes. The vaccination can be conducted only after the vaccine to be used is verified by scanning the code. This function can guarantee the accurate vaccination effectively.</p> 	<p><b>Integrated nurse workstation</b></p> <p>The queue management, vaccination management, vaccination information input, real-time cold chain control and authorization management are integrated into the vaccination desk vaccine refrigerator. Multiple tasks are centralized to streamline the overall management.</p> 
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## Smart Vaccine refrigerator

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## Specifications

Model		HYC-61	HYC-361	HYC-361 Scanner Cabinet	
Technical Data	Cabinet Type	upright	upright	upright	
	Climate Class	N	N	N	
	Cooling Type	Forced Air Cooling	Forced Air Cooling	/	
	Defrost Mode	Manual+ Auto defrost	Manual+ Auto defrost	/	
	Refrigerant	HC	HC	/	
	Sound Level (dB(A))	≤41	≤41	/	
Performance	Temperature Range (°C)	2-8	2-8	/	
Control	Controller	Microprocessor	Microprocessor	/	
	Display	10.1 inch touch screen	/	10.1 inch touch screen	
Electrical Data	Power Supply (V/Hz)	220/50	220/50	/	
	Power (W)	230	254	/	
	Electrical Current (A)	1.5	1.6	/	
	Power Consumption (kWh/24h)	1.8	1.5	/	
Construction	Capacity (L/Cu.Ft)	61/2.15	361/12.75	/	
	Net/Gross Weight (approx)	kg	80/90	116/139	36/42
		lbs	176/198	255.7/306.4	79.2/92.4
	Interior Dimensions (W*D*H)	mm	560*460*630	530*555*1380	/
		in	22*18.1*24.8	20.8*21.9*54.3	/
	Exterior Dimensions (W*D*H)	mm	600*600*935	980*680*1980	315*710*1965
		in	23.5*22.6*37.1	38.6*26.8*78	12.4*28*77.4
	Packing Dimensions (W*D*H)	mm	670*660*1110	1055*755*2110	420*744*2042
in		26.4*26*43.7	41.6*29.8*83.1	16.5*29.3*80.4	
Loading Quantities	Container load (20'/40'/40'H)	54/102/102	23/46/46	/	
Alarms	High/Low Temperature	Y	Y	/	
	Remote Alarm	Y	Y	/	
	Power Failure	Y	Y	/	
	Sensor Error	Y	Y	/	
	Door Ajar	/	Y	/	
Accessories	Caster	Y	Y	/	
	Foot	Y	Y	/	
	Porthole	/	Y	/	
	Shelves/Drawers	Y	Y	/	
	USB Interface	/	Y	/	
Certifications	Registration certification for medical equipment	Y	Y	/	
	CE	Y	Y	/	

Product appearance and specifications are subject to change without notice

## Solar Direct Drive Combined Refrigerator/Freezer

217/218

The combined refrigerator with freezer can be used to store vaccines, reagents and freeze ice packs. Suitable for remote and sunny regions where power shortages are common.



### Storage Security

- The anti-freeze function ensures the internal temperature of the cooling chamber is not lower than 0°C.
- Guarantees the safe storage of vaccine even in the event of a power failure. Under an ambient temperature of 43 °C, the inner box temperature will be no more than 8°C in case of rainy or cloudy days for more than 121 hours (Autonomy time) and no more than 10°C after power outage for more than 160 hours (Holdover time).
- The freezing chamber can freeze 2.08kg of ice every day, with storage of 10.68kg in total.
- Solar powered temperature display indicates clearly the internal temperature.
- Lockable catch designed for padlock for added security
- The cooling chamber meets the A level WHO requirements for anti-freezing protection.

### Temperature Control

Microprocessor Control; accurate and precise temperature control

### Ergonomic Design

- Equipped with USB charging socket, allows users to charge their mobile phone, etc.
- Eliminate storage battery and only provide solar energy power, which is better for the environment.
- Even when powered off the temperature display screen remains illuminated.
- The refrigerating chamber and freezing chamber both have separate refrigerating systems; the two independent cooling systems ensure safety of the vaccine storage.
- Sensor error alarm.
- Low noise.

## Specifications

Model		HTCD-160	
Technical Data	Cabinet Type	Upright	
	Ambient Temperature (°C)	5-43	
	Cooling Type	Direct cooling	
	Defrost Mode	Manual	
	Refrigerant	HC	
	Sound Level (dB(A))	38	
Performance	Temperature Range (°C)	Freezer ≤-10 Refrigerator: 2-8	
	Waterpack Storage Capacity (kg)	10.68	
	Waterpack Freezing Capacity (kg/24h)	2.08	
	Freezer Protection Level	A	
Control	Controller	Microprocessor	
	Display	Solar LED Temperature Display	
Electrical Data	Power supply (V)	24	
	Maximal Current (A)	9	
	Energy Consumption: Stable Running (kWh/24h)	0.86	
	Energy Consumption: Cool Down Test (kWh/24h)	0.86	
	Holdover time at 43°C	160hrs8mins	
	Holdover time at 32°C	230hrs10mins	
	Autonomy Time at 43°C	121hrs27mins	
Solar Radiation Reference Period (kWh/m <sup>2</sup> /day)	3.5		
Construction	Vaccine Storage Capacity (L/Cu.Ft)	100/3.5	
	Gross Volume (L/Cu.Ft)	Refrigerator: 120/4.2 Freezer: 40/1.4	
	Net/Gross Weight (approx)	kg	170/197
		lbs	374.8/434.3
	Interior Dimensions (W*D*H)	mm	Cooling Chamber: 545*500*530 Freezer Chamber: 560*520*150
		in	Cooling Chamber: 21.5*19.7*20.9 Freezer Chamber: 22.0*20.5*5.9
	Exterior Dimensions (W*D*H)	mm	865*825*1700
		in	34.1*32.6*66.9
	Packing Dimensions (W*D*H)	mm	985*920*1860
		in	38.8*36.2*73.2
Loading Quantities	Container Load (20'/40'/40'H)	12/24/24	
Alarm	Sensor Error	Y	
Accessories	Shelves	2(Refrigerator Room)	
	Data Logger	Y	
Certifications	CE	Y	
	WHO/PQS	Y	

Product appearance and specifications are subject to change without notice

## Solar Direct Drive Combined Refrigerator/Freezer

219/220

The combined refrigerator with freezer is designed to store vaccines, reagents and to freeze ice packs. Suitable for remote and sunny regions where power shortages are common. Freezers are only designed to freeze the ice packs and not applicable for the storage of vaccines.



HTCD-90



### Temperature Control

- Electronic temperature controller, digital temperature display, the display precision is 0.1°C and the control range is 2~8°C
- Solar energy temperature display system, without the need for a battery backup system



### High Performance

- World Health Organization Certified (PQS certification)
- Class A anti-freeze
- Low temperature thermal compensation to prevent vaccine freezing
- 140mm insulation provides excellent thermal efficiency
- Broad working ambient temperature range of 5~43°C, outstanding performance
- Internal and external double door design to ensure superior insulation performance



### Ergonomic Design

- Intelligent control
- The height of the temperature display screen is moderate, and the inner temperature can be checked at any time
- Safety door lock
- Low DC voltage ensures personal safety
- Plug-and-play type quick plug, positive and negative pole error-proof
- External door handle with door lock design to prevent random opening of the door to ensure vaccine safety
- Built-in handgrips on both sides of the cabinet facilitate overall movement
- The daily freezing volume of the freezer is 2.4kg, meeting the daily requirement



### Safety System

- Sensor error alarm, high and low temperature alarm
- Alarm mode: sound buzzer alarm and light flashing alarm
- Key components such as compressors and fans are designed for purpose to ensure the reliability and safety of stored items



### Environmental Protection

- Environmentally friendly hydrocarbon refrigerant R600a and foam material LBA
- The shell is coated with cold rolled steel plate, and the inner liner is made of 1.0mm alumina, easy to recycle
- Ultra low GWP value
- Without any battery

## Specifications

	Model	HTCD-90	
Technical Data	Cabinet Type	Chest	
	Ambient Temperature (°C)	5-43	
	Cooling Type	Direct cooling	
	Defrost Mode	Manual	
	Refrigerant	HC	
	Sound Level (dB(A))	< 38	
Performance	Temperature Range (°C)	Freezer ≤-10 Refrigerator: 2-8	
	Waterpack Storage Capacity (kg)	12.52	
	Waterpack Freezing Capacity (kg/24h)	2.43	
	Freezer Protection Level	A	
Control	Controller	Microprocessor	
	Display	Solar LED Temperature display	
Electrical Data	Power supply (V)	24	
	Maximal Current (A)	7	
	Energy Consumption: Stable Running (kWh/24h)	0.86	
	Energy Consumption: Cool Down Test (kWh/24h)	0.81	
	Holdover time at 43°C	137hrs47mins	
	Holdover time at 32°C	169hrs6mins	
	Autonomy Time at 43°C	114hrs 56mins	
	Solar Radiation Reference Period (kWh/m <sup>2</sup> /day)	3.5	
Construction	Vaccine Storage Capacity (L/Cu.Ft)	37.5/1.3	
	Gross Volume (L/Cu.Ft)	Refrigerator: 58/2.1 Freezer: 32 /1.1	
	Net/Gross Weight (approx)	kg	83/113
		lbs	183.0/250.0
	Interior Dimensions (W*D*H)	mm	Cooling Chamber: 270*345*555 Freezer Chamber: 170*370*555
		in	Cooling Chamber: 10.6*13.6*21.9 Freezer Chamber: 6.7*14.6*21.9
	Exterior Dimensions (W*D*H)	mm	1128*720*875
		in	44.4*28.3*34.3
	Packing Dimensions (W*D*H)	mm	1190*770*1080
		in	46.9*30.3*42.5
Loading Quantities	Container Load (20'/40'/40'H)	26/56/56	
Alarm	Sensor Error	Y	
Accessories	Baskets	2	
	Data Logger	Y	
Certifications	CE	Y	
	WHO/PQS	Y	

Product appearance and specifications are subject to change without notice

## Solar direct drive vaccine refrigerator

221/222

Applicable for the storage of biological products and items that need to be stored under the condition of 2~8°C within pharmacies, pharmaceutical factories, epidemic prevention stations, health centers and hospitals as key examples.



### HTC-40/110/112



#### Temperature Control

- Electronic temperature controller, digital temperature display, the display precision is 0.1°C and the control range is 2°C~8°C
- Solar power temperature display system, without the need of battery



#### Ergonomic Design

- Intelligent control, no adjustment required
- The height of the temperature display screen is moderate, and the inner temperature can be checked at any time
- Safety door lock
- Low DC voltage ensures personal safety
- Plug-and-play type quick plug, positive and negative pole error-proof
- External door handle with door lock design to prevent random door to ensure vaccine safety
- Built-in handgrips on both sides of the box body facilitate overall movement



#### Superior Performance

- World Health Organization Certified (PQS certification)
- Class A antifreeze
- Excellent hold-over times ensure the safety of vaccines
- Low temperature thermal compensation to prevent vaccine freezing
- 140mm insulation provides excellent thermal efficiency
- Wide working ambient temperature range of 5~43°C
- Internal and external double door design, better thermal insulation performance



#### Safety System

- Sensor error alarm, high and low temperature alarm
- Alarm mode: sound buzzer alarm and light flashing alarm
- Key components like compressors and fans are designed for purpose to ensure reliability and safety of stored items



#### Environmental Protection

- Environmentally friendly hydrocarbon refrigerant R600a and foam material LBA
- The shell is coated with cold rolled steel plate, and the inner liner is made of 1.0mm alumina, which is easy to recycle
- Ultra low GWP value
- Don't use any batteries

### Specifications

	Model	HTC-40	HTC-110	HTC-112	
Technical Data	Cabinet Type	Chest	Chest	Chest	
	Ambient Temperature (°C)	5-43	5-43	5-43	
	Cooling Type	Direct cooling	Direct cooling	Direct Cooling	
	Refrigerant	HC	HC	HC	
	Sound Level (dB(A))	<30	<30	<30	
Performance	Temperature Range (°C)	2-8	2-8	2-8	
	Freezer Protection Level	A	A	A	
Control	Controller	Microprocessor	Microprocessor	Microprocessor	
	Display	Solar LED temperature display	Solar LED temperature display	Solar LED temperature display	
Electrical Data	Power supply (V)	24	24	24	
	Maximal Current (A)	5	5	5	
	Energy Consumption: Stable Running (kWh/24h)	0.69	0.58	0.59	
	Energy Consumption: Cool Down Test (kWh/24h)	0.71	0.62	0.62	
	Holdover time at 43°C	122hrs18mins	106hrs17mins	/	
	Holdover time at 32°C	162hrs36mins	152hrs28mins	/	
	Autonomy Time at 43°C	117hrs18mins	96hrs24mins	92hrs46mins	
	Solar Radiation Reference Period (kWh/m <sup>2</sup> /day)	3.5	3.5	3.5	
	Vaccine Storage Capacity (L/Cu.Ft)	22.5/0.8	59/2.08	75/2.65	
	Gross Volume (L/Cu.Ft)	40/1.4	110/3.88	110/3.88	
Construction	Net/Gross Weight (approx)	kg	57/82	75/105	75/105
		lbs	125.6/180.7	165/231.5	165/231.5
	Interior Dimensions (W*D*H)	mm	200*345*555	545*345*555	545*345*555
		in	7.9*13.6*21.9	21.5*13.6*21.9	21.5*13.6*21.9
	Exterior Dimensions (W*D*H)	mm	788*720*875	1128*720*875	1128*720*875
		in	31.0*28.3*34.4	44.4*28.3*34.4	44.4*28.3*34.4
Packing Dimensions (W*D*H)	mm	850*770*1080	1190*770*1080	1190*770*1080	
	in	33.4*30.3*42.5	46.9*30.3*42.5	46.9*30.3*42.5	
Loading Quantities	Container Load (20'/40'/40'H)	36/78/78	26/56/56	26/56/56	
Alarm	Sensor Error	Y	Y	Y	
	Baskets	2	4	4	
Accessories	Data Logger	Y	Y	Y	
	CE	Y	Y	Y	
Certifications	WHO/PQS	Y	Y	Y	

Product appearance and specifications are subject to change without notice



# Solar Direct Drive Vaccine Refrigerator

223/224

Applicable for the storage of vaccines and reagents within clinics, health centres, hospitals, public health and research organisations in remote and sunny regions where power shortages are common.



## Ergonomic Design

- Intelligent control
- High performance insulation with superior thermal efficiency
- Safety door lock
- Low DC voltage ensures personal safety



## Temperature Control

- Electronic temperature controller, digital temperature display, the display precision is 0.1°C and the control range is 2°C-8°C
- Low temperature thermal compensation to prevent vaccine freezing



## Safe and Reliable

- Plug-and-play type quick plug, positive and negative pole error-proof
- Solar powered display panel shows refrigerator and freezer interior temperature without the need for a battery backup



## Superior Insulation Performance

- World Health Organization Certified (PQS certification)
- Excellent autonomy time ensures the safety of vaccines
- 140mm insulation provides excellent thermal efficiency
- Broad working ambient temperature range of 5-43°C
- Door construction, seals and door handles maximizes door sealing effectiveness to reduce thermal loss



## Safety System

- Sensor error alarm, high and low temperature alarm
- Alarm mode: sound buzzer alarm and light flashing alarm
- Key components like compressors and fans are designed for purpose to ensure reliability and safety of stored items

## Specifications

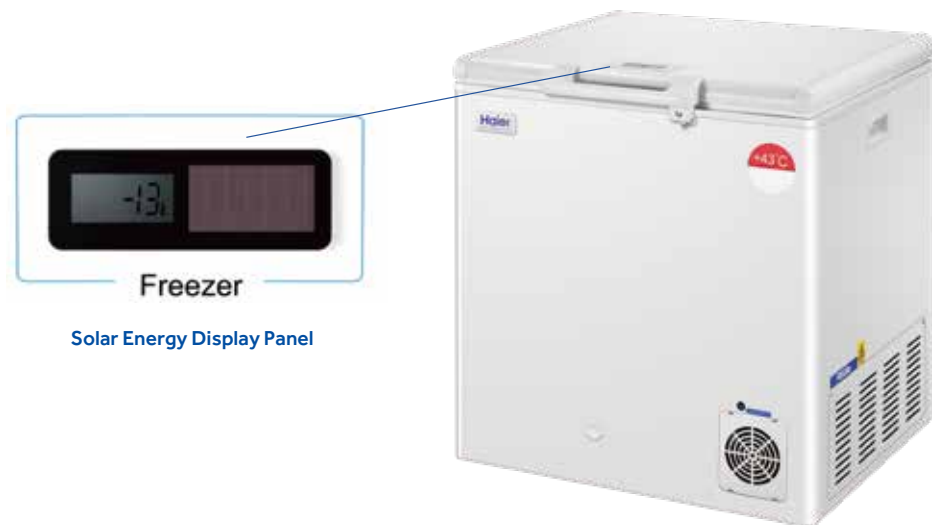
Model	HTC-120	HTC-240		
Technical Data	Cabinet Type	Upright	Upright	
	Ambient Temperature (°C)	5-43	5-43	
	Cooling Type	Direct Cooling	Direct Cooling	
	Defrost Mode	No electric heating defrost	No electric heating defrost	
	Refrigerant	HC	HC	
Performance	Sound Level (dB(A))	≤43	≤43	
	Temperature Range (°C)	2-8	2-8	
Control	Freezer Protection Level	A	A	
	Controller	Microprocessor	Microprocessor	
Electrical Data	Display	Solar LED Temperature display	Solar LED Temperature display	
	Power supply (V)	24	24	
	Maximal Current (A)	5	5	
	Energy Consumption: Stable Running (kWh/24h)	0.44	0.35	
	Energy Consumption: Cool Down Test (kWh/24h)	0.48	0.54	
	Autonomy Time at 43°C	112hrs24mins	95hrs23mins	
	Autonomy Time at 32°C	183hrs20mins	151hrs10mins	
	Solar Radiation Reference Period (kWh/m <sup>2</sup> /day)	3.5	3.5	
Construction	Vaccine Storage Capacity (L/Cu.Ft)	100/3.5	200/7.1	
	Gross Volume (L/Cu.Ft)	120/4.2	240/8.5	
	Net/Gross Weight (approx)	kg	130/160	150/185
		lbs	286/352	330/407.9
	Interior Dimensions (W*D*H)	mm	530*500*530	530*500*960
		in	20.9*19.7*20.9	20.9*19.7*37.8
	Exterior Dimensions (W*D*H)	mm	865*825*1422	865*825*1815
		in	34*32*56	34*32*71
Packing Dimensions (W*D*H)	mm	980*920*1585	980*920*1980	
	in	38.6*36.2*62.4	38.6*36.2*78	
Loading Quantities	Container Load (20'/40'/40'H)	12/24/24	12/24/24	
Alarm	Sensor Error	Y	Y	
Accessories	Baskets	Y	Y	
	Shelves	3	4	
	Data Logger	Y	Y	
Certifications	CE	Y	Y	
	WHO/PQS	Y	Y	

Product appearance and specifications are subject to change without notice

## Solar Direct Drive Vaccine Freezer

225/226

This product is designed to freeze ice packs in remote and sunny regions where power shortages are common.



HTD-40



## High Performance

- World Health Organization Certified (PQS certification)
- Equipped with ice pack pressing device, enabling the ice-pack plastered to the liner, speed up the water pack freezing
- The thickness of insulation layer is 140mm to better store the frozen ice-packs
- Broad working ambient temperature range of below 43°C, outstanding performance
- Internal and external double door design, superior insulation performance



## Environmental Protection

- Environmentally friendly hydrocarbon refrigerant R600a and foam material LBA
- The shell is coated with cold rolled steel plate, and the inner liner is made of 1.0mm alumina, which is easy to recycle.
- Ultra low GWP value
- Without any battery



## Ergonomic Design

- Intelligent control
- The height of the temperature display screen is moderate, and the inner temperature can be checked at any time
- Safety door lock
- Low DC voltage ensures personal safety
- Plug-and-play type quick plug, positive and negative pole error-proof
- Built-in handgrips on both sides of the box body facilitate overall movement
- Compressor indicator light, indicating the system work status
- Two-chamber design: Ice pack freezer and ice pack storage chamber



## Temperature Control

- Electronic temperature controller, digital temperature display, the display precision is 0.1°C, during the day the temperature can reach -10°C
- Solar energy temperature display system, driven by natural light



## Safety System

High performance key components (compressor, fan, controller, etc.), safe and reliable

## Specifications

	Model	HTD-40	
Technical Data	Cabinet Type	Chest	
	Ambient Temperature (°C)	≤43	
	Cooling Type	Direct cooling	
	Defrost Mode	Manual	
	Refrigerant	HC	
	Sound Level (dB(A))	<30	
Performance	Temperature Range (°C)	<-10	
	Waterpack Storage Capacity (kg)	20	
	Waterpack Freezing Capacity (kg/24h)	2.4	
Control	Controller	Microprocessor	
	Display	Solar LED Temperature Display	
Electrical Data	Power supply (V)	24	
	Maximal Current (A)	5	
	Energy Consumption: Stable Running (kWh/24h)	0.46	
	Energy Consumption: Cool Down Test (kWh/24h)	0.50	
	Autonomy Time at 43°C	5 days	
	Solar Radiation Reference Period (kWh/m <sup>2</sup> /day)	3.5	
Construction	Gross Volume (L/Cu.Ft)	48/1.7	
	Net/Gross Weight (approx)	kg	65/85
		lbs	143.0/187.4
	Interior Dimensions (W*D*H)	mm	Waterpack Freezer: 135*370*310
			Waterpack Storage Chamber: 265*370*555
		in	Waterpack Freezer: 5.3*14.6*12.2
			Waterpack Storage Chamber: 10.4*0.6*0.5
	Exterior Dimensions (W*D*H)	mm	788*720*875
		in	31.0*28.3*34.3
	Packing Dimensions (W*D*H)	mm	850*770*1080
in		33.4*30.3*42.5	
Solar Panel (L*W*D)	mm	1335*990*40	
	in	52.6*39.0*1.6	
Loading Quantities	Container Load (20'/40'/40'H)	36/78/78	
Alarm	Sensor Error	Y	
Accessories	Baskets	2	
Certifications	CE	Y	
	WHO/PQS	Y	

Product appearance and specifications are subject to change without notice

# Solar Direct Drive Blood Refrigerator

227/228

Applicable for storing wholeblood, medicines, biological products and other laboratory products that need to be stored at 4°C.

Suitable for the storage of blood and blood articles in areas that have power shortages.



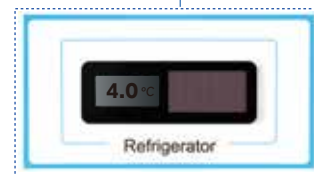
HTXC-240




Lock Catch Designed to Match Padlock





Handgrip




Display Panel


 It is equipped with 16 blood baskets, each basket can hold 12 blood bags, and a total of 192 blood bags can be stored (350ml blood bags)


 Excellent autonomy time ensures the safety of blood


 Solar direct drive refrigerator without battery

 Environmentally friendly hydrocarbon refrigerant R600a and foam material LBA

 Electronic temperature controller, digital temperature display, the display precision is 0.1°C and the control range is 2°C~8°C

 Broad working ambient temperature range of 5~43°C

 Vertical structure, first-in first-out, easy operation

 Automatic drainage design

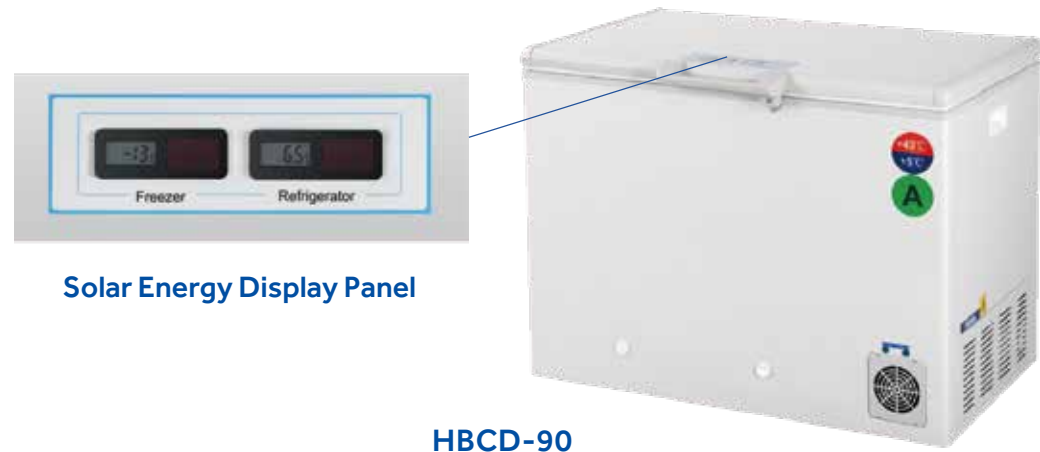
## Specifications

Model		HTXC-240	
Technical Data	Cabinet Type	Upright	
	Ambient Temperature (°C)	≤43	
	Cooling Type	Direct Cooling	
	Defrost Mode	No electric heating defrost	
	Refrigerant	HC	
	Sound Level (dB(A))	≤43	
Performance	Temperature Range (°C)	2-8	
	Freezer Protection Level	A	
Control	Controller	Microprocessor	
	Display	Solar LED Temperature display	
Electrical Data	Power supply (V)	24	
	Maximal Current (A)	5	
	Energy Consumption: Stable Running (kWh/24h)	0.35	
	Energy Consumption: Cool Down Test (kWh/24h)	0.54	
	Autonomy Time at 43°C	95hrs23mins	
	Autonomy Time at 32°C	151hrs10mins	
	Solar Radiation Reference Period (kWh/m²/day)	3.5	
Construction	Blood Storage Capacity (350ml Blood Bags)	192	
	Gross Volume (L/Cu.Ft)	240/8.5	
	Net/Gross Weight (approx)	kg	150/185
		lbs	330/407.9
	Interior Dimensions (W*D*H)	mm	530*500*960
		in	20.9*19.7*37.8
	Exterior Dimensions (W*D*H)	mm	890*825*1815
		in	35*32*71
Packing Dimensions (W*D*H)	mm	985*920*1980	
	in	38.8*36.2*78	
Loading Quantities	Container Load (20'/40'/40'H)	12/24/24	
Alarm	High/Low Temperature	Y	
	Sensor Error	Y	
Accessories	Shelves	4	
	Data Logger	Y	
	Remote Temperature Monitoring Device(RTMD)	Optional	
Certifications	CE	Y	
	WHO/PQS	Y	

Product appearance and specifications are subject to change without notice

# Ice-Lined Refrigerator

The combined refrigerator with freezer is designed to store vaccines, reagents and to freeze ice packs. Suitable for vaccination stations, epidemic prevention stations, healthcare centers, pharmaceutical factories as key examples. Freezers are only designed to freeze the ice packs and not applicable for the storage of vaccines.



Solar Energy Display Panel

HBCD-90

- Temperature Control**
- Electronic temperature controller, digital temperature display, the display precision is 0.1°C and the control range is 2-8°C
  - Solar powered display panel shows interior temperature through natural light sources

- Safety System**
- Sensor error alarm, high/low temperature alarm
  - Alarm mode: sound buzzer alarm and light flashing alarm
  - Key components such as compressors and fans are designed for purpose to ensure the reliability and safety of stored items

- Superior Performance**
- Complies with WHO PQS specification E003/RF03.4
  - Super long holdover time to ensure vaccine safety
  - The daily frozen ice volume of the freezer is 4.0KG, which can meet the daily use
  - Broad working ambient temperature range of 5-43°C, outstanding performance

- Ergonomic Design**
- Intelligent control, no adjustment required
  - The height of the temperature display screen is moderate, and the inner temperature can be checked at any time
  - External door handle with door lock design to prevent random opening of the door to ensure vaccine safety
  - Built-in handgrips on both sides of the cabinet facilitate overall movement

- Environmental Protection**
- Environmentally friendly hydrocarbon refrigerant R600a and foam material LBA
  - The shell is coated with cold rolled steel plate, and the inner liner is made of 1.0mm alumina, easy to recycle
  - Ultra low GWP value
  - Without any battery

## Specifications

	Model	HBCD-90	
Technical Data	Cabinet Type	Chest	
	Ambient Temperature ( C )	5~43	
	Cooling Type	Direct Cooling	
	Defrost Mode	Manual	
	Refrigerant	HC	
	Sound Level (dB(A))	< 40	
Performance	Temperature Range ( C )	Freezer ≤-10 Refrigerator: 2-8	
	Waterpack Storage Capacity (kg)	16	
	Waterpack Freezing Capacity (kg/24h)	4	
	Freezer Protection Level	A	
Control	Controller	Microprocessor	
	Display	Solar LED Temperature display	
Electrical Data	Power Supply (V/Hz)	220~240/50	
	Power (W)	190	
	Electrical Current (A)	1	
	Power Consumption: stable running (kWh/24h)	0.9	
	Power Consumption: cool down test (kWh/24h)	1	
	Holdover Time at 43 C	63hrs48mins	
	Holdover Time at 32 C	132hrs21mins	
Construction	Vaccine Storage Capacity (L/Cu.Ft)	30/1.1	
	Gross Volume (L/Cu.Ft)	Refrigerator:42/1.5 Freezer:32/1.1	
	Net/Gross Weight (approx)	kg	105/135
		lbs	231/298
	Interior Dimensions (W*D*H)	mm	Refrigerator Chamber:279*273*556 Freezer Chamber:166*366*580
		in	Refrigerator Chamber:11*10.8*21.9 Freezer Chamber:6.5*14.4*22.8
	Exterior Dimensions (W*D*H)	mm	1128*717*872
		in	44.4*28.2*34.3
	Packing Dimensions (W*D*H)	mm	1190*770*1080
		in	47*30*42.5
Loading Quantities	Container Load (20'/40'/40'H)	26/56/56	
Alarm	High/Low Temperature	Y	
	Sensor Error	Y	
Accessories	Baskets	4	
	Data logger	Y	
	30 Days Temperature Logger	Optional	
	Automatic Voltage Stabilizer	Optional	
	Remote Temperature Monitoring Device (RTMD)	Optional	
Certifications	CE	Y	
	WHO/PQS	Y	

Product appearance and specifications are subject to change without notice

# Ice-Lined Refrigerator

Suitable for pharmacies, pharmaceutical factories, epidemic prevention stations, health centers, hospitals as key examples. Used to store biological products and items that need to be stored under the condition of 2-8°C.



Solar Energy Display Panel



HBC-150/260/80



### Temperature Control

- Electronic temperature control, temperature digital display and the precision is 0.1°C, internal temperature range is 2°C~8°C
- Solar powered display panel shows interior temperature through natural light sources



### Safety system

- Sensor error alarm, high/low temperature alarm
- Alarm mode: sound buzzer alarm and light flashing alarm
- All independent components are securely earthed
- Key components such as compressors and fans are QC approved



### Superior performance

- World Health Organization Certified(PQS certification)
- Broad ambient temperature range of 5°C~43°C
- Broad voltage design, stable operation within ± 20% voltage range



### Ergonomic design

- Intelligent control, no adjustment required
- High performance insulation with superior thermal efficiency
- Safety door lock

## Specifications

Model	HBC-80		HBC-150		HBC-260
<b>Technical Data</b>					
Cabinet Type	Chest		Chest		Chest
Ambient Temperature (°C)	5-43		5-43		5-43
Cooling Type	Direct Cooling		Direct Cooling		Direct Cooling
Refrigerant	HC		HC		HC
Sound Level (dB(A))	<40		<40		<40
<b>Performance</b>					
Temperature Range (°C)	2-8		2-8		2-8
Freezer Protection Level	A		A		A
<b>Control</b>					
Controller	Microprocessor		Microprocessor		Microprocessor
Display	Solar LED Temperature Display		Solar LED Temperature Display		Solar LED Temperature Display
<b>Electrical Data</b>					
Power Supply (V/Hz)	220-240/50	220V-240V (50/60Hz)	220-240/50	220V-240V (50/60Hz)	220-240 (50/60)
Power (W)	110	140	120	150	165
Electrical Current (A)	0.9	1.3	1	1.5	1.3
Power Consumption:Stable Running(kWh/24h)	0.6	0.55	0.6	0.72	1.47
Power Consumption:Cool Down Test(kWh/24h)	0.7	0.65	0.7	0.76	1.62
Holdover Time at 43°C	59hrs58mins	57hrs34mins	60hrs50mins	57hrs55mins	62hrs
Holdover Time at 32°C	98hrs26mins		96hrs23mins		117hrs24mins
Vaccine Storage Capacity (L/Cu.Ft)	61/2.2		122/4.3		211/7.5
Gross Volume (L/Cu.Ft)	80/2.8		150/5.3		260/9.2
Net/Gross Weight (approx)	kg	85/110	105/140	160/200	
	lbs	187.6/242.7	231.7/308.9	353/441.3	
Interior Dimensions (W*D*H)	mm	500*366*560	840*366*560	1359*366*560	
	in	19.7*14.4*22	33.1*14.4*22	53.5*14.4*22	
Exterior Dimensions (W*D*H)	mm	788*717*872	1128*717*872	1647*717*940	
	in	31*28.2*34.3	44.4*28.2*34.3	64.8*28.2*37	
Packing Dimensions (W*D*H)	mm	850*770*1080	1190*770*1080	1720*770*1080	
	in	33.5*30*42.5	47*30*42.5	67.7*30*42.5	
<b>Loading Quantities</b>					
Container Load (20'/40'/40'H)	36/78/78		26/56/56		18/38/38
<b>Alarms</b>					
High/Low Temperature	Y		Y		Y
Sensor Error	Y		Y		Y
<b>Accessories</b>					
Foot	/		/		Y
Baskets(Standard/Max)	1/2		3/5		5/9
Data logger	Y		Y		Y
Automatic Voltage Stabilizer	Optional		Optional		Optional
Remote Temperature Monitoring Device(RTMD)	Optional		Optional		Optional
<b>Certifications</b>					
CE	Y		Y		Y
WHO/PQS	Y		Y		Y

Product appearance and specifications are subject to change without notice

# Ice-Lined Refrigerator

This product is applicable for the storage of biological products and items that need to be stored under the condition of 2~8°C. This product is used by pharmacies, pharmaceutical factories, epidemic prevention stations, health centers and hospitals as key examples.



