



Established in 1984, Haier Group is a world-leading home appliance provider of better life solutions. Taking its lead from Mr Zhang Ruimin, one of the world's global top 50 thinkers, CEO and chairman of board of directors, Haier upholds the principle of prioritizing people's value in its process of innovation and entrepreneurship.

Focusing on user experience and keeping abreast of the times, Haier group has grown into an ecosystem that leads the IoT era and the only IoT ecosystem brand among the BrandZ Top 100 Most Valuable Global Brands. To date, Haier has successfully listed four companies, two unicorn companies and 12 quasi-unicorn and gazelle companies. Moreover, Haier has established ten major R&D centers, 25 industrial parks and 122 manufacturing centers globally. It owns a number of smart-appliance brands, including Haier, Casarte, Leader, GE Appliances from the U.S., Fisher & Paykel from New Zealand, AQUA from Japan and Candy from Italy, service brands such as RRS, Yingkang Life and COSMOPlat, and cultural and creative brand such as Haier Brothers.











# **Haier** Group Profile

Haier has topped Euromonitor's World Home Appliance Brands for 11 consecutive years. Its subsidiary Haier Smart Home Co., Ltd. is among the Global Fortune 500 Companies, while Haier COSMOPlat tops the industrial-Internet platforms of the Ministry of Industry and Information Technology and is recognised by ISO, IEEE and IEC, organisations that lead the drafting of international standards for large-scale customization models. In the IoT era, Haier's ecosystem brand and Rendanheyi Model are leading the world.

In the future, Haier Group will continue to work with its world-class ecosystem partners to build IoT ecosystems in clothing, food, accommodation, travel, health, elderly care, biomedicine and education, tailoring personalized smart life for users from around the globe.



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# **Company Profile**

Haier Biomedical was founded to focus on the design, manufacturing, marketing and sales of low temperature storage equipment for biomedical samples. In 2019, it 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 loT-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 187 patents including 32 invention patents. It is the world's only biomedical cryogenic cold chain manufacturer covering the full temperature range of -196°C to +8°C.

Its aerospace medical cold storage refrigerators have been carried on the Shenzhou spacecraft into space for four times, and ULT freezers have been carried on the research vessel, Xuelong, supporting the Antarctic scientific research programme. Haier Biomedical 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, 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 realise the traceability of blood information from "blood

donor" to "blood user". Upgrading 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.

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.

# **Haier** Biomedical

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 African countries, which lack electricity. As the first company to be selected into the



World Health Organization PQS procurement catalogue, Haier Biomedical has been cooperating with WHO organization to safeguard the health of 200 million children worldwide.

IoT-enabled ultra-low temperature refrigerators are used with the U-Biobank setting 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 socially responsible 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 into 160 countries. In 2020, it was awarded with the UL Energy Star Witness Laboratory for Laboratory Refrigerators.

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.





Through independent innovation, achieving -196°C to +8°C full temperature range and complete scenario product solutions coverage



Being No.1 in market share in China, products sold in more than 100 countries and regions across six continents & the establishment of branches in the UK and India



The industry's first innovation in the integration of cryogenic storage technology and IoT technology to promote the safety of vaccination and the intelligent solutions for blood, reagent, biobank and laboratory management

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# CONTENT

#### **Vaccine Storage Solution Preservation Cryo Freezer Smart Vaccine Refrigerator** -86°C ULT Freezer **Solar Direct Drive Series** TwinCool ULT Freezer Solar Direct Drive Combined Refrigerator/Freezer Frequency Conversion ULT Freezer Solar Direct Drive Vaccine Refrigerator Water-Cooled ULT Freezer Standard Low Energy ULT Freezer with LCD Touchscreen Solar Direct Drive Vaccine Freezer Standard Low Energy ULT Freezer with LED Display Solar Direct Drive Blood Refrigerator Under Counter ULT freezer **Ice-Lined Refrigerator** Backup System Consumables for ULT Freezer Vaccine & Icepack Freezer **Biomedical Freezer** Walk-in Cold/Freezer Room -60°C Biomedical Freezer -40°C Biomedical Freezer -30°C Biomedical Freezer 30-Day Electronic Temperature Logger -25°C Biomedical Freezer **Vaccine Safety Solutions** Spark Free Refrigerator/Freezer Spark Free Refrigerator **Laboratory Equipment** Spark Free Freezer **Laboratory Refrigerator Biological Safety Cabinet and Clean Bench Blood/Fluid Warming Cabinet** CO₂ Incubator **Pharmacy Refrigerator Liquid Nitrogen Storage Solutions** Combined Refrigerator and Freezer **RFID** Refrigerator Vertical Automatic High-pressure Steam Sterilizer Pharmacy Refrigerator with TEC Advanced Pharmacy Refrigerator with LCD Touchscreen Advanced Pharmacy Refrigerator with LED Display **Constant Climate Chamber** Standard Pharmacy Refrigerator Under-counter Pharmacy Refrigerator **Health Care Products Blood Bank Refrigerator** Air Purification Sterilizer Automated Blood Management Refrigerator Unattended Self-Service Blood Distribution Refrigerator Advanced Blood Bank Refrigerator with LCD Touchscreen **Medical Infrared Thermometer** Advanced Blood Bank Refrigerator with LED Display Standard Blood Bank Refrigerator Infrared Thermometer Plasma Freezer **Blood Pressure Monitor Transport Cooler** Portable Oxygen Concentrator **Transport Cooler for Biological Products** 149 **Transport Cooler for Infectious Materials Product Portfolio**

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**Transport Cooler for Logistics** 



Cryo Freezer & ULT Freezei



-150°C Cryo freezer, developed by Haier Biomedical, provides a safe, convenient and economical alternative long term storage method for customers. By providing a storage environment about 20°C colder than the water recrystallization temperature, the freezer is suitable for storage of a varieties of biological samples such as viruses, erythrocytes, leukocytes, cutis, skeleton, sperms, oceanic products, special test materials and even electronic products for testing. It can be installed in institutions including blood banks, hospitals, epidemic prevention services, research institutes, and research laboratories.

#### **Temperature Control**

 Microprocessor control: Large LED display features a clear cabinet temperature display at an easy viewing angle and allows an adjustable range of -126°C to-150°C

# **Refrigeration System**

- Optimized single stage refrigeration system
- Hermetically sealed system
- Environmentally safe refrigerants
- Permanently lubricated fan systems

#### **Other Features**

- Large LED display for easy viewing
- Ambient range of 10 °C to 30°C
- LN<sub>2</sub> back up system compatible
- Remote monitoring
- Smart condenser fans for energy saving

#### **Safety Control System**

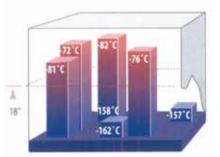
- Alarm system: User programmable high and low temperature alarm set points, power failure, sensor error, extreme voltage, hot condenser, and extremely high ambient
- Alarm types: audible buzzer and visible flashing
- Protection functions: Settable pass codes for control panel, start-up delay, voltage compensation system
- Properly grounded

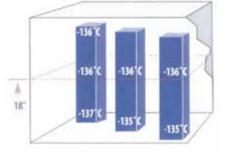


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# **Liquid Nitrogen Preservation System in Cryo Freezer**





**Specifications** 

LN<sub>2</sub> Freezer System(-196 °C)

Cryo Freezer(-140°C)

| Specifications | LN <sub>2</sub> Freezer Syst  | tem(-196 °C) | Cryo Freezer(-140°C) |
|----------------|-------------------------------|--------------|----------------------|
|                | Model                         |              | DW-150W200           |
|                | Cabinet Type                  |              | Chest                |
|                | Climate Class                 |              | N                    |
| Technical      | Cooling Type                  |              | Direct Cooling       |
| Data           | Defrost Mode                  |              | Manual               |
|                | Refrigerant                   |              | HFC                  |
|                | Sound Level (dB(A))           |              | 67                   |
| D. C           | Cooling Performance (°C)      |              | -150                 |
| Performance    | Temperature Range (°C)        |              | -126~-150            |
| Control        | Controller                    |              | Microprocessor       |
| Control        | Display                       |              | LED                  |
| Electrical     | Power Supply (V/HZ)           |              | 380/50               |
| Data           | Electrical Current (A)        |              | 11                   |
|                | Capacity (L/Cu.Ft)            |              | 200/7.1              |
|                | Ni-t/Caran Mai 11/            | kg           | 315/385              |
|                | Net/Gross Weight (approx)     | lbs          | 694.4/848.8          |
|                |                               | mm           | 667*462*650          |
|                | Interior Dimension (W*D*H)    | in           | 26.3*18.2*25.6       |
| Dimensions     | 61                            | mm           | 1670*850*1060        |
|                | Exterior Dimension (W*D*H)    | in           | 65.7*33.5*41.7       |
|                |                               | mm           | 1810*940*1240        |
|                | Packing Dimension (W*D*H)     | in           | 71.3*37.0*48.8       |
|                | Container load (20'/40'/40'H) |              | 6/13/13              |
|                | High/Low Temperature          |              | Υ                    |
|                | Hot Condenser                 |              | Y                    |
|                | Power Failure                 |              | Υ                    |
| Alarms         | High/Low Voltage              |              | Y                    |
| AldIIIS        | Sensor Error                  |              | Υ                    |
|                | Low Battery                   |              | Υ                    |
|                | High Ambient Temperature      |              | Y                    |
|                | Door Ajar                     |              | N/A                  |
|                | Caster                        |              | Y                    |
|                | Foot                          |              | Υ                    |
|                | Porthole                      |              | Y/1                  |
|                | Shelves/Inner doors           |              | -/2                  |
|                | USB Interface                 |              | Optional             |
| Accessories    | Remote Alarm (Dry contacts)   |              | Y                    |
|                | 5V Power Supply Port          |              | N/A                  |
|                | Temperature Recorder          |              | Optional             |
|                | RS485 Port                    |              | Y                    |
|                | CO <sub>2</sub> Backup System |              | N/A                  |
|                | LN <sub>2</sub> Backup System |              | Optional             |
| Others         | Certification                 |              | - pressed            |

Product appearance and specifications are subject to change without notice



#### **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

#### IoT Software System (Optional)



#### **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

# 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.

# 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

#### **Friendly Design**



#### Safe and secure

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



#### Cloud data storage available

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



#### 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



#### 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

#### **Specifications**

|  | Model                         |   | DW-86L578ST   | DW-86L578SAT     | DW-86L728ST                                | DW-86L728SAT                          |
|--|-------------------------------|---|---|------------------|--|---------------------------------------|
|  | Cabinet Type                  |   | Upright   | Upright          | Upright                                    | Upright                               |
| Performance Control Electrical Data Dimensions                       | Climate Class                 |   | N   | N                | N  | N                                     |
| Technical  | Cooling Type                  | Upright   Upright   Upright   N   N   N   N   N   N   N   N   N | Direct cooling  |                  |  |                                       |
| Performance Control Electrical Data Dimensions Alarms                | Defrost Mode                  |   | Manual  | Manual           | Manual                                     | Manual                                |
|  | Refrigerant                   |   | Upright         Upright         Upright         Upright           N         N         N           Direct cooling         Direct cooling         Direct cooling           Manual         Manual         Manual           HC         HC         HC           53         52         53         50         53           -86         -86         -86         -40~-86         -40~-86         -40~-86         -40~-86           Microprocessor         Microprocessor         Microprocessor         Microprocessor         Touch Screen LCD         Touch Screen LCD           208~230/60         120/60         208~230/60         208~230/50         120/60           14∪0         1800         14∪0         10         14           578/20.4         758/20.4         728/25.7         325/355         350/385           716.5/782.6         716.5/782.6         771.6/848.8         620*716*1310         766*716*1310         766*716*1310         766*716*1310         766*716*1310         24.4*28.2*51.6         30.2*28.2*51.6         895*998*1980         1046*998*1980         35.4*39.3*78.0         41.2*39.3*78.0         950*1055*2150         950*1055*2150         1100*1105*2150           37.4*41.5*84.6         37.4*41.5*84.6 | HC               |  |                                       |
|  | Sound Level (dB(A))           |   | 53 52   | 53               | 50 53                                      | 53                                    |
|  | Cooling Performance (°C)      |   | -86   | -86              | -86  | -86                                   |
| Performance  | Temperature Range (°C)        |   | -40~-86   | -40~-86          | -40~-86                                    | -40~-86                               |
| Caratrial  | Controller                    |   | Microprocessor  | Microprocessor   | Microprocessor                             | Microprocessor                        |
| Control  | Display                       |   | Touch Screen LCD  | Touch Screen LCD | Touch Screen LCD                           | Touch Screen LCD                      |
| =1   | Power Supply (V/Hz)           |   | 208~230/60 120/60   | 208~230/60       | 208~230/50 120/60                          | 208~230/60                            |
|  | Power (W)                     |   | 1400  | 1800             | 1400                                       | 1800                                  |
| Data   | Electrical Current (A)        |   | 10 14   | 10               | Upright  N  Direct cooling  Manual  HC  50 | 10                                    |
|  | Capacity (L/Cu.Ft)            |   | 578/20.4  | 578/20.4         | 728/25.7                                   | 728/25.7                              |
|  |                               | kg  | 325/355   | 325/355          | 350/385                                    | 350/385                               |
|  | Net/Gross Weight (approx)     | lbs   | 716.5/782.6   | 716.5/782.6      | 771.6/848.8                                | 771.6/848.8                           |
|  |                               | mm  | 620*716*1310  | 620*716*1310     | 766*716*1310                               | 766*716*1310                          |
| Dimonsions   | Interior Dimension (W*D*H)    | 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                        |
| Performance Control Electrical Data  Dimensions  Alarms  Accessories |                               | mm  | 895*998*1980  | 895*998*1980     | 1046*998*1980                              | 1046*998*1980                         |
|  | Exterior Dimension (W*D*H)    | 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)     |   | 950*1055*2150   | 950*1055*2150    | 1100*1105*2150                             | 1100*1105*2150                        |
|  |                               |   | 37.4*41.5*84.6  | 37.4*41.5*84.6   | 43.3*43.5*84.6                             | 43.3*43.5*84.6                        |
|  | Container Load (20'/40'/40'l  | H)  | 12/24/24  | 12/24/24         | 10/20/20                                   | 10/20/20                              |
| Performance Control Electrical Data Dimensions Alarms                | High/Low Temperature          |   | Y   | Y                | Υ  | Y                                     |
|  | Hot Condenser                 |   | Υ   | Y                | Υ  | Y                                     |
|  | Power Failure                 |   | Y   | Y                | Υ  | Y                                     |
|  | High/Low Voltage              |   | Y   | Y                | Υ  | Y                                     |
| Alarms   | Sensor Error                  |   | Y   | Y                | Υ  | Y                                     |
|  | Low Battery                   |   | Y   | Y                | Υ  | Y                                     |
|  | High Ambient Temperature      |   | Y   | Y                | Υ  | Y                                     |
|  | Door Ajar                     |   | Y   | Y                | Υ  | Y                                     |
|  | Caster                        |   | Υ   | Y                | Υ  | Y                                     |
| control electrical pata  | Foot                          |   | Υ   | Y                | Υ  | Y                                     |
|  | Porthole                      |   | Y/2   | Y/2              | Y/2  | Y/2                                   |
|  | Shelves/Inner Doors           |   | 3/4   | 3/4              | 3/4  | 3/4                                   |
|  | USB Interface                 |   | Υ   | Y                | Υ  | Y                                     |
| erformance Control lectrical Data                                    | Remote Alarm (Dry contacts    | Remote Alarm (Dry contacts)                                     |   | Y                | Υ  | Y                                     |
|  | 5V Power Supply Port          |   | Υ   | Y                | Υ  | Y                                     |
|  | Temperature Recorder          |   | Optional  | Optional         | Optional                                   | Optional                              |
| Performance Control Electrical Data Dimensions Accessories           | RS485 Port                    |   |   |                  |  | Y                                     |
|  | CO₂ Backup System             |   | Optional  | Optional         | Optional                                   | Optional                              |
|  | LN <sub>2</sub> Backup System |   |   | ·                |  | Optional                              |
|  | Certification                 |   |   | · ·              | · · · · · · · · · · · · · · · · · · ·      | · · · · · · · · · · · · · · · · · · · |





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.

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#### Energy Saving Refrigeration

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



#### Pressure Equalisation Port

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



DW-86L578S



#### USB Interface

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



#### Multi-layer Sealing Structure

Triple gaskets provide a tight seal between the inner doors and outer door, reducing heat gain and retaining the temperature better in the event of a power failure



#### Improved Handle Design

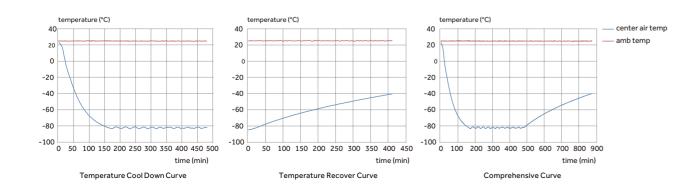
Lockable handle safeguards your precious samples. A padlock can also be added for extra sample safety



#### Multi-level Alarms

Alarm functions include high, low temperature, sensor error, power failure, high ambient, clean filter and door ajar

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



# **Specifications**

|             | Model                         |     | DW-86L578S     | DW-86L728S     |
|-------------|-------------------------------|-----|----------------|----------------|
|             | Cabinet Type                  |     | Upright        | Upright        |
|             | Climate Class                 |     | N              | N              |
| Technical   | Cooling Type                  |     | Direct Cooling | Direct Cooling |
| Data        | Defrost Mode                  |     | Manual         | Manual         |
|             | Refrigerant                   |     | HC             | HC             |
|             | Sound Level (dB(A))           |     | 53             | 50             |
| D f         | Cooling Performance (°C)      |     | -86            | -86            |
| Performance | Temperature Range (°C)        |     | -40~-86        | -40~-86        |
| Control     | Controller                    |     | Microprocessor | Microprocessor |
| Control     | Display                       |     | LED            | LED            |
|             | Power Supply (V/Hz)           |     | 208~230/50     | 208~230/50     |
| Electrical  | Power (W)                     |     | 1400           | 1400           |
| Data        | Electrical Current (A)        |     | 10             | 10             |
|             | Capacity (L/Cu.Ft)            |     | 578/20.4       | 728/25.7       |
|             | NI=+/C= - Alice Let           | kg  | 325/355        | 350/385        |
|             | Net/Gross Weight (approx)     | lbs | 716.5/782.6    | 771.6/848.8    |
|             |                               | mm  | 620*716*1310   | 766*716*1310   |
|             | Interior Dimension (W*D*H)    | in  | 24.4*28.2*51.6 | 30.2*28.2*51.6 |
| Dimensions  | 5                             | mm  | 895*998*1980   | 1046*998*1980  |
|             | Exterior Dimension (W*D*H)    | in  | 35.2*39.3*78.0 | 41.2*39.3*78.0 |
|             |                               | mm  | 950*1055*2150  | 1100*1105*2150 |
|             | Packing Dimension (W*D*H)     | in  | 37.4*41.5*84.6 | 43.3*43.5*84.6 |
|             | Container load (20'/40'/40'H) |     | 12/24/24       | 10/20/20       |
|             | High/Low Temperature          |     | Υ              | Y              |
|             | Hot Condenser                 |     | Υ              | Y              |
|             | Power Failure                 |     | Υ              | Y              |
| A I =       | High/Low Voltage              |     | N/A            | N/A            |
| Alarms      | Sensor Error                  |     | Υ              | Y              |
|             | Low Battery                   |     | Υ              | Y              |
|             | High Ambient Temperature      |     | Υ              | Y              |
|             | Door Ajar                     |     | Υ              | Y              |
|             | Caster                        |     | Υ              | Y              |
|             | Foot                          |     | Υ              | Y              |
|             | Porthole                      |     | Y/2            | Y/2            |
|             | Shelves/Inner doors           |     | 3/4            | 3/4            |
|             | USB Interface                 |     | Υ              | Y              |
| Accessories | Remote Alarm ( Dry contacts)  |     | Υ              | Y              |
|             | 5V Power Supply Port          |     | Υ              | Y              |
|             | Temperature Recorder          |     | Optional       | Optional       |
|             | RS485                         |     | Y              | Y              |
|             | CO₂ Backup System             |     | Optional       | Optional       |
|             | LN <sub>2</sub> Backup System |     | Optional       | Optional       |
| Others      | Certification                 |     | CE/ENERGY STAR | CE/ENERGY STAR |

S suffix - Dual independent refrigeration systems

Product appearance and specifications are subject to change without notice

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# Salvum Smart 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 centres, 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



#### 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%

# Salvum Smart Frequency Conversion ULT Freezer

#### **Specifications**

|                                     | Model                         |     | DW-86L579BPT     | DW-86L729BPT     | DW-86L829BPT      | DW-86L959BPT     |
|-------------------------------------|-------------------------------|-----|------------------|------------------|-------------------|------------------|
|                                     | Cabinet Type                  |     | Upright          | Upright          | Upright           | Upright          |
|                                     | Climate Class                 |     | N                | N                | N                 | N                |
|                                     | Cooling Type                  |     | Direct Cooling   | Direct Cooling   | Direct Cooling    | Direct Cooling   |
| Data                                | Defrost Mode                  |     | Manual           | Manual           | Manual            | Manual           |
| Performance Control Electrical Data | Refrigerant                   |     | HC               | HC               | HC                | HC               |
|                                     | Sound Level (dB(A))           |     | 43.5             | 43.5             | 43.5              | 47               |
| 5 6                                 | Cooling Performance (°C)      |     | -86              | -86              | -86               | -86              |
| Performance                         | Temperature Range (°C)        |     | -40~-86          | -40~-86          | -40~-86           | -40~-86          |
| 0 1                                 | Controller                    |     | Microprocessor   | Microprocessor   | Microprocessor    | Microprocessor   |
| Control                             | Display                       |     | LCD Touch Screen | LCD Touch Screen | LCD Touch Screen  | LCD Touch Screen |
|                                     | Power Supply (V/Hz)           |     | 100~230/50/60    | 100~230/50/60    | 208~230/50/60     | 208~230/50/60    |
|                                     | Power (W)                     |     | 1100             | 1100             | 1100              | 1300             |
| Data                                | Electrical Current (A)        |     | 6                | 6                | 6                 | 7                |
|                                     | Capacity (L/Cu.Ft)            |     | 579/20.4         | 729/25.7         | 829/29.2          | 959/33.9         |
|                                     |                               | kg  | 325/355          | 350/385          | 380/415           | 450/485          |
|                                     | Net/Gross Weight (approx)     | lbs | 716.5/782.6      | 771.6/848.8      | 837.7/914.9       | 992.1/1069.2     |
|                                     |                               | mm  | 620*716*1310     | 766*716*1310     | 870*716*1310      | 1016*716*1310    |
| Dimonsions                          | Interior Dimension (W*D*H)    | 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   |
| Dimensions                          |                               | mm  | 895*998*1980     | 1046*998*1980    | 1145*998*1980     | 1296*998*1980    |
|                                     | Exterior Dimension (W*D*H)    | 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   |
|                                     |                               |     | 950*1055*2150    | 1100*1105*2150   | 1190*1045*2150    | 1365*1105*2150   |
|                                     | Packing Dimension (W*D*H)     | 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          |
|                                     | 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                |
| Alarms                              | Sensor Error                  |     | Y                | Y                | Y                 | Y                |
|                                     | Low Battery                   |     | Y                | Y                | Y                 | Y                |
|                                     | High Ambient Temperature      |     | Y                | Υ                | 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              |
|                                     | Shelves/Inner Doors           |     | 3/4              | 3/4              | 3/4               | 3/4              |
|                                     | USB Interface                 |     | Y                | Y                | Y                 | Y                |
| Accessories                         | 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                | ү                | Y                 | Y                |
|                                     | CO <sub>2</sub> Backup System |     | Optional         | Optional         | Optional          | Optional         |
|                                     | LN <sub>2</sub> Backup System |     | Optional         | Optional         | Optional          | Optional         |
| Others                              | Certification                 |     |                  | '                | CE,UL,ENERGY STAR | <u> </u>         |

BP suffix - Variable frequency invertor compressor

 $\ensuremath{\mathsf{T}}$  suffix - Advanced with touch screen

Product appearance and specifications are subject to change without notice

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#### 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  $\pm 3$  °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).





DW-86L829BP

Salvum

Salvum Smart Frequency Conversion ULT Freezer

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.

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#### Energy Saving Refrigeration

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



#### 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



DW-86L829BP



#### **USB** Interface

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



#### 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



#### Improved Handle Design

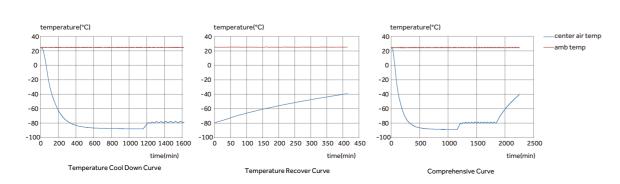
Lockable handle with unique key prevents other Haier freezer owner's access to your precious samples, also comes with space for a padlock for that extra security



#### Multilevel Alarms

Alarming functions that include high and low temperature, sensor error, power failure, highambient, clean filter and door ajar

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



# Salvum Smart Frequency Conversion ULT Freezer

#### **Specifications**

|   | Model                         |   | DW-86L579BP   | DW-86L729BP   | DW-86L829BP   | DW-86L959BP    |
|---|-------------------------------|---|---|---|---|----------------|
|   | Cabinet Type                  |   | Upright   | Upright   | Upright   | Upright        |
|   | Climate Class                 | Upright   Upright   N   N   N   N   N   N   N   N   N | N   |   |   |                |
| Technical   | Cooling Type                  |   | Upright         Upright         Upright           N         N         N           Direct Cooling         Direct Cooling         Direct Cooling           Manual         Manual         Manual           HC         HC         HC           43.5         43.5         43.5           -86         -86         -86           -40~-86         -40~-86         -40~-86           Microprocessor         Microprocessor         Microprocessor           LED         LED         LED           100~230/50/60         100~230/50/60         208~230/50/60           1100         1100         1100           6         6         6           579/20.4         729/25.7         829/29.2           325/355         350/385         380/415           716.5/782.6         771.6/848.8         837.7/914.9           620*716*1310         766*716*1310         870*716*1310           24.4*28.2*51.6         30.2*28.2*51.6         34.3*28.2*51.6           895*998*1980         1046*998*1980         1145*998*1980           35.2*39.3*78.0         41.2*39.3*78.0         45.1*39.3*78.0           950*1055*2150         1100*1105*2150         1190*1045*2150 </td <td>Direct Cooling</td> | Direct Cooling  |   |                |
| Data  | Defrost Mode                  |   | Manual  | Manual  | Manual  | Manual         |
|   | Refrigerant                   |   | HC  | light         Upright         Upright           N         N         N           Cooling         Direct Cooling         Direct Cooling           hual         Manual         Manual           C         HC         HC           43.5         43.5         43.5           36         -86         -86          86         -40~-86         -40~-86           occessor         Microprocessor         Microprocessor           ED         LED         LED           0/50/60         100~230/50/60         208~230/50/60           00         1100         1100           1100         1100         1100           35         6         6           620.4         729/25.7         829/29.2           3555         350/385         380/415           4782.6         771.6/848.8         837.7/914.9           6*1310         766*716*1310         870*716*1310           3.2*51.6         30.2*28.2*51.6         34.3*28.2*51.6           8*1980         1046*998*1980         1145*998*1980           3.3*78.0         41.2*39.3*78.0         45.1*39.3*78.0           45.*2*51.5         46.9*41.1*84.6 | HC  | HC             |
|   | Sound Level (dB(A))           |   | 43.5  | 43.5  | 43.5  | 47             |
| Porformanco   | Cooling Performance (°C)      |   | -86   | -86   | -86   | -86            |
| 1 enormance -   | Temp Range (°C)               |   | -40~-86   | -40~-86   | -40~-86   | -40~-86        |
| Cambual   | Controller                    |   | Microprocessor  | Microprocessor  | Microprocessor  | Microprocessor |
| Control   | Display                       |   | LED   | LED   | LED   | LED            |
|   | Power Supply (V/Hz)           |   | 100~230/50/60   | 100~230/50/60   | 208~230/50/60   | 208~230/50/60  |
|   | Power (W)                     |   | 1100  | 1100  | 1100  | 1300           |
| Dala  | Electrical Current (A)        |   | 6   | 6   | 6   | 7              |
|   | Capacity (L/Cu.Ft)            |   | 579/20.4  | 729/25.7  | 829/29.2  | 959/33.9       |
|   | N / 0 /                       | kg  | 325/355   | 350/385   | 380/415   | 450/485        |
|   | Net/Gross Weight (approx)     | lbs   | 716.5/782.6   | 771.6/848.8   | 837.7/914.9   | 992.1/1069.2   |
|   |                               | mm  | 620*716*1310  | 766*716*1310  | 870*716*1310  | 1016*716*1310  |
|   | Interior Dimensions (W*D*H)   | 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 |
| Dimensions-   |                               | mm  | 895*998*1980  | 1046*998*1980   | 1145*998*1980   | 1296*998*1980  |
|   | Exterior Dimensions (W*D*H)   | Direct Cooling   Manual   HC   43.5                   | 41.2*39.3*78.0  | 45.1*39.3*78.0  | 51.0*39.3*78.0  |                |
| Performance - Control - Electrical - Data -  Dimensions - |                               |   | 950*1055*2150   | 1100*1105*2150  | 1190*1045*2150  | 1365*1105*2150 |
|   | Packing Dimension (W*D*H)     | 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        |
|   | Remote Alarm (Dry contacts)   |   | Y   | Y   | Υ   | Y              |
|   | High/Low Temp                 |   | Y   | Y   | Υ   | Y              |
|   | Hot Condenser                 |   | Y   | Υ   | Υ   | Y              |
| Δlarms  | Power Failure                 |   | Υ   | Υ   | Υ   | Y              |
| Alaittis  | Sensor Error                  |   | Y   | Y   | Υ   | Y              |
|   | Low Battery                   |   | Υ   | Υ   | Υ   | Y              |
|   | High Ambient Temp             |   | Y   | Y   | Υ   | Y              |
|   | Door Ajar                     |   | Υ   | Y   | Y   | Y              |
|   | Caster                        |   | Y   | Υ   | ooling         Direct Cooling         Direct Cooling           Jual         Manual           HC         43.5           5         43.5           6         -86           -86         -40~-86           Cessor         Microprocessor           Microprocessor         Microprocessor           S48.8         837.7/914.9         9           *1310         870*716*1310         10           \$*2*51.6 | Y              |
| Control  Electrical Data  Dimensions  Alarms  Accessories | Foot                          |   |   |   |   | Y              |
|   | Porthole                      |   |   | Y/2   | Y/2   | Y/2            |
|   | Shelves/Inner Doors           |   | 3/4   | 3/4   | 3/4   | 3/4            |
| Accessories   | USB Interface                 |   | Y   | Υ   | Υ   | Y              |
| 710003301103  | 5V Power Supply Port          |   | Υ   | Y   | Y   | Y              |
|   | Temp Recorder                 |   | Optional  | Optional  | Optional  | Optional       |
|   | RS485 Port                    |   | -   | Y   | -   | Y              |
| Control Clectrical Data Dimensions Narms                  | CO <sub>2</sub> Backup System |   |   | Optional  | Optional  | Optional       |
|   | LN <sub>2</sub> Backup System |   | · ·   | ·   | •   | Optional       |
|   | Certification                 |   |   | ·   |   |                |

BP suffix - Variable frequency invertor compressor

Product appearance and specifications are subject to change without notice

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#### **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       |
|-------------|----------------------------------|-----|--|------------------|
|             | Cabinet Type                     |     | Upright  | Upright          |
|             | Climate Class                    |     | N  | N                |
| Technical   | Cooling Type                     |     | Direct cooling   | Direct cooling   |
| Data        | Defrost Mode                     |     | Manual   | Manual           |
|             | Refrigerant                      |     | HC   | HC               |
|             | Sound Level (dB(A))              |     | 43.5   | 47               |
| Dayfayaaaaa | Cooling Performance (°C)         |     | -86  | -86              |
| Performance | Temperature Range (°C)           |     | -40~-86  | -40~-86          |
| Control     | Controller                       |     | Microprocessor   | Microprocessor   |
| Control     | Display                          |     | LCD Touch Screen   | LCD Touch Screen |
| =1          | Power Supply (V/Hz)              |     | 208~230/50/60  | 208~230/50/60    |
| Electrical  | Power (W)                        |     | 1100   | 1300             |
| Data        | Electrical Current (A)           |     | 6  | 7                |
|             | Capacity (L/Cu.Ft)               |     | 828/29.2   | 959/33.9         |
|             | Niet/Conservation (conservation) | kg  | 380/415  | 450/485          |
|             | Net/Gross Weight (approx)        | lbs | 837.7/914.9  | 992.1/1069.2     |
|             |                                  | mm  | 870*716*1310   | 1016*716*1310    |
| Dianamaiama | Interior Dimension (W*D*H)       | in  | 34.3*28.2*51.6   | 40.0*28.2*51.6   |
| Dimensions  |                                  | mm  | 1145*998*1980  | 1296*998*1980    |
|             | Exterior Dimension(W*D*H)        | in  | 45.1*39.3*78.0   | 51.0*39.3*78.0   |
|             |                                  | mm  | 1190*1045*2150   | 1365*1105*2150   |
|             | Packing Dimension (W*D*H)        | 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          |
|             | High/Low Temperature             |     | Υ  | Υ                |
|             | Hot Condenser                    |     | Υ  | Υ                |
|             | Power Failure                    |     | Υ  | Υ                |
| Aleman      | High/Low Voltage                 |     | Υ  | Υ                |
| Alarms      | Sensor Error                     |     | Υ  | Υ                |
|             | Low Battery                      |     | Υ  | Υ                |
|             | High Ambient Temperature         |     | Υ  | Υ                |
|             | Door Ajar                        |     | Υ  | Υ                |
|             | Caster                           |     | Υ  | Υ                |
|             | Foot                             |     | Υ  | Υ                |
|             | Porthole                         |     | Y/2  | Y/2              |
|             | Shelves/Inner doors              |     | 3/4  | 3/4              |
|             | USB Interface                    |     | Υ  | Υ                |
| Accessories | Remote Alarm (Dry contacts)      |     | Υ  | Υ                |
|             | 5V Power Supply Port             |     | Y  | Y                |
|             | Temperature Recorder             |     | Optional   | Optional         |
|             | Rs485 Port                       |     | Υ  | Υ                |
|             | CO₂ Backup System                |     | Optional   | Optional         |
|             | LN₂ Backup System                |     | Upright N Direct cooling Manual HC 43.5 -86 -40~-86 Microprocessor LCD Touch Screen 208~230/50/60 1100 6 828/29.2 380/415 837.7/914.9 870*716*1310 34.3*28.2*51.6 1145*998*1980 45.1*39.3*78.0 1190*1045*2150 46.9*41.1*84.6 8/20/20 Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y | Optional         |
| Others      | Certification                    |     | CE   | CE               |

Product appearance and specifications are subject to change without notice

· 27 · · 28 · Haier Biomedical Salvum brand of ULT freezers has been designed to deliver energy savings and reduced

motors to maximize the cooling ability of the system and reduce energy consumption. While providing sample

carbon footprint. This range uses environmentally safe hydrocarbon refrigerants and high efficiency fan

safety, the freezer design makes energy savings possible for laboratories.

#### 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)

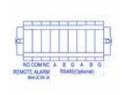
In instances where customers use racking systems, the optional professional version of the inventory management is available. Freezer racks, boxes, and vials can easily record item locations and entry and exit records, facilitate item inventory and statistics, realize multi-screen interaction and reduce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

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#### **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.



# 4 10 10 10 10 10 10 10 10

#### **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

# **Ergonomic Design**



#### Narrow Door Design

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



#### **Porthole**

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



#### **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



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-86L829 Upright Upright Upright Upright Cabinet Type Climate Class Ν Ν Ν Ν Technical Cooling Type Direct cooling Direct cooling Direct cooling Direct cooling Data Defrost Mode Manual Manual Manual Manual НС НС Refrigerant HC HC Sound Level (dB(A)) 47 47 52 52 Cooling Performance (°C) -86 -86 -86 -86 Performance Temp Range (°C) -40~-86 -40~-86 -40~-86 -40~-86 Controller Microprocessor Microprocessor Microprocessor Microprocessor Control Display LCD LCD LCD LCD 220~240/50 Power Supply (V/Hz) 220~240/50 220~240/50 220~240/50 Electrical Power (W) 800 1000 1700 1700 Data Electrical Current (A) 5.5 9 10 5 Capacity (L/Cu.Ft) 419/14.8 579/20.45 729/25.75 829/29..3 255/286 300/330 350/385 380/410 Net/Gross Weight (approx) lbs 562.2/630.5 661.4/727.5 771.6/848.8 837.7/903.9 465\*716\*1310 620\*716\*1310 766\*716\*1310 870\*716\*1310 Interior Dimensions (W\*D\*H) 18.3\*28.2\*51.6 24.4\*28.2\*51.6 30.2\*28.2\*51.6 34.3\*28.2\*51.6 **Dimensions** mm 830\*980\*1980 903\*980\*1960 1049\*980\*1980 1153\*980\*1980 Exterior Dimensions (W\*D\*H) 32.7\*38.6\*78.0 35.6\*38.6\*77.2 41.3\*38.6\*78.0 45.4\*38.6\*78.0 897\*1078\*2135 950\*1055\*2130 1100\*1105\*2150 1190\*1045\*2150 Packing Dimension (W\*D\*H) 35.3\*42.4\*84.1 37.4\*41.5\*83.9 43.3\*43.5\*84.6 46.9\*41.1\*84.6 Container Load (20'/40'/40'H) 12/26/26 12/24/24 10/20/20 10/20/20 High/Low Temp Hot Condenser Power Failure Υ Υ **Alarms** Sensor Error Low Battery Υ High Ambient Temp Υ Υ Υ Door Ajar Caster Υ Υ Foot Υ Υ Υ Υ Porthole Y/2 Y/2 Y/2 Y/2 Shelves/Inner Doors 3/2 3/4 3/4 3/4 USB Interface Accessories Υ Υ Υ Υ Remote Alarm (Dry contacts) 5V Power Supply Port V V Temp Recorder Optional Optional Optional Optional RS485 Port Standard Standard Standard Standard CO<sub>2</sub> Backup System Optional Optional Optional Optional LN<sub>2</sub> Backup System Optional Optional Optional Optional

CE

Product appearance and specifications are subject to change without notice

CE

CE

CE

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Certification

Other





#### **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

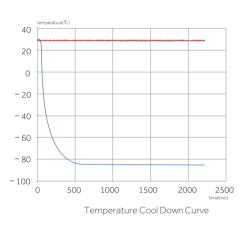
# Alarms (Visual and Audible)

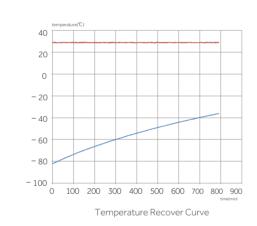
- Adjustable High/Low temperature alarm
- Sensor error
- Low battery
- Door ajar
- Power failure
- Hot condenser
- High ambient
- Remote alarm contact

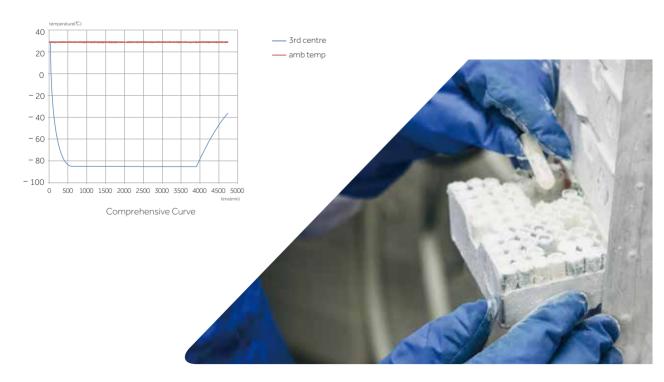
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- Warm up time measures the time taken for temperature to rise up (from -80°C to -50°C) at 25°C ambient when the power is interrupted.
- Haier has the longest warm up time when compared with other major brands in the market.

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







# Salvum Standard Low Energy ULT Freezer with LED Display

#### 4 Individual Removable Foam Inner Doors

- Unique door seal design for the minimum loss of cold temperature during a door
- Compatibility with existing racking system from competitors.
- Stainless steel handle to ensure proper strength for door latching.
- 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



#### 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

Front-mounted.

For independent

temperature monitoring.



Two port holes for ease of temperature monitoring

- 4 individual inner doors can be opened independently to minimize frost buildup inside the chamber

- Some interior door handles have been upgraded to stainless steel for more

Circular- chart Recorder (Optional) DW-86L728J

# **High Efficiency Refrigeration Components**

- $\bullet \ \text{Hermetically sealed industrial grade compressors for ultra-low refrigeration application}.$
- Low sound level.
- High efficient oil separator.
- Unique hydrocarbon refrigeration system to provide maximum efficiency in extreme conditions.

