



MD-86L458



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 LED Display

Alarm functions include high, low temperature, sensor error, power failure, high ambient alarm, door open alarm etc.



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.

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	115~V/60Hz 220-240~V/50Hz 220-240~V/60Hz
Current	10A 5.9A 5.9A
Power Cord Length	1.7m
Certification	CE/UL
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	LED
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, 44 hr display and alarm back-up Rechargeable 12V, lead acid

Performance Characteristics (normal operating conditions)

Uniformity (°C)	±5.0
Recovery to -75°C after 1 min door opening (min)	26
Temperature fluctuation (°C)	≤1.1(Copper Mass Simulators)
Energy consumption (kWh/day)	9.5 9.5 10
Noise emission (dB)	46
Heat rejection (BTU/hr)	3521
Pull-down time to -81°C (min)	210 267 300

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

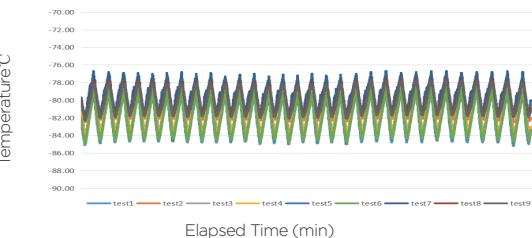
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Dimensions and Construction

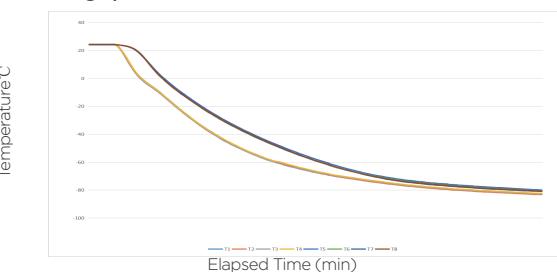
Interior (w*d*h)	595*580*1310 mm
Exterior (w*d*h)	885*855*1980 mm
Access Port	2 Access Port- for external monitoring probe(s) (25 mm diameter)
shelf	3 49 kg max capacity
Wheels	4 Swivel Casters + 2 Leveling Feet
Net Weight	234 237 234 kg
Gross Weight	289 292 289 kg

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

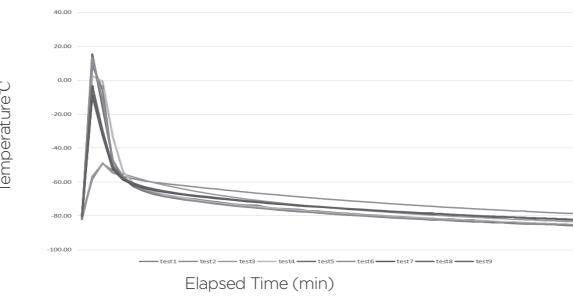
Uniformity



Cooling Speed



DOR 1 minute



Temperature recover curve