HBC-120



HBC-240

### Microprocessor Control System

- Microprocessor electronic temperature controller, LED temperature display, the temperature display precision is 0.1°C and the control range is 2°C~8°C
- Solar powered display panel shows refrigerator and freezer interior temperature

### Safe, Secure and Reliable

- Sensor error alarm, high and low temperature alarm
- Alarm mode: sound buzzer alarm and light flashing alarm
- All discrete units are properly grounded
- Key units like the compressor and the fan are safe and reliable

### Superior Performance

- International Health Organization Certification (PQS certification)
- Extra-long holdover time (It can maintain the interior temperature with only 8hrs power supply per day)
- Broad working ambient range of 5~43°C
- Operates within wide voltage range, ±20% volt

### Ergonomic Design

- Intelligent control
- High performance insulation layer with superior thermal insulation
- Ergonomic designed safety lock

## Specifications

Model	HBC-120	HBC-240		
Technical Data	Cabinet Type	Upright	Upright	
	Ambient Temperature (°C)	5~43	5~43	
	Cooling Type	Direct Cooling	Direct Cooling	
	Refrigerant	HC	HC	
Performance	Sound Level (dB(A))	<40	<40	
	Temperature Range (°C)	2~8	2~8	
Control	Freezer Protection Level	A	A	
	Controller	Microprocessor	Microprocessor	
Electrical Data	Display	Solar LED Temperature Display	Solar LED Temperature Display	
	Power Supply (V/Hz)	220~240/50/60	220~240/50/60	
	Power (W)	145	145	
	Electrical Current (A)	1	1	
	Power Consumption:Stable Running (kWh/24h)	0.35	0.35	
	Power Consumption:Cool Down Test (kWh/24h)	0.4	0.4	
	Holdover Time at 43°C	128hrs 48mins	87hrs14mis	
	Holdover Time at 32°C	185hrs	165hrs	
	Vaccine Storage Capacity (L/Cu.Ft)	100/3.6	200/7.2	
	Gross Volume (L/Cu.Ft)	120/4.3	240/8.5	
Construction	Net/Gross Weight (approx)	kg	128/160	152/186
		lbs	281.6/352	334.4/409.2
	Interior Dimensions (W*D*H)	mm	530*500*530	530*500*960
		in	20.87*19.69*20.87	20.87*19.69*37.8
	Exterior Dimensions (W*D*H)	mm	890*829*1425	890*829*1815
		in	35.04*32.64*56.10	35.04*32.64*71.46
Packing Dimensions (W*D*H)	mm	980*920*1585	980*920*1980	
	in	38.6*36.2*62.4	38.6*36.2*78	
Loading Quantities	Container Load (20'/40'/40'H)	12/24/24	12/24/24	
Alarms	High/Low Temperature	Y	Y	
	Sensor error	Y	Y	
Accessories	Foot/Caster	Y	Y	
	Shelves	3	4	
	Data logger	Y	Y	
	Automatic Voltage Stabilizer	Optional	Optional	
Certifications	Remote Temperature Monitoring Device (RTMD)	Optional	Optional	
	CE	Y	Y	
	WHO/PQS	Y	Y	

Product appearance and specifications are subject to change without notice

# Vaccine & Icepack Freezer

This product is applicable for cryogenic storage of biological reagents in hospitals, CDC, health facilities and other units in areas with insufficient or unstable power supply.



HBD-86



HBD-116



HBD-265



HBD-286



### Refrigeration System

- High quality compressor
- CFC-free high-density foam insulation
- Optimized refrigeration system design



### Ergonomic Design

- Safety lock to safeguard against unauthorized access
- Internal configuration suitable for various sizes of storage baskets
- Drainage port for ease of cabinet cleaning
- LCD temperature display



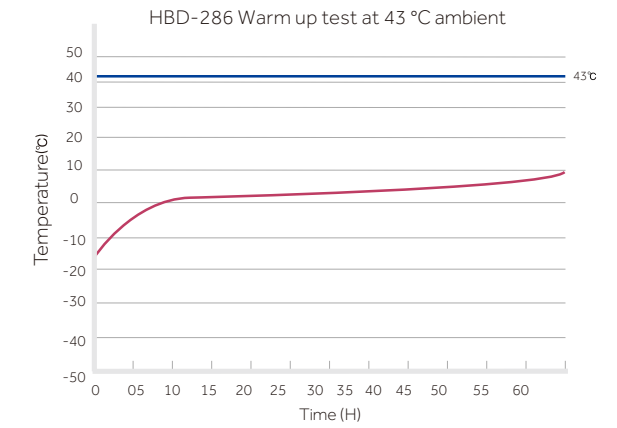
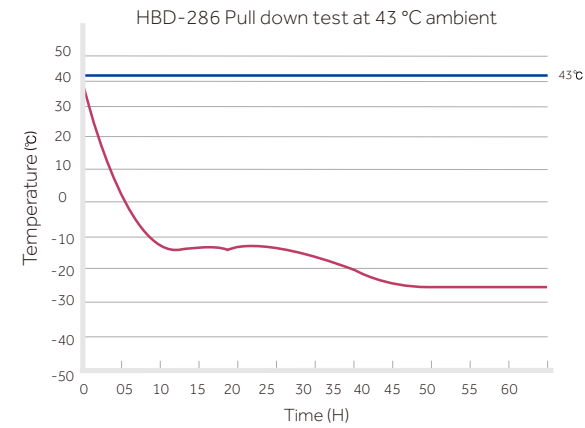
### Temperature Control

- Electronic temperature controller with digital display
- Internal temperature range is -15°C to -20 °C



### Alarms

- Power failure alarm, high temperature alarm, sensor error alarm
- Two alarm modes: sound alarm and light alarm



## Specifications

	Model	HBD-86	HBD-116	HBD-265	HBD-286	
Technical Data	Cabinet Type	Chest	Chest	Chest	Chest	
	Ambient Temperature	<43°C	<43°C	<43°C	<43°C	
	Cooling Type	Direct Cooling	Direct Cooling	Direct Cooling	Direct Cooling	
	Defrost Mode	/	Manual	Manual	Manual	
	Refrigerant	HC	CFC-Free	HC	CFC-Free	
	Sound Level (dB(A))	40.6	43	39.3	44	
Performance	Temperature Range (°C)	-15~-25	-15~-20	-15~-25	-15~-20	
Control	Controller	Microprocessor	Microprocessor	Microprocessor	Microprocessor	
	Display	LCD	LCD	LCD	LCD	
Electrical Data	Power Supply (V/Hz)	220~240(50/60)	220~240/50	220~240(50/60)	220~240/50	
	Power (W)	120	138	210	185	
	Electrical Current (A)	1.1	1.1	1.6	1.3	
	Power Consumption: Stable Running (kWh/24h)	0.98	3.01	1.43	4.36	
	Power Consumption: Cool Down Test (kWh/24h)	0.95	3.77	1.41	3.77	
	Holdover Time at 43°C	More than 7hrs (up to -5°C)	More than 4hrs (up to -5°C)	11hrs25min (up to -5°C)	More than 5hrs (up to -5°C)	
Construction	Gross Volume (L/Cu.Ft)	86/3	121/4.3	265/9.4	286/10.1	
	Net/Gross Weight (approx)	kg	65/90	58/67	135/160	85/97
		lbs	143/198	110.3/121.3	297/352	174.2/187.4
	Interior Dimensions (W*D*H)	mm	500*366*560	497*457*655	1359*366*560	1067*457*655
		in	19.7*14.4*22	19.6*18.0*25.8	53.5*14.4*22	42.0*18.0*25.8
	Exterior Dimensions (W*D*H)	mm	788*717*872	670*630*915	1647*717*940	1240*630*915
in		31*28.2*34.3	26.4*24.8*36.0	64.8*28.2*37	48.8*24.8*36.0	
Packing Dimensions (W*D*H)	mm	850*770*1080	755*760*1005	1720*770*1080	1325*760*1005	
	in	33.5*30*42.5	29.7*29.9*39.6	67.7*30*42.5	52.2*29.9*39.6	
Loading Quantities	Container Load (20'/40'/40'H)	36/78/78	42/90/90	18/38/38	24/50/50	
Accessories	Foot	/	Y	Y	Y	
	Baskets	3	2	9	9	
	Automatic Voltage Stabilizer	optional	optional	optional	optional	
Certifications	CE	Y	Y	Y	Y	
	WHO/PQS	Y	Y	Y	Y	

Product appearance and specifications are subject to change without notice

## Walk-In Cold/Freezer Room

237/238



Haier Biomedical walk-in cold rooms are for storage of vaccines and other temperature sensitive products. The complete unit is also designed for installations in housed areas such as warehouses to meet specified temperature standards. These units have been installed in India, Guinea, Syria, Pakistan, Burundi, Zimbabwe and other regions across the world.

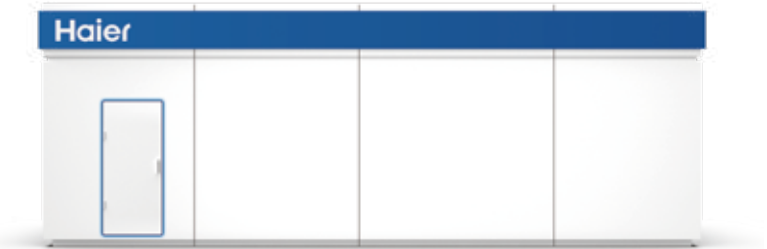
### Specifications

Type	Freezer Room	Freezer Room	Cold Room	Cold Room	Cold Room	Cold Room	Cold Room	Combined Cold/Freezer Room	
								Cold Room	Freezer Room
Model	HRZK-40D	HRZK-20D	HRZK-10G	HRZK-15G	HRZK-20G	HRZK-30G	HRZK-40G	HRZK-40GD	
Defrost Mode	Electrical heating								
Refrigerant	CFC-Free								
Internal Temperature Range (°C)	-20	-20	2-8	2-8	2-8	2-8	2-8	2-8	-20
Evaporator Temperature (°C)	-25	-25	-7	-7	-7	-7	-7	-7	-25
Power Supply (V/Hz)	380/50	380/50	220/50	220/50	220/50	380/50	380/50	380/50	
Power (W)	5300	2630	1300	1750	1750	2520	2610	2520	2010
Refrigerating Output (W)	4200	2060	1560	2230	2230	2950	3250	2950	1580
Capacity (m³)	40	20	10	15	20	30	40	25	15
Condensation Temperature (°C)	43								
Density (Kg/Cbm)	40±2								
K-Value (m²K)	0.22								
Insulation Thickness (mm)	100								
Certification	-		WHO/PQS						

Product appearance and specifications are subject to change without notice

### Integral Cold Store Unit

- The cold room is suitable for a variety of applications; it can be used to freeze or refrigerate samples for healthcare, research, agriculture, and biotechnology purposes. In the walk-in cold room (WIC), the interior temperature can be controlled within a range of 2°C to 8°C. In the walk-in freezer (WIF), the temperature is set at -20°C.



### Features of the Cold Room

- The set point of the cold room has an adjustable range of 0°C to 10°C (or -15°C to -25°C for the Freezer Room) with a resolution of 0.1°C.
- High-efficiency CFC-free polyurethane insulation foamed into place. With a density of 42kg/m³, a thickness of 100mm and an insulation K-value of 0.22 W/(m²)(K) or better.
- Internal and exterior surfaces are made up of hot-dipped galvanized steel sheet, coated in a white polyester coating. The floor is clad with non-slip material.
- Rooms are equipped with tungsten lighting.
- Rooms are equipped with shelving systems on 3 of their walls.
- Dual refrigeration system – while one system is working, the other one is reserved as a back-up.
- Forced air-cooling system
- Door equipped with a lock and heavy-duty hinges, with an internal safety release.
- CFC-free refrigerant
- Automatic defrosting
- A manual change-over switch is offered as standard, an automatic change-over switch is available as an optional extra.
- Temperature recorder and audible alarm system.

### Technical Characteristics of the Refrigerating Unit

- An integrated condenser unit, called Mono block, integrating evaporator, condenser, compressor, electrical control units into one compact body, is used in cold storage rooms with temperature control of -5°C~5°C or -15°C~-20°C, in medical, clinical, agricultural and chemical industries where large scale cold storage is needed.
- Small compact structure.
- Comprises of TECUMSEH hermetic compressors, high efficient, in-grooved copper tube and aluminium fin heat exchangers and leading brand refrigeration parts.
- The electronic control boards manage following parameters: automatic temperature setpoint and control, electric heater defrosting, protection devices for over loading, over-heating, lack of phase, high and low pressure.
- Safe, easy to use and is economical, low cost installation and operation.

### Temperature Recorder

- Upper and lower limits +50°C to -30°C
- Accuracy ±1°C
- Resolution ±0.5°C
- Minimum acceptable recording period between chart changes is 7 days
- USB interface is included



## Cold Room

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### Combined Cold Room

Applicable for storing large quantities of vaccines, reagents, medicines and other biological products. Suitable for CDCs, animal epidemic prevention and control centers, hospitals, biopharmaceutical companies, etc.



#### Technical Features:

- The integrated solution provider integrates cold storage, automation, informatization and environmental laboratory.

#### Environmental protection

- Uses R404a environmentally friendly refrigerant;
- Uses durable, environmentally-friendly poly-ethurane foam insulated walls to provide excellent insulation with a low ozone destruction coefficient.

#### Safety

- With equipment fault self-diagnosis function. With a variety of active protection and passive early warning functions, the operating status is monitored to ensure the safety of stored samples.

#### Modular

- The system is modular and solutions are customized according to individual requirements.

#### Energy saving

- The technology of liquid-subcooling and exhaust-precooling via defrosting water is adopted to save energy.

#### Smart

- The PLC control system can automatically control the start and stop of the refrigeration unit, the regular switching between the main and standby machines and the automatic fault switch. No manual operation is required for refrigeration and defrosting.

### Side Loading Cold Room

Applied to save vaccines, reagents, medicaments, biological products, etc., Suitable for community clinics, pharmacies, etc.



#### Technical Features:

- All-weather: 24-hour uninterrupted monitoring of the cold storage operation status to ensure the safety of samples;

### Solar Direct Driven Cold Room

- Whole process monitoring: production, transportation and storage
- Full coverage: network monitoring, real-time query, unified management
- Stable state change rate:  $\leq \pm 0.3^\circ\text{C}/10\text{h}$
- Temperature uniformity:  $\leq \pm 3^\circ\text{C}$
- Ultra-low noise: the noise of the outdoor unit is less than 50 decibels
- Exclusive perforated ceiling air supply design ensures rapid cooling and excellent temperature uniformity  $\pm 1^\circ\text{C}$
- Utilizes quick and effective hot fluoride defrosting method
- An electronic expansion valve accurately controls the storage temperature while ensuring the refrigeration system runs more energy efficiently

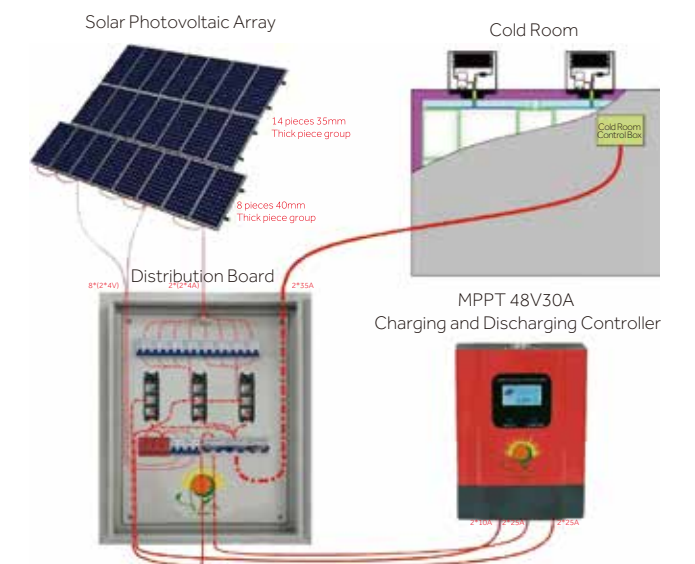


Applicable for storage of temperature-sensitive products such as large quantities of vaccines and medicines; National or regional vaccine centers, hospitals, biopharmaceutical and other industries;

#### Technical Features:

- Powered by solar photovoltaic power generation system, low operating cost.

- Solar direct drive refrigeration, no battery driven compressor; combined with ice lining technology, maintain the temperature in the cold room at 2-8 °C throughout the day.
- Adopting PLC intelligent control, preferentially start the compressor of higher temperature cold storage box to ensure the uniformity of the room temperature.
- Power off and maintain 2-8°C for more than 48 hours at 43°C ambient temperature; it can last longer under low ambient temperature conditions.
- Low temperature protection function module (optional), can achieve 5-43 °C wide temperature range operation.
- Optional 48V switching power supply can be connected to single-phase 110-220V AC power supply.





## Vaccine Refrigerated Vehicle

- High chassis, excellent cross-country capacity.
- Euro-2 standard, easy and low-cost maintenance in African area with backup power.
- Complies with WHO/PQS standard requirements.
- Backup power supply.
- Heating system to use in -20 °C ambient temperature.

## Vaccine Stock Monitoring Solution

Monitoring the vaccine status of all vaccination sites nationwide, providing Enterprise Resource Planning (ERP) management for decision makers with timely and accurate information of vaccine inventory and temperatures.



### Function:

- Manual entry of vaccine stock.
- Data acquisition of temperature.
- Receives immunization notifications.
- Checks inventory reports.
- Check inventory trend and alarm information.
- Information data and files of vaccines.
- Checking vaccine warehousing plans.
- Submitting information for invalid vaccines.
- Checking historical temperature curve.

- 7-inch touch screen.
- Internal Internet-enabled SIM card.
- Solar power USB, EHC power supply.
- External NTC temperature sensor.



## U-COOL Remote Temperature Monitoring Device

### Remote Temperature Recording:

- The external temperature sensor measures the temperature, records and stores the measured temperature values automatically, and transmits them to the platform through GPRS, realizing remote platform monitoring.

### Application Scenarios:

- It can be used for real-time monitoring of warehousing and distribution of food, medicine, vaccine, blood, reagents, biological products, biological sample tissue and other items. The application scenarios include refrigerated trucks, incubators, cold rooms, cold packs, refrigerated cabinets, refrigerators, freezers and so on.

Cloud Platform Website <http://ems.haierbiomedical.com>

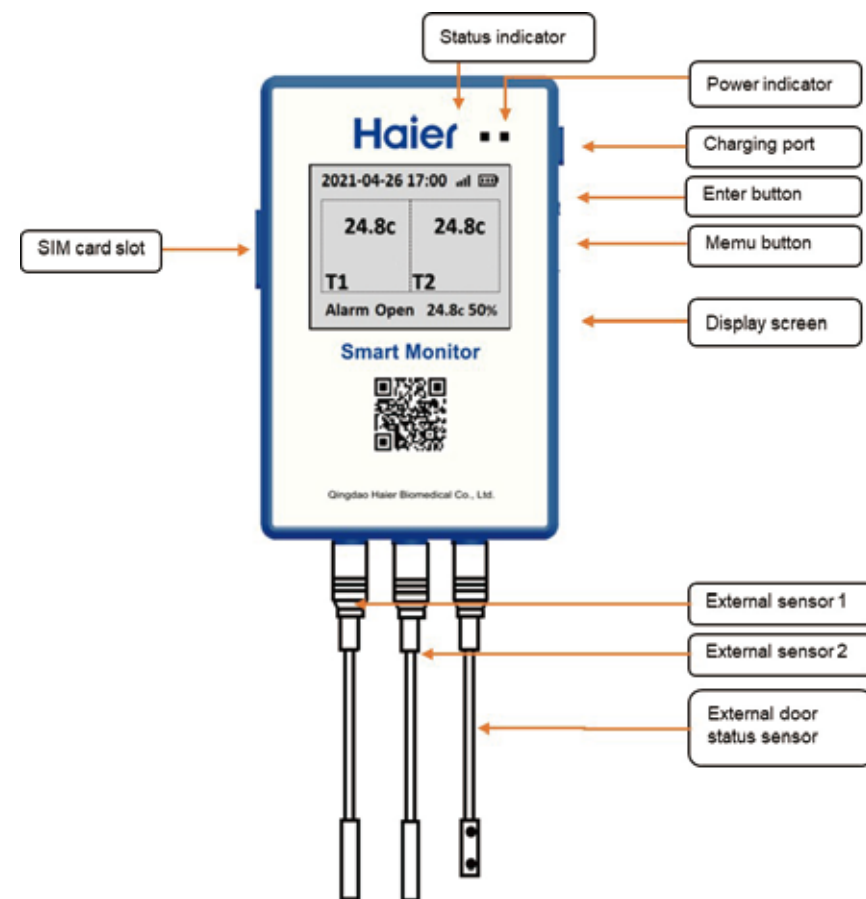
### U-COOL



- Once powered on, the device immediately uploads the data automatically to the portal. Superior device, one simple activation - no technical skills needed, easy and user friendly.
- Remote portal management platform, which can track temperature, location, signal strength information and has multiple data analysis reports.
- One full charge, more than 10 days of battery life.
- The device supports sound and light alarms.
- USB data export (30 days temperature records).
- High precision, wide range of temperature measurements.
- IP65 protection, waterproof, shockproof and dustproof to fit a variety of complex environments.
- Complies with WHO Standards, WHO prequalified code: E006/060

Item	Specifications
Model	U-Cool
Temperature Sensor	NTC sensor: -40°C~+120°C (±0.5°C within -30°C to +20°C, ±1°C for other)
Environment	Temperature: -10°C~+55°C
Sensor	Humidity: 0%RH-99%RH
Signal	2G/4G
Storage Capacity	260,000 sets of data
Battery	Charging voltage: 5V-12V Charging current≤1.5A
Alarm	Audio-visual: buzzer + LED light
SIM card	Built-in SIM card
Map Location	Google map and LBS(Location Based Service)
USB	Micro USB: download data /charging
Material	Shell: PC / Shell Jacket: ABS
IP	IP65
Dimension	114.5 mm *71.5 mm *22mm

## U-COOL-PRO



### Product advantages

- The user is free to set up, and automatically uploads data to portal while power on
- The device supports sound and light alarms
- LBS base station positioning, indoor use can also be positioned
- USB data export (30 days temperature record)
- One charge, more than 10 days of battery life
- 2 pluggable temperature sensor, 1 pluggable door switch sensor
- Support 4G/3G/2G signal

Item	Specifications
Model	U-Cool-Pro
Temperature Sensor	2 Pluggable Digital temperature sensors (or PT100 optional) 1 Ambient temperature and humidity sensor
Temperature Range	-40°C~+80°C PT100 sensor(optional): -200°C~+150°C
Accuracy	±0.5°C within -30°C to +20°C, ±1°C for other
Door Sensor	1 Pluggable Reed Switch sensor
Battery	Lithium battery: 4000mAh
Alarm	Audio-visual: buzzer + LED light
Map Location	Google map and LBS(Location Based Service-Mobile Base Station Positioning)
USB	Micro USB: download data /charging
Material	Shell: PC
IP	IP64
Dimension	112mm*75mm*21mm
Communication Network Mode	4G/3G/2G
Charging Voltage	5V-12V
Charging Current	≤1A
Working Current	≤2A
Storage Temperature	-40°C~+65°C
Working Temperature	-10°C~+55°C
SIM Card	Micro SIM Card
USB	Micro USB, support charging; When the device is turned off, it can be connected to the computer as a Flash drive export data in PDF/TXT format. When the device is turned on, it can be connected to the computer as a virtual serial port, which can be configured using the configuration tool.

## U-Cool-LoRa

### Introduction of Temperature Data Logger

Temperature Data Logger consists of sensor node device(host) with multiple sensor probes. The intelligent gateway (LoRa -- 4G) is connected to the cloud cold chain management software to achieve real-time monitoring and alarm of temperature and humidity, door open status, power on & off of refrigerators and cold room(-40-80°C)

**YB-HC600-01**

Temperature Data Logger

**YB-HC600-02**

Door On-off Monitor

**YB-HC600-03**

Power Outage Monitor

**YB-HZ600-01**

Smart Gateway

## Product advantages

### Long communication distance

LoRa spread spectrum modulation is adopted for wireless communication, which works in sub-1 GHz band. With the characteristics of long communication distance, strong ability to pass through obstacles or walls, excellent anti-interference performance, no need to lay communication and power supply cables, user installation is flexible and beautiful.

### Local sound and light alarm

When the acquisition temperature exceeds the set domain value, or the acquisition node is not working normally, the local sound and light alarm can be realized through the collector configuration.

### Micro-USB export local data

It is equipped with standard Micro-USB interface to cooperate with PC upper computer software for local data export, firmware upgrade and system parameter configuration.

### Power supply mode

The collector works with battery power, and the gateway works with the external power through adapter. When the external power supply is off, the gateway works with standby battery power supply.

### Pluggable aviation plug

1) The probe is inserted into the refrigerator porthole or laid in the cold room, and the recorder host can be removed separately for operation;

2) When the probe is broken or damaged, it is convenient to replace it separately;

3) Compared to the 3.5mm audio connector, the aviation plug is more robust and offers better electromagnetic protection.

Model	YB-HC600-01	YB-HC600-02	YB-HC600-03
Product Name	Temperature Data Logger	Door On-off Monitor	Power Outage Monitor
Sensor	One line (2m) digital sensor	One line (3m)	One line (3+3m)
Measuring Function	Range: -40-80°C Precision: 0.1°C Accuracy: ±0.5°C	Door open-close monitoring	Power supply monitoring
Dimension (H*W*D mm)	125*73*23		
Battery	3.6V/5400mAh		
Communication	LoRa		
Display	LCD display, real-time display of measured data, such as electric quantity, signal strength, etc.		
Local-storage	Local storage data of 60000 sets and it supports breakpoint continued transmission		

Model	YB-HZ600-01
Product Name	Smart Gateway
Transit Network	4G
Maximum Number of Transmitters That Can Be Used	30
Dimension (W*H*D mm)	160*100*33
Battery	3.7V/10000mAh
Communication	LoRa
Local-storage	60000 sets

## 30-Day Electronic Temperature Logger

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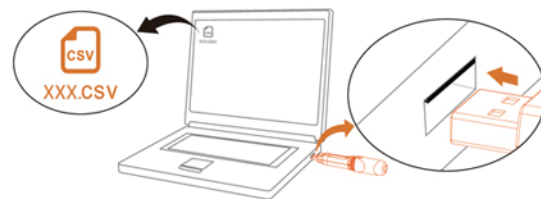
### Haier Biomedical Vaccine Cold Chain Storage Safety Solution

- Continuous, real-time, whole-process traceable monitoring for vaccine safety storage
- WHO approved and sourced by WHO procurement.

### 30-Day Electronic Temperature Logger



WHO Certified  
PQS code:E006/042



Easy to download data



Accessory: Bracket

### Product Features

- Approved by WHO's PQS, PQS code:E006/042
- Designed specifically for 2-8°C vaccine storage, equipped with high/low temperature visual alarm to meet the WHO standard
- Recording capacity is over 30 days, recording interval is 6 minutes, outdated data will be overwritten by new one automatically, when the recording volume is full
- LCD screen displays temperature
- Integrated sensor device, dust and water resistant to IP65 protection standard, can be placed in Cold Box or vaccine refrigerator to monitor the temperature
- The logger can be plugged into the USB port of any PC to automatically generate a CSV file including temperature data and temperature graph which can be generated by data management software
- Built-in disposable wide temperature range lithium battery (Non-replaceable) with a minimum operating life of two years after a maximum shelf life of one year
- The bracket is included as standard

### Specifications

Model	HETL-01
Temperature Range (°C)	-20~+50
Main Material	ABS (Transparent Shield: PC)
Data Interface	USB Interface
Display Medium	LCD
Resolution (°C)	0.1
Accuracy	±0.5°C for -20°C~+40°C, ±1°C for the others
Recording Volume	8192 Data Points(34 days)
Logging Interval	6 min
Power Source	Non-Replaceable Battery
Size (Length*Diameter mm)	131*24
Service Life	2-3 years

Product appearance and specifications are subject to change without notice



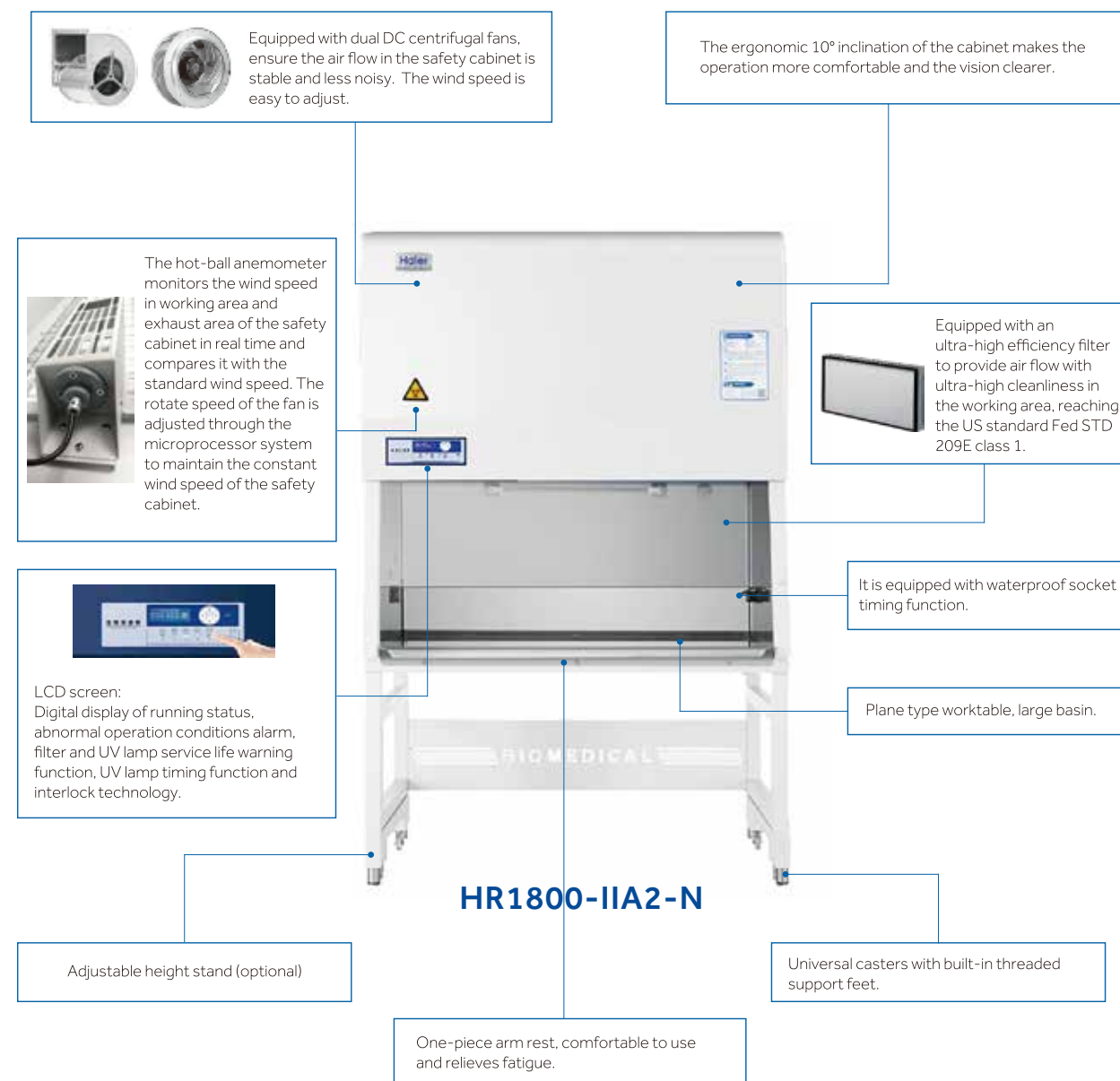
# Laboratory Equipment

# NSF Series Biological Safety Cabinet

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## Scope of Application

Professional air purification equipment suitable for pharmaceuticals, medical and health industries, scientific research laboratories of universities and colleges as well as other related fields.



## Product Advantages

### Microprocessor Control System

- Intuitive and informative interactive digital LCD display.
- The hot-ball anemometer monitors the downflow and inflow wind speed of the safety cabinet in real time and compares it with the standard wind speed.
- The rotate speed of the fan is adjusted through the microprocessor system to maintain the constant wind speed of the safety cabinet.
- Real-time display of operational information and parameters including downflow air velocity, flow rate, temperature, humidity, positive pressure, negative pressure, fan cumulative running time and filter remaining service life.
- One button UV lamp timer function, allows users to set 0 to 24 hours of automatic on/off time.

### Ultra-Low Noise, Uniform Airflow

- Dual DC fan design, combined with professional air distribution design, lower noise, with a more uniform air flow.

### Ergonomic Design



#### Platform Arm Rest

- Platform arm rest frame, comfortable to use, relieves fatigue.



#### Wear-resistant and Easy to Clean

- The inner liner is manufactured with stainless steel integrated structure design, 12mm large arc transition, no dead angles to clean.
- The work surface is manufactured with high quality 304 stainless steel, without any fixed screws, preventing any accumulation pollutants.
- The cabinet is manufactured with cold rolled steel plate with corrosion resistant epoxy resin powder sprayed on the surface, which is resistant to acid and alkali corrosion.



#### Waterproof Socket

- Waterproof socket with timing technology allows users to program timed on/off function.

### Superior Filter, Multiple Protection

- ULPA is made of moisture-proof and flame-retardant glass fiber filter paper which can intercept 99.9995% solid particles with a diameter of 0.12  $\mu\text{m}$  to ensure high cleanliness of air supply flow and exhaust flow.
- Perfect air distribution design, no turbulence in the working area.
- Sound and light alarm function for abnormal parameters.

### Multiple Voltage Options, Suitable for Many Countries and Regions

- Full voltage coverage (100-230V 50/60Hz), suitable for a wide range of countries and regions.

### One-piece Welded Cabinet Structure, Leak Proof

- Prevention of leakage performance of dangerous factors conforms to NSF specification.



