

## VIP<sup>®</sup> ECO

-86°C to -40°C Ultra-Low Temperature Chest Freezer

MDF-DC102VH-PA, 115V  
MDF-DC202VH-PA, 115V

3.0 cu.ft. | 84 L  
6.4 cu.ft. | 180 L



MDF-DC102VH-PA

MDF-DC202VH-PA



This VIP ECO series of compact, ultra-low temperature (-86°C) freezers are ideal for personal or individual clinical usage. The series makes use of a natural refrigerant, reducing environmental impact and delivering optimal storage in a compact footprint.

### Natural Refrigerants

Naturally occurring hydrocarbon (HC) refrigerants have minimal effect on the environment and are compliant with environmental legislation for climate control. These refrigerants also provide efficient cooling without compromising performance, ambient tolerance, and recovery speeds following door openings.

### Organic EL Control Panel Includes USB Port

The control panel with organic EL display is positioned close to the top to help enhance ease of use. The enhanced visibility makes user operation simple and intuitive. A logging function is included, allowing users to save temperature/ alarm history data and transfer data using the USB port.



USB Port

### Compact, Personal-Use Type Installs Anywhere

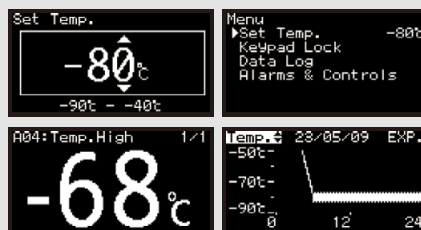
The external width of MDF-DC102VH-PA is 22" (558 mm), and MDF-DC202VH-PA width is 40.1" (1,018 mm). Compact configurations of each model offer installation flexibility whether placed in a room corner or right alongside a desk, making them ideal for dedicated use by individuals, small groups, and clinics.



PERFORMANCE

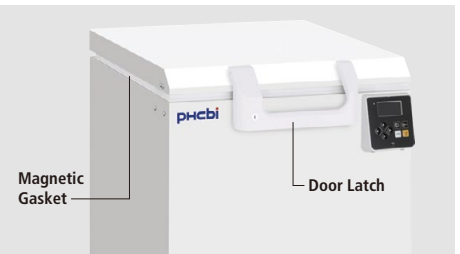
### Energy Efficient Performance

Natural refrigerants, compressors and integrated electronics combine to lower operating costs. Freezer operation is managed by effectively balancing temperature performance and energy management.



### Organic EL Offers Multiple Display Options

The control panel with organic EL display allows the user to conduct various operations, displaying control temperature, high / low temperature alarms as well as error messages.



Magnetic Gasket

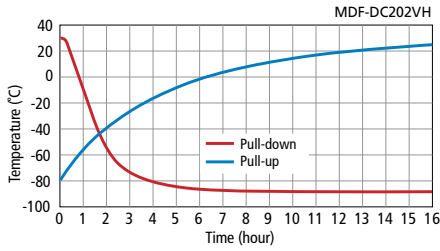
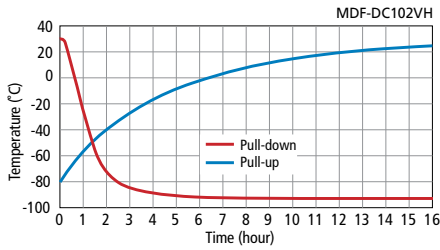
Door Latch

### Door Latch and Magnetic Gasket Combined

Door operation is through magnetic gasket. This feature in combination with the door latch, ensures the door is firmly closed and prevents cold air leakage.