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Operating status display

Locked

Network

Regulator Backup System

Working

Eye-level controls for quick and easy programming and viewing

ULTRA LOW TEMPERATURE

**FREEZER** 

• 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



- clean -filter, and extremely high ambient • Capable of producing two types of alarm outputs: audible buzzer and visible
- 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

• Malfunction alarms including high and low temperature, power failure, sensor error,

- 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



- Unique door seal design for the minimum loss of cold temperature during a door
- 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

# **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 secedes 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            | Condensers filter element is clogged     Ambient temperature is too high  |
| High Ambient Temperature | Ambient temperature exceeds 32°C  |

Adjusting key

Selecting function

Voltage display

Salvum Standard Low Energy ULT Freezer with LED Display

Display for working

temperature, setting

temperature, high-alarming temperature, low-alarming

Audio/visual alarm

Silence

Low Battery

Silencing sound alarm

Malfunction

detection

Ambient tempera-

ture display

temperature, password

setting, and codes error

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|   | Filter dryer  • Filtration and drying device for water and debris   |
|---|---|
| _ | Capillary tube for high stage  • Expansion device for high stage liquid refrigerant   |
| _ | Capillary tube for low stage  • Expansion device for low stage refrigerant  |
|   | High stage condenser  • Extra-large air cooled condenser dissipates product heat content efficiently.   |
|   | Low stage evaporator  • Heat exchanger for expanded low stage refrigerant   |
|   | Ultra low noise compressor Compressor provides reliable performance with ultra low noise Specially designed low stage evaporator yields excellent temperature uniformity and recovery after loading and door opening. |

Oil Separator

• Both high and low stage compressors are industrial grade hermetically sealed compressor designed for low temperature application. Sound level is extremely low.

#### Cascade condense

• Heat exchanger between the high and low temperature stage in the system



#### Temprite oil separator

• Temprite oil separator can effectively separate oil and water so as 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 centres, 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  $5.5 \, \text{kW}/24 \, \text{hrs}$ .



#### 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.



#### ow noise

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

# Salvum Under Counter ULT freezer

# **Under Counter ULT freezer**

#### 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
- >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.



Haler

#### 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.



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.

# -86°C ULT Freezer













# **Specifications**

|             | Model                         |          | DW-86L338J DW-86L338JA       | DW-86L388J     | DW-86L486E     | DW-86L490J DW-86l | L490JA |                  | W-86L578J | DW-86L578JA  | DW-86L628E     |
|-------------|-------------------------------|----------|------------------------------|----------------|----------------|-------------------|--------|------------------|-----------|--------------|----------------|
|             | Cabinet Type                  |          | Upright                      | Upright        | Upright        | Upright           |        |                  | Upr       | ight         | Upright        |
|             | Climate Class N               |          | N                            | N              | N              |                   | N      |                  | N         |              |                |
| echnical    | Cooling Type                  |          | Direct cooling               | Direct cooling | Direct cooling | Direct cooling    |        |                  | Direct    | cooling      | Direct cooling |
| ata         | Defrost Mode Manual           |          | Manual                       | Manual         | Manual         |                   |        | Mar              | nual      | Manual       |                |
|             | Refrigerant                   |          | HC                           | HC             | HC             | HC                |        |                  | Н         | IC           | HC             |
|             | Sound level (dB(A))           |          | 50                           | 50             | 49             | 50                |        |                  | 5         | 50           | 49             |
|             | Cooling Performance           | e (°C)   | -86                          | -86            | -86            | -86               |        |                  | -8        | 36           | -86            |
| erformance  | Temperature Range             | e (°C)   | -40~-86                      | -40~-86        | -40~-86        | -40~-86           |        |                  | -40^      | ~-86         | -40~-86        |
|             | Controller                    |          | Microprocessor               | Microprocessor | Microprocessor | Microprocessor    |        |                  | Micropr   | ocessor      | Microprocessor |
| ontrol      | Display                       |          | LED                          | LED            | LED            | LED               |        |                  | LE        | ED           | LED            |
|             | Power Supply (V/Hz)           |          | 220~240/50 115/60 208~230/60 | 220~240/50     | 220~240/50     | 220~240/50 208~2  | 230/60 | 220~240/50       | 120/60    | 208~230/60   | 220~240/50     |
| ectrical    | Power (W)                     |          | 650 700 1000                 | 650            | 1000           | 900 100           | 00     | 750              | 1000      | 1000         | 1200           |
| ata         | Electrical Current (A)        |          | 7.5 12 7.5                   | 5              | 10             | 8 8               | 3      | 7.5              | 12        | 9            | 11             |
|             | 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 kg           |          | 238/278                      | 255/286        | 290/310        | 295/335           |        |                  | 300       | /330         | 301/323        |
|             | (approx)                      | lbs      | 524.7/612.9                  | 562.2/630.5    | 639.3/683.4    | 650.4/738.5       |        | 661.4/727.5      |           | 664.0/712.0  |                |
|             | Interior Dimension            | mm       | 465*630*1165                 | 465*716*1310   | 590*630*1310   | 590*630*1310      |        | 620*716*1310     |           | 760*630*1310 |                |
| mensions    | (W*D*H)                       | in       | 18.3*24.8*45.9               | 18.3*28.2*51.6 | 23.3*24.8*51.6 | 23.2*24.8*51.6    |        |                  | 24.4*28   | 3.2*51.6     | 29.9*24.8*51.6 |
| TIELISIOLIS | Exterior Dimension            | mm       | 830*893*1846                 | 812*980*1980   | 945*900*1980   | 860*900*1980      |        |                  | 903*98    | 30*1960      | 1035*900*1980  |
|             | (W*D*H)                       | in       | 32.7*35.2*72.7               | 31.2*38.6*78.0 | 37.2*35.4*78.0 | 33.9*35.4*78.0    |        |                  | 35.6*38   | 3.6*77.2     | 40.7*35.4*78.0 |
|             | Packing Dimension             | mm       | 875*970*2010                 | 893*1078*2135  | 995*995*2150   | 925*985*2150      |        |                  | 950*10    | 55*2125      | 1080*965*2150  |
|             | (W*D*H)                       | in       | 34.4*38.2*79.1               | 35.2*42.4*84.1 | 39.2*39.2*84.6 | 36.4*38.8*84.6    |        |                  | 37.4*41   | 1.5*83.7     | 42.5*38.0*84.6 |
|             | Container load (20'/4         | 0'/40'H) | 12/24/24                     | 12/24/24       | 12/24/24       | 12/24/24          |        |                  | 12/2      | 4/24         | 12/24/24       |
|             | High/Low Tempera              | ture     | Y                            | Y              | Y              | Υ                 |        |                  | ,         | Y            | Υ              |
|             | Hot Condenser                 |          | Y                            | Y              | Y              | Y                 |        |                  | ,         | Y            | Υ              |
|             | Power Failure                 |          | Y                            | Y              | Y              | Y                 |        |                  | ,         | Y            | Y              |
|             | High/Low Voltage              |          | N/A                          | N/A            | N/A            | N/A               |        |                  | N.        | /A           | N/A            |
| arms        | Sensor Error                  |          | Y                            | Y              | Y              | Y                 |        |                  | `         | Y            | Υ              |
|             | Low Battery                   |          | Y                            | Y              | Y              | Υ                 |        |                  | ,         | Y            | Υ              |
|             | High Ambient Temp             | erature  | Y                            | Y              | Y              | Y                 |        |                  | ,         | Y            | Υ              |
|             | Door Ajar                     |          | Y                            | Y              | Y              | Y                 |        |                  | ,         | Y            | Υ              |
|             | Caster                        |          | Y                            | Y              | Y              | Υ                 |        |                  | ,         | Y            | Υ              |
|             | Foot                          |          | Y                            | Y              | Y              | Υ                 |        |                  | ,         | Y            | Υ              |
|             | Porthole                      |          | Y/2                          | Y/2            | Y/2            | Y/2               |        |                  | Y         | /2           | Y/2            |
|             | Shelves/Inner doors           |          | 3/2                          | 3/2            | 3/4            | 3/4               |        |                  | 3,        | /4           | 3/4            |
|             | USB Interface                 |          | Y                            | Y              | Y              | Y                 |        |                  | ,         | Y            | Υ              |
|             | Remote Alarm (Dry c           | ontacts) | Y                            | Y              | Y              | Υ                 |        |                  | ,         | Y            | Υ              |
| cessories   | 5V Power Supply Por           |          | Y                            | Y              | Y              | Υ                 |        |                  | ,         | Y            | Υ              |
|             | Temperature Reco              |          | Optional                     | Optional       | Optional       | Optional          |        |                  | Opt       | ional        | Optional       |
|             | RS232/485 Port                |          | Optional                     | Optional       | Optional       | Optional          |        |                  | Opt       | ional        | Optional       |
|             | CO <sub>2</sub> Backup System |          | Optional                     | Optional       | Optional       | Optional          |        |                  | Opt       | ional        | Optional       |
|             | LN2 Backup System             |          | Optional                     | Optional       | Optional       | Optional          |        |                  | Opt       | ional        | Optional       |
|             | Certification                 |          | CE UL                        | CE             | CE             |                   | UL     | CE, ENERGYSTAR I |           |              | CE             |

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

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**Specifications** 

# -86°C ULT Freezer



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#### DW-86L728J DW-86L728JA DW-86L828J DW-86L828JA DW-86W100J DW-86W420J DW-86W420JA DW-86L100J Model Cabinet Type Upright Upright Upright Chest Chest Climate Class Ν Ν Ν Ν Direct cooling Direct cooling Direct cooling Direct cooling Direct cooling Technical Cooling Type Data Defrost Mode Manual Manual Manual Manual Manual HC Refrigerant HC HC HC HC Sound level (dB(A)) 50 50 51.5 46.8 49 50 -86 -86 -86 -86 Cooling Performance (°C) Performance Temperature Range (°C) -40~-86 -40~-86 -40~-86 Controller Microprocessor Microprocessor Microprocessor Microprocessor Microprocessor Control Display LED LED LED LED LED 208~230/60 220~240/50 Power Supply (V/Hz) 220~240/50 120/60 220~240/50 208~230/60 220~240/50 220~240/50 208~230/60 120/60 Electrical Power (W) 1000 1000 1000 1000 680 550 1000 1100 680 Data Electrical Current (A) 10 10 7.5 18 10 10 4 6.5 Capacity (L/Cu.Ft) 828/29.2 100/3.5 100/3.5 420/14.8 728/25.7 138/160 380/410 108/132 310/357 Net/Gross Weight 345/385 (approx) lbs 837.7/903.9 238/291 304.2/352.7 683.4/787.0 760.6/848.8 330\*481\*630 1367\*462\*652 870\*716\*1310 470\*450\*480 766\*716\*1310 Interior Dimension (W\*D\*H) 34.3\*28.2\*51.6 13\*19\*25 18.5\*17.7\*18.9 53.8\*18.2\*25.7 30.2\*28.2\*51.6 Dimensions 2130\*870\*1020 1145\*980\*1980 770\*660\*810 769\*825\*1120 1049\*980\*1980 Exterior Dimension (W\*D\*H) 45.1\*38.6\*78.0 30\*26\*32 30.3\*32.5\*44.1 83.9\*34.3\*40.2 41.3\*38.6\*78.0 2195\*895\*1130 1190\*1045\*2150 830\*710\*970 845\*855\*1250 1090\*1050\*2150 Packing Dimension (W\*D\*H) 42.9\*41.3\*84.6 46.9\*41.1\*84.6 32\*28\*38.5 33.3\*33.7\*49.2 90.6\*38.2\*45.8 8/20/20 6/12/24 Container load (20'/40'/40'H) 12/20/20 44/88/88 12/24/48 High/Low Temperature Hot Condenser Υ Υ Υ Power Failure Υ N/A Υ N/A N/A High/Low Voltage N/A Sensor Error Low Battery High Ambient Temperature Υ Υ Door Ajar Υ Caster Foot Y/2 Y/1 Porthole Y/2 Y/1 Y/1 3/4 3/4 -/3 Shelves/Inner doors 1/2 -/1 USB Interface Remote Alarm Accessories 5V Power Supply Port N/A Υ N/A Temperature Recorder Optional Optional Optional Optional Rs232/485 Interface Optional Optional Optional -/Y Optional CO<sub>2</sub> Backup System Optional Optional Optional Optional Optional LN<sub>2</sub> Backup System Optional Optional Optional Optional Others Certification CE,ENERGY STAR CE,ENERGY STAR CE UL UL CE CE

Product appearance and specifications are subject to change without notice

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- $\bullet \ {\sf User} \ {\sf adjustable} \ {\sf temperature} \ {\sf setting}$
- Simple to program and operate
- Flexible Can be installed on any ULT freezer, which has a port hole
- The CO2 injection pipe is designed in combination of filter, to prevent the blockage of CO2 back-up system



#### Safety

- Liquid CO<sub>2</sub> test button to ensure the backup system is working
- Low CO2 alarm system alerts the user when liquid CO2 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

# **Specifications**

|                  | Model                                     | HBX-IC          |
|------------------|---|-----------------|
|                  | Cabinet Type                              | Horizontal      |
| Technical Data   | Climate Class                             | N               |
| r ecrimical Data | Cooling Type                              | Direct cooling  |
|                  | Refrigerant                               | CO <sub>2</sub> |
| Performance      | Cooling Performance (°C)                  | -70             |
| renormance       | Temperature Range (°C)                    | -40~-70         |
| Caratural        | Controller                                | Thermostat      |
| Control          | Display                                   | LED             |
|                  |   | 220-240/50      |
| Flectrical Data  | Power Supply (V/Hz)                       | 208-230/60      |
| Electrical Data  |   | 115/60          |
|                  | Power (W)                                 | 20              |
|                  | Electrical Current (A)                    | 0.25            |
|                  | Not (Consol Mainlet (consol)              | 11.2/14         |
|                  | Net/Gross Weight (approx)                 | 24.7/30.86      |
| Dimensions       | F D: (M/*D*II)                            | 200*400*160     |
| DIFFICISIONS     | Exterior Dimensions (W*D*H)               | 7.8*15.7*6.3    |
|                  | 0.140410                                  | 370*530*330     |
|                  | Packing Dimensions (W*D*H)                | 14.6*20.9*13    |
|                  | CO <sub>2</sub> Margin Insufficient Alarm | Υ               |
|                  | Low Battery Alarm                         | Y               |
| Alarms           | Sensor Error Alarm                        | Y               |
| Alarms           | Main Power Off Alarm                      | Y               |
|                  | Charge Indicator                          | Y               |
|                  | CO <sub>2</sub> Injection Test Button     | Y               |
| Accessories      | Foot                                      | 4               |
| Others           | Certification                             | CE/UL           |

Product appearance and specifications are subject to change without notice

# LN<sub>2</sub> Backup System

 $LN_2$  backup cooling system is an independent refrigeration system for a ULT freezer. When there is a loss of power or the temperature of the freezer rises to the high alarm set point, the  $LN_2$  backup system can be automatically activated to inject  $LN_2$  into the chamber to maintain the freezer temperature. The backup system operates on a rechargeable battery when there is a loss of main power.



#### **Features**

- Interlocked design to turn off the  $LN_2$  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**

|                 | Model                                   | HBX-IIA         |
|-----------------|---|-----------------|
|                 | Cabinet Type                            | Horizontal      |
| Technical Data  | Cooling Type                            | Direct cooling  |
|                 | Refrigerant                             | LN <sub>2</sub> |
| D (             | Cooling performance (°C)                | -135            |
| Performance     | Temperature Range (°C)                  | -90~-135        |
| C               | Controller                              | Thermostat      |
| Control         | Display                                 | LED             |
|                 |   | 220-240/50      |
| Electrical Data | Power Supply (V/Hz)                     | 208-230/60      |
| 2.000.100.120.0 |   | 115/60          |
|                 | Power (W)                               | 20              |
|                 | Electrical Current (A)                  | 0.05            |
|                 | Not/Core Weight (core)                  | 15/17           |
| Dimensions      | Net/Gross Weight (approx)               | 33.1/37.5       |
| DIFFICUSIONS    | F. + - vi. v Dina - v - i - v - (M*D*L) | 360*305*445     |
|                 | Exterior Dimensions (W*D*H)             | 14.2*12.0*17.5  |
|                 | D1: D:: (\M*D*11)                       | 417*357*698     |
|                 | Packing Dimensions (W*D*H)              | 16.4*14.1*27.5  |
|                 | Low Battery Alarm                       | Y               |
|                 | Sensor Error Alarm                      | Y               |
| Alarms          | Main Power Off Alarm                    | Y               |
|                 | Charge Indicator                        | Y               |
| Others          | Certification                           | CE/UL           |

Product appearance and specifications are subject to change without notice  $\,$ 

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#### SBS RACKED 2D CRYOGENIC VIAL

#### Introduction

Haier Biomedical SBS Racked 2D Cryogenic Vials are widely used in many labs, sample banks and biopharmaceutical companies.

The vials have clear easily legible laser etched data matrix code on bottom which is compatible with automated storage for minimum manual intervention. Screw cap and push cap are available, screw cap is with single turn thread which can be operated easily, push cap is designed for the prevention of cap drop during unfreezing.

SBS racked cryo vials are available of storage over vapor phase liquid nitrogen at temperature of -196°C.

Haier biomedical SBS racked Cryogenic Vials are produced in 10000 grade clean room, they are DNase-free, RNase-free and Non-Pyrogenic.

# **Technical Specification**

- Low temperature storage from -196°C to 121°C
- Sterilization Level: SAL10-6
- Non-Pyrogenic; free of endotoxins, ATP and mutagen

#### **Product Feature**

- 2D laser-etched code on bottom
- Chemically resistant, easy operation and tracking
- shaped bottom for maximum working volume
- Screw cap and push cap for choice
- Availabe in transparent, white, blue, orange and green cap
- Barcode on rack for tracking

# **Specifications**

| Туре              | Model | Volume | 2D Barcode | Sterilization | Temperature Range | Unit        |
|-------------------|-------|--------|------------|---------------|-------------------|-------------|
| L. L. L. T. L. L. | T6101 | 0.75ml | Υ          | Gamma         | -196~121°C        | 96 sets/box |
| Internal Thread   | T6201 | 1.4ml  | Y          | Gamma         | -196~121°C        | 96 sets/box |
|                   | T6301 | 1.0ml  | Y          | Gamma         | -196~121°C        | 48 sets/box |
| External Thread   | T6401 | 2.0ml  | Y          | Gamma         | -196~121°C        | 48 sets/box |
| External milead   | T6121 | 0.8ml  | Υ          | Gamma         | -196~121°C        | 96 sets/box |
|                   | T6221 | 1.45ml | Y          | Gamma         | -196~121°C        | 96 sets/box |

# **Laboratory Consumables**

#### INNOVATIVE CRYOGENIC VIAL





#### **Technical Specification**

- Temperature storage range: -196°C to 121°C
- Sterilization Level: SAL10-6
- Non-Pyrogenic; free of endotoxins, ATP and mutagen
- DNase-free, RNase-free
- Laser-etchen 2D barcode

#### **Product Feature**

- Volume: 0.5ml, 1.5ml, small quantity of samples can be packed separately to avoid repeated freezing and thawing of samples and increase the packing quantity of samples
- Cap: external thread, plane or concave
- Bottom: self-standing and conical
- Cap color: orange, yellow, green, blue

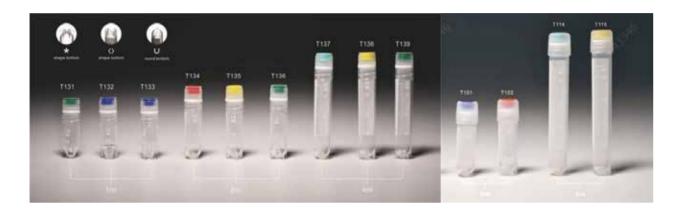
# **Specifications**

| Model   | Volume | Sterile | Description   | Unit                        |
|---------|--------|---------|---|-----------------------------|
| T2053   | 0.5ml  | Gamma   | Non-2D,box pack   | 100 sets/box,12 boxs/case   |
| T2054   | 0.5ml  | Gamma   | Non-2D,bag pack   | 100 sets/bag,1000 sets/case |
| T2203   | 1.5ml  | Gamma   | Non-2D,box pack   | 100 sets/box,12 boxs/case   |
| T2204   | 1.5ml  | Gamma   | Non-2D,bag pack   | 100 sets/bag,1000 sets/case |
| T2051   | 0.5ml  | Gamma   | 2D barcode on bottom,box pack   | 100 sets/box,12 boxs/case   |
| T2052   | 0.5ml  | Gamma   | 2D barcode on bottom,bag pack   | 100 sets/bag,1000 sets/case |
| T2201   | 1.5ml  | Gamma   | 2D barcode on bottom,box pack   | 100 sets/box,12 boxs/case   |
| T2202   | 1.5ml  | Gamma   | 2D barcode on bottom,bag pack   | 100 sets/bag,1000 sets/case |
| T2051-1 | 0.5ml  | Gamma   | 2D barcode on bottom,side on numbers,box pack                         | 100 sets/box,12 boxs/case   |
| T2052-1 | 0.5ml  | Gamma   | 2D barcode on bottom, side on numbers, bag pack                       | 100 sets/bag,1000 sets/case |
| T2201-1 | 1.5ml  | Gamma   | 2D barcode on bottom,side on dimensional code<br>and numbers,box pack | 100 sets/box,12 boxs/case   |
| T2202-1 | 1.5ml  | Gamma   | 2D barcode on bottom,side on dimensional code<br>and numbers,bag pack | 100 sets/bag,1000 sets/case |

<sup>\*</sup>Please consult your local dealer for more specifications

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#### **CONVENTIONAL CRYOGENIC VIAL**



# **Technical Specification**

- Temperature storage range: -196°C to 121°C
- Sterilization Level: SAL10-6
- Non-Pyrogenic; free of endotoxins, ATP and mutagen
- DNase-free, RNase-free

#### **Product Feature**

- Volume: 0.5ml, 1ml, 1.5, 2ml, 4ml, 5ml
- Cap: internal/external thread
- Bottom: skired or round
- Color coded cap inserts: red, blue, yellow, green, white

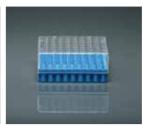
# **Specifications**

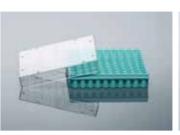
| Туре            | Model | Volume | Bottom | Style         | Sterile | Temperature Range | Unit   |
|-----------------|-------|--------|--------|---------------|---------|-------------------|--|
|                 | T118  | 0.5ml  | U      | Round         | /       | -90~121°C         | 100 sets/bag, 1000 sets/case                         |
|                 | T119  | 0.5ml  | М      | Self standing | /       | -90~121°C         | 100 sets/bag, 1000 sets/case                         |
| External Thread | T105  | 1.8ml  | U      | Self standing | /       | -90~121°C         | 50sets/bag, 1000sets/case                            |
|                 | T102  | 2.0ml  | ( )    | Self standing | Gamma   | -196~121°C        | 50 sets/bag, 1000 sets/case                          |
|                 | T114  | 5.0ml  | U      | Round         | Gamma   | -196~121°C        | 50 sets/bag, 1000 sets/case                          |
|                 | T115  | 5.0ml  | ( )    | Self standing | Gamma   | -196~121°C        | 50 sets/bag, 1000 sets/case                          |
|                 | T132  | 1.0ml  | ( )    | Self standing | Gamma   | -196~121°C        | 50 sets/bag, 1000 sets/case                          |
| Internal Thread | T135  | 2.0ml  | ( )    | Self standing | Gamma   | -196~121°C        | 50 sets/bag, 1000 sets/case                          |
|                 | T137  | 4.0ml  | U      | Round         | Gamma   | -196~121°C        | 50 sets/bag, 1000 sets/case                          |
|                 | T138  | 4.0ml  | ( )    | Self standing | Gamma   | -196~121°C        | 50 sets/bag, 1000 sets/case                          |
| Color code      | T144  | /      | /      | /             | /       | /                 | 1000 sets/bag,<br>available in six different colours |

# **Laboratory Consumables**

#### FREEZER BOXES

















#### **Technical Specification**

- Sizes: 4\*4 (16 well), 5\*5 (25 well), 9\*9 (81 well), 10\*10 (100 well)
- Material: papery, high-transparent PP/PC
- Temperature storage range: -86°C and-196°C to 121°C

#### **Product Feature**

- Visible for checking without rack open
- Lid with printed grip and number for convenience of inventory management
- Specially designed gap and vents for quick refrigeration and liquid remove
- Standard sizes compatible with most freezer racks

# **Specifications**

| Model             | Description      | Dimension(mm) | Material | Temperature  |
|-------------------|------------------|---------------|----------|--------------|
| T130 (ABS)        | 81well           | 133*133*53    | PP       | -86°C-121°C  |
| HBB-200-PP (2015) | 100well          | 133*133*53    | PP       | -86°C-121°C  |
| HBB-281-PC (2015) | 81/100well       | 133*133*53    | PC       | -196°C-121°C |
| T130              | 81well           | 133*133*53    | PP,PC    | -196°C-121°C |
| T142              | 100well          | 133*133*53    | PP,PC    | -196°C-121°C |
| T142-2            | 81/100well, flip | 133*133*53    | PC       | -196°C-121°C |

#### **CENTRIFUGE TUBE**









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#### **Product Feature**

- Capacity selection: 0.5ml, 1.5ml, 2ml, 15ml, 50ml
- The bottom of the tube is designed with Cone-bottom and free-standing
- Maximum relative centrifugal force (RCF) 10000 xg
- Suitable temperature range: -80 °C to 120 °C
- No DNase, RNase, no pyrogen, can prevent the sample from being contaminated
- A variety of packages including sealed bags, foam racks and plastic racks

# **Specifications**

| Type Sterile                  |   | Package      | Description          | Package quantity            |
|-------------------------------|---|--------------|----------------------|-----------------------------|
| 15ml centrifuge tube          | Υ | Zippered bag | Circular cone bottom | 25 pcs/bag, 500 pcs/case    |
|                               | Υ | Plastic rack | Circular cone bottom | 50 pcs/rack, 1000 pcs/case  |
|                               | Υ | Zippered bag | Circular cone bottom | 25 pcs/bag, 500 pcs/case    |
| 50ml centrifuge tube          | Υ | Zippered bag | Self-stand bottom    | 25 pcs/bag, 500 pcs/case    |
| 0.5ml microcentrifuge<br>tube | Υ | Zippered bag | Cone-bottom          | 500 pcs/pack, 5000 pcs/case |
| 1.5ml microcentrifuge<br>tube | Y | Zippered bag | Cone-bottom          | 500 pcs/pack, 5000 pcs/case |
| 2.0ml microcentrifuge tube    | Υ | Zippered bag | Round-bottom         | 500 pcs/pack, 5000 pcs/case |

#### PIPET TIPS

The pipette tip uses USP grade VI polypropylene (PP) as the raw material. The excellent internal structure design is suitable for most brand pipettes, and can ensure that the pipette tip and pipette are well sealed. The surface of the tip is smooth, with low adsorption, high transparency and high accuracy. The product is sterilized, without DNA/RNase, without heat source, without endotoxin.



#### **Product Feature**

- USP class VI polystyrene (PP) raw materials
- 10µl, 200µl, 1000µl
- Two options with and without filter, transparent color
- DNase-free, RNase-free
- No heat source, no endotoxin
- Packed in bags or boxes



#### **Specifications**

**PCR Lab Consumables** 

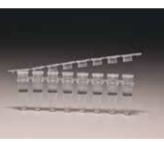
| Model   | Description   | Packing Specification                                   |          |
|---------|---|---|----------|
| riodei  | Description   | Package   | Unit Qty |
| P900106 | 10µl transparent tip, in normal bag                       | 1000 pcs/bag, 20 bags/case                              | 20000    |
| P900107 | 10µl transparent tip, boxed, sterile                      | 96 pcs/box, 10 boxes/medium box,<br>5 medium boxes/case | 4800     |
| P900108 | 10µl transparent tip, with filter element, boxed, sterile | 96 pcs/box, 10 boxes/medium box,<br>5 medium boxes/case | 4800     |
| P900109 | 10µl transparent tip, with filter element, in normal bag  | 1000 pcs/bag, 20 bags/case                              | 20000    |
| P902001 | 200µl yellow tip, in normal bag                           | 1000 pcs/bag, 20 bags/case                              | 20000    |
| P902002 | 200µl yellow tip, boxed, sterile                          | 96 pcs/box, 10 boxes/medium box,<br>5 medium boxes/case | 4800     |
| P902003 | 200µl yellow tip, with filter element, boxed, sterile     | 96 pcs/box, 10 boxes/medium box,<br>5 medium boxes/case | 4800     |
| P902004 | 200µl yellow tip, with filter element, in normal bag      | 1000 pcs/bag, 20 bags/case                              | 20000    |
| P910001 | 1000µl blue tip, in normal bag                            | 1000 pcs/bag, 5 bags/case                               | 5000     |
| P910002 | 1000µl blue tip, boxed, sterile                           | 96 pcs/box, 6 boxes/medium box,<br>5 medium boxes/case  | 2880     |
| P910003 | 1000µl blue tip, with filter element, boxed, sterile      | 96 pcs/box, 6 boxes/medium box,<br>5 medium boxes/case  | 2880     |
| P910004 | 1000µl blue tip, with filter element, in normal bag       | 1000 pcs/bag, 5 bags/case                               | 5000     |

#### **PCR TUBE**

#### **Product Feature**

- USP grade VI polystyrene (PP) raw materials
- 0.1ml, 0.2ml two specifications
- No DNase, no RNase
- No heat source, no endotoxin
- Single tube, eight row tube, 96-well plate three types are optional





# **Specifications**

| Model  | Name                                   | Description | Sterile | Packing Specification                             |          |
|--------|--|-------------|---------|---|----------|
| Piouei | Name                                   | Description | Sterile | Package   | Unit Qty |
| T002-1 | 0.2 ml PCR tube                        | Cone-bottom | Y       | 1000 pcs/bag, 10 bags/box                         | 10000    |
| T016-1 | 0.2ml PCR 8 straight tubes             | Cone-bottom | Υ       | 125 sets/box, 10 boxes/box                        | 1250     |
| T096-1 | 0.1ml-96 well<br>plate without hemline | Cone-bottom | Y       | 5 pcs/bag, 5 bags/medium box<br>6 medium box/case | 150      |
| T096-2 | 0.2ml-96 well<br>plate without hemline | Cone-bottom | Y       | 5 pcs/bag, 5 bags/medium box<br>6 medium box/case | 150      |
| T096-3 | 0.1ml-96 well<br>plate without hemline | Cone-bottom | Y       | 5 pcs/bag, 5 bags/medium box<br>6 medium box/case | 150      |
| T096-4 | 0.2ml-96 well plate without hemline    | Cone-bottom | Υ       | 5 pcs/bag, 5 bags/medium box<br>6 medium box/case | 150      |

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# Consumables for ULT Freezer

# **Laboratory Consumables**

#### **Freezer Racks**

Our freezer racks fit various sizes of freezers and they are compatible with freezer boxes provided by other manufacturers. These freezer racks improve freezer space utilization and satisfy storage requirements of biobanks.

#### ◆Side-access freezer rack features:

- $\cdot$  Frame and interior grids are made with 304 stainless steel
- for durability and better appearance.
- $\cdot$  No sharp edges to avoid risk of injury.
- · Steel plate thickness: Combination of 0.5 and 1.0 mm.
- · Side-access design makes it convenient and economic.
- · Suitable for common low temperature freezers .
- · Perfectly suitable for standard sized freezer boxes.
- · The front side is printed with Haier's stenciled seal.
- · Provide personalized customization.

#### ♦ Sliding-drawer freezer rack features:

- · Made with 304 stainless steel.
- · Steel plate thickness: Combination of 0.5 and 1.0 mm.
- · Sliding-drawer design for convenient operations.
- Low temperature rated plastic handles are standard on draw racks for ese and safety of operation.
- $\cdot$  Labeling slots are standard on draws. The outward pouch design protects the slot from potential damage caused by low temperature.
- · The front side is printed with Haier's stenciled seal.
- · Provide personalized customization.









# **Specifications**

| Product                 | Model           | Rack Description   | Rack Dimension (W*D*H)                 | ULT Freezer Models   |
|-------------------------|-----------------|--|--|--|
|                         | DCJ-44-A (2014) | 2 inch stainless steel rack 4*4<br>(2 inch box *16)        | 138*565*240 (mm)<br>5.4*22.9*9.4 (in)  | DW-338J/490J   |
|                         | DCJ-44-B (2014) | 2 inch stainless steel drawer rack 4*4<br>(2 inch box *16) | 140*565*240 (mm)<br>5.5*22.2*9.4 (in)  | DW-2261/4901   |
|                         | DCJ-54-A (2014) | 2 inch stainless steel rack 5*4<br>(2 inch box *20)        | 138*565*293 (mm)<br>5.4*22.2*11.5 (in) | DW-388A/486E/  |
| 2 inch                  | DCJ-54-B (2014) | 2 inch stainless steel drawer rack 5*4<br>(2 inch box *20) | 140*565*293 (mm)<br>5.5*22.2*11.5 (in) | 490/628E   |
| stainless<br>stell rack | DCJ-55-A (2014) | 2 inch stainless steel rack 5*5<br>(2 inch box *25)        | 138*685*293 (mm)<br>5.4*27.0*11.5 (in) | DW-86L388J/418S/418ST/578J/578-<br>JA/578S/578ST/579/579BP/579BPT/728J/728J                                |
|                         | DCJ-55-B (2014) | 2 inch stainless drawer rack 5*5<br>(2 inch box *25)       | 140*685*293 (mm)<br>5.5*27.0*11.5 (in) | A/728S//728ST/729/729BP/729BPT/828J/828J/<br>/828S/828ST/829/829BP/829BPT/828W/<br>DW-86L959BP/959BPT/959W |
|                         | DCJ-08-A (2014) | 2 inch stainless steel drawer rack 8*1<br>(2 inch box *8)  | 140*140*480 (mm)<br>5.5*5.5**18.9 (in) | DW-86W100J   |
|                         | DCJ-10-A (2014) | 2 inch stainless steel rack 10*1<br>(2 inch box *10)       | 140*140*600 (mm)<br>5.5*5.5*23.6 (in)  | DW-86W420J/DW-150W200/<br>DW-150W200J  |

# **Haier ULT Freezer + Consumables Solutions**

#### **Specifications**

| Freezer Model  | Freezer Rack Model   | Description  | Freezer Rack<br>Quantity | Freezer Box<br>Quantity | Cryo Tube<br>Quantity (2ml) |
|--|--|--|--------------------------|-------------------------|-----------------------------|
|  | DCJ-54-A(2014)<br>(Middle, 2 layers)   | 2 inch stainless steel side-access freezer rack 5*4 (2 inch freezer box*20 units)  | 6                        | 120                     | 12000                       |
| D.W. 0.01 ==0.1/==0.11   | DCJ-54-B(2014)<br>(Middle, 2 layers)   | 2 inch stainless steel sliding-drawer freezer rack 5*4 (2 inch freezer box*20 units)   | 6                        | 120                     | 12000                       |
| DW-86L338J/338JA   | DCJ-44-A(2014)<br>(Top and bottom layers)  | 2 inch stainless steel side-access freezer rack 4*4 (2 inch freezer box*16 units)  | 6                        | 96                      | 9600                        |
|  | DCJ-44-B(2014)<br>(Top and bottom layers)  | 2 inch stainless steel sliding-drawer freezer rack 4*4 (2 inch freezer box*16 units)   | 6                        | 96                      | 9600                        |
| DW-86L388J/418S  | DCJ-55- A (2014)   | 2 inch stainless steel side-access<br>freezer rack 5*5 (2 inch freezer box*25 units)   | 12                       | 300                     | 30000                       |
| /418ST/419   | DCJ-55- B (2014)   | 2 inch stainless steel sliding-drawer<br>freezer rack 5*5 (2 inch freezer box*25 units)  | 12                       | 300                     | 30000                       |
| DW-86L486E  DW-86L490J/490JA   | DCJ-54- A (2014)   | 2 inch stainless steel side-access<br>freezer rack 5*4 (2 inch freezer box*20 units)   | 16                       | 320                     | 32000                       |
| DW-86L486E   | DCJ-54- B (2014)   | 2 inch stainless steel sliding-drawer<br>freezer rack 5*4 (2 inch freezer box*20 units)  | 16                       | 320                     | 32000                       |
|  | DCJ-54-A(2014)<br>(Top 2 layers)   | 2 inch stainless steel side-access<br>freezer rack 5*4 (2 inch freezer box*20 units)   | 8                        | 160                     | 16000                       |
| DW-86I 490 I/490 IA  | DCJ-54-B(2014)<br>(Top 2 layers)   | 2 inch stainless steel sliding-drawer freezer rack 5*4 (2 inch freezer box*20 units)   | 8                        | 160                     | 16000                       |
| DW 002 1303/ 1303/   | DCJ-44-A(2014)<br>(Bottom 2 layers)  | 2 inch stainless steel side-access<br>freezer rack 4*4 (2 inch freezer box*16 units)   | 8                        | 128                     | 12800                       |
|  | DCJ-44-B(2014)<br>(Bottom 2 layers)  | J-54-A(2014) ddle, 2 layers) J-54-B(2014) ddle, 2 layers) J-54-B(2014) ddle, 2 layers) J-44-A(2014) Abstract of the freezer box *20 units) J-44-B(2014) Abstract of the freezer box *20 units) J-44-B(2014) Abstract of the freezer box *16 units) J-44-B(2014) Abstract of the freezer box *16 units) J-54-B(2014) Abstract of the freezer box *16 units) J-55-B(2014) J-55-B(2014) J-55-B(2014) J-55-B(2014) J-56-B(2014) J-56-B(20 | 128                      | 12800                   |                             |
| DW-86I 628F  | DCJ-54-A (2014)  |  | 20                       | 400                     | 40000                       |
| DW 0020202   | DCJ-54-B (2014)  |  | 20                       | 400                     | 40000                       |
| DW-86L578J/578JA/  | DCJ-55- A (2014)   |  | 16                       | 400                     | 40000                       |
| /579BPT  | 2 inch stainless steel sliding-drawer freezer rack 5*4 (2 inch freezer box*20 units)  2 inch stainless steel side-access freezer rack 5*5 (2 inch freezer box*25 units)  DCJ-55- A (2014)  2 inch stainless steel side-access freezer rack 5*5 (2 inch freezer box*25 units)  DCJ-55- B (2014)  2 inch stainless steel sliding-drawer freezer rack 5*5 (2 inch freezer box*25 units)  2 inch stainless steel sliding-drawer freezer rack 5*5 (2 inch freezer box*25 units)  DCJ-55- A (2014)  DCJ-55- A (2014)  2 inch stainless steel sliding-drawer freezer rack 5*5 (2 inch freezer box*25 units) | 16   | 400                      | 40000                   |                             |
| DW-86L728J/728JA/  | DCJ-55- A (2014)   |  | 20                       | 500                     | 50000                       |
| 728S/728S1/729/<br>729BP/729BPT  | DCJ-55- B (2014)   |  | 20                       | 500                     | 50000                       |
| DW-86L828J/828JA/  | DCJ-55- A (2014)   |  | 24                       | 600                     | 60000                       |
| 828S/828ST/829/829BP<br>/829BPT/828W   | DCJ-55- B (2014)   |  | 24                       | 600                     | 60000                       |
| DW-86L959BP/959BPT   | DCJ-55- A (2014)   |  | 28                       | 700                     | 70000                       |
| /959W  | DCJ-55- B (2014)   |  | 28                       | 700                     | 70000                       |
| DW-86I 100 I   | DCJ-53- A (2014)   |  | 4                        | 60                      | 6000                        |
| DW-86L628E   DCJ-54-A (2014)   2 inch stainless steel slide-access freezer rack 5*4 (2 inch freezer box*20 units)   20   400 | 60   | 6000   |                          |                         |                             |
| DW-86W420J/420JA   | DCJ-10- A (2014)   |  | 27                       | 270                     | 27000                       |
| DW-86W100J   | DCJ-08 - A (2014)  |  | 9                        | 72                      | 72000                       |
| DW-150W200   | DCJ-10- A (2014)   |  | 12                       | 120                     | 12000                       |
| DW-150W200J  | DCJ-12-A   |  | 12                       | 144                     | 14400                       |

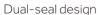
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The secondary application is for the storage of fishery products such as tuna, Australian lobster, salmon, South American shrimps, Argentina red shrimp, top-quality beef, kanpachi, octopus, yellowtail, bonito fish, grouper, and fugu rubripes. This 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.









Efficient and reliable fan



German made energy efficient compressor



Digital temperature control display



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%.