#### Caster and Foot

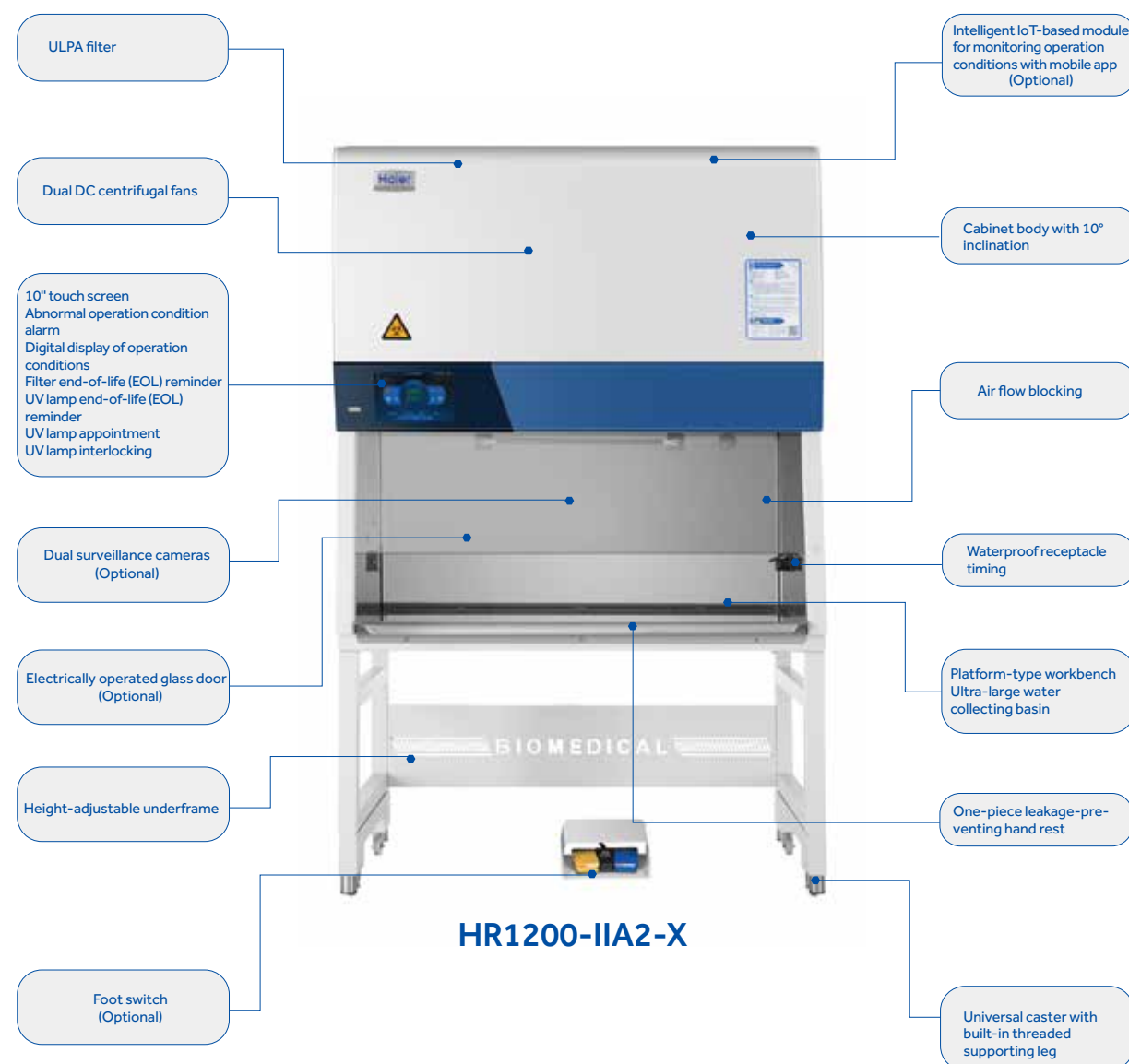
- 4 universal casters + 4 feet design, easy to move and lock leveling

## Biological Safety Cabinet (Touchscreen)

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### Main Uses

The X series of standard Class II microbiological safety cabinets are suitable for basic cell biology, microbiology, biomedicine, biosafety laboratories and other laboratories. It is the most basic protection and isolation equipment for biosafety.



### Product function advantages

- The dual DC fans meet the low-noise, energy-saving and high-reliability requirements
- Utilizing intelligent constant air speed design to monitor the downward airflow and the inlet airflow in real-time. The dual air speed sensors adjust the fan speed through a microcomputer system so as to maintain constant air speed inside the cabinet
- Adopting ultralow penetration air filters (ULPA) ensuring a cleanliness grade conforming to Class 1 of the American standard FED STD 209E (Class 3 of ISO14644-1) and using pressure sensors to monitor the service life of the filters in real-time to ensure superior accuracy and efficiency
- Optional - X series - electric lifting glass doors with matching foot switches
- Optional - X series - comes equipped with surveillance cameras to record the operating status of the left and right working areas respectively and independently
- Optional - Intelligent IoT module to enable the mobile App to monitor the running state of the safety cabinet and display the performance parameters such as air speed and filter life in real-time
- Adopting an intelligent interlock design to avoid the risk of misoperation; with an operational front window interlocking with the UV lamp, LED lamp and fan intelligently to ensure better security
- One-button UV lamp timer, enabling the memory setting of the user's UV lamp usage habits for convenient one-key start-up of the UV lamp timing function

### Product construction advantages

- Using platform-type hand rest racks which are comfortable to use and can relieve fatigue; with leak-proof construction to prevent the splashed liquid waste from entering into the seams of the racks
- The cabinet body has a 10-degree inclination design, which is in accordance with ergonomic principles and more comfortable to operate
- The cabinet has a pull-down front window, which makes it easy to clean the upper glass after pulling down the glass front window and removing the hand rest racks
- Equipped with an integrated workbench and a stainless steel liquid collecting tank larger than the workbench so as to prevent liquid leakage
- Constructed with a universal caster design to facilitate ease of movement by users and comes with built-in threaded feet to prevent bacterial growth
- With real-time display of the filter life and the running time of the fan and the UV lamp, the system alerts the user by alarm when the service life of the filter and the UV lamp becomes less than 10%, which is convenient and safe



## Biological Safety Cabinet (Touchscreen)

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## Specifications

Model		HR1200-IIA2-N	HR1800-IIA2-N	HR1200-IIA2-X	HR1500-IIA2-X	HR1800-IIA2-X
Working Voltage&Frequency (V/Hz)		100-230/50/60	100-230/50/60	220/50/60	220/50/60	220/50/60
Power (VA)		1300	1400	1600	1670	1850
Power of Blower (W)		DC 120, DC 112	DC 120, DC 112	DC 120 112	DC 190 112	DC 120 112
Airflow Circulation		70% Downflow,30% Exhaust	70% Downflow,30% Exhaust	70% Downflow,30% Exhaust	70% Downflow,30% Exhaust	70% Downflow,30% Exhaust
Main Filter Typical Efficiency		ULPA ,U15,99.9995%@0.12um	ULPA ,U15,99.9995%@0.12um	ULPA ,U15,99.9995%@0.12um	ULPA ,U15,99.9995%@0.12um	ULPA ,U15,99.9995%@0.12um
Exhaust Filter Typical Efficiency		ULPA ,U15,99.9995%@0.12um	ULPA ,U15,99.9995%@0.12um	ULPA ,U15,99.9995%@0.12um	ULPA ,U15,99.9995%@0.12um	ULPA ,U15,99.9995%@0.12um
Filter's Brand		AAF	AAF	AAF	AAF	AAF
Downflow Velocity (m/s)		0.35	0.35	0.30	0.30	0.30
Inflow Velocity (m/s)		0.53	0.53	0.45	0.45	0.45
Lighting Intensity (Lux)		1323	1292	1317	1396	1133
Net/Gross Weight (approx)	kg	275/335	375/460	280/340	320/400	380/465
	lbs	617/750	827/1014	617/750	705/882	838/1025
Interior Dimensions (W*D*H)	mm	1230*600*650	1830*600*650	1230*600*655	1530*600*655	1830*600*655
	in	48.4*23.6*25.6	72.0*23.6*25.6	48.4*23.6*25.8	60.2*23.6*25.8	72.0*23.6*25.8
Exterior Dimensions (W*D*H)	mm	1340*850*2160	1940*850*2160	1336*845*2120	1636*845*2120	1936*845*2120
	in	52.8*31.1*85	76.4*33.5*85	52.6*33.3*83.5	64.4*33.3*83.5	76.2*33.3*83.5
Packing Dimensions (W*D*H)	mm	1400*900*1710	2000*900*1710	1400*925*1665	1700*925*1665	2000*925*1665
	in	55.1*35.4*67.3	78.7*35.4*67.3	55.1*36.4*65.6	66.9*36.4*65.6	78.7*36.4*65.6
Supporter		680mm(standard) 680-900mm adjustable height(optional)	680mm(standard) 680-900mm adjustable height(optional)	680-900mm adjustable height	680-900mm adjustable height	680-900mm adjustable height
Container Load (20'/40'/40'H)		8/16/16	6/12/12	8/16/16	6/12/12	6/12/12
Alarm		Sound and Flash	Sound and Flash	Sound and Flash	Sound and Flash	Sound and Flash
Certification		UL,NSF	UL,NSF	CE, TÜV SÜD Mark, NMPA(CFDA)	CE, TÜV SÜD Mark, NMPA(CFDA)	CE, TÜV SÜD Mark, NMPA(CFDA)

Product appearance and specifications are subject to change without notice  
Stainless Steel Arm Rest is removable, width of 60 mm

## Biological Safety Cabinet (Standard Single HEPA)

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### Scope of Application

These are standard Class II microbiological safety cabinets suitable for basic cell biology, microbiology, biomedicine, biosafety laboratories and other laboratories. It is the most basic protection and isolation equipment for biosafety.



### Product Advantages

- HR1200-IIA2-S is the latest biosafety cabinet developed and manufactured to European Standard EN12469.
- With improved energy efficiency the HR1200-IIA2-S is equipped with two DC fans which also lower noise output.
- A highly efficient HEPA output filter provides protection for the samples, operators and environment.
- Side glass windows allow more natural light, reducing optical stress caused by artificial lighting.
- Additional features include height adjustable stand with wheels and levelling feet, air valve and vacuum valve ports.

### Features

- Certified to EN12469.
- Damp-proof, fire-proof glass fibre HEPA filter with a filtering efficiency for  $\geq 0.3\mu\text{m}$  particulate matter is  $\geq 99.995\%$  provides cleaner air and safer samples.
- Dual DC fans allow for better air flow uniformity and operate with lower noise.
- LCD screen displays various parameters and clear operational conditions.
- UV lamp can be set with one single key to activate/deactivate automatically at specified sterilization intervals from 0min to 24hrs, to minimize the waiting time.
- The product features an interlocking function between the ultraviolet sterilization, fluorescent lamp, front window and fan motor meaning the UV lamp can only come on when the illuminating lamp is off. This failsafe removes the risk of incorrect operation.
- Multiple audible and visual alarms: hardware malfunction alarm, operating parameter overrun alarm, filter/UV lamp lifecycle ending alarm, etc.
- Two IP44 rated water-proof sockets with timed on/off function for improved safety and energy conservation.
- Optional electric sash window or electric underframe.

### Ergonomic Design

- $10^\circ$  angled front window provides a comfortable work space for operators.
- Adjustable height stand with hidden mechanism to avoid contamination.
- Universal castor for convenient moving.
- Drop-down front window design for easier cleaning of the upper edge of glass.
- Removable hand rest reduces arm fatigue and does not interfere with air inflow.
- Optional accessories include water valve (manual/ electric), air valve, VHP sterilizer and electric door function (door electric motor and foot switch).

## Biological Safety Cabinet (Standard Dual HEPA)

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### Main Uses

Energy efficient Class II microbiological safety cabinet with two DC fans, dual exhaust HEPAs and long lasting LED lights. Suitable for microbiology, biomedicine, biosafety laboratories and other laboratories. It offers three levels of protection – operator, product and environment.



### Product Advantages

The HR1200-IIA2 double exhaust filtered biological safety cabinet utilises two highly efficient HEPA exhaust filters and one ULPA downflow filter to provide three levels of protection; operator, product and environment. As there is no need for external ducting, this is a cost-effective solution.

The unit is certified to the EN 12469 standard. It uses energy efficient DC fans, as well as LED lights to ensure for optimal performance with a low noise output and reduce energy consumption. The ergonomic design ensures maximum comfort and alleviates operator fatigue.

The units utilise side air design on the upper edge and on both sides of the front window to eliminate 'blind spots'. This prevents crossflow between inside and outside air thus reducing the risk of contamination. The compartmented working surface can easily be removed for sterilization and cleaning.

### Features

- E.U. EN12469 Standard Certification.
- The main filter uses a damp-proof, fire-proof glass fibre ULPA filter, the filtering efficiency for  $\geq 0.12\mu\text{m}$  particulate matter is  $\geq 99.9995\%$  which provides cleaner air and safer samples.
- EC fan operates with lower noise and better uniformity air flow.
- LCD screen displays various parameters and clear operational conditions.
- Ultraviolet light can be set with one single key to automate on/off time, and sterilization time interval from 0 to 24 hours, reducing downtime.
- The product features an interlocking function between the ultraviolet sterilization, fluorescent lamp, front window and fan motor meaning the UV lamp can only come on when illuminating lamp is off. This failsafe removes the risk of incorrect operation.
- Equipped with multiple visual and sound alert functions, it is clear and easy to understand. Alarms include filter and UV end-of-life alerts, fan turned-off after door opening alert and door open alarm.
- Two IP44 rated waterproof sockets with timed on/off function to improve safety and conserve energy.

### Ergonomic Design

- 10° angled front window provides a comfortable work space for operators.
- Adjustable height stands with hidden mechanism to avoid contamination.
- Universal castors with self-levelling feet for convenient moving.
- Drop-down front sash window design for easier cleaning of the upper edge of glass.
- Removable hand rest reduces arm fatigue and does not interfere with air inflow.
- Optional accessories include water valve (manual/electric), air valve and VHP sterilizer.
- Optional electric sash window or electric underframe.

### Alarm Functions

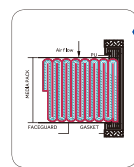
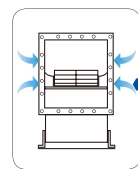
- Fan turn-off alarm after door opening.
- Abnormal door height alarm.
- Door open more than limit.
- Blocked filter alarm.
- Damaged filter alert.
- Filter and UV end-of-life alert.
- Front glass blocks ultraviolet.

# Biological Safety Cabinet

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The Haier Biomedical Biological Safety Cabinet is designed to protect the operator, laboratory environment and samples from being exposed to the infective aerosol produced from samples with bacteria strains, diagnostic materials, and other infective substances. It provides the operator with comfortable and safer working conditions. It is widely used in medical health, disease prevention, food safety, biological pharmacy and environment monitoring.

## Ultra Low Penetration Air Filter System



## Intelligent Constant Air Velocity Patent Technology



The professional hot-bulb air velocity transducer performs real-time monitoring on the air velocity of the working area, compares it with the standard air velocity to keep the air speed constant within the safety cabinet by adjustment of the fan speed via the microcomputer system.

## 304 Stainless Steel Operation Platform and Internal Wall

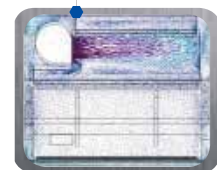
- Stainless steel work surface without screws ensures no accumulation of contaminant
- Dismountable air in-flow plate is easy to clean and disinfect
- Concave work surface, waste liquid easily collected



## Digital Microprocessor Control System



- LCD display
- Real-time display of key parameters: downflow velocity, inflow velocity, airflow volume, static pressure, negative pressure, accumulative running time of fan and UV lamp and remaining life of filter
- Sound & light alarming function
- UV sterilization reservation setting function



## Safe Air Flow Distribution Design

The professional air flow distribution design, provides more uniform airflow, reducing contamination and noise to <62dB(A).



## V-shaped Air Inlet Design



## Swivel Castor and Self-levelling Feet



HR1200-IIA2

## Features

### Patent Intelligent Constant Air Velocity

The professional hot-bulb air velocity transducer performs real-time monitoring on the air velocity of the working area, compares it with the standard air velocity and maintains a constant velocity by adjustment of the fan speed by microcomputer system.

### Low Noise Safety Energy-saving Mode

When the human body sensor module detects under the intelligent mode that the person is outside and away from the operating area for over 15 minutes, the microcomputer program will automatically switch the safety cabinet to Low Noise Safety Energy Conservation mode, which reduces noise, conserves energy and improves the service life of the filter.

### Professional Air-flow Distribution Module

Through the professional air flow distribution design, the safety cabinet provides a more uniform airflow, reducing contamination and noise to <62dB(A).

### Ultra Low Penetration Air Filter System

American AAF (ULPA) filter is tested to a typical efficiency of > 99.9995% for 0.12 micron particles. ULPA filter provides vertical laminar flow to the worktable to protect samples from pollution.

### Air Flow Disruption Technology

The units utilise side air design on the upper edge and on both sides of the front window to eliminate 'blind spots'. This prevents crossflow between inside and outside air, reducing contamination (Patent No. ZL200520125549.X).

### Unique Tempered Glass Sliding Sash Window

The unique tempered glass sliding sash window can be removed in seconds to enable quick and efficient cleaning of upper sections, shortening downtime.

### Removable Arm Rest

Removable arm rest reduces user fatigue and does not interfere with air inflow.

	Biosafety Cabinets	Air Quality	Filtration	Electrical Safety
Standards Compliance	EN 12469, Europe NMPA (CFDA) YY-0569, China	ISO 14644.1, Class 3, Worldwide US Fed Std 209E, Class 1 USA	EN-1822 (H14), Europe IEST-RP-CC001.3, USA IEST-RP-CC007, USA IEST-RP-CC034.1, USA	EN61010

# Biological Safety Cabinet (Classic Series)

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American AAF ULPA filter is tested to a typical efficiency of >99.9995% for 0.12 micron particles

Reverse centrifugal fan allows double side air inflow, decreasing noise and saving energy

Digital microprocessor control system for easy operation

Intelligent alarming system

Multiple interlocking functions, a failsafe that removes the risk of incorrect operation

Removable stainless steel work surface makes cleaning easier

Ergonomic angled design to improve comfort

Adjustable foot

HR40-IIA2

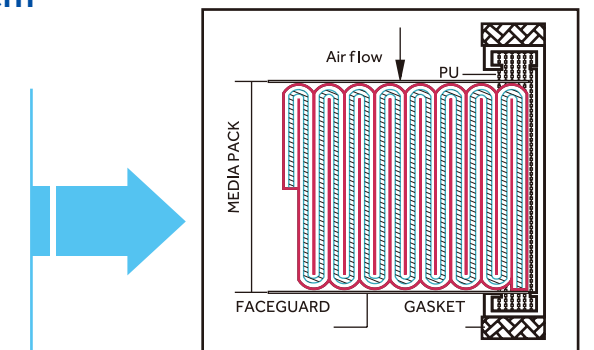
## 304 Stainless Steel Operation Platform and Internal Wall

- Stainless steel work surface without screws ensures no accumulation of contaminant
- Removable air in-flow plate is easy to clean and disinfect
- Internal wall is constructed of a single piece stainless steel, with 12mm arc angle corners which allows for more effective cleaning
- The volume of liquid tank is over 4L, equipped with outlet valve for convenient cleaning and maintenance
- Concaved work surface, waste liquid easily collected
- Adjustable stand (0-75mm) without exposed screw thread, reduces risk of contamination



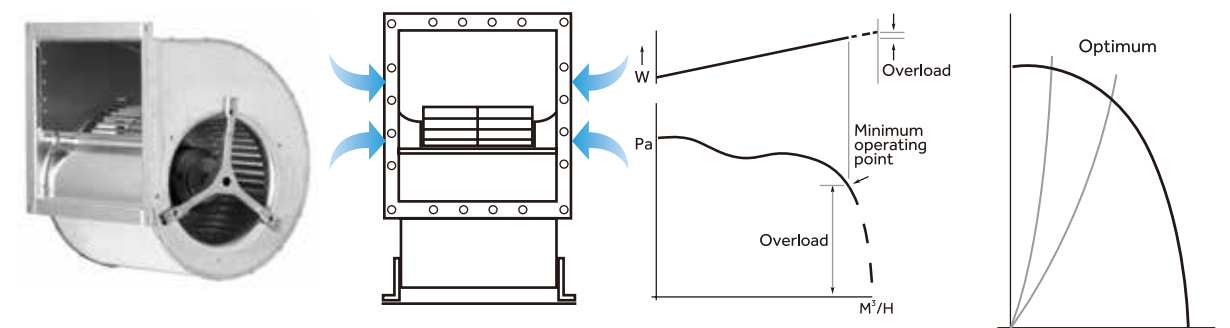
## Ultra Low Penetration Air Filtration System

- American AAF ULPA filter
- Tested to a typical efficiency of 99.9995% for 0.12 micron particles
- Provides FED STD 209E class 1 (or ISO14644.1 class 3) clean air to work surface in a stable vertical laminar flow to protect samples
- The exhaust ULPA filter traps biohazard particles acquired from the work surface before air is exhausted to the room, offering personnel and environmental protection



## High Efficiency Blower System

- The blower system is designed for high performance operation, maximum energy efficiency and minimal maintenance
- Self cooling system reduces energy consumption while enhancing reliability



Reverse centrifugal fan	Double-side air inflow design decreases running noise	Air velocity auto-compensation function guarantees stable wind speed	Provide uniform airflow by adjusting working voltage of fan
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## Biological Safety Cabinet

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## Specifications



Model		HR700-IIA2	HR900-IIA2-D	HR900-IIA2-S	HR1200-IIA2	HR1200-IIA2-D	HR1200-IIA2-S	HR1500-IIA2
Working Voltage&Frequency (V/Hz)		220/50/60	220-240~50/60	220-240~50/60	220/50	220/50/60	220/50/60	220/50
Power (VA)		1200	1500	1500	1500	1600	1600	1900
Power of Blower (W)		210	290	290	AC L=330,M=465,H=735	DC 190, DC 170	DC 120,DC 112	AC 650
Airflow Circulation		70% Downflow,30% Exhaust	70% Downflow,30% Exhaust	70% Downflow,30% Exhaust	70% Downflow,30% Exhaust	70% Downflow,30% Exhaust	70% Downflow,30% Exhaust	70% Downflow,30% Exhaust
Main Filter Typical Efficiency		HEPA, H14,99.995%@0.3µm	ULPA, U15,99.9995%@0.12µm	ULPA, U15,99.9995%@0.12µm	ULPA, U15,99.9995%@0.12µm	ULPA, U15,99.9995%@0.12µm	HEPA, H14,99.995%@0.3µm	ULPA, U15,99.9995%@0.12µm
Exhaust Filter Typical Efficiency		ULPA, U15,99.9995%@0.12µm	ULPA*2, U15, 99.9995%@0.12µm	ULPA, U15, 99.9995%@0.12µm	HEPA, H14,99.995%@0.3µm	TWO HEPA, H14,99.995%@0.3µm	HEPA, H14,99.995%@0.3µm	HEPA, H14,99.995%@0.3µm
Filter's Brand		AAF	AAF	AAF	AAF	AAF	AAF	AAF
Downflow Velocity (m/s)		0.30	0.30(60)	0.54(90)	0.34	0.30	0.30	0.31
Inflow Velocity (m/s)		0.53	0.55	0.55	0.55	0.45	0.45	0.55
Lighting Intensity (Lux)		≥700	≥1300	≥1300	≥900	≥1000	≥1000	≥900
Net/Gross Weight (approx)	kg	100/130	290/310	290/310	320/339	320/339	320/339	350/393
	lbs	220.4/286.52	639/705	639/705	705.5/747.4	705.5/747.4	705.5/747.4	771.6/866.4
Interior Dimensions (W*D*H)	mm	600*550*540	936*620*635	936*620*635	1220*620*650	1310*620*630	1310*620*630	1520*620*650
	in	23.62*21.65*21.26	36.9*24.4*25.0	36.9*24.4*25.0	48.0*24.4*25.6	51.6*24.4*24.8	51.6*24.4*24.8	59.9*24.4*25.6
Exterior Dimensions (W*D*H)	mm	700*720*1200	1002*796 (856)*1485	1002*796 (856)*1485	1380*790*2160	1380*780*2160	1380*780*2160	1680*790*2160
	in	27.5v6*30.91*50.93	39.5* 31.3 (33.7)*58.5	39.5* 31.3 (33.7)*58.5	54.3*31.1*85.0	54.3*30.7*85.0	54.3*30.7*85.0	66.1*31.1*85.0
Packing Dimensions (W*D*H)	mm	765*785*1370	1070*895*1680	1070*895*1680	1470*920*1690	1470*920*1690	1470*920*1690	1755*920*1690
	in	30.12*30.91*53.93	42.1*35.2*66.1	42.1*35.2*66.1	57.9*36.2*66.5	57.9*36.2*66.5	57.9*36.2*66.5	69.1*36.2*66.5
Supporter		700mm(optional)	680-900mm(26.8-35.4")adjustable height	680-900mm(26.8-35.4")adjustable height	680-900mm adjustable height	680-900mm adjustable height(optional)	680-900mm adjustable height	680-900mm adjustable height
Container Load (20'/40'/40'H)		21/45/45	12/24/24	12/24/24	8/16/16	8/16/16	8/16/16	6/12/12
Alarm		Sound and Flash	Sound and Flash	Sound and Flash	Sound and Flash	Sound and Flash	Sound and Flash	Sound and Flash
Certification		CE, TÜV SÜD Mark, NMPA(CFDA)	CE, UKCA	CE, UKCA	CE, TÜV SÜD Mark, NMPA(CFDA)	CE, TÜV SÜD Mark	CE, TÜV SÜD Mark	CE, TÜV SÜD Mark, NMPA(CFDA)

Product appearance and specifications are subject to change without notice  
Stainless Steel Arm Rest is removable, width of 60 mm

## Biological Safety Cabinet

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## Specifications



Model	HR30-IIA2	HR40-IIA2	HR40-IIA2	HR40-IIB2
Working Voltage&Frequency (V/Hz)	220/50/60	115/60	220/50/60	220/50/60
Power (VA)	1300	1300	1300	1700
Power of Blower (W)	AC 540/625	AC 540/625	AC 540/625	AC 115
Airflow Circulation	70% Downflow, 30% Exhaust	70% Downflow, 30% Exhaust	70% Downflow, 30% Exhaust	100% Exhaust
Main Filter Typical Efficiency	ULPA, U15.99.9995%@0.12um	ULPA, U15.99.9995%@0.12um	ULPA, U15.99.9995%@0.12um	ULPA, U15.99.9995%@0.12um
Exhaust Filter Typical Efficiency	HEPA, H14.99.995%@0.3um	HEPA, H14.99.995%@0.3um	HEPA, H14.99.995%@0.3um	HEPA, H14.99.995%@0.3um
Filter's Brand	AirePlus	AAF	AAF	AAF
Downflow Velocity (m/s)	0.3	0.28	0.3	0.3
Inflow Velocity (m/s)	0.53	0.55	0.53	0.53
Lighting Intensity (Lux)	≥1100	≥1200	≥1200	≥1200
Net/Gross Weight (approx)	kg	220/248	258/305	252/308
	lbs	485.0/546.7	568.8/672.4	555.6/679.0
Interior Dimensions (W*D*H)	mm	900*610*680	1167*610*680	1167*610*680
	in	35.4*24.0*26.8	45.9*24.0*26.8	45.9*24.0*26.8
Exterior Dimensions (W*D*H)	mm	1100*790*2200	1360*790*2200	1360*790*2330
	in	43.3*31.1*86.6	53.5*31.1*86.6	53.5*31.1*91.7
Packing Dimensions (W*D*H)	mm	1155*905*1720	1415*905*1720	1415*905*1910
	in	45.5*35.6*67.7	55.7*35.6*67.7	55.7*35.6*75.2
Supporter (mm)	680	680	680	680
Container Load (20'/40'/40'H)	10/20/20	8/16/16	8/16/16	8/16/16
Alarm	Sound and Flash	Sound and Flash	Sound and Flash	Sound and Flash
Certification	CE, TÜV SÜD Mark, NMPA(CFDA)	/	CE, TÜV SÜD Mark, NMPA(CFDA)	CE, TÜV SÜD Mark, NMPA(CFDA)

Product appearance and specifications are subject to change without notice

## Laminar Flow Cabinet

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- Featuring many technologies and authoritative testing certification for reliability
- Microcomputer intelligent control panel with durable touch buttons
- Multiple safety protection functions including UV delay start
- Interlocking function to put an end to incorrect operation
- Ergonomic design to ensure comfortable operation
- Memory function to avoid repeated start-up setting
- Integrated stand with universal casters



### High-Efficiency Filter HEPA

High-efficiency HEPA filter with efficiency of 99.99%@0.3 $\mu$ m, provides ISO14644.1 Class V standard clean air, safer and reliable clean air.

### 304 Stainless Work Surface

The durable and corrosion-resistant 304 stainless steel work table without fixing screws reduces the accumulation of dirt, reducing the risk of contamination.

### Ergonomic Design

- Recessed internal lighting reduces eye fatigue.
- UV sterilization start-up delay technology prevents injury by UV light. After the UV lamp switch is pressed down, the audible and visual alarm will be activated to remind the operator to leave in time;
- Pre-set function: This technology includes a pre-set UV sterilization start-up delay function to provide improved working efficiency.

### Interlocking Function

There is an interlocking function between illuminating lamp and UV lamp, the UV lamp only works when the illuminating lamp is off. If the UV lamp is on, it can be turned off by pressing the daylight lamp, reducing the risk of incorrect operation.

### Memory Function

The UV lamp start-up delay time, sterilization duration, pre-set start time, fan position can be set and saved by user on request for the convenient and quick cabinet start-up.

### One-key Operation

- After the UV lamp switch is pressed, the time function can be activated automatically. The default sterilization time is 30min, which can be adjusted by user within 0-99min on request;
- Sterilization pre-set, when pressing the UV lamp, the pre-set lamp will light to remind user that the sterilization pre-set function has been activated and that the sterilization pre-set can be conducted.

### Pre-cleaning Function

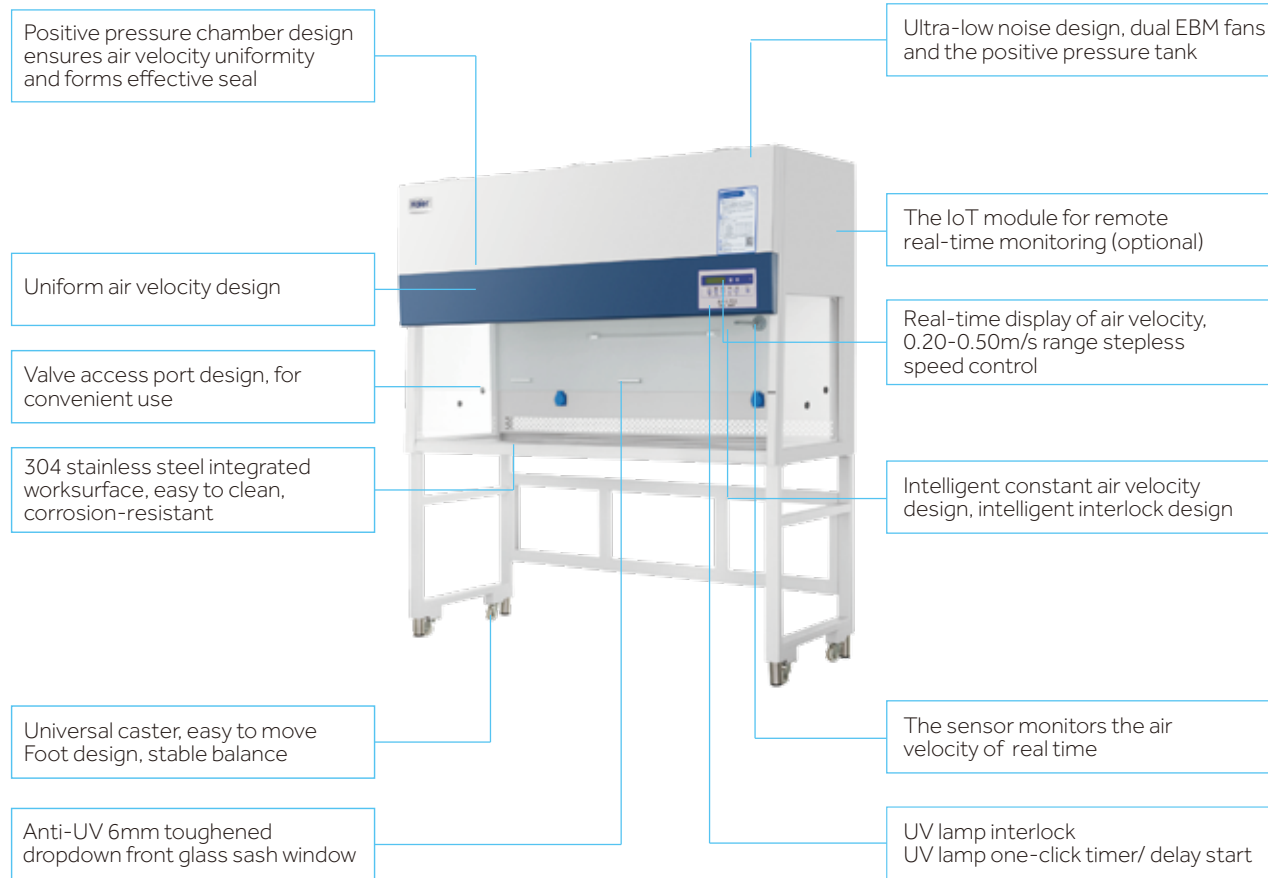
The pre-cleaning function can further improve the protection of samples.



## Laminar Flow Cabinet

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Professional local air purification equipment, suitable for pharmacy, biomedicine and healthcare, university research and biosafety laboratories.



**HCB-1300VS**

### Innovative Design

- Intelligent constant air speed design
- Air velocity sensor
- Ergonomic: Comfortable to operate
- UV lamp sterilization reservation timer
- Ultra-low noise
- Non reflective tempered UV glass

### Product Features

-  High performance energy saving and environmental protection fan, low energy consumption, high efficiency
-  Real-time display filter life and fan, UV lamp running time, convenient and safe
-  UV lamp sterilization timer design, any time self-service UV lamp open and close
-  In line with YY/T 1539-2017, JG/T 292-2010, EN12469, EN1822 and other standards
-  Operating area cleanliness to ISO 14644-1 class 4
-  Intelligent interlock design, to shield the risk of mis-operation, the operating sash is manufactured with UV light, LED light, and fan
-  Users can adjust the air velocity in the range of 0.20-0.50m/s with the accuracy of 0.01m/s
-  IoT technology to achieve remote online monitoring (optional)
-  Intelligent constant air velocity and interlock design
-  Ultra-low noise design, positive pressure tank with dual EBM fans

## Laminar Flow Cabinet

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## Specifications

Model		HCB-900V	HCB-1300V	HCB-1300V	HCB-1300VS	HCB-1600H
Flow Type		Vertical	Vertical	Vertical	Vertical	Horizontal
Voltage/Frequency (V/Hz)		220/50	115/60	220/50	220V/50/60Hz	220/50/60
Power (W)		1200	1200	1200	1350	350
Vibration Amplitude (UM)		2	2	2	2	2
Exhaust Filter Typical Efficiency		H13 HEPA,99.99%@0.3um	H13 HEPA,99.99%@0.3um	H13 HEPA,99.99%@0.3um	H13 HEPA,99.99%@0.3um	H13 HEPA,99.99%@0.3um
Average Velocity (M/S)		0.2-0.4	0.2-0.4	0.2-0.4	0.20-0.50	0.2-0.4
Lighting Intensity (Lux)		≥300	≥300	≥300	≥600	≥1000
Sound Level (dB(A))		58	58	58	58	61
Net/Gross Weight (approx)	kg	115/145	145/171	145/171	180/232	165/214
	lbs	254/319	320/376	320/376	397/511.5	363.7/471
Internal Dimension (W*D*H)	mm	900*530*520	1300*530*520	1300*530*520	1300*510*550	1710*550*750
	in	35.4*20.9*20.5	51.2*20.9*20.5	51.2*20.9*20.5	51.2*20.1*21.7	67.3*21.7*29.6
External Dimesion (W*D*H)	mm	970*630*1730	1370*630*1730	1370*630*1730	1370*640*1820	1780*790*1960
	in	38.2*24.8*68.1	53.9*24.8*68.1	53.9*24.8*68.1	53.9*25.2*71.7	70.1*31.1*77.2
Packing Dimensions (W*D*H)	mm	1105*745*1280	1505*745*1280	1505*745*1280	1470*810*1290	1865*940*1370
	in	43.5*29.3*50.4	59.3*29.3*50.4	59.3*29.3*50.4	57.9*31.9*50.8	73.4*37.0*53.9
Supporter		755mm high chassis	755mm high chassis	755mm high chassis	750mm high chassis	765mm high chassis
Cleanliness Classification		ISO 14644.1 Class 5	ISO 14644.1 Class 5	ISO 14644.1 Class 5	ISO 14644.1 Class 5	ISO 14644.1 Class 5
Container Load (20'40'40'H)		15/33/33	10/25/25	10/25/25	11/22/22	6/12/12
Certification		CE, NMPA(CFDA)	/	CE, NMPA(CFDA)	NMPA(CFDA)	CE, NMPA(CFDA)

Product appearance and specifications are subject to change without notice

# CO<sub>2</sub> Incubator



Haier Biomedical IoT enabled CO<sub>2</sub> incubator with 180°C dry heat sterilisation provides a safe and secure reproducible growth environment for cell cultures.

