Lab Guard ULT Freezer

Midea Biomedical

-86°C FREEZER

MD-86L458S

Reliable Sample Storage
High temperature uniformity;
Imported world-famous components.

Double Door Design
Four independent inner door design reduce heat loss.

Multi-level Alarms
High,low temperature,sensor error,power failure,
high ambient alarm,door open alarm.

Fast Cooling
High efficiency cooling fans and compressors.

■ Structure Features

1 Multi-layer Sealing Structure
Multi-layers gaskets provide a tight seal between the inner doors and outer door, reducing heat exchange and retaining the inner temperature better when there is power failure.
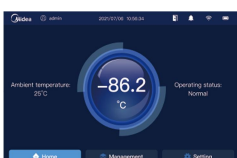
2 VIP PLUS Design
Provides up to 30% more storage capacity than a conventionally insulated freezer, without increasing the footprint. A glass fibre core provides advanced thermal properties.

3 USB Port
Enables users to download historical temperature data for compliance/auditing purposes.

4 10.1 inch LCD Touch Screen
Visual management, real time display inner temperature, alarms, temperature curves and other data.

5 Lever Handle Design
Ingenious handle design helps you to open and close door easier. Lockable handle safeguards your precious samples. Padlock can also be added for extra sample safety.

6 Relief Ports
It allows users to re-open the main door quickly when entering ,rust-proof, freeze-free.

7 Narrow Door Design
The freezer can pass through an 750mm wide door when the door is open.

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Technical Data Sheet
High-Performance, ULT Freezer
Model: MD-86L458S,Lab Guard ULT Freezer

Application, Rating, & Electrical Data

Application	ULT freezer
Storage Volume (L/Cu.Ft)	458/16.17
Temperature Range	-40°C to -86°C
Default Set Point	-81°C
Power	220-240～V/50Hz | 220-240～V/60Hz
Current	5.9A | 5.9A
Power Cord Length	1.7m
Certification	CE
Door type	Solid door
Application Environment	Non-corrosive, non-flammable, non-explosive
Ambient Operating Temperature	10°C~32°C

Refrigeration

Refrigeration System	Self-cascade
Compressor	Hermetic
Condenser Type	Air cooling
Expansion Device	Capillary tube
Evaporator Type	Built-in
Defrost Method	Manual defrosting
Refrigerant	Mix refrigerant

Controller / Configuration Settings

Display screen	10.1"LCD Touch Screen
Controller Type	Microprocessor
Security	Lockable door, password protected settings
Control Sensor	PT1000, stainless steel
Communication Ports	USB, Remote alarm contacts
Power Failure Alarm	Yes
High/Low Alarms	Yes, fully adjustable
Door Ajar Alarm	Yes
Download	Yes, via USB, PDF
Temperature Log	Yes, download via USB
Battery Back-up	Yes, 10 hr display and alarm back-up | Rechargeable 12V, lead acid

Performance Characteristics (normal operating conditions)

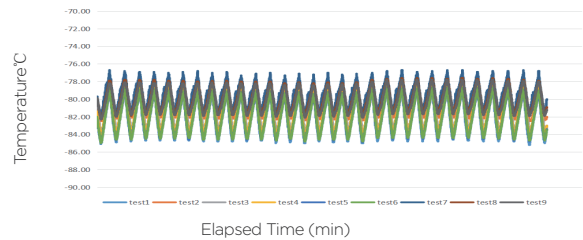|	
Uniformity | (℃)	±5.0
Recovery to -75°C after 1 min door opening | (min)	26
Temperature fluctuation | (℃)	≤1.1 (Copper Mass Simulators)
Energy consumption | (kWh/day)	9.5 | 10
Noise emission | (dB)	46
Heat rejection | (BTU/hr)	3521
Pull-down time to -81°C | (min)	267 | 300

Dimensions and Construction
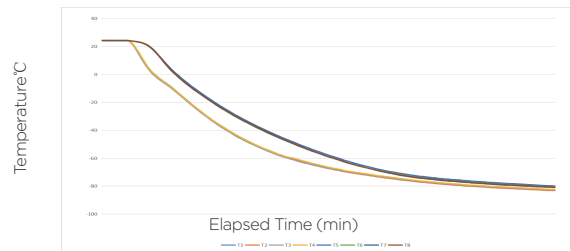
Interior (w*d*h)	595*580*1310 mm
Exterior (w*d*h)	885*855*1980 mm
Access Port	2 Access Port- for external monitoring probe(s) (25 mm diameter)
shelf	3| 49 kg max capacity
Wheels	4 Swivel Casters + 2 Leveling Feet
Net Weight	237 kg
Gross Weight	292 kg

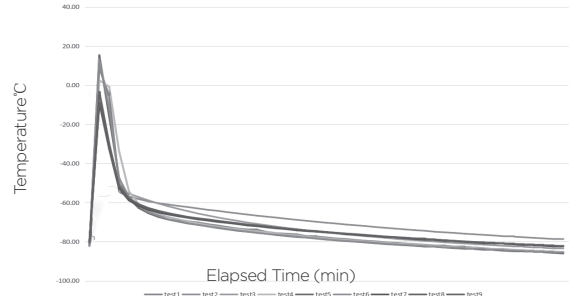All performance data from 458L ULT freezer, 25 ambient, -81°C

Uniformity

Cooling Speed

DOR 1 minute

Temperature recover curve

Typical Temperature Map

	test 1	test 2	test 3	test 4	test 5	test 6	test 7	test 8	test 9
Avg	-81.40	-81.75	-81.66	-82.61	-82.93	-82.46	-81.75	-82.13	-81.26
Max	-78.80	-79.00	-78.60	-81.20	-81.30	-80.80	-80.60	-81.10	-80.20
Min	-83.20	-83.70	-83.70	-84.10	-84.40	-84.00	-83.00	-83.40	-82.60