#### -60°C Biomedical Freezer

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  |
|--|--------------------------------|-----|----------------|----------------|--|
|  | Cabinet Type                   |     | Chest          | Chest          | Chest  |
| Technical Data Performance Control Electrical Data | Climate Class                  |     | N              | N              | N  |
|  | Cooling Type                   |     | Direct Cooling | Direct Cooling | Direct Cooling   |
|  | Refrigerant                    |     | HC             | HC             | HC   |
|  | Sound Level ((dB(A))           |     | 43             | 43             | 43   |
| Control<br>lectrical Data                          | Cooling performance (°C)       |     | -60            | -60            | -60  |
| reriormance  | Temperature Range (°C)         |     | -30~-60        | -30~-60        | -30~-60  |
| erformance<br>Control<br>lectrical Data            | Controller                     |     | Microprocessor | Microprocessor | Microprocessor   |
| Control  | Display                        |     | LED            | LED            | LED  |
|  | Power Supply (V/Hz)            |     | 220~240/50     | 220~240/50     | Chest Chest N N Port Cooling Direct Cooling HC 43 43 -60 -60 -30~-60 -30~-60  Direct Cooling Direct Cooling Orect Cooling Direct Cooling Orect |
| Electrical Data                                    | Power (W)                      |     | 370            | 410            | 420  |
|  | Electrical Current (A)         |     | 3              | 3              | 3.5  |
|  | Capacity (L/Cu.Ft)             |     | 138/4.9        | 258/9.1        | 388/13.7   |
|  | No. 1/Common Marchald Common N | kg  | 62/75          | 88/108         | 105/130  |
|  | Net/Gross Weight (approx)      | lbs | 137/165        | 194/238        | 232/287  |
|  | Interior Dimensions (W*D*H)    | mm  | 580*445*620    | 1000*445*620   | 1450*445*620   |
| Dimensions   | Interior Dimensions (W*D*H)    | 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   |
|  | Exterior Dimensions (W*D*H)    | 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   |
|  | Packing Dimensions (W · D · H) | 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 Temp                  |     | Υ              | Y              | Y  |
| AldITIS  | Sensor Error                   |     | Υ              | Y              | Y  |
| \ccossorios  | Caster                         |     | Υ              | Y              | Y  |
| Accessories  | Porthole                       |     | Υ              | Y              | Y  |
| Others   | Certification                  |     | CE             | CE             | CE   |

Product appearance and specifications are subject to change without notice

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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.



**DW-40L508** 



Control panel



**DW-40L348** 



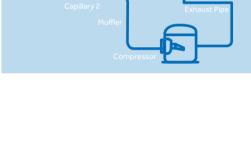
Shelf

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

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.

# 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





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#### **Key Features**

-40°C Biomedical Freezer (Upright)

- 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

Malfunction

Double Outer







Caster and feet Padlock

Removable double outer door seal





Inner

#### **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

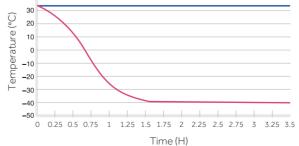
#### Safety

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

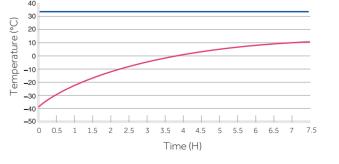
#### **Ergonomic Design**

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





DW-40W380 Warm up test at 32°C ambient



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# **Specifications**

|  | Model                            |                     | DW-40L92       | DW-40L26                              | 62      | DW-40    | )L278         |      | DW-40L348        | DW-40       | L508           | DW-40    | W100                   | DW-40W255                                    | DW-40W380      |                |
|--|----------------------------------|---------------------|----------------|---------------------------------------|---------|----------|---------------|------|------------------|-------------|----------------|----------|------------------------|--|----------------|----------------|
|  | Cabinet Type                     |                     | Upright        | Upright                               |         | Upri     | ght           | Upri | ght, Double Door | Upright, Do | uble Door      | Che      | st                     | Chest  | Chest          |                |
|  | Climate Class                    |                     | SN N           | SN N                                  |         | SN N     |               |      | SN N             | SN N        |                | SN N     |                        | SN N   | SN N           |                |
| Performance Control Electrical Data  | Cooling Type                     |                     | Direct cooling | Direct coolir                         | ng      | Direct C | Cooling       |      | Direct Cooling   | Direct C    | Direct Cooling |          | Cooling Direct Cooling |  | Direct Cooling | Direct Cooling |
| i echnicai Data  | Defrost Mode                     |                     | Manual         | Manual                                |         | Man      |               |      | Manual           | Man         | ual            |          |                        | Manual                                       | Manual         |                |
|  | Refrigerant                      |                     | HC             | HC CI                                 | FC-Free | HC       | CFC-Free      |      | HC               | HC          | CFC-Free       | CFC-F    | ree                    | CFC-Free                                     | CFC-Free       |                |
|  | Sound Level (dB(A))              |                     | 29             | 41                                    | 44      | 40       | 44            |      | 41               | 41          | 45             |          |                        | 41   | 45             |                |
| Performance  | Cooling Performance              |                     | -40            | -40                                   |         |          |               |      | -40              |             |                |          |                        | -40  | -40            |                |
|  | Temperature Range                | e (°C)              | -20~-40        | -20~-40                               |         | -20~     | -40           |      | -20~-40          | -20~-       | -40            | -20~-    | -40                    | Chest SN N Direct Cooling Manual CFC-Free 41 | -20~-40        |                |
| Control  | Controller                       |                     | Microprocessor | · ·                                   | sor     |          | Upright       | · ·  | Microprocessor   |             |                |          |                        |  |                |                |
|  | Display                          |                     | LCD            |                                       |         |          |               |      |                  | LEI         | )              | LCI      | )                      | LCD  | LCD            |                |
| Electrical Data  | Power Supply (V/Hz               | <u>z</u> )          | 220~240/50/60  |                                       |         | 0~240/50 | 220~240/50/60 |      |                  |             |                |          |                        |  | 220~240/50/60  |                |
| Electrical Data  | Power (W)                        |                     | 340            | Uproject                              |         | 550      |               |      |                  |             |                |          |                        |  |                |                |
|  | Electrical Current (A            | ١)                  |                |                                       |         |          |               |      | 3.4              |             |                |          |                        |  |                |                |
| Net/G  | Capacity (L/Cu.Ft)               |                     |                |                                       |         |          |               |      |                  |             |                |          |                        |  | 380/13.4       |                |
|  | _                                | Net/Gross Weight kg |                |                                       |         |          |               |      |                  |             |                |          |                        |  | 82/89          |                |
|  | (approx)                         | lbs                 |                |                                       |         |          |               |      |                  |             |                |          |                        |  | 180.8/196.2    |                |
| Dimensions   | Interior Dimensions              | mm                  |                |                                       |         |          |               |      |                  |             |                |          |                        |  | 1375*453*640   |                |
|  | (W*D*H)                          | in                  |                |                                       |         |          |               |      |                  |             |                |          |                        |  | 54.1*17.8*25.2 |                |
|  | Exterior Dimensions              |                     |                |                                       |         |          |               |      |                  |             |                |          |                        |  | 1554*724*838   |                |
|  | (W*D*H)                          | in                  |                |                                       |         |          |               |      |                  |             |                |          |                        |  | 61.2*28.5*33.0 |                |
|  | Packing Dimensions               |                     |                |                                       |         |          |               |      |                  |             |                |          |                        |  | 1635*760*900   |                |
| Dimensions   | (W*D*H)                          | in                  | 26.0*27.6*35.4 | 30.5*29.9*7                           | 4.0     | 32.8*29  | .8*78.4       | 33   | 3.5*36.5*80.5    | 39.3*36.    | 5*80.5         | 29.1*25. | 6*34.6                 | 52.0*29.7*35.6                               | 64.4*29.9*35.4 |                |
|  | Container Load<br>(20'/40'/40'H) |                     |                |                                       | 5       |          |               |      |                  |             |                |          |                        |  | 18/42/63       |                |
|  | High/Low Tempera                 | ture                | •              | · ·                                   |         |          |               |      | <u> </u>         | 1           |                | Y        |                        | Y  | Y              |                |
|  | Remote Alarm                     |                     | Y              | Y                                     |         | Y        | ,             |      | Υ                | Y           |                | N/A      | A                      | N/A  | N/A            |                |
| Performance  Control  Electrical Data  F  Control  Control  F  Control  Control  F  Control  Control  F  Control  Control  F  Control  Control  Control  F  Control  Control  Control  F  Control  Control  Control  F  Control  Control  Control  Control  F  Control  Control | Power Failure                    |                     | Υ              | Y                                     |         | Y        |               |      | Υ                | Y           |                | Y        |                        | Y  | Υ              |                |
|  | Sensor Error                     |                     | Υ              | Y                                     |         | Y        |               |      | Υ                | Y           |                | Y        |                        | Y  | Υ              |                |
|  | Low Battery                      |                     | N              | N                                     |         | Υ        |               |      | Υ                | Y           |                | N/A      | A                      | N/A  | N/A            |                |
|  | High Ambient Temp                | o                   | Υ              | Y                                     |         | Υ        | ,             |      | Υ                | Y           |                | N/A      | A                      | N/A  | N/A            |                |
|  | Door Ajar                        |                     | Υ              | Y                                     |         | Y        |               |      | /                | /           |                | /        |                        | /  | /              |                |
|  | Caster                           |                     | Υ              | Y                                     |         | Υ        | ,             |      | Υ                | Y           |                | N/A      | Ą                      | N/A  | N/A            |                |
|  | Foot                             |                     | Υ              | Y                                     |         | Υ        | ,             |      | Υ                | Y           |                | N/A      |                        | N/A  | N/A            |                |
|  | Porthole                         |                     | Υ              | Y                                     |         | Υ        | ,             |      | Υ                | Y           |                | Y        |                        | Y  | N/A            |                |
| Accessories  | Drawers/Inner Door               | rs                  | 3/-            | 7/-                                   |         | 6/       | '-            |      | 12/-             | 10/         | ′_             | /        |                        | /  | /              |                |
|  | USB Interface                    |                     | Optional       | Optional                              |         |          |               |      |                  |             |                | N/A      | A                      | N/A  | N/A            |                |
|  | Temperature Recor                | rder                |                | · · · · · · · · · · · · · · · · · · · |         |          |               |      | -                | · ·         |                |          |                        |  | N/A            |                |
| Others   | Certification                    | 401                 | CE             | CE                                    | /       | Cl       |               |      | CE               | Cl          |                | CE       |                        |  | CE             |                |

Product appearance and specifications are subject to change without notice

# -30°C Biomedical Freezer

#### **Typical Installation and Application**

Haier Biomedical -30°C biomedical freezer: safe and reliable dual-system, intelligent hot gas defrosting, hydrocarbon energy saving



**DW-30L1280F** 

#### **Key Features**



# Hydrocarbon energy saving: green and environmental protection

Using green and eco-friendly hydrocarbon refrigeration system, based on the principle of zero damage to ozone sphere and zero boost to greenhouse effect, we effectively reduce the energy consumption to 8kW/24H.



# Intelligent defrosting: prolong the defrosting cycle, safeguard the stability of storage temperature

The intelligent defrosting is two times less than the traditional defrosting, effectively draws down the temperature fluctuation caused by defrosting during sample storage cycle via intelligently identifying the amount of frost on evaporator.



# Dual independent refrigeration systems: higher safety

Auto defrosting system plus constant refrigeration system, successfully solve the industry problem that inside temperature rise sharply when fan cooling refrigerator defrosts; Once one system failed, the other one would reach to -25 °C soon; which double the safety of the sample. With air cooling technology, the inside uniformity can reach ±3°C (±5°C during defrosting period).



# Hot gas defrosting technology: eradicate the hidden danger of electric leakage

We apply full-automatic hot gas defrosting technology on the whole machine. Compared with heater wire defrosting technology, it gets rid of the risk of electric leakage due to wire aging, offers you higher efficiency and safety.

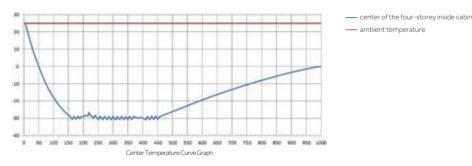


#### Low noise

Optimize system and engine room noise reduction design, noise: 45.4db (220V/50Hz test data)

#### **Product Advantages**





--- 1th storey center

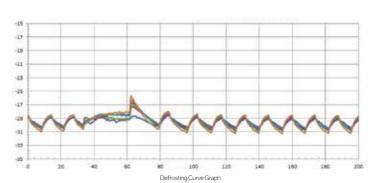
---- 2th storey center

- 3th storey center

--- 4th storey center

--- 5th storey center

— 6th storev center



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## **Specifications**

|                 | Model                        |          | DW-30L1280F        |  |  |
|-----------------|------------------------------|----------|--------------------|--|--|
|                 | Cabinet Type                 |          | Upright            |  |  |
|                 | Climate Class                |          | N                  |  |  |
| Technical Data  | Cooling Type                 |          | Forced air cooling |  |  |
| Technical Data  | Defrost Mode                 |          | Automatic defrost  |  |  |
|                 | Refrigerant                  |          | HC                 |  |  |
|                 | Sound Level (dB(A))          |          | 46                 |  |  |
| D (             | Cooling Performance (        | (°C)     | -30                |  |  |
| Performance     | Temp Range (°C)              |          | -10~-30            |  |  |
| 0 1 1           | Controller                   |          | Microprocessor     |  |  |
| Control         | Display                      |          | LCD                |  |  |
|                 | Power Supply (V/Hz)          |          | 220~240/50         |  |  |
| EL ID .         | Power (W)                    |          | 800                |  |  |
| Electrical Data | Electrical Current (A)       |          | 4.5                |  |  |
|                 | Capacity (L/Cu.Ft)           |          | 1280/45.2          |  |  |
| Dimensions      | Net/Gross                    | kg       | 420/480            |  |  |
|                 | Weight(approx)               | lbs      | 925/1057           |  |  |
|                 | Interior<br>Dimension(W*D*H) | mm       | 1320*752*1260      |  |  |
|                 |                              | in       | 52/29.6/49.6       |  |  |
|                 | Exterior<br>Dimension(W*D*H) | mm       | 1520*1065*1980     |  |  |
|                 |                              | in       | 59.8/41.9/77.9     |  |  |
|                 | Packing                      | mm       | 1570*1080*2130     |  |  |
|                 | Packing<br>Dimension(W*D*H)  | in       | 61.8/42.5/83.8     |  |  |
|                 | Container Load (20'/40       | 0'/40'H) | 6/14/14            |  |  |
|                 | High/Low Temperatur          | re       | Υ                  |  |  |
|                 | Remote Alarm                 |          | Υ                  |  |  |
|                 | Power Failure                |          | Υ                  |  |  |
| Alarms          | Sensor Error                 |          | Υ                  |  |  |
|                 | Low Battery                  |          | Υ                  |  |  |
|                 | High Ambient Temper          | ature    | Υ                  |  |  |
|                 | Door Ajar                    |          | Υ                  |  |  |
|                 | Castor                       |          | Υ                  |  |  |
|                 | Sensor Error                 |          | Υ                  |  |  |
|                 | Porthole                     |          | Υ                  |  |  |
| Accessories     | Drawers/Inner Doors          |          | 12/-               |  |  |
|                 | Temperature Recorde          | r        | /                  |  |  |
|                 | USB Interface                |          | Υ                  |  |  |
|                 | RS485                        |          | Υ                  |  |  |
| Other           | Certification                |          | CE                 |  |  |

-30°C Biomedical Freezer

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.



# **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 ±3°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.

**DW-30L818BP** 

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# -30°C Biomedical Freezer

# **Product Advantages**



# **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
- ·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**

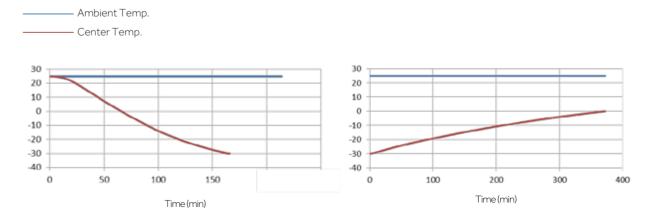
·Lock is standard. Magnetic lock is optional for added protection and security

# **Temperature Recorder**

Optional temperature recorder for temperature recording and compliance.



# Typical Performance Characteristics at 25°C ambient



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# -30°C Biomedical Freezer

# **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.



shelves with optional stainless steel shelves, which are adjustable to meet the different requirements of users.

# **Specifications**

|                 | Model                         |          | DW-30L818      | DW-30L818BP    |
|-----------------|-------------------------------|----------|----------------|----------------|
|                 | Cabinet Type                  |          | Upright        | Upright        |
|                 | Climate Class                 |          | SN N           | SN N           |
| Technical Data  | Cooling Type                  |          | Direct Cooling | Direct Cooling |
| echnical Data   | Defrost Mode                  |          | Manual         | Manual         |
|                 | Refrigerant                   |          | HC             | HC             |
|                 | Sound Level (dB(A))           |          | 44             | 37 (220V/50Hz) |
| 2 6             | Cooling Performance (         | °C)      | -30            | -30            |
| Performance     | Temp Range (°C)               |          | -10~-30        | -10~-30        |
| 2               | Controller                    |          | Microprocessor | Microprocessor |
| Control         | Display                       |          | LCD            | LED            |
|                 | Power Supply (V/Hz)           |          | 220~240/50     | 100~230/50/60  |
| Electrical Data | Power (W)                     |          | 380            | 680            |
|                 | Electrical Current (A)        |          | 2.8            | 7.7            |
|                 | Capacity (L/Cu.Ft)            |          | 818/28.8       | 818/28.8       |
|                 | Net/Gross                     | kg       | 205/235        | 210/240        |
|                 | Weight (approx)               | lbs      | 451.9/518.1    | 463.0/529.1    |
|                 | Interior                      | mm       | 750*755*1460   | 750*755*1460   |
|                 | Dimension (W*D*H)             | in       | 29.5*29.7*57.5 | 29.5/29.7/57.5 |
| Dimensions      | Exterior<br>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                       | mm       | 1040*1060*2150 | 1040*1060*2150 |
|                 | Dimension (W*D*H)             | in       | 40.9/41.7/84.6 | 40.9/41.7/84.6 |
|                 | Container Load (20'/40        | )'/40'H) | 10/22/22       | 10/22/22       |
|                 | High/Low Temperatur           | e        | Υ              | Y              |
|                 | Remote Alarm                  |          | Υ              | Y              |
|                 | Power Failure                 |          | Υ              | Y              |
| Alarms          | Sensor Error                  |          | Υ              | Y              |
|                 | Low Battery                   |          | N              | Y              |
|                 | High Ambient Tempera          | ature    | Υ              | Y              |
|                 | Door Ajar                     |          | Υ              | Y              |
|                 | Castor                        |          | Υ              | Y              |
|                 | Sensor Error                  |          | Υ              | Y              |
|                 | Porthole                      |          | Υ              | Y              |
| Accessories     | Drawers/Inner Doors           |          | -/3            | -/3            |
|                 | Temperature Recorder          | -        | Optional       | Optional       |
|                 | USB Interface                 |          | Optional       | Optional       |
|                 | RS485 Port                    |          | Optional       | Y              |
| Other           | Certification                 |          | CE             | CE             |

BP suffix - Variable frequency invertor compressor

Product appearance and specifications are subject to change without notice

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# **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









Backup battery and padlock protection

Alarms

DW-30L420F



Drawer (Optional)



Microprocessor control panel



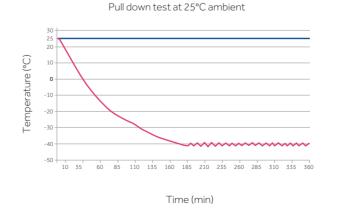
Air distribution

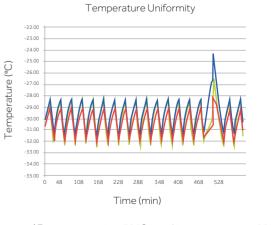
# Safety

- 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





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

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**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 ±4°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°C.
- Adjustable temperature setting from -10 °C to -30 °C
- Multiple alarm functions including high temperature alarm, low temperature alarm, sensor failure 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 latch and key lock double-lock design provides an extra level of security



### Porthole

Porthole design is standard



### Recorder

Optional chart temperature recorder available

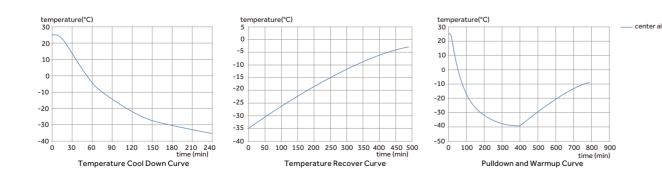


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### DW-30L508 TYPICAL PERFORMANCE CHARACTERISTICS AT 25°C AMBIENT



# -30°C Biomedical Freezer

# **Specifications**

|                 | Model                         |                       | DW-3           | 0L420F      | DW-30L278      | DW-30          | L508      |
|-----------------|-------------------------------|-----------------------|----------------|-------------|----------------|----------------|-----------|
|                 | Cabinet Type                  |                       | Upright        |             | Upright        | Upright, Do    | uble Door |
|                 | Climate Class                 |                       | SN N           |             | SN N           | SN N           |           |
| Technical Data  | Cooling Type                  |                       | Forced a       | air Cooling | Direct Cooling | Direct C       | Cooling   |
| reen near Data  | Defrost Mode                  |                       | Automat        | ic Defrost  | Manual         | Man            | ual       |
|                 | Refrigerant                   |                       | ŀ              | HC          | HC             | НС             | 2         |
|                 | Sound Level (dB(A))           |                       | 4              | 46          | 40             | 41             | 43        |
| Performance     | Cooling Performance           | e (°C)                | -              | 30          | -30            | -30            | )         |
| Performance     | Temperature Range             | (°C)                  | -10            | )~-30       | -10~-30        | -10~-          | -30       |
| Control         | Controller                    |                       | Microp         | rocessor    | Microprocessor | Micropro       | cessor    |
| Control         | Display                       |                       | L              | ED          | LCD            | LCD            | LED       |
|                 | Power Supply (V/Hz)           |                       | 220~240/50     | 208~230/60  | 220~240/50     | 220~240/50     | 115/60    |
| Electrical Data | Power (W)                     |                       | 460/100        | 0(Defrost)  | 330            | 530            | 600       |
|                 | Electrical Current (A)        |                       | 4.0/5.8        | (Defrost)   | 2              | 3              | 5.4       |
|                 | Capacity (L/Cu.Ft)            |                       | 420            | /14.8       | 278/9.8        | 490/1          | 17.3      |
|                 | Net/Gross Weight (approx) kg  |                       | 195/225        |             | 115/135        | 164/200        |           |
|                 |                               |                       | 429.9/496.0    |             | 253.7/297.7    | 361.6/440.9    |           |
|                 | Interior Dimension (W*D*H) in |                       | 685*610*1028   |             | 520*435*1230   | 685*610*1228   |           |
| D               |                               |                       | 27.0*24.0*40.5 |             | 20.5*17.1*48.4 | 27.0*24.       | 0*48.3    |
| Dimensions      | Exterior Dimension            | -xterior Dimension mm |                | 20*1900     | 745*675*1810   | 915*810*1860   |           |
|                 | (W*D*H)                       | in                    | 37.4*36.2*74.8 |             | 29.3*26.6*71.3 | 36.0*31.9*73.2 |           |
|                 | Packing Dimension mm          |                       | 980*935*2040   |             | 805*725*1970   | 980*905*2040   |           |
|                 | (W*D*H)                       |                       |                | 6.8*80.3    | 31.7*28.5*77.6 | 38.6*35.6*80.3 |           |
|                 | Container Load (20'/          | 40'/40'H)             | 12/24/24       |             | 14/28/28       | 12/24/24       |           |
|                 | High/Low Temperat             | ure                   | Υ              |             | Υ              | Y              | Υ         |
|                 | Remote Alarm                  |                       | Y              |             | /              | /              | Υ         |
|                 | Power Failure                 |                       | Y              |             | Υ              | Y              | /         |
| Alarms          | Sensor Error                  |                       | Y              |             | Υ              | Υ              | Υ         |
|                 | Low Battery                   |                       | Y              |             | /              | /              | /         |
|                 | High Ambient Tempe            | erature               |                | Υ           | /              | /              | /         |
|                 | Door Ajar                     |                       |                | Υ           | /              | /              | /         |
|                 | Caster                        |                       |                | Υ           | Υ              | Y              |           |
|                 | Foot                          |                       |                | Υ           | Υ              | Υ              |           |
|                 | Porthole                      |                       |                | Υ           | Υ              | Y              |           |
| Accessories     | Drawers/Inner Doors           | 5                     | -/3 6/-        |             | 6/-            | 10/-           |           |
|                 | Temperature Record            | der                   | Optional       |             | Optional       | Optional       |           |
|                 | USB Interface                 |                       |                | Υ           | /              | /              |           |
|                 | ODD II ICCI I GCC             |                       |                |             |                |                |           |

Product appearance and specifications are subject to change without notice

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



**DW-25L262** 

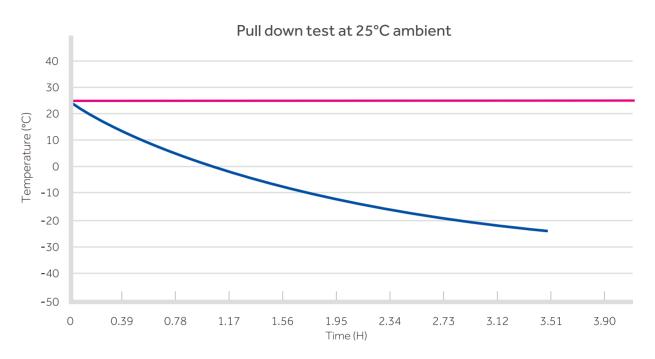
# Reliability and Key Features

- Chemically stable,HC commercially available and environmently 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

# -25°C Biomedical Freezer



# **Specifications**

|                 | Model                           |            | DW-   | 25L92          | DW-2                          | 5L262         |
|-----------------|---------------------------------|------------|---|----------------|-------------------------------|---------------|
|                 | Cabinet Type                    | Up         | right                                       | Upr            | right                         |               |
|                 | Climate Class                   |            | SI  | V N            | SI SI                         | N N           |
|                 | Cooling Type                    |            | Direct                                      | Cooling        | Direct                        | Cooling       |
| Technical Data  | Defrost Mode                    |            |   | anual          |                               | nual          |
|                 | Refrigerant                     |            |   | HC             |                               | IC            |
|                 | Sound level ((dB(A))            |            | 27  | 28             | 34                            | 34            |
|                 |                                 |            |   |                |                               |               |
| Performance     | Cooling Performance (°C)        |            | -   | 25             |                               | 25            |
|                 | Temperature Range (°C)          |            | -10   | )~-25          | -10                           | ~-25          |
| Control         | Controller                      |            | Microp                                      | rocessor       | Micropr                       | ocessor       |
| Control         | Display                         |            | L   | CD             | L                             | CD            |
|                 | Power Supply (V/Hz)             | 220~240/50 | 115/60                                      | 220~240/50     | 115/60                        |               |
| Electrical Data | Power (W)                       | 255        | 125   | 270            | 135                           |               |
|                 | Electrical Current (A)          | 1.2        | 1.8   | 1.4            | 2.6                           |               |
|                 | Capacity (L/Cu.Ft)              | 92         | /3.2  | 262            | 2/9.3                         |               |
|                 | Net/Gross Weight (appox) kg lbs |            | 46/51<br>101.4/112.4                        |                |                               | /93<br>/205.0 |
|                 | 3                               | mm         | 435*410*635                                 | 435*410*635    |                               | 5*1430        |
|                 | Interior Dimensions (W*D*H)     | in         | 17.1*16.1*25.0                              | 17.1*16.1*25.0 | 18.9*18                       | 3.3*56.3      |
| Dimensions      | Exterior Dimensions (W*D*H)     | mm         | 640*610*810                                 | 640*610*810    | 700*705*1665                  |               |
|                 | Exterior Dimensions (W D 11)    | in         | 25.2*24.0*31.9                              | 25.2*24.0*31.9 | 27.6*27.8*65.6                |               |
|                 | Packing Dimensions (W*D*H)      | mm         | 660*700*900                                 | 660*700*900    | 775*760*1880                  |               |
|                 |                                 | in         | 26.0*27.6*35.4 26.0*27.6*35.4<br>48/108/108 |                | 30.5*29.9*74.0 30.5*29.9*74.4 |               |
|                 | Container Load (20'/40'/40'H)   |            |   |                | 21/45/45                      |               |
|                 | High/Low Temp                   |            | Y   | Y              | '                             | Υ             |
| Alarms          | Sensor Error                    |            | Υ   | Y              | Y                             |               |
|                 | Door Ajar                       |            | Υ   | Y              | Y                             |               |
|                 | Remote Alarm                    |            | Y   |                | Y                             |               |
| Accessories     | Drawers                         |            | 3   |                | 7                             |               |
| Others          | Certification                   |            | CE  | UL             | CE                            | UL            |

Product appearance and specifications are subject to change with out notice



# Spark Free Refrigerator

### **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  $\pm 3^{\circ}$ C. Adjustable set point for the range of  $3^{\circ}$ C  $\sim 16^{\circ}$ C, factory default set temperature is  $5^{\circ}$ C, controlling the temperature inside the chamber is  $2^{\circ}$ 8°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.

# **Spark Free Refrigerator**



# **Ergonomic Design**

### **High Strength Glass Shelves**

Tempered glass shelves hold 40 kg of products per shelve.

### **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 opening, and sensor errors.















Cabinet Structure

Glass Shelve

ATEX Certification Label

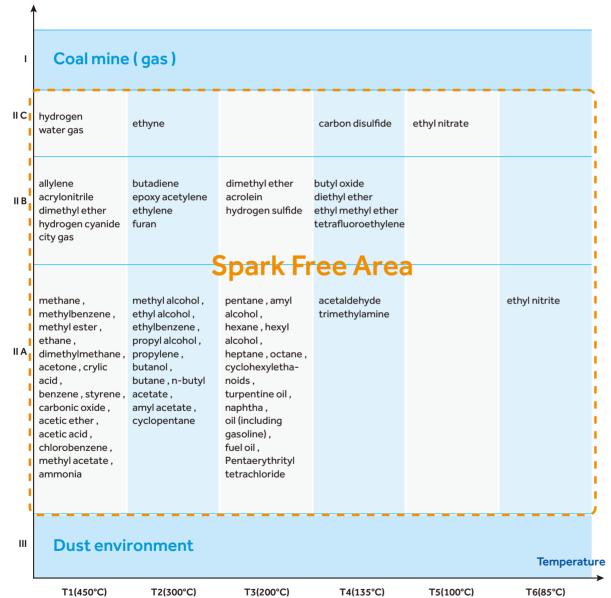
Explosion Proof Cabinet/Fan

# 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**



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

# **Spark Free Refrigerator**

## **Specifications**

|                  | Model                          |     | HLR-118SF          | HLR-310SF          | HLR-118FL          | HLR-310FL          |
|------------------|--------------------------------|-----|--------------------|--------------------|--------------------|--------------------|
|                  | Туре                           |     | Under-Counter      | Upright            | Under-Counter      | Upright            |
|                  | Climate Class                  |     | N                  | N                  | N                  | N                  |
| Technical Data   | Cooling Type                   |     | Forced Air Cooling | Forced Air Cooling | Forced Air Cooling | Forced Air Cooling |
| recrimedi Data   | Defrost Mode                   |     | Auto               | Auto               | Auto               | Auto               |
|                  | Refrigerant                    |     | R600a              | R600a              | R600a              | R600a              |
|                  | Sound Level (dB(A))            |     | 40                 | 40                 | 40                 | 40                 |
| 2 6              | Temperature Range (°C)         |     | 3~16°C Adjustable  | 3~16°C Adjustable  | 3~16°C Adjustable  | 3~16°C Adjustable  |
| Performance      | Ambient Temperature (°C)       |     | 16~32              | 16~32              | 16~32              | 16~32              |
| 2 1 1            | Controller                     |     | Microprocessor     | Microprocessor     | Microprocessor     | Microprocessor     |
| Control          | Display                        |     | LED                | LED                | LED                | LED                |
|                  | Power Supply (V/Hz)            |     | 220-240/50         | 220-240/50         | 220-240/50         | 220-240/50         |
| Electrical       | Power (W)                      |     | 55                 | 210                | 55                 | 210                |
| Data             | Electrical Current (A)         |     | 1.2                | 1.26               | 1.2                | 1.26               |
| _                | 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              | 72/83              |
|                  |                                | 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       |
| Dimensions       |                                | 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     |
| DITTIETISIOTIS _ | 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     |
|                  |                                | mm  | 680×690×890        | 660×670×2020       | 680×690×890        | 660×670×2020       |
|                  | Packing Dimensions (W*D*H)     | in  | 26.8×27.2×35       | 26×26.4×79.5       | 26.8×27.2×35       | 26×26.4×79.5       |
|                  | Container Load (20'/40'/40'H)  |     | 48/102/102         | 27/57/57           | 48/102/102         | 27/57/57           |
|                  | High/Low Temperature           |     | Y                  | Y                  | Y                  | Y                  |
|                  | Power Failure                  |     | Optional           | Optional           | Optional           | Optional           |
| Alarms           | Sensor Error                   |     | Y                  | Y                  | Y                  | Y                  |
|                  | Door Ajar                      |     | Υ                  | Y                  | Y                  | Y                  |
|                  | Remote Alarm                   |     | Optional           | Optional           | Optional           | Optional           |
|                  | Caster                         |     | 2                  | 4                  | 2                  | 4                  |
|                  | Foot                           |     | 2                  | 2                  | 2                  | 2                  |
|                  | Shelves/Baskets                |     | 2/1                | 4/0                | 2/1                | 4/0                |
| Accessories      | Water Tray                     |     | 1                  | 1                  | 1                  | 1                  |
|                  | Padlock Adapter Kit/Quantity   |     | /                  | 1                  | /                  | 1                  |
| Ī                | Built-in Key Door Lock/Quantit | ty  | 1                  | 1                  | 1                  | 1                  |
| Others           | Certification                  |     | CE ATEX            | CE ATEX            | CE ATEX            | CE ATEX            |

Product appearance and specifications are subject to change without notice

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# -30°C Spark Free Freezer

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-25L92FL

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  $\pm 4^{\circ}$ 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.





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## **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 failure 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.

# -30°C Spark Free Freezer

# **Specifications**

|                 | Model                         |     | DW-25L92SF     | DW-30L278SF    | DW-30L278FL               |
|-----------------|-------------------------------|-----|----------------|----------------|---------------------------|
|                 | Cabinet Type                  |     | Upright        | Upright        | Upright                   |
|                 | Climate Class                 |     | SN N           | SN N           | SN N                      |
|                 | Cooling Type                  |     | Direct Cooling | Direct Cooling | Direct Cooling            |
| Technical Data  | Defrost Mode                  |     | Manual         | Manual         | Manual                    |
|                 | Refrigerant                   |     | HC             | HC             | HC                        |
|                 | Sound Level(dB(A))            |     | 27             | 40             | 40                        |
| Deufermen       | Cooling Performance(°C)       |     | -25            | -30            | -30                       |
| Performance     | Temperature Range (°C)        |     | -10~-25        | -10~-30        | -10~-30                   |
| <u> </u>        | Controller                    |     | Microprocessor | Microprocessor | Microprocessor            |
| Control         | Display                       |     | LED            | LCD            | LCD                       |
|                 | Power Supply(V/Hz)            |     | 220~240/50     | 220~240/50     | 220~240/50                |
| Electrical Data | Power(W)                      |     | 160            | 330            | 330                       |
|                 | Electrical Current(A)         |     | 0.75           | 2.0            | 2.0                       |
|                 | Capacity(L/Cu.Ft)             |     | 92/3.3         | 278/9.8        | 278/9.8                   |
|                 | Net/Gross Weight(approx)      | kg  | 46/51          | 115/135        | 115/135                   |
|                 |                               | lbs | 101/113        | 254/298        | 254/298                   |
|                 | Interior Dimensions(W*D*H)    | mm  | 435*410*635    | 520*435*1230   | 520*435*1230              |
| Dimensions      |                               | in  | 17.1*16.1*25   | 20.5*17.1*48.4 | 20.5*17.1*48.4            |
| Diriensions     | Exterior Dimensions(W*D*H)    | mm  | 597*635*835    | 745*675*1810   | 745*675*1810              |
|                 |                               | in  | 23.5*25*32.9   | 29.3*26.6*71.3 | 29.3*26.6*71.3            |
|                 | D1: Di                        | mm  | 680*690*910    | 805*725*1970   | 805*725*1970              |
|                 | Packing Dimensions(W*D*H)     | in  | 26.8*27.2*35.8 | 31.7*28.5*77.6 | 31.7*28.5*77.6            |
|                 | Container Load (20'/40'/40'H) |     | 48/102/102     | 23/46/46       | 23/46/46                  |
|                 | High/Low Temperature          |     | Υ              | Υ              | Υ                         |
|                 | Remote Alarm                  |     | Υ              | /              | /                         |
| Alarms          | Power Failure                 |     | /              | Υ              | Υ                         |
|                 | Sensor Error                  |     | Υ              | Y              | Y                         |
|                 | Door Ajar                     |     | Υ              | /              | /                         |
|                 | Caster                        |     | Υ              | Y              | Υ                         |
| Accessories     | Foot                          |     | Υ              | Y              | Y                         |
|                 | Drawers/Inner Doors           |     | 3/-            | 6/-            | 6/-                       |
| 0.11            | Certification                 |     | CE ATEX        | CE ATEX        | CE ATEX                   |
| Others          | Interior Material/Colour      |     | PS Plate/White | PS Plate/Grey  | Antistatic PS Plate/Black |

Product appearance and specifications are subject to change without notice

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# Laboratory Refrigerator

# **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 ±3°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**







Glass Shelve

### **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.







Fan/Interior Light

Display Board

# **Laboratory Refrigerator**

# **Specifications**

|                 | Model                         |     | HLR-198F                 | HLR-310F                 |
|-----------------|-------------------------------|-----|--------------------------|--------------------------|
|                 | Туре                          |     | Upright                  | Upright                  |
|                 | Climate Class                 |     | N                        | N                        |
| Technical       | Cooling Type                  |     | Forced Air Cooling       | Forced Air Cooling       |
| Data            | Defrost Mode                  |     | Auto                     | Auto                     |
|                 | Refrigerant                   |     | R600a                    | R600a                    |
|                 | Sound Level (dB(A))           |     | 37                       | 40                       |
| D - f           | Temperature Range (°C)        |     | 3~16 Adjustable          | 3~16 Adjustable          |
| Performance     | Ambient Temperature (°C)      |     | 16~32                    | 16~32                    |
| Combust         | Controller                    |     | Microprocessor           | Microprocessor           |
| Control         | Display                       |     | LED                      | LED                      |
|                 | Power Supply (V/Hz)           |     | 220-240/50               | 220-240/50               |
| Electrical Data | Power (W)                     |     | 135                      | 225                      |
| Jula            | Electrical Current (A)        |     | 1                        | 1.6                      |
|                 | Capacity (L/Cu.Ft)            |     | 198/7.0                  | 310/10.9                 |
|                 | Net/Gross Weight (approx)     | kg  | 57/66                    | 72/83                    |
|                 |                               | lbs | 97/108                   | 158.7/183                |
|                 | Interior Dimensions (W*D*H)   | mm  | 455*445*900              | 560*500*1290             |
| Dimensions      |                               | in  | 18.0*17.5*35.5           | 22.0*19.7*50.8           |
|                 | Exterior Dimensions (W*D*H)   | mm  | 530*570*1530             | 605*598*1840             |
|                 |                               | in  | 20.9*22.5*60.3           | 23.8*23.6*73.6           |
|                 |                               | mm  | 595*640*1660             | 660*670*1920             |
|                 | Packing Dimensions (W*D*H)    | in  | 23.4*25.2*65.4           | 26.0*26.4*75.6           |
|                 | Container Load (20'/40'/40'H) |     | 48/102/102               | 27/57/57                 |
|                 | High/Low Temperature          |     | Υ                        | Y                        |
| Alarms          | Sensor Error                  |     | Υ                        | Y                        |
|                 | Door Ajar                     |     | Υ                        | Y                        |
|                 | Caster                        |     | 4                        | 4                        |
|                 | Foot                          |     | 2                        | 2                        |
| Accessories     | Porthole                      |     | Υ                        | Y                        |
|                 | Shelves                       |     | 4                        | 4                        |
| Temperature S   | Setting Mode                  |     | Password Protection      | Password Protection      |
| Temperature S   | Sensor                        |     | 1 Resistance Thermometer | 1 Resistance Thermometer |
| Power Consun    | nption (kWh/24h)              |     | 0.95                     | 1.05                     |
| Certification   |                               |     | CE                       | CE                       |

Product appearance and specifications are subject to change without notice

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# Application

Heating applications include warming of blood, blood products, 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**

- Extremely low noise level just 30 dB.
- Large and clear 7-inch LCD touch screen.
- Easy to clean stainless steel interior and flat external surfaces.
- Multiple alarms for over-heating protection.







