STIRLING™
ULTRACOLD

Shuttle™ ULT**25NE** -86°C Portable Ultra-Low Temperature Freezer

Operating Manual

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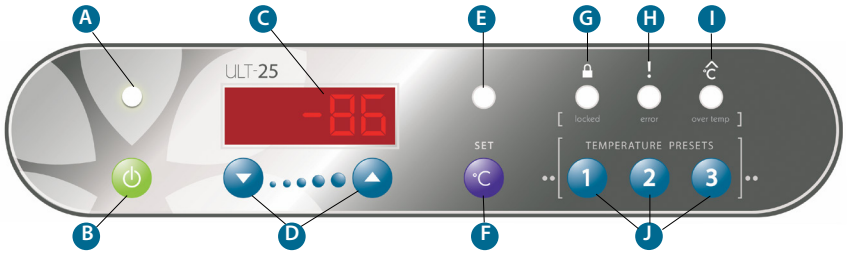
SHUTTLE°C ULT25NE Quick Guide

Initial Setup

Port Stopper/Sealant	!	The Port Stopper/Sealant must be in place during operation. Remove tape at port stopper prior to initial use.
Power Indicator	A	The Shuttle is ON when lit
Power ON	B	Press and hold for two beeps
Power OFF	B	Press and hold for three beeps
LCD Display	C	Displays chamber temperature, S ## – setpoint
Display Setpoint	F	Press/Release to display current setpoint
Return to Temp Display	F	Press/Release or wait eight seconds
Change Setpoint	F	Press and hold until *Set T LED* (E) glows, S ## displayed, then ▲ or ▼ (D)

Advanced Functions

Change to Preset	Press and hold *Set* (F) until *Set T LED* (E) glows, S ## displayed, then select *Preset 1, 2 or 3* (J)
Postpone Over Temp Alarm	When *Over Temp LED* (I) glows, press *Preset 3* (J) until time shows (1.0 h) (If *Over Temp* LED is not glowing, then Preset 3 acts as a Temp Preset)
Return to Temp Display	Wait eight seconds, press *Preset 3* to return to temperature display
See Error Code Again	If *Error LED* (H) is glowing, press *Preset 2* (J) briefly (*If Error LED* is not glowing, then Preset 2 becomes Temp Preset)
Lock Panel	Press and hold *Preset 1 AND 2 AND 3* (J) until *Locked LED* (G) turns on (~five seconds)
Unlock Panel	Press and hold *Preset 1 AND 2 AND 3* (J) until *Locked LED* (G) turns off (~five seconds)
LCD Display Codes	P ## – Preset Temp, ## h – Alarm Silenced, E ## – Error Code *(see operating manual)*



Notice:

When unit is first turned on, red *Over Temp LED* (I) will be on until temperature is within 10° of setpoint.

Panel cannot be locked until temperature is within 10° of setpoint.

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SHUTTLE°C ULT25NE

-86°C Portable Ultra-Low Temperature Freezer

The Shuttle model ULT25NE (Ultra-Low Temperature, 25 liter volume) incorporates next generation free-piston Stirling engine technology. Free-piston Stirling engine technology differs from conventional compressor-based refrigeration in that it provides high efficiency, deep-temperature cooling in a lightweight package allowing true portable operation.

Table of Contents:

1. Safety Precautions

To prevent personal injury, injury to others, or damage to property, read these safety precautions carefully before use.

1.1 – Injury Prevention

- **Do not** cut, change or modify the power cable.*
- When removing the plug, hold onto the plug and not the cord.
- An ultra-low temperature freezer is qualitatively different than a home freezer. At -86ºC frostbite can occur instantly.
- The user should establish and follow a protocol for safe ultra-low temperature operating procedures. This should include (but not limited to):
  - — **Never** handle samples or freezer accessories with bare hands.
  - — **Do not** use gloves which become brittle at ultra-low temperatures.
  - — Nitrile and latex gloves are inadequate.
- Permeable gloves are dangerous because ultra-low temperature materials can contact skin and cause damage.
  - — Be especially careful that materials at ultra-low temperature are not spilled onto skin or clothing.
  - — Use only sample containers that have been approved or tested for ultra-low temperature use.
  - — Some plastics shatter at ultra-low temperatures. Avoid splinter hazards.
  - — Biological and chemical hazards are still hazardous at ultra-low temperature. Always wear proper protective equipment and follow appropriate isolation protocols.
  - — Many types of labels will fall off and/or break at ultra-low temperature. Some types of ink which stick to glass and/or plastic at room temperature lose adhesion at ultra-low temperature.
- In addition to the ultra-low temperature hazards above, there are also physical hazards to consider:
  - — Be cautious when closing the lid to avoid a pinching hazard.
  - — Be careful when loading the box with heavy items.
  - — **Always** use the handles to carry the freezer.

**Warning: Unauthorized modification to the cabinet, controls or free-piston Stirling engine is prohibited and will void all warranty provisions.*

1.2 – Damage Prevention

- **Do not** disassemble, modify or repair. There are no user serviceable parts inside the freezer unit.*
- **Do not** immerse in water or pour water on the unit.*
- **Do not** put ice or liquid water directly in the freezer box, always use suitable containers.
- **Do not** use glass containers when the contents might freeze and break.
- **Do not** store flammable items such as gasoline, thinner or solvents in the freezer. The freezer is NOT rated as an explosion-proof freezer.
- **Do not** use hard and/or sharp objects, such as knives, screwdrivers, etc. to remove any frost or ice which has accumulated on the inside of the freezer. The inside panels are heat exchangers and can be damaged.
- **Do not** block the air intake or air discharge vents.
- **Do not** drop, throw or abuse the freezer.*
- **Do not** operate under extreme environmental conditions, such as in a car trunk, in very high humidity environments, in rain or other severe weather.*
- **Do not** use solvents to clean the control panel or the outside or inside of the freezer.

1.3 – Transportation Care

- Only ship via ground transportation to ensure proper unit function (especially important for domestic addresses).
- Use only factory-provided packaging. If unavailable, contact the manufacturer for replacement packaging materials.
- **Do not** place unit on sides or turn upside down.

**Warning: Unauthorized modification to the cabinet, controls or free-piston Stirling engine is prohibited and will void all warranty provisions.*

2. Unpacking and Set-Up

1.	Remove the freezer and all accessories from the box. Carefully inspect the freezer and all accessories for any shipping damage.
2.	Check the packing list to verify that the shipment is complete.
3.	Ensure the access port stopper or sealant is in place. Remove factory tape at the port stopper prior to initial use.
4.	Place the freezer on a level surface.
5.	Make sure that the air inlets and outlets are not blocked.
6.	Connect to a power source. While the freezer can be used with either the AC Power Cord for lab, home or office use, or the DC Power Cord for mobile use, it is recommended that the initial pull down to Setpoint be completed via AC power.

Power Cord Available Separately.

A. To use the AC Power Supply:

i. During setup, identify the service power and plug configuration available and then locate the appropriate line cord for the service type you will be using.

ii. If the appropriate line cord is not currently installed, simply unplug the line cord from the unit and then plug the appropriate line cord in its place.

iii. Plug the other end of the line cord into the power source and then attempt to power on the Shuttle.

Power Cord Available Separately.

B. To use the DC Power Cord in a motor vehicle:

i. Make sure the freezer remains level. Exceeding an angle of 12 degrees may cause loss of cooling.

ii. Plug the DC Power Cord into a 12V outlet that is rated at 20 amps.

NOTE: Not for use with 24 volt automotive systems. 20 A DC REQUIREMENT: Consult your automotive specialist if your vehicle lacks 20 A rated 12V outlets.

iii. Plug the opposite end into the freezer. Slide the male line cord adapter into the female connection port, lining up the two plastic bungs on the male adapter with the cutouts in the female port of the freezer. Press the male adapter firmly into the connection port and turn clockwise until an audible "click" indicates full connection.

7. Notes on operation in a vehicle.

A. The freezer will operate on vehicle battery power for a limited time before the battery is drained and the motor vehicle cannot be started. This time will vary from vehicle to vehicle but is generally only a few hours.

B. The vehicle engine should be running to prevent accidental total discharge of the battery.

C. The power to 12V outlets in some vehicles may be interrupted during engine starting. This will cause a sudden stop of the cooling unit which may produce a sound that is different than when turning off the freezer by using the *On/Off* button. This is normal and will not damage the cooling engine. The cooling engine will restart automatically once power resumes.

D. **20 A DC REQUIREMENT:** Please note that 20 A DC service is required for proper functioning of the freezer in a motor vehicle. Some vehicles may not be equipped with 20 A DC service. Consult your automotive specialist to verify the level of DC service installed in your vehicle.

E. Do not operate the freezer in an unattended vehicle. This may lead to overheating if left in the sun and subsequent damage to stored contents.

8. Disconnecting from power.

A. Turn off the freezer (Press and hold *On/Off* button for three beeps).

i. The LCD display will show the word "OFF" while the Shuttle turns off.
ii. Unplug the freezer after the word "OFF" disappears and the display goes dark.
iii. If you unplug the freezer while it is on, you will hear a sudden noise as the free-piston Stirling engine shuts off. Power outages will also cause the same noise. This noise (described as a "bonk") is not indicative of damage.

3. Features of the ULT25NE Freezer

3.1 – Pictorial Tour, Freezer

The Stirling Ultracold Shuttle ULT25NE free-piston Stirling engine ultra-low temperature freezer has the following features:

1. A freezer chamber which is protected by two lids
— Inner lid has a tight fitting foam lid.

2. Control Panel
— Described in more detail on page 12.

3. Lid latch
— For positive closure.

4. Access port
— For thermocouple wires, etc.

5. Cleanable filter
— Helps protect the heat rejection fins from dust.

6. AC Power Connection
— Polarized to avoid error.

7. DC Power Connection

8. Temperature Probe Clip (optional)
— For holding the temperature probe in place for calibration and monitoring

9. Remote Alarm Contacts (optional)

10. Key Lock
— Locking lid for sample integrity.

11. Power Supply Fan

12. Vent

1

Outer Lid: double gasket moisture seal.

Inner Lid: high-density, closed cell, rigid foam.

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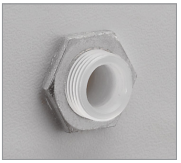

Access Port: 1/4" (6.3 mm) standard– may be enlarged up to 1" (25.4 mm).

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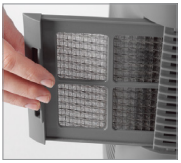

Slide-out Filter: easy to clean, protects heat rejection fins.

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AC Power Connection.

Power Cord Available Separately.

7

DC Power Connection.

Power Cord Available Separately.

8

Temperature Probe Clip (optional).

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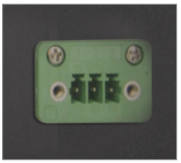


Remote Alarm Contacts (optional).

3.2 – Pictorial Tour, Control Panel

A. On/Off Indicator LED

B. On/Off button
— Turns freezer on and off

C. LCD display
— Alpha/numerical display; default display is chamber temperature.

D. ▼ / ▲ buttons
— Used to adjust Setpoint Temperature (when the display shows S ##).

E. Set Temp LED
— Temperature can be adjusted when lit.

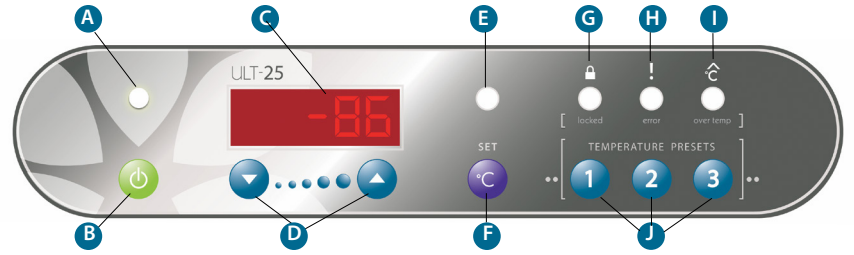
F. Set Temp button
— This must be pressed to adjust the Set Temperature.

G. Locked LED
— Indicates when the control panel is locked.

H. Error LED
— Indicates when there is an electrical, mechanical or similar error condition.

I. Over Temp LED
— Indicates when the chamber is over/under the setpoint.
The audible beeper can be set to delay warning.

J. Temperature Preset buttons



3.3 – Power Cords

A simple line cord change can allow for multiple power and receptacle types. See Section 4.7 for directions.

Make sure to use the cord and plug appropriate for your location. **The options below are available:**

- Line Cords for North America. 120V, AC, 60Hz. NEMA 5-15P plug. Requires standard NEMA 5-15R receptacle.
- Line Cords for Europe/International. 240V, AC, 50Hz. Standard two-pin plug. Requires two-pin receptacle.

3.4 – Intended Uses

The Shuttle ULT25NE freezer provides ultra-low temperature storage for both medical and non-medical purposes. The Shuttle ULT25NE is registered with the FDA as a Class I medical device (Product Code JRM). The storage of blood or blood products intended for medical purposes is prohibited.

4. Operation

Important changes to the freezer settings require sustained button pushes. This helps prevent accidental changes to the settings during transportation. Some sequences require a three-second button press and hold while other sequences require a five-second button press and hold.

