TECHNICAL DATA SHEET **MODEL SU105UE**



Compact Ultra-Low Temperature Freezer

SPECIFICATIONS

→ Application, rating and electric data

| Application | Storage of general (non-flammable) laboratory materials |
|--|---|
| Storage Volume | 105 liters (3.7 cu.ft.) |
| Storage Capacity | 72 standard 2" boxes in optional racks, available separately |
| Temperature Range | -86°C to -20°C, adjustable to 1°C increments |
| Electric Power [†] | 100V to 240V (±10%) at either 50 or 60 Hz |
| Power Cord Options Available | Multiple options are available. Consult with your sales representative |
| | |
| Maximum Power (Current) | 300 watts (3 amps @120V, 1.5 amps @240V) (±10%) at either 50 or 60 Hz |
| Maximum Power (Current) Auto-Voltage Capability | 300 watts (3 amps @120V, 1.5 amps @240V) (±10%) at either 50 or 60 Hz 100V to 240V, 50 or 60 Hz |
| | |
| Auto-Voltage Capability | 100V to 240V, 50 or 60 Hz |
| Auto-Voltage Capability Electric Supply Rating | 100V to 240V, 50 or 60 Hz 15 amp or greater grounded circuit |
| Auto-Voltage Capability Electric Supply Rating Certification/Agency Listing | 100V to 240V, 50 or 60 Hz 15 amp or greater grounded circuit CE, cULus |
| Auto-Voltage Capability Electric Supply Rating Certification/Agency Listing Noise | 100V to 240V, 50 or 60 Hz 15 amp or greater grounded circuit CE, cULus Advanced noise abatement, <48 dB(A) at 1 meter |

→ Controller

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

→ Refrigeration system

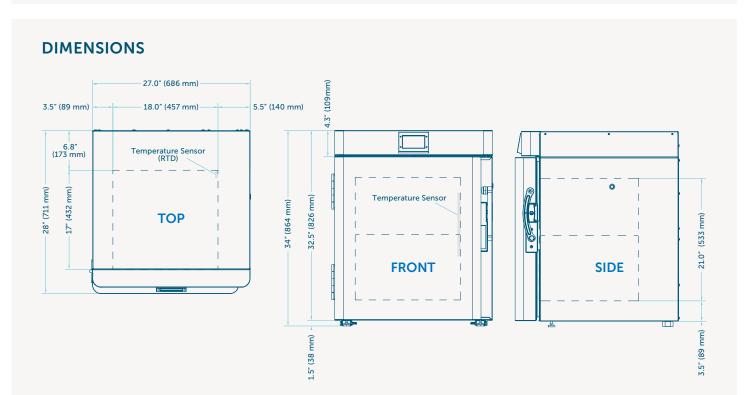
| Cooling Engine | Helium charged free-piston Stirling engine with continuous modulation |
|-----------------------|---|
| Heat Transport System | Gravity driven thermosiphon |
| Refrigerant | R-170 (Ethane) 30–33 grams |
| Evaporator | Cold wall (inner liner) |
| Heat Rejection | Finned heat exchanger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

SPECIFICATIONS (CONTINUED)

| Performance data | |
|---|--|
| Steady State Energy Use | < 4 kWh/day at -80°C |
| Pull-Down from 25°C Ambient | 12 hours to -80°C (Empty Cabinet) |
| Recovery from Door Opening (ENERGY STAR® Final Test Method) | 40 minutes at -80°C |
| Warm-up Profile | 2 hours to -60°C at -80°C (Empty Cabinet) 5.2 hours to -40°C at -80°C (Empty Cabinet) |
| Heat Dissipation | 569 BTU/h (load to HVAC) at -80°C (Empty Cabinet) |
| Dimensions and constr | uction |

| 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 (H x D x W) | 1079.5 x 838.2 x 838.2 mm / (42.5 x 33 x 33 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) |
| | |

† 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.





 Stirling Ultracold
 6000 Poston Road, Athens, Ohio 45701, USA

 T
 740.274.7900 / 1.855.274.7900 |
 F
 740.274.7901 |
 www.stirlingultracold.com

©2024 Stirling Ultracold, Global Cooling, Inc. All Rights Reserved.

Global Cooling technology is manufactured under U.S. and International patents. Stirling Ultracold is a trademark of Global Cooling, Inc. Specifications subject to change without notice. Refer to www.stirlingultracold.com for the latest specifications.



STIRLING POWER