



## ULTRALOW TEMPERATURE FREEZERS

The Safer Choice for Your Laboratory





### HYDROCARBON (HC) NATURAL REFRIGERANTS

*Lower your total cost of ownership while improving reliable performance.*

Blizzard ultralow temperature freezers utilize non-toxic hydrocarbon (HC) refrigerants that are eco-friendly alternatives to CFC, HCFC, and HFC fluorocarbons linked to ozone damage. HC refrigerants are found naturally in nature, can be acquired at a lower cost, and provided superior energy efficiency.

Energy comparison based on a 25.7 ft<sup>3</sup> / 728 L or equivalent capacity ultralow freezer.

| Model   | NU-99728J*    | ULT A         | ULT B         | ULT C         |
|---|---------------|---------------|---------------|---------------|
| 24 hrs per day / 7 days per week = 8,736 hrs per year |               |               |               |               |
| KWH per year  | 3822          | 4186          | 5533          | 6916          |
| \$0.09/kw   | \$344         | \$377         | \$498         | \$623         |
| <b>10 Year Electrical Cost</b>                        | <b>\$3440</b> | <b>\$3770</b> | <b>\$4980</b> | <b>\$6290</b> |

\* Power consumption is dependent on loading and operating conditions. Freezer conditions: Set-point -80°C, ambient temperature 25°C, unloaded (no racks), 220-240V 50Hz power supply.



## -86°C Upright Ultralow Freezer



**NU-99728J**  
Ultralow Temperature Freezer

**Blizzard Ultralow Temperature Freezers** provide stable storage conditions for your samples and offer advanced features at an affordable price. Vacuum insulated panels surround the storage chamber to provide greater temperature uniformity and maximize storage space. A dual compressor system dependably maintains consistent storage conditions. Blizzard Ultralow Temperature Freezers are the safer choice for your storage needs.

| Model     | Configuration | Interior Volume              |
|-----------|---------------|------------------------------|
| NU-99338J | Upright       | 11.9 ft <sup>3</sup> / 338 L |
| NU-99578J | Upright       | 20.4 ft <sup>3</sup> / 578 L |
| NU-99728J | Upright       | 25.7 ft <sup>3</sup> / 728 L |
| NU-99828J | Upright       | 29.2 ft <sup>3</sup> / 828 L |
| NU-99420J | Chest         | 14.8 ft <sup>3</sup> / 420 L |

**Power Factor Control**

Monitors, compensates, and protects against facility line voltage variations.

**Four Internal Shelf Locations (Three Adjustable / One Stationary)**

Provides flexibility in rack configurations.

**HC Refrigerants**

Commercially available HC refrigerants are efficient, environmentally safe, and non-ozone depleting.

**Vacuum Insulated Panels (VIP)**

Surround the storage chamber offering increased temperature stability and maximizing interior volume.

**Remote Alarm Contacts**

RS 485 provide connection ports for popular monitoring systems.

**Battery Backup**

Powers the freezer in the event of an interruption in the primary power source.

**Front Filter Access**

Allows convenient access for regular maintenance to the washable condenser filter.



NU-99728J  
Ultralow Temperature Freezer



**Outer Door Claw Latch [A]**

Maintains a tight seal to minimize frost built-up, yet requires minimal effort to open the freezer door.

**Removable Insulated Inner Doors [B]**

Gasket sealed inner doors allow access to selected samples while preventing frost build-up and thermal intrusion in other parts of the interior.

**Pressure Equalization Port [E]**

The Pressure Equalization Port is heated with a spring assisted mechanism to prevent icing allowing the freezer door to be opened shortly after adding samples.

**Sample Ports [F]**

Two sample ports are located on the back top and bottom of the freezer to allow convenient access for monitoring tools.



**Multi-point Gasket System [C]**

Four gaskets located on the outer door and one gasket on each inner door protects against thermal intrusion.

**A USB Port [D]**

Easily accessible from the front of the freezer to download data.

**Circular Chart Recorder [G]**

A circular chart recorder (optional) can be front-mounted for independent temperature recording and monitoring.