For example,
Turning the freezer ON requires a three-second press and hold (two beeps).
Turning the freezer OFF requires a five-second press and hold (three beeps).

The default display is the chamber temperature. Other displays such as Setpoint, Alarm Postpone, etc., are marked with a letter such as S (Setpoint), h (Alarm Postpone), etc. These secondary displays revert to the default display after approximately eight seconds of button inactivity.

4.1 – How to Turn the Freezer On/Off

4.1.1 – To Turn the Freezer On

- Press and hold the *On/Off* button for two beeps (~three seconds).
- The freezer will display a greeting message, and then display the chamber temperature.

4.1.2 – To Turn the Freezer Off

- Press and hold the *On/Off* button for three beeps (~five seconds).
- The freezer will display "OFF" for 10 seconds, and then go dark.

4.2 – Changing the Set Temperature

4.2.1 – To See the Current Set Temperature

- Press the *Set Temp* button briefly.
- The current set temperature will be displayed with the letter S ##.
  — After eight seconds of inactivity the display will revert to the current temperature.

4.2.2 – Change the Setpoint to a New Value

- There are two ways to change the Setpoint.
  — Manually adjust the temperature using ▼ / ▲.
  — Use one of the three adjustable *Preset Buttons*.
- Adjusting the Setpoint manually.
  — Because of the importance of the Setpoint Temperature, changing the Setpoint requires a "two-button procedure". This means:
  Method A - press/hold the *Set Temp* button while simultaneously pressing. ▼ / ▲ — OR
  Method B - press/hold the *Set Temp* button until the *Set Temp LED* glows and then press ▼ / ▲.
  (Methods A and B achieve the same effect. The user can use whichever method they prefer.)

- To change the Setpoint by **Method A**
  - Press and hold the *Set Temp* button and then push the ▼ / ▲ buttons (do not release the *Set Temp* button).
    - The Setpoint temperature will appear with the prefix S in the LCD display.
    - When the ▼ / ▲ buttons are first pushed the Setpoint will change by 1°C at first.
    - If the ▼ / ▲ buttons are held for five seconds the step size will increase/decrease by 5°C.
    - If the ▼ / ▲ buttons are briefly released (less than a half second) while continuing to hold down the *Set Temp* button the increment/decrement size will return to 1°C.
    - Release all buttons once the desired Setpoint is achieved. The display will return to chamber temperature after about eight seconds.
- To change the Setpoint by **Method B**
  - Press and hold the *Set Temp* button until the *Set Temp LED* glows.
    - The Setpoint temperature will appear with the letter S in the first LCD display.
  - The ▼ / ▲ buttons can be used to change the Setpoint.
    - When the ▼ / ▲ buttons are pushed the Setpoint will change by 1°C at first.
    - If the ▼ / ▲ buttons are held for five seconds the step size will increase to 5°C.
    - Briefly release (a half second) the ▼ / ▲ buttons while continuing to hold down the ***Set Temp*** button the increment/decrement size will return to 1°C.
    - Release the ▼ / ▲ buttons once the desired Setpoint is achieved.
  - Press the *Set Temp* button briefly (less than one second) to turn off the *Set Temp LED*. The display will return to chamber temperature.

4.3 – Using Preset Temperatures

- The Temperature Presets — 1, 2 and 3 can be used to quickly change the Setpoint to frequently used values. When shipped the Presets are set to -86ºC, -40ºC, and -20ºC.
- To choose one of the preset temperatures:
  - — Press and hold the *Set Temp* button until the *Set Temp LED* glows.
  - — Push one of the Temperature Preset buttons briefly.
  - — The new Set Temperature will be shown in the LCD display.
  - — If this is the desired Set Temperature, the user can either:
    - – Briefly press the *Set Temp* button to turn off the *Set Temp LED*.

      — OR
    - – Wait for approximately eight seconds when the freezer control panel will return to normal operation.

4.4 – Over-Temperature Alarm

- If the freezer compartment temperature is 10ºC warmer or colder than the Setpoint for five seconds then it will go into temperature alarm mode.
  - — The *Over Temp LED* will turn on (this is used for under temperature alarms as well).
  - — The freezer will make a double beep every 10 seconds.
  - — Situations which can affect the freezer's ability to maintain a steady state or cooling rate include:
    - – The lid is ajar
    - – The air vents are blocked
    - – Addition of a large relatively warm mass
    - – Power supply problems
    - – Mechanical and/or electrical problems

4.4.1 – How to Silence the Audible Temperature Alarm

- The *Over Temp LED* will always be lit when the freezer's temperature is over or under the set temperature by more than 10ºC.

