



MD-40L106



## Precise Temp. Control

Microcomputer Temperature Control System, temperature accuracy 0.1°C.



## Super & Even Cooling

90Mins Rapid Cooling( 25°C→-40°C)&≤3 Uniformity.



## Eco-Cool Refrigerant

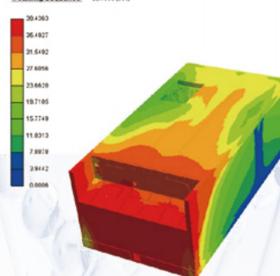
R290 (natural hydrocarbon, low-GWP) refrigerant ensures zero ozone depletion and lower climate impact .

### LCD Temperature Control Systems



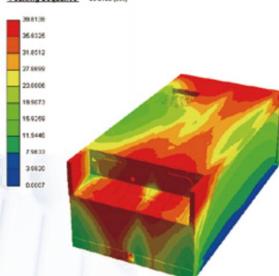
### ECO Forming Technology

Before Improvement

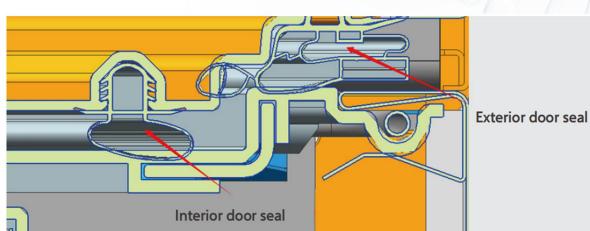


After Improvement

After Improvement



### Three-dimensional seal



### Safety Lock

Lockable door with key



### USB Interface

RS-485(Optional)



### Low Noise

50dB(A) 115~V/60Hz  
51dB(A) 220-240~V/50Hz  
51dB(A) 220-240~V/60Hz



### Multiple Alarms

Audible & Visual Alarms, Remote Alerts, High/Low Temperature Warnings, Door Ajar Detection, Power Failure Alert, Ambient Temperature Deviation, and Sensor Malfunction Monitoring



### Backup Battery

Maintains alarms for 20 hours during power failure

### Application, Rating, & Electrical Data

Application	Biomedical freezer
Storage Volume (L/Cu.Ft)	106/3.74
Temperature Range	-20°C ~ -40°C
Default Set Point	-40°C
Power	115~V/60Hz   220-240~V/50Hz   220-240~V/60Hz
Current	2.5A   2.2A   2.2A
Power Cord Length	1.7m
Certification	CE/UL/FDA
Door type	Solid door
Application Environment	Non-corrosive, non-flammable, non-explosive
Ambient Operating Temperature	10°C~32°C

### Refrigeration

Refrigeration System	Direct cooling
Compressor	Hermetic, fixed frequency
Condenser Type	Built in
Expansion Device	Capillary tube
Evaporator Type	Shelf type evaporator
Defrost Method	Manual defrost
Refrigerant	R290

### Controller / Configuration Settings

Display screen	LCD
Controller Type	Microprocessor
Security	Lockable door, protected settings
Control Sensor	NTC
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

### Performance Characteristics (normal operating conditions)

Uniformity   (°C)	≤3°C
Energy consumption   (kWh/day)	2
Noise emission   (dB)	50   51   51
Pull-down time to -40°C   (min)	90

### Typical Temperature Map

Fre	test 1	test 2	test 3	test 4	test 5	test 6	test 7	test 8	test 9
Avg	-39.41	-39.54	-39.59	-40.55	-40.96	-40.63	-40.09	-41.48	-40.86
Max	-33.50	-33.60	-33.60	-34.20	-34.60	-34.60	-34.00	-34.80	-34.10
Min	-44.10	-44.30	-44.40	-45.60	-46.10	-45.50	-45.00	-46.90	-46.30

