

MDF-U53VA-PA

## VIP® Series

-86°C Ultra-Low Temperature Upright Freezer

18.3 cu.ft. | 519 L



MDF-U53VA-PA



VIP Series ultra-low temperature freezers are designed for safe, reliable storage of biologicals. Energy efficiency in VIP Series freezers is achieved through balanced temperature performance and power management. The advanced combination of cabinet design, electronics, refrigeration and critical components are engineered for enhanced security, performance and reliability.

### Reliability You Can Count On

The robust refrigeration system is powered by specially engineered compressors. The system provides dependable cooling by balancing temperature performance and energy management. Reserve refrigeration power assures exceptional temperature recovery following door openings. VIP freezers have demonstrated >99% reliability with excellent performance history.

### Maximum Storage, Minimal Footprint

The upright freezer employs a patented VIP insulation composite that maximizes space efficiency and holds up to 352 2" boxes or 224 3" boxes within a 7.22 ft<sup>2</sup> (0.67 m<sup>2</sup>) footprint.

### Uniform Preservation

The combination of patented VIP vacuum insulation panels with compressors specifically designed for ultra-low temperature applications, assures superior uniformity (+/- 5°C) throughout the cabinet to maintain the integrity of the samples.



### Microprocessor Controls/Alarms

Integrated microprocessor-based controller and LED display include comprehensive setpoint, alarms, monitoring, diagnostic and communication features.\*

\*Control panel color & appearance may vary per equipment model.



### Optimum Sample Storage

This space saving cabinet design offers a reduced wall thickness for maximum interior volume. Ideal for storage of DNA, RNA and other biological samples.



### Extra Protection, Easy Access

The stainless steel framed, insulated inner doors with gasket seal firmly against the cabinet to help minimize change in interior temperatures during routine door openings. Inner door latches feature an ergonomic design for one-handed operation.

# VIP Series -86°C ULT Upright Freezer

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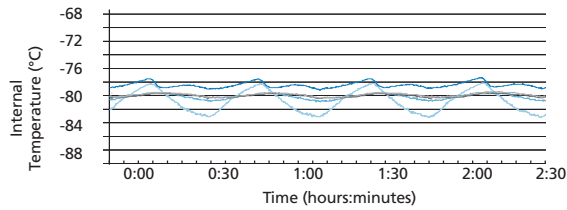


## VIP Vacuum Insulated Panels

Inside-out engineering starts with a patented VIP insulation composite which results in an efficient, thin-wall cabinet. Insulated inner doors improve temperature uniformity, minimize cold air loss during door openings and extend warm-up times during power outages.

## Temperature Uniformity Data

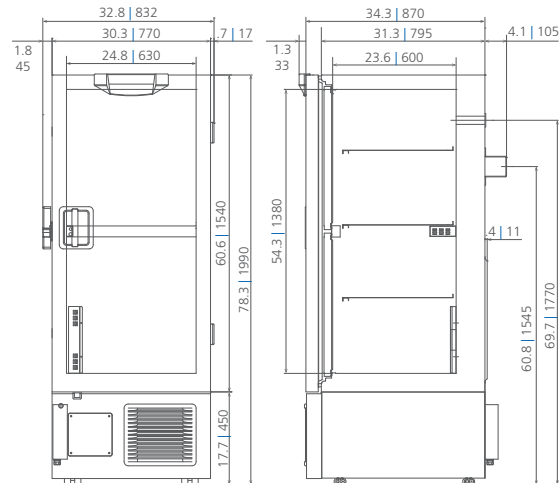
-80°C setpoint at 20°C ambient temperature, empty freezer



As interior air temperature stabilizes at the desired setpoint, mass storage volume sustains tight temperature uniformity of the load inside the insulated cabinet.

## Dimensions

Unit : inch | mm



Model Number	MDF-U53VA-PA	
External Dimensions (W x D x H) <sup>1)</sup>	inches   mm	30.3 x 34.3 x 78.3   770 x 870 x 1990
Internal Dimensions (W x D x H)	inches   mm	24.8 x 23.6 x 54.3   630 x 600 x 1380
Volume	cu.ft.   liters	18.3   519
Net Weight	lbs.   kg	639   290
Capacity (2" boxes)	qty	352
Capacity (3" boxes)	qty	224
Inventory Racks (2" boxes)	qty	16
Inventory Racks (3" boxes)	qty	16
<b>Performance</b>		
Warranty		Panasonic Five Year Warranty <sup>2)</sup>
Cooling Performance <sup>3)</sup>	°C	-86
Temperature Setting Range	°C	-50 to -90 in 1°C increments
Temperature Control Range <sup>3)</sup>	°C	-50 to -86 in 1°C increments
<b>Control</b>		
Controller		Microprocessor, touchpad data entry with display lockout
Display		LED
Temperature Sensor		Pt-1000
<b>Refrigeration</b>		
Refrigeration System		Cascade
Compressors	W	(1) 450 High-Stage and (1) 750 Low-Stage
Refrigerant		CFC-free R-404A and R-508B
Insulation Material		Rigid polyurethane foam (PUF) + VIP
<b>Construction</b>		
Exterior & Interior Material		Painted steel
Outer Door	qty	1
Outer Door Lock		Standard
Inner Doors	qty	2 insulated, ABS, w/ stainless steel frame and positive latches
Shelves	qty	3
Shelf Dimensions (W x D)	inches   mm	23.9 x 21.0   608 x 535
Max. Load - per Shelf	lbs   kg	110   50
Max. Load - Total Freezer	lbs   kg	440   200
Vacuum Release Port		Standard
Access Ports	qty	3
Access Port Position		Center upper back wall, left bottom and right bottom
Access Port Diameter	inches   mm	0.6   17
Casters	qty	4 (2 leveling feet on front base)
<b>Alarms</b> (V = Visual Alarm, B = Buzzer Alarm, R = Remote Alarm)		
Power Failure		V-B-R
High Temperature		V-B-R
Low Temperature		V-B-R
Filter		V-B
Door Open		V-B
<b>Electrical and Noise Level</b>		
Power Supply		115V, 1Ø, NEMA 5-20P; requires NEMA 5-20R receptacle
Frequency	Hz	60
Noise Level <sup>4)</sup>	dB (A)	51
<b>Options</b>		
Liquid CO <sub>2</sub> Back-up System		CKV-UB2I-PW
<b>Temperature Recorder</b>		
Circular Type	6", 7 day circular	MTRC954
Chart Paper	52 charts per box	C7100386REV
Ink Pen	pack of 6	R252
<b>Optional Communication System</b>		
Wireless, cloud-based, automatic data management		LabAlert® Monitoring System

<sup>1)</sup> Exterior dimensions of main cabinet only, excluding handle and other external projections

<sup>2)</sup> Current warranty offered at time of printing and may be subject to change; US and Canada only

<sup>3)</sup> Air temperature measured at freezer center, ambient temperature +30°C, no load

<sup>4)</sup> Nominal value - Background noise 20dB(A)

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



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