7 Inch LCD Screen



UV Sterilization Lamp



Stainless Steel Partition

# **Blood/Fluid Warming Cabinet**

# **Specifications**

|              | Model                         |     | HYR-111                             | HYR-351                           |
|--------------|-------------------------------|-----|-------------------------------------|-----------------------------------|
|              | Cabinet Type                  |     | Upright, one glass door             | Upright, one glass door           |
| Technical    | Climate Class                 |     | SN                                  | SN                                |
| Data         | WarmingType                   |     | Forced air warming                  | Forced air warming                |
|              | Sound Level (dB(A))           |     | 42                                  | 42                                |
| Performance  | Temperature Range (°C)        |     | 26°C~50°C,above ambient temperature | 26°C~50°C,above ambient temperatu |
| Control      | Controller                    |     | Microprocessor                      | Microprocessor                    |
| SOLITIOI     | Display                       |     | LCD Touch Screen                    | LCD Touch Screen                  |
| Electrical   | Power Supply (V/Hz)           |     | 220/50                              | 220/50                            |
| Data         | Power(W)                      |     | 130                                 | 360                               |
|              | Capacity (L/Cu.Ft)            |     | 111/3.9                             | 351/12.39                         |
|              | Net/Gross Weight (approx)     | kg  | 58/68                               | 108/118                           |
|              |                               | lbs | 127.6/149.6                         | 237.6/259.6                       |
|              | Interior Dimensions (W*D*H)   | mm  | 477*528*462                         | 477*486*1402                      |
| Dimensions _ |                               | in  | 18.67*20.67*18.1                    | 18.68*19*54.89                    |
|              | F 1 D' /\/\*D\*\\             | mm  | 597*682*833                         | 597*682*1813                      |
|              | Exterior Dimensions (W*D*H)   | in  | 23.37*26.7*32.61                    | 23.37*26.7*70.98                  |
|              |                               | mm  | 680*742*913                         | 680*742*1893                      |
|              | Packing Dimensions (W*D*H)    | in  | 26.6*29.1*35.7                      | 26.6*29.1*74.1                    |
|              | Container load (20'/40'/40'H) |     | 24/48/48                            | 24/48/48                          |
|              | High/Low Temperature          |     | Y                                   | Y                                 |
| Alarms       | Sensor Error                  |     | Υ                                   | Y                                 |
|              | Door Ajar                     |     | Υ                                   | Y                                 |
|              | Caster                        |     | Υ                                   | Y                                 |
| Accessories  | Foot                          |     | Υ                                   | Y                                 |
| 1008501185 F | Porthole                      |     | Υ                                   | Y                                 |
|              | Shelves                       |     | Y                                   | Y                                 |

 $\label{product} \mbox{Product appearance and specifications are subject to change without notice}$ 

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# Pharmacy Refrigerator

### **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** 

# **Combined Refrigerator and Freezer**

# **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
- •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.
- $\bullet \textbf{Robust compressor system operating with environmentally friendly hydrocarbon refrigerant. } \\$
- •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**

|             | Mode                     | I                       | HYCD-469   |      |
|-------------|--------------------------|-------------------------|--|------|
|             | Cabinet Type             |                         | Upright  |      |
|             | Climate Class            |                         | N  |      |
| Technical   | Cooling Type             |                         | Refrigertor: Forced air cooling<br>Freezer: Direct cooling       | Din  |
| Data        | Defrost Mode             |                         | Refrigerator: Auto<br>Freezer: Manual                            |      |
|             | Refrigerant              |                         | HC   |      |
|             | Sound Level (dB          | (A))                    | 45   |      |
|             | Cooling perform          | ance (°C)               | Freezer: -40   |      |
| Performance | Temperature Ra           | inge (°C)               | Refrigerator 2~8<br>Freezer -10~-40                              | Alar |
| Combani     | Controller               | ntroller Microprocessor |  | Aldi |
| Control     | Display                  |                         | LED  |      |
|             | Power Supply (V          | Hz)                     | 220~240/50/60  |      |
| Electrical  | Power (W)                |                         | 580  |      |
| Data        | Electrical Curren        | t (A)                   | 3  |      |
|             | Capacity (L/Cu.F         | -t)                     | Refrigerator:269/9.5<br>Freezer: 200/7.1                         | Acc  |
| Dimensions  | Net/Gross                | kg                      | 176/207  |      |
|             | Weight (approx) Interior | lbs<br>mm               | 388.0/456.4<br>Refrigerator: 593*585*800<br>Freezer: 553*545*660 |      |
|             | Dimensions<br>(W*D*H)    | in                      | Refrigerator: 23.3*23.0*31.5<br>Freezer: 21.8*21.5*26.0          | Oth  |

|             | Model                  |              | HYCD-469                          |  |
|-------------|------------------------|--------------|-----------------------------------|--|
|             | Exterior<br>Dimensions | mm           | 738*834*1975                      |  |
|             | (W*D*H)                | in           | 29.1*32.8*77.8                    |  |
| Dimensions  | Packing                | mm           | 800*875*2100                      |  |
|             | Dimensions<br>(W*D*H)  | in           | 31.5*34.4*82.7                    |  |
|             | Container load (20     | 0'/40'/40'H) | 14/30/30                          |  |
|             | High/Low Temp          | perature     | Υ                                 |  |
|             | Remote Alarm           |              | Y                                 |  |
| A.1         | Power Failure          |              | Υ                                 |  |
| Alarms      | Sensor Error           |              | Υ                                 |  |
|             | Low Battery            |              | Υ                                 |  |
|             | High Ambient To        | emp          | Υ                                 |  |
|             | Caster                 |              | Υ                                 |  |
|             | Foot                   |              | Υ                                 |  |
|             | Porthole               |              | Υ                                 |  |
| Accessories | Shelves/Drawe          | rs           | Refrigerator: 3/0<br>Freezer: 3/0 |  |
|             | USB Interface          |              | Υ                                 |  |
| Others      | Certification          |              | CE                                |  |

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HYCD-282 HYCD-282A



# **Combined Refrigerator and Freezer**

# **Combined Refrigerator and Freezer**

### **Excellent Performance**

- $\bullet$  Refrigerator compartment temperature range: 2°C to 8°C
- Adjustable temperature range for freezer compartment: -20°C to -40°C

### Separately Controlled Refrigerator and Freezer

- USB port for data download
- Capable of recording temperature data for up to ten years
- Independent display for refrigerator and freezer sections
- Adjustable shelving in refrigerator and freezer has drawers
- Multiple alarms to detect malfunctions

# **Specifications**

|                 | Model                         | HYCD- | 282                          | HYCD-282A     |                          |                |  |
|-----------------|-------------------------------|-------|------------------------------|---------------|--------------------------|----------------|--|
|                 | Cabinet Type                  |       | Uprig                        | nt            | Upright                  |                |  |
|                 | Climate Class                 | N     |                              | N             |                          |                |  |
|                 | O 1: T                        |       | Refrigertor:Force            | d Air Cooling | Refrigertor:Force        | ed Air Cooling |  |
| Technical Data  | Cooling Type                  |       | Freezer: Direc               |               | Freezer: Dire            | ct Cooling     |  |
|                 | Defrost Mode                  |       | Refrigerator:Auto            |               | Refrigerator:Auto        |                |  |
|                 | Refrigerant                   |       | CFC-F                        |               | CFC-Fi                   |                |  |
|                 | Sound Level (dB(A))           |       | 43                           |               | 43                       |                |  |
|                 | Cooling Performance (°C)      |       | Freezer                      | :-40          | Freezer                  | r:-40          |  |
| Performance     | Temperature Range (°C)        |       | 2~8/-20                      | ~-40          | 2~8/-20                  | )~-40          |  |
| O 1 1           | Controller                    |       | Microprod                    | essor         | Micropro                 | cessor         |  |
| Control         | Display                       |       | LFD                          |               | LFC                      |                |  |
|                 | Power Supply (V/Hz)           |       | 220~240                      | 0/50          | 220~240/50               | 208-230/60     |  |
| Electrical Data | Power (W)                     |       | 400                          | .,            | 400                      | 400            |  |
|                 | Electrical Current (A)        |       | 2.8                          |               | 2.8                      | 2              |  |
|                 |                               |       | Refrigerator                 | :185/6.5      | Refrigerator             | r:185/6.5      |  |
|                 | Capacity (L/Cu.Ft)            |       | Freezer: 97/3.4              |               | Freezer: 97/3.4          |                |  |
|                 |                               | kg    | 145/1                        |               | 145/160                  |                |  |
|                 | Net/Gross Weight (approx)     | lbs   | 320.0/3                      |               | 320.0/3                  |                |  |
|                 | Interior Dimensions (W*D*H)   |       | Refrigerator: 60             |               | Refrigerator:605*510*720 |                |  |
|                 |                               | mm    | Freezer: 515*                |               | Freezer: 515*465*440     |                |  |
| Dimensions      |                               |       | Refrigerator: 23.8*20.0*28.3 |               | Refrigerator: 23         | .8*20.0*28.3   |  |
|                 |                               | ın    | Freezer: 20.3*18.3*17.3      |               | Freezer: 20.3*18.3*17.3  |                |  |
|                 |                               | mm    | 736*660*1810                 |               | 736*660*1810             |                |  |
|                 | Exterior Dimensions (W*D*H)   | in    | 29.0*26.0*71.3               |               | 29.0*26.0*71.3           |                |  |
|                 |                               |       | 775*720*1930                 |               | 775*720*1930             |                |  |
|                 | Packing Dimensions (W*D*H)    | in    | 30.5*28.3*76                 |               | 30.5*28.3*76             |                |  |
|                 | Container Load (20'/40'/40'H) |       | 21/45/45                     |               | 21/45/45                 |                |  |
|                 | High/Low Temperature          |       | Υ Υ                          |               | Υ Υ                      |                |  |
|                 | Remote Alarm                  |       | Υ                            |               | Y                        |                |  |
| A 1             | Power Failure                 |       | Y                            |               | Y                        |                |  |
| Alarms          | Sensor Error                  |       | Y                            |               | Y                        |                |  |
|                 | Low Battery                   |       | Y                            |               | Y                        |                |  |
|                 | High Ambient Temp             |       | Y                            |               | Y                        |                |  |
|                 | Caster                        |       | Y                            |               | Y                        |                |  |
|                 | Foot                          |       | Y                            |               | Y                        |                |  |
| Accessories     | Porthole                      |       | Y                            |               | Y                        |                |  |
| 10000001100     | Shelves/Drawers               |       | Refrigerator: 3/1            | Freezer: 0/2  | Refrigerator: 3/1        | Freezer: 0/    |  |
|                 | USB Interface                 |       | Υ                            |               | Υ                        |                |  |
| Others          | Certification                 |       | CF                           |               | CF                       | 1              |  |

Product appearance and specifications are subject to change without notice

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### Smart Management of Reagents Starts with IoT Technology

From manufacturer to patients, the entire process is automatically and smartly controlled.



**HYC-390R** 



Smart IoT system means simple, precise and effective reagent storage management

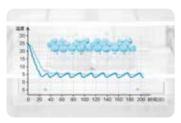
Automatic management of reagents is a reality with the utilization of the RFID based smart IoT management system



Secure, authorized access NFC authorized management system is



Statistical analysis of data and precise verification for compliance



Precise temperature control for ultimate safety of test reagents

2°C-8°C storage temperature and real time



Smart alerts for maintenance and

Smart alarm and alerts for abnormal temperature, low storage level alerts deadline for clinical trials



### Manpower savings

Smart process control improves accuracy and efficiency, saving manpower for reagent management.



### **Optimized procurement process** reduces waste

Accurately and timely control of reagent usage. Make intelligent procurement decisions to reduce shortage and reduce inventory.



### Rigorous reagent management to reduce risk

Constant temperature for reagent storage Automatically trigger temperature alarms when fridge reaches critical temperature, ensuring safety of reagent usage.

# **RFID Refrigerator**



### **HYC-509R**

- Automatic inventory check, one-key query, instantly and efficiently.
- High definition LCD touch screen, automatic record of warehouse-in and warehouse-out information. It can always trace who, when and where to access reagent information, which is convenient and accurate, and it can achieve management visualization.
- Automatic early warning of the validity period, first in, first out, to eliminate
- The system automatically generate order, which saves time and effort.
- One-click report generation, efficient and accurate.
- The platform will real-time monitor equipment operating status, safe and
- Web-side reagent management, assist users in the whole process of data collection and analysis, accurate accounting, scientific guidance, and one platform can manage multiple equipment.

### **Specifications**

|             | Model                         |     | HYC-390R            | HYC-509R                   |
|-------------|-------------------------------|-----|---------------------|----------------------------|
|             | Cabinet Type                  |     | Upright,single door | Upright, single glass door |
|             | Climate Class                 |     | N                   | N                          |
| Technical   | Cooling Type                  |     | Forced air cooling  | Forced air cooling         |
| Data        | Defrost Mode                  |     | Auto                | Auto                       |
|             | Refrigerant                   |     | HC                  | HC                         |
|             | Sound level (dB(A))           |     | 43                  | 40                         |
| Performance | Cooling performance (°C)      |     | ±3                  | ±2                         |
| Performance | Temperature Range (°C)        |     | 2-8°C               | 2~8                        |
| Control     | Controller                    |     | Microprocessor      | Microprocessor             |
| COLITOI     | Display                       |     | LED                 | Touch                      |
| -1          | Power Supply (V/Hz)           |     | 208~230/50/60       | 208~230/50/60              |
| Electrical  | Power (W)                     |     | 225                 | 400                        |
| Data        | Electrical Current (A)        |     | 1.2                 | 2                          |
|             | Capacity (L/Cu.Ft)            |     | 390/ 13.77          | 509/17.97                  |
|             | Net/Gross Weight (approx)     | kg  | 116/139             | 180/215                    |
|             |                               | lbs | 255.73/306.44       | 396/473                    |
|             | Interior Dimensions (W*D*H)   | mm  | 530*555*1380        | 593*585*1500               |
| Dimensions  |                               | in  | 20.9*21.9*54.3      | 23.21*22.9*58.8            |
| Jimensions  | Exterior Dimensions (W*D*H)   | mm  | 720*710*1965        | 693*813*1981               |
|             |                               | in  | 28.3*28*77.4        | 27.1*31.9*77.7             |
|             | D 1: D:                       | mm  | 792*790*2110        | 800*875*2100               |
|             | Packing Dimensions (W*D*H)    | in  | 31.2*31*82.9        | 31.3*34.3*82.3             |
|             | Container load (20'/40'/40'H) |     | 14/45/45            | 12/24/24                   |
|             | High/Low Temperature          |     | Υ                   | Y                          |
|             | Remote Alarm                  |     | Υ                   | Υ                          |
| Alarms      | Power Failure                 |     | Υ                   | Y                          |
| AldITIS     | Sensor Error                  |     | Υ                   | Y                          |
|             | Low Battery                   |     | Υ                   | Y                          |
|             | Door Ajar                     |     | Υ                   | Y                          |
|             | Caster                        |     | Υ                   | Y                          |
|             | Foot                          |     | Υ                   | Y                          |
| Accessories | Porthole                      |     | Υ                   | Y                          |
|             | Shelves                       |     | 5                   | Y                          |
| Others      | Certification                 |     | CE                  | CE                         |

R suffix - RFID with IoT model for reagent management

Product appearance and specifications are subject to change without notice

# Pharmacy Refrigerator

# **Pharmacy Refrigerator with TEC**

### Pharmacy Refrigerator with Thermoelectric Cooler (TEC) Technology

The refrigerator can be used to store vaccines, medicines and laboratory products at 2°C to 8°C temperature range in pharmaceutical companies, laboratories, clinics, and hospitals.





### With TEC technology for super low noise and minimum vibration

- Military grade TEC refrigeration technology (also called a Peltier device)
- Low noise DC fan
- Less than 35dB(A) sound level



### Multi temperature protection

- Air temperature sensor for control
- Display sensor for displaying the actual temperature
- Overtemp or high-end temperature sensor to protect TEC module for a service life of more than 10 years



### Microprocessor temperature control for 2°C to 8°C

- Forced air cooling with ± 1°C temperature uniformity and display accuracy of 0.1°C
- Maximum power for rapid temperature pulldown

# **Pharmacy Refrigerator with TEC**

# Safer by Design

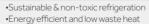
Theory of Operation: Thermoelectric cooling uses the Peltier effect to create a heat flux at the junction of two different types of materials. The cooling power is controlled by pulsing signals to TEC module for tight temperature control of ±1°C.

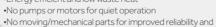


# The Advantage of Compressor Free Refrigerator

### **TEC Technology**







- •Compact design allows more storage capacity
- Lab & Clean room ready dust-free operation



### **Conventional Compressor**



- •Less energy efficient
- •Sound producing motors and compressors
- Moving mechanical parts
- •Larger footprint, demands more valuable space •Expensive filtration required



### Power Protection Switch and Removable Power Cord

- Dual safety protections
- Power cord plug accessible on exterior of unit
- Suitable for on and under counter installation
- Universal power supply 220V/115V at 50/60Hz



### Frost Free Cooling Fins on TE Module

- Defrost process initiated after accumulated run hours
- Temperature does not exceed 7°C during defrost process



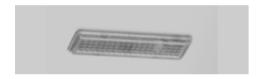
### Natural Evaporation of Condensate

• Interior water is drained through a small hole into a stainless steel catch box. Condensate water is evaporated by warm air flow



### Self-closing Doors

- Door stays opened at 90 degree
   Door automatically swings closed at less than 90 degree to reduce moisture infiltration
- Tested to 100,000 times door opening and closing



### **LED Lighting**

• Led lights illuminate interior



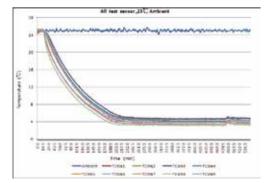
Low noise DC fan, sound level less than 35dB (A)

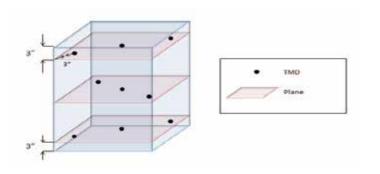


### Removable Trays with ABS Material

- Manufactured using chemical and thermally stable ABS
- Adjustable three-tray designEach tray holds thirty 50\*50 mm storage boxes, totalling 150 boxes
- Trays designed for over 500,000 movements
- Weight limit at 100 kg/sq. m

# Typical Performance Characteristics at 25°C Ambient





# **Specifications**

|                    | Model                         |     | HYC-               | 51BF            |  |  |  |
|--------------------|-------------------------------|-----|--------------------|-----------------|--|--|--|
|                    | Cabinet Type                  |     | Upri               | ght             |  |  |  |
| Technical          | Climate Class                 |     | N                  | I               |  |  |  |
| Data               | Cooling Type                  |     | Force Air Cooling  |                 |  |  |  |
|                    | Sound Level (dB(A))           |     | 34                 |                 |  |  |  |
| Performance        | Cooling Performance (°C)      |     | ±2                 |                 |  |  |  |
| Performance        | Temp Range (°C)               |     | 2-                 | 8               |  |  |  |
|                    | Controller                    |     | Micropro           | ocessor         |  |  |  |
| Control            | Display                       |     | LC                 | D               |  |  |  |
|                    | LCD Size (in)                 |     | 7                  |                 |  |  |  |
|                    | Power Supply (V/Hz)           |     | 115/60             | 220~240/50      |  |  |  |
| Electrical<br>Data | Power Input (W)               |     | 165                |                 |  |  |  |
| Dala               | Rated Current (A)             |     | 1.5                | 0.8             |  |  |  |
|                    | N. I.C. and M. T. I.C. and A. | kg  | 50/57              |                 |  |  |  |
|                    | Net/Gross Weight (approx)     | lbs | 110.3/             | 125.8           |  |  |  |
|                    |                               | mm  | 380*30             | 0*470           |  |  |  |
|                    | Interior Dimensions (W*D*H)   | in  | 14.96*11.81*18.5   |                 |  |  |  |
| Dimensions         |                               | mm  | 525*565*720        |                 |  |  |  |
|                    | Exterior Dimensions (W*D*H)   | in  | 20.7*22.2*28.3     |                 |  |  |  |
|                    |                               | mm  | 550*60             | 0*883           |  |  |  |
|                    | Packing Dimensions (W*D*H)    | in  | 21.7*23.6*34.8     |                 |  |  |  |
|                    | Container Load (20'/40'/40'H) |     | 72/152             | 2/152           |  |  |  |
|                    | High/Low Temp                 |     | Υ                  | ,               |  |  |  |
| A.1                | Sensor Error                  |     | Υ                  |                 |  |  |  |
| Alarms             | Door Ajar                     |     | Υ                  | ,               |  |  |  |
|                    | Alarm Mode                    |     | Audible Buzzing ar | nd Alarm Window |  |  |  |
|                    | LevelLeg                      |     | 4                  |                 |  |  |  |
| Accessories        | Tray                          |     | 3                  |                 |  |  |  |
|                    | Data Log                      |     | USB                |                 |  |  |  |
| Others             | Certification                 |     | UL                 | CE              |  |  |  |

Product appearance and specifications are subject to change without notice

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# **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

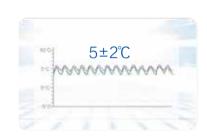


### Secure Access and Authorized Management

- 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** • VFD driven compressor

• High-efficiency fan motor

- Advanced control system
- Six sensors
- High efficiency air flow system
- Precise temperature control
- Uniform temperature distribution



### 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

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# **Specifications**

**Pharmacy Refrigerator** 

|   | Model                        |                           | HYC-509                    | HYC-509F                   | HYC-509T                   | HYC-509TF                  | HYC-1099                   | HYC-1099F                     | HYC-1099T                  | HYC-1099TF                 |  |
|---|------------------------------|---------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|-------------------------------|----------------------------|----------------------------|--|
|   | 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                |                           | Ν                          | N                          | N                          | N                          | N                          | N                             | N                          | N                          |  |
| Technical   | Cooling Type                 |                           | Forced air cooling         | Forced air cooling         | Forced air cooling         | Forcedair cooling          | Forced air cooling         | Forced air cooling            | Forced air cooling         | Forced air cooling         |  |
| Data  | 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             |  |
| Control   | Display                      |                           | LED                        | LED                        | Touch                      | Touch                      | LED                        | LED                           | Touch                      | Touch                      |  |
|   | Power Supply (V/Hz)          |                           | 208~230/50/60              | 208~230/50/60              | 208~230/50/60              | 208-230/50/60              | 208~230/50/60              | 208~230/50/60                 | 208~230/50/60              | 208~230/50/60              |  |
| Electrical<br>Data  | Power (W) 370                |                           | 370                        | 315                        | 370                        | 315                        | 470                        | 440                           | 470                        | 440                        |  |
| Data  | Electrical Current (A)       |                           | 1.85                       | 1.75                       | 1.85                       | 1.75                       | 2.5                        | 2.25                          | 2.5                        | 2.25                       |  |
|   | 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             |  |
| Dimensions  |                              | 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              |  |
|   | Exterior Dimensions (W*D*H   | 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             |  |
|   |                              | 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              |  |
|   | Packing Dimensions (W*D*H    | ing Dimensions (W*D*H) in |                            | 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             |  |
|   | Container Load (20'/40'/40'H | )                         | 12/24/24                   | 12/24/24                   | 12/24/24                   | 12/24/24                   | 6/12/12                    | 6/12/12                       | 6/12/12                    | 6/12/12                    |  |
|   | High/Low Temperature         |                           | Υ                          | Y                          | Y                          | Υ                          | Y                          | Υ                             | Υ                          | Y                          |  |
|   | Remote Alarm                 |                           | Υ                          | Υ                          | Y                          | Υ                          | Y                          | Υ                             | Υ                          | Y                          |  |
| - Inctions  | Power Failure                |                           | Υ                          | Y                          | Y                          | Υ                          | Y                          | Y                             | Y                          | Y                          |  |
| -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>- | Sensor Error                 |                           | Υ                          | Υ                          | Y                          | Υ                          | Y                          | Υ                             | Y                          | Y                          |  |
|   | Low Battery                  |                           | Υ                          | Υ                          | Y                          | Υ                          | Y                          | Υ                             | Y                          | Y                          |  |
|   | Door Ajar                    |                           | Υ                          | Υ                          | Υ                          | Υ                          | Y                          | Υ                             | Υ                          | Y                          |  |
|   | Caster                       |                           | Υ                          | Υ                          | Υ                          | Υ                          | Y                          | Υ                             | Y                          | Y                          |  |
|   | Foot                         |                           | Υ                          | Υ                          | Y                          | Υ                          | Y                          | Υ                             | Y                          | Y                          |  |
| Accessories   | Porthole                     |                           | Υ                          | Υ                          | Υ                          | Υ                          | Y                          | Υ                             | Y                          | Y                          |  |
|   | Shelves/Drawers              |                           | Y/Optional                 | Y/Optional                 | Y/Optional                 | Y/Optional                 | Y/Optional                 | Y/Optional                    | Y/Optional                 | Y/Optional                 |  |
|   | USB Interface                |                           | Y                          | Y                          | Y                          | Y                          | Y                          | Y                             | Y                          | Y                          |  |
| Others  | Certification                |                           | CE                         | CE                         | CE                         | CE                         | CE                         | CE                            | CE                         | CE                         |  |

T suffix - Advanced with touchscreen

Product appearance and specifications are subject to change without notice

·115· ·116· The Haier pharmacy refrigerators are suitable for pharmacies, drug stores, pharmaceutical companies, hospitals, clinics and other pharmaceutical storage areas such as storage and logistics.



**HYC-1378** 

### **Durable and Reliable - Key Features**

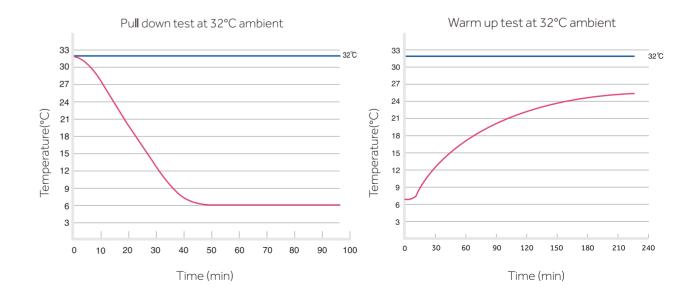
- Energy efficient hydrocarbon (HC) refrigeration system
- Permanently lubricated cooling fan for safety and longevity
- Forced-air cooling with optimized air distribution system designed to achieve maximum temperature uniformity and stability
- Optimized refrigeration system design for more effective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



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### **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

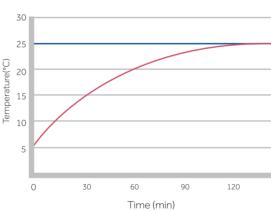
# **Ergonomic Design**

- 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

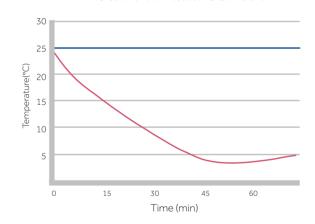
### Safety

- 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





HYC-390 Pull down test at 25°C ambient















Pharmacy Refrigerator

# 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.



# **Under-Counter Pharmacy Refrigerator**



## **Reliability and Key Features**

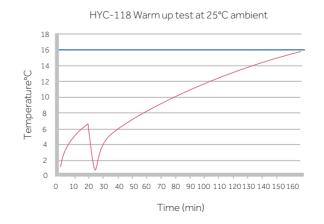
- Energy efficient hydrocarbon (HC) refrigeration system
- Permanently lubricated cooling fan for safety and longevity
- Forced-air cooling with optimized air distribution system designed to achieve maximum temperature uniformity and stability
- Optimized refrigeration system design for more effective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

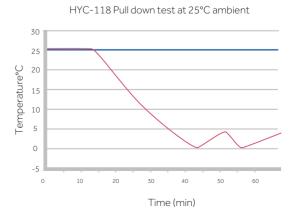
# Safety

- 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





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**Pharmacy Refrigerator** 





















| Public   P   | •             |                       |  |            | 200        |            |            | -             | -             | -            |               | · ·                                   |             | 1           | •                 | -                 |              | 18               |                    |                       |                |                                       |         |                      |
|--|---------------|-----------------------|--|------------|------------|------------|------------|---------------|---------------|--------------|---------------|---------------------------------------|-------------|-------------|-------------------|-------------------|--------------|------------------|--------------------|-----------------------|----------------|---------------------------------------|---------|----------------------|
| Note the content of   |               | Model                 |  | HYC        | C-68       | HYC        | C-68A      | HYC-          | ·118          | HY           | C-118A        | HYC-29                                | 90          | HYC         | -390              | HYC               | -390F        | HYC-610          | 0                  | HYC-9                 | 40             | HYC-940F                              | Н       | YC-1378              |
| Part      |               | Cabinet Type          |  | Upright, S | Solid Door | Upright,   | Glass Door | Upright, So   | olid Door     | Upright      | ;, Glass Door | Upright,Single                        | e Door      | Upright,Si  | ngle Door         | Upright, S        | ingle Door   | Upright,Single [ | Door               | Upright, D<br>Glass D | ouble          | Upright, Double<br>Solid Door         | Upright | t, double do         |
|  |               | Climate Class         |  | 1          | N          |            | N          | N             |               |              | N             | N                                     |             | ١           | I                 |                   | N            | N                |                    | N                     |                | N                                     |         | N                    |
| Proper books   Pro    | chnical       | Cooling Type          | Type Forced Air Cooling Forced Air Cooling |            | Forced Air | Cooling    | Forced     | 1 Air Cooling | Forced Air Co | ooling       | Forced A      | ir Cooling                            | Forced A    | Air cooling | Forced Air Coo    | oling             | Forced Air C | Cooling          | Forced Air Cooling | Force                 | ed Air Cooling |                                       |         |                      |
|  | ta            | Defrost Mode          |  | Au         | uto        | А          | Auto       | Aut           | to            | ,            | Auto          | Auto                                  |             | Au          | ito               | Au                | uto          | Auto             |                    | Auto                  | ,              | Auto                                  |         | Auto                 |
| Control   Cont   | Refrigerant   | rigerant              |  | erant HC   |            | HC         | НС         | HC            | HC            | HC           | HC            | HC                                    |             | Н           | С                 | H                 | IC           | HC               |                    | HC                    |                | HC                                    |         | НС                   |
| Properties   Pro   |               | Sound Level (dB(A))   | ))   | 4          | 11         |            | 41         | 41            | 1             |              | 41            | 43                                    | 43          | 43          | 43                | 43                | 43           | 43 4             | 45                 | 43                    | 45             | 43                                    | 43      | 5 45                 |
| Delay   LED   LE   | ormance       | Temperature Rang      | ge (°C)                                    | 2-         | -8         | 2          | 2-8        | 2-            | 8             |              | 2-8           | 2-8                                   |             | 2-          | -8                | 2                 | -8           | 2-8              |                    | 2-8                   |                | 2-8                                   |         | 2-8                  |
| Property    |               | Controller            |  | Micropro   | ocessor    | Microp     | processor  | Micropro      | ocessor       | Micro        | processor     | Microproce                            | ssor        | Micropro    | ocessor           | Micropr           | rocessor     | Microprocess     | sor                | Microproc             | essor          | Microprocessor                        | Micro   | oprocesso            |
| Second Current (A)   Second    | ntrol         | Display               |  | LE         | ED         | L          | .ED        | LE            | D             |              | LED           | LED                                   |             | LE          | ED                | L                 | ED           | LED              |                    | LED                   |                | LED                                   |         | LED                  |
| Pack      |               | Power Supply (V/Hz    | z)   | 220~240/50 | 115/60     | 220~240/50 | 0 115/60   | 220~240/50/60 | 115/60        | 220~240/50/6 | 50 115/60     | 115/60 220                            | 0-240/50/60 | 115/60      | 220-240<br>/50/60 | 220-240<br>/50/60 | 115/60       | 220~240/50/60    | 115/60 22          | 20~240/50/60          | 3 115/60       | 220~240/50/60                         | 220~24  | 40/ 115/             |
| Capacity   LCLUT   | ctrical<br>ta | Power (W)             |  | 140        | 150        | 140        | 150        | 190           | 190           | 230          | 230           | 200                                   | 350         | 240         | 360               | 210               | 115          | 550              | 500                | 700                   | 850            | 500                                   |         |                      |
| Net/Cross Weight   Maj   |               | Electrical Current (A | (A)  | 0.85       | 1.7        | 0.85       | 1.7        | 1.4           | 1.4           | 1.5          | 1.5           | 2.2                                   | 1.8         | 2.4         | 1.8               | 1                 | 1.5          | 3                | 6.2                | 3.5                   | 7.5            | 2.7                                   | 3       | 7.                   |
| Page      |               | Capacity (L/Cu.Ft)    |  | 68/        | /2.4       | 68         | 8/2.4      | 118           | /4.2          | 11           | 18/4.2        | 290/10.2                              | 2           | 390/        | 13.8              | 390               | /13.8        | 610/21.6         | ,                  | 890/31                | 1.4            | 890/31.4                              | 13      | 378/48.7             |
| Property   Inc.   Start   St   | (approx)      | Net/Gross Weight      | kg   | 3.8        | /40        | 33         | 8/40       | /11/          | ///6          |              |               | 105/12                                | 7           | 116         | /130              | 106               | /120         | 204/227          |                    | 227/2                 | 70             | 207/259                               | 7       | 310/360              |
| Part      |               | 1.                    |  |            |            |            |            |               |               |              |               |                                       |             |             |                   |                   |              |                  |                    |                       |                |                                       |         |                      |
| MOT-PT    1  |               | Interior Dimensions   |  |            |            |            |            |               |               |              |               |                                       |             |             |                   |                   |              |                  |                    |                       |                |                                       |         |                      |
| Entrice Departments  |               | (\A/*D*L)             |  |            |            |            |            |               |               |              |               |                                       |             |             |                   |                   |              |                  |                    |                       |                |                                       | _       |                      |
| MCD-Ph    in   19-972-876-0   19-972-876-0   25-79-075-19   25-    | ensions       | ·                     |  |            |            |            |            |               |               |              |               |                                       |             |             |                   |                   |              |                  |                    |                       |                |                                       |         |                      |
| Packing/Dimensions   min   Side-Selection   Selection   Selecti    |               |                       |  |            |            |            |            |               |               |              |               |                                       |             |             |                   |                   |              |                  |                    |                       |                |                                       |         |                      |
| MPOH   |               |                       |  |            |            |            |            |               |               |              |               |                                       |             |             |                   |                   |              |                  |                    |                       |                |                                       |         |                      |
| Container Load   20/40/40H   108/228/228   108/228/228   48/102/102   48/102/102   21/42/42   21    |               |                       |  |            |            |            |            |               |               |              |               |                                       |             |             |                   |                   |              |                  |                    |                       |                |                                       |         |                      |
| (20/40/40FH) 108/228/228 108/228/228 48/102/102 48/102/102 21/42/42 21/42/42 12/60/20 8/18/18 8/18/18 6/12/12  ### Application of the presentation of the presentatio  |               | (W*D*H)               | in   | 21.3*25    | 5.2*28.0   | 21.3*2     | 25.2*28.0  | 26.8*27       | .2*35.8       | 26.8*        | 27.2*35.8     | 27.1*31.0*                            | 71.1        | 27.1*31     | .0*82.9           | 27.1*3            | 1.0*82.9     | 34.1*37.2*8      | ,2.3               | 49.2*33.5             | *83.9          | 49.2*33.5*83.9                        | 61.8    | <sup>*</sup> 39.8*83 |
| Remote Alarm   |               |                       |  | 108/22     | 28/228     | 108/2      | 228/228    | 48/10         | 2/102         | 48/          | 102/102       | 21/42/4                               | 2           | 21/4        | 2/42              | 21/4              | 12/42        | 12/26/26         | ;                  | 8/18/1                | 18             | 8/18/18                               | 6       | 5/12/12              |
| Power Failure    Power Failure   Y   Y   Y   Y   Y   Y   Y   Y   Y   |               | High/Low Temperatu    | ure  | ١          | Υ          |            | Υ          | Y             | ′             |              | Υ             | Υ                                     |             | ١           | (                 |                   | Υ            | Y                |                    | Υ                     |                | Υ                                     |         | Υ                    |
| Sessor   From    |               | Remote Alarm          |  | ١          | Υ          |            | Υ          | Y             | <u> </u>      |              | Υ             | Y                                     |             | )           | <u> </u>          |                   | Υ            | Y                |                    | Y                     |                | Y                                     |         | Υ                    |
| Sensor Error   Y   Y   Y   Y   Y   Y   Y   Y   Y   | rms           | Power Failure         |  | ١          | Υ          |            | Υ          | Y             | <u> </u>      |              | Υ             | Y                                     |             | )           | (                 |                   | Υ            | Y                |                    | Y                     |                | Υ                                     |         | Υ                    |
| Door Ajar   Y   Y   Y   Y   Y   Y   Y   Y   Y  |               |                       |  | ١          | Y          |            | Υ          |               |               |              | 1             | Y                                     |             | ١           | (                 |                   | Υ            | Y                |                    | Y                     |                | Y                                     |         | Y                    |
| Caster Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y   |               |                       |  |            |            |            | -          |               |               |              | -             | · · · · · · · · · · · · · · · · · · · |             |             |                   |                   | Υ            |                  |                    |                       |                | Y                                     |         |                      |
| Foot Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y   |               |                       |  |            | •          |            |            |               |               |              | -             | <u> </u>                              |             | <u> </u>    | '                 |                   | Y            | '                |                    | '                     |                | Y                                     |         | <u>'</u>             |
| Porthole   |               |                       |  |            |            |            | •          |               |               |              | •             | ·                                     |             |             | 1                 |                   | Y            | '                |                    | '                     |                | Y                                     |         |                      |
| Shelves/Drawers 2/1 2/1 3/1 3/1 3/1 3/1 3/1 3/1 3/1 3/1 3/1 3  |               |                       |  |            |            |            | •          |               |               |              | ·             |                                       |             |             | '                 |                   | T            |                  | -                  |                       |                | Y                                     |         |                      |
| USB Interface Optional Optional / / / / Optional Y Optional Y Optional Optional Optional Optional Optional Y Printer N/A N/A N/A N/A N/A N/A N/A Optional Op | essories      |                       |  |            |            |            |            |               |               |              |               |                                       |             |             |                   |                   |              |                  |                    |                       |                |                                       |         |                      |
| Printer N/A N/A N/A N/A N/A N/A Optional   |               |                       |  |            |            |            |            |               |               |              |               |                                       | Ontional    |             |                   |                   |              |                  |                    |                       |                |                                       |         |                      |
| Temperature Recorder N/A N/A N/A N/A N/A Optional Optional Optional Optional Optional Optional Optional  |               |                       |  |            |            |            |            |               |               |              |               |                                       |             |             |                   |                   |              | · ·              |                    |                       |                | · · · · · · · · · · · · · · · · · · · | (       |                      |
|  |               |                       | order                                      |            |            |            |            |               |               |              |               |                                       |             | -           |                   |                   |              |                  |                    |                       |                |                                       |         |                      |
|  | ners          | Certification         |  |            |            |            |            | CE            | UL            |              |               | · ·                                   |             | -           |                   | 1                 |              |                  |                    |                       |                | <u> </u>                              |         |                      |

Product appearance and specifications are subject to change without notice



# Blood Bank Refrigerator Automated Blood Management Refrigerator







HXC-629TR



HXC-1369TR

### Microcomputer Control

The temperature inside the unit is controlled within 4±1°C with temperature control accuracy of 0.1°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 failure 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°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.

