

# Dual X Series ULT Freezer



MD-86L580BS



## Dual Cooling&Dual Guard

Two independent systems ensure uninterrupted operation, even if one fails; Dual systems reduce individual load, extending overall lifespan



## Super & Even Cooling

168Mins Rapid Cooling (25°C→-81°C)&±3 Uniformity.



## FLEX-VOLT®(115-240~V)

Stable operation at 115-240~V, 50/60Hz.



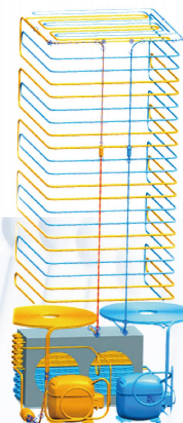
## Energy-Saving & Low Noise

6.2KW/24h Power Consumption & 46dB Low Noise.

### Voltage Flex Tech



### Dual Cooling Technology



### 10.1 inch LCD Touch Display



304 SS VS PCM



220V 10A Plug  
10A VS 15A



Ingenious Handle Design



Li-ion VS Lead-Acid  
Maintenance-free



5-Layer Silicone Seal



Anti-Condensation  
80% humidity



### Application, Rating, & Electrical Data

Application	ULT freezer
Storage Volume (L/cuft)	580/20.48
Temperature Range	-40°C to -86°C
Default Set Point	-81°C
Power	115-240-V /50Hz/60Hz
Current	14A (at 115V) ,6.5A(at 240V)
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 Inverter cooling
Compressor	Hermetic, variable 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	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, 17 hr display and alarm back-up   Rechargeable 12V, li-ion battery

### Performance Characteristics (normal operating conditions)

Uniformity   (°C)	±3
Recovery to -75°C after 1 min door opening   (min)	19
Temperature fluctuation   (°C)	≤2.2
Energy consumption   (kWh/day)	6.2
Noise emission   (dB)	46
Heat rejection   (BTU/hr)	1670
Pull-down time to -81°C   (min)	168
Backup Time(h)	17
Optional Accessories	Cryo Rack,Cryo Box,Cryovial,Chart Recorder, Cold Chain Monitor,LN2 Backup,CO2 Backup ,Printer

### Typical Temperature Map

	test 1	test 2	test 3	test 4	test 5	test 6	test 7	test 8	test 9
Avg	-81.50	-81.60	-82.76	-82.28	-82.77	-82.42	-81.39	-81.98	-82.24
Max	-80.10	-80.40	-80.80	-80.00	-80.60	-80.30	-80.00	-80.80	-81.00
Min	-82.40	-83.40	-84.60	-84.20	-84.50	-84.20	-82.80	-83.20	-83.50

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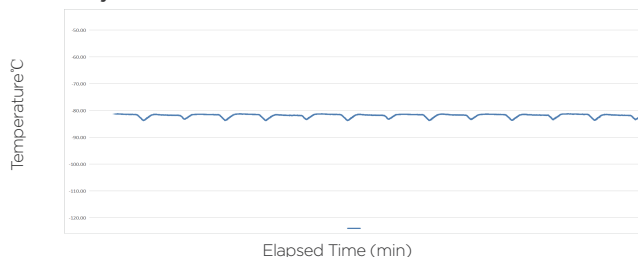


### Dimensions and Construction

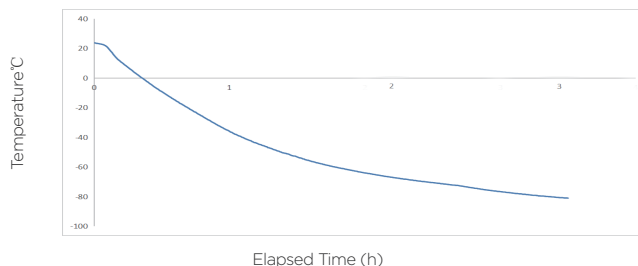
Interior (w*d*h)	595*720*1310 mm
Exterior (w*d*h)	885*995*1980 mm
Access Port	2 Access Port- for external monitoring probe(s) (25 mm diameter)
shelf	3   87 kg max capacity
Wheels	4 Swivel Casters + 2 Leveling Feet
Net Weight	288 kg
Gross Weight	331 kg

All performance data from 580L ULT freezer, 25 ambient, -81°C

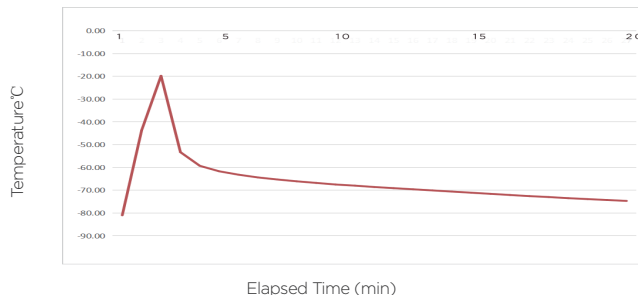
#### Uniformity



#### Cooling Speed



#### DOR 1 minute



#### Temperature Rise Profile