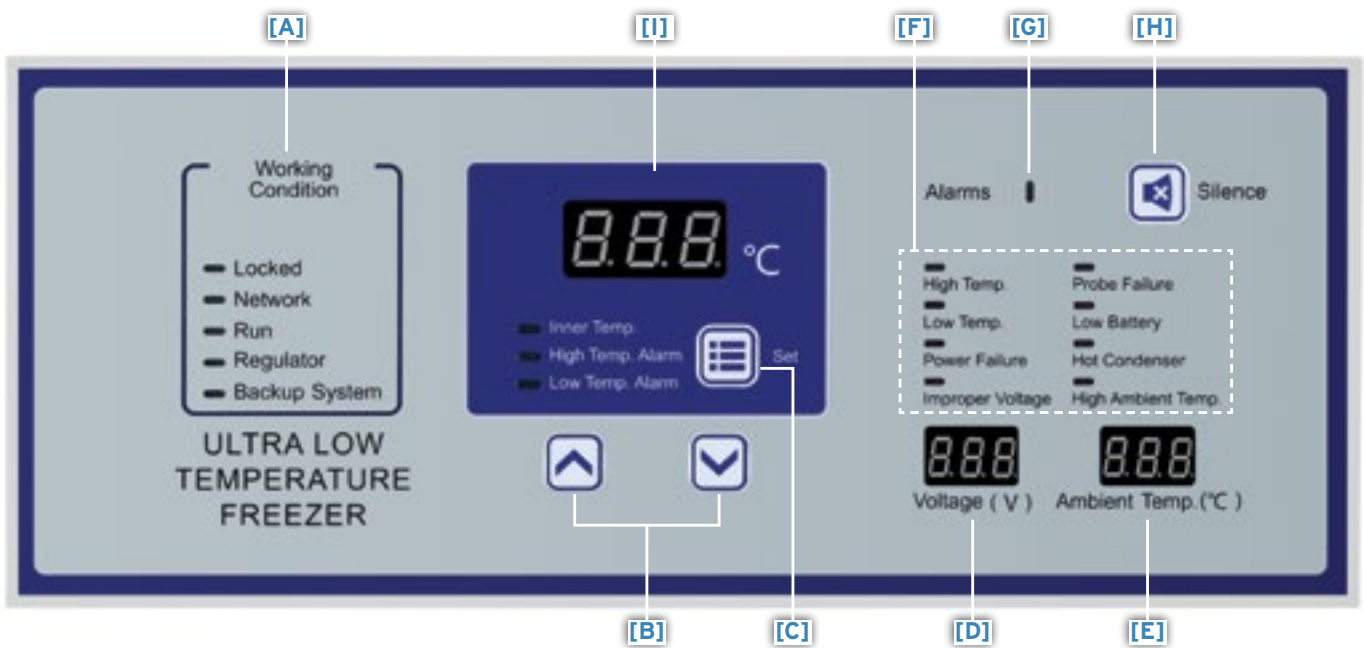
## Blizzard Electronic Control System

Simplicity at its finest. The Blizzard Electronic Control System offers a centrally located control panel at eye level providing essential elements of control and monitoring.

- Status Display [A]
- Adjustment Keys [B]
- Function Selection [C]
- Voltage Display [D]
- Ambient Temperature [E]
- Alarm Notifications [F]
- Alarm Volume [G]
- Silence Key [H]

