

# Model SU105UE Compact Ultra-Low Freezer

## Ideal for Research Labs and Clinical Trials

*Undercounter. Benchtop. Stackable.*



### *The Industry's Best Performance*

- ✓ Dense Storage in a Space-Saving Size
- ✓ Lowest Energy Consumption, <4 kWh/day @ -80°C
- ✓ Lowest Shipping Costs
- ✓ Smallest Footprint in its Class
- ✓ Plugs into Any Outlet
- ✓ Wide Temperature Range, -86°C to -20°C
- ✓ Industry's Best Warranty

*Two Model SU105UE Benchtop Freezers, 3.7 cu.ft. (105 liters). A seven year engine warranty, two year freezer parts warranty is standard worldwide.*

*Shown with optional stacking adapter and racks.*

### *The benefits of Stirling Ultracold freezers reach all levels of the clinical trial:*

- Store more samples within a smaller footprint
- Can plug into any outlet, eliminating the cost of converting an outlet to 240V
- Lower operating and maintenance costs
- Secure individual storage for researchers or teams
- Industry-best warranty – seven years engine and thermosiphon protection, two years parts and labor coverage\*
- 100% natural, SNAP-compliant refrigerants



*\*Labor warranty coverage only available in the U.S. and Canada*

# Model SU105UE Specifications

## Application, Rating and Electric Data

<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>	-86°C to -20°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>Electric Supply Rating</b>	15 amp or greater grounded circuit
<b>Power Plugs Available</b>	NEMA 5-15P plug requires standard NEMA 5-15R receptacle (120V); Length: 2261 mm (89 in.) or NEMA 5-15P plug requires standard NEMA 15R receptacle (120V); Length: 3048 mm (120 in.), or NEMA 6-15P plug requires standard NEMA 5-15R 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

## 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>	Two RTDs (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
<b>Temperature Log</b>	30 days available graphically
<b>Battery Back-up</b>	12 hour control battery back-up for touch-screen (6V lead acid battery)

## 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

## 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)

## Dimensions and Construction

<b>Interior (H x D x W)</b>	533 x 432 x 457 mm   (21 x 17 x 18 in.)
<b>Exterior (H x D x W)</b>	864 x 711 x 686 mm   (34 x 28 x 27 in.)
<b>Net Weight, Empty</b>	100 kg (220 lbs.)
<b>Shipping (H x D x W)</b>	1041.4 x 787.4 x 787.4 mm   (41 x 31 x 31 in.)
<b>Shipping Weight</b>	121 kg (266 lbs.)
<b>Insulation</b>	High performance vacuum insulated panels and polyurethane foam using Ecomate® environmentally friendly, SNAP-compliant blowing agent
<b>Gasket Heater</b>	User programmable duty cycle
<b>Shelves</b>	1 stainless steel, fixed position (removable)
<b>Options</b>	Chart recorder, international plugs

\*The freezer operates on nominal 120V or 240V, 50 or 60Hz AC, over a wide voltage range from 85V to 264V. There is no need for special wiring or a 20 amp breaker on a 120V line. Heat rejection is minimal. The cooling air is drawn in over the top of the door and warm air exits at the right rear of the cabinet.



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