4.4.2 – To Postpone an Alarm

- When the audible alarm is sounding it can be postponed.
- Press the *Temperature Preset - 3* button (located directly beneath the *Over Temp LED)* and the audible alarm will be turned off for 1 hour.

4.5 – Error Conditions

- Certain conditions will cause an Error Code to be displayed on the LCD display, and the *Error LED* will be lit.
  - The error code will be of the form E ##, where ## is the error code. See Section 5 for possible error codes.
  - The error code will be displayed for about five seconds and then the display will show the chamber temperature. The *Error LED* will stay on.
  - The error code can be recalled by briefly pressing the *Temperature Preset - 2* button, located directly under the *Error LED*. This will recall the error code for approximately 10 seconds.
  - If the *Temperature Preset - 2* button is pressed and held for five seconds (three beeps) this will clear both the LCD display and the Error LED. However, if the error condition persists the error cycle will start over again.

4.6 – Locking the Control Panel

To Lock the Freezer Control Panel

- Press and hold the *Temperature Preset 1, 2 and 3* buttons until the freezer beeps three times.
  - The *Locked LED* will light up.
  - The control panel cannot be locked if there is an over temperature or other error condition.

To Unlock the Freezer Control Panel

- Press and hold the *Temperature Preset 1, 2 and 3* buttons until the freezer beeps three times.
  - The Locked indicator LED will turn off.
  - The freezer will still indicate over-temperature alarms or error conditions while it is locked. The user has to unlock the control panel to address those alarms/conditions.

4.7 – How to Switch Between Power Supplies

- See Section 3.3 for possible power sources for the Shuttle ULT25NE.
- To change from one power supply to another:
  - Turn OFF the freezer (Press and hold the *On/Off* button).
  - Wait for the free-piston Stirling engine to slow and stop (15 seconds).
  - Unplug the freezer from the current power source and plug into the new, approved power source. Reference Section 2, Part B for instructions on use of a DC Power cable.
  - The freezer can be restarted immediately, no wait time necessary.
  - Turn ON the freezer by pressing and holding the *On/Off* button.

5. Error Codes

These are displayed in the LCD display as E ##.

10	The free-piston Stirling engine is not maintaining a working temperature. This could arise from blocked filters, blocked air passages, unusually hot ambient temperatures (for example >45°C), or a fan failure. Check air passages and clear any blockages for good air circulation. Remove from hot environments (car interiors, etc.).
40	A component which monitors free-piston Stirling engine performance has failed. The free-piston Stirling engine cannot regulate itself. Please return for repair.

6. Maintenance

6.1 – Caring for Your Freezer Gasket

The temperature differential between ambient and the ultra-low interior can attract moisture near the gasket. For best results always wipe away moisture during openings to prevent ice accumulation. Do not use sharp instruments to scrape ice from the surface.

6.2 – Air Intake Filter

Clean accumulated dust and dirt on the air intake filter every month. Pull the filter cover to the left as shown. Please note that it cannot be completely removed. Gently clean the filter with a vacuum cleaner. If there are stubborn residues use a soft brush to work them loose.

6.3 – Storage

1. Turn off the power and allow the freezer to come to room temperature.
2. Dry the inside of the freezer compartment and clean any spills.
3. Disinfect with suitable sterilizing agent if the freezer has been used for biohazards.

6.4 – Cleaning

The exterior surfaces of the freezer can be cleaned as needed by using a soft cloth and mild detergent. Do not use solvent or harsh abrasive cleansers or pads.

7. Troubleshooting

Problem	Possible Cause	Solution
Freezer does not power on	Power is not getting to the freezer from the AC input	Check the connections to the power supply
		Assure that the wall plug is firmly seated
	Power is not getting to the freezer from the DC input	Reseat the connections to the DC power cord
		Assure that the DC input has live power
		Remove any dirt or debris inside the DC socket or on the plug
		Replace any blown automobile fuses
Freezer does not achieve desired temperature	Inadequate air circulation	Clean air filter screen
		Remove air flow obstructions
	Inadequate power	Assure that the wall plug is firmly seated
		Remove any dirt or debris inside the automotive DC socket or on the plug
		Operate freezer only when automobile is running
	Improper environment	Remove freezer from direct sunlight, hot room, etc.
		Check that freezer is level. Tilts of more than 12 degrees in some directions will degrade performance.
Freezer cools slowly	Overloading of freezer	Remove some items from freezer
	Lid is not completely closed	Check for ice buildup, remove if necessary, and properly close lid
	Lid is open and closed too often	Minimize opening and closing of lid
	Inadequate air circulation	Clean filter and unblock air vents
12V plug becomes unusually hot	Dirt or corrosion in the DC socket	Clean the socket