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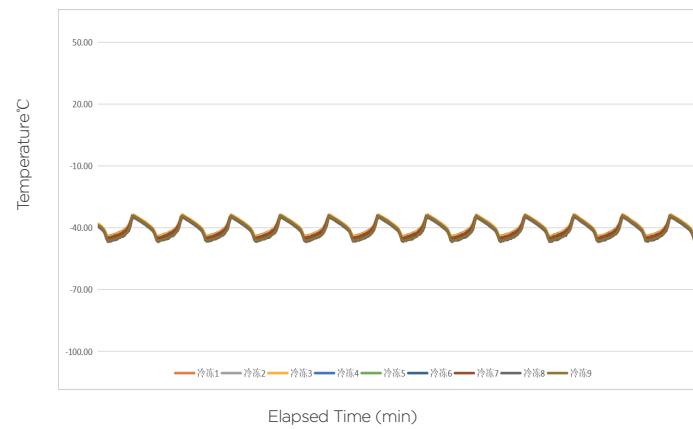
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### Dimensions and Construction

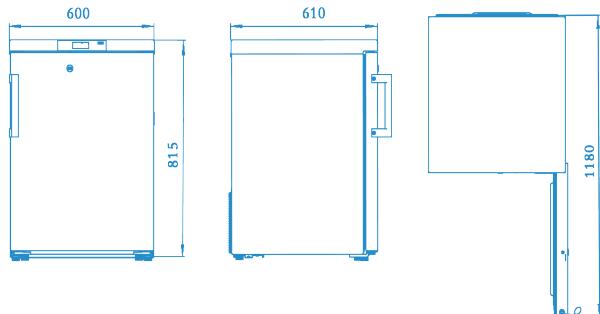
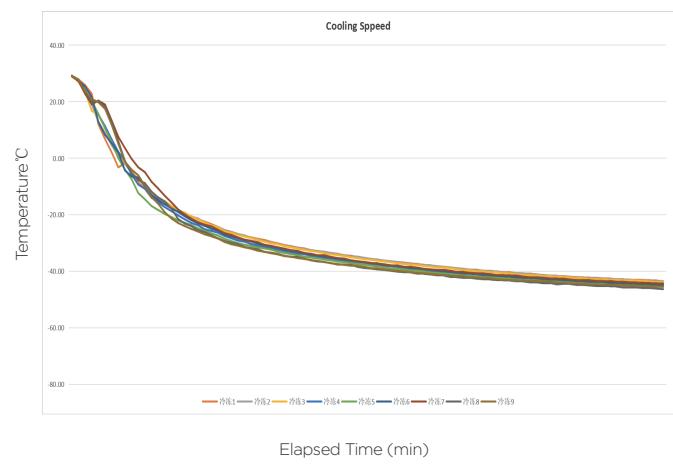
Interior (w*d*h)	455*460*595 mm
Exterior (w*d*h)	600*610*815 mm
Access Port	1 Access Port- for external monitoring probe(s) (25 mm diameter)
Shelves/Drawers	Std:3 (Evaporator Wire Shelf) Opt:Dip-Coated Drawer
Wheels	N( 4 leveling feet)
Net Weight	43 kg
Gross Weight	48 kg

All performance data from 106L biomedical freezer, 25 ambient, -40°C

### Uniformity



### Cooling Speed





MD-40L308

## Precise Temp. Control

Microcomputer Temperature Control System, temperature accuracy 0.1°C.

## Super & Even Cooling

Rapid Cooling( 25°C→-40°C):180mins &  $\leq 3.9^{\circ}\text{C}$  Uniformity.

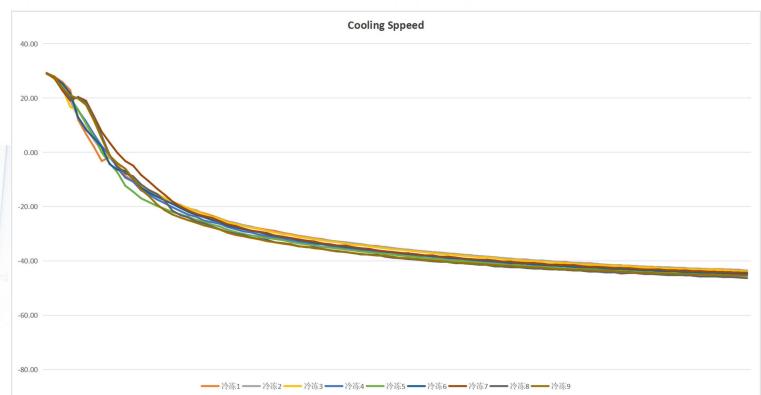
## Eco-Cool Refrigerant

R290 (natural hydrocarbon, low-GWP) refrigerant ensures zero ozone depletion and lower climate impact .