### Display [I]

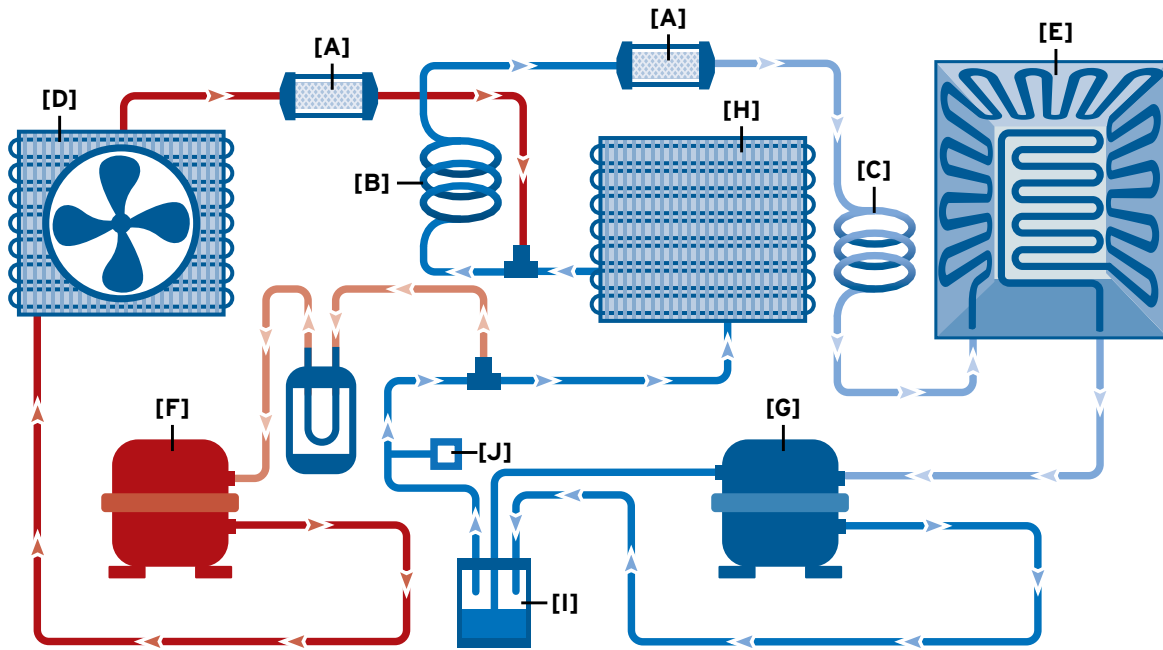
Displays current interior temperature, high temperature alarm, low temperature alarm, password settings, and error codes.



## Alarms

The Blizzard Electronic Control System comes standard with monitoring and alarm systems designed to protect your samples with visible and audible notifications.

| Alarm                    | Event  |
|--------------------------|--|
| High Temperature         | Internal Temperature High  |
| Low Temperature          | Internal Temperature Low   |
| Power Failure            | Loss of Power  |
| Door Ajar                | Door Opening Exceeds Set-point (Adjustable 0 to 20 Minutes)  |
| Sensor Error             | E0 - Ambient sensor failure<br>E1 - Condenser sensor failure<br>E2 - Temperature control sensor failure<br>E3 - Heat exchanger sensor failure<br>E4 - Heat exchanger temperature failure |
| Low Battery              | Internal Battery is Close to End of Life<br>Battery Switch is Not Turned On  |
| Hot Condenser            | Condenser Filter Blocked<br>High Ambient Temperature   |
| High Ambient Temperature | Ambient Temperature Exceeds 32°C   |



A dual compressor refrigeration system offers an enhanced heat exchange system to maintain optimal storage conditions and rapidly cool down the storage area after door openings.

**[A] Filter Dryer**

Separates contaminants, such as water, from refrigerant.

**[B] Capillary Tube for High Stage**

High temperature refrigerants flow into the evaporator from the capillary tube.

**[C] Capillary Tube for Low Stage**

Low temperature refrigerants flow into the evaporator from the capillary tube.

**[D] High Stage Condenser**

Extra large air-cooled condenser dissipates heat efficiently.

**[E] Low Stage Evaporator**

Close contact design between the evaporating tube and the inner cabinet increases heat conducting efficiency.

**[F] Ultra low-noise High Stage Compressor**

**[G] Ultra low-noise Low Stage Compressor**

- Reliable, ultra-low noise, compressor.
- Low stage evaporator yields excellent temperature uniformity and recovery after loading and door opening.
- Both high and low stage compressors are industrial grade hermetically sealed, and designed for low temperature applications. Extremely low sound level.

**[H] Heat Exchanger System**

Heat exchanger between high and low temperature stages

**[I] Temp-rite Oil Separator**

Temp-rite Oil Separator can effectively separate oil and water to improve refrigeration performance.

**[J] Pressure Switch**



## Accessories (United States &amp; Canada)

| Part Number     | Accessories / Options                               |
|-----------------|---|
| BIO-CO2BS-ARD   | CO <sub>2</sub> Back-Up Kit - Field Install         |
| BIO-LN2BS-ADDON | LN <sub>2</sub> Back-UP Kit - Field Install         |
| CRE-C-960       | Chart Recorder 7 day, 6" Circular - Factory Install |
| CRE-219         | Chart Recorder Replacement Paper (52 Charts)        |

