

# TECHNICAL DATA SHEET

## MODEL ULT25NEU

Portable Ultra-Low Temperature Storage



### SPECIFICATIONS

Application	Storage of general (non-flammable) laboratory materials
Storage Volume	25 liters (0.9 cu.ft.)
Storage Capacity	18 standard 2" boxes
Temperature Range	-20°C to -86°C @ 32°C (90°F) ambient, uniformity +/- 3°C at -80°C top to bottom, adjustable in 1°C increments Default temperature setting is -80°C. Preset options are -86°C, -40°C and -20°C.
Electric Power	100V to 240VAC at either 50 or 60Hz or 12V DC from mobile source
Maximum Power (Current)	280 watts (4 amps @ 120VAC, 2 amps @ 240VAC, 15 amps @ 12V DC)
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>
Certification/Agency Listing	CE, cTUVus
Noise	Advanced noise abatement, <45 dB(A) at 1 meter
Indoor/Outdoor Use	Indoor use only
Environmental Conditions	Non-corrosive, non-flammable, non-explosive, indoor use, altitude up to 2,000m, temperature 5°C to 40°C (41°F to 104°F), maximum relative humidity 80% for temperature up to 31°C decreasing linearly to 50% at 40°C

### REFRIGERATION SYSTEM

Cooling Engine	Helium charged free-piston Stirling engine with continuous modulation
Heat Transport System	Gravity driven thermosiphon
Refrigerant	R-170 (Ethane) 10-12 g
Evaporator	Cold wall (inner liner)
Heat Rejection	Finned heat exchanger with forced air cooling Air inlet: Right front side of unit Air outlet: Below control panel on front of mechanical compartment
Defrost Method	Manual

### CONTROLLER

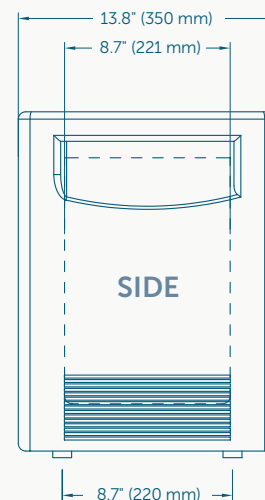
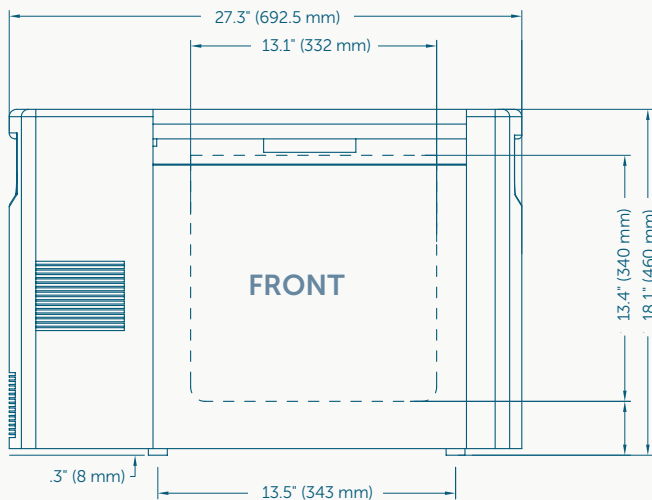
Controller Type	Microprocessor controls
Security	Lockable lid
Warm and Cold Alarms	Setpoint $\pm$ 10°C
Control Sensor	One RTD (PT100 Class A)
Dry Contacts	Optional
Internet Connectivity	Optional SenseAnywhere wireless temperature monitoring and logging

### PERFORMANCE DATA

Steady State Energy Use at 25°C Ambient	< 2.8 kWh/day (average power 118 watts) at -80°C (Empty Cabinet)
Pull-Down from 25°C Ambient	4 hours at -80°C (Empty Cabinet)
Recovery from 1 minute lid opening	20 minutes to -80°C (Empty Cabinet)
Warm-up Profile	30 minutes to -60°C (Empty Cabinet) 70 minutes to -40°C (Empty Cabinet)
Heat Dissipation	403 BTU/h (load to HVAC) at -80°C (Empty Cabinet)

## DIMENSIONS AND CONSTRUCTION

Interior (L x W x D)	332 x 221 x 340 mm   (13.1 x 8.7 x 13.4 in.)
Exterior (L x W x D)	692.5 x 350 x 460 mm   (27.3 x 13.8 x 18.1 in.)
Net Weight, Empty	21 kg (46 lbs.), nominal
Shipping Dimensions (L x W x D)	762 x 457 x 559 mm   (30 x 18 x 22 in.)
Shipping Weight	24 kg (53 lbs.)
Insulation	High performance vacuum insulated panels and polyurethane foam
Gasket Heater	Continuous operation when the power cord is connected
Options	Plastic Utility Bin, AC Power Cords, Mobile Power DC Cord, Sub-Lid, Certificate of Calibration, Temperature Mapping Validation, Remote Alarm Contacts



6000 Poston Road, Athens,  
Ohio 45701, USA

t: 740.274.7900 / 855.274.7900  
f: 740.274.7901  
www.stirlingultracold.com

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**ULT25NEU Ultra-Low  
Temperature Freezer**

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**STIRLING POWER**