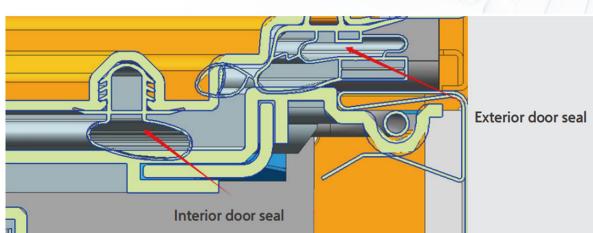
### LCD Temperature Control Systems



### Cooling Speed(Ambient 25°C)



### Three-dimensional seal



### Safety Lock

Lockable door with key



### USB Interface

RS-485(Optional)



### Low Noise

60dB(A) 115~V/60Hz  
52dB(A) 220~240~V/50Hz  
48dB(A) 220~240~V/60Hz

### Multiple Alarms

Audible & Visual Alarms, Remote Alerts, High/Low Temperature Warnings, Door Ajar Detection, Power Failure Alert, Ambient Temperature Deviation, and Sensor Malfunction Monitoring



### Backup Battery

Maintains alarms for 20 hours during power failure



### Wheels

4 Swivel Casters + 2 Leveling Feet

## Application, Rating, & Electrical Data

Application	Biomedical freezer
Storage Volume (L/Cu.Ft)	308/10.88
Temperature Range	-20°C ~ -40°C
Default Set Point	-40°C
Power	115~V/60Hz   220-240~V/50Hz   220-240~V/60Hz
Current	3A   1.3A   2.9A
Power Cord Length	1.7m
Certification	CE/UL/FDA
Door type	Solid door
Application Environment	Non-corrosive, non-flammable, non-explosive
Ambient Operating Temperature	10°C~32°C

## Refrigeration

Refrigeration System	Direct cooling
Compressor	Hermetic, fixed frequency
Condenser Type	Built in + micro channel condenser
Expansion Device	Capillary tube
Evaporator Type	Shelf type evaporator
Defrost Method	Manual defrost
Refrigerant	R290

## Controller / Configuration Settings

Display screen	LCD
Controller Type	Microprocessor
Security	Lockable door, protected settings
Control Sensor	NTC
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

## Performance Characteristics (normal operating conditions)

Uniformity   (°C)	≤3.9°C
Energy consumption   (kWh/day)	2.4   2.7   2.4
Noise emission   (dB)	60   52   48
Pull-down time to -40°C   (min)	180

## Typical Temperature Map

Fre	test 1	test 2	test 3	test 4	test 5	test 6	test 7	test 8	test 9
Avg	-39.41	-39.54	-39.59	-40.55	-40.96	-40.63	-40.09	-41.48	-40.86
Max	-33.50	-33.60	-33.60	-34.20	-34.60	-34.60	-34.00	-34.80	-34.10
Min	-44.10	-44.30	-44.40	-45.60	-46.10	-45.50	-45.00	-46.90	-46.30

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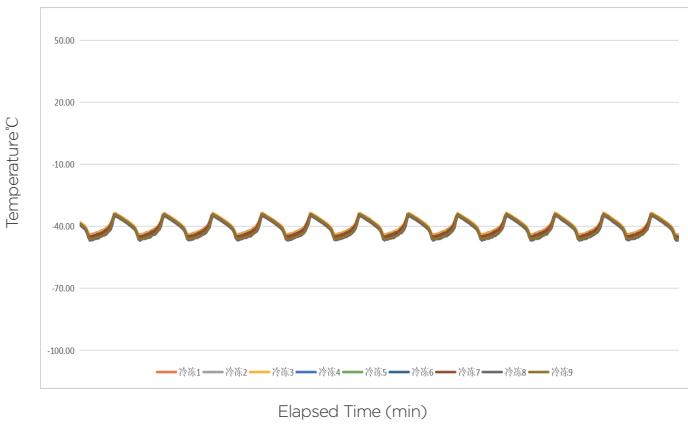
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## Dimensions and Construction

