



MDF-U54V



Energy Saving

-86°C
519 liters/18.3 cu.ft.

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

Large capacity, space saving Ultra-Low Temperature Freezer with improved energy consumption

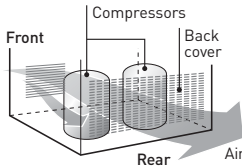
- V.I.P. PLUS technology maximises storage capacity
- New refrigeration system enables more energy efficient operation
- Safe operation with status alert continuous condition monitoring
- Inner doors removable for cleaning and defrosting
- Enhanced security with new rugged outer door latch
- Improved accessibility
- Quiet operation
- Improved energy consumption
- Can hold up to 352 pcs of 2-inch boxes or 224 pcs of 3-inch boxes

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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 refrigerating circuit regulates high stage compressor ON-OFF cycles, resulting in improved energy efficiency by approx. 10 %* more than previous models, for quieter environment.
*Based on data measured using the JIS-determined method.
- 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.



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 filter-clog check function 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.



Specifications

	Model No.
220 V, 50 Hz	MDF-U54V-PB
220 V, 60 Hz	MDF-U54V-PK MDF-U54V-PR
Temperature control range	-50°C to -86°C (1°C increments)
Maximum cooling performance	-86°C (Ambient temperature 30°C)
External dimensions (W x D x H)*1	770 x 870 x 1990 (mm) / 30.3 x 34.3 x 78.3 (inch)
Internal dimensions (W x D x H)	630 x 600 x 1380 (mm) / 24.8 x 23.6 x 54.3 (inch)
Net weight	Approx. 296 kg (653 lbs.)
Effective capacity	519 liters (18.3 cu.ft.)
Shelves	Stainless steel, 3 shelves
Access port	17mm diameter, 3 locations (back, bottom left/right corners)
Compressor	Hermetic type, Output: 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°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.

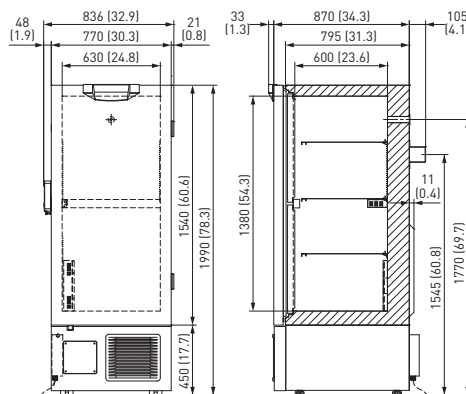
Caution: PHC Corporation guarantees this product under certain warranty conditions. However, please note that PHC Corporation shall not be responsible for any loss or damage to the contents of the product.

• 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



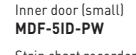
3 drawers
(for lower chamber)
MDF-50R-PW



Inner door (small)
MDF-51D-PW
LCO₂ backup system
CVK-UB2-PW
LN₂ backup system
CVK-UBN2-PW



Circular recorder
MTR-G85C-PE



Strip chart recorder
MTR-85H-PW

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

Interface board (For data acquisition system MTR-5000 users only)
MTR-L03-PW / MTR-480-PW



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

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

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PHC Corporation, Biomedical Division is certified for:
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Printed in Japan 1102-2018-04-BB