Vaccine Storage Solution
The Safety Solution for Vaccine Storage
Haier vaccine storage equipments which include vaccine & icepack freezer, ice-lined refrigerator, solar direct driven vaccine refrigerator, walk-in cold/freezer room, are all passed WHO/PQS evaluation. Haier also has taken part in many projects of children health protecting in WHO/UNICEF, India, Africa and other developing regions, providing the solutions of vaccine storage security.
**Vaccine & Icepack Freezer**

2004. Achieved the project of World Health Organization (WHO) and entered into Southeast Asia market.

2008. Haier won the tender of India MOHFW to supply 1,4459 units Vaccine Freezers and Ice Lined Refrigerators.

2009. Haier ice lined refrigerator and icepack freezer are qualified by WHO/PQS, which is the first company vaccine refrigerator manufacture enterprise in China.

2010. Haier won the tender of India MOHFW to supply 20932 units Vaccine Freezers and Ice-Lined Refrigerators.

2011. Haier got the LTA of Ice-Lined Refrigerator and Vaccine Freezer. Haier is the long term supplier of UNICEF.

2013. Haier successfully provided Sudan MOH for 800 units ice pack freezers and ice-lined refrigerators.

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**Refrigeration System**
- Highly efficient hermetically sealed compressor
- CFC-free high density foam insulation
- Optimized refrigeration system design

**Temperature Control**
- Digital display
- Adjustable temperature range of -15°C to -25°C

**Ergonomic Design**
- Safety lock for unauthorized access
- Corrosion-proof interior and easy cleaning
- Shelving designs for various sizes of storage baskets
- Drainage system for ease of cabinet cleaning
- LCD temperature display

<table>
<thead>
<tr>
<th>Technical Data</th>
<th>HBD-116</th>
<th>HBD-286</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabinet Type</td>
<td>Chest</td>
<td>Chest</td>
</tr>
<tr>
<td>Ambient Temperature</td>
<td>+43°C</td>
<td>+43°C</td>
</tr>
<tr>
<td>Cooling Type</td>
<td>Direct cooling</td>
<td>Direct cooling</td>
</tr>
<tr>
<td>Refrigerant</td>
<td>CFC-Free</td>
<td>CFC-Free</td>
</tr>
<tr>
<td>Noise (dB)</td>
<td>43</td>
<td>44</td>
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<tr>
<td>Performance</td>
<td>Temperature Range(°C)</td>
<td>-15—25</td>
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<tr>
<td>Control</td>
<td>Mechanical</td>
<td>Mechanical</td>
</tr>
<tr>
<td>Display</td>
<td>LCD</td>
<td>LCD</td>
</tr>
<tr>
<td>Electrical Data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Supply/V(Hz)</td>
<td>220-240/50</td>
<td>208-230/60</td>
</tr>
<tr>
<td>Power(kW)</td>
<td>1.38</td>
<td>1.85</td>
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<td>Electrical Current(A)</td>
<td>1.05</td>
<td>1.55</td>
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<tr>
<td>Power Consumption(Watt)</td>
<td>3.01</td>
<td>3.35</td>
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<tr>
<td>Power Consumption(Watt)</td>
<td>3.25</td>
<td>3.76</td>
</tr>
<tr>
<td>Holdover Time at 32°C</td>
<td>more than 3h(upto -5°C)</td>
<td>more than 3h(upto -10°C)</td>
</tr>
</tbody>
</table>

**Dimensions**
- Vaccine Storage Capacity(Liter) | 97/3.4 | 258/9.1 |
- Gross Volume(Liter) | 171/4.3 | 280/10.3 |
- Next/Gross Weight(approx.) | 51.7/63.2kg | 125.7/154.5kg |
- Interior Dimensions(W*H*D)(mm) | 457*657*538 | 906*657*538 |
- Exterior Dimensions(W*H*D)(mm) | 630*630*1186 | 1244*630*1186 |
- Packing Dimensions(W*H*D)(mm) | Wooden:820*650*1040 | Wooden:1381*650*1040 |
- Container load (2040/4040) | 28.5/6.6(Wooden) | 42/9.0/13.5(Paper) |
- Accessories |
  - Foot | 1 |
  - Baskets | 2 |
- Others | Certificate | CE/WHO/PQS | CE/WHO/PQS |
The refrigerators are designed to store vaccine, pharmaceuticals and so on. Applications could be found in epidemic prevention, clinics, hospitals, research institutes etc. Kilar has repeatedly taken part in the project of children health protecting in WHO, UNICEF, Africa and other developing regions, providing the solutions of vaccine storage security.
Ice-Lined Refrigerator

