

Preservation  
sub-zero



MDF-U74V



**Energy Saving**

**-86°C**  
**728 liters/25.7cu.ft.**

**V.I.P. PLUS**  
(Vacuum Insulation Panel)

**Extra-large capacity, space saving  
Ultra-Low Temperature Freezer with  
improved energy consumption**

- V.I.P. PLUS technology maximises storage capacity
- New refrigeration system enables more energy efficient operation
- Safe operation with status alert continuous condition monitoring
- Inner doors removable for cleaning and defrosting
- Enhanced security with new rugged outer door latch
- Improved accessibility
- Quiet operation
- Can hold up to 528 pcs 2-inch boxes or 336 pcs 3-inch boxes
- Class IIa Medical Device (For EU countries only)

# MDF-U74V

## Features

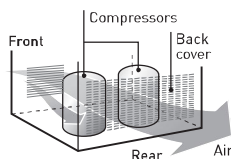
### DESIGN

- PHCbi V.I.P. PLUS -86°C ultra-low temperature freezers use vacuum insulation cabinet construction that reduces the wall thickness from 14 cm to 7 cm (5.5" to 2.7") and achieves up to 30 % more storage capacity than conventionally insulated freezers, without increasing its footprint.

- The newly developed refrigeration circuit regulates high stage compressor ON- OFF cycles, resulting in a reduction in energy consumption of approx. 14 %\* compared to the previous model.

\*The data is a measured example [AT 23°C, 230 V 50 Hz, no load]. Actual power consumption will vary depending on set and ambient conditions, loading and local voltage.

- The rear ventilation cover combines with the aerodynamically designed and positioned components in the refrigeration compartment to provide superior air flow, drastically reducing the load on the freezer and contributing to improved durability.



- Two independent and insulated inner doors with gaskets prevent cold air leakage.

### RELIABILITY

- Status alert (condition monitor) monitors ambient and system conditions continuously and notifies of any abnormalities before a problem happens.

### ACCESSIBILITY

- A beak style inner door latch tightly closes the inner door against the freezer frame. It also helps make opening and closing the door smoother.



- The condenser filter is situated at the bottom right side of the front panel to make filter removal and cleaning easier.

The MDF-U74V is certified as a Class IIa Medical Device (93/42/EEC and 2007/47/EC) [For EU countries only]

### SAFETY

- Alarm lamp and buzzer offer secure warning of power failure or abnormal temperature increase.
- High and low temperature warning provides an audible and visual alarm when the temperature deviates more than  $\pm 5^{\circ}\text{C}$  to  $\pm 20^{\circ}\text{C}$  (adjustable) from the set point.
- Alarm ring-back function ensures the buzzer will resume operation, should alarm conditions continue after it is silenced.
- Microprocessor-controlled blocked filter alarm protects the refrigeration circuit.

- Microprocessor-controlled blocked filter alarm protects the refrigeration circuit.
- The rugged, one-handed outer door latch allows a padlock to be used to securely protect valuable samples.



- Control panel with digital display for easy operation.



- A battery and fan motor replacement notification is provided.

### Specifications

	Model No.
220 V, 50 Hz	MDF-U74V-PB
220 V, 60 Hz	MDF-U74V-PK MDF-U74V-PR
230 V/240 V, 50 Hz (CE)	MDF-U74V-PE
Temperature control range	$-50^{\circ}\text{C}$ to $-86^{\circ}\text{C}$ (in $1^{\circ}\text{C}$ increments)
Cooling performance	$-86^{\circ}\text{C}$ (Ambient temperature $30^{\circ}\text{C}$ )
External dimensions (W x D x H)*1	1010 x 870 x 2010 (mm) / 39.8 x 34.3 x 79.1 (inch)
Internal dimensions (W x D x H)	870 x 600 x 1400 (mm) / 34.3 x 23.6 x 55.1 (inch)
Net weight	Approx. 346 kg (763 lbs.)
Effective capacity	726 liters (25.7 cu.ft.)
Shelves	Stainless steel, 3 shelves
Access port	17mm diameter, 3 locations (back, bottom left/right corner)
Compressor	Hermetic, 1100 W (high stage side), 1100 W (low stage side)
Refrigerant	HFC
Alarms	High / low temperature, Power failure, Filter check, Self diagnostics, Door check, Part replacement notification
Remote alarm contact	Allowable contact capacity: DC 30 V, 2 A
Accessories	1 set of keys, 1 scraper

\*Cooling performance is indicated by the temperature reached at the center of the freezer (at ambient temperature of  $30^{\circ}\text{C}$  with no load). In order to use the freezer at a stable temperature for a long time, it is recommended that the temperature be set to at least  $5^{\circ}\text{C}$  higher than the indicated lowest temperature.

In addition, depending on the usage conditions, it may not be possible to reach the indicated lowest temperature.

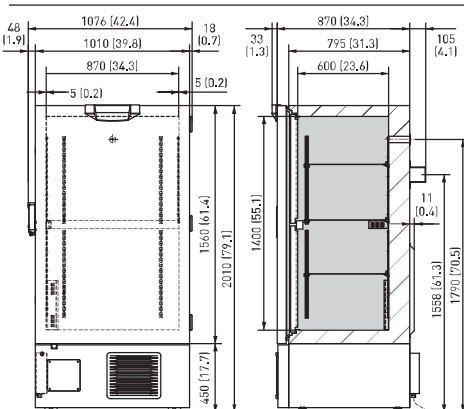
Caution: PHC Corporation guarantees this product under certain warranty conditions. However, please note that PHC Corporation shall not be responsible for any loss or damage to the contents of the product.

• Appearance and specifications are subject to change without notice.

\*1 External dimensions of main cabinet only - see dimension drawings showing handles and other external projections.

### Dimensions

Unit : mm [inch]



### Options



Inventory rack  
IR-220U-PW  
IR-224U-PW



Individual inner doors  
MDF-71D-PW

Interface board  
(For data acquisition system MTR-5000 users only)  
MTR-L03-PW (Except for EU countries)  
MTR-480-PW



Circular recorder  
MTR-G85C-PE

Strip chart recorder  
MTR-85H-PW

Recorder mounting bracket  
MDF-S3085-PW  
(for MTR-85H-PW)



CO<sub>2</sub> backup system  
CVK-UB2-PW  
LN<sub>2</sub> backup system  
CVK-UBN2-PW



Preservation (freezers, refrigerators) and Culturing (incubators) Equipment

The management of the design, development, production, sales support, and servicing of the above.

PHC Corporation, Biomedical Division

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PHC Corporation, Biomedical Division is certified for:  
Environmental management system: ISO14001

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