

## Specifications

<b>Application</b>	Storage of general (non-flammable) laboratory materials
<b>Storage Volume</b>	105 liters (3.7 cu.ft.)
<b>Storage Capacity</b>	72 standard 2" boxes in optional racks available separately
<b>Temperature Range</b>	-20°C to -86°C @ 32°C (90°F) ambient, adjustable to 1°C increments
<b>Electric Power</b>	100V to 240V (±10%) at either 50 or 60 Hz
<b>Maximum Power (Current)</b>	300 watts (3 amps @120V, 1.5 amps @240V) (±10%) at either 50 or 60 Hz
<b>Auto-Voltage Capability</b>	100V to 240V, 50 or 60 Hz
<b>Power Plugs Available</b>	NEMA 5-15P plug requires standard NEMA 5-15R receptable (120V); Length: 3048 mm (120 in.), or NEMA 6-15P plug requires standard NEMA 6-15R receptacle (240V); Length: 2997 mm (118 in.) <i>Specify when ordering</i>
<b>Certification/Agency Listing</b>	CE
<b>Noise</b>	Advanced noise abatement, <48 dB(A) at 1 meter
<b>Indoor/Outdoor Use</b>	Indoor use only
<b>Application Environment</b>	Non-corrosive, non-flammable, non-explosive
<b>Ambient Operating Temperature</b>	5°C to 35°C (41°F to 95°F)
<b>Useful Life</b>	12 years

## Application, Rating and Electric Data

## Refrigeration System

<b>Cooling Engine</b>	Helium charged free-piston Stirling engine with continuous modulation
<b>Heat Transport System</b>	Gravity driven thermosiphon
<b>Refrigerant</b>	R-170 (Ethane) 30 - 33 grams
<b>Evaporator</b>	Cold wall (inner liner)
<b>Heat Rejection</b>	Finned heat exchanger with forced air cooling Air inlet: Above freezer door, below mechanical compartment Air outlet: Underneath of rear right corner bottom
<b>Defrost Method</b>	Manual

## Controller

<b>Interface</b>	Graphic user touchscreen interface
<b>Controller Type</b>	Microprocessor with touchscreen input and display
<b>Security</b>	Lockable door, optional PIN requirement built in
<b>Warm and Cold Alarms</b>	Fully adjustable
<b>Control Sensor</b>	One RTD (PT100 Class A)
<b>Event Log</b>	All alarms, door openings
<b>Dry Contacts</b>	Normally closed, normally open, common; activated by power outage or any alarm condition (24 Vdc maximum/500mA maximum)
<b>Temperature Log</b>	30 days available graphically
<b>Battery Back-up</b>	12-hour control battery back-up for touchscreen (6V lead acid battery)
<b>Internet Connectivity</b>	Optional SenseAnywhere wireless temperature monitoring and logging

## Performance Data

<b>Steady State Energy Use</b>	< 4 kWh/day at -80°C
<b>Pull-Down from 25°C Ambient</b>	9 hours to -80°C (Empty Cabinet)
<b>Recovery from Door Opening (ENERGY STAR® Final Test Method)</b>	40 minutes to -80°C
<b>Warm-up Profile</b>	2 hours to -60°C at -80°C (Empty Cabinet) 5.2 hours to -40°C at -80°C (Empty Cabinet)
<b>Heat Dissipation</b>	563 BTU/h (load to HVAC) at -80°C (Empty Cabinet)

## Specifications

### Interior (H x D x W)

533 x 432 x 457 mm | (21 x 17 x 18 in.)

### Exterior (H x D x W)

864 x 711 x 686 mm | (34 x 28 x 27 in.)

### Net Weight, Empty

100 kg (220 lbs.)

### Shipping Dimensions (H x D x W)

1041.4 x 787.4 x 787.4 mm | (41 x 31 x 31 in.)

### Shipping Weight

121 kg (266 lbs.)

### Insulation

High performance vacuum insulated panels and polyurethane foam using Ecomate® environmentally friendly, SNAP-compliant blowing agent

### Gasket Heater

User programmable duty cycle

### Shelves

1 stainless steel, fixed position (removable)

### Options

Chart recorder, international plugs

## Dimensions and Construction