Refrigeration System
- Optimized refrigeration system design
- Microprocessor control
- Built-in ice packs maintain 2°C to 8°C for 25 hours at 43°C ambient
- CFC-free high density foam insulation
- Complied with WHO/UNICEF standards

Temperature Control
- Digital temperature display
- Adjustable control range of 2°C to 8°C

Ergonomic Design
- Door lock for storage safety
- Stainless steel interior for ease of cleaning and corrosion proof

Technical Data
- Model: HBC-70
  - Cabinet: Chest
  - Ambient Temperature: 5°C-43°C
  - Cooling Type: Direct cooling
  - Defrost Mode: Auto
  - Refrigerant: CFC-Free
  - Display: LCD
  - Power Supply: 200-240V/50Hz
  - Power: 150W
  - Electrical Current: 1.1A
  - Power Consumption (Running): 0.64W/24H
  - Power Consumption (Cool Down): 2.4W/24H
  - Hold-up Time: more than 25 hours
  - Vacum Storage: 45L/1.5L
  - Gross Volume: 71L/2.5L
  - Net/Grave Weight: 75.7/17.2kg
  - Interior Dimensions (W*D*H): 105*55*142cm
  - Exterior Dimensions (W*D*H): 57*63*91cm
  - Wooden: 80*50*160cm
  - Packaging: 52.5*22.9*54.6cm
  - Container load: 28.5/4.35kg
  - Functions: High/Low Temperature, Power Failure, Sensor Error
  - Accessories: Food guardian, 3 5 9 11

- Model: HBC-120
  - Cabinet: Chest
  - Ambient Temperature: 5°C-43°C
  - Cooling Type: Direct cooling
  - Defrost Mode: Auto
  - Refrigerant: CFC-Free
  - Display: LCD
  - Power Supply: 200-240V/50Hz
  - Power: 177W
  - Electrical Current: 1.4A
  - Power Consumption (Running): 1.1W/24H
  - Power Consumption (Cool Down): 2.4W/24H
  - Hold-up Time: more than 35 hours
  - Vacum Storage: 52.5L/1.8L
  - Gross Volume: 110L/5.9L
  - Net/Grave Weight: 87.8/20kg
  - Interior Dimensions (W*D*H): 120*56*168cm
  - Exterior Dimensions (W*D*H): 62*63*95cm
  - Wooden: 85*50*170cm
  - Packaging: 52.5*22.9*54.6cm
  - Container load: 36.7/8.2kg
  - Functions: High/Low Temperature, Power Failure, Sensor Error
  - Accessories: Food guardian, 3 5 9 11

- Model: HBC-200
  - Cabinet: Chest
  - Ambient Temperature: 5°C-43°C
  - Cooling Type: Direct cooling
  - Defrost Mode: Auto
  - Refrigerant: CFC-Free
  - Display: LCD
  - Power Supply: 200-240V/50Hz
  - Power: 226W
  - Electrical Current: 1.5A
  - Power Consumption (Running): 1.6W/24H
  - Power Consumption (Cool Down): 1.52W/24H
  - Hold-up Time: more than 50 hours
  - Vacum Storage: 94.5L/3.5L
  - Gross Volume: 196L/7.0L
  - Net/Grave Weight: 108/21kg
  - Interior Dimensions (W*D*H): 160*50*190cm
  - Exterior Dimensions (W*D*H): 82*63*107cm
  - Wooden: 90*50*200cm
  - Packaging: 52.5*22.9*54.6cm
  - Container load: 57.4/9.2kg
  - Functions: High/Low Temperature, Power Failure, Sensor Error
  - Accessories: Food guardian, 3 5 9 11

- Model: HBC-240
  - Cabinet: Chest
  - Ambient Temperature: 5°C-43°C
  - Cooling Type: Direct cooling
  - Defrost Mode: Auto
  - Refrigerant: CFC-Free
  - Display: LCD
  - Power Supply: 200-240V/50Hz
  - Power: 264W
  - Electrical Current: 1.5A
  - Power Consumption (Running): 1.8W/24H
  - Power Consumption (Cool Down): 1.52W/24H
  - Hold-up Time: more than 40 hours
  - Vacum Storage: 213L/7.4L
  - Gross Volume: 340L/12.0L
  - Net/Grave Weight: 152/18kg
  - Interior Dimensions (W*D*H): 155*51*190cm
  - Exterior Dimensions (W*D*H): 92*63*107cm
  - Wooden: 160*50*200cm
  - Packaging: 52.5*22.9*54.6cm
  - Container load: 170/56kg
  - Functions: High/Low Temperature, Power Failure, Sensor Error
  - Accessories: Food guardian, 3 5 9 11
For Solar-powered Vaccine Refrigerator, electricity and fuel are unnecessary. It provides convenience to store vaccines in areas without power or power unstable regions, especially frequent blackouts. This kind of refrigerator can also be used for vaccine storage in developing countries. Haier has repeatedly taken part in the project of children's health protection in WHO, UNICEF, Africa, and other developing regions, providing solutions for vaccine storage security.
Solar Direct Driven Vaccine Refrigerator