8. Calibration Guide

Calibrating the RTD with an Independent Temperature Indicator

The Shuttle ULT25NE's Resistance Temperature Device (RTD) is factory calibrated to display both setpoint and operating temperature from a single internal RTD. In the event that you must recalibrate the Shuttle to match the reading of an independent temperature recording device or stand-alone electronic thermometer, please follow this process.

1. Tools Required

- Flashlight or work light
- Long handled (6-7"), plastic, Phillip's or flathead screwdriver
  (Do not use a metal screwdriver as this may short circuit the circuit board in the event of a slip.)
- Independent Thermocouple and RTD Thermometer with sufficient lead wire to pass through the 1/8" access port and affix to the vertical liner channel.
- Tape

2. Procedure

1.	Place a thermocouple **(1)** inside the Shuttle cabinet. — **Note:** Display temperature is calibrated using a NIST traceable thermocouple located in the center of the cabinet (4.4" from back, 6.6" from left side, 6.7" from bottom).
2.	Turn Shuttle on.
3.	Set temperature to -80ºC.
4.	Wait until the display reads -80ºC. — For best results wait an additional hour to ensure uniform cabinet temperature.
5.	Connect a NIST traceable thermocouple reader **(2)** to the thermocouple located inside the cabinet.
6.	Slide open filter door located on the side of the cabinet **(3)**.
7.	Using an extra-long screwdriver **(4)** locate the potentiometer through filter opening **(5)**.
8.	Turn the adjustment screw until the Shuttle display temperature is the same as the hand-held instrument. **¼ Turn = 3 DEGREES**
9.	Turn the screw to change the temperature indicated on the display (clockwise for warmer and counter-clockwise for colder).
10.	After making an adjustment, **WAIT 15 SECONDS** for the Shuttle's indicated temperature to register the adjustment. Repeat adjustment if necessary.
11.	Calibration complete.

1

Thermocouple

2

Thermocouple + RTD Thermometer

3

Filter Door

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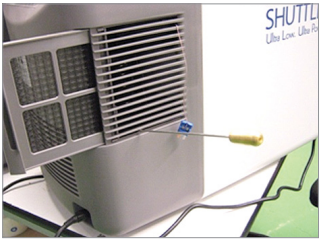

Adjustment Tool

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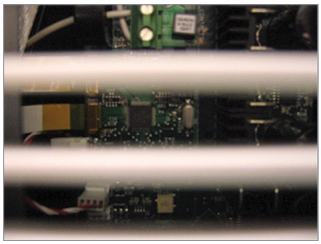
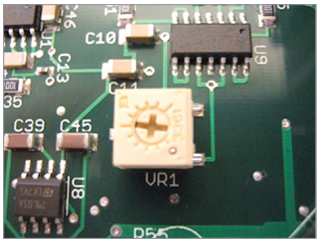




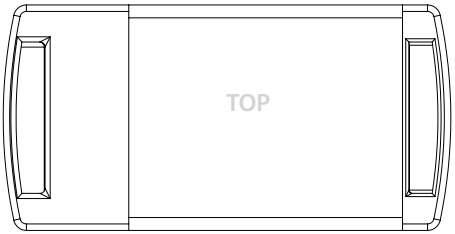
Calibration Screw visible through filter