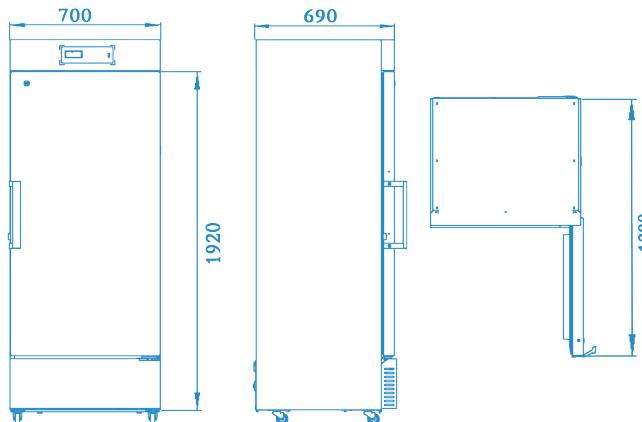
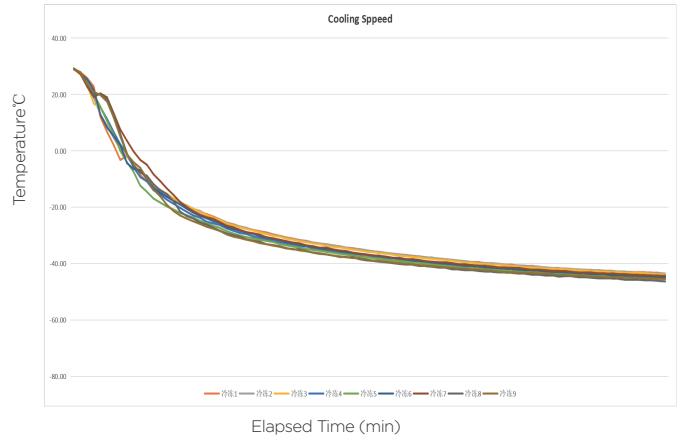
Interior (w*d*h)	540*450*1277 mm
Exterior (w*d*h)	700*690*1920 mm
Access Port	Two test ports, one fitted with a pressure relief valve, cannot be used as test ports. (25 mm diameter)
Shelves	7   18 kg max capacity
Wheels	4 Swivel Casters + 2 Leveling Feet
Net Weight	102 kg
Gross Weight	114 kg

All performance data from 308L biomedical freezer, 25 ambient, -40°C

## Uniformity



## Cooling Speed





MD-40L518



## Precise Temp. Control

Microcomputer Temperature Control System, temperature accuracy 0.1°C.



## Super & Even Cooling

180 mins Rapid Cooling( 25°C→-40°C)& ≤3 Uniformity.



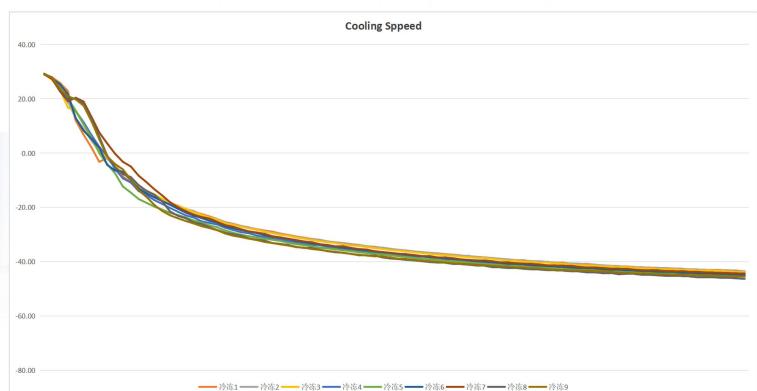
## Eco-Cool Refrigerant

R290 (natural hydrocarbon, low-GWP) refrigerant ensures zero ozone depletion and lower climate impact .

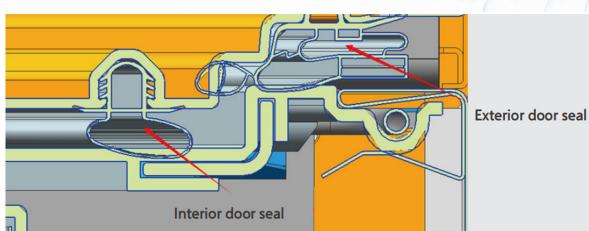
### Two independent cooling system



### Cooling Speed(Ambient 25°C)



### Three-dimensional seal



### Safety Lock

Lockable door with key



### USB Interface

RS-485(Optional)



### Low Noise

65dB(A) 115~V/60Hz  
58dB(A) 220-240~V/50Hz  
58dB(A) 220-240~V/60Hz



### Multiple Alarms

Audible & Visual Alarms, Remote Alerts, High/Low Temperature Warnings, Door Ajar Detection, Power Failure Alert, Ambient Temperature Deviation, and Sensor Malfunction Monitoring



### Backup Battery

Maintains alarms for 20 hours during power failure



### Wheels

4 Swivel Casters + 2 Leveling Feet

## Application, Rating, & Electrical Data

Application	Biomedical freezer
Storage Volume (L/Cu.Ft)	518/18.29
Temperature Range	-20°C ~ -40°C
Default Set Point	-40°C
Power	115~V/60Hz   220-240~V/50Hz   220-240~V/60Hz
Current	5.1A   5A   4A
Power Cord Length	1.7m
Certification	CE/UL/FDA
Door type	Solid door
Application Environment	Non-corrosive, non-flammable, non-explosive
Ambient Operating Temperature	10°C~32°C

## Refrigeration

Refrigeration System	Two independent cooling system
Compressor	Hermetic, fixed frequency
Condenser Type	Built in + micro channel condenser
Expansion Device	Capillary tube
Evaporator Type	Shelf evaporator
Defrost Method	Manual defrost
Refrigerant	R290

## Controller / Configuration Settings

Display screen	LED
Controller Type	Microprocessor
Security	Lockable door, protected settings
Control Sensor	NTC
Communication Ports	USB, Remote alarm contacts
Power Failure Alarm	Yes, each freezer chamber can be set separately
High/Low Alarms	Yes, fully adjustable
Door Ajar Alarm	Yes, each freezer chamber has individual alarm
Download	Yes, via USB, PDF
Temperature Log	Yes, download via USB

## Performance Characteristics (normal operating conditions)

Uniformity   (°C)	≤3°C
Energy consumption   (kWh/day)	4.2
Noise emission   (dB)	65   54   58
Pull-down time to -40°C   (min)	180

## Typical Temperature Map

Fre	test 1	test 2	test 3	test 4	test 5	test 6	test 7	test 8	test 9
Avg	-39.41	-39.54	-39.59	-40.55	-40.96	-40.63	-40.09	-41.48	-40.86
Max	-33.50	-33.60	-33.60	-34.20	-34.60	-34.60	-34.00	-34.80	-34.10
Min	-44.10	-44.30	-44.40	-45.60	-46.10	-45.50	-45.00	-46.90	-46.30

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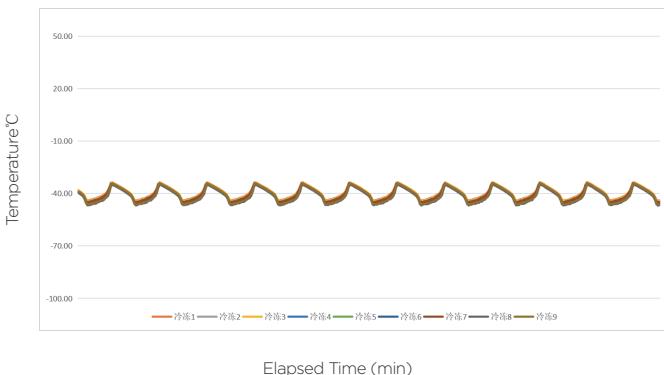
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## Dimensions and Construction