**IR Sensitive Control of CO<sub>2</sub> Concentration**

The new IR sensor with high temperature resistance of 190°C is based on the NDIR measurement principle and uses a silicon MEMS transmitter to replace the traditional light source. It can withstand more than 300 dry heat sterilization cycles with a service life of up to 15 years and control accuracy of ±0.1%. German IR infrared sensing technology, zero drift, without need for calibration, drift less than 0.3% within 2 years.



**7-inch Touchscreen**  
Displays CO<sub>2</sub> concentration and temperature data in real time. 15 years of data can be exported via USB.

**Inner Door**  
The door ensures the inside of the cabinet is sealed.

**Outer Door**  
The heated outer door prevents the condensation of the inner door.

**Precise Temperature Control**

With six-sided heating based on fuzzy PID control, it has internal dual PT1000 high precision sensors.



6-sided heating sketch



**Internal Partition**  
Safety anti-slip design of pull out shelves.



**304 Stainless Interior**



**Adjustable Feet**

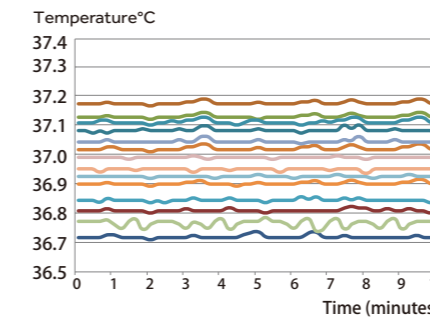
It can be double stacked.

**180°C Dry-heat Sterilization**

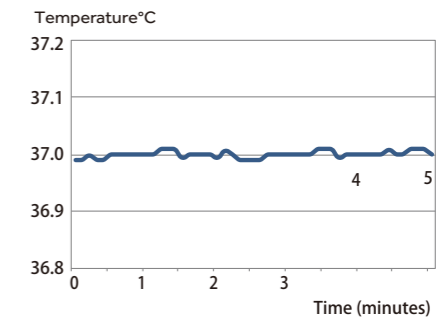
All internal components do not need to be disassembled and do not need separate autoclave sterilization to prevent secondary pollution. Cleaning consumables are not needed, one-button sterilization. German INFRARED CO<sub>2</sub> sensor, NDIR light source technology drift < 0.3% within two years. The unit can withstand sterilization at 180°C with no disassembly and no manual calibration.

**Precise and Accurate Temperature Control**

Controls the temperature precisely, within ±0.1°C, with six-sided heating based on the fuzzy PID control principle, to provide a stable temperature to ensure the normal growth of cells throughout their life cycle.



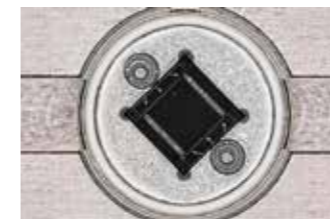
Uniformity of 27 measuring points <±0.3°C



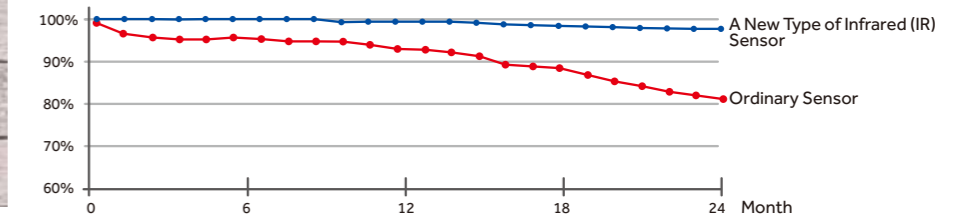
Central consistency point <±0.1°C

**Precise CO<sub>2</sub> Concentration Using New IR Sensor Control Technology**

Haier Biomedical's new IR Sensor technology uses NDIR measurement principles and withstands high temperatures of 190°C. The silicon MEMS transmitter can carry out more than 300 dry heat sterilization cycles to extend the service life to 15 years. Built-in temperature and humidity compensation technology reduces the impact of changes of humidity and temperature without the need for calibration after the high temperature sterilization. Five point calibration yields a higher measuring accuracy, sensitivity with less drift.



Silicon-based mems transmitter



Sketch of drift less than 0.3%

**Fast Environment Recovery for Optimal Cell Growth**

Adopting active air flow control technology, and based on the fuzzy PID control principle, the parameters can be restored without overshoot. After opening the door for 30 seconds, the temperature and CO<sub>2</sub> concentration can be quickly restored within 4 minutes. Even if multiple users share a CO<sub>2</sub> incubator and frequently open and close the door, the stability and uniformity of the incubator can be ensured.

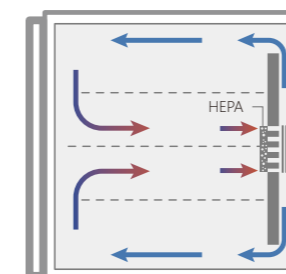
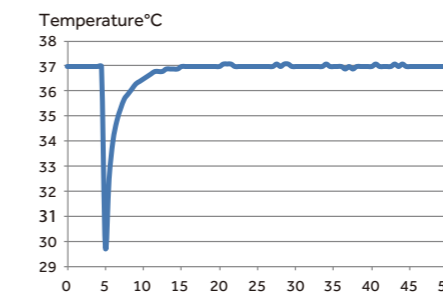
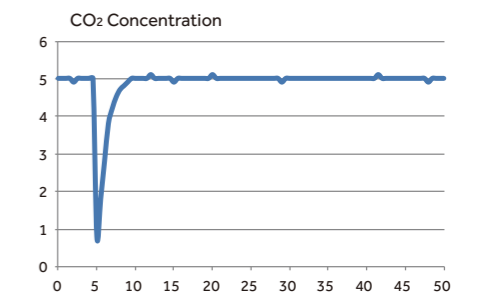


Illustration of purified airflow



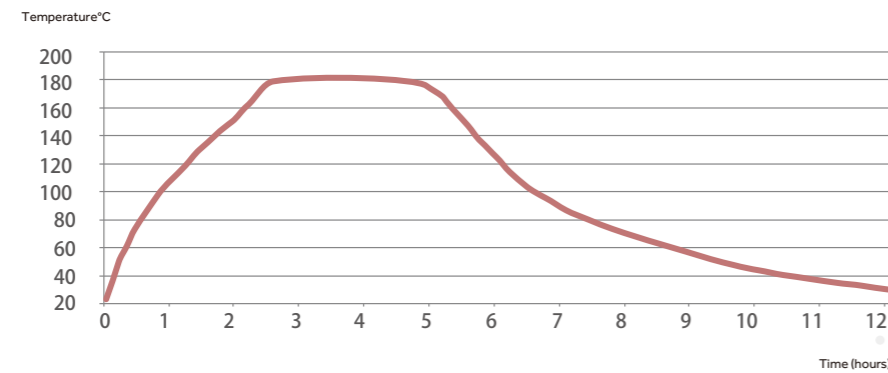
Temperature recovery curve (door open for 30s)



CO<sub>2</sub> concentration recovery curve (door open for 30s)

### 180°C Dry-Heat Sterilization Technology Minimises Contamination

Easy and effective sterilization of microorganisms including bacteria, fungi and microplasma with strong resistance, at 180°C high temperatures without the need for consumables. Simply press the "sterilization key" to activate and complete the sterilization process automatically in just 12 hours. Delivers sterility level within the chamber of all surfaces to meet WS/T367-2012 standards. All components are sterilized during the process, there is no need to disassemble internal components (including CO<sub>2</sub> sensors) and decontaminate separately, thus avoiding secondary pollution.



#### Sterilization Temperature Profile

Thirty-four points were tested in the working chamber, including glass inner doors and partitions. All regions reached 180°C and maintained for 2 hours.

		
<b>Ultraviolet disinfection</b> Cells exposed to bacterial environment	<b>90°C hydrothermal disinfection</b> Cells exposed to bacterial environment	<b>180°C dry-heat sterilization of haier CO<sub>2</sub> incubator</b> Pollution-free cell growth environment

### High Efficiency Microbial Filter

The CO<sub>2</sub> inlet is equipped with a high-efficiency microbial filter, with 99.99% filtration efficiency for particles larger than or equal to 0.2µm in diameter. It can effectively filter bacteria and dust particles in the CO<sub>2</sub> gas line to ensure the safety of experimental results.



### Easy to Clean Interior



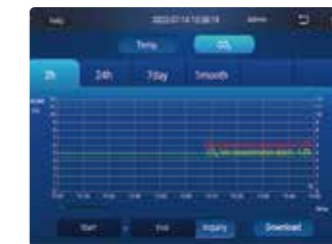
The working chamber is plasma electro polished, stamped stainless steel with wide-arc, laser welded corners. Bracketless shelving design ensures that it is quick and easy to clean.

### Interactive Intelligent Display with Easy Touch Operation

Touch-sensitive screen with rapid sensing even in rubber gloves. Green indicates normal operational parameters, while a red warning display indicates abnormal, making it easy to view data at a glance. A red warning display and audible buzzer will alarm when water level is low.



Home screen red warning



Real-time display of operation data & real-time display of temperature, for CO<sub>2</sub> concentration and O<sub>2</sub> concentration, and the data during the culture cycle can be viewed at any time.



Announcement function designed for multiple persons to use the same incubator making it clear to all users on important matters.



Operation mode clear management authority: three-levels of authority to ensure the security of data.

### Realtime Monitoring via Optional IoT Module



The IoT module is optional. The information of the setting parameters, operation parameters, operation curves, alarm records and event records is uploaded in real time through IoT cloud platform to ensure real time monitoring of the operation status of the incubator by APP or PC.

### Anti-Condensation Heating System to Reduce Pollution Risk

The door on the CO<sub>2</sub> incubator radiates heat to the inner glass door, effectively preventing the glass door from forming condensation. The possibility of microbial contamination caused by the condensate water is eliminated.

### Intelligent Control of Circulating Air Maintains Uniformity

Automatically adjusts the circulation of the air flow, optimising the air flow to avoid air volatilization of samples and ensuring proper uniformity throughout the chamber.

### Comprehensive Safety Alarm System

The system ensures the safety of experiments and processes by utilizing an independent temperature alarm system, including a sound light and remote reminder. Other alarms include CO<sub>2</sub> concentration, door ajar and water shortage.

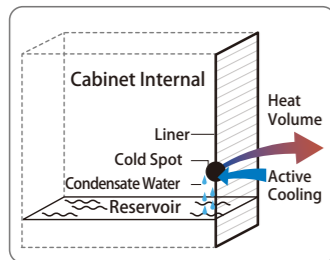
Innovative and User-friendly Design with Attention to Detail



Safe anti-slip design with pull out shelves.



Convenient drainage design



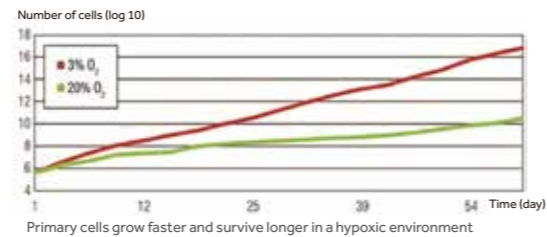
Active heat pipe condensation technology with any condensation directly returning to the reservoir.



Data traceable for 15 years with large storage capacity and data exportable through USB.

O<sub>2</sub> Control (Optional) for HCP-168B Only

The nitrogen intake is controlled by the oxygen concentration detected by the oxygen sensor. By filling nitrogen, the oxygen concentration can be controlled in the range of 1-21% and the control accuracy is 0.1%, which can simulate the hypoxic conditions for the research of primary cell, stem cells and embryos.



\*To order the HCP-168B incubator complete with O<sub>2</sub> control module use product code O<sub>2</sub>-HCP-168B.

Optional Accessories

Name	Picture
Relief Valve	
HEPA Filter	
HEPA Filter Cover	
Stacking Frame	
Internal partition	
Roller base	

Name	Picture
Water Tray	
Oxygen Sensor (only for HCP-168B)	
Solenoid Valve (only for HCP-168B)	
6 Inner Door (only for HCP-168B)	
3 Inner Door (only for HCP-168B)	

Specifications

Model		HCP-80B	HCP-168B	HCP-258B	
Type		Air Jacket	Air Jacket	Air Jacket	
Construction	Chamber Volume (L)	80	170	258	
	Interior Chamber	304 Stainless Steel			
	Exterior Chamber	Cold-rolled steel powder coated			
	Access Port	/	35mm Diameter	35mm Diameter	
	Data Outputs	Remote Alarm Contacts, USB, and Optional 4-20mA			
Dimensions	Net/Gross Weight (approx)	kg	75/100	95/130	
		lbs	165/220	242.5/308.6	297/374
	Interior Dimensions (W*D*H)	mm	400*420*490	490*560*650	570*610*745
		in	15.7*16.5*19.3	19.3*22*25.6	22.4*24.0*29.3
	Exterior Dimensions (W*D*H)	mm	625*684*735	714*812*887	794*867*985
		in	24.6*26.9*28.5	28.1*32*34.9	31.3*34.1*38.8
Packing Dimensions (W*D*H)	mm	765*710*930	890*800*1085	950*880*1145	
	in	30*28*36.6	35*31.5*43	37.4*35*45	
Shelves	Dimensions (W*D)	mm	380*300	473*434	550*484
	Number Standard/Maximum		3/8	3/11	3/13
	Max.load Per Shelf/Total Load	kg	15/45	15/45	15/45
	Construction	Perforated, Adjustable			
Electrical	Rated Voltage Power Supply (V/Hz)	115/60	115/60	115/60	
	Nominal Consumption (kw) (Steri-run)	0.07 (0.9)	0.095 (1.4)	0.12 (1.6)	
Control	Controller	Microprocessor	Microprocessor	Microprocessor	
	Display	7"LCD Screen	7" LCD Screen	7"LCD Screen	
CO <sub>2</sub>	Control Accuracy	0.1%	0.1%	0.1%	
	Range	0-20%	0-20%	0-20%	
	Alarm Range	±0.5%	±0.5%	±0.5%	
	Inlet Pressure	12-17Psi (0.8-1.2 Bar)			
	Gas Purity	≥99.5%			
	Sensor	IR	IR	IR	
	Recovery Time at 5vol.-%/CO <sub>2</sub> for a 30 Second Door Opening*(min)	4	4	4	
	CO <sub>2</sub> Inlet Filter (µm)	<0.2	<0.2	<0.2	
	Alarms	High/Low Temperature	Y	Y	Y
		Remote Alarm	Y	Y	Y
Excessive CO <sub>2</sub> Concentration		Y	Y	Y	
Water Shortage		Y	Y	Y	
Sensor Error		Y	Y	Y	
Temperature Parameter	Door Ajar	Y	Y	Y	
	Control Accuracy (°C)	0.1	0.1	0.1	
	Range	Ambient temperature+3-55°C			
	Uniformity (°C)	±0.3	±0.3	±0.3	
	Ambient Range (°C)	18-32	18-32	18-32	
	Sensor	2PT1000	2PT1000	2PT1000	
Sterilization Cycle	Recovery Time at 37°C for a 30 Second Door Opening* (min)	4	4	4	
	Cycle Temperature	180°C on internal Surfaces and Shelves			
Humidity	Cycle Duration	Under 12 Hours	Under 12 Hours	Under 12 Hours	
	RH (Relative Humidity)	Setting 37°C ≥90%	Setting 37°C ≥90%	Setting 37°C ≥90%	
Optional	Humidity Reservoir	Max.1.3L/Min 0.5L	Max.3L/Min 0.5L	Max.3.6L/Min 0.5L	
	Hepa Filter	Y	Y	Y	
	Pressure Reducing Valve	Y	Y	Y	
	RS485	Y	Y	Y	
	4-20mA	Y	Y	Y	
Certification	The Cylinder Switch	Y	Y	Y	
		UL	UL	UL	

Product appearance and specifications are subject to change without notice

# Standard Incubator

## Scope of Application

The solution is widely used in bacteria, fungi and other microorganisms culture; as well as enzyme digestion reaction, ligation reaction, embedded incubation and other related constant temperature experiments.



Embedded incubation

Bacteria

Fungus



HZP-168

HFP-80

## Ergonomic Design



### Personalized interface, easy to link

Equipped with USB and RS485 interfaces to meet the different needs of users to transfer data.



### Scalable bulk data storage

The touchscreen's memory can be increased to 64GB to store up to 15 years' data which can be exported via USB



### Multiple protection benefits for increased security


Overheat protection (OPT), over current protection (FU), sensor error detection, independent temperature limit, compliance with DIN 12880 requirements and EU 3.1 safety level. Sound, light and remote alarms (optional) which guarantee experiment safety. Multiple alarms, such as over temperature alarm, high and low temperature alarm, door ajar, and sensor error alarm.




### High thermal insulation performance, energy saving and environmental protection

The unit is manufactured with aluminum foil insulation cotton, which improves the overall insulation performance and reduces energy consumption, lowering costs while also being environmentally friendly.

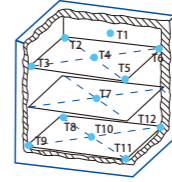
## Fuzzy PID Control Technology



HZP-168  
Natural Convection



HFP-80  
Forced Convection



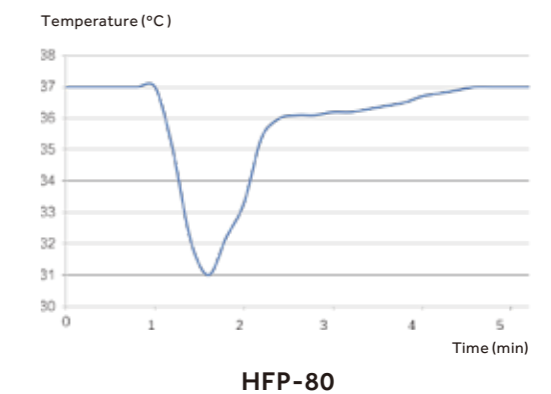
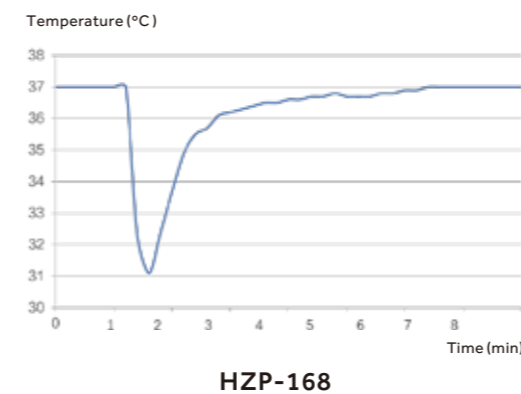
ASTM standard,  
12 points testing

Fuzzy PID control technology and high performance four-sided heating mechanisms are used to achieve precise temperature control with superior uniformity.

## Rapid Recovery After Door Open

Rapid warming: the temperature inside the unit quickly recovers after opening the door to reduce the influence of temperature fluctuation on the sample.

The temperature rise curve to 37°C after opening the door for 30 sec at 22°C ambient temperature



## Convenient and Intelligent Management at a Glance



7-inch touchscreen, easy to operate and sensitive, it can respond quickly even when wearing rubber gloves.



Real-time display of temperature data, one-touch to review previous data.



Records abnormal information in real time, eliminating any hidden abnormalities which ensures the culturing is more secure.



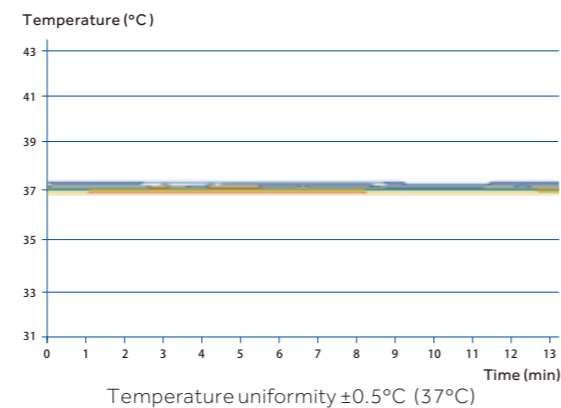
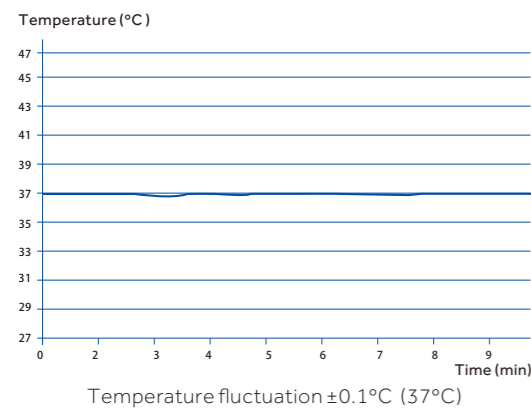
Multiple operating modes.



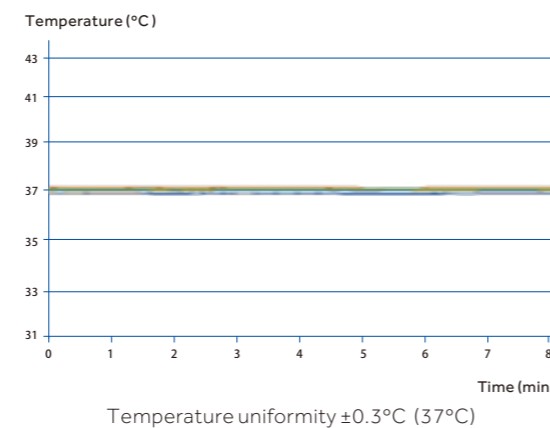
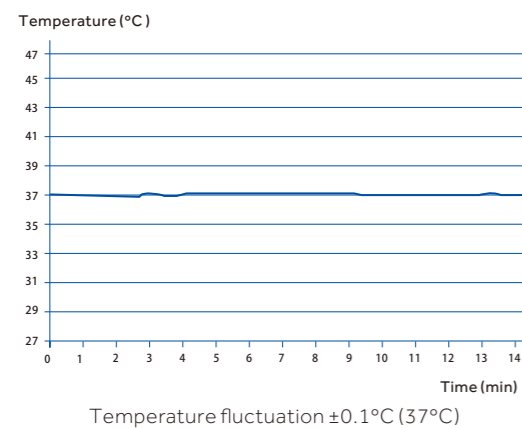
The program can be edited and set at any number of segments to meet the needs of various detection tests.

### Precise Temperature Control, Energy-efficient and Environment-friendly

An energy-efficient model with superior control and heating mechanisms, high-quality insulation material and cabinet structure to ensure heating requirements are met while keeping power consumption to a minimum.



HZP-168



HFP-80

### Optional IoT Technology for Real-time Remote Monitoring



Through the mobile app, the status of the incubator can be checked in real time, and information such as temperature alarm, sensor error alarm and door ajar can be controlled with one button, which provides more security for the experiment process.

### Pictures in Details



Seamless, curved internal chamber for easy cleaning and decontamination.



Standard independent intelligent temperature safety controller to ensure experimental safety; RS485 achieves seamless IoT data connection.

### Product Parameters

Model	Product Series	Capacity (L)	Power (W)	Exterior Dimensions (W*D*H)(mm)	Interior Dimensions (W*D*H)(mm)	Packing Dimensions (W*D*H)(mm)
HZP-168	Natural convection	168	640	650*782*1028	490*550*626	795*835*1220
HFP-80	Forced convection	80	510	560*662*870	400*400*480	710*760*1070

Shelves (Standard)	Temperature Control Range	Temperature Uniformity	Temperature Fluctuation (°C)	Temperature Control Precision (°C)	Recovery Time after 30 sec Door Opening (min)
2/17	RT+5-105°C	$\pm 0.5^{\circ}\text{C}$ at 37°C	$\pm 0.1$	$\pm 0.1$	5
2/12	RT+5-105°C	$\pm 0.3^{\circ}\text{C}$ at 37°C	$\pm 0.1$	$\pm 0.1$	2.5

Product appearance and specifications are subject to change without notice



# Vertical Autoclave



## Scope of Application

This upright automatic rapid sterilization unit uses high temperature saturated steam as the sterilization medium. Applicable to testing laboratories, laboratories, operating rooms, supply rooms, higher education, animal husbandry, disease control centers and other medical and biomedical research units, achieves rapid sterilization of instruments, dressings, rubber, liquids, glassware, bacteria and cell culture medium, wastes, etc.

## Product Features



### Automatic Program Control

Water injection, heating, exhaust, sterilization, pressure relief, drainage, drying, automatic control of the whole process, no manual operation, one-click completion.



### Automatic Drying Function (Auxiliary Drying)

The drying time can be set after the sterilization is completed.



### Multiple Exhaust Methods

A variety of exhaust methods such as regular temperature setting exhaust, dynamic exhaust and full-process air escape, completely eliminates the cold air in the sterilizer and improves steam saturation, ensuring effective sterilization.



### One-click Start of Stored Procedures

Equipped with quick programs for instruments, dressings, rubber and liquids, one-button start for easy operation.



### Two Pressure Relief Methods

Two pressure relief methods are available: fast pressure relief and slow pressure relief. The slow pressure relief method for liquid sterilization can prevent liquid overflow caused by rapid buildup of pressure.



### Warm-up Control and Timing Start

The preheating control function supports the sterilizer heating process, which shortens the heating time of the sterilizer and improves the efficiency of the process; equipped with timing start function and can start the sterilization program according to the predetermined time and arrange the process time accordingly.



HRLM-80

## Safety Mechanisms

### Automatic overpressure pressure relief:

When the set pressure is exceeded, the safety valve opens automatically to release the pressure.

### Automatic over-temperature protection:

When the set temperature is exceeded, the system cuts off the power supply and alarms automatically generated.

### Anti-drying protection:

When the water level is too low, the power will automatically cut off, the operation is stopped, and an alarm is automatically generated.

### Door safety protection:

Real-time detection of door status, sterilization procedures cannot be started if the door is not tightly closed and there is a reminder to open the door; the sterilization can only start when the door is normally closed. However, when there is pressure in the sterilizer, the sealing door cannot be opened to prevent damage caused by steam leakage.

### Sensor disconnection detection:

Monitors the status of the sensor in real time to ensure that the sensor is working properly to prevent excessive temperature caused by abnormal sensors.

### Full protection thermal insulated door cover:

The door cover is made of high-performance thermal insulation material which completely covers the metal door, which prevents the operator from being burned.

Standard over-current, over-voltage protection and leakage protection.

## Specifications

Model	Volume (L)	Net Weight (Kg)	Power Supply (V/Hz)	Power (W)	Exterior Dimension (W*D*H mm)	Interior Dimension (mm)	Maximum Pressure (Mpa)	Maximum Temperature (°C)	Rated Working Pressure (Mpa)	Pressure Display Range (Mpa)
HRLM-80	80	105	220-240/50/60	4200	546*750*1085	φ 386*695	0.28	150	0.22	-0.1-0.3

Sterilization Temperature Range	Temperature Control Precision(°C)	Dynamic Pulse Exhaust Times	Dynamic Pulse Exhaust Temperature	Solution Temperature (°C)	Holding Temperature (°C)	Sterilization Time Range	Cabinet and Door Material	Accessories	
105-136°C	±0.1	0-99 (Settable)	110-136°C	40-100 (Settable)	40-100 (Settable)	0-999 mins	SUS304 Stainless Steel	2 Stainless Steel Sterilized Baskets	Optional Printer

### Scope of Application

Typically used for drying and sterilization of laboratory consumables, instruments and samples; as well as heating and curing, drying and dehydration, heat removal, moisture content determination of materials and samples in the fields of medicine, chemical industry, agricultural products as key examples. Other uses include, high temperature heat resistance tests and thermal aging tests of rubber, plastic products and electrical insulation materials. The solution is widely used in medical, enterprise, universities, scientific research institutions, environmental monitoring centers, pharmaceutical, food and drug quality monitoring centers and other related industries.



Laboratory consumables

Instruments

Thermal aging test



HFS-160



HZS-60

### Ergonomic Design

**High thermal insulation performance, energy saving and environmental protection**  
The unit is manufactured with aluminum foil insulation cotton, which improves the overall insulation performance and reduces energy consumption, lowering costs while also being environmentally-friendly.

**Personalized interface, easy to transfer data**  
Equipped with USB and RS485 interfaces to better meet the different needs of users for transfer data

**Precise high temperature control**  
Superior preheating technology with an innovative air duct structure.

**Safe and stable**  
Multiple safety protection features.


**Multiple safety protections**  
Overheat protection (OPT), over current protection (FU), sensor error detection, independent temperature limit, compliance with DIN 12880 requirements and EU 3.1 safety level. Sound, light and remote alarms guarantee experiment safety.

**Scalable bulk data storage**  
The touch-screen can be increased to 64GB with capacity to store 15 years' data. The data can be exported using a USB flash drive.


**Smart interface**  
7-inch intelligent touchscreen with optional IoT technology for real-time remote monitoring via an app.

**Operation mode**  
Four operation modes for multiple temperature requirements.

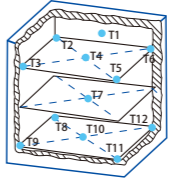
### PID Control Technology



HFS-160  
Forced convection



HZS-60  
Natural convection

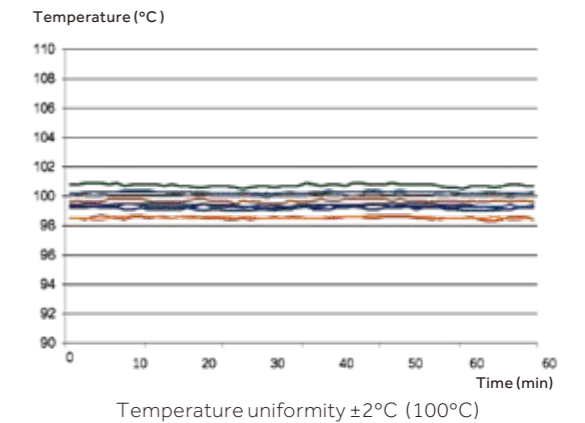
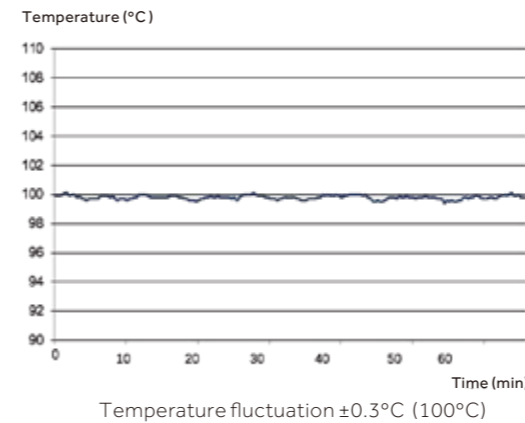


ASTM standard,  
12 points testing

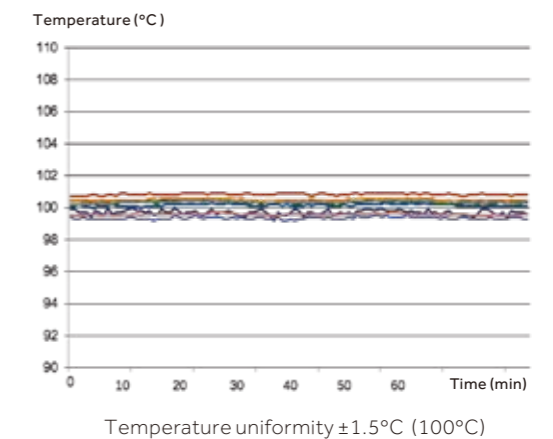
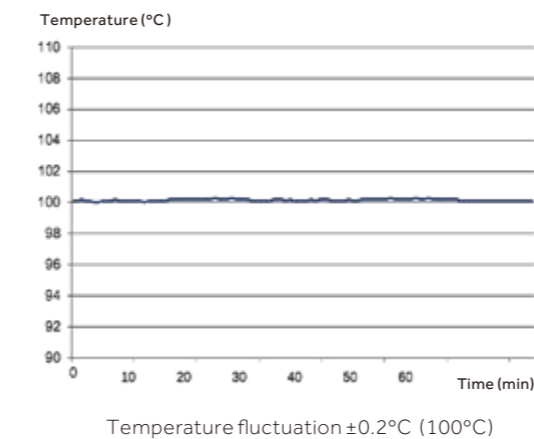
Based on PID control principle, manufactured with U-shaped 3-sided heating to achieve superior temperature control and uniformity control.

### Precise Temperature Control, Energy-efficient and Quiet

High performance 3-sided heating and professional air duct design, high-quality fan components and insulation materials ensures precise temperature control while keeping power consumption to minimum.



