

## VIP® ECO

MDF-DC202VH-PA -86°C 115V Compact Ultra Low Temperature Chest Freezer with Natural Refrigerants



Temperature Range -40°C to -86°C

| General Specifications          |                 |  |
|---------------------------------|-----------------|--|
| Volume                          | cu.ft.   liters | 6.4   180  |
| Temperature Control Range       | °C              | -40 to -86   |
| External Dimensions (W x D x H) | inches   mm     | 40.1 x 27.1 x 39.1   1018 x 688 x 993                                    |
| Internal Dimensions (W x D x H) | inches   mm     | 34.1 x 19.3 x 16.8   865 x 490 x 426                                     |
| Footprint                       | ft²   m²        | 7.55   0.70  |
| Inner Lid                       | qty             | 2  |
| Power Supply                    |                 | 115V, 60HZ, NEMA 5-15P, 8 ft cord length, requires NEMA 5-15R receptacle |
| Factory Certification           |                 | ISO9001, ISO13485, ISO14001  |
| NRTL Testing Lab Mark           |                 | QPS Listed   |
| Net Weight                      | lbs   kg        | 254   115  |
| Noise Level <sup>1)</sup>       | dB(A)           | 52   |

| Storage Specifications |     |     |
|------------------------|-----|-----|
| Racks per Freezer      | qty | 17  |
| 2" Boxes per Freezer   | qty | 119 |
| 3" Boxes per Freezer   | qty | 85  |

<sup>1)</sup> Actual value, background noise 20 dB(A).

Multiple options are available for racking. The information provided is for the most common racks. We also offer other configurations, as well as customized racking for cryoboxes and other containers. Please speak to your local representative for more information.

| Refrigeration        |   |
|----------------------|---|
| Refrigeration System | Auto cascade                                      |
| Compressors          | 550 watt (completely enclosed reciprocating type) |
| Condenser            | Filter Less: wire and tube                        |
| Evaporator           | Tube on sheet type (cold wall)                    |
| Refrigerant          | Mixed HC refrigerant (R-600/R-170/R-50)           |

| Cabinet Construction |  |
|----------------------|--|
| Insulation           | Rigid polyurethane foamed-in-place + VIP Plus® vacuum insulated panels: 3.1" (80 mm) thick |
| Exterior Material    | Painted electrogalvanized steel  |
| Interior Material    | Powder coated electrogalvanized steel  |
| Outer Door           | Painted electrogalvanized steel exterior, rigid polyurethane foam with keyed door lock.    |
| Access Port          | Inner diameter: 17 mm (0.67 in.), 2 positions (back x 1, bottom x 1)                       |
| Inner Lid Material   | Styrene foam   |



Front view of model MDF-DC202VH-PA.

| Performance Characteristics                                |                             |
|--|-----------------------------|
| 24°C Ambient, empty chamber, measured at center of chamber |                             |
| Energy Consumption <sup>1)</sup>                           |                             |
| Daily Consumption (6x door openings) <sup>2)</sup>         |                             |
| Setpoint -70°C   Setpoint -80°C                            | 4.96 kWh/day   6.41 kWh/day |
| Steady State (no door openings)                            |                             |
| Setpoint -70°C   Setpoint -80°C                            | 4.93 kWh/day   6.32 kWh/day |
| MDEC (max. daily energy consumption)                       |                             |
| Steady State   | 3.96 kWh/day/cu.ft.         |
| Performance  |                             |
| Interior Uniformity  |                             |
| Setpoint -70°C   Setpoint -80°C                            | ±3°C   ±3°C                 |
| Average Steady State Temperature <sup>3)</sup>             |                             |
| Setpoint -70°C   Setpoint -80°C                            | -70.58°C   -80.26°C         |
| Refrigeration System Heat Rejection <sup>4)</sup>          |                             |
| Setpoint -70°C   Setpoint -80°C                            | 911 BTU/Hr   1467 BTU/Hr    |
| Pull-Down Time from 30°C Ambient                           |                             |
| Setpoint -70°C   Setpoint -80°C                            | 2.7 hours   3.8 hours       |
| Warm-Up Time to -40°C                                      |                             |
| Setpoint -80°C, empty cabinet                              | ~1.94 hours                 |