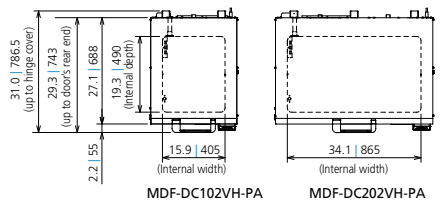
Performance Data

AT30°C Pull-down & Pull-up Temperature

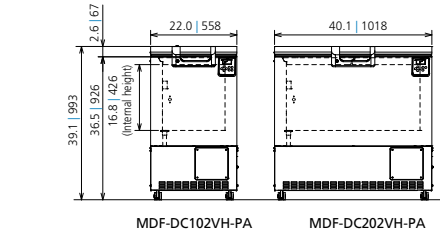


Dimensions

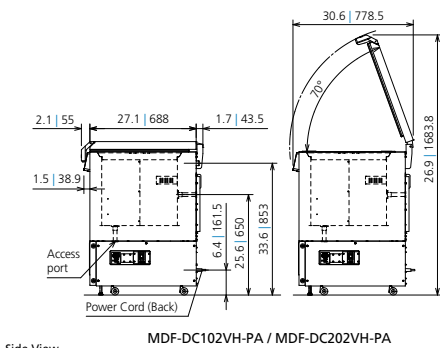
Unit: inch | mm



Top View



Front View



Side View

Model Number		MDF-DC102VH-PA	MDF-DC202VH-PA
External Dimensions (W x D x H) <sup>1)</sup>	inches   mm	22.0 x 27.1 x 39.1   558 x 688 x 993	40.1 x 27.1 x 39.1   1018 x 688 x 993
Internal Dimensions (W x D x H)	inches   mm	15.9 x 19.3 x 16.8   405 x 490 x 426	34.1 x 19.3 x 16.8   865 x 490 x 426
Volume	cu.ft.   liters	3.0   84	6.4   180
Net Weight	lbs   kg	187.4   85	253.5   115
2* Box and Racks - Capacity	Box   Rack	42   6	84   12
3* Box and Racks - Capacity	Box   Rack	30   6	60   12

Performance			
Cooling performance <sup>2)</sup>	°C		-86
Temperature Control Range <sup>2)</sup>	°C	-40 to -86 (settable in 1 degree increments)	
Uniformity <sup>3)</sup>	°C	±5	
Power Consumption <sup>3)</sup>	kWh/Day	5.2 (0.21 kW/hr)	6.1 (0.26 kW/hr)
BTU Nominal	Per Hour	1177	1467

Control			
Controller	Microcomputer control system		
Display	Organic EL display		
Controller Security	Screen lock w/ password protection, lockable with keypad		
Temperature Sensor	Platinum resistance (Pt 1,000 Ω)		

Refrigeration			
Cooling Method	Cold wall (single compressor auto cascade system)		
Compressor	W	550	
Refrigerant Type	Mixed HC refrigerant (R-290, R-170, R-50)		
Insulation	Rigid polyurethane foam (PUF) + VIP Plus vacuum insulated panels		

Construction			
Exterior Material	Painted Steel		
Interior Material	Painted Steel		
Outer Door	qty	1	
Outer Door Lock		Y	
Inner Lid	qty	1 (styrene foam)	2 (styrene foam)
Access Ports	qty	2	
Access Port Positions	qty	Back (1), bottom (1)	
Access Port Diameter	Ø inches   Ø mm	0.67   17	
Casters	qty	4 (2 leveling feet)	

Alarms (V = Visual Alarm, B = Buzzer Alarm, M = Message, R = Remote Alarm)			
Power Failure		V-B-M-R	
High Temperature		V-B-M-R	
Low Temperature		V-B-M-R	
Remote Alarm Contacts		Allowable contact capacity: DC 30 V, 2 A <sup>4)</sup>	

Electrical			
Power Supply		115V, NEMA 5-15P, 60HZ, 9.8 ft cord length	
Running Amps   Max Amps		3.9   5.2	4.8   5.9
Noise Level <sup>5)</sup>	dB(A)	52	

Options			
Back-Up Cooling Kit		MDF-UB8I-PW <sup>6)</sup>	
Circular Type Chart Recorders		MTR-G85A-PA*	
Chart Paper / Ink Pen		RP-G85-PW* / PG-R-PW*	

Optional Communication System			
Wireless, Cloud-Based, Automatic Data Management		LabAlert <sup>®</sup> * / LabSVIFT <sup>™</sup> <sup>7)</sup>	
4-20mA Output Module		MTR420MAL - Loop Powered*   MTR420MAC - Equipment Powered*	

Certifications and Warranty			
Certification		QPS Listed	
Warranty <sup>8)</sup>		5 years parts and labor	

<sup>1)</sup> Exterior dimensions of main cabinet only, excluding handle and other external projections.  
<sup>2)</sup> Air temperature measured at freezer center, ambient temperature 30°C, no load.  
<sup>3)</sup> -80°C setpoint 15 point measurement, ambient temperature 23°C no load.  
<sup>4)</sup> Standard signal and interface cables with a maximum length of 30 meters are recommended.  
<sup>5)</sup> Nominal value - Background noise 20 dB(A).  
<sup>6)</sup> Settable range of the injection start temperature is -70°C to -50°C.  
<sup>7)</sup> Requires MTR-480 to operate as Gen 2 on LabSVIFT System.  
<sup>8)</sup> Current warranty offered at time of printing and may be subject to change; US and Canada only.  
 \*Manufactured by others

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.

