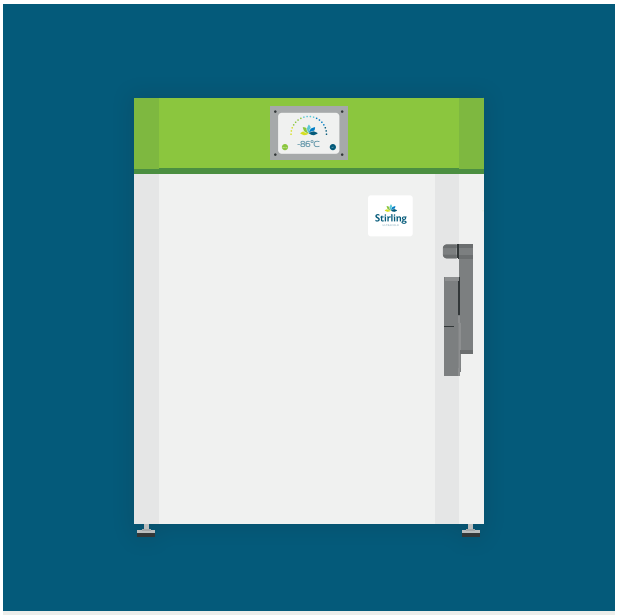
MODEL SU105UE

Compact Ultra-Low Temperature Freezer

Stirling ULTRACOLD



Surprising ULT storage capacity in a space-saving design

- Advanced Stirling engine reliability maximizes sample storage in a compact footprint without sacrificing performance
- Upright design can be stacked or placed undercounter for convenient access when space is limited
- Perfect for controlled temperature transitioning within the widest range of set point temperatures, -20°C to -86°C
- Lowest energy consumption in its class for greater operational savings, <4 kWh/day at -80°C
- Universal power adaptation accepts electrical input from any outlet, around the world
- Optional SenseAnywhere wireless temperature logging allows for remote monitoring via cloud-based software
- Environmentally friendly design uses only 100% natural refrigerants for cooling

Make a big impact across your organization with the compact Stirling SU105UE

- Designed for ultra-low power consumption and maximal energy savings
- Virtually eliminates any need for maintenance with breakthrough Stirling free-piston engine
- Provides secure individual storage that is convenient to the benchtop
- Uses 100% natural refrigerants for reduced climate impact
- Industry-leading 7-year warranty for engine and thermosiphon, with two years of included parts and labor coverage*

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

Undercounter
Benchtop
Stackable

SAL-LIT-00003-C
01.01.2021

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Model SU105UE 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	-20°C to -86°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 15R receptable (120V); Length: 3048 mm (120 in.), or NEMA 6-15P plug requires standard NEMA 6-15R receptacle (240V); Length: 2997 mm (118 in.) *Specify when ordering*
Certification/Agency Listing	CE
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

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

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

PERFORMANCE DATA

Steady State Energy Use	< 4 kWh/day at -80°C
Pull-Down from 25ºC 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)

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 (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

**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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STIRLING POWER