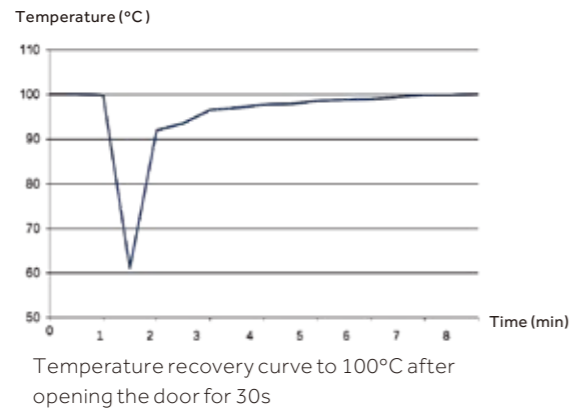
HFS-160



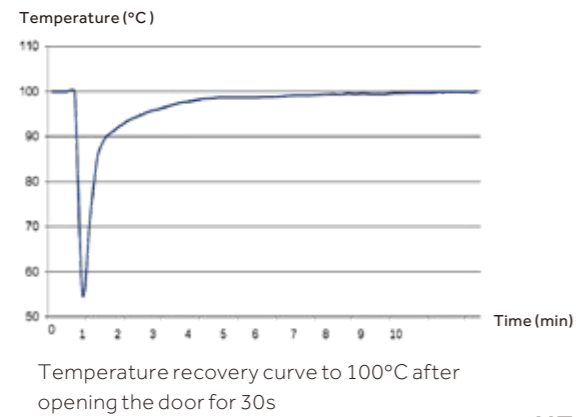
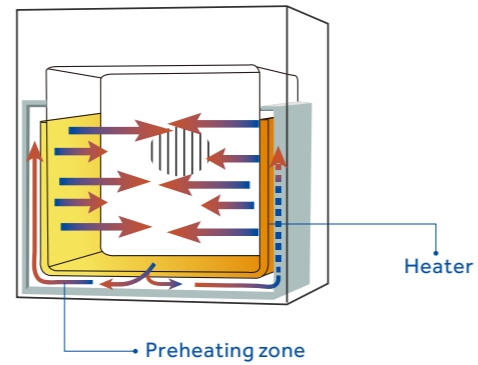
HZS-60

### Rapid Recovery After Door Open

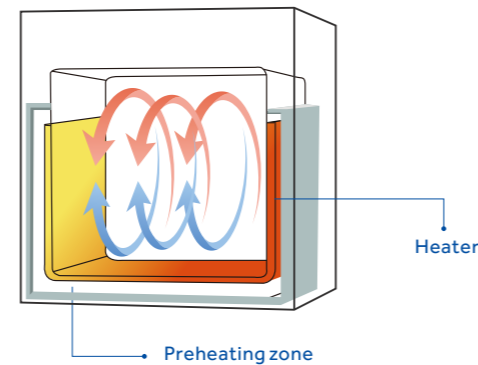
The temperature inside the unit quickly recovers after opening the door without overshoot.



HFS-160



HZS-60



### Convenient and Intelligent Management at a Glance



7-inch touchscreen, easy to operate and sensitive, it can respond quickly even when wearing rubber gloves.



Real-time display of temperature data, one-touch to review previous data.



Records abnormal information in real time, to eliminate hidden errors.



Multiple operating modes.



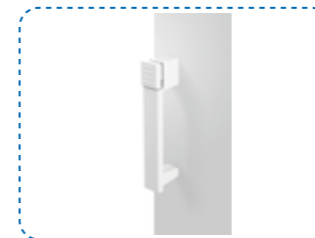
The program can be edited and set at any number of segments to meet the needs of various detection tests.

### Optional IoT Technology for Real-time Remote Monitoring



Through the mobile app, the status of the dry chamber can be checked in real time, and information such as temperature abnormal alarm, sensor error alarm and door ajar can be controlled with one button, which provides more security for the experiment process.

### Pictures in Details



Ergonomic self-locking handle, firm and durable, easy to use.



Large arc angle 304 mirror stainless steel inner liner, easy to clean.



Standard independent intelligent temperature safety controller to ensure experimental safety; RS485 achieves seamless IoT data connection.



It is equipped with portholes to facilitate external equipment monitoring to record the experimental process.

### Product Parameters

Model	Product Series	Capacity (L)	Power (W)	Exterior Dimensions (W*D*H)(mm)	Interior Dimensions (W*D*H)(mm)	Packing Dimensions (W*D*H)(mm)	Shelf Dimensions (mm)	Shelves (standard/maximum)	Shelves Spacing (mm)
HZS-60	Natural convection	60	900	572*719*792	370*385*420	710*810*945	340*345	2/9	30
HFS-160	Forced convection	160	2500	752*809*973	550*492*600	895*900*1025	520*445	2/15	30

Temperature Setting Range (°C)	Temperature Uniformity	Temperature Fluctuation	Temperature Control Precision (°C)	Heating Rate (ambient temperature 22°C)	Recovery Time after Opening the Door for 30s
RT+10-200	±1.5°C at 100°C ±2.5°C at 150°C	±0.2°C at 100°C ±0.3°C at 150°C	±0.1	40min to 100°C 50min to 150°C	9min to 100°C 20min to 150°C
RT+10-200	±2°C at 100°C ±3°C at 150°C	±0.3°C at 100°C ±0.4°C at 150°C	±0.1	20min to 100°C 30min to 150°C	4min to 100°C 5min to 150°C

Product appearance and specifications are subject to change without notice

The image shows three Haier Biomedical climate chambers in a laboratory. The chambers are white with blue control panels on top. The control panels feature digital displays and buttons. The chambers are mounted on casters. The background shows a laboratory bench with glassware and other equipment.

**Climate Chamber**

Animal and plant tissue culture, drug stability tests, cosmetic stability tests, food shelf life tests, electronic components aging tests, packaging material stability tests.



HHS-256/756/506

Product Advantages

- Silent** Semiconductor technology ensures low vibration and noise output with no pollution into the environment
- Water-saving** Intelligent control of PTC humidification, daily water consumption of 120-320ml, no need to recycle waste water, saving space
- Precise control** Accurate temperature and humidity control, long-term stability, 40 °C temperature uniformity  $\pm 0.5^{\circ}\text{C}$  and central temperature fluctuation  $\pm 0.2^{\circ}\text{C}$ , 75% humidity fluctuation  $\pm 1\%$
- Power saving** Semiconductor technology means the daily power consumption is as low as 5kWh; 90% more energy efficient than compressor technologies

Product Features

- Multiple protection protocols - equipped with delay start, high/low temperature and light intensity protection in line with DIN12880 requirement for over/under temperature protection
- High precision temperature sensor, dual PT100 sensors for more accurate temperature control
- Optional electromagnetic lock, suitable for multiple users with independent management for safety
- Expandable large capacity data storage, the touchscreen memory can be expanded to 64GB, storing up to 15 years data which can be exported via a USB
- An access port with a diameter of 35mm on the left side of the cabinet to facilitate independent testing of temperature and humidity
- High insulating performance polyethurane foam provides excellent insulation and stable cabinet temperatures reducing energy consumption

- Polyurethane foam insulation provides excellent thermal insulation, reducing energy consumption
- High precision capacitive humidity sensor

Microprocessor control system

- PID control principle, 10-inch touch screen, temperature control precision  $0.1^{\circ}\text{C}$ , humidity control precision  $0.1\%$ , temperature range  $5-70^{\circ}\text{C}$ , humidity range  $10\%-90\%$
- Temperature alarm, humidity alarm, door alarm, sensor alarm and water shortage warning
- Display temperature, humidity and ambient temperature; users can query the historical curve
- USB, RS485 and 4-20mA LAN interface as standard

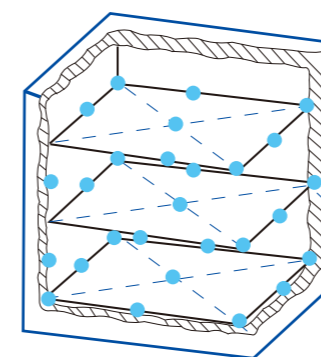
Product Parts



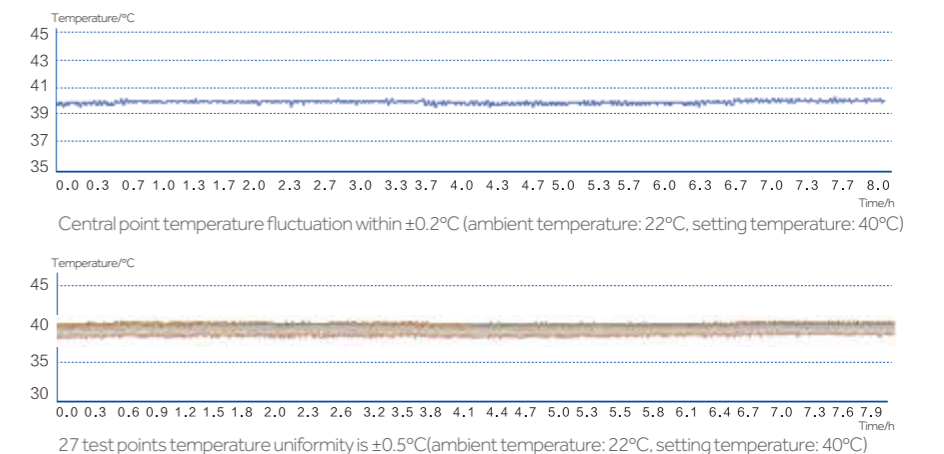
HHS-756

International Quality Assurance

Accurate Temperature Control



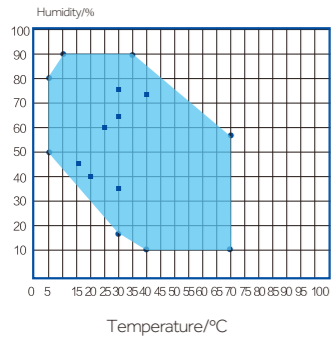
DIN12880 standard 27 test points



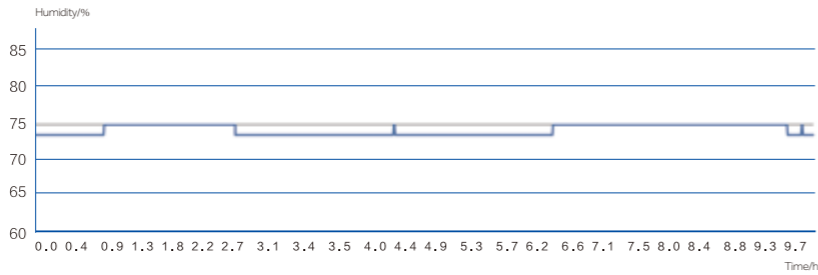
# Climate Chamber

299/300

## Accurate Humidity Control

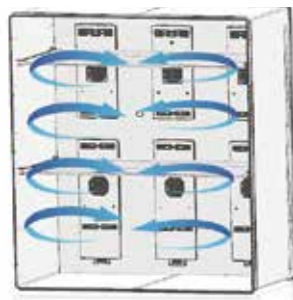


ICH standard test points

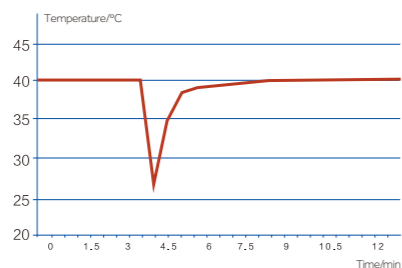


Humidity fluctuation  $\pm 1\%$ ; Accurate temperature control (ambient temperature: 22°C, ambient humidity: 22.3%, setting temperature: 40°C, setting humidity: 75%)

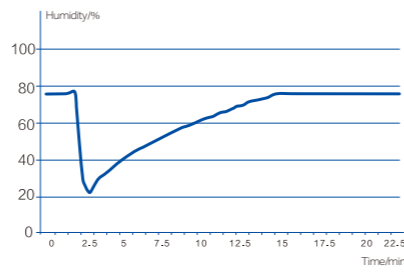
## Internal Cabinet Environment Quick Recovery System



Professional air duct design, ensuring temperature and humidity uniformity



The time required for temperature to return to 40°C after 30s door opening is <4 minutes



The time required for humidity recovery to 75% after opening door for 30s is <14 minutes

## Intelligent Management

### Convenient and intelligent management to improve working efficiency



- The intelligent 10-inch touchscreen controller is easy to operate and sensitive to touch, even in rubber gloves. The PID control algorithm ensures the accuracy of temperature control

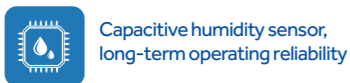


- Data and multi-user authority management and permissions conforms to FDA 21 CFR Part 11



- Unlimited programs with infinite humidity and temperature settings to allow users to customise to their needs

### High quality manufacture and reliable operation



Capacitive humidity sensor, long-term operating reliability

- Interference-free humidity data collection.
- Long-term reliability without the need for calibration.
- High precision  $\pm 0.1\%$ .
- Anti-condensation design for more accurate humidity monitoring



High precision temperature sensor, accurate and reliable

- Adopts PT100 temperature sensors for accurate, stable and repeatable measurement without deviation.
- Dual sensors further improve accuracy.



Semi-conductor cooling, superior energy-saving and mute effect

- Semiconductor thermocouple consists of N-shape semiconductor and P-shape semiconductor.

## Intelligent control, ensures temperature and humidity accuracy



Intelligent control PTC humidification, energy-saving and water-saving

The temperature and purity of vapour is accurately controlled by the intelligent water supply system and ceramic high-temperature heating apparatus.



Intelligent dehumidification, accurate humidity control

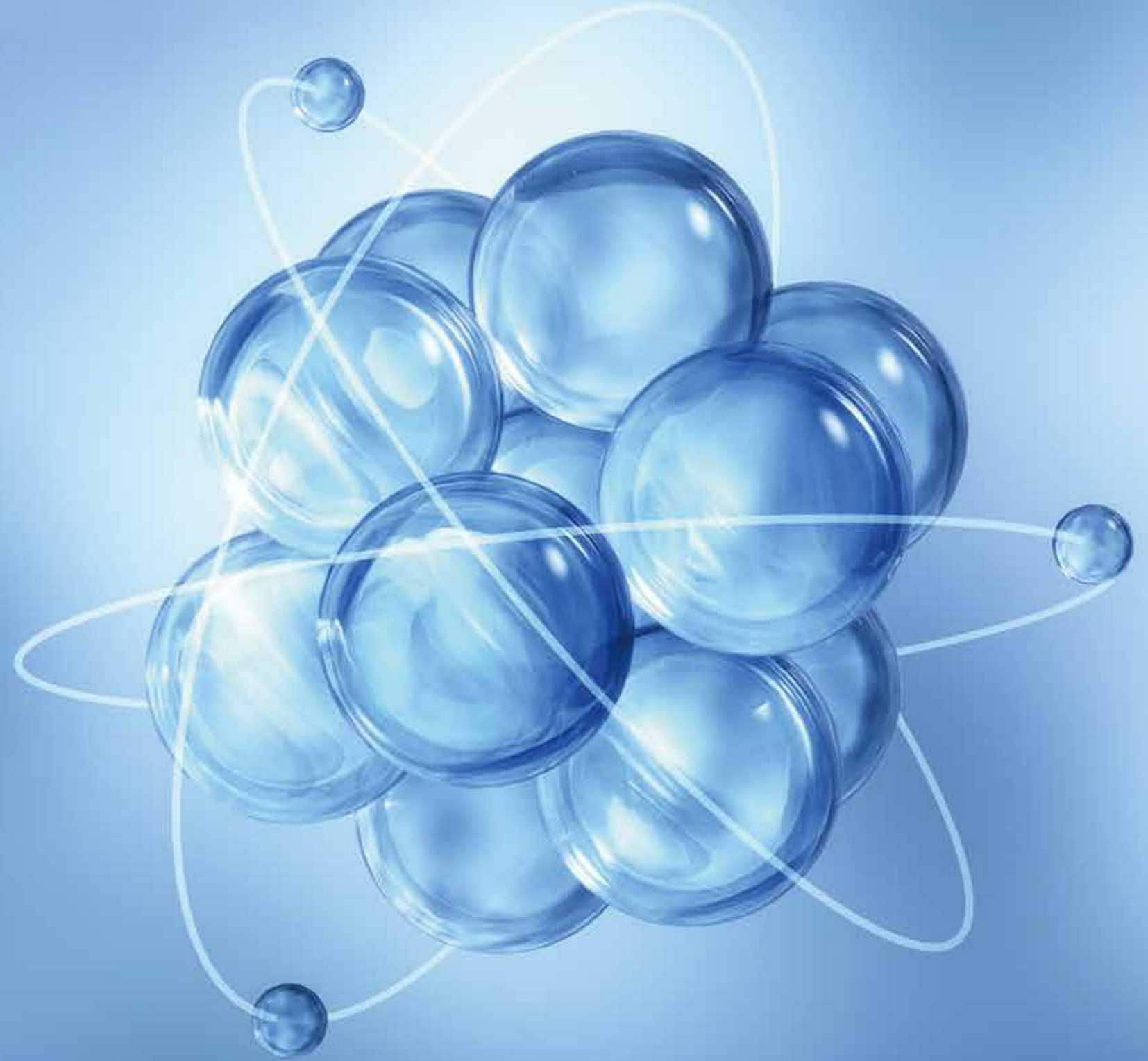
Semi-conductor intelligent dehumidification system accurately controls heating and cooling, matching with humidity control.

## Specifications

	Model	HHS-256	HHS-506	HHS-756
Construction	Chamber Volume (L)	256L	506L	756L
	Interior Chamber	stainless steel	stainless steel	stainless steel
	Exterior Chamber	Galvanized Sheet Powder Coating	Galvanized sheet powder coating	Galvanized sheet powder coating
	Access Port	35mm Diameter	35mm Diameter	35mm Diameter
Dimensions	Net/Gross Weight	kg 175/188	225/260	280/328
	Interior Dimensions (W*D*H)	mm 650*570*700	740*570*1200	1100*570*1200
	Exterior Dimensions (W*D*H)	mm 835*905*1190	930*905*1690	1290*905*1690
	Packing Dimensions (W*D*H)	mm 1030*955*1280	1110*955*1780	1380*955*1780
Shelves	Dimension / mm (W*D)	597*531	687*531	1048*531
	Standard Qty / Max Qty	2/16	2/31	2/31
	Max Weight Per Shelf	kg 20	20	20
	Structure	Slide rail, adjustable	Slide rail, adjustable	Slide rail, adjustable
Electrical	Voltage / Frequency (V/Hz)	220/50	220/50	220/50
	Power (W)	750	1100	1760
	Day Consumption at 25°C & 40% RH (kwh)	4.6	5.4	5.6
Control	Controller	The microprocessor	The microprocessor	The microprocessor
	Display	10" smart LCD screen	10" smart LCD screen	10" smart LCD screen
The Temperature Parameter	The Set Range (°C)	5~70	5~70	5~70
	Control Precision (°C)	$\pm 0.1$	$\pm 0.1$	$\pm 0.1$
	Temperature Uniformity at 25°C	$\pm 0.2$	$\pm 0.2$	$\pm 0.2$
	Temperature Fluctuation at 25°C	$\pm 0.1$	$\pm 0.1$	$\pm 0.1$
	The Sensor	PT1000	PT1000	PT1000
	Rate of Temperature Rise (°C / min)	1	0.8	0.6
	30 Seconds Recovery Time After Door Opening at 40°C (min)	3	3.8	5
Humidity Parameter	Humidity Setting Range (% RH)	10~90	10~90	10~90
	Humidity Setting Accuracy (% RH)	0.1	0.1	0.1
	Humidity Fluctuation at 25°C & 40% RH (% RH)	$\pm 0.5$	$\pm 0.5$	$\pm 0.5$
	Daily Water Consumption (ml)	120	240	320
Optional	Electromagnetic lock (password)	Y	Y	Y
	Printer	Y	Y	Y
Standard	Remote Alarm Interface	Y	Y	Y
	RS485	Y	Y	Y
	Water Level Alarm	Y	Y	Y

Product appearance and specifications are subject to change without notice

# Centrifuge

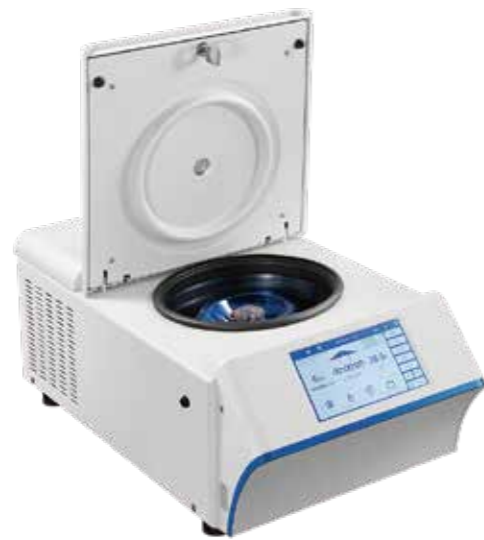




# Desktop High-speed Refrigerated Centrifuge

## Scope of Application

Mainly used for nucleic acid extraction, DNA/RNA separation, purification, virus separation and protein precipitation in the laboratory. Widely used in universities, third party testing organizations, disease prevention, medical and health, biological pharmaceutical and other related fields.



LX-165T2R

## Smart and Intelligent Control, Superior Safety

Large smart screen controller provides an interactive interface which is easy to operate even in gloves.



## Intelligent Centrifugal Management System



- Operation failure detection, rotor and machine service life monitoring.
- Intelligent storage of centrifugal programs, quick access to programs.
- Fast refrigeration preset, saves time.
- View abnormal alarms
- Intelligent lid locking monitoring and automatic self-locking to ensure safe operation.
- Safer by design, triple-layer construction to ensure safe use.
- Multi-level user management, effectively protects personal data.
- Intelligent monitoring of temperature, speed, vibration and rotor to ensure reliable operation.

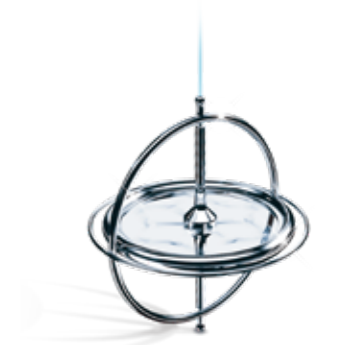
## Auto-ID Instant Rotor Identification and Rotor Service Life Statistics

- Auto-ID instant rotor identification: Install the rotor and the centrifuge will automatically identify the rotor model to ensure safe operation within rotor model limits.
- Rotor ID: each rotor is equipped with a unique ID which enables traceability of rotor information.
- Rotor service life statistics: rotor service time is recorded on the terminal and provide early warning as the rotor reaches the end of its service life.

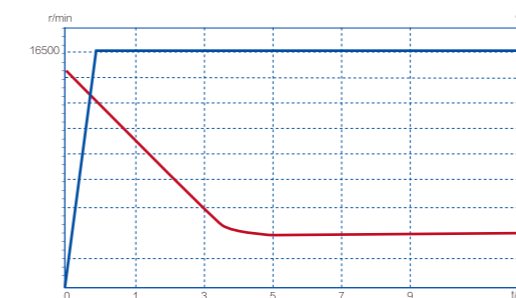


## Balance Detection

- Vibration monitoring of the whole machine: designed with six-axis gyroscope technology, the machine will stop automatically if the vibration exceeds safe limits.
- Rotor balancing detection: dynamic monitoring of the centrifugal process, active recognition of balance errors and automatic shutdown control.
- Centrifuge balancing detection: built-in electronic gradiometer, automatically monitor the unit balancing status.



## Precise Temperature Control and Ultra-fast Refrigeration



- Dual frequency conversion refrigeration technology ensures rapid refrigeration, reducing waiting time.
- High precision throttling technology proactively adjusts to provide precise temperature control.
- Seamless copper tube wrapping technology to achieve high efficiency heat transfer.

## Desktop High-speed Refrigerated Centrifuge

### Leading Global Manufacturer, Quality and Safety Guaranteed

- Extensive quality assurance and testing process ensures the reliability of operation.
- High-precision speed control technology to ensure the accuracy of experimental data.
- Advanced dynamic balance monitoring technology to ensure the safe operation of the rotor.



### Ergonomic Design



#### Ergonomic Design

Designed with multiple user applications, the touchscreen is angled to provide a clear view and is comfortable and practical for users of all heights.



#### Smart Lid Lock

The automatic lid lock monitors the lid closing status, as the door is closed, it will tighten automatically indicating when the unit is safe to use.



#### USB Interface



Data can be exported using a USB interface, such as operational records, error records.

### Specifications

Model	Max speed (r/min)	Speed Accuracy (rpm)	Max RCF (xg)	Sound level (dB)	Temperature Setting Range (°C)	Timer	External Dimensions (W*D*H mm)
LX-165T2R	16,500	±10	25,872	≤ 52	-20-40	1s~99 hours 59 mins 59s	340*625*248

### Rotor Configuration List

Code	BE12C0Z00	BE11D0Z00	BE12E0Z00	BE12D0Z00
Picture				
Rotor Type	Optional fixed-angle rotor (Plastic cover)	Optional fixed-angle rotor (Sealed)	Optional fixed-angle rotor	Optional fixed-angle rotor (Sealed)
Max Capacity	24*1.5/2 ml	24*1.5/2 ml	4*8*0.2 ml PCR tube	12*5 ml
Max RCF (xg)	25,872	21,382	18,900	21,400
Max Speed (r/min)	16,500	15,000	15,000	15,000
Tube Size (Φ×L)	11*38	11*38	6*18	14*75

## Mini-Centrifuge

305/306

### Scope of Application

This product is used in micro centrifugal scenarios (single tube capacity is less than or equal to 2ml)



LX-120T2Z



LX-50T2Z

### Product Advantages



#### Quiet

Suspension with shock absorber reduces noise output



#### Safe

- Safety interlock lid with automatic shut-off if lid is open
- Anti vibration & absorption suction cup
- Splash and leak protection



#### Small

Can be held in your hand



#### Convenient

Simple and fast operation

### Specifications

Model	LX-120T2Z	LX-50T2Z
Max Speed (rpm)	12000	5000
Max RCF (xg)	7325	1270
Max Capacity (ml)	8×1.5/2.0	8×1.5/2.0
Speed Accuracy (%)	±5	±5
Timer	10 seconds-99 minutes 50 seconds	-
Display	OLED	-
Sound Level (dB(A))	50	40
Unbalance Protection	Y	N
Power	AC 100-240V/50-60Hz	AC 100-240V/50-60Hz
Rated Power Consumption (W)	35	25
Exterior Dimension (W*D*H)(mm)	152*142*122	152*142*122
Net Weight (kg)	1.2	1.2
Rotor 01	8*1.5/2.0ml	8*1.5/2.0ml
Max Speed (rpm)	12000	5000
Max RCF(xg)	7325	1270
Max Capacity (ml)	8*2	8*2
Adapter (ml)	0.5/0.2	0.5/0.2
Rotor 02	PCR 8*2.0	PCR 8*2.0
Max Speed (rpm)	12000	5000
Max RCF (xg)	6625	1150
Max Capacity (ml)	0.2*8*2	0.2*8*2

Product appearance and specifications are subject to change without notice

## Benchtop Low-speed Centrifuge

307/308

### Scope of Application

Suitable for clinical medicine, hospital laboratory, cell culture collection, biochemical products and other small and medium capacity centrifuge.



LX-60T100-J

### Product Advantages



#### Ergonomics

- High efficiency air cooling technology, low temperature rise and sample safety protection
- Multiple vibration reduction and noise reduction technology, low vibration, low noise and stable operation
- Large capacity rotor and double specification capacity rotor, easy to use



#### Convenient Operation

- One-click program setting, high work efficiency
- Automatic rotor identification, without setting, easy to use
- The set speed and time are displayed on the same screen as the real-time speed and time. The centrifugal process can be adjusted freely. The relative centrifugal force and speed can be switched freely and set independently



#### Quality and Safety

- Imbalance detection for maximum safety
- Stainless steel rotor chamber is rust-free and easy to clean
- Triple-layer protection to ensure safety
- Patented anti vibration lid lock enables safe use
- Aerosol-tight caps for safe centrifugation of hazardous samples optionally available

### Product Parts



### Available Rotors

Picture	Code	Rotor Capacity (ml)	Max Speed (r/min)	Max RCF (xg)	Max Tube Dimensions (Φ×L)(mm)	Tube Type
	BE11D5000	12*15	6000	4749	17*120	Round bottom/Sharp bottom
	BE11D6000	6*15/50	5000	3577	30*104	Round bottom/Sharp bottom
	BE11D7000	6*100	4800	3348	38*106	Round bottom

### Specifications

Max Speed (rpm)	RCF (xg)	Max Capacity (ml)	Speed Accuracy (rpm)	Time Set Range	Noise (dB)
6000	4749	6*100	±10	1s-99h59min59s	≤56

Power Supply (V/Hz)	Power (W)	Exterior Dimensions (W*D*H)(mm)	Net Weight (Kg)	Packing Dimensions (mm)	Gross Weight (Kg)
220/50/60	150	447*281*340	25	545*400*410	28

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

## Benchtop High-speed Centrifuge

309/310







### Scope of Application

The product is widely used in life science, biology, medical research, pharmacy, geology, agriculture and forestry, petrochemical, light industry, metal particles and other related fields.



LX-165T2-J

### Product Advantages

- 
**Active identification of abnormal trim to ensure safety**  
 The machine is equipped with a six axis vibration sensor with high sensitivity. In case of abnormal vibration or rotor imbalance caused by non balancing, asymmetry, tube breakage and or rotor damage, an alarm will sound and the machine will stop immediately
- 
**Automatic rotor identification, without setting, easy to use**  
 Automatic rotor identification, automatic locking of maximum speed, avoiding overspeed
- 
**High efficiency air cooling technology, low temperature rise and sample safety protection**  
 Aerodynamic simulation analysis, proprietary air duct structure design, and the heat inside the centrifugal chamber dissipates quickly
- 
**Multiple damping and noise reduction technology, low vibration, low noise and stable operation**  
 Wind noise vibration reduction, motor vibration reduction, whole machine vibration reduction and other multiple vibration reduction measures, even at 16500 speed, smooth operation, noise measured value is less than 58dB
- 
**Anti vibration lid lock enables safe use**  
 In case of abnormal vibration, the cover can be locked reliably
- 
**Triple-layer protection to ensure safety**  
 Metal liner + fully covered steel plate protective sleeve + 3mm shell

### Product Parts



### Available Rotors

Picture	Code	Rotor Capacity (ml)	Max Speed (r/min)	Max RCF (×g)	Max Tube Dimensions (Φ×L)(mm)	Tube Type
	BE12C5Z00	24*1.5/2	16500	25872	11*38	Round bottom/Sharp bottom
	BE12C4Z00	24*1.5/2	15000	21382	11*38	Round bottom/Sharp bottom
	BE12D4Z00	12*5	15000	21407	12*75	Round bottom
	BE12E4Z00	4*8*0.2	15000	18891	6*18	PCR

### Specifications

Max Speed (rpm)	RCF (×g)	Max Capacity (ml)	Speed Accuracy (rpm)	Time Set Range	Noise (dB)
16500	25872	12*5.0	±10	1s-99h59min59s	≤58

Power Supply (V/Hz)	Power (W)	Exterior Dimensions (W*D*H)(mm)	Net Weight (Kg)	Packing Dimensions (mm)	Gross Weight (Kg)
220/50/60	230	375*270*252	18	565*375*380	20

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

# Liquid Nitrogen Storage Solutions



## Biobank Series for Large Scale Storage

313/314

Biobank series for large scale storage is designed to ensure the maximum storage capacity with the minimum consumption of liquid nitrogen to lower the overall cost of operation.

- LN<sub>2</sub> Splashproof
- Data Logging
- Hot Gas Bypass
- 5 Year Vacuum Warranty
- From 13,000 to 94,875 Cryovials
- Self-diagnostics
- Vapour Phase Storage
- Lockable Lid
- Liquid Phase Storage
- One-touch Defogging



### Key Features

- Massive capacity between 13,000 to 94,875×2ml Vials
- Vapour phase storage is the only guaranteed method to prevent cross-contamination
- Vapour phase storage at -190°C
- 5-Year vacuum warranty
- One-touch defogging for easier access
- LN<sub>2</sub> splash proof ensures a safer operation
- Can be used to store all kinds of biological sample

### Product Advantages

#### Optimal Use of Storage Space

Racks are stored on the rotating tray with an appropriate distance from the wall of the chamber. Liquid nitrogen or supercooled nitrogen vapour is filled in the space between the tray and the wall to maintain temperature uniformity. Storage space is equally divided into four or six fan-shaped storage areas which are clearly labelled. Each storage room is easily rotated to the opening of the tank for convenient sample access.



#### Designed for Both Liquid and Vapor Phase Storages

Each model from the Biobank series for large scale storage is designed for both liquid and vapor phase storage. For the vapor phase storage operation process, samples are located away from the liquid nitrogen at a uniform temperature close to that of liquid nitrogen.

#### Advanced Vacuum Technology and Superinsulation Technology

Haier Biomedical's Liquid Nitrogen Storage System Biobank series for large scale storage applies advanced vacuum technology and superinsulation technology to ensure storage safety and temperature uniformity while reducing the consumption of liquid nitrogen. The temperature difference of the entire storage area does not exceed 10°C, even during the vapor phase storage process, the temperature near the top of the shelf is as low as -190°C.



#### Cryosmart Level Monitoring System ZJY-800N

Haier Biomedical's Liquid Nitrogen Storage System Biobank series for large scale storage feature the Cryosmart system for complete monitoring and control. High-precision temperature and liquid level sensors are used to ensure accuracy. All data and samples are protected by a secure access control system.

# Biobank Series for Large Scale Storage



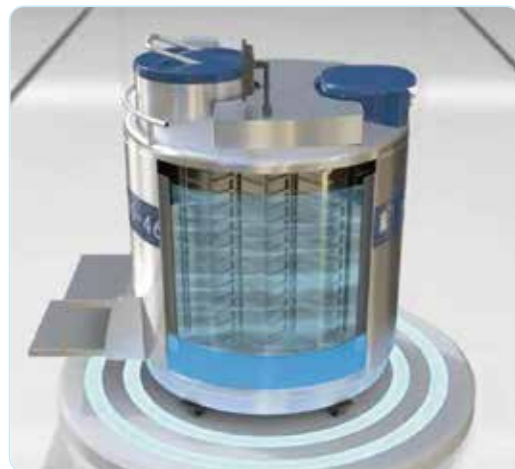
The unique design can reduce the amount of water vapor solidification on the outer surface of the neck, the container is reinforced at liquid nitrogen temperature to extend the physical service life of the container.

The large-caliber stainless steel liquid nitrogen biological container is matched with a self-pressurizing replenishment tank, which is suitable for scientific research institutions with a small sample storage capacity.