Storage Security
- Forced air cooling system designed to provide stable and uniform chamber temperature
- LCD temperature display to read the visual temperature
- High and low temperature and power outage alarm system, multiple built-in protection system
- Corrosion-resistant stainless steel liner
- Lock design, safe to store the vaccine
- Keeping inside temperature at 2~8°C, in the condition that ambient temperature is 32°C, power outage for 119 hours, safe for vaccine storage

Temperature Control
- Microcomputer control, guaranteed accurate temperature
- Temperature measurement function, the temperature inside chamber is in accordance with the display temperature

External Digital Display
- The current temperature is displayed through the solar driven digital display. There is no need for daily adjustment, as the entire system has been calibrated before delivery from the factory and it is self-regulating.

Ergonomic Design
- Solar-driven, green and environment friendly compared with battery-powered ones
- External battery can be connected to the unit under special or emergency situation flexibly
- Temperature controller is easy to view, auxiliary battery for display without sunshine
- Low noise

---

2012, Haier solar direct driven vaccine refrigerator passed WHO/PQS pre qualification. 2013, Haier successfully won the UNICEF tender of 100 units SDD Refrigerator HTC-60 supporting DPR Korea project. It was the first time for Haier to win SDD Refrigerator tender and Haier Bio-medical team dispatched engineers to DPR Korea for the training of SDD Refrigerator.

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<table>
<thead>
<tr>
<th>Technical Data</th>
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<tbody>
<tr>
<td>Cabinet Type</td>
<td>Chest</td>
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<td>Forced air cooling</td>
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<tr>
<td>Defrost Mode</td>
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<td>Refrigerant</td>
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<td>Nominal (W)</td>
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<tr>
<td>Temperature Range (°C)</td>
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<table>
<thead>
<tr>
<th>Control</th>
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<tbody>
<tr>
<td>Display</td>
<td>LCD</td>
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<td>Power Supply (V)</td>
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<td>Power (W)</td>
<td>90</td>
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<td>Electrical Current (A)</td>
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<td>Power Consumption (stable running) (W)</td>
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<td>Power Consumption (cool down period) (W)</td>
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<td>Holdover Time at 32°C</td>
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<tr>
<td>Autonomy Time</td>
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<tr>
<td>Solar Radiation Reference Period</td>
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<td>Voltage of Solar Panel</td>
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<td>Power of Solar Panel</td>
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<td>Voltage (V)</td>
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<td>Energy Efficiency</td>
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<td>Gross Volume (L)</td>
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<tr>
<td>Net/Gross Weight (kg)</td>
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<td>Interior Dimensions (W<em>D</em>H) (mm)</td>
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<tr>
<td>Exterior Dimensions (W<em>D</em>H) (mm)</td>
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<td>Packing Dimensions (W<em>D</em>H) (mm)</td>
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<td>Container (mm) (W<em>D</em>H)</td>
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<tr>
<td>Solar Panel (W<em>P</em>E)</td>
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<table>
<thead>
<tr>
<th>Dimensions</th>
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<tbody>
<tr>
<td>Functions</td>
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</tr>
<tr>
<td>High/Low Temperature</td>
<td>Y</td>
</tr>
<tr>
<td>Sensor Error</td>
<td>Y</td>
</tr>
<tr>
<td>Low Battery</td>
<td>Y</td>
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<thead>
<tr>
<th>Others</th>
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</thead>
<tbody>
<tr>
<td>Certificate</td>
<td>CE/WHO/PQS</td>
</tr>
</tbody>
</table>
Haler walk-in cold room is for storage of vaccines, and the complete unit is also designed for installation in a housed area such as a warehouse in order to meet designated temperature standards. Haler’s WIC’s & WIF’s have passed WHO / POG and is long term supplier of UNICEF. The units have been installed in India, Guinea, South Sudan, Pakistan, Burundi, Uzbekistan, etc.
Haier walk-in cold rooms include 10m², 20m², 30m² and 40m², and Haier designs and provides both cooling and freezing rooms as per customers’ preference.

2011, Haier cold rooms and freezer rooms passed WHO/PGS prequalification. 2012, Haier had provided more than 50 cold rooms for UNICEF support projects covered India, Pakistan, Uzbekistan, Ghana and Zimbabwe. Especially in Zimbabwe, Haier supplied 11 HRZK-30G cold rooms. 2013, Haier had provided more than 22 cold rooms for UNICEF support projects covered China, Syria and Kyrgyzstan. In Syria, Haier provide 14 HRZK-30G cold rooms.

