

Commodity Description

Item No.	Category	Model	Unit	Quantity
	Ultra-low Temperature Freezer	ULT-387		

A. Features

1 Dual Frozen System

If there is a problem with one of the running cycle, the other cycle waiting automatically operates, to maintain the desired temperature and store samples safely at all times.

2 Double copper pipes

Enable excellent time and energy savings by rapidly reducing the room temperature to -80°C . This is a patented technology which takes about 70 minutes(on average) to reach -40°C , less than 3 hours(on average) to reach -80°C .

3 One freezing cycle can maintain the temperature below -70°C on its own.

4 The two cycles operate alternately to maximize the durability of the equipment.

5 Twin mode setting allows precise temperature control, and setting to energy saving mode or rapid cooling mode.

6 Upright type model considering user's convenience and space occupancy.

7 Wide range of Temperature usage

User can use the freezer from -10°C to -90°C , from low temperature to ultra-low temperature and it can be adjusted within the range of 0.1C for the temperature accuracy.

8 Liquid polyurethane or vacuum panel (VIP) is applied for excellent insulation effect.

9 Finless condenser is convenient in maintenance for it is dust free and doesn't need filter cleaning. Instead of U-band welding type, banding type ensures durability without corrosion or refrigerant gas leakage.

10 Backup battery system.

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The automatic charging method is applied to extend the life of the backup battery. User can check its charge amount on the controller.

Depending on usage conditions, user can change charging voltage settings for convenient management.

- 11 Environmentally friendly freezer by maximizing the use of eco-friendly NON-CFC refrigerants, and materials that are reusable and harmless to the environment.
- 12 Wheels allow easy movement and horizontal adjustment, and it can be fixed also.
- 13 Automatic vacuum release valves are applied to facilitate opening and closing of doors.
- 14 A four-piece gasket on the door minimizes leakage of cold air and frost.
- 15 A door handle and a locking mechanism are altogether (Push-pull locking door handle) for convenient opening and closing the door. A separate lock allows the sample to be stored safely. RFID Card Door Open System is optional.

B. Specification

1. General Information

- 1) Temperature range: $-50\text{ }^{\circ}\text{C} \sim -86\text{ }^{\circ}\text{C}$ (max $-90\text{ }^{\circ}\text{C}$ available)
- 2) Controller can set the refrigerator temperature in $0.1\text{ }^{\circ}\text{C}$ unit
- 3) Capacity: 387 liters
- 4) Compressor: $0.5\text{HP} \times 2$
- 5) Condenser type: Finless condenser
- 6) Cooling Method: Direct Cooling Method, Dual cooling compressor system
- 7) Refrigerant: CFC-Free

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- 8) Noise: Below 65dB
- 9) Material: Internal Stainless Steel / External Galvanized Steel Plate
- 10) Door: Internal 4 VIP applied / External Push-pull locking door handle
- 11) Wheels: Height adjustment and Lock function available (4 wheels)
- 12) Insulation material: Vacuum panel (VIP) and Polyurethane
- 13) Internal size: 620 × 1200 × 500 (W × H × D) Unit: mm
External size: 910 × 1895 × 837 (W × H × D) Unit: mm
- 14) Weight: 175Kg
- 15) Power source: Rated 220V 60Hz single phase
- 16) Power consumption: 1300VA

2. Controller

* LCD Type

- 1) Display: LCD
- 2) Temperature control: It can be set within the range of 0.1℃
- 3) Temperature display: Displayed in digital number
- 4) Temperature history saving: 500Hours
- 5) Temperature storage and control function using 232 or 485 Communication
- 6) Alarm function: Alarm Types - Temperature upper limit, Temperature lower limit, Door open, Power failure, Compressor abnormality, Condenser abnormality, Temperature sensor abnormality.

*Tablet Type

- 1) Display: 8 inch touch screen
- 2) Temperature control: It can be set within the range of 0.1℃

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- 3) Temperature display: Displayed in digital number, graph display available
- 4) Temperature history saving: more than 13 years
- 5) Moving, copying and saving data to USB is available
- 6) Alarm function: Alarm Types - Temperature upper limit, Temperature lower limit, Door open, Power failure, Compressor abnormality, Condenser abnormality, Temperature sensor abnormality.
- 7) Backup battery: 12V 7AH control system active during power failure
- 8) Temperature recorder: Included on Tablet
- 9) Emergency Call Function: Included on Tablet

C. Configuration

- 1) Main unit
- 2) Controller (Tablet / LCD)
- 3) User manual
- 4) Cryo rack

D. Warranty & Certification

1. One-year warranty(Adjustable)
2. Medical device item license, GMP, FDA, CE, WHO PQ