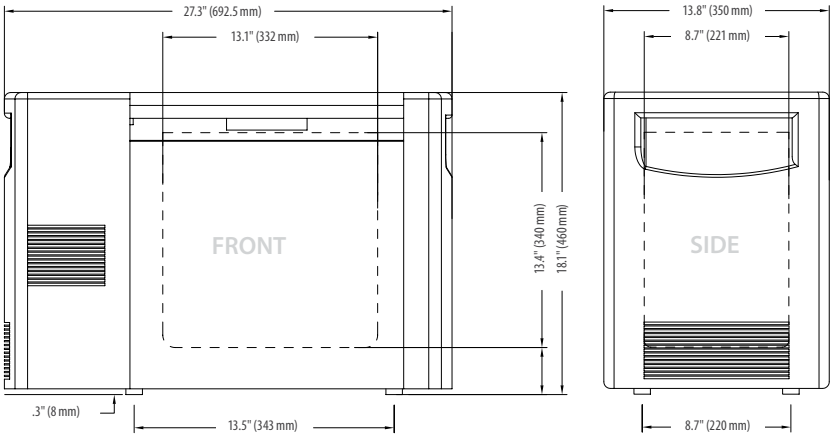
9. Specifications

9.1 – Freezer Specifications

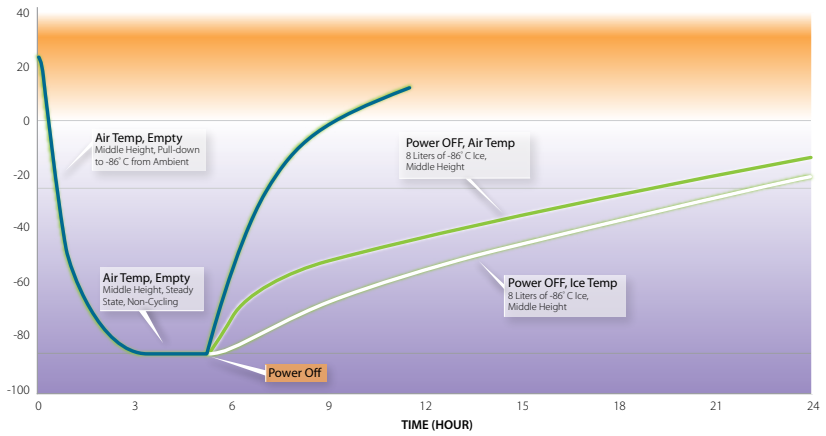
Electric Power	120V or 240V, AC; 60Hz or 50Hz; or 12V DC from mobile source
Maximum Power (Current)	280 watts (4 amps @120V, 2 amps @240V)
Electric Supply Rating	15 amp or greater grounded circuit
Cooling Engine	Helium charged free-piston Stirling engine with continuous modulation
Refrigerant	R-170 (Ethane), 10-12 grams
Temperature Range	-86°C to -20°C @ 32°C (90°F) ambient, uniformity ± 3°C at -80°C top to bottom, adjustable in 1°C increments Presets for -86°C (default), -40°C and -20°C
Ambient Operating Temperature	+5°C to +35°C (41°F to 95°F)
Application Environment	Non-corrosive, non-flammable, non-explosive
Storage Volume	25 liters (0.9 cu.ft.)
Interior Dimensions	13.1" L x 8.7" W x 13.4" D | (332 x 221 x 340 mm)
Exterior Dimensions	27.3" L x 13.8" W x 18.1" D | (692.5 x 350 x 460 mm)
Net Weight, Empty	46 lbs. (21 kg), nominal
Insulation	High performance vacuum insulated panels and polyurethane foam using environmentally friendly CO_2 blowing agent
Noise	Typical of laboratory equipment
Control Sensor	One RTD (PT100 Class A)
Dry Contacts	Optional
Pull-Down	4 hours from 25°C temperature to -80°C setpoint
Recovery	20 minutes from 1 minute lid opening to -80°C setpoint
Warm-Up Profile from -80°C Setpoint	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) at -80°C
Heat Dissipation (at -80°C)	403 Btu/h (load to HVAC)

9.2 – Freezer Dimensions





9.3 – Pull-Down and Warm-Up Characteristics, 25°C Ambient



10. Warranty

The following Warranty applies to the Shuttle ULT25NE manufactured by Stirling Ultracold, a division of Global Cooling, Inc. Due to the nature and size of the Shuttle ULT25NE, a product exchange may be preferable to field-level service. In order to maintain maximum uptime and to optimize customer service, Global Cooling, Inc. reserves the right to exchange the ULT25NE with a serviceable new or previously-used replacement at its discretion.

Limited Warranty, USA

- The warranty period starts two weeks after the original date of shipment from Global Cooling, Inc.
- The Shuttle ULT25NE is warranted for a period of ONE YEAR for materials and labor at our factory.
- If a service issue arises, contact the Global Cooling, Inc. Service Department to register Warranty Service and initiate a resolution.
- Advanced authorization for a service company to diagnose the problem must be approved by Global Cooling, Inc.
- Global Cooling, Inc. will not be responsible for charges incurred for service calls made by a third party prior to authorization by Global Cooling, Inc.
- Global Cooling, Inc. retains the right to replace any product in lieu of servicing it in the field.
- Liability in all events is limited to the purchase value only.
- Under no circumstances will Global Cooling, Inc. be responsible or held liable for consequential or incidental damages associated with loss of stored product in the event of an equipment failure.
- Extended warranty programs are available. Contact Global Cooling, Inc. for a custom warranty solution.

