Biomedical ECO Freezer, -30°C

The PHCbi brand -30°C Biomedical ECO Freezer provides a stable and reliable environment for storing of enzymes, vaccines, pharmaceutical products and other biomedical materials with uniform temperatures. The freezer incorporates a manual defrost that eliminates temperature fluctuation during operation. Configurable temperature ranges from -20°C to -30°C. The double door design only exposes half the stored product when one door is open.

Natural Refrigerants and Inverter Technology
Naturally occurring hydrocarbon (HC) refrigerants have minimal effect on the environment and are compliant with environmental legislation for climate control. Combined with inverter technology, these refrigerants also provide more efficient cooling without compromising cooling performance, ambient tolerance and recovery speeds following door openings.

Safe Sample Storage
The double door design exposes only half the stored product when one door is open. A standard door latch lock adds security, and an optional padlock can be installed to expand the envelope of protection. Protection and safety features include heavy duty, door-mounted sealing gaskets to eliminate cold air loss. High and low temperature deviation alarms warn of temperature setpoint violations and doorajar events.

ENERGY STAR® Qualified
Power consumption at rated storage temperatures confirms significant energy saving performance of the Biomedical ECO natural refrigerant platform. Power data published herein is based on internal results of production freezer testing prior to submittal for independent third-party evaluation similar to that now applied to other ENERGY STAR Certified PHCbi freezers in the same class.

Energy Efficient Performance
Natural refrigerant, a high performance inverter compressor, DC condenser fan and integrated electronic controls combine to manage overall performance, protect stored product and lower operating costs by up to 28% compared to conventional models. Performance is rated at 115V, AC, ambient temperature 30°C, with a wide tolerance for high ambient temperatures.

Microprocessor Controller and Alarms
The microprocessor-based temperature control system with LED display maintains accurate setpoint temperature within 1°C over a range of -20°C to -30°C. Audible and flashing visual alarm lights supplement the setpoint deviation system to warn of parameter violations, or loss of power.

Smart Cabinet Design
Space-saving design allows more installation options in crowded laboratories or warm hallways. The cabinet includes 5 adjustable wire shelves. Optional open top bins can be added to hold common 2” or 3” freezer boxes, as well as miscellaneous goods. High density CFC-free and low GWP foamed-in-place insulation creates a temperature resistant wall structure. Painted steel interior surfaces simplify cleaning.

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Temperature Uniformity
Stored product creates a thermal mass that enhances interior temperature uniformity. Multiple interior cold wall surfaces remove heat quickly and efficiently while maintaining uniformity.

Dimensions
Unit: inch | mm

Model Number
Model MDF-MU539HL-PA

Exterior Dimensions (W x D x H) (1) inches | mm 31.2 x 30.3 x 70.9 | 793 x 770 x 1802
Interior Dimensions (W x D x H) inches | mm 25.6 x 24.2 x 49.7 | 649 x 614 x 1262
Volume cu. ft. | liters 17.8 | 504
Net Weight lbs | kg 317.3 | 144
Capacity (2 boxes) Bin | Freezer qty 24 | 288
Capacity (3 boxes) Bin | Freezer qty 16 | 192
Bin Capacity qty 12

Performance
Warranty (3) 2 years parts/labor, 3 years compressor parts
Cooling Performance (4) °C -30
Temperature Setting Range °C -18 to -35 in 1 °C increments
Temperature Control Range (5) °C -20 to -30 in 1 °C increments

Control
Controller Microprocessor, touchpadaed display, password protected
Display LED
Temperature Sensor Thermostat

Refrigeration
Refrigeration System Cold wall
Compressor W (1) 250 (inverter type)
Refrigerant CFC-free R-290
Defrost Manual
Insulation Material Rigid polyurethane, foam-in-place, low GWP
Insulation Thickness inches | mm 2.8 | 70

Construction
Exterior and Interior Material Framed steel
Door 1
Outer Door - Key Lock qty 1 (one lock for each door)
Additional Door Lock qty Door latch with key for paddock
Wire Shelves, Vinyl Coated qty 6 (adjustable)
Shelf Dimension (W x D) inches | mm 24.6 x 20.1 | 624 x 510
Max. Load per Shelve lbs | kg 66.1 | 30
Max. Load - Total Freezer lbs | kg 396.6 | 180
Access Port qty (1) Standard
Access Port Position Back wall, left hand corner (-facing unit)
Access Port Diameter inches | mm 1.1 | 30
Casters qty 4
Leveling Feet 2 (on front of base)

Alarms (Va. Visual, B=Buzzer, R=Remote Alarm)
Power Failure V-8-R
High Temperature V-8-R
Low Temperature V-8-R

Electrical and Noise Level
Power Supply 115V, 60Hz, 1Ø, NEMA 5-15R 1Ø, non-grounded
Noise Level (6) dBA 42

Options
Storage Bin (7) Sold in sets of 2 MDF-055C-PW (6 sets per cabinet maximum)

Temperature Recorders
Circular Type 6", 2 Day Circular MMR-194
Chart Paper 52 charts per box C74009000
Ink Pen pack of 6 R252

Optional Communication System
Wireless, Cloud-Based, Automatic Data Management LabAlert/Pro Thermostat

(1) External dimensions of main cabinet only. Excluding the door handle and other external projections
(2) Current warranty offered at time of printing and may be subject to change; US and Canada only
(3) Cooling performance measured at freezer center, ambient temperature +30 °C, no load
(4) Nominal value - Background noise 20 dBA
(5) Optional Bin, interior base dimensions 11" (280 mm) W x 21.65" (550 mm) D x 12" (317.5 mm) H

Specifications are subject to change without notice.
For latest specification information contact PHC Corporation of North America at info@us.phchd.com.