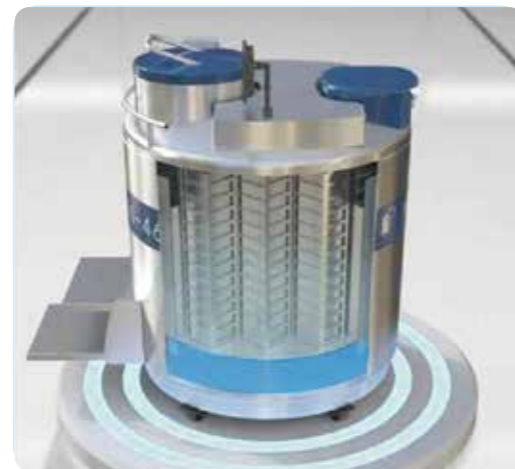


## Liquid and Gas Phase

### Liquid Phase



### Gas Phase



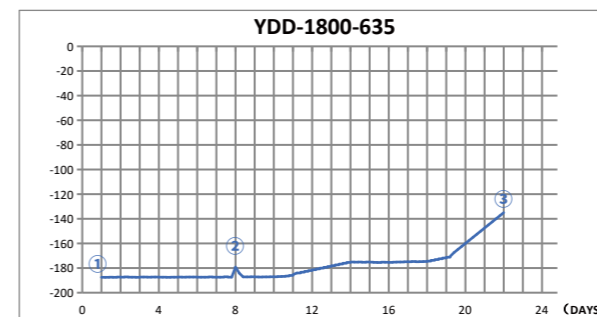
### Top of the Container



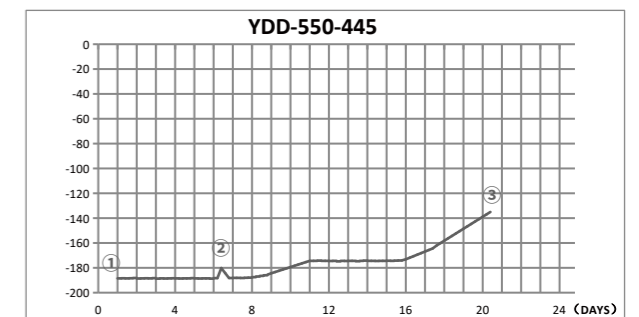
### Liquid Feed System



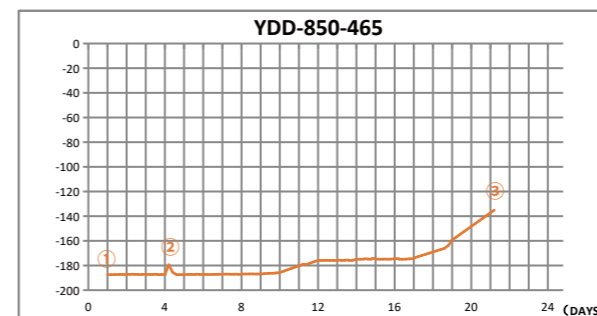
## Temperature Test Graph



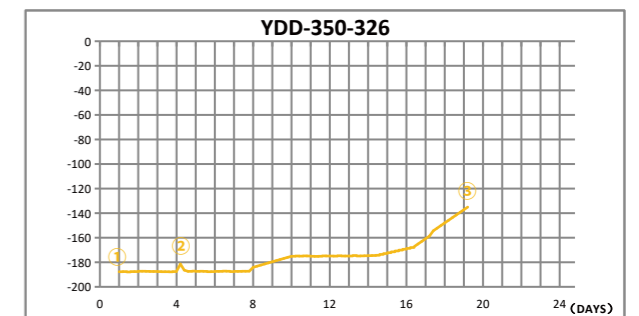
- ① Precooling stage when freezer filled to high level
- ② Lid open test, -179.2°C max
- ③ With no liquid nitrogen supply, the temperature maintained below -135°C for 22 days



- ① Precooling stage when freezer filled to high level
- ② Lid open test, -180.2°C max
- ③ With no liquid nitrogen supply, the temperature maintained below -135°C for 20 days



- ① Precooling stage when freezer filled to high level
- ② Lid open test, -179.4°C max
- ③ With no liquid nitrogen supply, the temperature maintained below -135°C for 21 days



- ① Precooling stage when freezer filled to high level
- ② Lid open test, -181.4°C max
- ③ With no liquid nitrogen supply, the temperature maintained below -135°C for 19 days

Temp Test indicates typical performance of Haier Biobank freezer with factory recommended level settings. Actual performance may vary with atmospheric conditions and usage.

## Biobank Series for Large Scale Storage

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### Technical Parameters

Model	YDD-350-326	YDD-370-326	YDD-450-326	YDD-550-445	YDD-750-445	YDD-850-465
2ml Volume	13K	16K	21K	27K	38K	43K
<b>Maximum Storage Capacity</b>						
2 ml Vials (Internal Thread)	13000	15600	21000	27000	37800	42900
Freeze Rack (100 wells)	12	12	14	24	24	32
Freeze Rack (25 wells)	4	4	4	12	12	4
Layers of each Rack	10	12	14	10	14	13
5 ml Vials (Internal Thread)	5360	6232	8638	11220	17952	18844
Freeze Rack (81 wells)	12	12	14	24	24	32
Freeze Rack (25 wells)	4	4	4	12	12	4
Layers of each Rack	5	6	7	5	8	7
<b>Performance</b>						
Volume of LN <sub>2</sub> (L)	350	370	460	587	783	890
Volume of LN <sub>2</sub> under the Tray (L)	55	55	55	80	80	135
<b>Dimensions</b>						
Inside Neck Diameter (mm)	326	326	326	445	445	465
Effective Internal Height (mm)	600	704	828	600	828	773
Height (mm)	1263	1370	1495	1266	1486	1499
Operating Height (mm)	1263	1096	1212	970	995	980
Outside Diameter (mm)	875	875	875	1104	1104	1190
Door Width Requirement (mm)	895	895	895	1124	1124	1210
Empty Weight (kg)	219	230	277	328	372	441
Full Weight (kg)	502	529	649	802	1005	1160
Shipping Weight (kg)	358	438	470	520	616	702

### Blood bag capacity

Model	YDD-350-326			YDD-370-326			YDD-450-326			YDD-550-445			YDD-750-445			YDD-850-465		
Bag Specifications	Total No. of Bags	Rack Layers	No. of Racks	Total No. of Bags	Rack Layers	No. of Racks	Total No. of Bags	Rack Layers	No. of Racks	Total No. of Bags	Rack Layers	No. of Racks	Total No. of Bags	Rack Layers	No. of Racks	Total No. of Bags	Rack Layers	No. of Racks
25 ml (791 OS/U)	1176	6	196	1372	7	196	1608	8	201	2208	6	368	2944	8	368	2996	7	428
50 ml (4R9951)	720	6	120	840	7	120	1024	8	128	1392	6	232	1856	8	232	1904	7	272
250 ml (DF - 200)	264	3	88	352	4	88	475	5	95	516	3	172	860	5	172	832	4	208
500ml (4R9953)	168	3	56	168	3	56	305	5	61	336	3	112	560	5	112	544	4	136
500 ml (4R9955)	144	3	48	192	4	48	280	5	56	288	3	96	480	5	96	464	4	116
700 ml (DF - 700)	96	3	32	96	3	32	152	4	38	204	3	68	272	4	68	320	4	80

### Technical Parameters



Model	YDD-1000-465	YDD-1300-635	YDD-1600-635	YDD-1800-635
2ml Volume	51K	59K	76K	95K
<b>Maximum Storage Capacity</b>				
2 ml Vials (Internal Thread)	51000	58500	76050	94875
Freeze Rack (100 wells)	30	54	54	60
Freeze Rack (25 wells)	16	18	18	13
Layers of each Rack	15	10	13	15
5 ml Vials (Internal Thread)	22640	28944	33768	46665
Freeze Rack (81 wells)	30	54	54	60
Freeze Rack (25 wells)	16	18	18	13
Layers of each Rack	8	6	7	9
<b>Performance</b>				
Volume of LN <sub>2</sub> (L)	1014	1340	1660	1880
Volume of LN <sub>2</sub> under the Tray (L)	135	265	300	320
<b>Dimensions</b>				
Inside Neck Diameter (mm)	465	635	635	635
Effective Internal Height (mm)	900	620	791	900
Height (mm)	1619	1342	1534	1662
Operating Height (mm)	1090	997	967	1097
Outside Diameter (mm)	1190	1565	1565	1565
Door Width Requirement (mm)	1210	1585	1585	1585
Empty Weight (kg)	495	851	914	985
Full Weight (kg)	1314	1934	2255	2504
Shipping Weight (kg)	926	1168	1426	1520

### Blood bag capacity

Model	YDD-1000-465			YDD-1300-635			YDD-1600-635			YDD-1800-635		
Bag Specifications	Total No. of Bags	Rack Layers	No. of Racks	Total No. of Bags	Rack Layers	No. of Racks	Total No. of Bags	Rack Layers	No. of Racks	Total No. of Bags	Rack Layers	No. of Racks
25 ml (791 OS/U)	3852	9	428	4536	6	956	5292	7	756	7218	9	802
50 ml (4R9951)	2394	9	266	2808	6	468	3276	7	468	4446	9	494
250 ml (DF - 200)	1020	5	204	1062	3	354	1770	5	354	1940	5	388
500 ml (4R9953)	670	5	134	666	3	222	888	4	222	1290	5	258
500 ml (4R9955)	520	5	104	654	3	218	792	4	198	1090	5	218
700 ml (DF - 700)	400	5	80	396	3	132	528	4	132	775	5	155



# Biobank Series for Large Scale Storage

## Racks (vertical type) and Blood bag racks

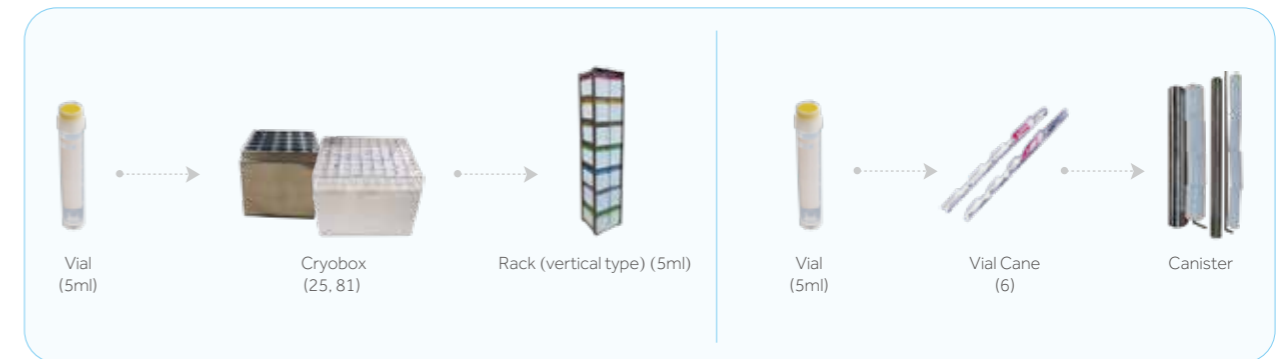
	Racks (vertical type)	25 ml Blood bag racks	50 ml Blood bag racks
YDD-350-326 YDD-370-326			
YDD-450-326			
YDD-550-445 YDD-750-445			
YDD-850-465			
YDD-1000-465			
YDD-1300-635 YDD-1600-635			
YDD-1800-635			

## Biological Sample Bank-YDD Series

### Storage Example of 2ml Internally Threaded Vial



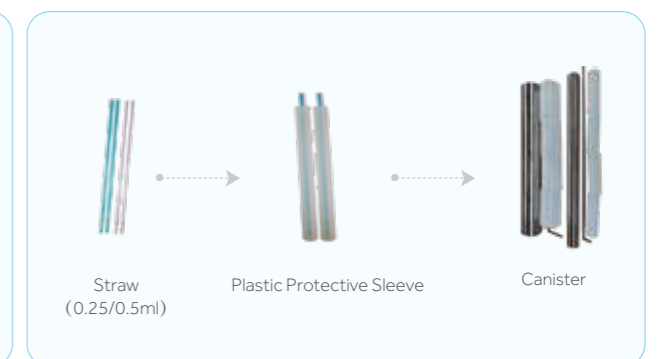
### Storage Example of Tall 5ml Cryovials



### Blood Bag Storage Example



### Straw Storage Example





# Biobank Series for Large Scale Storage

## Product List

Model	Product	Model	Description and Accessories
YDD-1000-465	Biobank Freezer (Smart type)	YDD-1000-465	Includes vacuum isolated hose (GRG-DN10/2.0), 16 pcs of 15-tier rack (5*5), 30 pcs of 15-tier rack (9*9), 240pcs of cryo boxes (5*5) for 2ml vial, 450pcs of cryo boxes(9*9) for 2ml vial, 1 set of cryosmart (level monitoring system)
	Biobank Freezer	YDD-1000-465	Includes vacuum isolated hose (GRG-DN10/2.0). Rack and intelligent level monitoring system are optional
	Rack (vertical type)	FDCJ-25-15	Used to store 2ml cryoboxes (5*5), Fifteen layers in total, suitable for YDD-1000/1800 (excluding cryoboxes)
	Rack (vertical type)	FDCJ-81-15	Used to store 2ml cryoboxes (9*9), Fifteen layers in total, suitable for YDD-1000/1800 (excluding cryoboxes)
	Blood bag Rack	DCJ-25-9	Rack used to store 25ml blood bag, 9 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes, suitable for YDD-1000/1800
	Blood bag Rack	DCJ-50-9	Rack used to store 50ml blood bag, 9 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes, suitable for YDD-1000/1800
	Blood bag Rack	DCJ-250-5	Rack used to store 250ml blood bag, 5 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes, suitable for YDD-450/750/1000/1600/1800
	Plastic cryo box	5×5 (2.0)	Used to store 1.8ml/2ml vial (25 holes)
	Plastic cryo box	9×9 (2.0)	Used to store 1.8ml/2ml vial (81 holes)
	Plastic cryo box	10×10 (2.0)	Used to store 1.8ml/2ml vial (interally threaded,100 holes)
Cryosmart Level Monitoring System	Cryosmart Level Monitoring System ZJY-800N	Suitable for all capacitive measurement of gas phase liquid nitrogen containers, including the liquid inlet system and excluding the wireless data transmission module	
YDD-1300-635	Biobank Freezer (Smart type)	YDD-1300-635	Includes vacuum isolated hose (GRG-DN10/2.0), 120 pcs of round rack, 240 pcs of φ 97mm canister (2 goblets included for each), 1 set of cryosmart (level monitoring system)
	Biobank Freezer	YDD-1300-635	Includes vacuum isolated hose (GRG-DN10/2.0). Rack and intelligent level monitoring system are optional
	Rack (vertical type)	FDCJ-25-10	Used to store 2ml cryoboxes (5*5), ten layers in total, suitable for YDD-350/550/1300 (excluding cryoboxes)
	Rack (vertical type)	FDCJ-81-10	Used to store 2ml cryoboxes (9*9), Ten layers in total, suitable for YDD-350/550/1300 (excluding cryoboxes)
	Blood bag Rack	DCJ-25-6	Rack used to store 25ml blood bag, 6 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes, suitable for YDD-350/550/1300
	Blood bag Rack	DCJ-50-6	Rack used to store 50ml blood bag, 6 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes, suitable for YDD-350/550/1300
	Blood bag Rack	DCJ-250-3	Rack used to store 250ml blood bag, 3 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes, suitable for YDD-350/550/1300
	Plastic cryo box	5×5 (2.0)	Used to store 1.8ml/2ml vial (25 holes)
	Plastic cryo box	9×9 (2.0)	Used to store 1.8ml/2ml vial (81 holes)
	Plastic cryo box	10×10 (2.0)	Used to store 1.8ml/2ml vial (interally threaded,100 holes)
Cryosmart Level Monitoring System	Cryosmart Level Monitoring System ZJY-800N	Suitable for all capacitive measurement of gas phase liquid nitrogen containers, including the liquid inlet system and excluding the wireless data transmission module	
YDD-1600-635	Biobank Freezer (Smart type)	YDD-1600-635	Includes vacuum isolated hose (GRG-DN10/2.0), 468pcs of 7-tier blood bag rack for 50ml, 3276 pcs of 50ml blood bag cryo box (4R9951), 1 set of cryosmart (level monitoring system)
	Biobank Freezer	YDD-1600-635	Includes vacuum isolated hose (GRG-DN10/2.0). Rack and intelligent level monitoring system are optional
	Rack (vertical type)	FDCJ-25-13	Used to store 2ml cryoboxes (5*5), Thirteen layers in total, suitable for YDD-850/1600 (excluding cryoboxes)
	Rack (vertical type)	FDCJ-81-13	Used to store 2ml cryoboxes (9*9), Thirteen layers in total, suitable for YDD-850/1600 (excluding cryoboxes)
	Blood bag Rack	DCJ-25-7	Rack used to store 25ml blood bag, 7 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes, suitable for YDD-370/850/1600
	Blood bag Rack	DCJ-50-7	Rack used to store 50ml blood bag, 7 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes, suitable for YDD-370/850/1600
	Blood bag Rack	DCJ-250-5	Rack used to store 250ml blood bag, 5 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes, suitable for YDD-450/750/1000/1600/1800
	Plastic cryo box	5×5 (2.0)	Used to store 1.8ml/2ml vial( 25 holes)
	Plastic cryo box	9×9 (2.0)	Used to store 1.8ml/2ml vial (81 holes)
	Plastic cryo box	10×10 (2.0)	Used to store 1.8ml/2ml vial (interally threaded,100 holes)
Cryosmart Level Monitoring System	Cryosmart Level Monitoring System ZJY-800N	Suitable for all capacitive measurement of gas phase liquid nitrogen containers, including the liquid inlet system and excluding the wireless data transmission module	

## Product List

Model	Product	Model	Description and Accessories
YDD-1800-635	Biobank Freezer (Smart type)	YDD-1800-635	Includes vacuum isolated hose ( GRG-DN10/2.0), 13 pcs of 15-tier rack(5*5), 60 pcs of 15-tier rack(9*9), 195pcs of cryo boxes(5*5) for 2ml vial, 900pcs of cryo boxes(9*9) for 2ml vial, 1 set of cryosmart(level monitoring system)
	Biobank Freezer	YDD-1800-635	Includes vacuum isolated hose (GRG-DN10/2.0). Rack and intelligent level monitoring system are optional
	Rack (vertical type)	FDCJ-25-15	Used to store 2ml cryoboxes (5*5), Fifteen layers in total, suitable for YDD-1000/1800 (excluding cryoboxes)
	Rack (vertical type)	FDCJ-81-15	Used to store 2ml cryoboxes (9*9), Fifteen layers in total, suitable for YDD-1000/1800 (excluding cryoboxes)
	Blood bag Rack	DCJ-25-9	Rack used to store 25ml blood bag, 9 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes, suitable for YDD-1000/1800
	Blood bag Rack	DCJ-50-9	Rack used to store 50ml blood bag, 9 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes, suitable for YDD-1000/1800
	Blood bag Rack	DCJ-250-5	Rack used to store 250ml blood bag, 5 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes, suitable for YDD-450/750/1000/1600/1800
	Plastic cryo box	5×5 (2.0)	Used to store 1.8ml/2ml vial (25 holes)
	Plastic cryo box	9×9 (2.0)	Used to store 1.8ml/2ml vial (81 holes)
	Plastic cryo box	10×10 (2.0)	Used to store 1.8ml/2ml vial (interally threaded,100 holes)
Cryosmart Level Monitoring System	Cryosmart Level Monitoring System ZJY-800N	Suitable for all capacitive measurement of gas phase liquid nitrogen containers, including the liquid inlet system and excluding the wireless data transmission module	
Other Racks	Blood bag Rack	DCJ-250-3	Rack used to store 250ml blood bag, 3 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes, suitable for YDD-350/550/1300
	Blood bag Rack	DCJ-250-4	Rack used to store 250ml blood bag, 4 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes, suitable for YDD-370/850
	Blood bag Rack	DCJ-250-5	Rack used to store 250ml blood bag, 5 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes, suitable for YDD-450/750/1000/1600/1800
	Blood bag Rack	DCJ-25-6	Rack used to store 25ml blood bag, 6 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes, suitable for YDD-350/550/1300
	Blood bag Rack	DCJ-25-7	Rack used to store 25ml blood bag, 7 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes, suitable for YDD-370/850/1600
	Blood bag Rack	DCJ-25-8	Rack used to store 25ml blood bag, 8 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes, suitable for YDD-450/750
	Blood bag Rack	DCJ-25-9	Rack used to store 25ml blood bag, 9 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes, suitable for YDD-1000/1800
	Blood bag Rack	DCJ-50-6	Rack used to store 50ml blood bag, 6 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes, suitable for YDD-350/550/1300
	Blood bag Rack	DCJ-50-7	Rack used to store 50ml blood bag, 7 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes, suitable for YDD-370/850/1600
	Blood bag Rack	DCJ-50-8	Rack used to store 50ml blood bag, 8 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes, suitable for YDD-450/750
Blood bag Rack	DCJ-50-9	Rack used to store 50ml blood bag, 9 layers in total with each layer storing one blood bag; including blood bag cryogenic boxes, suitable for YDD-1000/1800	
Rack (vertical type)	FDCJ-25-5(5.0)	Used to store 5ml cryoboxes (5*5), five layers in total, suitable for YDD-350/550/1300 (excluding cryoboxes)	
Rack (vertical type)	FDCJ-25-7(5.0)	Used to store 5ml cryoboxes (5*5), seven layers in total, suitable for YDD-450/750/850/1600 (excluding cryoboxes)	
Rack (vertical type)	FDCJ-25-8(5.0)	Used to store 5ml cryoboxes (5*5), Eight layers in total, suitable for YDD-1000/1800 (excluding cryoboxes)	
Rack (vertical type)	FDCJ-81-5(5.0)	Used to store 5ml cryoboxes (9*9), Five layers in total, suitable for YDD-350/550/1300 (excluding cryoboxes)	
Rack (vertical type)	FDCJ-81-7(5.0)	Used to store 5ml cryoboxes (9*9), Seven layers in total, suitable for YDD-450/750/850/1600 (excluding cryoboxes)	
Rack (vertical type)	FDCJ-81-8(5.0)	Used to store 5ml cryoboxes (9*9), Eight layers in total, suitable for YDD-1000/1800 (excluding cryoboxes)	
Rack (vertical type)	XDCJ-8-12	Used to store 2ml Aluminium cryoboxes (8 holes), Twelve layers in total, suitable for YDD-450/750/850/1600 (including aluminium cryoboxes)	
Rack (vertical type)	XDCJ-8-9	Used to store 2ml Aluminium cryoboxes (8 holes), Nine layers in total, suitable for YDD-350/550/1300 (including aluminium cryoboxes)	
Round Rack	YDCJ-97-2	Includes 2 canisters (TT97-2C), 4 plastic goblets and 1 pick up hook for goblets in total, the storage capacity for 0.5ml straw is 3016, suitable for YDD-1300	

# Low Temperature Transport Trolley YDC-3000H

## Mobile Cryogenic Transfer Operation Platform

The unit can be used to preserve plasma and biomaterials during transportation. It is suitable for deep hypothermia operation and transportation of samples in hospitals, various biobanks and laboratories. High quality stainless steel in combination with the thermal insulation layer ensures the effectiveness and durability of the low temperature transport trolley.



## Product Advantages

### Touch Screen

LCD touch operation



### USB Data Export

It has its own USB interface and supports USB data export.




### Real Time Monitoring

The instrument monitors the temperature and liquid level in real time and displays the expected remaining service time. Continuous working hours up to 24 hours.




## User Friendly Design




**Appearance Spray**  
The appearance of spray, not easily affected by stains.



**Caster Design**  
Integrated design, universal caster at the bottom, easy to move.



**Polymer Materials**  
The new type of environmentally-friendly polymer material is used inside the cover plate, which is more appealing, more environment-friendly and more advanced than the commonly used pearl foam and polyurethane materials.



**The Insulation Cover can be Magnet Absorbed**  
The insulation cover can be magnet absorbed to the side of vehicle, which is convenient to extract, and the space reserved at the bottom can be used to store other tools.

## Technical Parameters

Product Model	Dimensions (L × W × H mm)	Frozen Storage Space (L × W × H mm)	Liquid Nitrogen Under Tray (L)	Maximum Storage				
				5×5 Freezing Boxes (ea)	10×10 Freezing Boxes (ea)	50ml Blood Bag Boxes (ea)	200ml Blood Bag Boxes (ea)	2ml Cryopreservation Tube (ea)
YDC-3000H	1295×523×1095	900×335×163	33	65	30	105	50	3000

## Smart Series (Square Racks)

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The smart, IoT and cloud management system monitors temperature and liquid levels simultaneously to provide accurate and real-time information on the critical parameters to ensure ultimate sample safety.

- IoT and Cloud Management
- Multiple Level of Protections
- Low Energy Consumption
- Temperature and Level Display
- Updated Design
- High Performance Stability
- New Lock Design



### Key Features

- 5 models from 2,400 to 6,000 cryovial capacity
- 5 years vacuum warranty
- Durable aluminium construction
- Real time monitor of temperature and level
- Cloud data storage for traceability
- Low consumption rate and high performance stability
- New lock design

### Product Advantages

#### Colour identification for Rack handles

Rack handles are colour-coded for ease of separating storage zones and managing samples.



#### Double lock and double control design

The new double lock and double control design requires two people to open at the same time to ensure sample safety.



#### Dual monitoring respectively for temperature and liquid level

Storage temperature and liquid level are automatically monitored by a high precision controller. Accurate and real-time information ensures samples safety.



#### Multilayer protection for ultimate safety

Temperature and level are monitored in real time to safeguard the storage environment. Alarms can be transmitted through email, IM and wechat.

#### Cloud data storage for traceability

Temperature and level data can be transmitted to Haier's IoT platform for storage. All data is traceable and stored permanently.

#### Low consumption rate and high performance stability

Automated manufacture ensures build quality and reliable vacuum which delivers stable and uniform temperature performance as well as low LN2 consumption rates.



### Accessories



## Smart Series (Square Racks)

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### Technical Parameters

Model	YDS-65-216-FZ	YDS-95-216-FZ	YDS-115-216-FZ	YDS-145-216-FZ	YDS-175-216-FZ
<b>Maximum Storage Volume</b>					
No. of Rack	6	6	6	6	6
2ml Storage Vials (100/box)	2400	3000	3600	4800	6000
Layers in Rack	4	5	6	8	10
5ml Storage Vials (81/box)	—	972	1458	1944	2430
Layers in Rack	—	2	3	4	5
<b>Function</b>					
Liquid Nitrogen Volume (L)	65	95	115	145	175
Static Evaporation Rate* (%/d)	0.78	0.90	0.90	0.94	0.94
Static Holding Time** (Day)	83	105	127	154	186
<b>Dimensions</b>					
Neck Opening (mm)	216	216	216	216	216
Overall Height (mm)	712	774	846	946	1060
Overall Diameter (mm)	681	681	681	681	681
Empty Weight (kg)	39.3	42.5	43.7	49.9	54.8
Full Weight (kg)	81.5	112.3	133.5	158.9	199.5
Shipping Weight (kg)	63.8	67.9	71.2	82.1	91.3

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

\*\*Static Holding Time: the amount of days it takes for all of the LN to evaporate out after container is filled with liquid nitrogen to pre-cool and reach thermal equilibrium and the liquid nitrogen filling rate reaches 100% under standard atmospheric condition.

### Product List

Model	Product	Model	Description and Accessories
YDS-65-216	Smart Liquid Nitrogen Container (Smart Series)	YDS-65-216-FZ	Includes 6 racks (4-tier), cryoboxes (9*9), lockable cap, roller base is optional
YDS-95-216	Smart Liquid Nitrogen Container (Smart Series)	YDS-95-216-FZ	Includes 6 racks (5-tier), cryoboxes (9*9), lockable cap, roller base is optional
YDS-115-216	Smart Liquid Nitrogen Container (Smart Series)	YDS-115-216-FZ	Includes 6 racks (6-tier), cryoboxes (9*9), lockable cap, roller base is optional
YDS-145-216	Smart Liquid Nitrogen Container (Smart Series)	YDS-145-216-FZ	Includes 6 racks (8-tier), cryoboxes (9*9), lockable cap, roller base is optional
YDS-175-216	Smart Liquid Nitrogen Container (Smart Series)	YDS-175-216-FZ	Includes 6 racks (10-tier), cryoboxes (9*9), lockable cap, roller base is optional
	Roller Base	YSC-M	Suitable for all 65L-175L aluminium tank, equipped with 5 universal wheels

### Medium Sized Storage Series (Square Racks)

Medium Sized Storage Series (Square Racks) features low LN<sub>2</sub> consumption and relatively small footprint for medium capacity sample storage.

- 5 Year Vacuum Warranty
- Durable
- Cryobox Storage
- Secure
- High Thermal Efficiency
- Liquid and Vapour Storage



## Medium Sized Storage Series (Square Racks)

### Key Features

- Heavy duty lockable enclosure offers excellent security
- Compatible with all major cryobox brands
- Durable aluminium construction
- Temperature monitoring available
- Liquid or vapour phase option available
- High thermal efficiency
- 5 year vacuum warranty
- Ultra-low evaporation loss

### Product Advantages

#### ULT Storage with Extremely Low LN<sub>2</sub> Evaporation Loss

Freezer racks are in the ultra-low temperature environment with extremely low LN<sub>2</sub> evaporation. Even stored in vapour phase, the temperature will be below -190°C for a long time.

#### Advanced Vacuum Technology and Superinsulation Technology

Advanced vacuum and insulation technologies ensure cryopreservation for up to four months.

#### Compatible for Blood Bag Storage

Suitable for blood bag applications, the racks can be adapted to provide temporary blood bag storage before transferring bags to larger LN<sub>2</sub> storage tanks.



### Liquid Nitrogen Temperature Detector

The temperature monitor provides continuous and reliable monitoring of the temperature in the container. It is the ideal choice for long-term monitoring of sample storage temperature and reminding users to add liquid nitrogen.

The temperature monitor ZTC-100A has real-time temperature display function, and can also provide the following alarms:

- \* Over temperature alarm
- \* Sensor error acousto-optic alarm



ZTC-100A

### Technical Parameters

Model	YDS-65-216-F	YDS-95-216-F	YDS-115-216-F	YDS-140-216-F	YDS-175-216-F
<b>Maximum Storage Capacity</b>					
No. of Rack	6	6	6	6	6
No. 2.0 ml Cryovials (100 / Box)	2400	3000	3600	4800	6000
No. of Boxes in (2ml each Rack)	4	5	6	8	10
No. 5.0 ml Cryovials (81 / Box)	-	972	1458	1944	2430
No. of Boxes in (5ml each Rack)	-	2	3	4	5
<b>Performance</b>					
Volume of LN <sub>2</sub> (L)	65	95	115	145	175
Static Evaporation Rate* (L/Day)	0.78	0.90	0.90	0.94	0.94
Static Holding Time** (Day)	83	105	127	154	186
<b>Dimensions</b>					
Neck Opening Diameter (mm)	216	216	216	216	216
Height (mm)	712	774	846	946	1060
Outer Diameter (mm)	681	681	681	681	681
Empty Weight (kg)	38.3	41.3	42.3	48.9	53.8
Full Weight (kg)	80.8	112.4	132.8	157.3	198.5
Shipping Weight (kg)	61.8	65.9	72.9	80.1	89.2

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

\*\* Static Holding Time: the amount of days it takes for all of the LN to evaporate out after container is filled with liquid nitrogen to pre-cool and reach thermal equilibrium and the liquid nitrogen filling rate reaches 100% under standard atmospheric condition.

