



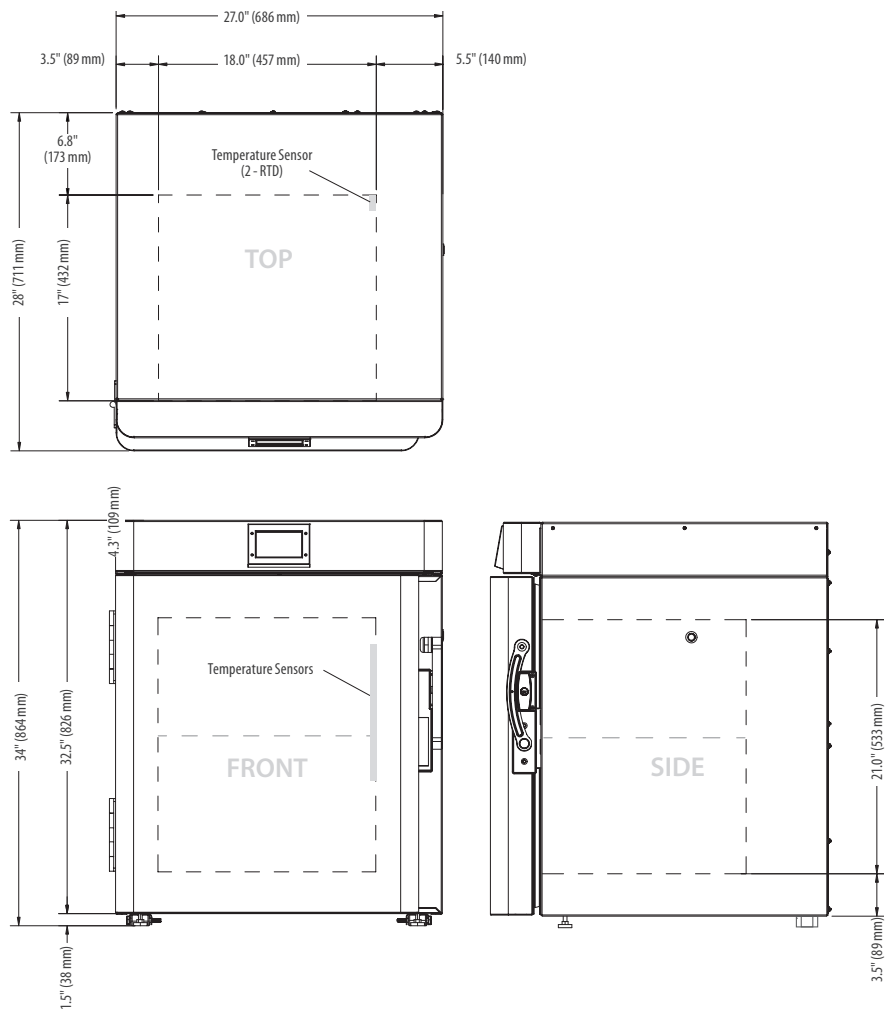
Technical Data Sheet

Stirling Ultracold SU105UE Ultra-Low Temperature Freezer

Stirling Ultracold, Athens, Ohio USA

| Specifications | Model Number |
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| | 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 @ 32°C (90°F) ambient, adjustable to 1°C increments |
| Electric Power | 100V to 240V (±10%) at either 50 or 60 Hz |
| Maximum Power (Current) | 300 watts (3 amps @120V, 1.5 amps @240V) (±10%) at either 50 or 60 Hz |
| Auto-Voltage Capability | 100V to 240V, 50 or 60 Hz |
| Electric Supply Rating | 15 amp or greater grounded circuit |
| Power Plugs Available | NEMA 5-15P plug requires standard NEMA 5-15R receptacle (120V); Length: 2261 mm (89 in.), or NEMA 5-15P plug requires standard NEMA 5-15R receptacle (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> |
| Noise | Advanced noise abatement, <48 dB(A) at 1 meter |
| Indoor/Outdoor Use | Indoor use only |
| Application Environment | Non-corrosive, non-flammable, non-explosive |
| Ambient Operating Temperature | 5°C to 35°C (41°F to 95°F) |
| Useful Life | 12 years |
| | 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 |
| | 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 | Two RTDs (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 |
| | Performance Data |
| Steady State Energy Use | < 4 kWh/day at -80°C |
| Pull-Down from 25°C Ambient | 9 hours to -80°C (Empty Cabinet) |
| Recovery from Door Opening (ENERGY STAR® Final Test Method) | 40 minutes to -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 | 563 BTU/h (load to HVAC) at -80°C (Empty Cabinet) |

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| | Stirling Ultracold SU105UE |
| | Dimensions and Construction |
| 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 |



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