# Blood Bank Refrigerator Automated Blood Management Refrigerator

### Information Flow



Place the blood bag with RFID tag in blood basket





Using built-in RFID read & write board of the refrigerator to read blood bag information





RFID Tag Information

<<



Refrigerator Screen APP

### **Operation Instructions**

# Blood Bag Inbound:

Card swiping to open the door







Outbound/inbound and inventory information pop-up display and upload

# **Blood Bag Outbound:**











# **Specifications**

| Product Model<br>No. | Voltage<br>(V/Hz) | Internal<br>Temperature<br>(°C) | External<br>Dimension<br>(W*D*H mm) | Internal Dimension<br>(W*D*H mm) | Effective<br>Volume (L) | NW/GW<br>(Kg) | Stainless Steel<br>Shelf (layers) | Loading<br>Capacity<br>(400 ml blood bag) |
|----------------------|-------------------|---------------------------------|-------------------------------------|----------------------------------|-------------------------|---------------|-----------------------------------|---|
| HXC-429TR            | 220/50            | 4±1                             | 625*940*1830                        | 505*680*1315                     | 429                     | 190/230       | 5                                 | 120                                       |
| HXC-629TR            | 220/50            | 4±1                             | 765*940*1980                        | 644*680*1456                     | 629                     | 235/280       | 6                                 | 192                                       |
| HXC-1369TR           | 220/50            | 4±1                             | 1545*940*1980                       | 1425*680*1456                    | 1369                    | 430/490       | 6                                 | 384                                       |

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# Blood Bank Refrigerator 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       | НХС            | -629R      | HXC-629RB          |  |
|-------------|------------------------------------|------|-------------------|------------|----------------|-------------|----------------|------------|--------------------|--|
|             | Туре                               |      | Drawe             | er-Type    | Drawe          | er-Type     | Drawe          | er-Type    | Drawer-Type        |  |
|             | Climate Class                      |      | 1                 | V          |                | N           |                | N          | N                  |  |
| Technical   | Cooling Type                       |      | Forced a          | ir cooling | Forced a       | air cooling | Forced a       | ir cooling | Forced air cooling |  |
| Data        | Defrost Mode                       | Au   | uto               | Auto       |                | Auto        |                | Auto       |                    |  |
|             | Refrigerant                        | R6   | 00a               | R600a      |                | R600a       |                | R600a      |                    |  |
|             | Sound Level (dB(A))                | 4    | 10                | 2          | 11             | 2           | 11             | 41         |                    |  |
| D (         | Temperature Range (°C)             |      | 4:                | ±1         | 4              | ±1          | 4              | ±1         | 4±1                |  |
| Performance | Ambient Temperature (°C)           |      | 16                | -32        | 16             | -32         | 16             | -32        | 16-32              |  |
| Caratural   | Controller                         |      | Micropr           | ocessor    | Micropi        | rocessor    | Micropr        | ocessor    | Microprocessor     |  |
| Control     | Display                            |      | LCD Tou           | chscreen   | LCD Tou        | ichscreen   | LCD Tou        | chscreen   | LCD Touchscreer    |  |
|             | Power Supply (V/Hz)                |      | 220-240/50        | 230~/50/60 | 220-240/50     | 230~/50/60  | 220-240/50     | 230~/50/60 | 115/60             |  |
| Electrical  | Power (W)                          |      | 2.                | 50         | 2              | 80          | 3              | 00         | 300                |  |
| Data        | Electrical Current (A)             | 1    | .5                | 1          | 8              | 1           | .9             | 3          |                    |  |
|             | Capacity (L/Cu.Ft)                 |      | 149               | /5.3       | 429/15.1       |             | 629            | /22.2      | 629/22.2           |  |
|             | Blood Storage Capacity (450ml bloo | ) 1  | .8                | 60         |                | 88          |                | 88         |                    |  |
|             | Net/Gross Weight (approx)          | kg   | 129               | /179       | 245            | /280        | 295/335        |            | 295/335            |  |
|             | Net/Gross Weight (approx)          | lbs  | 283.8             | / 393.8    | 539            | /616        | 649            | /737       | 649/737            |  |
|             | Interior Dimensions (W*D*H)        | mm   | 505*5             | 60*610     | 505*68         | 30*1315     | 645*680*1455   |            | 645*680*1455       |  |
| Dimensions  | Interior Dimensions (W·D·A)        | in   | 19.7*32           | 2.3*23.8   | 19.7*2         | 6.5*51.3    | 25.2*26.5*56.7 |            | 25.2*26.5*56.7     |  |
|             | [   D                              | mm   | 625*82            | 0*1425     | 925*94         | 10*1830     | 1065*940*1980  |            | 1065*940*1980      |  |
|             | Exterior Dimensions (W*D*H)        | 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*94            | 5*1575     | 725*985*1940   |             | 875*995*2090   |            | 875*995*2090       |  |
|             | racking dimensions (w · b · h)     | 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     |  |
|             | Container load (20'/40'/40'H)      | 18/3 | 18/36/36 18/35/35 |            | 12/26/26       |             | 12/26/26       |            |                    |  |
|             | High/Low Temperature               |      | ,                 | Y          |                | Υ           |                | Υ          | Υ                  |  |
|             | Power Failure                      |      | ,                 | Y          |                | Υ           |                | Υ          | Υ                  |  |
| Alarms      | Sensor Error                       |      | ,                 | Y          | Y              |             |                | Y          | Υ                  |  |
| AlaiTTIS    | Low Battery                        |      | ,                 | Y          |                | Υ           |                | Υ          | Υ                  |  |
|             | Door Ajar                          |      | ,                 | Y          |                | Υ           |                | Y          | Υ                  |  |
|             | Remote Alarm                       |      | ,                 | Y          |                | Υ           |                | Υ          | Υ                  |  |
|             | Caster                             |      |                   | 4          |                | 4           |                | 4          | 4                  |  |
|             | Foot                               |      |                   | 2          |                | 2           |                | 2          | 2                  |  |
| Accessories | Porthole                           | ,    | Y                 |            | Υ              |             | Y              | Y          |                    |  |
| Accessories | Drawers                            |      | 9                 | 30         |                | 44          |                | 44         |                    |  |
|             | USB Interface                      |      | ,                 | Y          | Y              |             | Υ              |            | Y                  |  |
|             | Temperature Recorder               | ,    | Y                 |            | Υ              |             | Y              | Y          |                    |  |
| Others      | Certification                      |      | CE                | UL         | CE             | UL          | CE             | UL         | UL                 |  |
|             |                                    |      |                   |            |                |             |                |            |                    |  |

R suffix - RFID with IoT model for blood bag management

Product appearance and specifications are subject to change without notice

# **Blood Bank Refrigerator**

Unattended Self-service Blood Distribution Refrigerator

# 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.

# **Blood Bank Refrigerator**

Unattended Self-service Blood Distribution Refrigerator



Self-service printing

### **Ergonomic design**

- Smart dual screen setting realizes simple and intuitive LCD screen display and better man-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.

### Man-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  $4\pm1$ °C.

# **Specifications**

| Model     | Voltage<br>(V/Hz) | Power<br>(W) | Temperature inside the refrigerator (°C) | Uniformity (°C) |  |
|-----------|-------------------|--------------|--|-----------------|--|
| HXC-629ZZ | 220-240/50/60     | 300          | 2-6                                      | 4±1             |  |

| External dimensions | Internal dimensions | Effective  | Blood bag volume  | Overall construction |
|---------------------|---------------------|------------|-------------------|----------------------|
| (W*D*H mm)          | (W*D*H mm)          | volume (L) | (400ml blood bag) |                      |
| 1290*940*1980       | 645*680*1455        | 629        | 72                | Single door          |

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Blood Bank Refrigerator
Advanced Blood Bank Refrigerator with Touchscreen

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.

### Microcomputer Control

• A dual control system of six high-precision sensors and mechanical thermostat ensures that the temperature inside the cabinet is maintained at 4±1°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 responses 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.



## **Product Advantages**





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

further ensures the temperature stability inside the cabinet.

**Constant and Precise Temperature** 

- $\bullet \ \, \text{Equipped with complete alarm function, including alarm on high and low temperature,} \\$ 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.

With Multiple Temperature Control to Guarantee

• NFC swipe card module, with safer storage management.





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

# **Blood Bank Refrigerator**

# **Specifications**

|             | Model                           |           | HXC-149               | HXC-429               | HXC-629               | HXC-629B           | HXC-1369              | HXC-149T              | HXC-429T              | HXC-629T              | HXC-629TB          | HXC-1369T             |
|-------------|---------------------------------|-----------|-----------------------|-----------------------|-----------------------|--------------------|-----------------------|-----------------------|-----------------------|-----------------------|--------------------|-----------------------|
|             | Туре                            |           | 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                     |
| Technical   | 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    |
| Data        | Defrost Mode                    |           | Auto                  | Auto                  | Auto                  | Auto               | Auto                  | Auto                  | Auto                  | Auto                  | Auto               | Auto                  |
|             | Refrigerant                     |           | R600a                 | R600a                 | R600a                 | R600a              | R600a                 | R600a                 | R600a                 | R600a                 | R600a              | R600a                 |
|             | Sound Level (dB(A))             |           | 39                    | 40                    | 40                    | 41                 | 41                    | 39                    | 40                    | 40                    | 41                 | 41                    |
| D (         | Temperature Range (°C)          |           | 4±1                   | 4±1                   | 4±1                   | 4±1                | 4±1                   | 4±1                   | 4±1                   | 4±1                   | 4±1                | 4±1                   |
| Performance | Ambient Temperature (°C)        |           | 16-32                 | 16-32                 | 16-32                 | 16-32              | 16-32                 | 16-32                 | 16-32                 | 16-32                 | 16-32              | 16-32                 |
| Caratrial   | Controller                      |           | Microprocessor        | Microprocessor        | Microprocessor        | Microprocessor     | Microprocessor        | Microprocessor        | Microprocessor        | Microprocessor        | Microprocessor     | Microprocessor        |
| Control     | 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 |
| Electrical  | Power (W)                       |           | 240                   | 245                   | 255                   | 255                | 320                   | 240                   | 245                   | 255                   | 255                | 320                   |
| Data        | Electrical Current (A)          |           | 1.4                   | 1.5                   | 1.5                   | 3                  | 2                     | 1.4                   | 1.5                   | 1.5                   | 3                  | 2                     |
|             | 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 b | lood 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               |
|             | Net/Gross Weight (approx)       | 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         |
| Dimensions  | S Interior Dimensions (W*D*H)   | 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        |
|             | C                               | 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         |
|             | Packing Dimensions (W*D*H)      | 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        |
|             | 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               |
|             | High/Low Temperature            |           | Y                     | Υ                     | Y                     | Y                  | Υ                     | Y                     | Υ                     | Y                     | Υ                  | Υ                     |
|             | Power Failure                   |           | Y                     | Υ                     | Y                     | Y                  | Υ                     | Y                     | Υ                     | Y                     | Υ                  | Υ                     |
| Alarms      | Sensor Error                    |           | Υ                     | Υ                     | Υ                     | Y                  | Υ                     | Y                     | Υ                     | Y                     | Υ                  | Υ                     |
| AldITIS     | Low Battery                     |           | Y                     | Υ                     | Y                     | Y                  | Υ                     | Y                     | Υ                     | Y                     | Υ                  | Υ                     |
|             | Door Ajar                       |           | Y                     | Υ                     | Y                     | Y                  | Υ                     | Y                     | Υ                     | Y                     | Υ                  | Υ                     |
|             | Remote Alarm                    |           | Υ                     | Υ                     | Υ                     | Y                  | Υ                     | Y                     | Υ                     | Y                     | Υ                  | Υ                     |
|             | Caster                          |           | 4                     | 4                     | 4                     | 4                  | 4                     | 4                     | 4                     | 4                     | 4                  | 4                     |
|             | Foot                            |           | 2                     | 2                     | 2                     | 2                  | 2                     | 2                     | 2                     | 2                     | 2                  | 2                     |
|             | Porthole                        |           | Y                     | Υ                     | Y                     | Y                  | Υ                     | Y                     | Υ                     | Y                     | Υ                  | Υ                     |
| A           | Baskets                         |           | 6                     | 15                    | 24                    | 24                 | 48                    | 6                     | 15                    | 24                    | 24                 | 48                    |
| Accessories | 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                     | Υ                  | Υ                     | Y                     | Y                     | Y                     | Υ                  | Y                     |
|             | Temperature Recorder            |           | Y                     | Y                     | Y                     | Y                  | Υ                     | Y                     | Y                     | Y                     | Υ                  | Y                     |
| Others      | Certification                   |           | CE UL                 | CE UL                 | CE UL                 | UL                 | CE UL                 | CE UL                 | CE UL                 | CE UL                 | UL                 | CE UL                 |

T suffix - Advanced with touchscreen

 $\label{product} \mbox{Product appearance and specifications are subject to change without notice}$ 

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# Blood Bank Refrigerator Standard Blood Bank Refrigerators

Haier blood bank refrigerator is specially designed to store whole blood and blood derivatives. These refrigerators can also be used to store pharmacy and biological









# Blood Bank Refrigerator Standard Blood Bank Refrigerators

Haier Blood Bank Refrigerators (BBR) are designed and built to meet the following requirements:

- AABB (American Association of Blood Banks)
- DIN 58371 (Germany, "Blutkonserven-Kühlgeräte"/Blood Refrigerators)
- BIS 4376-1: 1991 (UK, "Electrically operated blood storage refrigerators)

## Reliability

- Microprocessor controlled forced-air cooling system with heat compensation system
- Digital temperature display for upper and lower sections in chamber with 0.1°C resolution

### **Key Features**

- Consistent cabinet temperature 2-6°C
- High-tech integrated sensors to display and control temperature
- Standard temperature recorder (Optional for HXC-158)
- Auto-defrost to remove moisture on cooling surface
- Large digital display for ease of observation
- Basket or drawer styles for managing stored products

# Safety

- Dual displays of operational parameter (temperature recorder display)
- Built-in backup battery to display temperature and to operate audible and visual alarm systems for up to 48 hours without AC power
- NC/NO Terminals for remote alarm connections
- Five alarm conditions: High/low temperature, power failure, sensor error, door ajar, low voltage in backup battery

# **Ergonomic Design**

- Safety lock to prevent unauthorized access
- Storage space designed for easy sorting of a variety of blood products
- Optional baskets or stainless steel drawers
- Caster design
- Interior light



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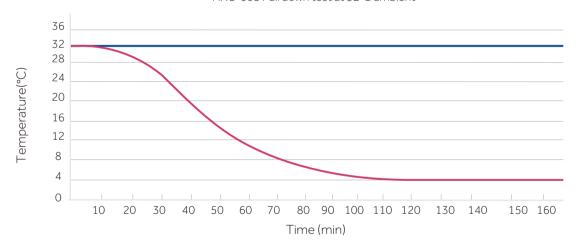
| Alarm            | Alarm Triggering Condition  |
|------------------|---|
| High Temperature | Temperature reaches the warm alarm limit  |
| Low Temperature  | Temperature reaches the low alarm limit   |
| Power Failure    | Equipment loses power   |
| Probe Failure    | <ul><li>1. Main cabinet temperature control sensor fails</li><li>2. Condenser sensor fails</li><li>3. Ambient sensor fails</li><li>4. Heat exchanger sensor fails</li></ul> |
| Low Battery      | Battery capacity runs low or battery switch is not turned on  |
| Door Ajar        | Door opening time exceeds 600 seconds   |



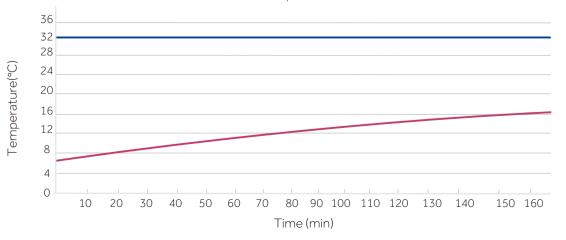


Standard drawers can be optionally fitted with adjustable dividers to ensure stored products neatly organized.

### HXC-608 Pull down test at 32°C ambient







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# **Application**

• HXC-1308(B) is a large capacity blood refrigerator designed for storage of whole blood products, and biological products. It is frequently installed in blood banks, hospitals and disease prevention centers

### **Advantages**

- More Stable: The temperature range is 2-6°C
- $\bullet \ \, {\sf Safety:Anti-low/high\ temperature\ function}$
- Double-pane electric heated glass door
- Multilayer adjustable shelves
- Baskets or optional stainless steel drawers
- Each shelf can be labelled
- Ensures the safety in daily use

### **Function**

- Storage of large blood bags
- Each blood basket holds twelves 450 ml blood bags. Each drawer can hold sixty 450 ml blood bags
- HXC-1308 unit's capacity is 576\*450 ml blood bags. HXC-1308B can hold 720\*450 ml blood bags.
- Microprocessor system works with an optimized refrigeration system and controls the temperature within 2°C to 6°C with a quick recovery after a door opening
- Redundant mechanical control system allows the unit to operate and maintain proper temperature should there be a malfunction on the electronic control system
- Defrosting function is performed automatically with minimal impact to temperature
- Multiple Alarms: High/low temperature alarm, door open alarm, sensor error alarm, remote alarm under audible (buzzer) and visible (light flashing) alarm
- Backup battery supports the digital display and alarm system for up to 48 hours in the event of a mains power failure

HXC-1308B



# **Ergonomic Design**

- Auto-closing door
- It provides a clear view of stored items through the large glass windows
- Two access ports for ease of testing
- Built-in 7-day circular chart recorder, standard USB port
- Bright, energy-efficient LED interior lighting
- Environmentally friendly CFC-free refrigerant
- "One lock one key" to safeguard valuable contents

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### **Blood Bank Refrigerator**

4°C Blood Bank Refrigerator

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±1°C, with temperature accuracy of 0.1°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.

#### **Blood Bank Refrigerator**

4°C Blood Bank Refrigerator

#### Product Features II

#### SII

#### Door design

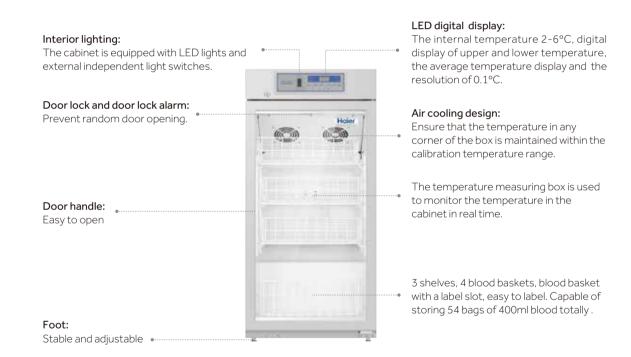
Vertical single door design, double layer electric heated glass door and self - closing function.

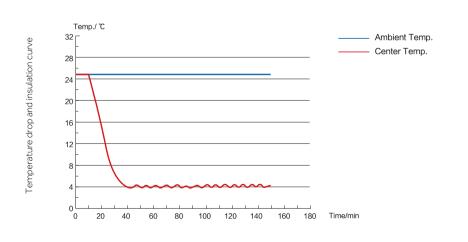
#### Materials

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.





# **Blood Bank Refrigerator**

# **Blood Bank Refrigerator**



















#### **Specifications**

| •                  |  |         |                               |                                |                         |        | -                               |                                  |                               |                                |                                |                               |
|--------------------|--|---------|-------------------------------|--------------------------------|-------------------------|--------|---------------------------------|----------------------------------|-------------------------------|--------------------------------|--------------------------------|-------------------------------|
|                    | Model  |         | HXC-158                       | HXC-358                        | HXC-60                  | 08     | HXC-1308                        | HXC-106                          | HXC-158B                      | HXC-358B                       | HXC-608B                       | HXC-1308B                     |
|                    | Туре   |         |                               | Basket-                        | Гуре                    |        |                                 |                                  |                               | Drawer-Type                    |                                |                               |
|                    | Climate Class                                |         | ST                            | ST                             | ST                      |        | N                               | N                                | ST                            | ST                             | ST                             | N                             |
|                    | Cooling Type                                 |         | Forced air cooling            | Forced air cooling             | Forced air co           | ooling | Forced air cooling              | Forced air cooling               | Forced air cooling            | Forced air cooling             | Forced air cooling             | Forced air coolir             |
| echnical           | Defrost Mode                                 |         | Auto                          | Auto                           | Auto                    |        | Auto                            | Auto                             | Auto                          | Auto                           | Auto                           | Auto                          |
| ata                | Refrigerant                                  |         | HC                            | CFC-Free                       | CFC-Fre                 | ee     | CFC-Free                        | HC                               | HC                            | CFC-Free                       | CFC-Free                       | CFC-Free                      |
|                    | Sound level (dB(A))                          |         | 42                            | 43                             | 43                      |        | 45                              | 42                               | 42                            | 43                             | 43                             | 45                            |
| rformance          | Temperature Range (°C)                       |         | 4±1                           | 4±1                            | 4±1                     |        | 4±1.5                           | 4±1                              | 4±1                           | 4±1                            | 4±1                            | 4±1.5                         |
| riorriance         | Ambient Temperature (°C                      | C)      | 10-38                         | 10-38                          | 10-38                   |        | 16~32                           | 10-38                            | 10-38                         | 10-38                          | 10-38                          | 16-32                         |
| ntrol              | Controller                                   |         | Microprocessor                | Microprocessor                 | Microproce              | essor  | Microprocessor                  | Microprocessor                   | Microprocessor                | Microprocessor                 | Microprocessor                 | Microprocesso                 |
| ritroi             | Display                                      |         | LED                           | LED                            | LED                     |        | LED                             | LED                              | LED                           | LED                            | LED                            | LED                           |
| otrical            | Power Supply (V/Hz)                          |         | 220~240/50/60                 | 220~240/50/60                  | 220~240/50<br>/60       | 115/60 | 220~240/50                      | 220~240/50/60                    | 220~240/50/60                 | 220~240/50/60                  | 220~240/50/60                  | 220~240/50                    |
| Electrical<br>Data | Power (W)                                    |         | 350                           | 460                            |                         | 560    | 850                             | 253                              | 350                           | 460                            | 490                            | 850                           |
| ica                | Electrical Current (A)                       |         | 2.6                           | 3                              | 3.5                     | 7.5    | 4.2                             | 1.6                              | 2.6                           | 3                              | 3.5                            | 4.2                           |
|                    | Capacity (L/Cu.Ft)                           |         | 158/5.6                       | 358/12.7                       | 608/21.                 | .5     | 1308/46.2                       | 106/3.75                         | 158/5.6                       | 358/12.7                       | 608/21.5                       | 1308/46.2                     |
|                    | Blood Storage Capacity<br>(450ml blood bags) |         | 84                            | 200                            | 300                     |        | 576                             | 54 (400ml blood bags)            | 84                            | 200                            | 360                            | 720                           |
|                    | Net/Gross Weight (approx                     | x) (kg) | 107/120                       | 158/174                        | 204/22                  |        | 310/360                         | 49/52                            | 113/126                       | 165/181                        | 211/234                        | 335/385                       |
| Dimensions         |  | (lbs)   | 200.07.200                    | 348.3/383.6                    | 449.7/50                |        | 683.4/793.7                     | 108.03/114.64                    | 249.1/277.8                   | 363.8/399.0                    | 465.2/515.9                    | 738.5/848.8                   |
|                    | Interior Dimensions (W*D*H)                  | (mm)    | 460*370*950<br>18.1*14.6*37.4 | 620*490*1160<br>24.4*19.3*45.7 | 680*640*1<br>26.8*25.2* |        | 1320*700*1500<br>52.0*27.6*59.1 | 430*350*830<br>16.93*13.78*32.68 | 460*370*950<br>18.1*14.6*37.4 | 620*490*1160<br>24.4*19.3*45.7 | 680*640*1400<br>26.8*25.2*55.1 | 1320*700*150<br>52.0*27.6*59. |
|                    | Exterior Dimensions                          | (mm)    |                               | 720*690*1730                   | 780*840*1               |        | 1440*925*1980                   | 500*514*1055                     | 560*570*1530                  | 720*690*1730                   | 780*840*1945                   | 1440*925*198                  |
|                    | (W*D*H)                                      | (in)    | 22.0*22.4*60.2                | 28.3*27.2*68.1                 | 30.7*33.1*              |        | 56.7*36.4*78.0                  | 19.69*20.24*41.54                | 22.0*22.4*60.2                | 28.3*27.2*68.1                 | 30.7*33.1*76.6                 | 56.7*36.4*78                  |
|                    | Packing Dimensions                           | (mm)    | 0 10 070 1000                 | 795*805*1870                   | 865*945*2               |        | 1570*1010*2120                  | 565*615*1145                     | 645*675*1680                  | 795*805*1870                   | 865*945*2090                   | 1570*1010*21                  |
|                    | (W*D*H)                                      | (in)    | 25.4*26.6*66.1                | 31.3*31.7*73.6                 | 34.0*37.2*              | *82.3  | 61.8*39.8*83.5                  | 22.24*24.21*45.08                | 25.4*26.6*66.1                | 31.3*31.7*73.6                 | 34.0*37.2*82.3                 | 61.8*39.8*83                  |
|                    | Container load<br>(20'/40'/40'H)             |         | 27/54/54                      | 14/30/30                       | 12/26/2                 | 26     | 6/12/12                         | 36/72/72                         | 27/54/54                      | 14/30/30                       | 12/26/26                       | 6/12/12                       |
|                    | High/Low Temperature                         |         | Υ                             | Υ                              | Υ                       |        | Υ                               | Υ                                | Y                             | Υ                              | Y                              | Y                             |
|                    | Power Failure                                |         | Υ                             | Y                              | Υ                       |        | Υ                               | Υ                                | Y                             | Υ                              | Υ                              | Υ                             |
| arms               | Sensor Error                                 |         | Υ                             | Υ                              | Y                       |        | Υ                               | Y                                | Y                             | Y                              | Y                              | Y                             |
| arris              | Low Battery                                  |         | Υ                             | Υ                              | Y                       |        | Υ                               | Υ                                | Y                             | Y                              | Y                              | Y                             |
|                    | Door Ajar                                    |         | Y                             | Y                              | Y                       |        | Υ                               | Υ                                | Y                             | Y                              | Y                              | Y                             |
|                    | Remote Alarm                                 |         | Y                             | Y                              | Y                       |        | Υ                               | Υ                                | Y                             | Y                              | Y                              | Y                             |
|                    | Caster                                       |         | Υ                             | Υ                              | Y                       |        | Υ                               | Υ                                | Υ                             | Y                              | Y                              | Y                             |
|                    | Foot   |         | Υ                             | Y                              | Υ                       |        | Υ                               | Y                                | Υ                             | Y                              | Y                              | Y                             |
| Accessories        | Porthole                                     |         | Y                             | Y                              | Y                       |        | Υ                               | Y                                | Y                             | Y                              | Y                              | Υ                             |
|                    | Shelves/Baskets                              |         | 4/4                           | 5/20                           | 6/24                    |        | 12/48                           | 3/4                              | _                             | _                              | _                              | _                             |
|                    | Drawers/Inner doors                          |         | -/2                           | -/3                            | -/3                     |        | -/6                             | -/-                              | 4/-                           | 5/-                            | 6/-                            | 12/-                          |
|                    | USB Interface                                |         | Optional                      | Optional                       | Optiona                 | al     | Y                               | N                                | Optional                      | Optional                       | Optional                       | Y                             |
|                    | Temperature Recorder                         |         | Optional                      | Y                              | Y                       |        | Y                               | N                                | Y                             | Y                              | Y                              | Y                             |
| thers              | Certification                                |         | CE                            | CE                             | CE                      | ,      | CE                              | CE                               | CE                            | CE                             | CE                             | CE                            |

Product appearance and specifications are subject to change without notice

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# -30°C Plasma Freezer

#### RFID Solution with Real-Time IoT Technology



DW-30L1280TR/DW-30L818TR

- 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.

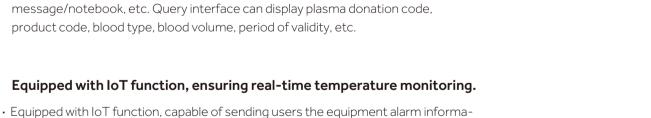
#### Multi-compartment Storage Basket

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



#### 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.





# tion 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.



#### **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.

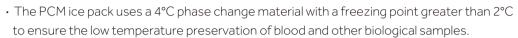
#### **Specifications**

| Model        | Voltage Interior<br>(V/Hz) Temperature |         | Exterior Dimension<br>(W*D*H mm) | Interior Dimension<br>(W*D*H mm) | Effective<br>Volume (L) | N.W./G.W.<br>(kg) | loading Qty<br>(bag) |
|--------------|--|---------|----------------------------------|----------------------------------|-------------------------|-------------------|----------------------|
| DW-30L1280TR | 220-240/<br>50/60                      | -10~-35 | 1520*1065*1980                   | 1320*752*1260                    | 1280                    | 440/505           | 576                  |
| DW-30L818TR  | 100-230/<br>50/60                      | -10~-35 | 988*951*1980                     | 750*755*1460                     | 818                     | 235/285           | 360                  |

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#### **Transport Cooler for Biological Products**

# 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.





- · 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.

#### 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

#### Passive Cooling Solution



- · 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

# \*

#### **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**

- LCD screen, real-time display of inside temperature, battery level and other information.
- $\cdot$  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

#### **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.

 $2{\sim}6\,^{\circ}\text{C}$  precise temperature control, suitable for storage of biological products such as blood, medicines and reagents etc.

 $\boldsymbol{\cdot}$  Temporary blood storage to ensure blood safety at clinical blood stations.



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.

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#### **Specifications**

|          | Model                             | HZY-5B  | HZY-8Z   | HZY-15Z  | HZY-8ZA  | HZY-15ZA   | HZY-35B   |
|----------|-----------------------------------|---|--|--|--|--|---|
| echnical | Storage Temperature (°C)          | /   | 2~6  | 2~6  | 2-6  | 2~6  | /   |
| ta       | Operating Temperature (°C)        | 2~10  | 2~10   | 2~10   | 2~10   | 2~10   | 2~10  |
|          | Exterior Dimensions<br>(W*D*H mm) | 285x186x200                                       | 320×265×260  | 520×300×270  | 320×265×260  | 520×300×270  | 550x328x370                                       |
| mensions | Interior Dimensions<br>(W*D*H mm) | 220x118x126                                       | 230×140×170  | 430×150×180  | 230×140×170  | 430×150×180  | 450x232x295                                       |
|          | Packing Dimensions<br>(W*D*H mm)  | 357x277x287                                       | 393x362x367  | 595x375x404  | 393x362x367  | 595x375x404  | 674x455x490                                       |
|          | Net weight (kg)                   | 2   | 4  | 6  | 4  | 6  | 9   |
|          | Gross weight (kg)                 | 3   | 5  | 8  | 5  | 8  | 12  |
| E        | Blood Bag Capacity                | 5   | 8  | 15   | 8  | 15   | 35  |
|          | Cold Chain Monitoring             | /   | /  | /  | Y  | Y  | /   |
|          | NFC Unlock                        | /   | /  | /  | /  | Y  | /   |
|          | Foam material                     | High density foam                                 | HFO-1233zde  | HFO-1233zde  | HFO-1233zde  | HFO-1233zde  | Polyurethane Cycloisopentane                      |
|          | Refrigeration method              | Passive cooling                                   | Semiconductor active refrigeration                   | Semiconductor active refrigeration                   | Semiconductor active refrigeration                   | Semiconductor active refrigeration                   | Passive cooling                                   |
| nctions  | Warm up time                      | 3 hours (32°C ambient temperature load situation) | 2 hours (32°C ambient<br>temperature load situation) | 6 hours (43°C ambient temperature load situation) |
|          | Shell/liner                       | ABS/ABS   | ABS/ aluminium plate                                 | ABS/ aluminium plate                                 | ABS/ aluminium plate                                 | ABS/ aluminium plate                                 | HDPE/HDPE   |
|          | Alarm                             | Low Battery                                       | High temperature, sensor error, power off            | High temperature,sensor error, power off             | High temperature,sensor error, power off             | High temperature, sensor error, power off            | /   |
|          | Battery                           | Lithium Battery                                   | Rechargeable lithium battery                         | Rechargeable lithium battery                         | Rechargeable lithium battery                         | Rechargeable lithium battery                         | Button battery                                    |

Product appearance and specifications are subject to change without notice

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# ransport Cooler

#### **Transport Cooler for Infectious Materials**

#### **Transport Cooler for the Infectious Material**

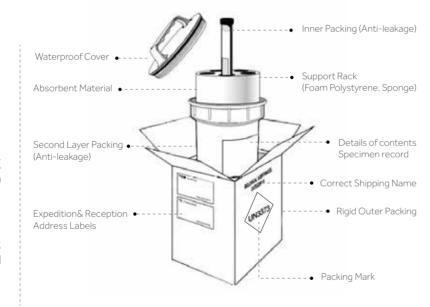
The virus is high-risk specimen, and if there is collision during the transportation or transmission, there will be a risk of leakage and re-infection. A solution is urgently needed to ensure the viability of the samples and the safety of transport personnel.

#### **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

labelina)



#### Active Cooling II



HZY-8Z (Specimen)



HZY-15Z (Specimen)

#### **Transport Cooler for Infectious Materials**

#### **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  $2^{\circ}$ C ~  $6^{\circ}$ 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  $10^{\circ}$ C takes 1 hour; under the loading condition of 25°C, the air temperature in the box rising to  $10^{\circ}$ 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  $-40^{\circ}$ C to  $+55^{\circ}$ C.

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#### Passive Cooling | |



UN2814 transport cooler HZY-10B (P620)



UN3373 transport cooler HZY-10B (P650)

#### **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 II



HZY-10B (P620)



HZY-10B (P650)



## 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**

#### **Specifications**

| Model                               | HZY-8Z  | HZY-15Z                                    |  |
|-------------------------------------|---|--|--|
| Use                                 | Transfer of biological specimens, etc         | Transfer of biological specimens, etc      |  |
| Туре                                | 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 cor  | ntrol and display, display accuracy 0.1 °C |  |
| Alarms                              | Sensor failure alarm, high temperature alarm, | power failure alarm                        |  |

#### **Specifications**

| Model  | HZY-10B (P620)   | HZY-10B (P650)   |
|--|--|--|
| Purpose                                      | Disease control centers, hospitals, etc.<br>are used for transport of infectious<br>substance specimens (air transportation) | Disease control centers, hospitals, etc. are used for transshipment of Class B infectious substance specimens (air transportation) |
| Туре   | Passive cooling  | Passive cooling  |
| Internal dimensions (W*D *H mm)              | 345*225*182  | 345*225*182  |
| External dimensions (W* D* H mm)             | 430*312*272  | 395*275*245  |
| Loading quantity                             | 2 transport tanks  | 2 transport tanks  |
| Effective volume                             | 14L with 2 built-in specimen sealed tanks  | 14L with 2 built-in specimen sealed tanks  |
| Specimen sealed tank size (mm)               | H160*D130  | H160*D130  |
| Number of test tubes (Single tank)           | 16 test tubes D10 (small), 2 test tubes D15 (large)  | 16 test tubes D10 (small), 2 test tubes D15 (large)  |
| Net weight (kg)                              | 8  | 3  |
| Transport temperature (°C)                   | 2-10   | 2-10   |
| Thermal insulation time (32°C full load) (h) | 8  | 7  |
| Cabinet material                             | Aluminum magnesium alloy box shell   | PP plastic   |
| Thermal insulation material                  | EPP foam liner   | EPP foam liner   |
| Cool storage mode                            | PCM ice pack cold storage  | PCM ice pack cold storage  |

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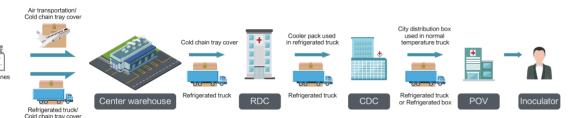
#### **Logistics Cold Chain Transport Cooler**

#### **Scope of Application**

#### **Temperature Sensitive Medicines Transportation Flow**



#### **Vaccines Transportation Flow**



#### **Passive Cooling**

#### **Product Advantages**

#### **High Stability and Durable**

Adopting Vacuum Insulation Panel (V.I.P.) insulation technology. The insulating material is vapor phase silica, which has an insulation performance of 5-8 times that of polyurethane foam. Vapor phase silica V.I.P. has a longer service life than other insulating materials.

# Phase Change Cool Storage Technology Utilized to Reduce $\text{CO}_2$ Emissions

Adopting multi-temperature zone Phase Change Material (PCM), and with different phase change points, this product achieves temperature control within -25~-15°C, 2~8°C, 15~25°C and other multi-temperature zones, effectively decreasing CO $_{\rm 2}$  emissions, reduces waste and costs.



BW25-8/12/18/36/64 BW50-12/36

#### Light Weight, Easy to Carry

Designed for less-than-carload logistics and small batch logistics, light and ergonomic, easy to carry.

#### Extended Heat Preservation Time, Adapts to Complicated and Changeable Transportation Conditions

Superior heat preservation and cool storage capacity to ensure long-term heat preservation time to cope with the changing transportation environment.

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#### **Logistics Cold Chain Transport Cooler**

#### **Specifications**

| Model                          | BW25-8            | BW25-12         | BW50-12         | BW25-18           | BW25-36           | BW50-36           | BW25-64           |
|--------------------------------|-------------------|-----------------|-----------------|-------------------|-------------------|-------------------|-------------------|
| Temperature Range              | -25~-15/2-8/15-25 | -2515/2-8/15-25 | -2515/2-8/15-25 | -25~-15/2-8/15-25 | -25~-15/2-8/15-25 | -25~-15/2-8/15-25 | -25~-15/2-8/15-25 |
| Exterior Dimensions (W*D*H mm) | 455*295*295       | 410*340*355     | 465*400*410     | 515*345*355       | 515*450*460       | 575*505*505       | 585*520*530       |
| Payload Size (W*D*H mm)        | 270*175*175       | 230*230*230     | 230*230*230     | 330*230*230       | 330*330*330       | 330*330*330       | 400*400*400       |
| 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       |
| Net weight (kg)                | 9.4               | 11.5            | 16.5            | 14.3              | 21.7              | 30                | 31                |
| Gross weight (kg)              | 11.1              | 13.4            | 18.9            | 16.5              | 24.5              | 33.3              | 34.5              |
| Capacity (L)                   | 8                 | 12              | 12              | 18                | 36                | 36                | 64                |
| Recorder Monitoring            | Optional          | Optional        | Optional        | Optional          | Optional          | Optional          | Optional          |
| Heat Insulating Material       | VIP               | VIP             | VIP             | VIP               | VIP               | VIP               | VIP               |
| Coolinng way                   | Passive cooling   | Passive cooling | Passive cooling | Passive cooling   | Passive cooling   | Passive cooling   | Passive cooling   |
| Coolant Type                   | PCM               | PCM             | PCM             | PCM               | PCM               | PCM               | PCM               |
| Duration time @43°C (h)        | 39                | 44              | 75              | 55                | 64                | 108               | 64                |
| Duration time @35°C (h)        | 48                | 48              | 84              | 72                | 72                | 120               | 72                |

Remarks: Data from laboratory, right to interpret by Haier Biomedical

#### **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.

#### **Unique Designs**







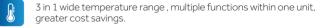


Optional: Electromagnetic lock, with password lock equipped;

HZY-40Z







#### **Specifications**

| Model   | Exterior Dimension<br>(W*D*Hmm) | Interior Dimension<br>(W*D*Hmm) | Valid<br>Volume | Door   | Foam<br>Materials | Compressor                             | Shelf/Basket/<br>Load bearing | _                  |                        |                           |
|---------|---------------------------------|---------------------------------|-----------------|--|-------------------|--|-------------------------------|--------------------|------------------------|---------------------------|
| HZY-40Z | 800*550*505                     | 377*348*285                     | 40L             | Rotational moulding<br>integrated forming<br>foam door | LBA               | DC variable<br>frequency<br>compressor | Basket≤35kg                   | Forced air cooling | Rotational<br>moulding | Microchannel/<br>Fin type |

| Temperature<br>Control<br>Method | Refrigerant | Lamp   | UV Lamp | Net Weight | Temperature<br>Range | Rated Power                         | Rated Power<br>/Current | Power<br>Consumption | Electro-<br>magnetic<br>Lock | USB      |
|----------------------------------|-------------|--------|---------|------------|----------------------|-------------------------------------|-------------------------|----------------------|------------------------------|----------|
| Microprocessor                   | R134a       | LED 1W | UVC 1W  | 38Kg       | -20 to 22°C          | AC99-264V<br>50/60HZ<br>DC12V/DC24V | 85W                     | 1.5Kwh/24h           | Optional<br>coded lock       | Optional |

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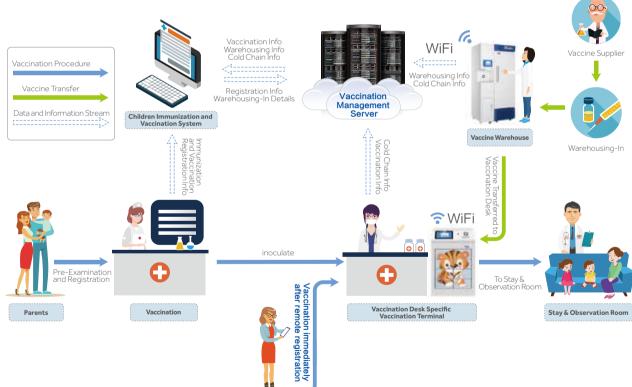


#### **Haier Smart Vaccine**

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 confirms 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
- 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 Refrigerator**

#### **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.

1 Smart Vaccine Preservation Refrigerator can improve the work efficiency of nurses by removing manual inventory-taking and warehouse operations by  $lever aging the {\it classification}\ based {\it storage}, electronic {\it regulatory}\ code\ based\ management}, data {\it and}\ information\ stream\ management}.$ 



HYC-361



#### The warehousing-in/out operations are codes to realize the full digitalization and guarantee the accuracy and validity of

The smallest package units



#### Data and information streams

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

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

Reduce temperature fluctuation

required as quick as possible, to



HYC-61

# **Automated accurate** vaccine dispensing piration date of arly warnings: ne time of dispensing can be nortened, and the rate of accination errors can be reduced



vaccine to be used is verified by minimize the door opening time. scanning the code. This function can quarantee the

A Double Check



#### Integrated nurse

integrated into the vaccination



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#### **Specifications**

|                 | Model                            | HYC-361   | HYC-361 Scanner Cabinet | HYC-61  |
|-----------------|----------------------------------|---|-------------------------|---|
|                 | Cabinet Type                     | upright   | upright                 | upright   |
|                 | Climate Class                    | N   | N                       | N   |
| Technical Data  | Cooling Type                     | Forced Air Cooling                                    | /                       | Forced Air Cooling                                    |
| echinical Data  | Defrost Mode                     | Manual+ Auto defrost                                  | /                       | Manual+ Auto defrost                                  |
|                 | Refrigerant                      | R600a   | /                       | R600a   |
|                 | Sound Level (dB(A))              | ≤41   | /                       | ≤41   |
| erformance      | Temperature Range (°C)           | 2~8   | /                       | 2~8   |
| No contract     | Controller                       | Microprocessor  | /                       | Microprocessor  |
| Control         | Display                          | /   | 10.1 inch touch screen  | 10.1 inch touch screen                                |
|                 | Power Supply (V/Hz)              | 220/50  | /                       | 220/50  |
| Electrical Data | Power (W)                        | 254   | /                       | 230   |
|                 | Electrical Current (A)           | 1.6   | /                       | 1.5   |
|                 | Capacity (L/Cu.Ft)               | 361/12.75   | /                       | 61/2.15   |
|                 |                                  | kg 116/139  | 36/42                   | 80/90   |
| Dimensions      | Net/Gross Weight (approx)        | lbs 255.7/306.4                                       | 79.2/92.4               | 176/198   |
|                 | (1.045 40.0                      | mm 530*555*1380                                       | /                       | 560*460*630   |
|                 | Interior Dimensions (W*D*H)      | in 20.8*21.9*54.3                                     | /                       | 22*18.1*24.8  |
|                 | Exterior Dimensions (W*D*H)      | mm 980*680*1980                                       | 315*710*1965            | 600*600*935   |
|                 | Exterior Dimensions (W-D-H)      | in 38.6*26.8*78                                       | 12.4*28*77.4            | 23.5*22.6*37.1  |
|                 | Packing Dimensions (W*D*H)       | mm 1055*755*2110                                      | 420*744*2042            | 670*660*1110  |
|                 | T detting 2 interisions (W 2 11) | in 41.6*29.8*83.1                                     | 16.5*29.3*80.4          | 26.4*26*43.7  |
|                 | Container load (20'/40'/40'H)    | 23/46/46  | /                       | 54/102/102  |
|                 | High/Low Temperature             | Υ   | 1                       | Y   |
|                 | Remote Alarm                     | Υ   | /                       | Y   |
| Alarms          | Power Failure                    | Υ   | /                       | Y   |
| AldITIS         | Sensor Error                     | Υ   | /                       | Υ   |
|                 | Low Battery                      | /   | /                       | /   |
|                 | Door Ajar                        | Υ   | /                       | /   |
|                 | Caster                           | Υ   | /                       | Υ   |
|                 | Foot                             | Υ   | /                       | Υ   |
|                 | Porthole                         | Υ   | /                       | /   |
| Accessories     | Shelves/Drawers                  | Υ   | /                       | Υ   |
|                 | USB Interface                    | Υ   | /                       | /   |
|                 | Temperature Recorder             | 1   | /                       | /   |
| Others          | Certification                    | Registeration certification for medical equipment /CE | /                       | Registeration certification for medical equipment /CE |

Product appearance and specifications are subject to change without notice

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#### **Display Panel**



Lock Catch Designed to Match Padlock



Handgrip

#### HTCD-160

#### **Storage Security**

- The anti-freeze function ensures the internal temperature of the cooling chamber is not lower than
- 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 after power outage for more than 121 hours and no more than 10°C after power outage for more than 160 hours.
- 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.

