

Preservation
sub-zero

Energy Saving

-86°C
728 litres

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

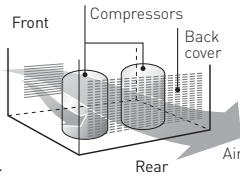


DESIGN

- 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 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

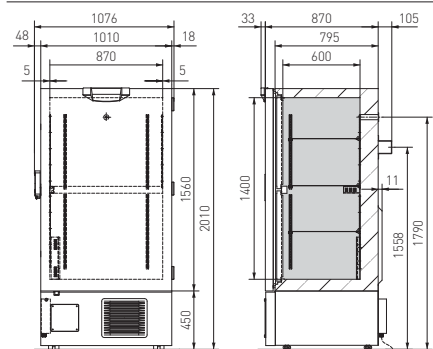
- A beak style inner door latch tightly closes the inner door against the freezer frame. It also helps make opening and closing the door smoother.
- The condenser filter is situated at the bottom right side of the front panel to make filter removal and cleaning easier.



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

Dimensions

Unit : mm



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.

- 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.

| Model Number | MDF-U74V-PK | MDF-U74V-PB | MDF-U74V-PE |
|-----------------------------------|-------------|------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| External dimensions (W x D x H)*1 | mm | 1010 x 870 x 2010 | |
| Internal dimensions (W x D x H) | mm | 870 x 600 x 1400 | |
| Effective capacity | litres | 728 | |
| Net weight | kg | Approx. 346 | |
| Performance | | | |
| Temperature control range | °C | -50 to -86 (in 1°C increments) | |
| Cooling performance | °C | -86 (Ambient temperature 30°C) | |
| Storage capacity | | 2" box: 528 pcs. / 3" box: 336 pcs. | |
| Construction | | | |
| Shelves | qty | Stainless steel, 3 | |
| 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 | |
| Electrical and Noise Level | | | |
| Power supply | V | MDF-U74V-PK: 220 | MDF-U74V-PB: 220 / MDF-U74V-PE: 230/240 |
| Frequency | Hz | 60 | 50 / 50 |
| Noise level*2 | dB [A] | 51 | |
| Quality Management System | | | |
| Certification | | ISO13485 | |

*Cooling performance is indicated by the temperature reached at the center of the freezer (at ambient temperature of 30°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°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 the product under certain warranty conditions. PHC Corporation is in no way shall be responsible for any loss of content or damage to content. The battery for power failure alarm is an article for consumption. It is recommended that the battery will be replaced about every 3 years. Fan motors are expendable supplies. Exchange it for about every 6 years.

*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.

*2 Nominal value - Background noise 20 dB[A].

Options

Temperature recorders



Circular recorder
MTR-G85C-PE
Strip chart recorder
MTR-85H-PW
Recorder mounting bracket
MDF-S3085-PW
(for MTR-85H-PW)

Racks



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

Liquid CO₂ / N₂ Backup Kits



LCO₂ backup system
CVK-UB2-PW
LN₂ backup system
CVK-UBN2-PW

Individual inner doors

MDF-7ID-PW

Interface board

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



Freezers, Refrigerators, Incubators, and Drying and Sterilising Equipment for Medical use

The management of the design, development, production and distribution of the above.

PHC Corporation, Biomedical Division

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PHC Corporation Biomedical Division is certified for:

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ISO14001

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