### Walk-In Cold Freezer Room

#### Integral Cold Store Unit
- The cold room is suitable to freeze or refrigerate relevant articles for medical service, scientific research, agricultural, biological and chemical industries, etc. Its interior temperature can be controlled respectively within the range of -10°C to 0°C.

#### Technical Characteristics of the Cold Room
- The cold room for vaccines and medicines is controlled and adjustable within the range of 0°C to -15°C with resolution of 0.1°C
- Insulation material: CFC-free, polyurethane foamed-in-place, density: 42kg/m³
- Insulation thickness: 100 mm, K-value: 0.22 W/m²K or better
- Internal and external surfaces of hot-dipped galvanized steel sheet, white polyester coating and floor clad with non-slip material
- Rooms equipped with tungsten lighting and with an external switch with pilot lamp
- Rooms equipped with shelving system on three walls, material stone enameled, steel, galvanized steel, stainless steel, aluminum or plastic slatted adjustable shelving units to carry vaccine in packages. 5 levels, 450-600 mm deep, adjustable
- Dual refrigeration system is equipped. Forced air-cooled condenser refrigeration units
- Door equipped with heavy duty hinges and lock with internal safety release. Automatic defrosting/CFC-free refrigerant
- System to be offered with manual change over switch as standard
- Temperature recorder and audible alarm system

#### Technical Characteristics of the Refrigerating Unit
- The LJV series of machines, called mono block, that integrates evaporator, condenser, compressor, electrical control units into one compact body, can be widely used for cold storage rooms of temperature of -5°C to 0°C or -1°C to 20°C. In hotels, restaurants, medicines, agricultural, chemicals industries all other place where cold storage is needed. This series products feature below.
  - With very compact structure
  - With TECUMSEH hermetic compressors, high efficiency in grooved copper tube and aluminum fin heat exchangers and world famous brand refrigeration parts for all products.
  - The electronic control boards are with functions of automatic temperature set, control, and electric heater defrosting. Protection devices for overload, over heating, lack of phase, high & low pressure etc.
  - Safe, easy, and low cost for installation and operation

#### Temperature Recorder
- Upper and lower limits: +50°C to -30°C
- Accuracy ±1°C
- Resolution ±0.1°C
- Minimum acceptable recording period between chart changes is 7 days
- USB interface is equipped

---

**Table:**

<table>
<thead>
<tr>
<th>Type</th>
<th>Freezer Room</th>
<th>Cold Room</th>
<th>Cold Room</th>
<th>Cold Room</th>
<th>Cold Room</th>
<th>Combined/Cold Freezer Room</th>
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</thead>
<tbody>
<tr>
<td>Model</td>
<td>HRZK-20G</td>
<td>HRZK-29G</td>
<td>HRZK-15G</td>
<td>HRZK-20G</td>
<td>HRZK-30G</td>
<td>HRZK-40G</td>
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<tr>
<td>Defrost Mode</td>
<td>Electrical heating</td>
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<td></td>
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<tr>
<td>Refrigerant</td>
<td>CFC-Free</td>
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<tr>
<td>Internal Temperature Range(°C)</td>
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<td>2-8</td>
<td>2-8</td>
<td>2-8</td>
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<td>2230</td>
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<tr>
<td>Capacity(m³)</td>
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<td>30</td>
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<td>WHO/PGS</td>
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</tbody>
</table>
2004
Achieving the project of WHO (World Health Organization) and provided 10,000 units ice lined refrigerators to India, which marked Haier Biomedical’s entry into the international market.

2008
Achieving the bid of India MOHPW to supply 6559 units vaccine freezers and 1900 units ice lined refrigerators.

2009
Haier ice lined refrigerator and ice pack freezer are qualified by WHO/PQS, which is the first company vaccine refrigerator manufacture enterprise in China.

2010
Achieving the bid of 20,950 units vaccine refrigerators of UNOPS (United Nations Program India Purchasing Agency).

2011
Getting the LTA (Long Term Agreement) of ice lined refrigerators and vaccine freezers, Haier became the long term supplier of UNICEF (United Nations Children’s Fund). 2011, Haier cold rooms and freezers rooms passed WHO/PQS prequalification.

2012
Haier solar direct driven vaccine refrigerator passed WHO/PQS prequalification.

2013
Haier successfully won the UNICEF tender of 100 units SCID Refrigerator HTC-450 supporting DPR Korea project. It was the first time for Haier to win SCID Refrigerator tender and Haier Bio-medical team dispatched engineers to DPR Korea for the training of SCID Refrigerator. 2013, Haier successfully provided Sudan MOH for 400 units ice pack freezer HBO-316, 400 units ice lined refrigerator HBO-200.