#### Solar Direct Drive Combined Refrigerator/Freezer

#### **Specifications**

|                  | Model                                      |      | HTCD-160                        |  |  |
|------------------|--|------|---------------------------------|--|--|
|                  | Cabinet Type                               |      | Upright                         |  |  |
|                  | Ambient Temperature (°C)                   |      | 5~43                            |  |  |
| Talakai and Data | Cooling Type                               |      | Direct Cooling                  |  |  |
| echnical Data    | Defrost Mode                               |      | Manual                          |  |  |
|                  | Refrigerant                                |      | CFC-Free                        |  |  |
|                  | Noise (dB(A))                              |      | 38                              |  |  |
| Performance      | Temperature Range (°C)                     |      | Freezer≤-10 Refrigerator: 2~8   |  |  |
|                  | Controller                                 |      | Microprocessor                  |  |  |
| Control          | Display                                    |      | Solar LED Temperature Display   |  |  |
|                  | Power Supply (V)                           | 24   |                                 |  |  |
|                  | Maximal Current (A)                        |      | 9                               |  |  |
|                  | Energy Consumption: Stable Running (kWh/   | 0.86 |                                 |  |  |
|                  | Energy Consumption: Cool Down Test (kWh    | 0.86 |                                 |  |  |
| lectrical Data   | Holdover Time at 43°C                      |      | 160hrs 8mins                    |  |  |
| Data             | Holdover time at 32°C                      |      | 230hrs 10mins                   |  |  |
|                  | Autonomy Time at 43°C                      |      | 121hrs 27mins                   |  |  |
|                  | Solar Radiation Reference Period (kWh/m²/c | day) | 3.5                             |  |  |
|                  | Voltage of Solar Panel                     | ,    | 24V                             |  |  |
|                  | Power of Solar Panel                       |      | 255W*3                          |  |  |
|                  | Vaccine Storage Capacity (L/Cu.Ft)         |      | 100/3.5                         |  |  |
|                  |  |      | Refrigerator: 120/4.2           |  |  |
|                  | Gross Volume (L/Cu.Ft)                     |      | Freezer: 40/1.4                 |  |  |
|                  |  | kg   | 170/197                         |  |  |
|                  | Net/Gross Weight (approx)                  | lbs  | 374.8/434.3                     |  |  |
|                  |  |      | Cooling Chamber: 545*500*530    |  |  |
|                  |  | mm   | Freezer Chamber: 560*520*150    |  |  |
|                  | Interior Dimensions (W*D*H)                |      | Cooling Chamber: 21.5*19.7*20.9 |  |  |
| N::              |  | in   | Freezer Chamber: 22.0*20.5*5.9  |  |  |
| imensions        |  | mm   | 890*825*1700                    |  |  |
|                  | Exterior Dimensions (W*D*H)                | in   | 35.04*32.6*66.9                 |  |  |
|                  |  | mm   | 985*920*1860                    |  |  |
|                  | Packing Dimensions (W*D*H)                 | in   | 38.8*36.2*73.2                  |  |  |
|                  |  |      | 36.6 30.2 73.2                  |  |  |
|                  | Container Load (20'/40'/40'H)              |      | 12/24/24                        |  |  |
|                  | High/Low Temperature                       |      | N                               |  |  |
| (laure)          | Sensor Error                               |      | Υ                               |  |  |
| Alarm            |  |      | I                               |  |  |
|                  | Low Battery                                |      |                                 |  |  |
| ccessories       | Baskets                                    |      | 2/0-6::                         |  |  |
|                  | Shelves                                    |      | 2 (Refrigerator Room)           |  |  |
|                  | Certification                              |      | CE/WHO/PQS                      |  |  |
|                  | Data Logger                                |      | Y                               |  |  |
| Others           | Freezer Protection Level                   |      | A                               |  |  |
|                  | Freezer Gross Volume (L/Cu.Ft)             |      | 40/1.4                          |  |  |
|                  | Waterpack Storage Capacity (kg)            |      | 10.68                           |  |  |
|                  | Waterpack Freezing Capacity (kg/24h)       |      | 2.08                            |  |  |

Product appearance and specifications are subject to change without notice  $\,$ 

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**Solar Energy Display Panel** 

HTCD-90

#### **Product Features**

- The refrigerating chamber and freezing chamber both have separate refrigeration systems; to ensure safe vaccine
- Solar direct drive is a greener and environment-friendly technology compared with traditional refrigeration
- $\bullet \ \, \text{Microprocessor control}, solar powered \ display \ panel \ shows \ refrigerator \ and \ freezer \ interior \ temperature, \ refrigerator \ and \ freezer \ interior \ temperature, \ refrigerator \ and \ freezer \ interior \ temperature, \ refrigerator \ and \ freezer \ interior \ temperature, \ refrigerator \ and \ freezer \ interior \ temperature, \ refrigerator \ and \ freezer \ interior \ temperature, \ refrigerator \ and \ freezer \ interior \ temperature, \ refrigerator \ and \ freezer \ interior \ temperature, \ refrigerator \ and \ freezer \ interior \ temperature, \ refrigerator \ and \ freezer \ interior \ temperature, \ refrigerator \ and \ freezer \ interior \ temperature, \ refrigerator \ and \ freezer \ interior \ temperature, \ refrigerator \ and \ freezer \ interior \ temperature, \ refrigerator \ and \ freezer \ and \ and \ freezer \ and \ freezer \ and \ freezer \ and \ and \ freezer \ and \ freezer \$ temperature range is 2~8°C, freezer temperature is less than -10°C
- Patented technology within the cooling chamber maintains the interior temperature, to ensure longer holding times when
- Cooling chamber meets the A level WHO requirements for anti-freezing protection
- Patented technology, better temperature uniformity
- Wide working ambient range will function normally within an ambient range of 5~43°C

#### **Ergonomic Design**

- Lockable to ensure no unauthorized access
- Equipped with USB charging socket, for charging a mobile phone, etc
- Quick and efficient sample retrieval, equipped with easy-to-reach storage baskets
- Low noise
- Corrosion-resistant and easy to clean aluminium interior
- Equipped with handles on both sides of the cabinet, making it easier to move around

#### Solar Direct Drive Combined Refrigerator/Freezer

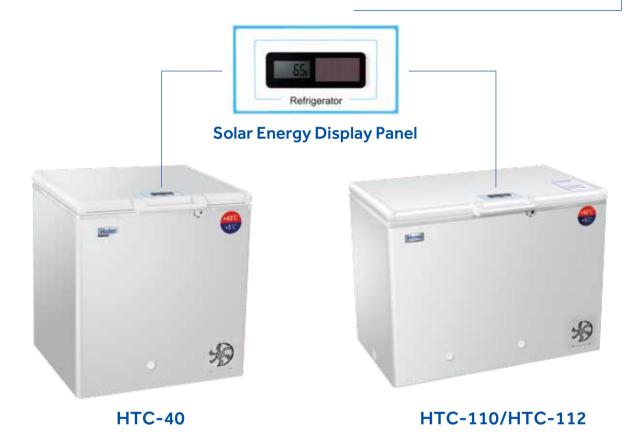
#### **Specifications**

|                 | Model                                  |                               | HTCD-90                         |  |  |
|-----------------|--|-------------------------------|---------------------------------|--|--|
|                 | Cabinet Type                           |                               | Chest                           |  |  |
|                 | Ambient Temperature (°C)               |                               | 5~43                            |  |  |
| Technical Data  | Cooling Type                           |                               | Direct Cooling                  |  |  |
| echinical Data  | Defrost Mode                           |                               | Manual                          |  |  |
|                 | Refrigerant                            |                               | CFC-Free                        |  |  |
|                 | Noise (dB(A))                          |                               | <38                             |  |  |
| Performance     | Temperature Range (°C)                 |                               | Freezer≤-10 Refrigerator: 2~8   |  |  |
| Control         | Controller                             |                               | Microprocessor                  |  |  |
| CONTROL         | Display                                | Solar LED Temperature Display |                                 |  |  |
|                 | Power Supply (V)                       | 24                            |                                 |  |  |
|                 | Maximal Current (A)                    | 7                             |                                 |  |  |
|                 | Energy Consumption: Stable Running (kW | 0.86                          |                                 |  |  |
|                 | Energy Consumption: Cool Down Test (kV | 0.81                          |                                 |  |  |
| Electrical Data | Holdover Time at 43°C                  |                               | 137hrs 47mins                   |  |  |
|                 | Holdover Time at 32°C                  |                               | 169hrs 6mins                    |  |  |
|                 | Autonomy Time at 43°C                  |                               | 114hrs 56mins                   |  |  |
|                 | Solar Radiation Reference Period       |                               | 3.5kWh/m²/day                   |  |  |
|                 | Voltage of Solar Panel (V)             |                               | 24                              |  |  |
|                 | Power of Solar Panel                   |                               | 180W *4                         |  |  |
|                 | Vaccine Storage Capacity (L/Cu.Ft)     |                               | 37.5/1.3                        |  |  |
|                 |  |                               | Refrigerator: 58/2.1            |  |  |
|                 | Gross Volume (L/Cu.Ft)                 |                               | Freezer: 32 /1.1                |  |  |
|                 |  | kg                            | 83/113                          |  |  |
|                 | Net/Gross Weight (approx)              | lbs                           | 183.0/250.0                     |  |  |
|                 |  |                               | Cooling Chamber: 270*345*555    |  |  |
|                 |  | mm                            | Freezer Chamber: 170*370*575    |  |  |
|                 | Interior Dimensions (W*D*H)            |                               | Cooling Chamber: 10.6*13.6*21.9 |  |  |
| N:              |  | in                            | Freezer Chamber: 6.7*14.6*22.6  |  |  |
| Dimensions      |  | mm                            | 1128*720*875                    |  |  |
|                 | Exterior Dimensions (W*D*H)            | in                            | 44.4*28.3*34.3                  |  |  |
|                 |  | mm                            | 1190*770*1080                   |  |  |
|                 | Packing Dimensions (W*D*H)             | in                            | 46.9*30.3*42.5                  |  |  |
|                 |  |                               |                                 |  |  |
|                 | Container Load (20'/40'/40'H)          |                               | 26/56/56                        |  |  |
|                 | High/Low Temperature                   |                               | N                               |  |  |
| Alarms          | Sensor Error                           |                               | Y                               |  |  |
|                 | Low Battery                            |                               | -                               |  |  |
|                 | Baskets                                |                               | 4                               |  |  |
| Accessories     | Shelves                                |                               | -                               |  |  |
|                 | Certification                          | CE/WHO/PQS                    |                                 |  |  |
|                 | Data Logger                            | Y                             |                                 |  |  |
| )+hore          | Freezer Protection Level               |                               | А                               |  |  |
| Others          | Freezer Gross Volume (L/Cu.Ft)         |                               | 32/1.1                          |  |  |
|                 | Waterpack Storage Capacity (kg)        |                               | 12.52                           |  |  |
|                 | Waterpack Freezing Capacity (kg/24h)   |                               | 2.43                            |  |  |

Product appearance and specifications are subject to change without notice

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**Solar Direct Drive Vaccine Refrigerator** 



#### **Product Features**

- Solar direct drive, a greener and more environment-friendly technology than traditional refrigeration
- Microprocessor control, solar powered display panel shows interior temperature
- Patented technology maintains interior temperature, with longer holding times when power is off
- Cooling chamber meets the A level WHO requirements for anti-freezing protection
- Patented technology ensures better temperature uniformity
- Inner lid configuration offers additional temperature protection
- $\bullet$  Wide working ambient range will function normally within an ambient range of 5-43°C

#### **Ergonomic Design**

- Lockable to ensure no unauthorized access
- Equipped with USB charging socket, for charging a mobile phone, etc
- Quick and efficient sample retrieval, equipped with easy-to-reach storage baskets
- Low noise
- Corrosion-resistant and ease to clean aluminium interior
- Equipped with handles on both sides of the cabinet, making it easier to move around

|  | Model                               |              | HTC-40                        | HTC-110                     | HTC-112                      |
|--|-------------------------------------|--------------|-------------------------------|-----------------------------|------------------------------|
|  | Cabinet Type                        |              | Chest                         | Chest                       | Chest                        |
|  | Ambient Temperature (°C)            |              | 5~43                          | 5~43                        | 5~43                         |
| Technical  | Cooling Type                        |              | Direct Cooling                | Direct Cooling              | Direct Cooling               |
| Performance Control  Electrical Data  Dimensions | Defrost Mode                        |              | /                             | /                           | /                            |
|  | Refrigerant                         |              | CFC-Free                      | CFC-Free                    | CFC-Free                     |
|  | Noise (dB(A))                       |              | <30                           | <30                         | <30                          |
| Performance                                      | Temperature Range (°C)              |              | 2~8                           | 2~8                         | 2~8                          |
| Control  | Controller                          |              | Microprocessor                | Microprocessor              | Microprocessor               |
| CONTROL  | Display                             |              | Solar LED Temperature Display | SolarLEDTemperature Display | Solar LED Temperature Displa |
|  | Power Supply (V)                    |              | 24                            | 24                          | 24                           |
|  | Maximal Current (A)                 |              | 5                             | 5                           | 5                            |
|  | Energy Consumption: Stable Runni    | ng (kWh/24h) | 0.69                          | 0.58                        | 0.59                         |
|  | Energy Consumption: Cool Down Te    | est(kWh/24h) | 0.71                          | 0.62                        | 0.62                         |
|  | Holdover Time at 43°C               |              | 122hrs 18mins                 | 106hrs 17mins               | _                            |
| Data   | Holdover Time at 32°C               |              | 162hrs 36mins                 | 152hrs 28mins               | 145hrs 29mins                |
| -  | Autonomy Time at 43°C               |              | 117hrs 18mins                 | 96hrs 24mins                | 92hrs 46mins                 |
|  | Solar Radiation Reference Period (k | .Wh/m²/day)  | 3.5                           | 3.5                         | 3.5                          |
|  | Voltage of Solar Panel (V)          |              | 24                            | 24                          | 24                           |
|  | Power of Solar Panel (W)            |              | 180 *2                        | 180 *2                      | 180 *2                       |
|  | Vaccine Storage Capacity (L/Cu      | ı.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                     |
|  |                                     | kg           | 57/82                         | 75/105                      | 75/105                       |
|  | Net/Gross Weight (approx)           | lbs          | 125.6/180.7                   | 165/231.5                   | 165/231.5                    |
|  |                                     | mm           | 200*345*575                   | 545*345*575                 | 545*345*575                  |
| Dimensions                                       | Interior Dimensions (W*D*H)         | in           | 7.9*13.6*22.6                 | 21.5*13.6*22.6              | 21.5*13.6*22.6               |
|  | Exterior Dimensions (M*D*II)        | mm           | 788*720*875                   | 1128*720*875                | 1128*720*875                 |
|  | Exterior Dimensions (W*D*H)         | in           | 31.0*28.3*34.4                | 44.4*28.3*34.4              | 44.4*28.3*34.4               |
|  | D 1: D: (14/4/D*11)                 | mm           | 850*770*1080                  | 1190*770*1080               | 1190*770*1080                |
|  | Packing Dimensions (W*D*H)          | in           | 33.4*30.3*42.5                | 46.9*30.3*42.5              | 46.9*30.3*42.5               |
| Alarms   | Container Load (20'/40'/40'H)       |              | 36/78/78                      | 26/56/56                    | 26/56/56                     |
|  | High/Low Temperature                |              | N                             | N                           | N                            |
| Alarms   | Sensor Error                        |              | Y                             | Υ                           | Υ                            |
|  | Low Battery                         |              | -                             | -                           | -                            |
|  | Baskets                             |              | 2                             | 4                           | 4                            |
| Accessories                                      | Shelves                             |              | -                             | -                           | -                            |
|  | Certification                       |              | CE/WHO/PQS                    | CE/WHO/PQS                  | CE/WHO/PQS                   |
|  | Data Logger                         |              | Y                             | Υ                           | Y                            |
| O±1= = :   | Freezer Protection Level            |              | A                             | A                           | A                            |
| Otners   | Freezer Gross Volume (L/Cu.Ft)      | )            | -                             | -                           | -                            |
|  | Waterpack Storage Capacity (kg      | j)           | -                             | -                           | -                            |
| Accessories<br>Others                            | Waterpack Freezing Capacity (k      |              | _                             | _                           | _                            |

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Lock Catch Designed to Match Padlock

Handgrip

65 Refrigerator

**Display Panel** 

#### **Product Features**

#### **Solar Energy Driven**

• Solar power is green and environmentally friendly

#### **Anti-Freeze**

• A level protection ensures required internal temperature

#### **Ergonomic Design**

• Easy to clean and corrosion proof

#### **Environmentally Friendly**

• Ecofriendly product

#### **Patented Technology**

• Heat-pipe provides better temperature uniformity

#### **Specifications**

**Solar Direct Drive Vaccine Refrigerator** 

|              | Model                                   |                 | HTC-120                       | HTC-240                       |
|--------------|---|-----------------|-------------------------------|-------------------------------|
|              | Cabinet Type                            |                 | Upright                       | Upright                       |
|              | Ambient Temperature (°C)                |                 | -                             | -                             |
| <del>-</del> | Cooling Type                            |                 | Direct Cooling                | Direct Cooling                |
| Technical    | Defrost Mode                            |                 | No electric heating defrost   | No electric heating defrost   |
| Data         | Refrigerant                             |                 | HC                            | HC                            |
|              | Noise (dB(A))                           |                 | ≤43                           | ≤43                           |
| Performance  | Temperature Range (°C)                  |                 | 2~8                           | 2~8                           |
| Control      | Controller                              |                 | Microprocessor                | Microprocessor                |
| JOHUOI       | Display                                 |                 | Solar LED temperature display | Solar LED temperature display |
|              | Power supply (V)                        |                 | 24                            | 24                            |
|              | Maximal Current (A)                     |                 | 5                             | 5                             |
|              | Energy Consumption: stable runnin       | g (KWh/24h)     | 0.44                          | 0.35                          |
|              | Energy Consumption: cool down te        | st (KWh/24h)    | 0.48                          | 0.54                          |
| Electrical   | Autonomy Time 43°C                      |                 | 112hrs 24mins                 | 95hrs 23mins                  |
|              | Autonomy Time 32°C                      |                 | 183hrs 20mins                 | 151hrs 10mins                 |
| Data         | At a Solar Radiation Reference Period   | of (kWh/m²/day) | 3.5                           | 3.5                           |
|              | Voltage of Solar Panel (V)              |                 | 24                            | 24                            |
|              | Power of Solar Panel (W)                |                 | 360                           | 360                           |
|              | Vaccine Storage Capacity (L/Cu.Ft)      |                 | 100/3.5                       | 200/7.1                       |
|              | Gross Volume (L/Cu.Ft)                  |                 | 120/4.2                       | 240/8.5                       |
|              | kg                                      |                 | 130/160                       | 150/185                       |
|              | Net/Gross Weight (approx)               | lbs             | 286/352                       | 330/407.9                     |
|              |   | mm              | 530*500*530                   | 530*500*960                   |
|              | Interior Dimensions (W*D*H)             | in              | 20.9*19.7*20.9                | 20.9*19.7*37.8                |
| <u>.</u>     | 5 · · · 5 · · · · · · · · · · · · · · · | mm              | 890*825*1422                  | 890*825*1815                  |
| Jimensions   | Exterior Dimensions (W*D*H)             | in              | 35*32*56                      | 35*32*71                      |
|              | 5 1. 5                                  | mm              | 980*920*1585                  | 980*920*1980                  |
|              | Packing Dimensions (W*D*H)              | in              | 38.6*36.2*62.4                | 38.6*36.2*78                  |
|              | Container Load (20'/40'/40'H)           |                 | 12/24/24                      | 12/24/24                      |
|              | High/Low Temperature                    |                 | Υ                             | Y                             |
| unctions     | Sensor Error                            |                 | Υ                             | Υ                             |
|              | Low Battery                             |                 | -                             | -                             |
|              | Baskets                                 |                 | -                             | -                             |
| Accessories  | Shelves                                 |                 | 3                             | 4                             |
|              | Certification                           |                 | CE, PQS                       | CE, PQS                       |
|              | Data Logger                             |                 | Υ Υ                           | Υ Υ                           |
|              | Freezer Protection Level                |                 | A                             | A                             |
| Others       | Freezer Gross Volume (L/Cu.Ft)          |                 | -                             | <u> </u>                      |
| -            | Waterpack Storage Capacity (kg)         |                 | -                             | -                             |
|              | Waterpack Freezing Capacity (kg/2       | 4h)             | -                             | -                             |
|              | accipacity (kg/2)                       | ,               |                               |                               |

Product appearance and specifications are subject to change without notice

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HTD-40

#### **Product Features**

- Environmentally-friendly solar powered drive system
- Solar-powered display panel
- High performance refrigeration system
- Rated for up to 43°C ambient
- Efficient insulation layer for temperature preservation

#### **Ergonomic Design**

- Safety lock for unauthorized access control
- Storage basket for ease of retrieval and archival of samples
- Easy to clean, corrosion proof aluminium interior

| <b>)-40</b><br>est |
|--------------------|
| est                |
|                    |
| 13                 |
| Cooling            |
| nual               |
| Free               |
| 60                 |
| 10                 |
| ocessor            |
| erature Display    |
| 4                  |
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|                    |
| 1.7                |
| 85                 |
| 187.4              |
| '0*575             |
| .6*22.6            |
| .0*875             |
| .3*34.3            |
| O*1080             |
| .3*42.5            |
| 90*40              |
| 9.0*1.6            |
| 8/78               |
| 1                  |
| ,                  |
|                    |
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|                    |
| O/PQS              |
|                    |
|                    |
| 1.7                |
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| .8                 |
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Product appearance and specifications are subject to change without notice

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**Specifications** 

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



HTXC-240



#### **Product Features**

- Solar direct drive refrigerator without battery
- Wide applicable ambient temperature: 5-43°C
- Vertical structure, first-in first-out, easy operation
- Stainless steel drawer
- Optional RTMD
- Automatic drainage design



|             | Model                                   |                     | HTXC-240  |
|-------------|---|---------------------|---|
|             | Cabinet Type                            |                     | Upright   |
|             | Ambient Temperature (°C)                |                     | ≤43   |
| Technical   | Cooling Type                            |                     | Direct Cooling  |
| Data        | Defrost Mode                            |                     | No electric heating defrost   |
|             | Refrigerant                             |                     | HC  |
|             | Noise (dB(A))                           |                     | ≤43   |
| Performance | Temperature Range (°C)                  |                     | 2~8   |
| C t 1       | Controller                              |                     | Microprocessor  |
| Control     | Display                                 |                     | Solar LED temperature display   |
|             | Power supply (V)                        |                     | 24  |
|             | Maximal Current (A)                     |                     | 5   |
|             | Energy Consumption: stable runnii       | ng (KWh/24h)        | 0.35  |
|             | Energy Consumption: cool down to        | est (KWh/24h)       | 0.54  |
| Electrical  | Autonomy Time at 43°C                   |                     | 95hrs 23mins  |
| Data        | Autonomy Time at 32°C                   |                     | 151hrs 10mins   |
| J 4 64      | At a Solar Radiation Reference Per      | iod of (kwh/m²/day) | 3.5   |
|             | Voltage of Solar Panel (V)              | -                   | 24  |
|             | Power of Solar Panel (W)                |                     | 360   |
|             | Vaccine Storage Capacity (L/Cu.Ft       | :)                  | 200/7.1   |
|             | 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  |
|             | 5 · · · 5 · · · · · · · · · · · · · · · | mm                  | 890*825*1815  |
| Dimensions  | Exterior Dimensions (W*D*H)             | in                  | 35.04*32*71   |
|             |   | mm                  | 985*920*1980  |
|             | Packing Dimensions (W*D*H)              | in                  | 38.8*36.2*78  |
|             |   | mm                  | 1580*808*40   |
|             | Solar Panel (L*W*D)                     | in                  | 62.2*31.8*1.6   |
|             | Container Load (20'/40'/40'H)           |                     | 12/24/24  |
|             | High/Low Temperature                    |                     | Υ   |
| unctions    | Sensor Error                            |                     | Υ   |
|             | Low Battery                             |                     | -   |
|             | Baskets                                 |                     | -   |
| Accessories | Shelves                                 |                     | 4   |
|             | Certification                           |                     | CE, PQS   |
|             | Data Logger                             |                     | Υ   |
|             | Freezer Protection Level                |                     | А   |
| Others      | Freezer Gross Volume (L/Cu.Ft)          |                     | -   |
|             | Waterpack Storage Capacity (kg)         |                     | -   |
|             | Waterpack Freezing Capacity (kg/2       | 24h)                | -   |
|             | Optional                                |                     | Remote Temperature Monitoring Device (RTMD)                             |
|             |   |                     | Product appearance and specifications are subject to change without not |

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**Solar Energy Display Panel** 

HBCD-90

#### **Product Features**

- The refrigerating chamber and freezing chamber both have the separate refrigeration systems to ensure safe vaccine storage
- Green and environment-friendly
- Microprocessor control, solar powered display panel shows refrigerator and freezer interior temperature, refrigerator temperature range is  $2-8^{\circ}$ C, freezer temperature is less than  $-10^{\circ}$ C
- Cooling chamber with water tank maintains interior temperature, extending the holding time when power is off
- Cooling chamber meets the A level WHO requirements for anti-freezing protection
- Patented technology, better temperature uniformity
- Wide working ambient range, will function normally within an ambient range of 5-43°C

#### **Ergonomic Design**

- Safety lock for unauthorized access control
- Equipped with storage basket, easy-reach retrieval of sample
- •Low noise
- Aluminium and stainless steel chamber interior, corrosion-proof and easy to clean
- Equipped with handles on both sides of the cabinet, easy to move

#### **Ice-Lined Refrigerator**

#### **Specifications**

|                   | Model                                     |                                       | HBCD-90  |
|-------------------|---|---------------------------------------|--|
|                   | Cabinet Type                              |                                       | Chest  |
|                   | Ambient Temperature (°C)                  |                                       | 5~43   |
| Facilities   Data | Cooling Type                              | Direct Cooling                        |  |
| Technical Data    | Defrost Mode                              | Manual                                |  |
|                   | Refrigerant                               |                                       | CFC-Free   |
|                   | Sound Level (dB(A))                       | <40                                   |  |
|                   | Temperature Range (°C)                    |                                       | Freezer≤-10 Refrigerator: 2~8  |
| Performance       | Freezer Protection Level                  |                                       | A  |
|                   |   |                                       | Microprocessor   |
| Control           |   | ontroller<br>splay                    |  |
|                   |   | oly (V/Hz)                            |  |
|                   | Power Supply (V/Hz)                       |                                       | 220~240/50<br>190  |
|                   | Power (W)                                 |                                       |  |
| The attribut Date | Electrical Current (A)                    |                                       | 1.0  |
| Electrical Data   | Power Consumption:Stable Running (kWh/24h |                                       | 0.9  |
|                   | Power Consumption:Cool Down Test (kWh/24  | 1h)                                   | 1  |
|                   | Holdover Time at 43°C                     | 63hrs 48mins                          |  |
|                   | Holdover Time at 32°C                     | 132hrs 21mins                         |  |
|                   | Vaccine Storage Capacity (L/Cu.Ft)        | 30/1.1                                |  |
|                   | Gross Volume (L/Cu.Ft)                    | Refrigerator:42/1.5<br>Freezer:32/1.1 |  |
|                   | NI=+/C                                    | kg                                    | 105/135  |
|                   | Net/Gross Weight (approx)                 | lbs                                   | 231/298  |
| Dimensions        |   | mm                                    | Refrigerator Chamber:279*273*556<br>Freezer Chamber:166*366*580                                    |
|                   | Interior Dimensions (W*D*H)               | in                                    | Refrigerator Chamber:11*10.8*21.9<br>Freezer Chamber:6.5*14.4*22.8                                 |
|                   | F D (1/4D41)                              | mm                                    | 1128*717*872   |
|                   | Exterior Dimensions (W*D*H)               | in                                    | 44.4*28.2*34.3   |
|                   | D 1. D (M*D*11)                           | mm                                    | 1190*770*1080  |
|                   | Packing Dimensions (W*D*H)                | in                                    | 47*30*42.5   |
|                   | Container Load (20'/40'/40'H)             |                                       | 26/56/56   |
|                   | High/Low Temperature                      |                                       | Υ  |
| unctions          | Power Failure                             |                                       | N  |
|                   | Sensor Error                              |                                       | Y  |
| Accessories       | Foot/Caster                               |                                       | N  |
|                   | Baskets                                   |                                       | 4  |
|                   | Certification                             |                                       | CE/WHO/PQS   |
| Others            | Data Logger                               |                                       | Y  |
|                   | Freezer Gross Volume (L/Cu.Ft)            |                                       | 32/1.1   |
|                   | Waterpack Storage Capacity (kg)           |                                       | 16   |
|                   | Waterpack Freezing Capacity (kg/24h)      |                                       | 4  |
|                   | Optional                                  |                                       | 30 Days Temperature Logger<br>Automatic Voltage Stabilizer<br>Remote Temperature Monitoring Device |

 $\label{product} \mbox{Product appearance and specifications are subject to change without notice}$ 

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- Optimized refrigeration system design
- Cabinet structure designed specifically to maintain 2°C to 8°C for more than 30 hours at 43°C ambient
- CFC-free high-density foam insulation
- Complies with WHO/UNICEF standards Grade A freeze protection to ensure vaccine never freezes in the storage compartment
- Wide ambient temperature range, from 5°C -43°C

#### **Temperature Control**

- Digital solar powered temperature display
- Internal temperature range is 2°C to 8°C

#### **Ergonomic Design**

- Door lock for storage safety
- Indicator light to show whether compressors on or off status
- Independent temperature data logger to monitor, record and manage temperature records
- Operates within wide voltage range,172~264 volts



**Solar Energy Display Panel** 



## HBC-80

#### **Ice-Lined Refrigerator**







#### **Specifications**

|             | Model                              |             | HBC-80   | HBC-150                       | HBC-260                       |  |
|-------------|------------------------------------|-------------|--|-------------------------------|-------------------------------|--|
|             | Cabinet Type                       |             | Chest  | Chest                         | Chest                         |  |
|             | Ambient Temperature (°C)           |             | 5~43   | 5~43                          | 5~43                          |  |
| Technical   | Cooling Type                       |             | Direct Cooling   | Direct Cooling                | Direct Cooling                |  |
| Data        | Defrost Mode                       |             | Auto   | Auto                          | Auto                          |  |
|             | Refrigerant                        |             | CFC-Free   | CFC-Free                      | CFC-Free                      |  |
|             | Sound Level (dB(A))                |             | <40  | <40                           | <40                           |  |
| Performance | Temperature Range (°C)             |             | 2~8  | 2~8                           | 2~8                           |  |
| Control     | Controller                         |             | Microprocessor   | Microprocessor                | Microprocessor                |  |
|             | Display                            |             | Solar LED Temperature Display  | Solar LED Temperature Display | Solar LED Temperature Display |  |
|             | Power Supply (V/Hz)                |             | 220~240/50   | 220~240/50                    | 220~240/50/60                 |  |
|             | Power (W)                          |             | 110  | 120                           | 165                           |  |
| Electrical  | Electrical Current (A)             |             | 0.9  | 1                             | 1.8                           |  |
| Data        | PowerConsumption:StableRunning     | (kWh/24h)   | 0.6  | 0.6                           | 1                             |  |
| Data        | PowerConsumption:CoolDownTes       | t (kWh/24h) | 0.7  | 0.7                           | 1.1                           |  |
|             | Holdover Time at 43°C              |             | 59hrs 58mins   | 60hrs 50mins                  | 62hrs                         |  |
|             | Holdover Time at 32°C              |             | 98hrs 26mins   | 96hrs 23mins                  | 117hrs 24mins                 |  |
|             | Vaccine Storage Capacity (L/Cu.Ft) |             | 61/2.2   | 122/4.3                       | 211/7.4                       |  |
|             | 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)        | in          | 500*366*560  | 840*366*560                   | 1359*366*560                  |  |
| Dimensions  |                                    | mm          | 19.7*14.4*22   | 33.1,*14.4*22                 | 53.5*14.4*22                  |  |
| DIFFERSIONS |                                    | in          | 788*717*872  | 1128*717*872                  | 1647*717*940                  |  |
|             | Exterior Dimensions (W*D*H)        | mm          | 31*28.2*34.3   | 44.4*28.2*34.3                | 64.8*28.2*37                  |  |
|             | Packing Dimensions (W*D*H)         |             | 850*770*1080   | 1190*770*1080                 | 1720*770*1080                 |  |
|             |                                    |             | 33.5*30*42.5   | 47*30*42.5                    | 67.7*30*42.5                  |  |
|             | Container Load (20'/40'/40'H)      |             | 36/78/78   | 26/56/56                      | 18/38/38                      |  |
|             | High/Low Temperature               |             | Y  | Y                             | Υ                             |  |
| Functions   | Power Failure                      |             | N  | N                             | N                             |  |
|             | Sensor Error                       |             | Y  | Y                             | Υ                             |  |
| Accessories | Foot                               |             | N  | N                             | Υ                             |  |
|             | Baskets                            |             | 2  | 5                             | 9                             |  |
|             | Certification                      |             | CE,WHO/PQS   | CE,WHO/PQS                    | CE,WHO/PQS                    |  |
| Others      | Data Logger                        |             | Y  | Y                             | Y                             |  |
|             | Freezer Protection Level           |             | А  | А                             | А                             |  |
|             | Optional Optional                  |             | 30 Days Temperature Logger Automatic Voltage Stabilizer Remote Temperature Monitoring Device |                               |                               |  |

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#### **Ice-Lined Refrigerator**







**HBC-240** 

#### **Refrigeration System**

- Optimized refrigeration system design
- Cabinet structure designed specifically to maintain 2°C to 8°C for more than 30 hours at 43°C ambient
- CFC-free high-density foam insulation
- Complies with WHO/UNICEF standards Grade A freeze protection to ensure vaccine never freezes in the storage compartment
- Wide ambient temperature range, from 5°C -43°C

#### **Temperature Control**

- Digital Solar powered temperature display
- Internal temperature range is 2°C to 8°C

#### **Ergonomic Design**

- Door lock for storage safety
- Indicator light to show whether compressors on or off status
- Independent temperature data logger to monitor, record and manage temperature records
- Operates within wide voltage range,172~264 volts

#### **Ice-Lined Refrigerator**

#### **Specifications**

|             | Model                              |              | HBC-120   | HBC-240                       |  |
|-------------|------------------------------------|--------------|---|-------------------------------|--|
|             | Cabinet Type                       |              | Upright   | Upright                       |  |
|             | Ambient Temperature                |              | 5~43  | 5~43                          |  |
| Technical   | Cooling Type                       |              | Direct Cooling  | Direct Cooling                |  |
| Data        | Defrost Mode                       |              | /   | /                             |  |
|             | Refrigerant                        |              | CFC-Free  | CFC-Free                      |  |
|             | Sound Level (dB(A))                |              | <40   | <40                           |  |
| Performance | Temperature Range (°C)             |              | 2~8   | 2~8                           |  |
|             | Freezer Protection Level           |              | А   | А                             |  |
| Control     | Controller                         |              | Microprocessor  | Microprocessor                |  |
|             | 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  | Electrical Current (A)             |              | 1   | 1                             |  |
| Data        | Power Consumption:stable running   | (KWh/24h)    | 0.4   | 0.4                           |  |
|             | Power Consumption: cool down tes   | st (KWh/24h) | 0.35  | 0.35                          |  |
| _           | Holdover Time at 43°C              |              | 128hrs 48mins   | 87hrs 14mins                  |  |
|             | 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                       |  |
| Dimensions  | kg                                 |              | 128/160   | 152/186                       |  |
|             | Net/Gross Weight (approx)          | 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             |  |
|             | Pagking Dimensions (M/*D*LI)       | mm           | 980*920*1585  | 980*920*1980                  |  |
|             | Packing Dimensions (W*D*H)         | in           | 38.58*36.22*62.40   | 38.58*36.22*77.95             |  |
|             | Container Load (20'/40'/40'H)      |              | 12/24/24  | 12/24/24                      |  |
|             | High/Low Temperature               |              | Y   | Y                             |  |
| unctions    | Power Failure                      |              | N   | N                             |  |
|             | Sensor Error                       |              | Y   | Υ                             |  |
| Λ ·         | Foot/Caster                        |              | Y   | Υ                             |  |
| Accessories | Shelves                            |              | 3   | 4                             |  |
|             | Certification                      |              | CE/WHO/PQS  | CE/WHO/PQS                    |  |
|             | Data logger                        |              | Y   | Υ                             |  |
| Others      | Freezer Protection Level           |              | А   | А                             |  |
| O ti lei s  | Optional                           |              | 30 Days Temperature Logger Automatic Voltage Stabilizer Remote Temperature Monitoring Device. |                               |  |

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#### **Refrigeration System**

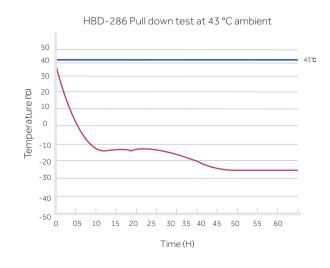
- High quality compressor
- CFC-free high-density foam insulation
- Optimized refrigeration system design

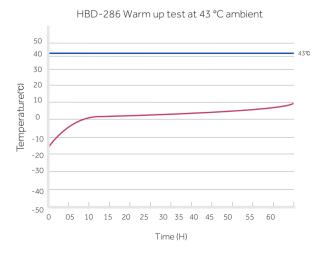
#### **Temperature Control**

- Electronic temperature controller with digital display
- Internal temperature range is -15°C to -25°C

#### **Ergonomic Design**

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





#### **Specifications**

|                  | Model                                    |               | HBD-116                      | HBD-286                     |  |
|------------------|--|---------------|------------------------------|-----------------------------|--|
|                  | Cabinet Type                             |               | Chest                        | Chest                       |  |
|                  | Ambient Temperature (°C)                 |               | <43                          | <43                         |  |
| Technical Data   | Cooling Type                             |               | Direct Cooling               | Direct Cooling              |  |
| eci i ilcai Data | Defrost Mode                             |               | Manual                       | Manual                      |  |
|                  | Refrigerant                              |               | CFC-Free                     | CFC-Free                    |  |
|                  | Noise (dB(A))                            |               | 43                           | 44                          |  |
| Performance      | Temperature Range (°C)                   |               | -15~-25                      | -15~-25                     |  |
| Control          | Controller                               |               | Microprocessor               | Microprocessor              |  |
| COTTUTOI         | Display                                  |               | LCD                          | LCD                         |  |
|                  | Power Supply (V/Hz)                      |               | 220~240/50                   | 220~240/50                  |  |
|                  | Power (W)                                |               | 138                          | 185                         |  |
|                  | Electrical Current (A)                   |               | 1.1                          | 1.3                         |  |
| Electrical Data  | Power Consumption:Stable Running         | g (kWh/24h)   | 3.01                         | 4.36                        |  |
|                  | Power Consumption: Cool Down Te          | est (kWh/24h) | 3.77                         | 3.77                        |  |
|                  | Holdover Time at 43°C                    |               | More than 4hrs (up to -5°C)  | More than 5hrs (up to -5°C  |  |
|                  | Vaccine Storage Capacity (L/Cu.Ft)       |               | -                            | -                           |  |
|                  | Gross Volume (L/Cu.Ft)                   |               | 121/4.3                      | 286/10.1                    |  |
|                  | kg                                       |               | 58/67                        | 85/97                       |  |
|                  | Net/Gross Weight (approx)                | lbs           | 110.3/121.3                  | 174.2/187.4                 |  |
|                  | (1.1.1.2.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1 | mm            | 497*457*655                  | 1067*457*655                |  |
| <u>.</u>         | Interior Dimensions (W*D*H)              | in            | 19.6*18.0*25.8               | 42.0*18.0*25.8              |  |
| Dimensions       |  | mm            | 670*630*915                  | 1240*630*915                |  |
|                  | Exterior Dimensions (W*D*H)              | in            | 26.4*24.8*36.0               | 48.8*24.8*36.0              |  |
|                  |  |               | paper                        | paper                       |  |
|                  | Packing Dimensions (W*D*H)               | mm            | 755*760*1005                 | 1325*760*1005               |  |
|                  |  | in            | 29.7*29.9*39.6               | 52.2*29.9*39.6              |  |
|                  | Container Load (20'/40'/40'H)            |               | 42/90/90                     | 24/50/50                    |  |
| occession.       | Foot                                     |               | Υ                            | Y                           |  |
| Accessories      | Baskets                                  |               | 2                            | 3                           |  |
| Others           | Certification                            |               | CE,WHO/PQS                   | CE,WHO/PQS                  |  |
| 3.1013           | Optional                                 |               | Automatic Voltage Stabilizer | Automatic Voltage Stabilize |  |

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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**

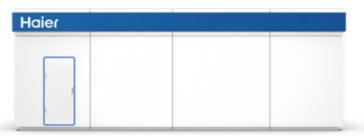
| Туре                               | Freezer Room | Freezer Room       | Cold Room | Cold Room | Cold Room | Cold Room | Cold Room |      | d/Freezer Room<br>Freezer Room |
|------------------------------------|--------------|--------------------|-----------|-----------|-----------|-----------|-----------|------|--------------------------------|
| Model                              | HRZK-40D     | HRZK-20D           | HRZK-10G  | HRZK-15G  | HRZK-20G  | HRZK-30G  | HRZK-40G  |      | (-40GD                         |
| Defrost Mode                       |              | Electrical heating |           |           |           |           |           |      |                                |
| Refrigerant                        |              |                    |           |           | CFC-Free  |           |           |      |                                |
| Internal Temperature<br>Range (°C) | -20          | -20                | 2-8       | 2-8       | 2-8       | 2-8       | 2-8       | 2-8  | -20                            |
| Evaporator<br>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                           |
| Refrigeranting Output (W)          | 4200         | 2060               | 1560      | 2230      | 2230      | 2950      | 3250      | 2950 | 1580                           |
| Capacity (m³)                      | 40           | 20                 | 10        | 15        | 20        | 30        | 40        | 25   | 15                             |
| Condensation<br>Temperature (°C)   |              |                    |           |           | 43        | 1         |           | '    | 1                              |
| 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

#### Walk-In Cold/Freezer Room

#### **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  $42 \text{kg/m}^3$ , a thickness of 100mm and an insulation K-value of 0.22 W/( $\text{m}^2$ )(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, hight 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

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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 polyethurane 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.