## Pull Out Drawer Freezer Racks with 2-inch (Boxes Included) (United States &amp; Canada)

| ULT Model # | Rack Part #          | Rack Configuration | Rack Capacity | # of 5 cm (2") 2 ml<br>Fiberboard Boxes in Racks | # of 2 ml Sample Vials,<br>5 cm (2") Box, 100 Cell Dividers |
|-------------|----------------------|--------------------|---------------|--|---|
| NU-99338J   | <b>LUT-UFDR-452</b>  | 4 Rows / 4 Column  | 6             | 96   | 9,600   |
|             | <b>LUT-UFDR-442</b>  | 5 Rows / 4 Column  | 6             | 120  | 12,000  |
| NU-99578J   | <b>LUT-UFDR-552</b>  | 5 Row / 5 Column   | 16            | 400  | 40,000  |
| NU-99728J   | <b>LUT-UFDR-552</b>  | 5 Row / 5 Column   | 20            | 500  | 50,000  |
| NU-99828J   | <b>LUT-UFDR-552</b>  | 5 Row / 5 Column   | 24            | 600  | 60,000  |
| NU-99420J   | <b>LUT-UFDR-11-2</b> | 10 Row / 1 Column  | 27            | 270  | 27,000  |

## Accessories (Worldwide)

| Part Number | Accessories / Options                               |
|-------------|---|
| HAI-UB2I    | CO <sub>2</sub> Back-Up Kit - Field Install         |
| HAI-UBN2    | LN <sub>2</sub> Back-UP Kit - Field Install         |
| HAI-960     | Chart Recorder 7 day, 6" Circular - Factory Install |
| HAI-219     | Chart Recorder Replacement Paper (52 Charts)        |

## Pull Out Drawer Freezer Racks for 2-inch Boxes (Boxes Not Included) (Worldwide)

| ULT Model # | Rack Part #         | Rack Configuration | Rack Capacity | # of 5 cm (2") 2 ml<br>Fiberboard Boxes in Racks | # of 2 ml Sample Vials,<br>5 cm (2") Box, 100 Cell Dividers |
|-------------|---------------------|--------------------|---------------|--|---|
| NU-99338J   | <b>HAI-DCJ-44-B</b> | 4 Rows / 4 Column  | 6             | 96   | 9,600   |
|             | <b>HAI-DCJ-54-B</b> | 5 Rows / 4 Column  | 6             | 120  | 12,000  |
| NU-99578J   | <b>HAI-DCJ-55-B</b> | 5 Row / 5 Column   | 16            | 400  | 40,000  |
| NU-99728J   | <b>HAI-DCJ-55-B</b> | 5 Row / 5 Column   | 20            | 500  | 50,000  |
| NU-99828J   | <b>HAI-DCJ-55-B</b> | 5 Row / 5 Column   | 24            | 600  | 60,000  |
| NU-99420J   | <b>HAI-DCJ-10-A</b> | 10 Row / 1 Column  | 27            | 270  | 27,000  |

## Specifications

| Model     | Configuration | Interior Volume                 | Interior Dimensions<br>(W x D x H)             | Exterior Dimensions<br>(W x D x H)              | Temperature<br>Range | Net Weight          | Electrical<br>Configuration*                        |
|-----------|---------------|---------------------------------|--|---|----------------------|---------------------|---|
| NU-99338J | Upright       | 11.9 ft <sup>3</sup><br>[388 L] | 18.3 x 24.8 x 45.9 in<br>[465 x 630 x 1165 mm] | 32 x 35.2 x 72.7 in<br>[812 x 893 x 1846 mm]    | -40°C to -86°C       | 525 lbs<br>[238 kg] | GA: 115V / 60Hz<br>G: 220V / 60Hz<br>E: 230V / 50Hz |
| NU-99578J | Upright       | 20.4 ft <sup>3</sup><br>[578 L] | 24.4 x 28.2 x 51.6 in<br>[620 x 716 x 1310 mm] | 35.4 x 38.6 x 78 in<br>[895 x 980 x 1980 mm]    |                      | 661 lbs<br>[300 kg] | GA: 115V / 60Hz<br>G: 220V / 60Hz<br>E: 230V / 50Hz |
| NU-99728J | Upright       | 25.7 ft <sup>3</sup><br>[728 L] | 27 x 28.2 x 51.6 in<br>[766 x 716 x 1310 mm]   | 36.7 x 38.6 x 78 in<br>[1041 x 980 x 1980 mm]   |                      | 761 lbs<br>[345 kg] | GA: 115V / 60Hz<br>G: 220V / 60Hz<br>E: 230V / 50Hz |
| NU-99828J | Upright       | 29.2 ft <sup>3</sup><br>[828 L] | 34.3 x 28.2 x 51.6 in<br>[870 x 716 x 1310 mm] | 45.1 x 38.6 x 78 in<br>[1145 x 980 x 1980 mm]   |                      | 838 lbs<br>[380 kg] | G: 220V / 60Hz<br>E: 230V / 50 Hz                   |
| NU-99420J | Chest         | 14.8 ft <sup>3</sup><br>[420 L] | 53.8 x 18.2 x 25.7 in<br>[1367 x 462 x 652 mm] | 83.9 x 34.3 x 40.5 in<br>[2130 x 870 x 1020 mm] |                      | 357 lbs<br>[310 kg] | G: 220V / 60Hz<br>E: 230V / 50 Hz                   |

