ENERGY STAR® Certified Natural Refrigerant -86°C Freezer

Ideal for new or replacement installations requiring a 115V or 220V connection, the VIP ECO 25.7 cu.ft. (729 L) upright ultra-low temperature freezer delivers the lowest daily energy usage.\(^1\) Performance, reliability and energy efficiency combine to secure your most valuable biological samples.

Performance and Reliability

The robust refrigeration system provides dependable cooling and temperature performance through specialty engineered heat transfer components and time-tested natural refrigerants. Reserve refrigeration power assures exceptionally fast temperature recovery following door openings. Performance and reliability are never compromised when it comes to storing your valued products.

Energy Efficient,\(^1\) Balanced Power

Smart compressors, natural refrigerants and integrated electronics combine to lower your facility’s operating costs.
- 0.29 kWh/cu.ft. Daily Energy Consumption
- 8.20 kWh/day, Steady State at -80°C
- 5.91 kWh/day, Steady State at -70°C

Temperature Uniformity
- ±2.01°C at -80°C
- ±1.86°C at -70°C

Natural Refrigerants

Natural refrigerants minimize environmental impact without jeopardizing ultra-low temperature freezer performance.

EZlatch

EZlatch is the centerpiece of a holistic access and frost mitigation system. Simplified one-handed operation maintains the integrity of the door seal to assure energy efficiency.

Ease of Use

A full function display panel includes audible and visual warnings, unit diagnostics, temperature and door opening history.

\(^1\) Based on independent third-party testing at time of publication. ENERGY STAR test results for submitted products can be compared for performance across the competitive market. For results see the ENERGY STAR website: www.energystar.gov/productfinder/product/certified-lab-grade-refrigeration/detail/2303094.

See Certification Number 4788723268.

PHC Corporation of North America
# VIP ECO -86°C ULT Upright Freezer

Efficient Sample Storage

The upright cabinet design employs patented VIP Plus insulated panels that offer space efficiency. This allows the freezer cabinet to maximize storage space, holding up to 576, 2" boxes within a 9.78 sq.ft. (0.91 m²) footprint.

## Temperature Uniformity Data:

<table>
<thead>
<tr>
<th>Temperature (°C)</th>
<th>-86</th>
<th>-84</th>
<th>-82</th>
<th>-80</th>
<th>-78</th>
<th>-76</th>
<th>-74</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time (hours:minutes)</td>
<td>0:00</td>
<td>0:30</td>
<td>1:00</td>
<td>1:30</td>
<td>2:00</td>
<td>2:30</td>
<td>3:00</td>
</tr>
</tbody>
</table>

### Dimensions

<table>
<thead>
<tr>
<th>Unit</th>
<th>mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>750</td>
<td>613</td>
</tr>
<tr>
<td>1035</td>
<td>870</td>
</tr>
<tr>
<td>443</td>
<td>349</td>
</tr>
<tr>
<td>370</td>
<td>305</td>
</tr>
<tr>
<td>285</td>
<td>230</td>
</tr>
<tr>
<td>343</td>
<td>278</td>
</tr>
<tr>
<td>356</td>
<td>292</td>
</tr>
<tr>
<td>367</td>
<td>303</td>
</tr>
<tr>
<td>385</td>
<td>321</td>
</tr>
</tbody>
</table>

## Performance

- **Warranty**: 5 years parts and labor
- **Cooling Performance**: -86°C
- **Temperature Setting Range**: -50 to -90°C in 1°C increments
- **Temperature Control Range**: -50 to -86°C in 1°C increments

## Control

- **Controller**: Microprocessor, touchscreen data entry, password protected
- **Display**: LCD color touchscreen
- **Temperature Sensor**: PT-1000

## Refrigeration

- **Refrigeration System**: Synchronized variable speed cascade system
- **Compressors**: 2 (750), variable speed
- **Refrigerant**: High-stage R-290 natural refrigerant
- **Insulation Thickness, Material**: 3.11 ft, rigid polyurethane foam (PUF) + VIP Plus vacuum insulated panels

## Construction

- **Exterior Material**: Painted electrogalvanized steel
- **Interior Material**: Powder coated electrogalvanized steel
- **Outer Door**: Key lock with provision for optional pad lock
- **Inner Doors**: 2 (insulated, ABS, stainless steel frames, positive latches)
- **Shelves**: 3 (adjustable)
- **Shelf Dimensions (W x D)**: 33.6 x 21.0
- **Max. Load per Shelf**: 110 lbs
- **Auto Vacuum Relief**: in door
- **Manual Vacuum Relief**: 1 lower left side
- **Access Ports**: 3: upper back wall (back-up system), bottom left (recorder sensor), bottom right (access)
- **Access Port Diameter**: 17 mm (1/2"")

### Alarms

(V = Visual Alarm, B = Buzzer Alarm, R = Remote Alarm)

- Power Failure: V-R
- Temperature (High and Low): V-R
- Sensor Failure: V-R
- Door Open: V-R
- Battery Check: V
- Remote Alarm Contacts: DC 30V-2A (normally open, normally closed, common)

## Electrical and Noise Level

- **Power Supply**: 220V, 1Ø, NEMA 6-15P, requires NEMA 6-15R receptacle
- **Noise Level**: 46 dB(A)

## Options

- **Inner Door Kit with 5 Smaller Doors**: MDF-702VH-PA
- **Liquid CO2 Back-Up System**: MDF-UB7-PW

## Temperature Recorder

- **Circular Type**: 6", 7 day circular
- **Chart Paper**: 52 charts per box
- **Ink Pen**: pack of 6

## Optional Communication System

- **Wireless, Cloud-Based, Automatic Data Management**: LabAlert® Monitoring System

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Specifications are subject to change without notice. For latest specification information contact PHC Corporation of North America at info@us.phchd.com. Performance data herein is based on independent testing at time of publication.