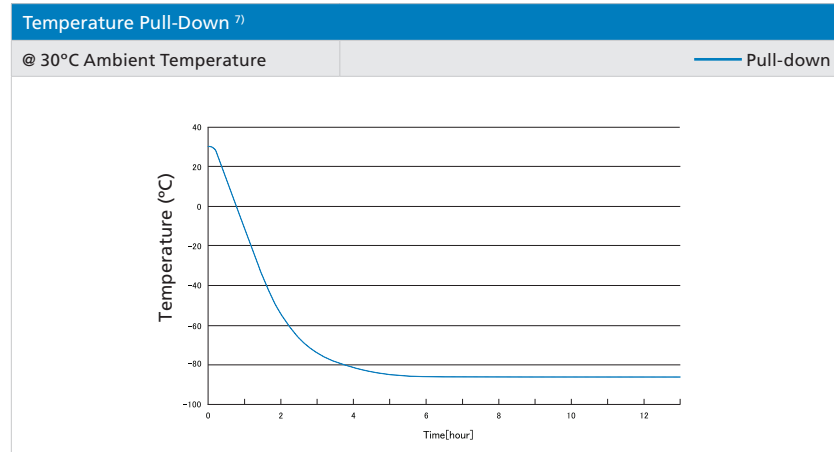
<sup>1)</sup> Energy consumption EPA Test, Version 1.1, Section 7, Reporting, G2c.

<sup>2)</sup> Based on inner door opening time of 15 seconds per ENERGY STAR testing protocol with all mapped temperature points to within ±5°C of setpoint.

<sup>3)</sup> Overall average for all recorded interior temperature measurements at setpoints of -70°C or -80°C.

<sup>4)</sup> Based on standard calculations.

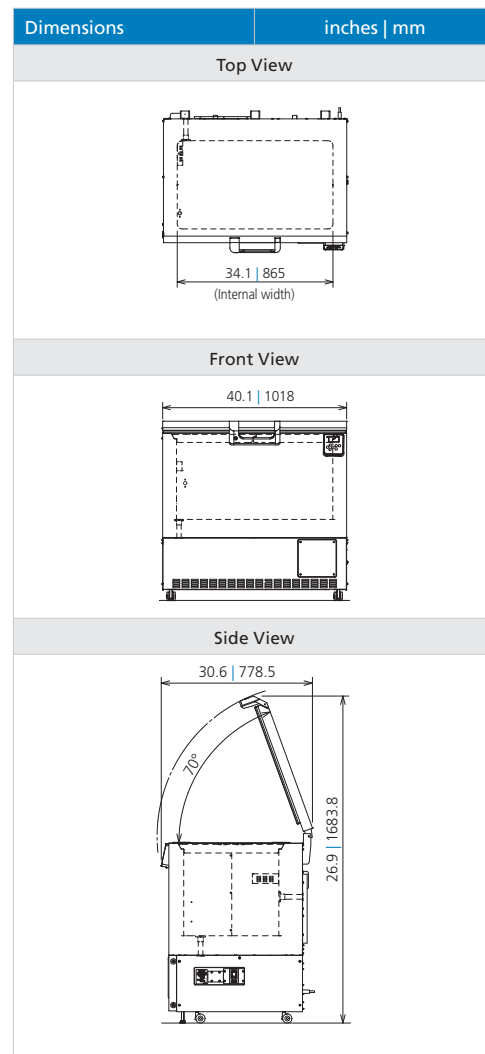
Test results based on independent, third-party testing at the time of publication. This equipment has been tested to ENERGY STAR standards by our testing company. Detailed test results are available, including additional testing.



<sup>1)</sup> The data reflects performance metrics rather than official product specifications. Results from technical data sheet tests should not be used to establish regulatory parameters for specific customer applications.

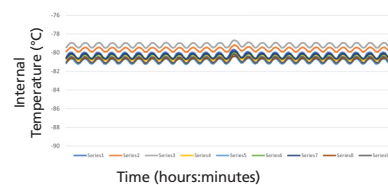
<sup>2)</sup> The performance of the freezer will depend on factors such as the volume of customer products, storage configuration, selected options, operating conditions, test methods, and adherence to recommended maintenance practices.

<sup>3)</sup> Ongoing product improvements may lead to changes or omissions in this technical data sheet without prior notice. PHC Corporation of North America disclaims responsibility for any damage, injury, loss, or expenses arising from the misuse of the information provided.



#### Temperature Uniformity Data <sup>7)</sup>

-80°C Setpoint at 23°C Ambient Temperature, Empty Freezer



Lines represent actual data at multiple interior locations.

<sup>7)</sup> Data points available upon request.

**Specifications are subject to change without notice.**

For latest specification information contact PHC Corporation of North America at [info@us.phchd.com](mailto:info@us.phchd.com).



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