\*Specify model with appropriate letter suffix for electrical specification "NU-99578JG" for 220V / 60Hz



## Features

### Technology

- Balanced cascade refrigeration system
- Hydrocarbon (HC) Natural Refrigerants
- Microprocessor control system
- USB data logging port
- RS 485 contract point

### Construction

- Coated cold rolled steel interior
- Vacuum insulated non-CFC polyurethane foam insulation
- 4 inner shelves (3 adjustable/1 fixed)
- 4 insulated sealed inner doors w/ claw latch (NU-99486, NU-99578, NU-99728, NU-99828)

- 2 insulated sealed inner doors w/ claw latch (NU-99388)

- Multi-point gasket system
- Heavy duty outer door claw latch
- External door lock
- Pressure equalization port

- 2 Accessory Ports (Back Wall, Top, and Bottom)

- Quantity 4 Casters
- Quantity 4 Leg Leveling Feet
- Defrost scraper (Qty 1)

### Ergonomics

- Noise level ≤ 50dba
- Easy open exterior and interior doors
- Central, eye-level control center

### Protection

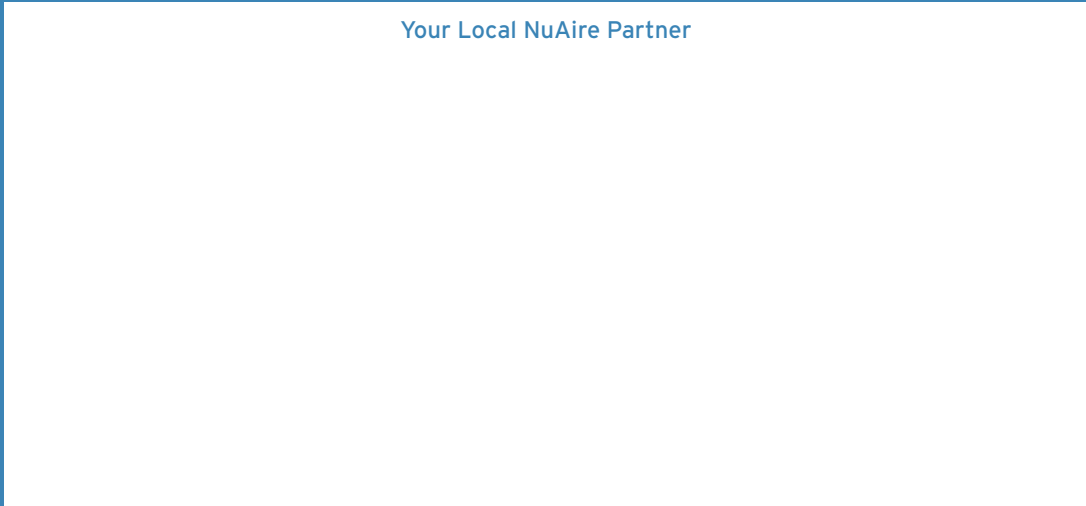
- Auto line voltage compensation & display
- Compressor delay protection
- Low voltage booster
- High voltage protection
- Battery backup (Up to 72 hour life)
- Multi-check alarm system w/ ring back
- Self check diagnostic system

### Accessories

- Inventory Freezer Racks for 2-inch (5 cm) boxes
- CO<sub>2</sub> Backup system
- LN<sub>2</sub> Backup system
- Temperature Recorder



Your Local NuAire Partner



For more information please visit  
[www.nuaire.com](http://www.nuaire.com) or call **1.763.553.1270**

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