### Accessories

Roller Base 	Plastic Cryo Box 	Lockable Cap (SG-216) 	Rack (5ml) 
5 ml Customized Cryogenic Box 	SmartCap 	Rack 	Smart Box (SW-300) 

## Medium Sized Storage Series (Square Racks)

### Product List

Model	Product	Model	Description and Accessories
YDC-3000H	Cryogenic transfer vehicle	YDC-3000H	Include level and temperature monitoring controller, with rechargeable battery and storage drawers
BioT Air	cryovial transfer flask	BioT Air	It can store 55pcs of 2ml cryovial
YDS-65-216	Liquid Nitrogen Container	YDS-65-216-F	Includes 6 racks (4 layers), 9*9 cryoboxes, lockable cap, no protective jacket, roller base is optional
	Liquid Nitrogen Container	YDS-65-216	Includes lockable cap, no rack, no Protective jacket
	Rack	FTT-81-4	Used to store 2ml cryo boxes (9*9), 4 layers in total, 9*9 cryo boxes included, suitable for YDS-65-216 (plastic cryo boxes included)
	Roller Base	YSC-M(2019)	Suitable for all 65L-175L aluminium tank, equipped with 5 universal wheels
	Smart Cap	LT-216-340	Used to monitor level and temperature for containers with 216mm neck opening, data can be transmitted to cloud platform, suitable for YDS-65-216
	Cork (216)	GS175-216	Suitable for all aluminium tank with neck opening 216mm
	Lockable Cap	SG-216	Suitable for container with 216mm neck opening
YDS-95-216	Liquid Nitrogen Container	YDS-95-216-F (5.0)	Includes 6 racks for 5ml, 2 layers in total, 12pcs of 5ml 9*9 cryo boxes and lockable cap included, no protective jacket, roller base is optional
	Liquid Nitrogen Container	YDS-95-216-F	Includes 6 racks (5 layers), 9*9 cryoboxes, lockable cap, no protective jacket, roller base is optional
	Liquid Nitrogen Container	YDS-95-216	Includes lockable cap, no rack, no protective jacket
	Rack	FTT-81-5	Used to store 2ml cryo boxes (9*9), 5 layers in total, 9*9 cryo boxes included, suitable for YDS-95-216 (plastic cryo boxes included)
	Rack	FTT-81-2(5.0)	Used to store 5ml cryo boxes (9*9), 2 layers in total, 9*9 cryo boxes included, suitable for YDS-65-216/95-216 (plastic cryo boxes included)
	Roller Base	YSC-M(2019)	Suitable for all 65L-175L aluminium tank, equipped with 5 universal wheels
	Smart Cap	LT-216-370	Used to monitor level and temperature for containers with 216mm neck opening, data can be transmitted to cloud platform, suitable for YDS-95-216
YDS-115-216	Cork (216)	GS175-216	Suitable for all aluminium tank with neck opening 216mm
	Lockable Cap	SG-216	Suitable for container with 216mm neck opening
	Liquid Nitrogen Container	YDS-115-216-F (5.0)	Includes 6 racks for 5ml, 3 layers in total, 18pcs of 5ml 9*9 cryo boxes and lockable cap included, no protective jacket, roller base is optional
	Liquid Nitrogen Container	YDS-115-216-F	Includes 6 racks (6 layers), 9*9 cryoboxes, lockable cap, no protective jacket, roller base is optional
	Liquid Nitrogen Container	YDS-115-216	Includes lockable cap, no rack, no protective jacket
	Rack	FTT-81-6	Used to store 2ml cryo boxes (9*9), 6 layers in total, 9*9 cryoboxes included, suitable for YDS-115-216 (plastic cryo boxes included)
	Rack	FTT-81-3(5.0)	Used to store 5ml cryo boxes (9*9), 3 layers in total, 9*9 cryoboxes included, suitable for YDS-115-216 (plastic cryo boxes included)
YDS-140-216	Roller Base	YSC-M(2019)	Suitable for all 65L-175L aluminium tank, equipped with 5 universal wheels
	Smart Cap	LT-216-450	Used to monitor level and temperature for containers with 216mm neck opening, data can be transmitted to cloud platform, suitable for YDS-115-216
	Cork (216)	GS175-216	Suitable for all aluminium tank with neck opening 216mm
	Lockable Cap	SG-216	Suitable for container with 216mm neck opening
	Liquid Nitrogen Container	YDS-140-216-F (5.0)	Includes 6 racks for 5ml, 4 layers in total, 24pcs of 5ml 9*9 cryo boxes and lockable cap included, no protective jacket, roller base is optional
	Liquid Nitrogen Container	YDS-140-216-F	Includes 6 racks (8 layers), 9*9 cryoboxes, lockable cap, no protective jacket, roller base is optional
	Liquid Nitrogen Container	YDS-140-216	Includes lockable cap, no rack, no protective jacket
YDS-145-216	Rack	FTT-81-8	Used to store 2ml cryo boxes (9*9), 8 layers in total, 9*9 cryoboxes included, suitable for YDS-145-216 (plastic cryo boxes included)
	Rack	FTT-81-4(5.0)	Used to store 5ml cryo boxes (9*9), 4 layers in total, 9*9 cryo boxes included, suitable for YDS-145-216 (plastic cryo boxes included)
	Roller Base	YSC-M(2019)	Suitable for all 65L-175L aluminium tank, equipped with 5 universal wheels
	Smart Cap	LT-216-570	Used to monitor level and temperature for containers with 216mm neck opening, data can be transmitted to cloud platform, suitable for YDS-145-216
	Cork (216)	GS175-216	Suitable for all aluminium tank with neck opening 216mm
	Lockable Cap	SG-216	Suitable for container with 216mm neck opening

### Product List

Model	Product	Model	Description and Accessories
YDS-175-216	Liquid Nitrogen Container	YDS-175-216-F (5.0)	Includes 6 racks for 5ml, 5 layers in total, 30pcs of 5ml 9*9 cryo boxes and lockable cap included, no protective jacket, roller base is optional
	Liquid Nitrogen Container	YDS-175-216-F	Includes 6 racks (10 layers), 9*9 cryoboxes, lockable cap, no protective jacket, roller base is optional
	Liquid Nitrogen Container	YDS-175-216	Includes lockable cap, no rack, no protective jacket
	Rack	FTT-81-10	Used to store 2ml cryo boxes (9*9), 10 layers in total, 9*9 cryo boxes included, suitable for YDS-175-216 (plastic cryo boxes included)
	Rack	FTT-81-5(5.0)	Used to store 5ml cryo boxes (9*9), 5 layers in total, 9*9 cryo boxes included, suitable for YDS-175-216 (plastic cryo boxes included)
	Roller Base	YSC-M(2019)	Suitable for all 65L-175L aluminium tank, equipped with 5 universal wheels
	Smart Cap	LT-216-670	Used to monitor level and temperature for containers with 216mm neck opening, data can be transmitted to cloud platform, suitable for YDS-175-216 / competitors' products
	Cork (216)	GS175-216	Suitable for all aluminium tank with neck opening 216mm
	Lockable Cap	SG-216	Suitable for container with 216mm neck opening
	Other Racks	Blood Bag Rack	DCJ-250-1FT6
Blood Bag Rack		DCJ-250-1T30	Used to store 250ml blood bag, 1 bag per layer, 1 layer in total, blood bag cryo boxes included, suitable for YDS-95-216 (30 racks)
Blood Bag Rack		DCJ-250-2FT6	Used to store 250ml blood bag, 7 bags per layer, 2 layers in total, blood bag cryo boxes included, suitable for YDS-175-216 (6 racks)
Blood Bag Rack		DCJ-250-2T30	Used to store 250ml blood bag, 7 bags per layer, 2 layers in total, blood bag cryo boxes included, suitable for YDS-175-216 (6 racks)
Blood Bag Rack		DCJ-50-1FT6	Used to store 50ml blood bag, 14 bags per layer, 1 layer in total, blood bag cryo boxes included, suitable for YDS-95-216 (6 racks)
Blood Bag Rack		DCJ-50-2T30	Used to store 50ml blood bag, 1 bag per layer, 2 layers in total, blood bag cryo boxes included, suitable for YDS-95-216 (30 racks)
Blood Bag Rack		DCJ-50-3T30	Used to store 50ml blood bag, 1 bag per layer, 3 layers in total, blood bag cryo boxes included, suitable for YDS-115-216 (30 racks)
Blood Bag Rack		DCJ-50-2FT6	Used to store 50ml blood bag, 14 bags per layer, 2 layers in total, blood bag cryo boxes included, suitable for YDS-115-216 (6 racks)
Blood Bag Rack		DCJ-50-4T30	Used to store 50ml blood bag, 1 bag per layer, 4 layers in total, blood bag cryo boxes included, suitable for YDS-145-216 (30 racks)
Blood Bag Rack		DCJ-50-3FT6	Used to store 50ml blood bag, 14 bags per layer, 3 layers in total, blood bag cryo boxes included, suitable for YDS-175-216 (6 racks)
Blood Bag Rack		DCJ-50-5T30	Used to store 50ml blood bag, one bag per layer, 5 layers in total, blood bag cryo boxes included, suitable for YDS-175-216 (30 racks)
Rack (vertical type)		FDCJ-81-6(115)	Used to store 2ml cryo boxes (9*9), 6 layers in total, suitable for YDS-115-216 (plastic cryoboxes included)
Rack (vertical type)		FDCJ-81-8(145)	Used to store 2ml cryo boxes (9*9), 8 layers in total, suitable for YDS-145-216 (plastic cryoboxes included)
Rack (vertical type)		FDCJ-81-10(175)	Used to store 2ml cryo boxes (9*9), 10 layers in total, suitable for YDS-175-216 (plastic cryoboxes included)



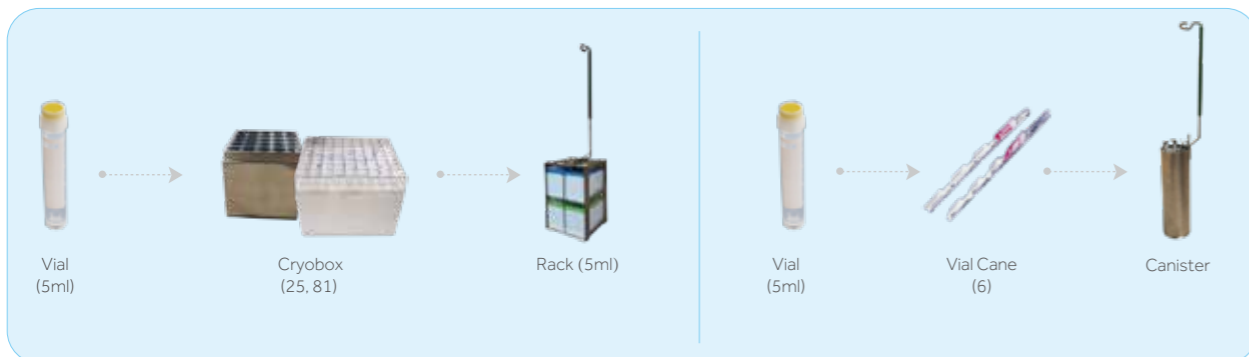
## Medium Sized Storage Series (Square Racks)

### Biological Sample Library-YDS Series

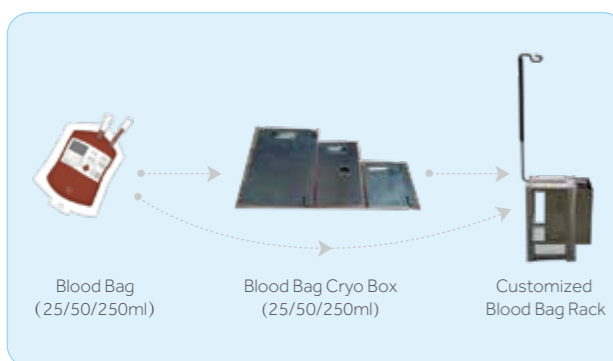
#### Storage Example of 2ml Internally Threaded Vial



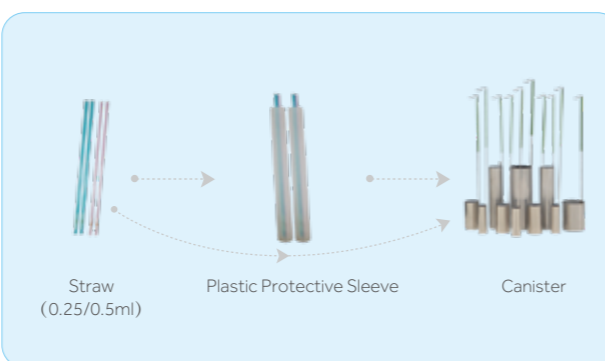
#### Storage Example of Tall 5ml Cryovials



#### Blood Bag Storage Example



#### Straw Storage Example



## Small Sized Storage Series (Square Racks)

Widely used within many laboratories, this small-sized storage series features low LN<sub>2</sub> consumption and dual handle design. Stores between 600 and 1100 vials in square racks and cryo boxes.

- 5 Year Vacuum Warranty
- High Thermal Efficiency
- Lightweight
- 30 Litre to 50 Litre Capacity
- Durable
- Secure
- Super-Insulation
- Ideal for Lab Applications



## Small Sized Storage Series (Square Racks)

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### Key Features

- Heavy duty lockable enclosure offers excellent security
- Strong, lightweight aluminium construction
- Dual handles
- Temperature monitoring available
- Roller bases available
- High thermal efficiency
- 5 year vacuum warranty
- Ultra-low LN<sub>2</sub> evaporation loss

### Product Advantages

#### Low LN<sub>2</sub> Consumption and Maximum Storage Efficiency

Haier Biomedical's Small Sized Storage Series (Square Racks) Liquid Nitrogen Storage System features low LN<sub>2</sub> consumption and small storage capacity for laboratory applications. The lightweight containers have a smaller footprint whilst providing maximum efficiency of cryogenic storage capacity.

#### Advanced Vacuum Technology and Super-insulation Technology

Advanced vacuum and insulation technologies provide ultra-low liquid nitrogen evaporation loss and ensure up to three months cryogenic storage.

#### Five Models Available

Small Sized Storage Series (Square Racks) offers Five models with different capacity from 100, 600, 750, 900 to 1100 standard 2 ml cryovials. All models are supplied with stainless steel racks and cryogenic boxes.

### Accessories



### Technical Parameters

Model	YDS-10-125	YDS-30-125	YDS-35-125	YDS-47-127	YDS-50B-125
<b>Maximum Storage Capacity</b>					
No. of Rack	1	6	6	6	6
1.2&2 ml Cryovials (25 per box)	100	600	750	1110	900
No. of Boxes in ( Rack)	4	4	5	5	6
<b>Performance</b>					
Volume of LN <sub>2</sub> (L)	10	31.5	35.5	47	50
Static Evaporation* (L/Day)	0.42	0.35	0.36	0.36	0.45
Static Holding Time** (Day)	24	90	97	130	110
<b>Dimensions</b>					
Opening Diameter (mm)	125	125	125	127	125
Height (mm)	625	704	748	718	818
Outside Diameter (mm)	300	462	462	508	462
Empty Weight (kg)	6.3	13	14.5	18.2	17.3
Full Weight (kg)	15.1	38.9	43.2	60.9	62.4
Shipping Weight (kg)	9.6	19.3	21.9	30.7	30.3

\* Static evaporation and static holding time are theoretical values. Actual evaporation and holding time are affected by usage, atmospheric conditions and manufacturing tolerances.  
 \*\* Static Holding Time: the amount of days it takes for all of the LN to evaporate out after container is filled with liquid nitrogen to pre-cool and reach thermal equilibrium and the liquid nitrogen filling rate reaches 100% under standard atmospheric condition.

### Product List

\* All models with F-suffix are supplied with stainless steel racks and cryo boxes.

Model	Product	Model	Description and Accessories
YDS-10-125	Liquid Nitrogen Container	YDS-10-125	No canister; no protective jacket; no lockable cap; equipped with braces for carrying
	Liquid Nitrogen Container	YDS-10-125-F	Include 1 square rack with 4 layers and 5*5 cryobox; lockable cap; no protective jacket
	Rack	FTT-25-4	Used to store 2ml cryo boxes (5*5), 4 layers in total, 5*5 cryo boxes included, suitable for YDS-30-125 / YDS-10-125 (plastic cryo boxes included)
	Canister (TT97)	TT10H-125	Φ97 single tier canister, no goblet, suitable for YDS-10-125, YDH-10-125
	Cork (125)	GS10-125	Suitable for YDS-10-125, YDH-10-125, YDS-50B-125
	Lockable Cap	SG-125	Suitable for container with 125mm neck opening
YDS-30-125	Liquid Nitrogen Container	YDS-30-125-F	Includes 6 racks with 4 layers, 5*5 cryoboxes, lockable cap and protective jacket, roller base is optional.
	Liquid Nitrogen Container	YDS-30-125	Includes protective jacket only, roller base is optional
	Rack	FTT-25-4	Used to store 2ml cryo boxes (5*5), 4 layers in total, 5*5 cryo boxes included, suitable for YDS-30-125 / YDS-10-125 (plastic cryo boxes included)
	Canister (TT97)	TT30-125	Φ97 single tier canister, no goblet, suitable for YDS-30-125
	Roller Base	YSC-S (2019)	Suitable for all 30L / 35L / 50L aluminium tank, equipped with 5 universal wheels
	SmartCap	LT-125-370	Used to monitor level and temperature for containers with 125mm neck opening, data can be transmitted to cloud platform, suitable for YDS-20-125 / YDS-30-125
	Cork (125)	GS20-125	Suitable for YDS-30-125, YDS-35-125, YDS-47-127, YDS-35B-125
Lockable Cap	SG-125	Suitable for container with 125mm neck opening	

## Small Sized Storage Series (Square Racks)

### Product List

Model	Product	Model	Description and Accessories
YDS-35-125	Liquid Nitrogen Container	YDS-35-125-6YS	Includes 6 canisters (height 276mm), lockable cap and protective jacket, roller base is optional
	Liquid Nitrogen Container	YDS-35-125-F	Includes 6 racks with 5 layers, 5*5 cryoboxes, lockable cap and protective jacket, roller base is optional.
	Liquid Nitrogen Container	YDS-35-125	Includes protective jacket only, roller base is optional
	Rack	FTT-25-5	Used to store 2ml cryo boxes (5*5), 5 layers in total, 5*5 cryo boxes included, suitable for YDS-35-125, YDS-47-127 (plastic cryo boxes included)
	Canister (TT97)	TT35-125	Φ97 single tier canister, no goblet, suitable for YDS-35-125
	Canister (TTS97)	TTS35-125	Φ97 double-tier canister, 2 goblets included, suitable for YDS-35-125
	Roller Base	YSC-S (2019)	Suitable for all 30L / 35L / 50L aluminium tank, equipped with 5 universal wheels
	SmartCap	LT-125-400	Used to monitor level and temperature for containers with 125mm neck opening, data can be transmitted to cloud platform, suitable for YDS-25-125 / YDS-35-125 / competitors' products
	Cork (125)	GS20-125	Suitable for YDS-30-125, YDS-35-125, YDS-47-127, YDS-35B-125
Lockable Cap	SG-125	Suitable for container with 125mm neck opening	
YDS-47-127	Liquid Nitrogen Container	YDS-47-127-6YS	Includes 6 round rack with 5 layers (37 holes) and lockable cap, no protective jacket, roller base is optional
	Liquid Nitrogen Container	YDS-47-127	Includes 10 canisters (Φ 72 / 276mm) and lockable cap, no protective jacket, roller base is optional
	Round Rack (Y98-37)	TT47-127-5	Φ98 round rack used to store 37 vials (2ml), 5 tiers in total, suitable for YDS-47-127-6YS
	Canister (TTS72)	TTS47-127-10T	Φ 72, height 276mm double-tier canister, 2 goblets included, suitable for YDS-47-127
	Roller Base	YSC-47L	Suitable for all 47L Aluminium tank, equipped with 5 universal wheels
	SmartCap	LT-127-370-10	Used to monitor level and temperature for containers with 125mm neck opening, data can be transmitted to cloud platform, suitable for YDS-47-127 / competitors' products
	SmartCap	LT-127-400	Used to monitor level and temperature for containers with 125mm neck opening, data can be transmitted to cloud platform, suitable for YDS-47-127-6YS / YDS-47-127 / competitors' products
	Cork (125)	GS20-125	Suitable for YDS-30-125, YDS-35-125, YDS-47-127, YDS-35B-125
	Cork (125)	GS47-127-10T	Suitable for YDS-47-127
Lockable Cap	SG-125	Suitable for container with 125mm neck opening	
YDS-50B-125	Liquid Nitrogen Container	YDS-50B-125-F	Includes 6 racks with 6 layers, 5*5 cryoboxes, lockable cap and protective jacket, roller base is optional.
	Liquid Nitrogen Container	YDS-50B-125-S	Includes 6 canisters (Φ 97 / 276mm), lockable cap and protective jacket, roller base is optional
	Liquid Nitrogen Container	YDS-50B-125	Includes protective jacket only, roller base is optional
	Rack	FTT-25-6	Used to store 2ml cryo boxes (5*5), 6 layers in total, 5*5 cryo boxes included, suitable for YDS-50B-125 (plastic cryo boxes included)
	Canister (TT97)	TT50-125	Φ97 single tier canister, no goblet, suitable for YDS-50B-125
	Canister (TTS97)	TTS50-125	Φ97 double-tier canister, 2 goblets included, suitable for YDS-50B-125
	Roller Base	YSC-S (2019)	Suitable for all 30L / 35L / 50L aluminium tank, equipped with 5 universal wheels
	SmartCap	LT-125-500	Used to monitor level and temperature for containers with 125mm neck opening, data can be transmitted to cloud platform, suitable for YDS-50-125
	Cork (125)	GS10-125	Suitable for YDS-10-125, YDH-10-125, YDS-50B-125
Lockable Cap	SG-125	Suitable for container with 125mm neck opening	

### Product Description

SmartCap is a low energy consumption IoT-based module that can monitor liquid nitrogen level and temperature in a liquid nitrogen tank. It is suitable for aluminium alloy liquid nitrogen tanks with opening port size of 50 mm, 80 mm, 125 mm, 216 mm. The built-in high efficiency lithium battery can operate the device for more than two years.



SmartCap

### Product Characteristics



Independent, high accuracy measuring system for liquid level and temperature



Real time display of level and temperature, alarm setting via phone message, email, and wechat



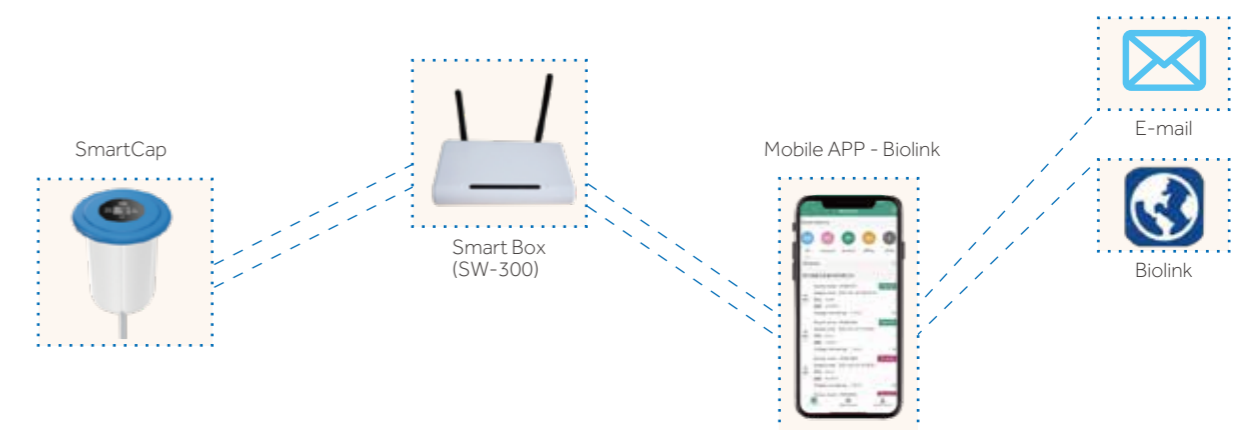
Wireless transmission of level and temperature data to a data interrupter



Fluid level and temperature data uploaded remotely to cloud terminals for recording, printing, and storage



Built-in high efficiency lithium battery for longevity



The SmartCap collects liquid level data and temperature data and transmits the information to cloud data store wirelessly, via 2.4G at a fixed interval every 10 minutes. Users can check real-time data and system alarm situation at any time through the Haier mobile APP-Biolink.

## Small Sized Storage Series (Square Racks)

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## Product List

Model	Product	Model	Description and Accessories	
Smart Cap	SmartCap	LT-50-220	Used to monitor level and temperature for containers with 50mm neck opening, data can be transmitted to cloud platform, suitable for YDS-3 / YDS-6	
	SmartCap	LT-50-280	Used to monitor level and temperature for containers with 50mm neck opening, data can be transmitted to cloud platform, suitable for YDS-10 / YDS-15	
	SmartCap	LT-50-370	Used to monitor level and temperature for containers with 50mm neck opening, data can be transmitted to cloud platform, suitable for YDS-13 / YDS-20 / YDS-30	
	SmartCap	LT-50-400	Used to monitor level and temperature for containers with 50mm neck opening, data can be transmitted to cloud platform, suitable for YDS-35	
	SmartCap	LT-50-450	Used to monitor level and temperature for containers with 50mm neck opening, data can be transmitted to cloud platform, suitable for YDS-25 any make of tank with 50mm opening.	
	SmartCap	LT-50-500	Used to monitor level and temperature for containers with 50mm neck opening, data can be transmitted to cloud platform, suitable for YDS-50	
	SmartCap	LT-80-220	Used to monitor level and temperature for containers with 80mm neck opening, data can be transmitted to cloud platform, suitable for YDS-6-80	
	SmartCap	LT-80-280	Used to monitor level and temperature for containers with 80mm neck opening, data can be transmitted to cloud platform, suitable for YDS-10-80/YDS-15-80	
	SmartCap	LT-80-370	Used to monitor level and temperature for containers with 80mm neck opening, data can be transmitted to cloud platform, suitable for YDS-20-80/YDS-30-80	
	SmartCap	LT-80-400	Used to monitor level and temperature for containers with 80mm neck opening, data can be transmitted to cloud platform, suitable for YDS-35-80	
	SmartCap	LT-80-450	Used to monitor level and temperature for containers with 80mm neck opening, data can be transmitted to cloud platform, suitable for YDS-25-80	
	SmartCap	LT-80-500	Used to monitor level and temperature for containers with 80mm neck opening, data can be transmitted to cloud platform, suitable for YDS-50-80	
	SmartCap	LT-125-280	Used to monitor level and temperature for containers with 125mm neck opening, data can be transmitted to cloud platform, suitable for YDS-10-125/YDS-15-125	
	SmartCap	LT-125-340	Used to monitor level and temperature for containers with 125mm neck opening, data can be transmitted to cloud platform, suitable for any make of tank with 125mm opening.	
	SmartCap	LT-125-370	Used to monitor level and temperature for containers with 125mm neck opening, data can be transmitted to cloud platform, suitable for YDS-20-125/YDS-30-125	
	SmartCap	LT-125-400	Used to monitor level and temperature for containers with 125mm neck opening, data can be transmitted to cloud platform, suitable for YDS-25-125/YDS-35-125/competitors' products	
	SmartCap	LT-125-500	Used to monitor level and temperature for containers with 125mm neck opening, data can be transmitted to cloud platform, suitable for YDS-50-125	
	SmartCap	LT-127-370-10	Used to monitor level and temperature for containers with 125mm neck opening, data can be transmitted to cloud platform, suitable for YDS-47-127-10/any make of tank with 125mm opening.	
	SmartCap	LT-127-400	Used to monitor level and temperature for containers with 125mm neck opening, data can be transmitted to cloud platform, suitable for YDS-47-127-6Y/YDS-47-127/any make of tank with 125mm opening.	
	SmartCap	LT-200-340	Used to monitor level and temperature for containers with 200mm neck opening, data can be transmitted to cloud platform, suitable for any make of tank with 200mm opening	
	SmartCap	LT-200-370	Used to monitor level and temperature for containers with 200mm neck opening, data can be transmitted to cloud platform, suitable for any make of tank with 200mm opening	
	SmartCap	LT-200-450	Used to monitor level and temperature for containers with 200mm neck opening, data can be transmitted to cloud platform, suitable for any make of tank with 200mm opening	
	SmartCap	LT-216-340	Used to monitor level and temperature for containers with 216mm neck opening, data can be transmitted to cloud platform, suitable for YDS-65-216	
	SmartCap	LT-216-340-4	Used to monitor level and temperature for containers with 216mm neck opening, data can be transmitted to cloud platform, suitable for any make of tank with 200mm opening	
	SmartCap	LT-216-370	Used to monitor level and temperature for containers with 216mm neck opening, data can be transmitted to cloud platform, suitable for YDS-95-216	
	SmartCap	LT-216-450	Used to monitor level and temperature for containers with 216mm neck opening, data can be transmitted to cloud platform, suitable for YDS-115-216	
	SmartCap	LT-216-570	Used to monitor level and temperature for containers with 216mm neck opening, data can be transmitted to cloud platform, suitable for YDS-145-216	
	SmartCap	LT-216-670	Used to monitor level and temperature for containers with 216mm neck opening, data can be transmitted to cloud platform, suitable for YDS-175-216/any make of tank with 216mm opening.	
	Accessories	Smart Box	SW-300	Date transferred with WIFI network connected, required for International users (outside China)

## High Capacity Series for Storage or Transport (Round Canisters)

High Capacity Series for Storage or Transport (Round Canisters) provides two cryopreservation solutions for long-term static storage and transportation of biological samples.

- Numbered Index Canister Locations
- High Capacity
- High Thermal Efficiency
- 5 Year Vacuum Warranty
- Extended Hold Time
- LN<sub>2</sub> Dispenser
- Round Canisters for Straw Storage
- Lockable
- Roller Bases Available



# High Capacity Series for Storage or Transport (Round Canisters)

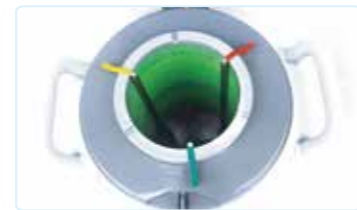
## Key Features

- Strong and lightweight aluminium construction
- Heavy duty lockable enclosure offers excellent security
- Numbered index location points for canisters
- Straw storage
- LN<sub>2</sub> dispense pump available
- Roller bases available
- High thermal efficiency
- 5 year vacuum warranty
- Ultra-low evaporation loss

## Product Advantages

Narrow neck design and excellent thermal conductivity reduces evaporation loss of liquid nitrogen to extend storage times.

Large-capacity models have wider necks for easy access to biological samples.



Long-term cryopreservation models have narrower necks with less heat intrusion.

## Technical Parameters

	Model	YDS-2-30	YDS-2-35	YDS-3	YDS-6	YDS-10	YDS-10-80
Maximum Capacity	No. of Canister	3 (0)	3 (3)	6 (0)	6 (0)	6 (0)	6 (0)
	No. of Straws (Single Layer) (0.5ml each canister)	90	165	792	792	792	2244
	No. of Straws (Single Layer) (0.25ml each canister)	204	330	1788	1788	1788	5022
	No. of Straws (Double Layer) (0.5ml each canister)	—	—	—	—	—	—
	No. of Straws (Double Layer) (0.25ml each canister)	—	—	—	—	—	—
Performance	Volume of LN <sub>2</sub> (L)	2	2	3	6	10	10
	Static Evaporation* (L/Day)	0.07	0.08	0.12	0.12	0.12	0.21
	Static Holding Time** (Day)	28	24	26	52	86	48
Dimensions	Opening Diameter (mm)	30	35	50	50	50	80
	Height (mm)	399	428	435	482	552	557
	Outside Diameter (mm)	223	204	223	300	300	300
	Canister Outside Diameter (mm)	19	25	38	38	38	63
	Outside Height (mm)	120	120	120	120	120	120
	Empty Weight (kg)	2.8	2.6	3.1	4.8	6.1	6.2
	Full Weight (kg)	4.5	4.4	6	9.9	14.5	14.7
Shipping Weight (kg)	5.1	4.9	5.8	8	9	9.3	

	Model	YDS-10-125	YDS-13	YDS-15	YDS-20	YDS-30
Maximum Capacity	No. of Canister	1 (0)	6 (0)	6 (0)	6 (0)	6 (0)
	No. of Straws (Single Layer) (0.5ml each canister)	854	—	792	792	792
	No. of Straws (Single Layer) (0.25ml each canister)	1940	—	1788	1788	1788
	No. of Straws (Double Layer) (0.5ml each canister)	—	1284	—	1284	1284
	No. of Straws (Double Layer) (0.25ml each canister)	—	2832	—	2832	2832
Performance	Volume of LN <sub>2</sub> (L)	10	13	15	20	30
	Static Evaporation* (L/Day)	0.43	0.12	0.11	0.12	0.12
	Static Holding Time** (Day)	24	109	134	168	254
Dimensions	Opening Diameter (mm)	125	50	50	50	50
	Height (mm)	625	623	591	672	705
	Outside Diameter (mm)	300	310	394	394	462
	Canister Outside Diameter (mm)	97	38	38	38	38
	Outside Height (mm)	120	276	120	120/276	120/276
	Empty Weight (kg)	6.3	6.3	8.5	9.5	12.9
	Full Weight (kg)	15.1	17.3	20.5	28.1	36.6
Shipping Weight (kg)	8.6	11	13	15	18	

	Model	YDS-30-80	YDS-30-125	YDS-35	YDS-35-80	YDS-35-125	YDS-47-127
Maximum Capacity	No. of Canister	6 (0)	6 (0)	6 (0)	6 (0)	6 (0)	10 (10)
	No. of Straws (Single Layer) (0.5ml each canister)	2244	5124	792	2244	5124	6714
	No. of Straws (Single Layer) (0.25ml each canister)	5022	11952	1788	5022	11640	14070
	No. of Straws (Double Layer) (0.5ml each canister)	3624	—	1284	3624	9048	10704
	No. of Straws (Double Layer) (0.25ml each canister)	8460	—	2832	8460	20760	23604
Performance	Volume of LN <sub>2</sub> (L)	30	30	35	35	35	47
	Static Evaporation* (L/Day)	0.21	0.35	0.12	0.22	0.37	0.36
	Static Holding Time** (Day)	147	90	286	159	97	130
Dimensions	Opening Diameter (mm)	80	125	50	80	125	127
	Height (mm)	709	704	749	753	748	718
	Outside Diameter (mm)	462	462	462	462	462	508
	Canister Outside Diameter (mm)	63	97	38	63	97	72
	Outside Height (mm)	120/276	120	120/276	120/276	120/276	276
	Empty Weight (kg)	13	13	14.2	14.5	14.6	18.2
	Full Weight (kg)	37	38.9	42.7	42.9	43.2	54
Shipping Weight (kg)	18.3	19.3	20	20.7	22	28	

# High Capacity Series for Storage or Transport (Round Canisters)

Model		YDS-20B	YDS-30B	YDS-35B
Maximum Capacity	No. of Canister	6 (0)	6 (0)	6 (0)
	No. of Straws (Single Layer) (0.5ml each canister)	792	792	792
	No. of Straws (Single Layer) (0.25ml each canister)	1788	1788	1788
	No. of Straws (Double Layer) (0.5ml each canister)	1284	1284	1284
	No. of Straws (Double Layer) (0.25ml each canister)	2832	2832	2832
Performance	Volume of LN <sub>2</sub> (L)	20	30	35
	Static Evaporation* (L/Day)	0.2	0.2	0.2
	Static Holding Time** (Day)	101	159	179
Dimensions	Opening Diameter (mm)	50	50	50
	Height (mm)	672	705	749
	Outside Diameter (mm)	394	462	462
	Canister Outside Diameter (mm)	38	38	38
	Outside Height (mm)	120/276	120/276	120/276
	Empty Weight (kg)	9.5	12.9	14.2
	Full Weight (kg)	27.9	37.1	42.8
	Shipping Weight (kg)	15.1	18.3	20.1

Model		YDS-35B-80	YDS-35B-125	YDS-50B	YDS-50B-125
Maximum Capacity	No. of Canister	6 (0)	6 (0)	6 (0)	6 (0)
	No. of Straws (Single Layer) (0.5ml each canister)	2244	5124	792	5124
	No. of Straws (Single Layer) (0.25ml each canister)	5022	11640	1788	11640
	No. of Straws (Double Layer) (0.5ml each canister)	3624	9048	1284	9048
	No. of Straws (Double Layer) (0.25ml each canister)	8460	20760	2832	20760
Performance	Volume of LN <sub>2</sub> (L)	35	35	50	50
	Static Evaporation* (L/Day)	0.3	0.41	0.24	0.45
	Duration of Normal Operation** (Day)	119	86	213	110
Dimensions	Opening Diameter (mm)	80	125	50	125
	Height (mm)	753	748	810	817
	Outside Diameter (mm)	462	462	462	462
	Canister Outside Diameter (mm)	63	97	38	97
	Outside Height (mm)	120/276	120/276	120/276	120/276
	Empty Weight (kg)	14.5	14.6	17.2	17.3
	Full Weight (kg)	43	43.5	60.3	62
	Shipping Weight (kg)	20.7	22	24	25.4

† A(B): A for maximum number of canisters, B for number of canisters in standard configuration

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

\*\*Static Holding Time: the amount of days it takes for all of the LN to evaporate out after container is filled with liquid nitrogen to pre-cool and reach thermal equilibrium and the liquid nitrogen filling rate reaches 100% under standard atmospheric condition.