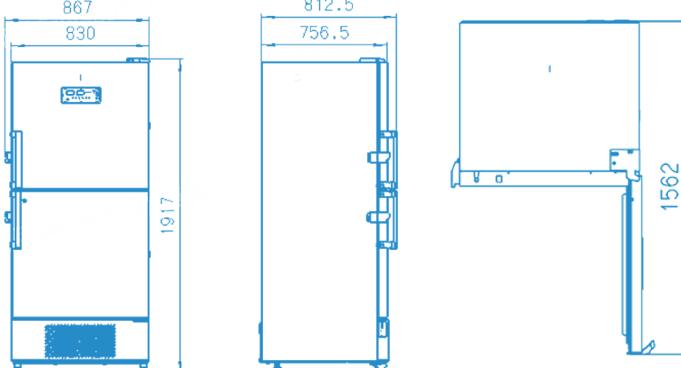
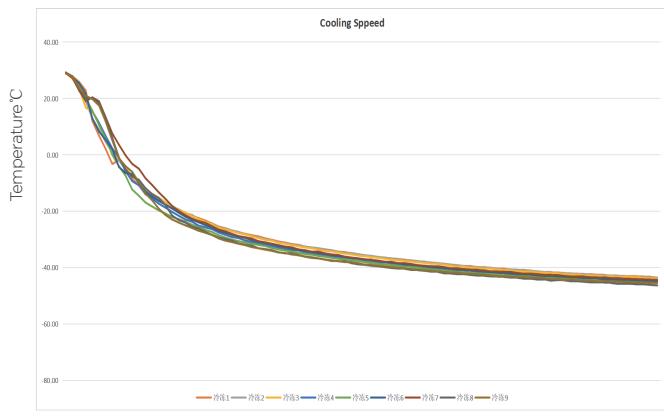
Interior (w*d*h)	Up: 680*620*650 mm Down: 680*620*650 mm
Exterior (w*d*h)	866*811*1920 mm
Access Port	1 Access Port- for external monitoring probe(s) (25 mm diameter)
Drawers	Up: 6 Down: 6
Wheels	4 Swivel Casters + 2 Leveling Feet
Net Weight	142 kg
Gross Weight	165 kg

All performance data from 518L biomedical freezer, 25 ambient, -40°C

## Uniformity



## Cooling Speed





MD-40L850B



## 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 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	Biomedical freezer
Storage Volume (L/Cu.Ft)	850/30.01
Temperature Range	-20°C ~ -40°C
Default Set Point	-30°C
Power	220~240V~/50Hz/60Hz
Current	3.3A
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	Direct cooling
Compressor	Hermetic, Inverter
Condenser Type	Built in + micro channel condenser
Expansion Device	Capillary tube
Evaporator Type	Shelf evaporator
Defrost Method	Manual defrost
Refrigerant	R290

### Controller / Configuration Settings

Display screen	LED
Controller Type	Microprocessor
Security	Lockable door, protected settings
Control Sensor	PT1000
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

### Performance Characteristics (normal operating conditions)

Uniformity   (°C)	≤3°C
Energy consumption   (kWh/day)	3.6
Noise emission   (dB)	65
Pull-down time to -40°C   (min)	220.8

### Typical Temperature Map

Fre	test 1	test 2	test 3	test 4	test 5	test 6	test 7	test 8	test 9
Avg	-39.41	-39.54	-39.59	-40.55	-40.96	-40.63	-40.09	-41.48	-40.86
Max	-33.50	-33.60	-33.60	-34.20	-34.60	-34.60	-34.00	-34.80	-34.10
Min	-44.10	-44.30	-44.40	-45.60	-46.10	-45.50	-45.00	-46.90	-46.30

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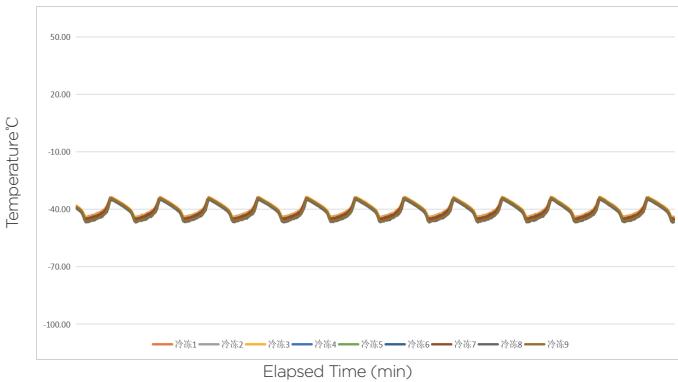
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### Dimensions and Construction

Interior (w*d*h)	885*720*1310 mm
Exterior (w*d*h)	1175*995*1980 mm
Access Port	2 Access Port- for external monitoring probe(s) (25 mm diameter)
Racks (tiers*columns)	5*5(24)
Wheels	4 Swivel Casters + 2 Leveling Feet
Net Weight	239 kg
Gross Weight	308 kg

All performance data from 850L biomedical freezer, 25 ambient, -40°C

### Uniformity



### Cooling Speed