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

• 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 the automatic fault switch. No manual operation is

#### **Energy saving**

switching between the main and standby machines and required for refrigeration and defrosting.

# Haier

#### **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 guery, unified management
- Stable state change rate: ≤±0.3°C/10h
- •Temperature uniformity: ≤±3°C
- Ultra-low noise: the noise of the outdoor unit is less than 50 decibels
- $\bullet$  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.



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

#### **30-Day Electronic Temperature Logger**

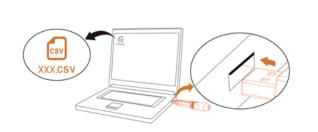












Easy to download data



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

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# **Vaccine Safety Solutions**

# **Haier** Biomedical

#### **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.



• 7-inch touch screen.

• Internal Internet-enabled SIM card.

• Solar power USB, EHC power supply.

• External NTC temperature sensor.

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.



#### Remote Temperature Monitoring Device (RTMD)

#### 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 to provide ultimate sample safety.

#### **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 as required. The application solutions include refrigerated trucks, incubators, cold rooms, cold packs, refrigerated cabinets, refrigerators, freezers and as key



#### **Cloud Platform Website**

http://ucoole.haierbiomedical.com

| ltem               | Specifications   |
|--------------------|--|
| Temperature sensor | NTC sensor: -40°C~+120°C (±0.5°C within -30°C to +20°C, ±1°C for other)<br>PT100 sensor (optional): -200°C~+150°C (±0.3°C) |
| Environment Sensor | Temperature: -10°C~+55°C<br>Humidity: 0%RH-99%RH   |
| 2G                 | 850M/900M/1800M/1900M  |
| Battery            | 6000mAh<br>Charging voltage: 5V~12V<br>Charging current≤1.5A   |
| Map location       | Google map and LBS (Location Based Service)  |
| Material           | Shell: PC/Shell jacket: ABS  |
| Dimension          | 114.5 mm *71.5 mm *22mm  |



- Complies with WHO standards, WHO pregualified code: E006/060.
- The user is free to set up, and automatically uploads data to portal when powered on.
- Remote portal management platform, which can track temperature, location, and signal strength information, and provides output multiple data analysis reports.
- One charge, more than 10 days of battery life.
- The device supports sound and light alarms.
- USB data export (30 days temperature record).
- IP65 protection, waterproof, shockproof and dustproof to fit a variety of complex environments.

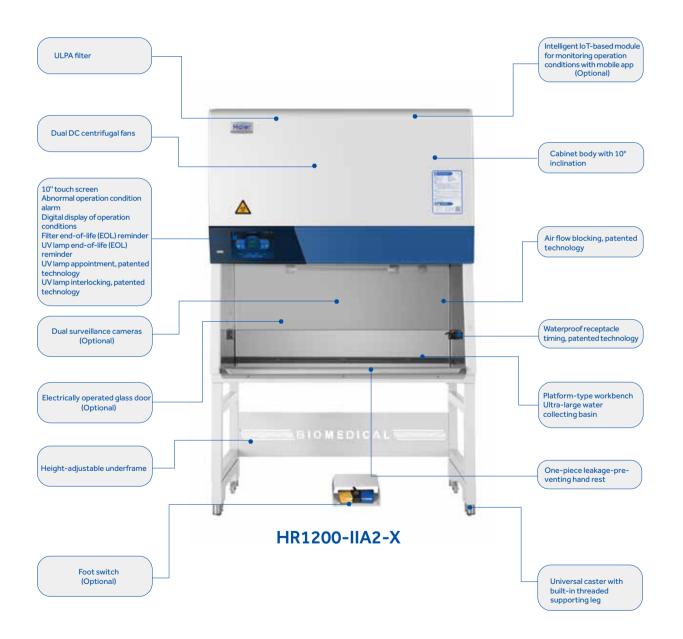
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#### **Biological Safety Cabinet (Touchscreen)**

#### **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.



#### **Biological Safety Cabinet (Touchscreen)**

#### **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 cleanness grade conforming to Class 1 of the American standard FED STD 209E (Class 3 of IS014644-1) 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
- Patented technology 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

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#### **Specifications**

| Model  |      | HR1200-IIA2-X               | HR1500-IIA2-X               | HR1800-IIA2-X               |
|--|------|-----------------------------|-----------------------------|-----------------------------|
| Working Voltage&Frequency (V   | /Hz) | 220/50/60                   | 220/50/60                   | 220/50/60                   |
| Power (VA)   |      | 1600                        | 1670                        | 1850                        |
| Power of Blower (W)  |      | DC 120 112                  | DC 190 112                  | DC 120 112                  |
| Airflow Circulation  |      | 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    |
| Exhaust Filter Typical Efficiency  |      | ULPA ,U15,99.9995%@0.12um   | ULPA,U15,99.9995%@0.12um    | ULPA,U15,99.9995%@0.12um    |
| Filter's Brand   |      | AAF                         | AAF                         | AAF                         |
| Downflow Velocity (m/s)  |      | 0.30                        | 0.30                        | 0.30                        |
| Inflow Velocity (m/s)  |      | 0.45                        | 0.45                        | 0.45                        |
| Net/Gross Weight (approx)  | kg   | 280/340                     | 320/400                     | 380/465                     |
|  | lbs  | 617/750                     | 705/882                     | 838/1025                    |
|  | mm   | 1230*600*655                | 1530*600*655                | 1830*600*655                |
| Interior Dimensions (W*D*H)  | in   | 48.4*23.6*25.8              | 60.2*23.6*25.8              | 72.0*23.6*25.8              |
|  | mm   | 1336*845*2120               | 1636*845*2120               | 1936*845*2120               |
| Exterior Dimensions (W*D*H)  | in   | 52.6*33.3*83.5              | 64.4*33.3*83.5              | 76.2*33.3*83.5              |
| 0. (A. (Men) (A. | mm   | 1400*925*1665               | 1700*925*1665               | 2000*925*1665               |
| Packing Dimensions (W*D*H)   | in   | 55.1*36.4*65.6              | 66.9*36.4*65.6              | 78.7*36.4*65.6              |
| Supporter  |      | 680-900mm adjustable height | 680-900mm adjustable height | 680-900mm adjustable height |
| Container load (20'/40'/40'H)  |      | 8/16/16                     | 6/12/12                     | 6/12/12                     |
| Alarm  |      | Sound and Flash             | Sound and Flash             | Sound and Flash             |
| Certification  |      | CFDA, CE, TUV SUD Mark      | CFDA, CE, TUV SUD Mark      | CFDA, CE, TUV SUD Mark      |

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

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#### **Biological Safety Cabinet (Standard Single HEPA)**

#### **Main Uses**

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.



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#### **Biological Safety Cabinet (Standard Single HEPA)**

#### **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 ≥0.3µm particulate matter is ≥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 Omin 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 patented IP44 rated water-proof sockets with timed on/off function for improved safety and energy conservation.
- Optional electric door or electric underframe.

#### **Ergonomic Design**

- 10° 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).

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#### **Biological Safety Cabinet (Standard Dual HEPA)**

#### **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.



#### **Biological Safety Cabinet (Standard Dual HEPA)**

#### **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 fatique.

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 ≥0.12µm particulate matter is ≥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 patented 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 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 door 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 .

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**Biological Safety Cabinet (Standard Dual HEPA)** 

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.





more uniform airflow, reducing

contamination and noise to

<62dB(A).

running time of fan and UV lamp and

• Sound & light alarming function UV sterilization reservation setting

remaining life of filter

function

**Biological Safety Cabinet (Standard Dual HEPA)** 

#### **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.

#### **Patented 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 Drop-down Front Glass Window**

The unique drop-down front glass 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<br>Compliance | EN 12469, Europe<br>NMPA (CFDA)<br>YY-0569, China | ISO 14644.1, Class 3,<br>Worldwide<br>US Fed Std 209E,<br>Class 1 USA | EN-1822 (H14), Europe<br>IEST-RP-CC001.3, USA<br>IEST-RP-CC007, USA<br>IEST-RP-CC034.1, USA | EN61010           |

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#### **Biological Safety Cabinet (Classic Series)**

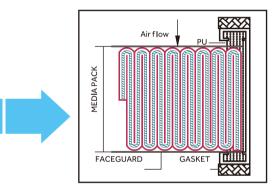
#### 304 Stainless Steel Operation Platform and Internal Wall

- 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



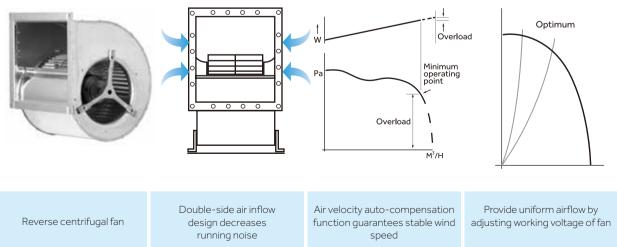
#### **Ultra Low Penetration Air Filtration System**

- 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



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# **Biological Safety Cabinet**











# Specifications

| Model                             |     | HR900-IIA2                  | HR1200-IIA2                 | HR1200-IIA2-D               | HR1200-IIA2-S               | HR1500-IIA2                |
|-----------------------------------|-----|-----------------------------|-----------------------------|-----------------------------|-----------------------------|----------------------------|
| Working Voltage&Frequency (V/Hz)  |     | 220/50                      | 220/50                      | 220/50/60                   | 220/50/60                   | 220/50                     |
| Power (VA)                        |     | 1400                        | 1500                        | 1600                        | 1600                        | 1600                       |
| Power of Blower (W)               |     | AC-L=330W,M=465W,H=735W     | AC-L=330W,M=465W,H=735W     | DC 190W, DC 170W            | DC 120W,DC 112W             | AC 650W                    |
| 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    | HEPA,H14,99.995%@0.3um      | ULPA,U15,99.9995%@0.12un   |
| Exhaust Filter Typical Efficiency |     | ULPA,U15,99.9995%@0.12um    | HEPA ,H14,99.995%@0.3um     | TWO HEPA ,H14,99.995%@0.3um | HEPA,H14,99.995%@0.3um      | HEPA ,H14,99.995%@0.3um    |
| Filter's Brand                    |     | AAF                         | AAF                         | AAF                         | AAF                         | AAF                        |
| Downflow Velocity (m/s)           |     | 0.33                        | 0.34                        | 0.30                        | 0.30                        | 0.31                       |
| Inflow Velocity (m/s)             |     | 0.55                        | 0.55                        | 0.45                        | 0.45                        | 0.55                       |
| Fluorescent Lamp Intensity (Lux)  |     | ≥900                        | ≥900                        | ≥1000                       | ≥1000                       | ≥900                       |
| Net/Gross Weight (approx)         | kg  | 270/293                     | 320/339                     | 320/339                     | 320/339                     | 360/393                    |
|                                   | lbs | 595.3/646                   | 705.5/747.4                 | 705.5/747.4                 | 705.5/747.4                 | 793.7/866.4                |
| Interior Dimensions (W*D*H)       | mm  | 920*620*650                 | 1220*620*650                | 1310*620*630                | 1310*620*630                | 1520*620*650               |
|                                   | in  | 36.2*24.4*25.6              | 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  | 1080*845*2160               | 1380*845*2160               | 1380*845*2160               | 1380*845*2160               | 1680*845*2160              |
|                                   | in  | 42.5*33.3*85.0              | 54.3*33.3*85.0              | 54.3*33.3*85.0              | 54.3*33.3*85.0              | 66.1*33.3*85.0             |
| Packing Dimensions (W*D*H)        | mm  | 1145*920*1690               | 1470*920*1690               | 1470*920*1690               | 1470*920*1690               | 1755*920*1690              |
|                                   | in  | 45.1*36.2*66.5              | 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                         |     | 680-900mm adjustable height | 680-900mm adjustable height | 680-900mm adjustable height | 680-900mm adjustable height | 680-900mm adjustable heigh |
| Container load (20'/40'/40'H)     |     | 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            |
| Certification                     |     | NMPA(CFDA),CE,TUV SUD Mark  | NMPA(CFDA),TUV SUD Mark     | CE,TUV SUD Mark             | CE,TUV SUD Mark             | NMPA (CFDA) ,CE,TUV SUD N  |

Product appearance and specifications are subject to change without notice

Stainless Steel Arm Rest is removable, width of 60 mm

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**Specifications** 











| Model                             |     | HR30-IIA2                 | HR40-IIA2                 | HR40-IIA2                  | HR40-IIB2                   |
|-----------------------------------|-----|---------------------------|---------------------------|----------------------------|-----------------------------|
| Working Voltage&Frequency (V/Hz)  |     | 220/50                    | 115/60                    | 220/50/60                  | 220/50/60                   |
| Power (VA)                        |     | 1300                      | 1300                      | 1300                       | 1700                        |
| Power of Blower (W)               |     | AC-L=330,M=465,H=735      | 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)           |     | 0.31                      | 0.28                      | 0.28                       | 0.28                        |
| Inflow Velocity (m/s)             |     | 0.55                      | 0.55                      | 0.55                       | 0.55                        |
| Fluorescent Lamp Intensity (Lux)  |     | ≥1100                     | ≥1200                     | ≥1200                      | ≥1200                       |
| Net/Gross Weight (approx)         | kg  | 220/248                   | 258/305                   | 293/316                    | 252/308                     |
|                                   | lbs | 485.0/546.7               | 568.8/672.4               | 646.5/697.3                | 555.6/679.0                 |
| Interior Dimensions (W*D*H)       | mm  | 900*610*680               | 1167*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             | 45.9*24.0*26.8              |
| Exterior Dimensions (W*D*H)       | mm  | 1100*790*2200             | 1360*790*2200             | 1360*790*2200              | 1360*790*2400               |
|                                   | in  | 43.3*31.1*86.6            | 53.5*31.1*86.6            | 53.5*31.1*86.6             | 53.5*31.1*94.5              |
| Packing Dimensions (W*D*H)        | mm  | 1155*905*1720             | 1415*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*67.7             | 55.7*35.6*75.2              |
| 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                     |     | NMPA(CFDA)                | /                         | NMPA(CFDA),CE,TUV SUD Mark | NMPA(CFDA),CE ,TUV SUD Mark |

Product appearance and specifications are subject to change without notice

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#### **Main Uses**

Featuring many patented technologies and certified to ISO146644.1 Class 5 standard, Haier Biomedical's clean bench laminar flow units are suitable for a wide range of clean air applications within various sectors including pharmaceutical, clinical, life science research, photoelectric or microelectronics manufacturing.



#### Clean Bench

#### **Product Advantages**

- Efficient damp-proof and fire-proof glass fibre HEPA filter, typical efficiency of ≥99.99%. for ≥0.3µm particulate.
- ISO14644.1 Class 5 Standard, air cleanliness exceeds that required for Class 5 clean air applications.
- The industry's first innovated pre-cleaning function pre-cleans the working area before sample handling to further improve sample/product protection.
- UV lamp start-up delay time prevents operators from being exposed to potentially harmful ultraviolet light. The pre-set function for the ultraviolet sterilization improves user's operation efficiency.

#### **Features**

- Recessed internal lighting reduces eye fatigue.
- One-touch UV lamp operation, ultraviolet light can be set with one single key to automate on/off time and sterilisation time interval from 0 to 24 hours, reducing downtime. Audible and visual alarms remind users to leave, protecting them from UV injury.
- Inter-lock function provides a safer operation. The fluorescent light and ultraviolet light interlock with each other. The ultraviolet light can only be switched on when the fluorescent light is turned off. When the fluorescent light is on, the ultraviolet light is powered off immediately to minimize any risks.

#### **Ergonomic Design**

- The working surface is 800mm above the floor and suitable for an operator to stand or sit, allowing for flexible working through the day to reduce operator fatigue and make operations comfortable.
- The delay to start function of the ultraviolet sterilization prevents operators exposure to harmful lighting. When ultraviolet light is switched on, the sound and light alarms will notify operators to leave immediately. The light will come on after 10 seconds to prevent operators from being harmed by the ultraviolet light.
- The pre-set sterilization function improves productivity. The product has a ultraviolet sterilization pre-set timer function which provides more rest to users and improves work efficiency.
- The detachable chassis makes installation and moving convenient. It is equipped with universal casters and adjustable stand with levelling feet for convenient moving and cabinet placement.

aboratory Equipment

- Featuring many patented 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



#### Clean Bench

#### **High-Efficiency Filter HEPA**

High-efficiency HEPA filter with efficiency of 99.99%@0.3µm, 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.

#### **Patented Technology**

- Patented 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;
- $\bullet \, \text{Sterilization pre-set}, \, \text{when pressing the UV lamp, the pre-set lamp will light to remind user that the sterilization pre-set function has been activated and that the sterilization pre-set can be conducted.} \\$

#### **Pre-cleaning Function**

The pre-cleaning function can further improve the protection of samples.

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# **Clean Bench**

# **Clean Bench**













# **Specifications**

| Model                            |     | HCB-900V                      | HCB-1300V             | HCB-1300V                     | HCB-1300H             | HCB-1300H             | HCB-1600H                  |
|----------------------------------|-----|-------------------------------|-----------------------|-------------------------------|-----------------------|-----------------------|----------------------------|
| Flow Type                        |     | Vertical                      | Vertical              | Vertical                      | Horizontal            | Horizontal            | Horizontal                 |
| Voltage/Frequency (V/Hz)         |     | 220/50                        | 115/60                | 220/50                        | 115/60                | 220/50/60             | 220/50/60                  |
| Power (W)                        |     | 1200                          | 1200                  | 1200                          | 350                   | 350                   | 350                        |
| Vibration Amplitude (UM)         |     | 2                             | 2                     | 2                             | 2                     | 2                     | 2                          |
| Exhaust Filter Typical Efficienc | y   | 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 | H13 HEPA,99.99%@0.3ur      |
| Average Velocity (M/S)           |     | 0.2-0.4                       | 0.2-0.4               | 0.2-0.4                       | 0.2-0.4               | 0.2-0.4               | 0.2-0.4                    |
| Fluorescent Lamp Intensity (Lu   | ıx) | ≥300                          | ≥300                  | ≥300                          | ≥1000                 | ≥1000                 | ≥1000                      |
| Not/Cross Majaht (approx)        | kg  | 115/145                       | 145/171               | 145/171                       | 145/175               | 145/175               | 165/214                    |
| Net/Gross Weight (approx)        | lbs | 254/319                       | 320/376               | 320/376                       | 319/385               | 319/385               | 363.7/471                  |
| Sound Level (dB(A))              |     | 58                            | 58                    | 58                            | 61                    | 61                    | 61                         |
| () A (ske ski i)                 | mm  | 900*530*520                   | 1300*530*520          | 1300*530*520                  | 1310*550*750          | 1310*550*750          | 1710*550*750               |
| nternal Dimension (W*D*H)        | in  | 35.4*20.9*20.5                | 51.2*20.9*20.5        | 51.2*20.9*20.5                | 51.6*21.7*29.6        | 51.6*21.7*29.6        | 67.3*21.7*29.6             |
|                                  | mm  | 970*630*1730                  | 1370*630*1730         | 1370*630*1730                 | 1380*790*1960         | 1380*790*1960         | 1780*790*1960              |
| External Dimesion (W*D*H)        | in  | 38.2*24.8*68.1                | 53.9*24.8*68.1        | 53.9*24.8*68.1                | 54.4*31.1*77.2        | 54.4*31.1*77.2        | 70.1*31.1*77.2             |
| Packing Dimensions (M*D*LI)      | mm  | 1105*745*1280                 | 1505*745*1280         | 1505*745*1280                 | 1465*940*1350         | 1465*940*1350         | 1865*940*1370              |
| Packing Dimensions (W*D*H)       | in  | 43.5*29.3*50.4                | 59.3*29.3*50.4        | 59.3*29.3*50.4                | 57.7*37*53.2          | 57.7*37*53.2          | 73.4*37.0*53.9             |
| Supporter                        |     | 755mm high chassis            | 755mm high chassis    | 755mm high chassis            | 765mm high chassis    | 765mm 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   | ISO 14644.1 Class 5        |
| Container Load (20'40'40'H)      |     | 15/33/33                      | 10/25/25              | 10/25/25                      | 8/16/16               | 8/16/16               | 6/12/12                    |
| Certification                    |     | CE, TUV SUD Mark, NMPA (CFDA) | /                     | CE, TUV SUD Mark, NMPA (CFDA) | /                     | CE                    | CE, TUV SUD Mark, NMPA (CF |

Product appearance and specifications are subject to change without notice

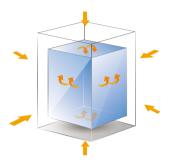
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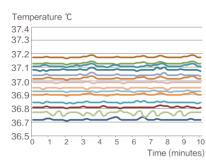
CO<sub>2</sub> Incubator

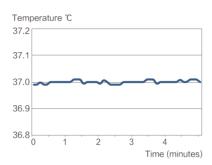
# **Precise and Accurate Temperature Control**

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.



6-sided heating sketch



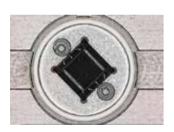


Uniformity of 27 measuring points <±0.3℃

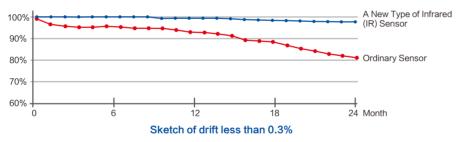
Central consistency point <± 0.1℃

# 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.

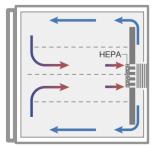


Silicon-based mems transmitter



# Fast Environment Recovery for Optimal Cell Growth

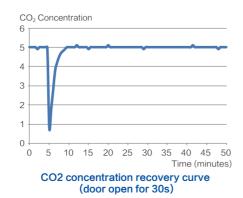
Adopting active air flow control technology, based on the fuzzy PID control principle, the parameters can be restored without overshoot. After opening the door for 30 seconds, the temperature and CO₂ concentration can be quickly restored within 4 minutes. Even if multiple users share a CO₂ incubator and frequently open and close the door, the stability and uniformity of the incubator can be ensured.



32 -Illustration of purified airflow

Temperature<sup>®</sup>C 35 + 33 -20 25 30 35 40 45 50

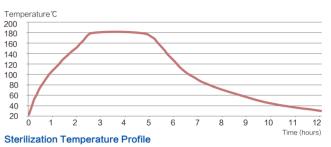
Temperature recovery curve (door open for 30s)



### CO<sub>2</sub> Incubator

# 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 dissemble internal components (includ□ing CO₂ sensors) and decontaminate separately, thus avoiding secondary pollution.



Forty-seven points were tested in the working chamber, including glass inner doors and All regions reached 180°C and maintained for 2 hours.

## Comparison of Cell Environment Disinfection vs Dry-Heat Sterilization



Ultraviolet disinfection Cells exposed to bacterial environment



90°C hygrothermal disinfection Cells exposed to bacterial environment



180°C dry-heat sterilization of haier CO<sub>2</sub> incubator Pollution-free cell growth environmen

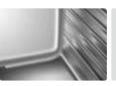
# **High Efficiency Microbial Filter**



The CO₂ 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 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 is quick and easy to clean.



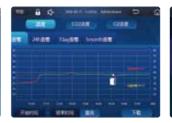


# Interactive Intelligent Display with Easy Touch Operation

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 warming 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, CO<sub>2</sub> concentration and O<sub>2</sub> concentration,



Announcement function designed for multiple persons to use the same incubator make clear to all users or



ensure the security of data.

# CO<sub>2</sub> Incubato

# Realtime Monitoring via Optional IoT Module

IoT module with multi-screen interaction, provides real-time upload of set parameters, operation parameters, operation curves, records and event records through the IoT cloud platform. The operation of incubator can be monitored anytime anywhere through mobile APP or computer terminal. The alarm function and service function are available with just the touch of a button.



# **Anti-Condensation Heating System to Reduce Pollution Risk**

The door on the  $CO_2$  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  $CO_2$  concentration, door ajar and water shortage.

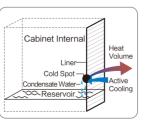
# Thoughtful Design with Attention to Details



Safe anti-slip design of pull out shelves.



Convenient drainage design



Active heat pipe condensation technology with condensate water directly return to reservoir.



Data traceable for 15 years with large storage capacity and data exportable through usb.

# CO<sub>2</sub> Incubator

# **Specifications**

|                 | Model                                   |     | HCP-80            | HCP-168                         | HCP-258           |  |  |  |
|-----------------|---|-----|-------------------|---------------------------------|-------------------|--|--|--|
| Туре            |   |     | Air Jacket        | Air Jacket                      | Air Jacket        |  |  |  |
|                 | Chamber Volume (L)                      |     | 80                | 170                             | 258               |  |  |  |
|                 | Interior Chamber                        |     |                   | Stainless Steel                 |                   |  |  |  |
| Construction    | Exterior Chamber                        |     | Co                | Cold-rolled Steel Powder Coated |                   |  |  |  |
|                 | Access Port                             |     |                   | 35mm Diameter                   |                   |  |  |  |
|                 | Data Outputs                            |     | Remote Alar       | onal 4-20mA                     |                   |  |  |  |
|                 | N . / 6 . W / .                         | kg  | 75/100            | 110/140                         | 135/170           |  |  |  |
|                 | Net/Gross Weight (approx)               | lbs | 165/220           | 242.5/308.6                     | 297/374           |  |  |  |
|                 |   | mm  | 400*420*490       | 490*560*650                     | 570*610*745       |  |  |  |
| D::             | Interior Dimensions (W*D*H)             | in  | 15.7*16.5*19.3    | 19.3*22*25.6                    | 22.4*24.0*29.3    |  |  |  |
| Dimensions      |   | mm  | 625*684*735       | 714*812*887                     | 794*867*985       |  |  |  |
|                 | Exterior Dimensions (W*D*H)             | in  | 24.6*26.9*28.5    | 28.1*32*34.9                    | 31.3*34.1*38.8    |  |  |  |
|                 |   | mm  | 695*755*915       | 760*840*1050                    | 865*940*1135      |  |  |  |
|                 | Packing Dimensions (W*D*H)              | in  | 27.3*29.7*36.0    | 29.9*33.1*41.3                  | 34.0*37.0*44.7    |  |  |  |
|                 | Dimensions (W*D)                        | mm  | 380*300           | 470*434                         | 550*484           |  |  |  |
|                 | Number Standard/Maximum                 |     | 3/7               | 3/11                            | 3/13              |  |  |  |
| Shelves         | Max.load Per Shelf/Total Load           | kg  | 10/30             | 10/30                           | 10/30             |  |  |  |
|                 | Construction                            | 9   | 10,00             | Perforated, Adjustable          | 10,00             |  |  |  |
|                 | Rated Voltage Power Supply (V/          | Hz) | 220/50            | 220/50                          | 220/50            |  |  |  |
| Electrical      | Nominal Consumption (kw) (Steri-ru      |     | 0.07 (0.9)        | 0.095 (1.4)                     | 0.12 (1.6)        |  |  |  |
|                 | Controller                              | ,   | Microprocessor    | Microprocessor                  | Microprocessor    |  |  |  |
| Control         | Display                                 |     | 7 "LCD Screen     | 7 "LCD Screen                   | 7 "LCD Screen     |  |  |  |
|                 | Control                                 |     | ±0.1%             | ±0.1%                           | ±0.1%             |  |  |  |
| CO <sub>2</sub> | Range                                   |     | 0-20%             | 0-20%                           | 0-20%             |  |  |  |
|                 | Alarm Range                             |     | ±0.5%             | ±0.5%                           | ±0.5%             |  |  |  |
|                 | Inlet Pressure                          |     | 10.570            | 12-17Psi (0.8-1.2 Bar)          | 10.570            |  |  |  |
|                 | Gas Purity                              | %   |                   | Min.99.5 or Medical Quality     |                   |  |  |  |
|                 | Sensor                                  | /0  | IR                | IR                              | IR                |  |  |  |
|                 | Recovery Time at 5vol%/CO <sub>2</sub>  |     |                   |                                 |                   |  |  |  |
|                 | for a 30 Second Door Opening *          |     | 4min              | 4min                            | 4min              |  |  |  |
|                 | CO₂ Inlet Filter                        |     | <0.2µm            | <0.2µm                          | <0.2µm            |  |  |  |
|                 | High/Low Temperature                    |     | Y                 | Y                               | Y                 |  |  |  |
|                 | Remote Alarm                            |     | Y                 | Y                               | Y                 |  |  |  |
| Alarms          | Excessive CO <sub>2</sub> Concentration |     | Υ                 | Y                               | Y                 |  |  |  |
|                 | Water Shortage                          |     | Y                 | Y                               | Y                 |  |  |  |
|                 | Door Ajar                               |     | Υ                 | Y                               | Y                 |  |  |  |
|                 | Control                                 |     | ±0.1°C            | ±0.1°C                          | ±0.1°C            |  |  |  |
|                 | Range                                   |     |                   | nge 3°C Above Ambient to 5      |                   |  |  |  |
| Temperature     | Uniformity                              |     | ±0.3°C            | ±0.3°C                          | ±0.3°C            |  |  |  |
| Parameter       | Ambient Range                           |     | 18-32°C           | 18-32°C                         | 18-32°C           |  |  |  |
|                 | Sensor Recovery Time at 37°C            |     | PT1000            | PT1000                          | PT1000            |  |  |  |
|                 | for a 30 Second Door Opening*           |     | 4min              | 4min                            | 4min              |  |  |  |
| Sterilization   | Cycle Temperature                       |     | 1                 | 180°C on all Internal Surface   | S                 |  |  |  |
| Cycle           | Cycle Duration                          |     | Under 12 Hours    | Under 12 Hours                  | Under 12 Hours    |  |  |  |
| Humidity        | RH (Relative Humidity)                  |     | Setting 37°C ≥90% | Setting 37°C ≥90%               | Setting 37°C ≥90% |  |  |  |
| iai i iiaity    | Humidity Reservoir                      |     | Max.1.3L/Min 0.5L | Max.3L/Min 0.5L                 | Max.3.6L/Min 0.5l |  |  |  |
|                 | Hepa Filter                             |     | Υ                 | Y                               | Y                 |  |  |  |
|                 | Pressure Reducing Valve                 |     | Υ                 | Y                               | Y                 |  |  |  |
| Optional        | RS485                                   |     | Υ                 | Υ                               | Y                 |  |  |  |
|                 | 4-20mA                                  |     | Υ                 | Y                               | Y                 |  |  |  |
|                 | The Cylinder Switch                     |     | Υ                 | Y                               | Y                 |  |  |  |
| Certification   |   |     | CE                | CE                              | CE                |  |  |  |

Product appearance and specifications are subject to change without notice  $\,$ 

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# Haier Biomedical Liquid Nitrogen Storage System

# **Biobank Series for Large Scale Storage**

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.

# **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 Vapour Phase

Each model of Biobank series for large scale storage is designed for both liquid and vapour phase storage. For vapour phase storage, samples are located away from the liquid nitrogen at a uniform temperature close to that of liquid nitrogen.



### Cryosmart Intelligent Liquid Nitrogen Control System

are protected by a secure access control system.



low as -190°C.

Advanced Vacuum Technology and Superinsulation Technology

Haier Liquid Nitrogen Storage System Biobank

series for large scale storage applies advanced

vacuum technology and superinsulation technology

to ensure storage safety and temperature uniformi-

ty while reducing the consumption of liquid nitrogen.

The temperature difference of the entire storage area does not exceed 10°C even in vapour phase storage, Temperature near the top of the shelf is as

Haier Liquid Nitrogen Storage System Biobank series for large scale storage feature the Cryosmart system for complete monitoring and controlling. High-precision temperature and liquid level sensors are used to ensure accuracy. All data and samples



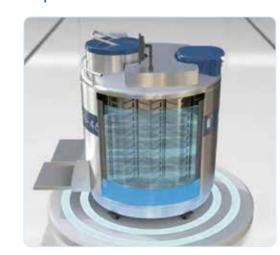
Cryosmart intelligent LN<sub>2</sub> control system to ensure samples safety

Advanced vacuum system and superinsulation

Rotating tray design for easy retrieval and insertion of storage

# Liquid and Gas Phase

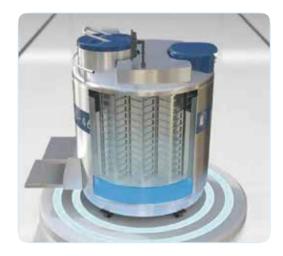
### Liquid Phase



# Top of the Container



# **Gas Phase**



Liquid Feed System

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# **Biobank Series**

Vapour condensation near the container opening is controlled. Reducing the amount of water vapour solidification on the outer surface of the neck. This unique design of the opening strengthens the structure of the tank under a full load, helping to extend its service life.

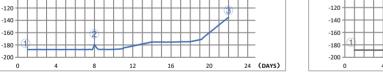
Small self-pressurized liquid nitrogen supply vessels are available and suitable for smaller biobank models.



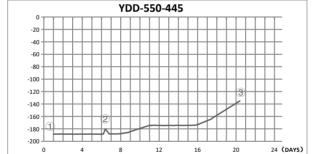


# **Temperature Test Graph**

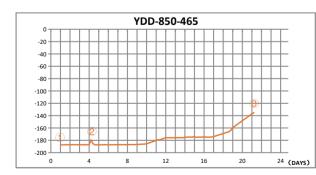




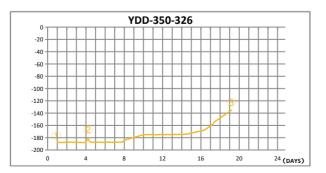
- ① Precooling stage when freezer filled to high level
- ② Lid open test, -179.2°C max
- ③ Temperature maintained below -135°C for 22 days



- ① Precooling stage when freezer filled to high level
- ② Lid open test, -180.2°C max
- ③ Temperature maintained below -135°C for 20 days



- $\ensuremath{\textcircled{1}}$  Precooling stage when freezer filled to high level
- 2 Lid open test, -179.4°C max
- ③ Temperature maintained below -135°C for 21 days



- $\ensuremath{\boxdot}$  Precooling stage when freezer filled to high level
- 2 Lid open test, -181.4°C max
- ③ 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.

# Haier Biomedical Liquid Nitrogen Storage System











### **Technical Parameters**

| recillicari aramet               | .013        |             |             |             |             |
|----------------------------------|-------------|-------------|-------------|-------------|-------------|
| Model                            | YDD-350-326 | YDD-370-326 | YDD-550-445 | YDD-750-445 | YDD-850-465 |
| 2ml Volume                       | 13K         | 16K         | 27K         | 38K         | 43K         |
| Maximum Storage Capa             | city        |             |             |             |             |
| 2 ml Vials (Internal Thread)     | 13000       | 15600       | 27000       | 37800       | 42900       |
| Freeze Rack (100 wells)          | 12          | 12          | 24          | 24          | 32          |
| Freeze Rack (25 wells)           | 4           | 4           | 12          | 12          | 4           |
| Layers of each Rack              | 10          | 12          | 10          | 14          | 13          |
| 5 ml Vials (Internal Thread)     | 5360        | 6232        | 11220       | 17952       | 18844       |
| Freeze Rack (81 wells)           | 12          | 12          | 24          | 24          | 32          |
| Freeze Rack (25 wells)           | 4           | 4           | 12          | 12          | 4           |
| Layers of each Rack              | 5           | 6           | 5           | 8           | 7           |
| Performance                      |             |             |             |             |             |
| Volume of LN₂ (L)                | 350         | 370         | 587         | 783         | 890         |
| Volume of LN₂ under the Tray (L) | 55          | 55          | 80          | 80          | 135         |
| Dimensions                       |             |             |             |             |             |
| Inside Neck Diameter (mm)        | 326         | 326         | 445         | 445         | 465         |
| Height (mm)                      | 1263        | 1423        | 1266        | 1499        | 1496        |
| Operating Height (mm)            | 1263        | 1096        | 970         | 1216        | 980         |
| Outside Diameter (mm)            | 875         | 875         | 1104        | 1104        | 1190        |
| Door Width Requirement (mm)      | 895         | 895         | 1124        | 1124        | 1210        |
| Empty Weight (kg)                | 219         | 230         | 328         | 372         | 441         |
| Gross Weight (kg)                | 502         | 529         | 802         | 1005        | 1160        |
| Shipping Weight (kg)             | 358         | 438         | 520         | 616         | 702         |

# **Blood Bag Capacity**

| Model               | YDI                    | D-350-         | 326            | YDI                    | D-370-         | 326            | YDI                    | D-550-         | 445            | YD                     | D-750-         | 445            | YDI                    | D-850-         | 465            |
|---------------------|------------------------|----------------|----------------|------------------------|----------------|----------------|------------------------|----------------|----------------|------------------------|----------------|----------------|------------------------|----------------|----------------|
| Bag Specifications  | Total<br>No.of<br>Bags | Rack<br>Layers | No.of<br>Racks |
| 25 ml ( 791 OS/U )  | 1296                   | 6              | 216            | 1512                   | 7              | 216            | 2376                   | 6              | 396            | 3168                   | 8              | 396            | 3360                   | 7              | 480            |
| 50 ml (4R9951)      | 792                    | 6              | 132            | 924                    | 7              | 132            | 1416                   | 6              | 236            | 1888                   | 8              | 236            | 2072                   | 7              | 296            |
| 500 ml ( DF - 200 ) | 168                    | 3              | 56             |                        |                | 56             | 336                    | 3              | 112            | 560                    | 5              | 112            | 544                    | 4              | 136            |
| 250 ml (4R9953)     | 300                    | 3              | 100            |                        |                | 100            | 552                    | 3              | 184            | 920                    | 5              | 184            | 944                    | 4              | 236            |
| 500 ml (4R9955)     | 192                    | 3              | 64             |                        |                | 64             | 408                    | 3              | 136            | 680                    | 5              | 136            | 640                    | 4              | 160            |
| 700 ml ( DF - 700 ) | 96                     | 3              | 32             |                        |                | 32             | 204                    | 3              | 68             | 272                    | 4              | 68             | 320                    | 4              | 80             |

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# Haier Biomedical Liquid Nitrogen Storage System

# **Biobank Series**









| • •          |   | -   |   |
|--------------|---|---|---|
| YDD-1000-465 | YDD-1300-635  | YDD-1600-635  | YDD-1800-635  |
| 51K          | 59K   | 76K   | 95K   |
| acity        |   |   |   |
| 51000        | 58500   | 76050   | 94875   |
| 30           | 54  | 54  | 60  |
| 16           | 18  | 18  | 13  |
| 15           | 10  | 13  | 15  |
| 22640        | 28944   | 33768   | 46665   |
| 30           | 54  | 54  | 60  |
| 16           | 18  | 18  | 13  |
| 8            | 6   | 7   | 9   |
|              |   |   |   |
| 1014         | 1340  | 1660  | 1880  |
| 135          | 265   | 300   | 320   |
|              |   |   |   |
| 465          | 635   | 635   | 635   |
| 1517         | 1342  | 1534  | 1662  |
| 950          | 997   | 967   | 1097  |
| 1190         | 1565  | 1565  | 1565  |
| 1210         | 1585  | 1585  | 1585  |
| 495          | 851   | 914   | 985   |
| 1314         | 1934  | 2255  | 2504  |
| 926          | 1168  | 1426  | 1520  |
|              | 51K  acity  51000  30  16  15  22640  30  16  8  1014  135  465  1517  950  1190  1210  495  1314 | 51K     59K       acity       51000     58500       30     54       16     18       15     10       22640     28944       30     54       16     18       8     6       1014     1340       135     265       465     635       1517     1342       950     997       1190     1565       1210     1585       495     851       1314     1934 | 51K     59K     76K       acity       51000     58500     76050       30     54     54       16     18     18       15     10     13       22640     28944     33768       30     54     54       16     18     18       8     6     7       1014     1340     1660       135     265     300       465     635     635       1517     1342     1534       950     997     967       1190     1565     1565       1210     1585     1585       495     851     914       1314     1934     2255 |

# **Blood Bag Capacity**

| aa_                 |                        |                |                |                        |                |                |                        |                |                |                        |                |                |
|---------------------|------------------------|----------------|----------------|------------------------|----------------|----------------|------------------------|----------------|----------------|------------------------|----------------|----------------|
| Model               | YDI                    | D-1000-4       | 465            | YD                     | D-1300-        | 635            | YDI                    | D-1600-6       | 535            | YDE                    | D-1800-6       | 35             |
| Bag Specifications  | Total<br>No.of<br>Bags | Rack<br>Layers | No.of<br>Racks |
| 25 ml ( 791 OS/U )  | 4356                   | 9              | 484            | 4716                   | 6              | 786            | 5502                   | 7              | 786            | 7758                   | 9              | 862            |
| 50 ml (4R9951)      | 2682                   | 9              | 298            | 2916                   | 6              | 486            | 3402                   | 7              | 486            | 4905                   | 9              | 545            |
| 500 ml ( DF - 200 ) | 1180                   | 5              | 236            | 666                    | 3              | 222            | 888                    | 4              | 222            | 1290                   | 5              | 258            |
| 250 ml ( 4R9953 )   | 670                    | 5              | 134            | 1170                   | 3              | 390            | 1560                   | 4              | 390            | 2095                   | 5              | 419            |
| 500 ml ( 4R9955 )   | 810                    | 5              | 162            | 828                    | 3              | 276            | 1104                   | 4              | 276            | 1520                   | 5              | 304            |
| 700 ml ( DF - 700 ) | 400                    | 5              | 80             | 396                    | 3              | 132            | 528                    | 4              | 132            | 775                    | 5              | 155            |

# Square Canister&Racks Layout

|                              | Vertical racks | 25 ml<br>Blood bag racks | 50 ml<br>Blood bag racks |
|------------------------------|----------------|--------------------------|--------------------------|
| YDD-350-326<br>YDD-370-326   |                |                          |                          |
| YDD-550-445<br>YDD-750-445   |                |                          |                          |
| YDD-850-465                  |                |                          |                          |
| YDD-1000-465                 |                |                          |                          |
| YDD-1300-635<br>YDD-1600-635 |                |                          |                          |
| YDD-1800-635                 |                |                          |                          |

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# Haier Biomedical Liquid Nitrogen Storage System

# **Smart Series (Square Racks)**

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.

# **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 fluid level
- Cloud data storage for traceability
- Low consumption rate and high performance stability
- New lock design

# **Product Advantages**

# Colour identification for pickup tool handle

Pickup tool handles are colour-coded for ease of separating storage zones and managing samples.



### New lock design

Special and dedicated lock design assures 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 fluid 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 fluid 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 LN<sub>2</sub> consumption rates.



### **Accessories**







# **Technical Parameters**

| Model                           | YDS-65-216-FZ | YDS-95-216-FZ | YDS-115-216-FZ | YDS-145-216-FZ | YDS-175-216-FZ |
|---------------------------------|---------------|---------------|----------------|----------------|----------------|
| Maximum Storage Volume          |               |               |                |                | '              |
| 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              |
| Function                        |               |               |                |                |                |
| Liquid Nitrogen Volume (L)      | 65            | 95            | 115            | 145            | 175            |
| Static Evapouration Rate* (%/d) | 0.78          | 0.97          | 0.94           | 0.96           | 0.95           |
| Static Holding Time** (Day)     | 83            | 98            | 122            | 151            | 184            |
| Dimensions                      |               |               |                |                |                |
| 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 Container Weight (kg)     | 39.3          | 42.5          | 43.7           | 49.9           | 54.8           |
| Full Container 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           |

<sup>\*</sup> Static evapouration and static holding time are theoretical values. Actual evapouration and holding time are affected by usage, atmospheric conditions and manufacturing tolerances.

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<sup>\*\*</sup> Static Holding Time: the amount of days it takes for all of the LN<sub>2</sub> to evapourate 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.

# Medium Sized Storage Series (Square Racks) -

Medium Sized Storage Series (Square Racks) features low LN₂ consumption and relatively small footprint for medium capacity sample storage.

# **Key Features**

- Heavy duty lockable enclosure offers excellent security
- Compatible with all major cryobox brands
- Liquid or vapour phase option available
- Durable aluminium construction
- Temperature monitoring available
- High thermal efficiency
- 5 year vacuum warranty
- Ultra-low evapouration loss



# **Product Advantages**

### **ULT Storage with Extremely** Low LN<sub>2</sub> Evapouration Loss

Freezer racks are in the ultra-low temperature environment with extremely low LN<sub>2</sub> evapouration. Even stored in vapour phase, the temperature will be below -190°C for a long time.



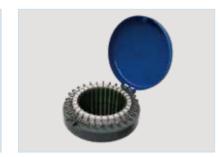
### Advanced Vacuum Technology and Superinsulation Technology

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 LN2 storage





### Temperature Monitor

Temperature monitor can track temperature inside the tank continuously and reliably. It is the ideal choice for monitoring samples storage temperature of long-term cryopreservation and alerting users to refill tank.

Temperature monitor ZTC-100A offers real-time temperature display and audible/visual alarms for high temperature and sensor failure.



# Haier Biomedical Liquid Nitrogen Storage System

### **Technical Parameters**

| Model                                | YDS-65-216-F | YDS-95-216-F | YDS-115-216-F | YDS-140-216-F | YDS-175-216-F |
|--------------------------------------|--------------|--------------|---------------|---------------|---------------|
| Maximum Storage Capaci               | ty           |              |               |               |               |
| No. of Rack                          | 6            | 6            | 6             | 6             | 6             |
| No. 2.0 ml Cryovials<br>(100 / Box)  | 2400         | 3000         | 3600          | 4800          | 6000          |
| No. of Boxes in<br>(2ml each Rack)   | 4            | 5            | 6             | 8             | 10            |
| No. 5.0 ml Cryovials<br>(81 / Box)   | -            | 972          | 1458          | 1944          | 2430          |
| No. of Boxes in<br>(5ml each Rack)   | -            | 2            | 3             | 4             | 5             |
| Performance                          |              |              |               |               |               |
| Volume of LN <sub>2</sub> (L)        | 65           | 95           | 115           | 140           | 175           |
| Static Evapouration<br>Rate* (L/Day) | 0.78         | 0.97         | 0.94          | 0.96          | 0.95          |
| Static Holding Time**<br>(Day)       | 83           | 98           | 122           | 151           | 184           |
| Dimensions                           |              |              |               |               |               |
| Neck Opening<br>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          |
| Gross 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          |

<sup>\*</sup> Static evapouration and static holding time are theoretical values. Actual evapouration and holding time are affected by usage, atmospheric conditions and manufacturing tolerances.

### **Accessories**



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<sup>\*\*</sup> Static Holding Time: the amount of days it takes for all of the LN $_2$  to evapourate 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.

# **Dryshipper Series for Transportation**

# **Dryshipper Series for Transportation (Round Canisters)**

Dryshipper Series for Transportation (Round Canisters) is designed for safe sample transportation under cryogenic conditions (vapour phase storage, temperature under -190°C). Since the risk of LN₂ release is avoided, it is suitable for air transportation of samples.

Rugged and Durable

- Vapour Phase Storage
- 3 Year Vacuum Warranty

Secure

Cryo Absorbant

• No LN<sub>2</sub> Spillage

# **Key Features**

- Straw and cryovial storage options
- Rugged and durable aluminium construction
- Designed to ensure no LN<sub>2</sub> spillage
- Vapour phase cryogenic storage

- Faster LN<sub>2</sub> fill times
- Lockable lids
- 3 year vacuum warranty

# **Product Advantages**

### Liquid Nitrogen Absorption

Absorbent materials are used to absorb and retain  $LN_2$  for safe transport. No spillover of  $LN_2$  can occur even when the tank is capsized.

### Stainless Steel Mesh

Special stainless steel mesh divides storage space and LN<sub>2</sub> 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.



# Haier Biomedical Liquid Nitrogen Storage System

### **Technical Parameters**

| Model                                       | YDH-3 | YDH-6-80 | YDH-10<br>-125 | YDH-15<br>-216 | YDH-25<br>-216 |
|---|-------|----------|----------------|----------------|----------------|
| Maximum Storage Capacit                     | у     |          |                |                |                |
| No. of Canister                             | 1     | 1        | 1              | 1              | 1              |
| No. of Straws<br>(0.5ml / EA)               | 132   | 374      | 854            | _              | _              |
| No. of Straws<br>(0.25ml / EA)              | 298   | 837      | 1940           | _              | _              |
| No. of 2.0 ml Cryovials                     | _     | _        | 100            | 300            | 500            |
| No. of Boxes in<br>(2ml per holder)         | _     | _        | 4              | 3              | 5              |
| Performance                                 |       |          |                |                |                |
| 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 Evapouration*<br>(L/Day)             | 0.16  | 0.2      | 0.43           | 1.5            | 0.89           |
| Liquid Phase Static<br>Holding Time**(Day)  | 20    | 37       | 23             | 10             | 29             |
| Vapour Phase Static<br>Holding Time***(Day) | 8     | 14       | 8              | 4              | 10             |
| Dimensions                                  |       |          |                |                |                |
| 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<br>Diameter (mm)           | 38    | 63       | 97             | _              | _              |
| Outside Height (mm)                         | 120   | 120      | 120            | _              | _              |
| Empty Weight (kg)                           | 3.2   | 4.9      | 6.7            | 8.5            | 15             |
| Gross Weight (kg)                           | 4.7   | 7.5      | 11             | 25             | 30             |
| Shipping Weight (kg)                        | 5.5   | 7.7      | 9.7            | 15.2           | 20.5           |

<sup>\*</sup> Static evapouration and static holding time are theoretical values. Actual evapouration and holding time are affected by usage, atmospheric conditions and manufacturing tolerances.

### **Accessories**







Smart Box (SW-300)

<sup>\*\*</sup> Liquid Phase Static Holding Time: the amount of days it takes for all of the LNz to evapourate 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.

 $<sup>\</sup>begin{tabular}{ll} **** Vapour Phase Static Holding Time: the amount of days it takes for all of the LN_2 to evapourate out after pouring liquid nitrogen into container to makeing the property of the LN_2 to evapour Phase Static Holding Time: the amount of days it takes for all of the LN_2 to evapour Phase Static Holding Time: the amount of days it takes for all of the LN_2 to evapour Phase Static Holding Time: the amount of days it takes for all of the LN_2 to evapour Phase Static Holding Time: the amount of days it takes for all of the LN_2 to evapour Phase Static Holding Time: the amount of days it takes for all of the LN_2 to evapour Phase Static Holding Time: the amount of days it takes for all of the LN_2 to evapour Phase Static Holding Time: the amount of days it takes for all of the LN_2 to evapour Phase Static Holding Time: the amount of days it takes for all of the LN_2 to evapour Phase Static Holding Time: the amount of days it takes for all of the LN_2 to evapour Phase Static Holding Time: the amount of days it takes for all of the LN_2 to evapour Phase Static Holding Time: the amount of days it takes for all of the LN_2 to evapour Phase Static Holding Time: the amount of days it takes for all of the LN_2 to evapour Phase Static Holding Time: the amount of the LN_2 to evapour Phase Static Holding Time: the amount of the LN_2 to evapour Phase Static Holding Time: the amount of the LN_2 to evapour Phase Static Holding Time: the amount of the LN_2 to evapour Phase Static Holding Time: the amount of the LN_2 to evapour Phase Static Holding Time: the amount of the LN_2 to evapour Phase Static Holding Time: the amount of the LN_2 to evapour Phase Static Holding Time: the amount of the LN_2 to evapour Phase Static Holding Time: the amount of the LN_2 to evapour Phase Static Holding Time: the Amount Phase Static Hold$ absorbent materials fully absorb LN₂ under standard atmospheric condition.

# Self-pressurized Series for LN₂ Storage and Supply

Liquid Nitrogen Supplement Series for LN₂ 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 LN2 into other containers. Storage capacities range from 5 to 500 litres.

- 5 Year Vacuum Warranty Liquid Storage
- Decant Valves
- Pressure Raising
- Stainless Steel Construction
- 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 evapouration loss rate, compared with conventional welding insulation tanks.

### Variety of accessories

Each Self-pressurized Series for LN2 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**

Monolayer infusion hose



Float level meter

# Additional Series for Liquid Nitrogen Tank (Comparison between Standard Series and K Series)







# Haier Biomedical Liquid Nitrogen Storage System

### **New Functions of K Series**

Digital meter for liquid level

DLZ-300

function

(MPA)

Large diameter vent valve

Pressure stabilizing valve

Digital display of fluid level Remote data transmission

Rapid relief of over pressure Protection of safety valve



Stabilize fluid pressure during auto filling

### **Technical Parameters**

| Model                          | YDZ-5<br>—— | YDZ-15<br>—— | YDZ-30<br>——  | YDZ-50<br>—— | YDZ-100<br>YDZ-100K       |
|--------------------------------|-------------|--------------|---|--------------|---------------------------|
| Performance                    |             |              |   |              |                           |
| Volume of LN <sub>2</sub> (L)  | 5           | 15           | 30  | 50           | 100                       |
| Static Evapouration (L/Day)    | 0.15        | 0.38         | 0.75  | 1            | 1.3                       |
| LN <sub>2</sub> Output (L/Min) | 2           | 2            | 3   | 3            | 4                         |
| Dimensions                     |             |              |   |              |                           |
| Height (mm)                    | 510         | 750          | 879   | 991          | 1185                      |
| Outside Diameter (mm)          | 329         | 404          | 454   | 506          | 606                       |
| Empty Weight (kg)              | 15          | 23           | 32  | 54           | 75                        |
| Gross Weight (kg)              | 19.1        | 35.3         | 56.6  | 95.0         | 157.0                     |
| Shipping Weight (kg)           | 28          | 34           | 47  | 63           | 98                        |
| Pressure Parameters<br>(MPA)   |             |              | m working pressure 0.09,<br>0.15, 5. Pressure gauge r |              | ve relief pressure 0.099, |

| Model                          | YDZ-150<br>——            | YDZ-200<br>YDZ-200K    | YDZ-240K<br>——          | YDZ-300<br>YDZ-300K       | YDZ-500<br>YDZ-500K     |
|--------------------------------|--------------------------|------------------------|-------------------------|---------------------------|-------------------------|
| Performance                    |                          |                        |                         |                           |                         |
| LN₂ Capacity (L)               | 150                      | 200                    | 240                     | 300                       | 500                     |
| Static Evapouration<br>(L/Day) | 1.95                     | 2.4                    | 2.9                     | 3.3                       | 5.5                     |
| LN₂ Output (L/Min)             | 6                        | 8                      | 8                       | 8                         | 10                      |
| Dimensions                     |                          |                        |                         |                           |                         |
| Height (mm)                    | 1188                     | 1265                   | 1350                    | 1459                      | 1576                    |
| Outside Diameter (mm)          | 706                      | 758                    | 758                     | 857                       | 1008                    |
| Empty Weight (kg)              | 102                      | 148                    | 202                     | 202                       | 255                     |
| Gross Weight (kg)              | 225                      | 380                    | 448                     | 448                       | 665                     |
| Shipping Weight (kg)           | 132                      | 164                    | 177                     | 232                       | 324                     |
| Pressure Parameters            | Standard working pressur | re 0.05, 2. Maximum wo | orking pressure 0.09, 3 | . First stage safety valv | e relief pressure 0.099 |

 $<sup>\</sup>star$  Static evapouration and static holding time are theoretical values. Actual evapouration and holding time are affected by usage, atmospheric conditions and manufacturing tolerances.

4. Second stage safety valve release pressure 0.15, 5. Pressure gauge range 0-0.25, 6. Rupture disc burst pressure 0.47.



# **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 Fearures**



### 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.



### HRLM-80



### **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.

# Vertical Automatic High-pressure Steam Sterilizer

# 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<br>(L) | Weight<br>(Kg) | Power<br>Supply<br>(V/Hz) | Power<br>(W) | Exterior<br>Dimension<br>(W*D*H mm) |           | Maximum<br>Pressure<br>(Mpa) | Maximum<br>Temperature<br>(°C) |      | Pressure Display<br>Range<br>(Mpa) |
|---------|---------------|----------------|---------------------------|--------------|-------------------------------------|-----------|------------------------------|--------------------------------|------|------------------------------------|
| HRLM-80 | 80            | 85             | 220/50                    | 3200         | 546*750*1065                        | ф 386*700 | 0.28                         | 150                            | 0.22 | 0-0.4                              |

| Sterilization<br>Temperature<br>Range | Temperature<br>Control<br>Precision(°C) | Dynamic Pulse<br>Exhaust Times | Dynamic Pulse<br>Exhaust<br>Temperature |                      | Holding<br>Temperature<br>(°C) | Sterilization<br>Time Range | Cabinet and<br>Door Material | Access                                  | sories           |
|---------------------------------------|---|--------------------------------|---|----------------------|--------------------------------|-----------------------------|------------------------------|---|------------------|
| 105-136°C                             | 0.1                                     | 0-9<br>(Settable)              | 110-136°C                               | 40-100<br>(Settable) | 40-100<br>(Settable)           | 0-999<br>mins               | SUS304<br>Stainless Steel    | 2 Stainless Steel<br>Sterilized Baskets | Optional Printer |

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# Constant Climate Chamber



Animal and plant tissue culture, drug stability test, cosmetic stability test, food shelf life test, electronic components aging test, packaging material stability test.

# **Product Advantages**



### Precise control:

• Accurate temperature and humidity control, long-term stability, 40 °C temperature uniformity  $\pm 0.5$  °C and central temperature fluctuation  $\pm 0.2$  °C, 75% humidity fluctuation  $\pm 1\%$ .

### Power saving:

• Semiconductor technology, daily power consumption as low as 5 kWh, save up to 90% energy than compressor.

### Water-saving:

• Intelligent control of PTC humidification, daily water consumption of 120-320ml, no waste water recycling, save space.

### Silent:

 Semiconductor technology, low vibration, low noise, no pollution to the environment.

## **Product Fearures**



### Microprocessor control system:

- PID control principle, 10-inch touch screen, temperature control precision 0.1  $^{\circ}$ C, humidity control precision 0.1%, temperature range 5-70  $^{\circ}$ C, humidity range 10%-90%.
- Display temperature, humidity and ambient temperature, you can query the history curve.
- Temperature alarm, humidity alarm, door alarm, sensor alarm, water shortage alarm can be connected to remote alarm interface.
- USB RS485 4-20mA LAN interface.



• High insulating performance polyethurane foam provides excellent insulation and stable cabinet temperatures reducing energy consumption



• Porthole is provided with a diameter of 35mm on the left side of the cabinet to facilitate independent testing of temperature and humidity.



 Optional electromagnetic lock, easy to be used by multiple people, independent management, safer to use.



• Expandable large capacity data storage, touch screen expandable 64GB memory, it can store 15 years of data and export it.



 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



• High precision capacitive humidity sensor



• Polyurethane foam insulation provides excellent thermal insulation, reducing energy consumption



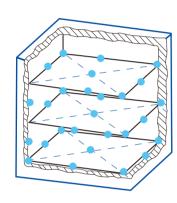


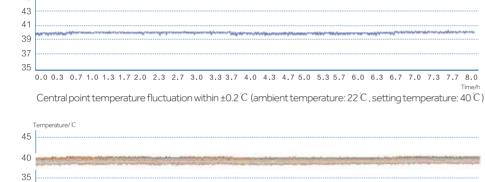
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# Constant Climate Chamber

# **International Quality Assurance**

### Accurate Temperature Control

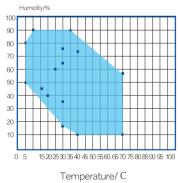




DIN12880 standard 27 test points

0.0 0.3 0.6 0.9 1.2 1.5 1.8 2.0 2.3 2.6 3.2 3.5 3.8 4.1 4.4 4.7 5.0 5.3 5.5 5.8 6.1 6.4 6.7 7.0 7.3 7.6 7.9 Time/h 27 test points temperature uniformity is ±0.5 °C (ambient temperature: 22 °C, setting temperature: 40 °C)

### 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%)

# **Constant Climate Chamber**

# **Specifications**

|                       | Model  |          | HHS-256                | HHS-506                         | HHS-756                |  |  |
|-----------------------|--|----------|------------------------|---------------------------------|------------------------|--|--|
|                       | Chamber Volume (L)   |          | 256                    | 506                             | 756                    |  |  |
|                       | Interior Chamber   |          | Stainless Steel        | Stainless Steel                 | Stainless Steel        |  |  |
| Construction          | Exterior Chamber   |          | Ga                     | Galvanized Sheet Powder Coating |                        |  |  |
|                       | Access Port  |          | 35mm Diameter          | 35mm Diameter                   | 35mm Diameter          |  |  |
|                       | Net/Gross Weight   | kg       | 145/188                | 215/260                         | 280/328                |  |  |
|                       |  | mm       | 650*570*700            | 740*570*1200                    | 1100*570*1200          |  |  |
|                       | Interior Dimensions (W*D*H)                                  | in       | 25.6*22.5*27.6         | 29.1*22.4*47.2                  | 43.3*22.4*47.2         |  |  |
| Dimensions            | E D /\/\&D\\\\\  | mm       | 833*900*1185           | 923*900*1685                    | 1283*937*1632          |  |  |
|                       | Exterior Dimensions (W*D*H)                                  | in       | 32.8*35.4*46.7         | 36.3*35.4*66.3                  | 50.5*36.9*64.3         |  |  |
|                       | Packing Dimensions (W*D*H)                                   | mm       | 1030*960*1270          | 1110*965*1780                   | 1360*1035*1785         |  |  |
|                       | racking Dimensions (W-D-H)                                   | in       | 40.6*37.8*50           | 43.7*38*70.1                    | 53.5*35.6*70.3         |  |  |
|                       | Dimension/mm (W*D)   |          | 597*531                | 687*531                         | 1048*531               |  |  |
| Shelves               | Standard Qty / Max Qty                                       |          | 2/5                    | 2/10                            | 2/10                   |  |  |
| JIICIVCS              | Max Weight Per Shelf   | Kg       | 20                     | 20                              | 20                     |  |  |
|                       | Structure  |          | Slide Rail, Adjustable | Slide Rail, Adjustable          | Slide Rail, Adjustable |  |  |
|                       | Voltage / Frequency (V/Hz)                                   |          | 220/50                 | 220/50                          | 220/50                 |  |  |
| Electrical            | Power (W)  |          | 600                    | 1100                            | 1700                   |  |  |
|                       | Day Consumption at 25°C & 40% RH                             | l(kw·h)  | 4.6                    | 5.4                             | 5.6                    |  |  |
| Control               | Controller   |          | Microprocessor         | Microprocessor                  | Microprocessor         |  |  |
| 30116101              | Display  |          | 10 "Smart LCD Screen   | 10 "Smart LCD Screen            | 10 "Smart LCD Screer   |  |  |
|                       | The Set Range (°C)   |          | 5~70                   | 5~70                            | 5~70                   |  |  |
|                       | Control Precision (°C)                                       |          | ±0.1                   | ±0.1                            | ±0.1                   |  |  |
| Γhe<br>-              | Temperature Uniformity at 25 °C & 4                          | 0%RH(°C) | ±0.2                   | ±0.2                            | ±0.1                   |  |  |
| Temper-<br>ature      | Temperature Fluctuation at 25 °C & 40                        | 0%RH(°C) | ±0.1                   | ±0.1                            | ±0.1                   |  |  |
| Parameter             | The Sensor   |          | Pt1000                 | Pt1000                          | Pt1000                 |  |  |
|                       | Rate of Temperature Rise (°C / min)                          |          | 1                      | 0.8                             | 0.6                    |  |  |
|                       | 30 Seconds Recovery Time After<br>Door Opening at 40°C (min) | er       | 3                      | 3.8                             | 5                      |  |  |
| Long Calling          | Humidity Setting Range (% RH)                                |          | 10~90                  | 10~90                           | 10~90                  |  |  |
| Humidity<br>Parameter | Humidity Setting Accuracy (% RH)                             |          | 0.1                    | 0.1                             | 0.1                    |  |  |
| ararrietei            | Humidity Fluctuation at 25 °C & 40% F                        | RH(%RH)  | ±0.5                   | ±0.5                            | ±0.5                   |  |  |
|                       | Daily Water Consumption (ml)                                 |          | 120                    | 240                             | 320                    |  |  |
| Voise                 | Noise (dB (A))   |          | 52                     | 55                              | 57                     |  |  |
|                       | Electromagnetic Lock   |          | Y                      | Y                               | Υ                      |  |  |
|                       | Punching Board   |          | Y                      | Y                               | Υ                      |  |  |
| Optional              | Remote Alarm Interface                                       |          | Y                      | Y                               | Υ                      |  |  |
|                       | 4-20mA Interface   |          | Y                      | Y                               | Υ                      |  |  |
|                       | Rs485  |          | Y                      | Y                               | Υ                      |  |  |
|                       | Network Interface  |          | Y                      | Y                               | Υ                      |  |  |
|                       | Power Failure Alarm Interface                                |          | Y                      | Y                               | Υ                      |  |  |
| Standard              | Water Level Alarm  |          | Y                      | Y                               | Υ                      |  |  |
| Others                | Certification  |          | CE                     | CE                              | CE                     |  |  |

Product appearance and specifications are subject to change without notice

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# **Triple Ultra-Strong Air Purification**



### **Plasma Purification**

When ionized by high positive and negative voltage, the air can produce a large number of positive and negative ions which will then neutralize with each other, releasing a burst of energy and killing the surrounding bacteria and viruses in an instant.



### Ultraviolet PLUS Titanium Dioxide Photocatalyst Purification

The titanium dioxide photocatalyst will have photo-catalytic reaction under the bactericidal ultraviolet light emitted by the 254nm-wavelength dual UV lamps, producing highly oxidizing free hydroxyl groups and active oxygen to have the bacteria, germs, viruses and mold oxidized and decomposed.



### Nano-Silver Ion Filtration Layer Purification

Nano-silver ions have broad-spectrum strong bactericidal and antibacterial properties as well as strong permeability and can kill the bacteria and viruses on the filter surface in a few minutes.

# Two kinds of filters can reach class 100000 cleanliness after operating for 1 hour



### Professional efficient filtration module:

Composed of front filter, pre-filter and high-efficiency HEPA filter screen; can realize a PM2.5 removal rate of > 99.9% after operating for 1 hour.





Honeycomb type activated carbon absorbing mesh: Adopts coconut shell-based activated carbon, which has an absorption area 65 times larger than that of an ordinary one, to absorb odors, and a professional cold catalysť to catalyze and decompose formaldehyde; can achieve a formaldehyde removal rate of >95% after operating for 1 hour.

### Fresh Air

Negative-ion generator can release negative ions with concentration of over 3 million pcs/cm³ so that the user can enjoy clean air like immersing oneself in a forest.



# **Friendly Design**



### Automatic monitoring of air quality:

Professional air quality monitoring module to display the air quality with light



### Freely optional intelligent air speed control and manual control:

Unique intelligent air speed function; can make adjustment automatically according to the air quality in position 1-5; also enables manual mode for position selection



### Filter/UV light replacement reminder:

Giving sound and light warning to remind the operators when service life of the filter module and UV light becomes no more than 10%; after replacement, the service life can be reset.



### Automatic quiet mode switching function:

Professional photosensitive probe; can automatically switch to guiet mode when the light becomes dark, caring for the users' sleep quality



### Timed shutdown function:

Timed shutdown can be set to guarantee using security and extend the service life



### Fault warning function:

Gives sound and light alarm when the fan or the UV lamp

| Model                | Voltage (V) | Power (W) | External Dimensions<br>(W * D * H mm) | Net weight (Kg) | Noise level dB (A) | Applicable volume (m3) | Negative ion concentration | Clean class | Ultraviolet lamp life (h) |
|----------------------|-------------|-----------|---------------------------------------|-----------------|--------------------|------------------------|----------------------------|-------------|---------------------------|
| YKJX-Y500            | 220/50      | 100       | 439*229*735                           | 13              | ≤55                | ≤60                    | 3*10 <sup>°</sup>          | 100000      | 6000                      |
| Disinfection effects |             |           | ating for 90min,                      |                 |                    |                        | 99.9%. After opera         | ting for 12 | 20min, the                |

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# Air Purification Sterilizer

# **Wall Mounted Air Purification Sterilizer**

### **Scope of Application**

Community service centers, hospitals, clinics and schools etc.





YKJX-B400

# **Product Advantages**

### **UV Lamp & Filter Replacement Reminder**

When the service life of the UV lamp and filter is nearing its usage, a notice for replacement will be sent in a timely manner.

### **Powerful Disinfection**

Equipped with high-power ultraviolet lamp, the bacteria killing rate is ≥99.9%

### **Ultra-low Noise**

Manufactured with a DC cross-flow fan with a comfortable circulating wind, noise level ≤55dB (A).

### **Strong UV Disinfection**

Special high-power 254nm wavelength UV lamp releases a large amount of sterilizing ultraviolet rays to efficiently kill surrounding bacteria.

### **Negative Ion Air Purification**

It can release more than 3 million healthy negative ions, increase the "vitamins" in the air and improve the comfort of the ambient air.

# **Ergonomic Design**



### Fresh air

Negative-ion generator can release negative ions with concentration of over 3 million pcs/cm³ so that the user can enjoy clean air like immersing oneself in a forest.



### Automatic monitoring of air quality

Professional air quality monitoring module to display the air quality with light circle.



### Filter/UV light replacement reminder

Gives sound and light warnings to remind the operators when service life of the filter module and UV light becomes zero; after replacement, the service life can be reset



### Timed shutdown function

Timed shutdown can be set to guarantee user security and extend the service life.



### Intelligent or manual mode for air speed control

Unique intelligent air speed function enables adjustments automatically according to the air quality in positions 1-3 and manual mode for position selection is available.



### Night mod

After turning on the night mode, the screen turns dark after a 3 second delay followed by the sterilizer switching to night mode.



### Display of remaining sterilization time

The default time of sterilization is 120 minutes, from the time the device is started, with an intuitive countdown display.

# **Specifications**

| Model     | Power Supply<br>(V/Hz) | Power<br>(W) | Difficusion | Packing<br>Dimension<br>(L*H*D mm) | Net Weight<br>(Kg) | Noise<br>dB(A) | Applicable<br>Volume (m³) | Negative Ion<br>Concentration | UV Lamp Life<br>(h) |
|-----------|------------------------|--------------|-------------|------------------------------------|--------------------|----------------|---------------------------|-------------------------------|---------------------|
| YKJX-B400 | 220/50/60              | 113          | 900*380*160 | 1086*540*245                       | 16                 | ≤55            | 50                        | 3*10^6                        | ≤9000               |
|           | Disinfection Effects   |              |             |                                    |                    |                |                           |                               |                     |

When operating for 60 minutes, the killing rate of staphylococcus alba is ≥99.9%. After operating for 120 minutes, the average extinction rate of natural bacteria and viruses is ≥90%

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# **Medical Infrared Thermometer**

# **Medical Infrared Thermometer Rapid Induction and Accurate Measurement**





# **Product Advantages**

• Highly sensitive infrared probe

Noncontact measurement

• 1 second measurement

### **Product Features**

### • LED Digital Display

The reading in the black display box is clear and easy to obtain the temperature value.

### • One Machine Multi-purpose

The human body/environment mode is automatically switched which can measure the forehead and the ambient temperature giving more comprehensive care.

### • 1 Second Measurement

High sensitive infrared temperature measurement, the temperature value can be measured in one second. It is suitable for multi person temperature measurement or multiple temperature measurement comparison.

### • Ergonomic Design Comfortable to Hold

With comfortable hand grip, it is easy and solid to hold.



measure forehead temperature



measure environmental temperature



Display



in 1s

Storage



Switch

Battery



Accurate



Shutdown



Measurement



Personnel Fever Alert

# **Specifications**

One Button

Measurement

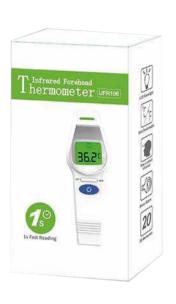
| Model                   | AET-R1B1  |  |  |  |
|-------------------------|---|--|--|--|
| Product Size (mm)       | 144*101*26                                      |  |  |  |
| Product Weight (g)      | 88 (exclude battery)                            |  |  |  |
| Gross weight (Kg)       | 6.6   |  |  |  |
| Memory (groups)         | 32  |  |  |  |
| Resolution (°C)         | 0.1   |  |  |  |
| Measurement range (°C)  | 32.0~42.2                                       |  |  |  |
| Accuracy (°C)           | ±0.2 (35.0~42.0) ±0.3 (32.0~34.9) / (42.1~42.2) |  |  |  |
| Power supply            | 2*AAA (DC 3V)                                   |  |  |  |
| Automatic power-off (s) | 60  |  |  |  |
| Box size (mm)           | 175*120*50                                      |  |  |  |
| Carton size (mm)        | 380*370*375                                     |  |  |  |
| Carton (pcs)            | 42  |  |  |  |
| Cubic meter (m³)        | 0.05  |  |  |  |

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Product appearance and specifications are subject to change without notice

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# **UFR106 Infrared Thermometer**





# **Product Features**



• 1 second measurement



• Green Backlight



• 20 sets memory of measurement values

# **Infrared Thermometer**



• Measuring distance 1~3cm



• °C/° F switch

# **Specifications**

| Model                       | UFR106   |  |  |  |
|-----------------------------|--|--|--|--|
| Measurement method          | Non-contact                                      |  |  |  |
| Measurement range           | 32.0°C~43.0°C (89.6°F~109.4°F)                   |  |  |  |
| Accuracy                    | ±0.2°C/±0.4°F, (within 36°C~39°C/96.8°F~102.2°F) |  |  |  |
| Display resolution          | 0.1°C/0.1°F                                      |  |  |  |
| Memory function             | 20 sets memory of measurement values             |  |  |  |
| Power source                | 2pcs AAA alkaline battery                        |  |  |  |
| Main unit weight            | Approx. 75g (batteries not included)             |  |  |  |
| Main unit size (L*W*H) (mm) | 151 * 53 * 41                                    |  |  |  |
| Box size (mm)               | 93*53*176  |  |  |  |
| Carton size (mm)            | 392*290*376                                      |  |  |  |
| Carton (pcs)                | 40   |  |  |  |
| Cubic meter (Kg)            | 6.5  |  |  |  |
| Gross weight (Kg)           | 5.9  |  |  |  |

Product appearance and specifications are subject to change without notice

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# **Blood Pressure Monitor**

# **Blood Pressure Monitor**



# **Product Features**

- Large Display
- 2\*99 Memory Storage
- Micro-USB Power source
- WHO Standards

# **BSX583**

# **Product Features**

- Double users: 2x90 groups
- Average function: Last 3 groups average measuring value
- WHO function
- Arrhythmia checking: Monitor heart rate while meassuring the blood pressure.
- Material: ABS+LCD display
- Yellow Backlight



**U80H** 

# Haler SYS DIA HOLA 10:02 STATT MEM

# **Product Features**

- Memory: 2x120 groups (double users)
- Average function: Last 3 groups average measuring value
- WHO function
- $\bullet \ \text{Arrhythmia checking:} \ \text{Monitor heart rate while meassuring the blood pressure.}$
- Material: ABS+LCD display

# **B15**

# **Specifications**

| Model                        | BSX583   | U80H  | B15  |
|------------------------------|--|---|--|
| Product size<br>(L*W*H) (mm) | 132*112*71   | 103*103*65mm  | 140*120*67mm   |
| Product weight (g)           | 410 (battery included)                             | 230   | 292.5  |
| Memory (groups)              | 2*99   | 2*90  | 2*120  |
| Resolution                   | Pressure: ±3mmHg (±0.4kPa);<br>Pulse: ±5%          | /   | /  |
| Measurement range            | 0~290mmHg (0~38.66kPa);<br>Pulse: 40~180 beats/min | 0-299 mmHg (0-37.30kPa)<br>Pulse:40-199 beats/min                                   | 280mmHg (0-37.30kPa)<br>Pulse:40-199 beats/min                                     |
| Accuracy                     | Pressure: ±3mmHg(±0.4kPa);<br>Pulse: ±5%           | Pressure: ±3mmHg (0.4kPa)<br>Pulse: ±5% of the reading                              | Pressure: ±3mmHg (0.4kPa)<br>Pulse: ±5% of the reading                             |
| Power supply                 | 4*AA battery(DC 6V)                                | 4*AAA batteries, 1.5 V<br>AC adapter Input: 100-240V AC 50/60Hz<br>Output: 6V DC 1A | 4*AA batteries, 1.5 V<br>AC adapter Input: 100-240V AC 50/60Hz<br>Output: 5V DC 1A |
| Automatic power-off(s)       | 30   | 180   | 60   |
| Box size (mm)                | 130*95*174   | 165*116*86  | 133*95*160   |
| Carton size (mm)             | 495*277*365  | 433*335*238   | 495*340*420  |
| Carton (pcs)                 | 20   | 20  | 30   |
| Gross weight (Kg)            | 10.56±1  | 9.5   | 16.34  |

Product appearance and specifications are subject to change without notice

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# Portable Oxygen Concentrator

# High Concentration Oxygen Generator



**CP303** 



**CP502** 



**CP801** 



**CP101** 

# **Product Features**

- $\bullet \ \ \text{High quality compressor: low noise level, low power consumption, and long service life}$
- High quality molecular sieve, durable and efficient
- High concentration oxygen generation, oxygen concentration above 90%
- Intelligent timing, set oxygen absorption time according to requirement
- Self-developed solenoid valve, high-performance, stable, and durable
- High quality technology and master designed circuit board
- Dow Corning material silicone tube, safe and odorless

# **Specifications**

| Model                    | CP303           | CP502           | CP801           | CP101            |
|--------------------------|-----------------|-----------------|-----------------|------------------|
| Flow (L/min)             | 0.5-3           | 0-5             | 0-8             | 0-10             |
| Purity                   | 0-3L/min, 93±3% | 0-5L/min, 93±3% | 0-8L/min, 93±3% | 0-10L/min, 93±3% |
| Noise (dB(A))            | ≤45             | ≤50             | ≤53             | ≤55              |
| Voltage Frequency (V/Hz) | 220/50          | 220/50          | 220/50          | 220/50           |
| Power Consumption (VA)   | 210             | 370             | 550             | 700              |
| Dimension (mm)           | 362*248*406     | 400*300*540     | 400*300*540     | 400*300*540      |
| Weight (Kg)              | 9.3             | 14.5            | 19.5            | 20.5             |
| Display Mode             | LED             | LED             | LED             | LED              |

Product appearance and specifications are subject to change without notice

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# **Product Portfolio**

### Cryo Freezer

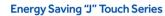
### -86°C ULT Freezer











-40°C Biomedical Freezer



DW-30L508 DW-30L818BP DW-30L818



### -30°C Biomedical Freezer



**Combined Refrigerator** and Freezer





### **Pharmacy Refrigerator**

DW-30L420F DW-30L278



### **Pharmacy Refrigerator**



# **Product Portfolio**

### **Spark Free** Freezer/Refrigerator

Laboratory Refrigerator





Vaccine & lcepack Freezer

HBD-116



Refrigerator/Freezer



**Solar Direct Drive Combined** 

**Ice-lined Refrigerator** 

HYC-61





### **Blood Bank Refrigerator**









### **Biological Safety Cabinet**



### Liquid Nitrogen Container





Thermometer

CO<sub>2</sub> Incubator

High-pressure Steam Sterilizer Constant Climate Chamber





### Portable Oxygen Concentrator