Limited Warranty, CANADA

- The warranty period starts one month after the original date of shipment from Global Cooling, Inc.
- The Stirling Ultracold Shuttle is warranted for a period of ONE YEAR for materials and labor at our factory.
- If a service issue arises, contact the Global Cooling, Inc. Service Department to register Warranty Service and initiate a resolution.
- Advanced authorization for a service company to diagnose the problem must be approved by Global Cooling, Inc.

- Global Cooling, Inc. will not be responsible for charges incurred for service calls made by a third party prior to authorization by Global Cooling, Inc.
- Global Cooling, Inc. retains the right to replace any product in lieu of servicing it in the field.
- Under no circumstances will Global Cooling, Inc. be responsible or held liable for consequential or incidental damages associated with loss of stored product in the event of an equipment failure.
- Extended warranty programs are available. Contact Global Cooling, Inc. for a custom warranty solution.

International Distributor Limited Warranty

- The warranty period starts two months after the original date of shipment from Global Cooling, Inc.
- The Shuttle ULT25NE is warranted for a period of ONE YEAR for materials only.
- If a service issue arises, contact the International Distributor from where the ULT25NE was purchased. The Distributor will contact the Global Cooling, Inc. Service Department to register Warranty Service and initiate a resolution.
- Global Cooling, Inc. must provide advanced authorization for the Distributor's service company to diagnose the problem at the customer's site.
- Neither Global Cooling, Inc. nor the Distributor will be responsible for charges incurred for service calls made by a third party prior to authorization by the Distributor or Global Cooling, Inc.
- Global Cooling, Inc. and the Distributor retain the right to replace any product in lieu of servicing it in the field.
- The Distributor must provide Global Cooling with proper troubleshooting information.
- Under no circumstances will Global Cooling, Inc. or the Distributor be responsible or held liable for consequential or incidental damages associated with loss of stored product in the event of an equipment failure.
- Extended warranty programs are available. Contact your Distributor for a custom warranty solution.

11. CE Documentation

EC DECLARATION OF CONFORMITY

MANUFACTURER

Company name:	Global Cooling Inc.
Full address:	6000 Poston Road
Postal code:	45701
Place:	Athens, Ohio
Country:	United States of America

EUROPEAN AUTHORIZED REPRESENTATIVE

Which is established in the European Community and has access to the full or part of the Technical File

Company name:	Global Cooling B.V.
Full address:	Lagedijk 22
Postal code:	5705 BZ
Place:	Helmond
Country:	The Netherlands

DESCRIPTION AND IDENTIFICATION OF THE PRODUCT CONCERNED

Generic name:	Ultra low temperature portable freezer
Function:	Long term storage of ultra-low temperature of pharmaceuticals, biologicals, cell cultures, serum, and other materials which require stable temperatures in the range of -86°C to -20°C.
Model:	ULT25
Type:	Ultra low temperature freezer
Serial number:	
Commercial name:	Stirling Ultracold-Shuttle

COMPLIANCE

The manufacturer declares that the above mentioned machinery fulfills all relevant provisions of

Machine Directive (2006/42/EC) Low Voltage Directive (2006/95/EC)
EMC Directive (2004/108/EC)

In conjunction with the following harmonized standards and where appropriate other technical standards and specifications

for the risk assessment

NEN-EN-ISO 12100:2010;
for the design and manufacture

NEN-EN-ISO 12100-1:2003/A1:2010;;
NEN-EN-IEC 60204-1:2006/A1:2009; NEN-EN 349:1994+A1:2008;
NEN-EN-IEC 61310-1:2008; NEN-EN-ISO 3744:2010; NEN-EN 55022:2011;
NEN-EN-IEC 61326-3-1:2008/C1:2008; NEN-EN-IEC 61010-1:2010

Place: Helmond Identity: David M. Berchowitz
Position: Director

Date: November 2011 Signature:

David M. Berchowitz
Director of GCBV
Authorized Representative
Global Cooling BV (GCBV)
Lage Dijk 22, Helmond, 5705 BZ, The Netherlands

Calibration Notes

STIRLING ULTRACOLD | SHUTTLE Ultra Low. Ultra Portable.

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CE