## Vials Cane Specification

Canister	Height 120mm, Diameter 38mm (50mm neck)		
Vials	Canes/Canister	Vials/Cane	Vials/Canister
0.5ml	4	3	12
1.5ml	4	3	12
2ml	4	3	12
3ml	4	3	12
5ml	4	1	4

Canister	Height 120mm, Diameter 63mm (80mm neck)		
Vials	Canes/Canister	Vials/Cane	Vials/Canister
0.5ml	16	3	48
1.5ml	16	3	48
2ml	16	3	48
3ml	16	3	48
5ml	16	1	16

Canister	Height 120mm, Diameter 72mm (127mm neck)		
Vials	Canes/Canister	Vials/Cane	Vials/Canister
0.5ml	21	3	63
1.5ml	21	3	63
2ml	21	3	63
3ml	21	3	63
5ml	21	1	21

Canister	Height 120mm, Diameter 97mm (125mm neck)		
Vials	Canes/Canister	Vials/Cane	Vials/Canister
0.5ml	---	---	---
1.5ml	40	3	120
2ml	40	3	120
3ml	40	3	120
5ml	40	1	40

Canister	Height 120mm, Diameter 104mm (127mm neck)		
Vials	Canes/Canister	Vials/Cane	Vials/Canister
0.5ml	---	---	---
1.5ml	46	3	138
2ml	46	3	138
3ml	46	3	138
5ml	46	1	46

Canister	Height 276mm, Diameter 38mm (50mm neck)		
Vials	Canes/Canister	Vials/Cane	Vials/Canister
0.5ml	4	6	24
1.5ml	4	6	24
2ml	4	6	24
3ml	4	6	24
5ml	4	3	12

Canister	Height 276mm, Diameter 63mm (80mm neck)		
Vials	Canes/Canister	Vials/Cane	Vials/Canister
0.5ml	16	6	96
1.5ml	16	6	96
2ml	16	6	96
3ml	16	6	96
5ml	16	3	48

Canister	Height 276mm, Diameter 72mm (127mm neck)		
Vials	Canes/Canister	Vials/Cane	Vials/Canister
0.5ml	21	6	126
1.5ml	21	6	126
2ml	21	6	126
3ml	21	6	126
5ml	21	3	63

Canister	Height 276mm, Diameter 97mm (125mm neck)		
Vials	Canes/Canister	Vials/Cane	Vials/Canister
0.5ml	---	---	---
1.5ml	40	6	240
2ml	40	6	240
3ml	40	6	240
5ml	40	3	120

Canister	Height 276mm, Diameter 104mm (127mm neck)		
Vials	Canes/Canister	Vials/Cane	Vials/Canister
0.5ml	---	---	---
1.5ml	46	6	276
2ml	46	6	276
3ml	46	6	276
5ml	46	3	138

## Accessories



## High Capacity Series for Storage or Transport (Round Canisters)

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## Product List

Model	Product	Model	Description and Accessories
YDS-2-30	Liquid Nitrogen Container	YDS-2-30	Includes 3 canisters, lockable cap and protective jacket
	Canister (TT19)	TT2-30	Φ 19 single tier canister, without goblets, suitable for YDS-2-30
	Cork (30)	GS2-30	Suitable for YDS-2-30
	Lockable Cap	SG-30	Suitable for container with 30mm neck opening, suitable for YDS-2-30
YDS-2-35	Liquid Nitrogen Container	YDS-2-35	Includes 3 canisters, lockable cap and braces for carrying, no protective jacket
	Canister (TT25)	TT2-35	Φ 25 single tier canister, without goblets, suitable for YDS-2-35
	Cork (30)	GS2-35	Suitable for YDS-2-35
YDS-3	Liquid Nitrogen Container	YDS-3YS	Includes 6 canisters (height 120mm), lockable cap and protective jacket
	Liquid Nitrogen Container	YDS-3 (2019)	Includes protective jacket only
	Canister (TT38)	TT3-50	Φ 38 single tier canister, without goblets, suitable for YDS-3
	Cork (50)	GS10-50	Suitable for YDS-3 / YDH-3 / YDS-6 / YDS-10 / YDS-13 / YDS-25 / YDS-50B
YDS-6	Liquid Nitrogen Container	YDS-6YS	Includes 6 canisters (height 120mm), lockable cap and protective jacket
	Liquid Nitrogen Container	YDS-6	Includes protective jacket only
	Canister (TT38)	TT6-50	Φ 38 single tier canister, without goblets, suitable for YDS-6
	Cork (50)	GS10-50	Suitable for YDS-3 / YDH-3 / YDS-6 / YDS-10 / YDS-13 / YDS-25 / YDS-50B
YDS-10	Liquid Nitrogen Container	YDS-10YS	Includes 6 canisters (height 120mm), lockable cap and protective jacket
	Liquid Nitrogen Container	YDS-10	Includes protective jacket only
	Canister (TT38)	TT10-50	Φ 38 single tier canister, without goblets, suitable for YDS-10
	Cork (50)	GS10-50	Suitable for YDS-3 / YDH-3 / YDS-6 / YDS-10 / YDS-13 / YDS-25 / YDS-50B
YDS-10-80	Liquid Nitrogen Container	YDS-10-80-6YS	Includes 6 canisters (height 120mm), lockable cap and protective jacket
	Liquid Nitrogen Container	YDS-10-80	Includes protective jacket only
	Canister (TT63)	TT10-80	Φ 63 single tier canister, without goblets, suitable for YDS-10-80
	Cork (80)	GS10-80	Suitable for YDH-6-80 / YDS-10-80
YDS-13	Liquid Nitrogen Container	YDS-13YS	Includes 6 canisters (height 276mm), lockable cap and protective jacket
	Liquid Nitrogen Container	YDS-13	Includes protective jacket only
	Canister (TTS38)	TTS13-50	Φ 38 double-tier canister, 2 goblets included, suitable for YDS-13
	Cork (50)	GS10-50	Suitable for YDS-3 / YDH-3 / YDS-6 / YDS-10 / YDS-13 / YDS-25 / YDS-50B
YDS-15	Liquid Nitrogen Container	YDS-15YS	Includes 6 canisters (height 120mm), lockable cap and protective jacket
	Liquid Nitrogen Container	YDS-15	Includes protective jacket only
	Canister (TT38)	TT15-50	Φ 38 single tier canister, without goblets, suitable for YDS-15
	Cork (50)	GS20-50	Suitable for YDS-15 / YDS-20 / YDS-30 / YDS-35 / YDS-20B / YDS-30B / YDS-35B
YDS-20	Liquid Nitrogen Container	YDS-20-6YS	Includes 6 canisters (height 276mm), lockable cap and protective jacket
	Liquid Nitrogen Container	YDS-20YS	Includes 6 canisters (height 120mm), lockable cap and protective jacket
	Liquid Nitrogen Container	YDS-20	Includes protective jacket only
	Canister (TT38)	TT30-50	Φ 38 single tier canister, without goblets, suitable for YDS-20 / YDS-30
YDS-30	Canister (TTS38)	TTS30-50	Φ 38 double-tier canister, 2 goblets included, suitable for YDS-20 / YDS-30
	Cork (50)	GS20-50	Suitable for YDS-1 / YDS-20 / YDS-30 / YDS-35 / YDS-20B / YDS-30B / YDS-35B
	Lockable Cap	SG-50	Suitable for container with 50mm neck opening
	Liquid Nitrogen Container	YDS-30-6YS	Includes 6 canisters (height 276mm), lockable cap and protective jacket, roller base is optional
YDS-30-80	Liquid Nitrogen Container	YDS-30-80YS	Includes 6 canisters (height 120mm), lockable cap and protective jacket, roller base is optional
	Liquid Nitrogen Container	YDS-30-80	Includes protective jacket only, roller base is optional
	Canister (TT63)	TT30-80	Φ 63 single tier canister, without goblets, suitable for YDS-30-80
	Canister (TTS63)	TTS30-80	Φ 63 double-tier canister, 2 goblets included, suitable for YDS-30-80
YDS-30-80	Roller Base	YSC-S (2019)	Suitable for all 30L / 35L / 50L aluminium tank, equipped with 5 universal wheels
	SmartCap	LT-80-370	Used to monitor level and temperature for containers with 80mm neck opening, data can be transmitted to cloud platform, suitable for YDS-20-80 / YDS-30-80
	Cork (80)	GS20-80	Suitable for YDS-30-80 / YDS-35-80 / YDS-35B-80
	Lockable Cap	SG-80	Suitable for container with 80mm neck opening

## Product List

Model	Product	Model	Description and Accessories
YDS-15	Liquid Nitrogen Container	YDS-15YS	Includes 6 canisters (height 120mm), lockable cap and protective jacket
	Liquid Nitrogen Container	YDS-15	Includes protective jacket only
	Canister (TT38)	TT15-50	Φ 38 single tier canister, without goblets, suitable for YDS-15
	Cork (50)	GS20-50	Suitable for YDS-15 / YDS-20 / YDS-30 / YDS-35 / YDS-20B / YDS-30B / YDS-35B
YDS-20	Lockable Cap	SG-50	Suitable for container with 50mm neck opening
	Liquid Nitrogen Container	YDS-20-6YS	Includes 6 canisters (height 276mm), lockable cap and protective jacket
	Liquid Nitrogen Container	YDS-20YS	Includes 6 canisters (height 120mm), lockable cap and protective jacket
	Liquid Nitrogen Container	YDS-20	Includes protective jacket only
YDS-30	Canister (TT38)	TT30-50	Φ 38 single tier canister, without goblets, suitable for YDS-20 / YDS-30
	Canister (TTS38)	TTS30-50	Φ 38 double-tier canister, 2 goblets included, suitable for YDS-20 / YDS-30
	Cork (50)	GS20-50	Suitable for YDS-1 / YDS-20 / YDS-30 / YDS-35 / YDS-20B / YDS-30B / YDS-35B
	Lockable Cap	SG-50	Suitable for container with 50mm neck opening
YDS-30-80	Liquid Nitrogen Container	YDS-30-6YS	Includes 6 canisters (height 276mm), lockable cap and protective jacket, roller base is optional
	Liquid Nitrogen Container	YDS-30YS	Includes 6 canisters (height 120mm), lockable cap and protective jacket, roller base is optional
	Liquid Nitrogen Container	YDS-30	Includes protective jacket only, roller base is optional
	Canister (TT38)	TT30-50	Φ 38 single tier canister, without goblets, suitable for YDS-20 / YDS-30
YDS-30-80	Canister (TTS38)	TTS30-50	Φ 38 double-tier canister, 2 goblets included, suitable for YDS-20 / YDS-30
	Roller Base	YSC-S (2019)	Suitable for all 30L / 35L / 50L aluminium tank, equipped with 5 universal wheels
	SmartCap	LT-50-370	Used to monitor level and temperature for containers with 50mm neck opening, data can be transmitted to cloud platform, suitable for YDS-13 / YDS-20 / YDS-30
	Cork (50)	GS20-50	Suitable for YDS-15 / YDS-20 / YDS-30 / YDS-35 / YDS-20B / YDS-30B / YDS-35B
YDS-30-80	Lockable Cap	SG-50	Suitable for container with 50mm neck opening
	Liquid Nitrogen Container	YDS-30-80-6YS	Includes 6 canisters (height 276mm), lockable cap and protective jacket, roller base is optional
	Liquid Nitrogen Container	YDS-30-80YS	Includes 6 canisters (height 120mm), lockable cap and protective jacket, roller base is optional
	Liquid Nitrogen Container	YDS-30-80	Includes protective jacket only, roller base is optional
YDS-30-80	Canister (TT63)	TT30-80	Φ 63 single tier canister, without goblets, suitable for YDS-30-80
	Canister (TTS63)	TTS30-80	Φ 63 double-tier canister, 2 goblets included, suitable for YDS-30-80
	Roller Base	YSC-S (2019)	Suitable for all 30L / 35L / 50L aluminium tank, equipped with 5 universal wheels
	SmartCap	LT-80-370	Used to monitor level and temperature for containers with 80mm neck opening, data can be transmitted to cloud platform, suitable for YDS-20-80 / YDS-30-80
YDS-30-80	Cork (80)	GS20-80	Suitable for YDS-30-80 / YDS-35-80 / YDS-35B-80
	Lockable Cap	SG-80	Suitable for container with 80mm neck opening

## High Capacity Series for Storage or Transport (Round Canisters)

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## Product List

Model	Product	Model	Description and Accessories
YDS-35	Liquid Nitrogen Container	YDS-35-6YS	Includes 6 canisters (height 276mm), lockable cap and protective jacket, roller base is optional
	Liquid Nitrogen Container	YDS-35YS	Includes 6 canisters (height 120mm), lockable cap and protective jacket, roller base is optional
	Liquid Nitrogen Container	YDS-35	Includes protective jacket only, roller base is optional
	Canister (TT38)	TT35-50	Φ 38 single tier canister, without goblets, suitable for YDS-35
	Canister (TTS38)	TTS35-50	Φ 38 double tier canister, 2 goblets included, suitable for YDS-35
	Roller Base	YSC-S(2019)	Suitable for all 30L / 35L / 50L aluminium tank, equipped with 5 universal wheels
	SmartCap	LT-50-400	Used to monitor level and temperature for containers with 50mm neck opening, data can be transmitted to cloud platform, suitable for YDS-35
	Cork (50)	GS20-50	Suitable for YDS-15 / YDS-20 / YDS-30 / YDS-35 / YDS-20B / YDS-30B / YDS-35B
YDS-35-80	Liquid Nitrogen Container	YDS-35-80-6YS	Includes 6 canisters (height 276mm), lockable cap and protective jacket, roller base is optional
	Liquid Nitrogen Container	YDS-35-80	Includes protective jacket only, roller base is optional
	Canister (TT63)	TT35-80	Φ 63 single tier canister, without goblets, suitable for YDS-35-80
	Canister (TTS63)	TTS35-80	Φ 63 double-tier canister, 2 goblets included, suitable for YDS-35-80
	Roller Base	YSC-S(2019)	Suitable for all 30L/35L/50L aluminium tank, equipped with 5 universal wheels
	SmartCap	LT-80-400	Used to monitor level and temperature for containers with 80mm neck opening, data can be transmitted to cloud platform, suitable for YDS-35-80
	Cork (80)	GS20-80	Suitable for YDS-30-80 / YDS-35-80 / YDS-35B-80
	Lockable Cap	SG-80	Suitable for container with 80mm neck opening
YDS-20B	Liquid Nitrogen Container	YDS-20B	Includes protective jacket only.
	Canister (TT38)	TT30-50	Φ 38 single tier canister, without goblets, suitable for YDS-20 / YDS-30
	Canister (TTS38)	TTS30-50	Φ 38 double-tier canister, 2 goblets included, suitable for YDS-20/YDS-30
	Cork (50)	GS20-50	Suitable for YDS-15 / YDS-20 / YDS-30 / YDS-35 / YDS-20B / YDS-30B / YDS-35B
YDS-30B	Liquid Nitrogen Container	YDS-30B	Includes protective jacket only, roller base is optional
	Canister (TT38)	TT30-50	Φ 38 single tier canister, without goblets, suitable for YDS-20 / YDS-30
	Canister (TTS38)	TTS30-50	Φ 38 double-tier canister, 2 goblets included, suitable for YDS-20/YDS-30
	Roller Base	YSC-S(2019)	Suitable for all 30L / 35L / 50L aluminium tank, equipped with 5 universal wheels
	Cork (50)	GS20-50	Suitable for YDS-15 / YDS-20 / YDS-30 / YDS-35 / YDS-20B / YDS-30B / YDS-35B
	Lockable Cap	SG-50	Suitable for container with 50mm neck opening
YDS-35B	Liquid Nitrogen Container	YDS-35B	Includes protective jacket only, roller base is optional
	Canister (TT38)	TT35-50	Φ 38 single tier canister, without goblets, suitable for YDS-35
	Canister (TTS38)	TTS35-50	Φ 38 double-tier canister, 2 goblets included, suitable for YDS-35
	Roller Base	YSC-S(2019)	Suitable for all 30L / 35L / 50L aluminium tank, equipped with 5 universal wheels
	Cork (50)	GS20-50	Suitable for YDS-15 / YDS-20 / YDS-30 / YDS-35 / YDS-20B / YDS-30B / YDS-35B
	Lockable Cap	SG-50	Suitable for container with 50mm neck opening

## Product List

Model	Product	Model	Description and Accessories
YDS-35B-80	Liquid Nitrogen Container	YDS-35B-80	Includes protective jacket only, roller base is optional
	Canister (TT63)	TT35-80	Φ 63 single tier canister, without goblets, suitable for YDS-35-80
	Canister (TTS63)	TTS35-80	Φ 63 double-tier canister, 2 goblets included, suitable for YDS-35-80
	Roller Base	YSC-S(2019)	Suitable for all 30L / 35L / 50L aluminium tank, equipped with 5 universal wheels
	Cork (80)	GS20-80	Suitable for YDS-30-80 / YDS-35-80 / YDS-35B-80
	Lockable Cap	SG-80	Suitable for container with 80mm neck opening
	YDS-35B-125	Liquid Nitrogen Container	YDS-35B-125
Canister (TT97)		TT35-125	Φ 97 single tier canister, without goblets, suitable for YDS-35-125
Canister (TTS97)		TTS35-125	Φ 97 double-tier canister, 2 goblets included, suitable for YDS-35-125
Rack		FTT-25-5	Used to store 2ml cryo boxes (5*5), 5 layers in total, 5*5 cryo boxes included, suitable for YDS-35-125
Roller Base		YSC-S(2019)	Suitable for all 30L / 35L / 50L aluminium tank, equipped with 5 universal wheels
Cork (125)		GS20-125	Suitable for YDS-30-125 / YDS-35-125 / YDS-47-127 / YDS-35B-125
Lockable Cap		SG-125	Suitable for container with 125mm neck opening
YDS-50B	Liquid Nitrogen Container	YDS-50B	Includes protective jacket only, roller base is optional
	Canister (TT38)	TT50-50	Φ 38 single tier canister, without goblets, suitable for YDS-50
	Canister (TTS38)	TTS50-50	Φ 38 double-tier canister, 2 goblets included, suitable for YDS-50
	Roller Base	YSC-S(2019)	Suitable for all 30L / 35L / 50L aluminium tank, equipped with 5 universal wheels
	SmartCap	LT-50-500	Used to monitor level and temperature for containers with 50mm neck opening, data can be transmitted to cloud platform, suitable for YDS-50
	Cork (50)	GS10-50	Suitable for YDS-3 / YDH-3 / YDS-6 / YDS-10 / YDS-13 / YDS-25 / YDS-50B
Other Racks	Rack (vertical type)	FDCJ-25-4	Used to store 2ml cryo boxes (5*5), 4 layers in total, suitable for YDS-10\20\30-125 (plastic cryoboxes included)
	Rack (vertical type)	FDCJ-25-5	Used to store 2ml cryo boxes (5*5), 5 layers in total, suitable for YDS-25\35-125; YDS-47-127 (plastic cryoboxes included)
	Rack (vertical type)	FDCJ-25-6	Used to store 2ml cryo boxes (5*5), 6 layers in total, suitable for YDS-50B-125 (plastic cryoboxes included)



## Dryshipper Series for Transportation (Round Canisters)

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Dryshipper Series for Transportation (Round Canisters) is designed for safe sample transportation under cryogenic conditions (vapour phase storage, temperature under  $-190^{\circ}\text{C}$ ). Since the risk of  $\text{LN}_2$  release is avoided, it is suitable for air transportation of samples.

- Rugged and Durable
- 3 Year Vacuum Warranty
- Cryo Absorbant
- Vapour Phase Storage
- Secure
- No  $\text{LN}_2$  Spillage



### Key Features

- Straw and cryovial storage options
- Rugged and durable aluminium construction
- Designed to ensure no  $\text{LN}_2$  spillage
- Vapour phase cryogenic storage
- Faster  $\text{LN}_2$  fill times
- Lockable lids
- 3 year vacuum warranty

### Product Advantages

#### Liquid Nitrogen Adsorption

Adsorbent materials are used to absorb and retain  $\text{LN}_2$  for safe transport. No spillover of  $\text{LN}_2$  can occur even when the tank is capsized.

#### Stainless Steel Mesh

Special stainless steel mesh divides storage space and  $\text{LN}_2$  absorbents to prevent absorbent materials from contaminating the samples.

#### Complete Accessories Set

All models are offered a variety of stainless steel canisters and polycarbonate cryogenic boxes. Locking cover is optional.



### Accessories

Plastic Cryo Box



Canister+Rack



Rack(vertical type)



## Dryshipper Series for Transportation (Round Canisters)

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## Technical Parameters

Model	YDH-3	YDH-6-80	YDH-10-125-F	YDH-15-216-F	YDH-25-216-F
<b>Maximum Storage Capacity</b>					
No. of Canister	1	1	1	1	1
No. of Straws (0.5ml / EA)	132	374	854	—	—
No. of Straws (0.25ml / EA)	298	837	1940	—	—
No. of 2.0 ml Cryovials	—	—	100	300	500
No. of Boxes in (2ml per holder)	—	—	4	3	5
<b>Performance</b>					
Volume of LN <sub>2</sub> (L)	3	6	10	15	25
Absorbable Volume of LN <sub>2</sub> (L)	1.3	2.9	3.4	6	9
Static Evaporation* (L/Day)	0.16	0.2	0.43	1.5	0.89
Liquid Phase Static Holding Time**(Day)	20	37	23	10	29
Vapour Phase Static Holding Time*** (Day)	8	14	8	4	10
<b>Dimensions</b>					
Opening Diameter (mm)	50	80	125	216	216
Height (mm)	435	487	625	540	716
Outside Diameter (mm)	223	300	300	394	394
Canister Outside Diameter (mm)	38	63	97	—	—
Outside Height (mm)	120	120	120	—	—
Empty Weight (kg)	3.2	4.9	6.7	8.5	15
Full Weight (kg)	4.7	7.5	11	25	30
Shipping Weight (kg)	5.5	7.7	9.7	15.2	20.5

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

\*\* Liquid Phase Static Holding Time: the amount of days it takes for all of the LN to evaporate out after container is filled with liquid nitrogen to pre-cool and reach thermal equilibrium and the liquid nitrogen filling rate reaches 100% under standard atmospheric condition.

\*\*\* Vapour Phase Static Holding Time: the amount of days it takes for all of the LN to evaporate out after pouring liquid nitrogen into container to making absorbent materials fully absorb LN under standard atmospheric condition.

## Product List

Model	Product	Model	Description and Accessories
YDH-3	Dry Shipper	YDH-3	Includes 1 canister (height 120mm), lockable cap and protective jacket
	Canister (TT38)	TT3H-50	Φ 38 single tier canister, no goblet, suitable for YDH-3
	Cork (50)	GS10-50	Suitable for YDS-3 / YDH-3 / YDS-6 / YDS-10 / YDS-13 / YDS-25 / YDS-50B
	Lockable Cap	SG-50	Suitable for container with 50mm neck opening
YDH-6-80	Dry Shipper	YDH-6-80	Includes 1 canister (height 120mm), lockable cap and protective jacket
	Canister (TT63)	TT6H-80	Φ 63 single tier canister, no goblet, suitable for YDH-6-80
	Cork (80)	GS10-80	Suitable for YDH-6-80 / YDS-10-80
	Lockable Cap	SG-80	Suitable for container with 80mm neck opening
YDH-10-125	Dry Shipper	YDH-10-125-F	Includes 1 rack (4 layers), 5*5 cryoboxes, lockable cap and protective jacket
	Dry Shipper	YDH-10-125	Includes lockable cap and protective jacket, no rack
	Rack	FTT-25-4	Used to store 2ml cryo boxes (5*5), 4 layers in total, 5*5 cryo boxes included, suitable for YDS-30-125 / YDS-10-125 (Plastic cryo boxes included)
	Canister (TT97)	TT10H-125	Φ 97 single tier canister, no goblet, suitable for YDH-10-125
	Cork (125)	GS10-125	Suitable for YDS-10-125 / YDH-10-125 / YDS-50B-125
	Lockable Cap	SG-125	Suitable for container with 125mm neck opening
	Protective Case X	Protective Case X	Suitable for YDH-10-125
YDH-15-216	Dry Shipper	YDH-15-216-F	Includes 1 rack (3 layers), 9*9 cryoboxes and lockable cap, no protective jacket
	Rack (vertical type)	FDCJ-25-3	Used to store 2ml cryo boxes (5*5), 3 layers in total, suitable for YDS-15-125 (plastic cryoboxes included)
	Cork (216-2)	GS15-216	Suitable for YDS-15-216 / YDH-15-216
	Lockable Cap	SG-216	Suitable for container with 216mm neck opening
YDH-25-216	Dry Shipper	YDH-25-216-F	Includes 1 rack (5 layers), 9*9 cryoboxes and lockable cap, no protective jacket
	Rack	FTT-81-5	Used to store 2ml cryo boxes (9*9), 5 layers in total, 9*9 cryo boxes included, suitable for YDS-95-216 / YDH-25-216 (Plastic cryo boxes included)
	Cork (216)	GS175-216	Suitable for all aluminium tank with neck opening 216mm
	Lockable Cap	SG-216	Suitable for container with 216mm neck opening
Other Racks	Rack (vertical type)	FDCJ-81-5	Used to store 2ml cryo boxes (9*9), 5 layers in total, suitable for YDH-25-216 / YDS-95-216 (plastic cryoboxes included)

## Self-pressurized Series for LN<sub>2</sub> Storage and Supply

Liquid Nitrogen Supplement Series for LN<sub>2</sub> Storage and Supply incorporates the latest innovation, its unique design utilises the pressure generated from the vapourisation of a small amount liquid nitrogen to discharge LN<sub>2</sub> into other containers. Storage capacities range from 5 to 500 litres.

- 5 Year Vacuum Warranty
- Decant Valves
- Liquid Storage
- Stainless Steel Construction
- Pressure Raising
- Integral Safety Mechanisms



### Key Features

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

### Product Advantages

#### 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.

#### Variety of accessories

Each Self-pressurized Series for LN<sub>2</sub> Storage and Supply model is equipped with a pressure valve, a drain valve, a relief valve, and a pressure gauge.

#### Casters

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

### Accessories

Transfer Hose



Float-type Liquidometer



### Additional Series for Liquid Nitrogen Tank (Comparison between Standard Series and K Series)



### New Functions of K Series

#### Digital Display Level Gauge

DLZ-300  
Digital display of fluid level  
Remote data transmission  
function



#### Large diameter vent valve

Rapid relief of  
over pressure  
Protection of  
safety valve



#### Pressure stabilizing valve

Stabilize fluid pressure  
during auto filling



Self-pressurized Series for LN<sub>2</sub> Storage and Supply

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## Technical Parameters

Model	YDZ-5	YDZ-15	YDZ-30	YDZ-50	YDZ-100 YDZ-100K
<b>Performance</b>					
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
<b>Dimensions</b>					
Height (mm)	510	750	879	991	1185
Outside Diameter (mm)	329	404	454	506	606
Empty Weight (kg)	15	23	32	54	75
Full Weight (kg)	19.1	35.3	56.6	95.0	157.0
Shipping Weight (kg)	28	34	47	63	98
Pressure Parameters (MPa)	1. Standard working pressure 0.05, 2. Maximum working pressure 0.09, 3. First stage safety valve relief pressure 0.099, 4. Second stage safety valve release pressure 0.15, 5. Pressure gauge range 0-0.25				

Model	YDZ-150	YDZ-200 YDZ-200K	YDZ-240K	YDZ-300 YDZ-300K	YDZ-500 YDZ-500K
<b>Performance</b>					
LN <sub>2</sub> Capacity (L)	150	200	240	300	500
Static Evaporation (L/Day)	1.95	2.4	2.9	3.3	5.5
LN <sub>2</sub> Output (L/Min)	6	8	8	8	10
<b>Dimensions</b>					
Height (mm)	1188	1265	1350	1459	1576
Outside Diameter (mm)	706	758	758	857	1008
Empty Weight (kg)	102	130	148	202	255
Full Weight (kg)	225	296	350	448	665
Shipping Weight (kg)	132	164	177	232	324
Pressure Parameters (MPa)	1. Standard working pressure 0.05, 2. Maximum working pressure 0.09, 3. First stage safety valve relief pressure 0.099, 4. Second stage safety valve release pressure 0.15, 5. Pressure gauge range 0-0.25, 6. Rupture disc burst pressure 0.47				

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

## Product List

Model	Product	Model	Description and Accessories
YDZ	Self-pressurized Filling Tank	YDZ-5	Includes transfer hoses (ZG-DN10/1.5)
	Self-pressurized Filling Tank	YDZ-15	
	Self-pressurized Filling Tank	YDZ-30	Includes transfer hoses (ZG-DN10/1.5)
	Self-pressurized Filling Tank	YDZ-50	
	Self-pressurized Filling Tank	YDZ-100	Includes transfer hoses (ZG-DN10/1.5) and float-type liquidometer
	Self-pressurized Filling Tank	YDZ-150	
	Self-pressurized Filling Tank	YDZ-200	
	Self-pressurized Filling Tank	YDZ-300	
	Self-pressurized Filling Tank	YDZ-500	
	Self-pressurized Filling Tank	YDZ-100K	
	Self-pressurized Filling Tank	YDZ-200K	Includes transfer hoses (ZG-DN10/1.5), Digital display level gauge (DLZ-300) and pressure stabilizer. Having the function of remote transmission of liquid level data, can be used for automatic filling
	Self-pressurized Filling Tank	YDZ-240K	
	Self-pressurized Filling Tank	YDZ-300K	
Self-pressurized Filling Tank	YDZ-320K		
Self-pressurized Filling Tank	YDZ-500K		
Accessories	Digital Display Level Gauge	DLZ-300 (YDZ-100K)	Digital display real time liquid nitrogen percentage of self pressurized tank, low power consumption, wireless transmission; (YDZ-100K)
	Digital Display Level Gauge	DLZ-300 (YDZ-200K)	Digital display real time liquid nitrogen percentage of self pressurized tank, low power consumption, wireless transmission; (YDZ-200K)
	Digital Display Level Gauge	DLZ-300 (YDZ-240K)	Digital display real time liquid nitrogen percentage of self pressurized tank, low power consumption, wireless transmission; (YDZ-240K)
	Digital Display Level Gauge	DLZ-300 (YDZ-300K)	Digital display real time liquid nitrogen percentage of self pressurized tank, low power consumption, wireless transmission; (YDZ-300K)
	Digital Display Level Gauge	DLZ-300 (YDZ-320K)	Digital display real time liquid nitrogen percentage of self pressurized tank, low power consumption, wireless transmission; (YDZ-320K)
	Digital Display Level Gauge	DLZ-300 (YDZ-500K)	Digital display real time liquid nitrogen percentage of self pressurized tank, low power consumption, wireless transmission; (YDZ-500K)
	Float-type Liquidometer	FZ-100	Suitable for YDZ-100
	Float-type Liquidometer	FZ-150	Suitable for YDZ-150
	Float-type Liquidometer	FZ-200	Suitable for YDZ-200
	Float-type Liquidometer	FZ-300	Suitable for YDZ-300
	Float-type Liquidometer	FZ-500	Suitable for YDZ-500
	Single-layer Transfusion Hose	ZG-DN10/1.5	Diameter 10mm, length 1.5m, suitable for YDZ series

## Self-pressurized Series for LN<sub>2</sub> Storage and Supply

## Installed End User Examples

Model	Product	Model	Description and Accessories
Cryobox	Vial Cane	(3-type)	Used to hold 3 vials (2ml)
	Vial Cane	(6-type)	Used to hold 6 vials (2ml)
	Plastic Cryo Box	5×5(2.0)	Used to store 1.8ml / 2ml vial (25 holes)
	Plastic Cryo Box	9×9(2.0)	Used to store 1.8ml / 2ml vial (81 holes)
	Plastic Cryo Box	9×9 (5.0)	Used to store 4.5 / 4.7/5ml vial (81 holes)
	Plastic Cryo Box	10×10 (2.0)	Used to store 1.8ml/2ml vial (interally threaded,100 holes)
	Plastic Cryo Box	Y-37	Suitable for round rack to store 1.8ml/2ml vial (37 holes)
	Plastic Goblets	SNT-97	Suitable for diameter 97mm canisters
	Blood Bag Cryo Box	25ml (791 OS/U)	One bag per box,rocker arm type
	Blood Bag Cryo Box	50ml (4R9951)	One bag per box,drawer type
	Blood Bag Cryo Box	250ml (4R9953)	One bag per box, rocker arm type
	Plastic Sleeve for Vial Cane	5016-0002 (6-type)	Suitable for vial cane that can hold 6 vials
	Aluminium Cryobox	8×1 (2.0)	Used to store 1.8ml/2ml vials (8 holes)
	Stainless Steel Cryo Box	5×5 (5.0)	Used to store 4.5ml/4.7ml/5ml vials (25 holes)
Other Accessories	Valve Adaptor	CGA295	Used to connect the valve of YDZ self-pressurized tank with transfer hose
	Cryogenic Solenoid Valve	DN7.0 (ASCO 24V)	Suitable for piping pressure≤0.5MPa
	Cryogenic Solenoid Valve	DN7.0 (JASA 24V)	Suitable for piping pressure≤0.5MPa
	Vacuum Insulated Hose	GRG-DN10/1.0	Diameter10mm, length 1m, special use for liquid nitrogen transferring, connection type for both side and length can be customized, charged by meter
	Vacuum Insulated Hose	GRG-DN10/2.0	Diameter10mm, length 2m, special use for liquid nitrogen transferring, connection type for both side and length can be customized, charged by meter
	Transfer Hose	ZG-DN10/1.5	Diameter10mm, length 1.5m, suitable for YDZ series
	Transfer Hose	BG-DN10/1.0	Diameter 10mm, length 1.0m, suitable for liquid nitrogen pump YDB series
	Transfer Hose	RG-DN10	Diameter 10mm, used for liquid nitrogen transferring, fitting and length can be customized, charged in meters.
	Transfer Hose	RG-DN6	Diameter 6mm, used for liquid nitrogen transferring, fitting and length can be customized, charged in meters.
	Hose Heat Insulation Cotton	BMT-DN10	Suitable for DN10 single layer metal hose, 1 meter
	Cryogenic Gloves	ST-32	Overall length 320mm
	Cryogenic Gloves	ST-45	Overall length 450mm
	Cryogenic Gloves	ST-72	Overall length 720mm
	Level Measuring Scale	YWC-100	Measuring length1000mm



Biological Technology Co., Ltd



Stem Cell Bank



Biopharmaceuticals



Animal Health Company



A Hospital in Shanghai



A Hospital in Shenzhen



Biotechnology Co., Ltd

# Haier Biomedical Product Portfolio

## Cryo Freezer -86°C ULT Freezer



## Mini ULT Freezer -60°C Freezer -40°C Biomedical Freezer



## -30°C Biomedical Freezer -25°C Biomedical Freezer Combined Refrigerator and Freezer



## Pharmacy Refrigerator



## Pharmacy Refrigerator Fluid Warming Cabinet



## Laboratory Refrigerator Spark Free Freezer/Refrigerator Smart Vaccine Refrigerator Vaccine & Icepack Freezer Solar Direct Drive Combined Refrigerator/Freezer



# Haier Biomedical Product Portfolio

## Solar Direct Drive Vaccine Refrigerator Blood Refrigerator Solar Direct Drive Freezer Ice-lined Refrigerator RTMD



## Blood Bank Refrigerator



## Plasma Freezer Plasma Apheresis System Plasma Blast Freezer Platelet Incubator with Agitator Transport Cooler



## Transport Cooler Laminar Flow Cabinet



## Biological Safety Cabinet



## Liquid Nitrogen Container CO2 Incubator Standard Incubator Drying Oven Centrifuge



## Vertical Autoclave Climate Chamber Consumables Walk-in Cold Room

