

DualGuard ULT Freezer



Dual Cooling System

The Dual Cooling System Ultra-low Freezer avoids conventional cascade refrigeration technology by using two completely independent one-compressor, auto-cascade cooling systems, each capable of maintaining ultra-low temperatures.

Each refrigeration circuit includes a closed-loop cold-wall evaporator configured in parallel to the other. Conventional ULT freezers with single or cascade refrigeration circuits cannot work when one compressor fails.

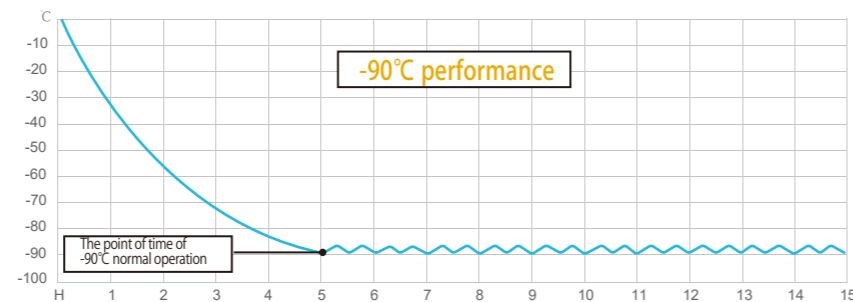
NEW DUAL COMPRESSOR FREEZING SYSTEM

Independent refrigeration system sustain freezing temperature at least -70 °C in the event of a compressor failure.

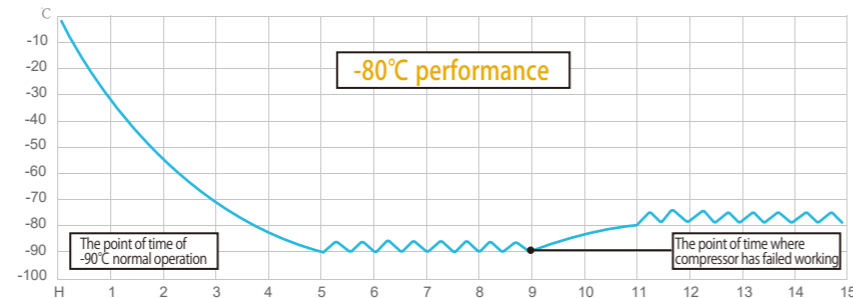
Dual Compressor System

- Simplified structure provides high efficiency, lowered noise and no failures.
- A freezer is enough for ultra cold storage at -90°C

The temperature curve of -90°C normal setting



The temperature curve of one compressor failure



Features

- Two independent refrigeration systems in one ULT freezer
- Exceptionally uniform and reliable temperature
- User-friendly design and low running costs.
- A remote alarm terminal mounted to connect to an external alarm system.
- Chart recorder is optional
- LN2 backup system or CO2 backup system is optional

Specification

| | Model | MF-86V360D | MF-86V480D | MF-86V590D |
|---------------------------------|----------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Basic | Type | Upright | Upright | Upright |
| | Capacity (L/cu ft) | 390/13.77 | 490/17.30 | 590/20.84 |
| | Temperature range (°C) | -40~-86°C | -40~-86°C | -40~-86°C |
| | Ambient temperature (°C) | 10~32°C | 10~32°C | 10~32°C |
| | Inner doors | 2 pcs, forming door | 2 pcs, forming door | 2 pcs, forming door |
| | Shelves | 3 pcs, SUS304 | 3 pcs, SUS304 | 3 pcs, SUS304 |
| | Cooling type | Direct cooling | Direct cooling | Direct cooling |
| | Refrigerant | CFC Free | CFC Free | CFC Free |
| Cooling & Controller | Noise level (dB) | 50 | 51 | 52 |
| | Cooling System | Two independent cooling system | Two independent cooling system | Two independent cooling system |
| | Compressor Qty | 2 | 2 | 2 |
| | Compressor Brand | SECOP | SECOP | SECOP |
| | Sensor | PT100 | PT100 | PT100 |
| | Controller | Microprocessor | Microprocessor | Microprocessor |
| | Display | 7" Touch Screen/LED | 7" Touch Screen/LED | 7" Touch Screen/LED |
| Electronic parameter | Voltage/Frequency | 220V~240V, 50Hz/60Hz 115V/60Hz | 220V~240V, 50Hz/60Hz 115V/60Hz | 220V~240V, 50Hz/60Hz 115V/60Hz |
| | Power (W) | 800 | 1100 | 1100 |
| Vials load | 2ml Vails (pcs) | 24000 | 32000 | 40000 |
| Size & Weight | Internal (W*D*H) mm | 460 × 600 × 1310 | 600 × 600 × 1310 | 740 × 600 × 1310 |
| | External (W*D*H) mm | 730 × 845 × 1970 | 870 × 845 × 1970 | 1010 × 845 × 1970 |
| | Net/Gross weight (kg) | 215 | 250 | 280 |
| Alarm System | High/low temperature | ✓ | ✓ | ✓ |
| | Power failure alarm | ✓ | ✓ | ✓ |
| | Sensor malfunction | ✓ | ✓ | ✓ |
| | Backup battery malfunction | ✓ | ✓ | ✓ |
| | Condenser dirty alarm | ✓ | ✓ | ✓ |
| | High ambient temperature | ✓ | ✓ | ✓ |
| | Door open | ✓ | ✓ | ✓ |
| Accessories | Caster | 4 | 4 | 4 |
| | Test hole/Diameter | 1/25mm | 1/25mm | 1/25mm |
| | Remote alarm contact | ✓ | ✓ | ✓ |
| | USB Port | Optional | Optional | Optional |
| | Temperature recorder | Optional | Optional | Optional |
| | Freezer racks | Optional | Optional | Optional |
| | CO2 backup system | Optional | Optional | Optional |
| | LN2 backup system | Optional | Optional | Optional |

Classic ULT freezer

Performance

- Temperature reaches -86 °C, adjustable -40 °C~-86 °C ,
- Microprocessor controller with LED display increment 0.1
- Wide range operating voltage system from 185V to 260 V

Reliability

- Single compressor and auto-cascade refrigerant system
- World famous compressor (SECOP) and FAN (EBM)
- Lower the noise and low power consumption

Safety

- Audible and visual alarm:
- High/Low temperature alarm
- Sensor error alarm
- Power failure alarm
- Remote alarm contact

Ergonomic Design

- Safety lock to prevent unauthorized
- Universal lockable caster design for ease of maneuvering
- Adjustable storage shelf height
- Unique CFC-free mixed refrigerant

Upright type



MF-86V58

MF-86V158

Chest type



MF-86H258

Specification

| Model | MF-86V58 | MF-86V158 | MF-86H118 | MF-86H258 | MF-86H458 |
|--------------------------------|--|--|--|--|--|
| Technical Data | | | | | |
| Cabinet Type | Upright | Upright | Chest | Chest | Chest |
| Gross Capacity (L) | 58 | 158 | 118 | 258 | 458 |
| Climate Class | N | N | N | N | N |
| Cooling Type | Direct Cooling | Direct Cooling | Direct Cooling | Direct Cooling | Direct Cooling |
| Cooling System | Single Compressor Auto-cascade System | Single Compressor Auto-cascade System | Single Compressor Auto-cascade System | Single Compressor Auto-cascade System | Single Compressor Auto-cascade System |
| Defrost Mode | Manual | Manual | Manual | Manual | Manual |
| Refrigerant | CFC-Free | CFC-Free | CFC-Free | CFC-Free | CFC-Free |
| Door | Single Solid Door | Single Solid Door | Single Solid Door | Single Solid Door | Single Solid Door |
| Noise (dB) | 50 | 50 | 50 | 50 | 50 |
| Performance | | | | | |
| Temperature Range (°C) | -40 ~ -86 | -40 ~ -86 | -40 ~ -86 | -40 ~ -86 | -40 ~ -86 |
| Cooling Performance (°C) | -86 | -86 | -86 | -86 | -86 |
| Control | | | | | |
| Temperature Control | Microprocessor | Microprocessor | Microprocessor | Microprocessor | Microprocessor |
| