Haier Biomedical
Intelligent Protection of Life Science

Combined Refrigerator and Freezer

HBCD-160/220

Scope of Application:

The combined refrigerator with freezer is designed to store vaccines, reagents and to freeze ice packs. Suitable for remote where power shortages are common.

Innovative Design

- Superior Thermal Insulation Performance
- EMS Monitoring System, 4.3-inch Color Screen Supports Multiple Language
- Safe, Secure and Reliable
- Environmentally-friendly
- Ergonomic Design
- Intelligent Control

Qingdao Haier Biomedical Co., Ltd.

No.280 Feng Yuan Road, High-tech Zone,
Qingdao, 266111, P.R. China
E-mail: inquiry@haierbiomedical.com
Website: www.haiermedical.com
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Haier Biomedical International | Haier Biomedical International | @haiermedicalint | Haier Biomedical International | Haier Biomedical International

HBCD-220

HBCD-160

HBCD-220

HBCD-160

Product Features

Dual Zone and Dual System Design for Refrigeration and Freezing

• Designed with a dual zone of refrigeration and freezing, with refrigerated storage for vaccines and frozen icepack.
• The effective capacity of refrigeration is 100L, equipped with 2 shelves (HBCD-160)
• The effective capacity of refrigeration is 146L, equipped with 3 shelves (HBCD-220)
• Freezer Gross volume 40L, freezing capacity per 24h is 3.2kg (HBCD-160)
• Freezer Gross volume 40L, freezing capacity per 24h is 3.2kg (HBCD-220)

Security Guarantee

• Compliant with WHO PQS (WHO/PQS/E003/RF03.7, WHO/PQS/E003/RF03-VP.5) and Vaccine freeze protection classification： Grade A, ensuring that the vaccines inside the refrigerator are within the qualified range;
• Compliant with CE standard (IEC 60335-1-2020, IEC 60335-2-24-2020, EN 61000-6-1:2016, EN 61000-6-3:2011), to meet electrical safety design requirements.

Superior Reliability

• The whole machine has passed a 10-year accelerated aging test. The outer shell is made of powder coated steel plate, and the inner lining is made of 1.0mm corrosion-resistant alumina.

Efficient Insulation Design

• The 140mm insulation and double sealing strip door design have excellent insulation performance. The temperature inside the cabin will not be lower than 0 °C to prevent vaccine freezing.

Control System

• The refrigeration and freezing areas adopt two independent control systems. Digital electronic temperature controller with an accuracy of 0.1°C and temperature control range of 2-8 °C; Optional humidity control system can be used to achieve no condensation inside the cabin and prevent the vaccine box from getting wet.

Ergonomic Design

• EMS system can achieve wireless remote monitoring of temperature, compressor operation, and door opening and closing status; Equipped with a 4.3-inch color LCD screen; Adjustable shelf height, convenient for accessing to vaccines; Equipped with status indicator lights, coinvent for operator to confirm the operation status in 3 meters.

Detail Introduction: EMS

Comprehensive Monitoring to Ensure Safety

• Temperature monitor: Real time monitoring of the temperature in the vaccine area to ensure that vaccines are stored at an appropriate temperature.
• Door status monitor: Detect the status of the refrigerator door to prevent temperature fluctuations caused by the door not being tightly closed.
• Power outage monitor: Monitor the power status, promptly detect power outages, and ensure the continuous operation of equipment.
• Voltage and current monitor: Real time monitoring of voltage and current.
• Compressor running time monitor: Record the running time of the compressor to provide real-time status of the compressor.
• Multiple alarm: Provide sound and light alarms, SMS alarms, email alarms.
• Operation recording: Record all operation for easy auditing and traceability.

Data Analysis with Optimized Management

• Data recording and analysis: Record historical data, generate KPI statistics.
• Visual interface: Provides intuitive charts and reports for users to easily view temperature and other data trends.

Remote Control

• Wireless data download: In non-subscription situations, it supports wireless transmission and download of data between mobile phones and devices through device WIFI hotspots.
• Remote monitoring and operation: After subscribing, remote access is provided to view device status, set parameters, and configure settings.
• Global SIM card: supporting over 180 countries and regions worldwide.
• Support to replace local SIM cards.

Reliable and StableTemperature Sensor with High Precision Sensor

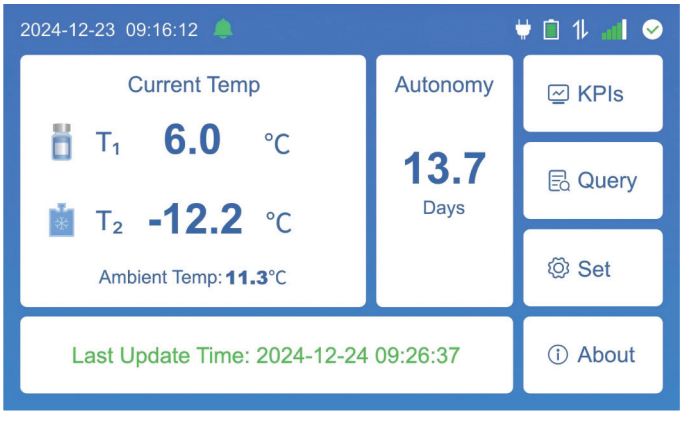
• Wide measurement range (-50°C~+80 °C), high accuracy (± 0.5 °C), fast response time.
• Door sensor: Quickly detect the of the door status switch.

Data Storage and Transmission

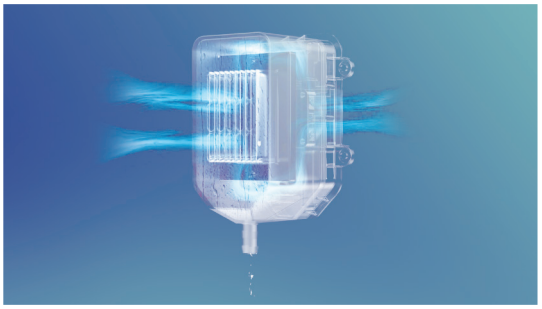
• Non volatile storage: Storage time up to 1 year (default collection frequency state)
• Multiple communication protocols: Supports 2G/3G/4G and other communication methods to ensure stable and reliable data transmission.

OTA Update

• EMS meets Level 2 requirements as standard and can be upgraded to Level 3 through remote operation without the need for any additional hardware.



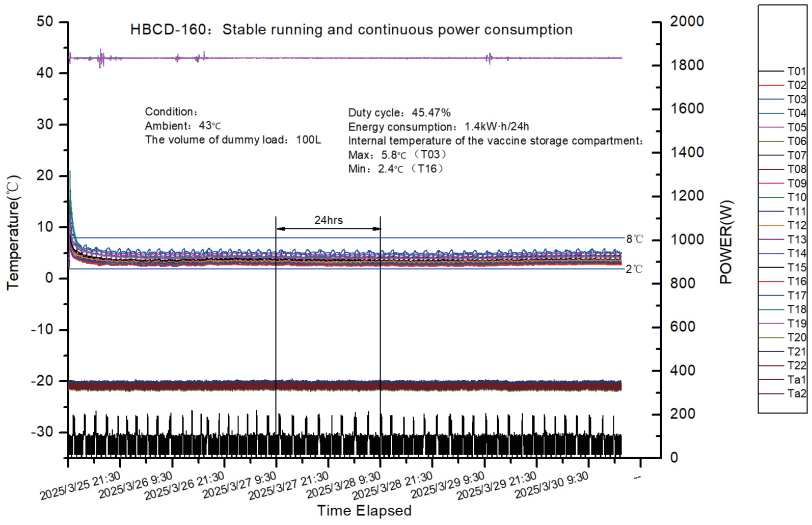
Detail Introduction: Optional Humidity Control System



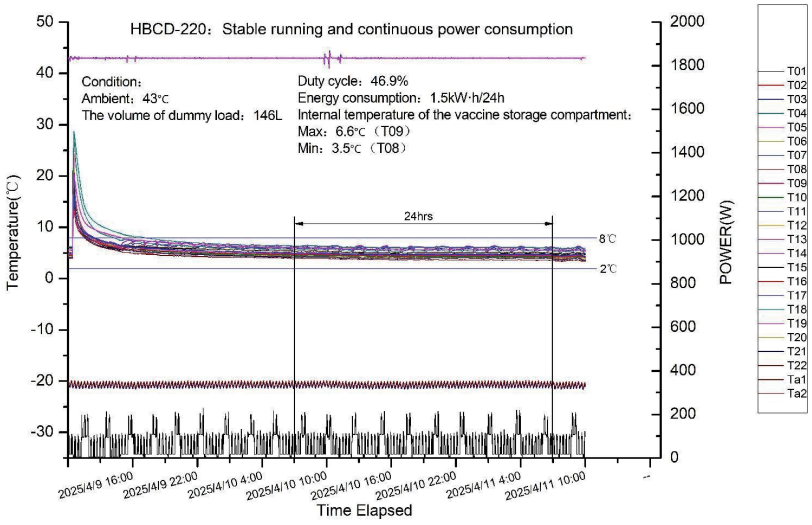
Humidity Control System (Optional)

Optional humidity control system, using semiconductor condensation and fan circulation system, to achieve no condensation inside the cabin and prevent the vaccine box from getting wet.

Autonomy Test



HBCD-160



HBCD-220

Specifications

	Model	HBCD-160	HBCD-220
Technical Data	Cabinet Type	Upright	Upright
	Climate Type	H	H
	Cooling Type	Direct Cooling	Direct Cooling
	Defrost Mode	Manual	Manual
	Refrigerant	R600a	R600a
	Sound Level (dB(A))	≤43	≤43
	Temperature Range (°C)	Freezer: -25~-15 Refrigerator: 2~8	Freezer: -25~-15 Refrigerator: 2~8
Control	Controller	Microprocessor	Microprocessor
	Display	4.3-inch LCD Screen	4.3-inch LCD Screen
Electrical Data	Power Supply (V)	220V~240V/50Hz/60Hz	220V~240V/50Hz/60Hz
	Maximal Current (A)	2	2
	Energy Consumption: Stable Running (kWh/24h)	0.75	0.76
	Energy Consumption: Cool Down Test (kWh/24h)	0.88	0.89
	Holdover Time at 43°C	142	141.7
Construction	Vaccine Storage Capacity (L)	100	146
	Gross Volume (L)	120	180
	Net/Gross Weight (kg)	188/228	195/234
	Interior Dimensions (W*D*H) (mm)	Refrigerator: 545*500*530 Freezer: 560*520*150	Refrigerator: 545*500*650 Freezer: 560*520*150
	Exterior Dimensions (W*D*H) (mm)	920*915*1740	920*915*1860
	Packing Dimensions (W*D*H) (mm)	970*950*1910	970*950*2015
	Container Load (20'/40'/40'H)	12/24/24	12/24/24
Alarm	High/Low Temperature	Y	Y
	Power Failure (Y/N)	Y	Y
	Sensor Error (Y/N)	Y	Y
Accessory	Basket	/	/
	Shelf	2	3
Ohters	Certificate	CE	CE
	Vaccine Freeze Protection Classification	Grade A	Grade A
	Freeze Gross Volume (L)	40	40
	Water Pack Storage Capacity in kg	22.4	22.4
	Freezing Capacity Per 24h in kg	3.2	3.2