



MD-86L718



## ■ 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/audit-ing 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)	718/25.36
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	14.5A   12A   10.6A
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	Dual cooling
Compressor	Hermetic, fixed speed
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 Display
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)	63   36   36
Temperature fluctuation   (°C)	≤1.4   ≤2.5   ≤2.5(Copper Mass Simulators)
Energy consumption   (kWh/day)	9.6   14   14.1
Noise emission   (dB)	49
Heat rejection   (BTU/hr)	3314
Pull-down time to -81°C   (min)	162   216   162

### Typical Temperature Map

	test 1	test 2	test 3	test 4	test 5	test 6	test 7	test 8	test 9
Avg	-82.41	-82.71	-82.10	-82.29	-82.65	-82.86	-80.57	-80.59	-80.20
Max	-78.50	-78.80	-78.10	-80.10	-80.40	-80.60	-78.60	-78.80	-78.30
Min	-85.30	-85.60	-85.50	-84.00	-84.40	-84.90	-82.20	-82.10	-81.80

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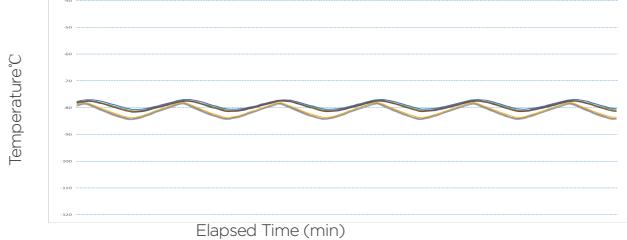


### Dimensions and Construction

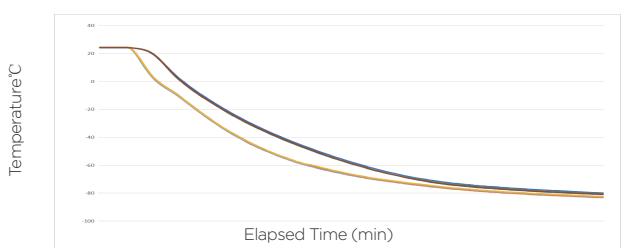
Interior (w*d*h)	740*720*1310 mm
Exterior (w*d*h)	1030*995*1980 mm
Access Port	2 Access Port- for external monitoring probe(s) (25 mm diameter)
shelf	3   87 kg max capacity
Wheels	4 Swivel Casters + 2 Leveling Feet
Net Weight	302 kg   305 kg   302 kg
Gross Weight	365 kg   368 kg   365 kg

All performance data from 718L ULT freezer, 25 ambient, -81°C

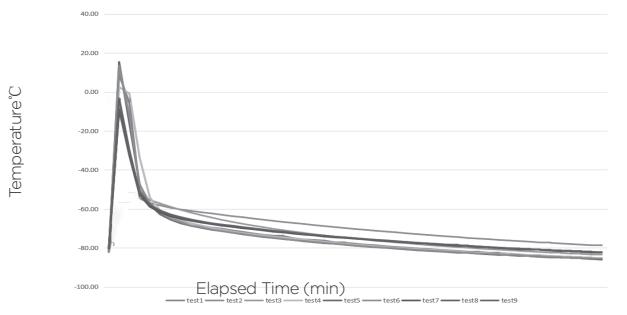
### Uniformity



### Cooling Speed



### DOR 1 minute



### Temperature recover curve

