



MDF-DC102VH-PE / MDF-DC202VH-PE

## VIP ECO

-80°C Chest Freezers

84L / 180L



PHCbi's MDF-DC102VH-PE and MDF-DC202VH-PE VIP ECO Chest Freezers provide maximum sample storage capacity within an optimum footprint combined with industry leading cooling performance and reliability for an ideal long-term preservation solution.+

### Optimum Sample Storage

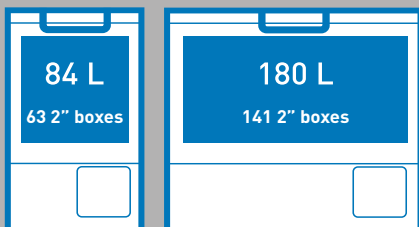
The use of patented VIP PLUS panels within the freezer cabinet provides a reduced wall thickness for maximum interior volume. This technology allows the MDF-DC102VH-PE and MDF-DC202VH-PE to require a small installation space with a great storage capacity.

### Efficient Refrigeration

Naturally occurring hydrocarbon (HC) refrigerants provide more efficient cooling due to their high latent heat of evaporation. As well as improved performance this leads to lower GWP.

### Ease of Use & Intelligent Security

The OLED panel has good visibility and intuitive operation. The USB port and data log functions simplifies temperature data and events management



### Personal Storage

Ideal for reliable storage of small volume clinical trial samples and temperature control testing as well as for a wide variety of other biological applications.



### Dependable Preservation

Quality of design and manufacture ensures trusted and reliable storage that maintains the integrity of precious samples.



### Uniform Sample Storage

The uniform and stable temperatures provided are ideal for storage of DNA, RNA and other important biological samples.

# VIP ECO -80°C Chest Freezers



MDF-DC102VH-PE

MDF-DC202VH-PE

## Specially developed single-compressor system

The unique auto-cascade system uses a single compressor for efficient cooling, enabling an extremely small footprint.

The highly efficient refrigeration system provides uniform and stable ultra-low temperatures down to -86°C.

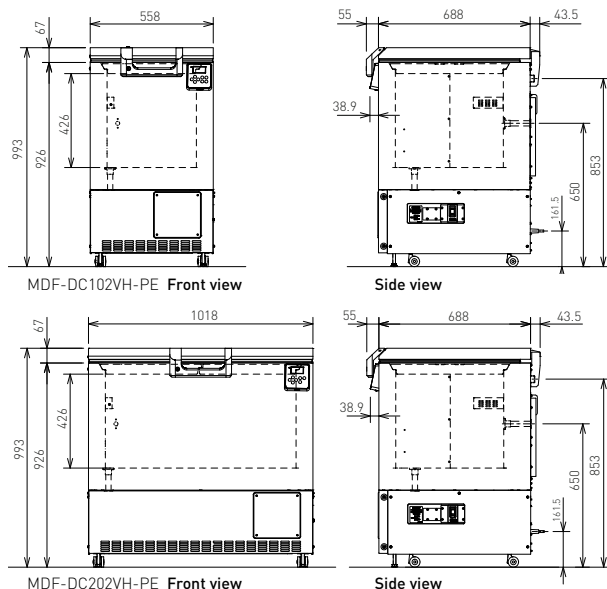
## Filterless Design

The unique cooling circuit makes the inconvenient customer maintenance procedure of filter cleaning unnecessary.

## Minimal Footprint

PHCbi VIP ECO ULT freezers provide up to 30% more storage capacity than a conventionally insulated freezer without increasing the footprint.<sup>5)</sup>

The MDF-DC102VH-PE and MDF-DC202VH-PE feature VIP PLUS vacuum panels for increased energy efficiency and cooling performance.



Model Number		MDF-DC102VH-PE	MDF-DC202VH-PE
<b>Dimensions</b>			
External dimensions (WxDxH) <sup>1)</sup>	mm	558 x 688 x 993	1018 x 688 x 993
Internal dimensions (WxDxH)	mm	405 x 490 x 426	865 x 490 x 426
Volume	litres	84	180
Net weight	kg	85	115
Capacity Vertical rack: NIR-207C	2" boxes	42	119
Capacity Ladder racks: VC-660/3SC	2" boxes	63	141
<b>Performance</b>			
Cooling performance <sup>2)</sup>	°C	-86	
Temperature setting range	°C	-40 to -90	
Temperature control range <sup>2)</sup>	°C	-40 to -86	
<b>Control</b>			
Controller	Microcomputer control system		
Display	OLED		
Temperature sensor	Pt1000		
<b>Refrigeration</b>			
Compressor	W	550	
Refrigerant	HC mixed refrigerant		
Refrigerant weight	g	80	110
Refrigerant GWP		5	6
Total Refrigerant weight (CO <sub>2</sub> equivalent)	t	0.0004	0.0007
Insulation material	PUF / VIP Plus		
Insulation thickness	mm	76.5	
<b>Construction</b>			
Exterior material	Painted Steel		
Interior material	Painted Steel		
Outer Door	qty	1	
Outer Door Lock	Y		
Inner Lid	qty	1 (Styrofoam)	2 (Styrofoam)
Access Port	qty	2	
- position	Back/Bottom left front		
- diameter	∅ mm	17	
Casters	qty	4 (2 leveling feet)	
Data logging/USB	Y		
<b>Alarms</b>		<b>(R = Remote Alarm, V = Visual Alarm, B = Buzzer Alarm)</b>	
Power failure	V-B-R		
High temperature	V-B-R		
Low temperature	V-B-R		
Filter	Filterless design		
<b>Electrical and Noise Level</b>			
Power Supply	V	220/230/240	
Frequency	Hz	50	
Noise Level <sup>3)</sup>	dB(A)	52	
<b>Options</b>			
Liquid CO <sub>2</sub> back-up	MDF-UB8-PW		
Temperature recorders			
- Circular type <sup>4)</sup>	MTR-G85C-PE		
- Chart paper	RP-G85-PW		
- Ink pen	PG-R-PW		
- Continuous strip type	MTR-85H-PW		
- Chart paper	RP-85-PW		
- Ink pen	DF-38FP-PW		
- Recorder housing	MDF-S3085-PW		

Appearance and specifications are subject to change without notice.

1) Exterior dimensions of main cabinet only, excluding handle and other external projections - See dimensions drawings on website for full details.

2) Air temperature measured at freezer centre, ambient temperature +30°C, no load.

3) Nominal value - Background noise 20dB(A).

4) Requires sensor cover MTR-C8-PW.

5) Compared with the MDF-193.

# PHC Europe

A Member of PHC Group

Nijverheidsweg 120 | 4879 AZ Etten-Leur | Netherlands  
 T: +31 (0) 76 543 3833 | F: +31 (0) 76 541 3732

[www.phcd.com/eu/biomedical](http://www.phcd.com/eu/biomedical)