

## VIP<sup>®</sup> ECO

MDF-DC102VH-PA, 115V | CA77282-388  
MDF-DC202VH-PA, 115V | CA77282-390

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

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



MDF-DC102VH-PA |  
CA77282-388

MDF-DC202VH-PA |  
CA77282-390



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

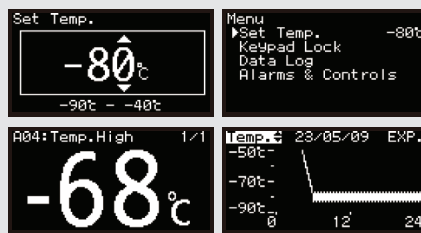
### Compact, Personal-Use Type Installs Anywhere

The external width of MDF-DC102VH-PA | CA77282-388 is 22" (558 mm), and MDF-DC202VH-PA | CA77282-390 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.



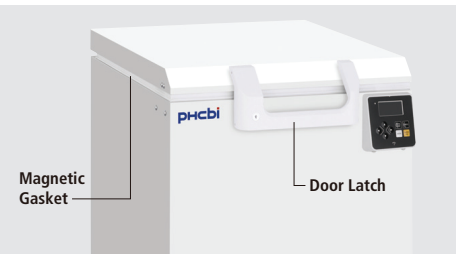
### Energy Efficient Performance

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

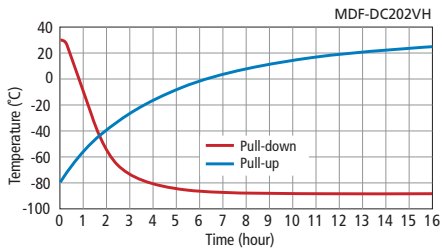
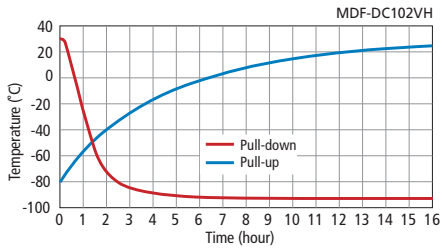
Door Latch

### 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.

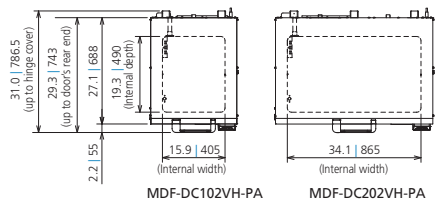
## Performance Data

### AT30°C Pull-down & Pull-up Temperature

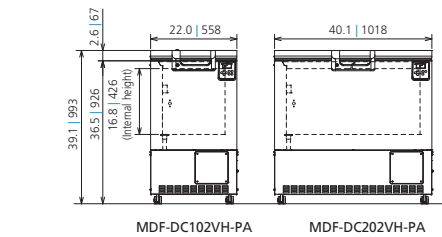


## Dimensions

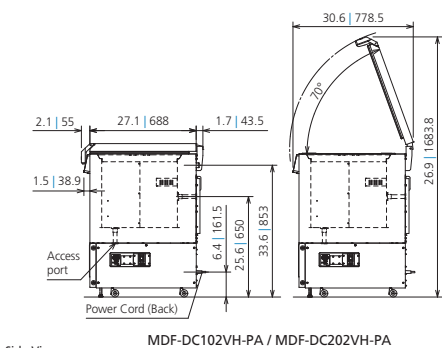
Unit: inch | mm



Top View



Front View



Side View

| Model Number                                  | MDF-DC102VH-PA   CA77282-388                     | MDF-DC202VH-PA   CA77282-390          |
|---|--|---------------------------------------|
| 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)                             |
| 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** / LabSVIFT™ <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.