



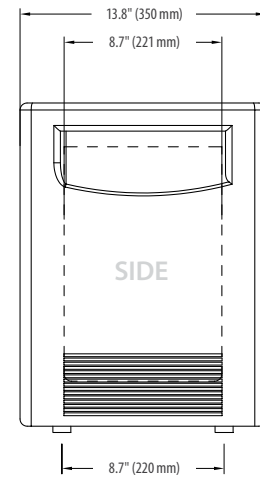
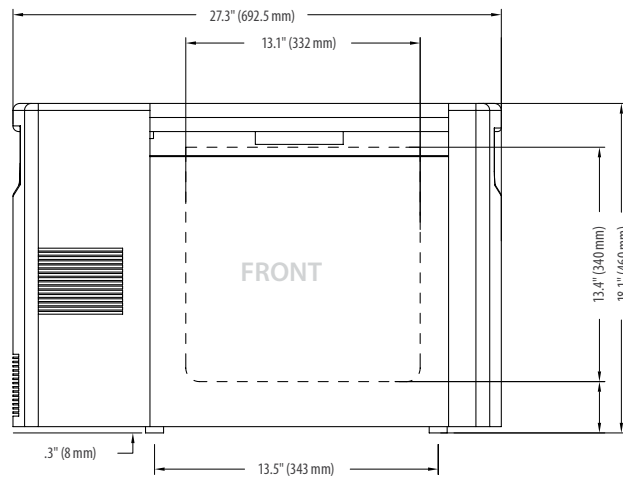
Technical Data Sheet

Stirling Ultracold Shuttle™ ULT-25NE Ultra Low Temperature Freezer

Stirling Ultracold, Athens, Ohio USA

Specifications	Model Number
Application, Rating and Electric Data	
Application	Storage of general (non-flammable) laboratory materials
Storage Volume	25 liters (0.9 cu.ft.)
Storage Capacity	18 standard 2" boxes
Temperature Range	-86°C to -20°C @ 32°C (90°F) ambient, uniformity $\pm 3^\circ\text{C}$ at -80°C top to bottom, adjustable in 1°C increments Presets for -86°C (default), -40°C and -20°C
Electric Power	120V or 240V, AC; 60Hz or 50Hz; or 12V DC from mobile source
Maximum Power (Current)	280 watts (4 amps @120V, 2 amps @240V)
Auto-Voltage Capability	100V to 240V, 50 or 60 Hz
Electric Supply Rating	15 amp or greater grounded circuit
Power Plugs Available Separately	NEMA 5-15P plug requires standard NEMA 5-15R receptacle (120V); Length: 2987mm (72in.) , or NEMA 6-15P plug requires standard NEMA 6-15R receptacle (240V); Length: 2987mm (72in.) <i>Others available upon request. Specify when ordering</i>
Certification/Agency Listing	CE
Noise	Advanced noise abatement, <45 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)
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 grams
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 $\pm 10^\circ\text{C}$
Control Sensor	One RTD (PT100 Class A)
Dry Contacts	Optional
Performance Data	
-80°C Setpoint at ambient 25°C \pm 2°C, Empty Cabinet	
Pull-Down from Ambient	4 hours
Recovery from 1 minute lid opening	20 minutes
Warm-Up Profile	30 minutes to -60°C 70 minutes to -40°C 130 minutes to -20°C
Steady State Energy Use	< 2.8 kWh/day (average power 118 watts)
Heat Dissipation	403 BTU/h (load to HVAC)

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	Stirling Ultracold ULT-25NE
	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)	787.4 x 482.6 x 584.2 mm (31 x 19 x 23 in.)
Shipping Weight	26.3 kg (58 lbs.), nominal
Insulation	High performance vacuum insulated panels and polyurethane foam using environmentally friendly CO ₂ blowing agent
Gasket Heater	User programmable duty cycle
Options	Plastic Utility Bin, AC Power Cords, Mobile Power DC Cord, Sub-Lid, Certificate of Calibration, Temperature Mapping Validation, Remote Alarm Contacts



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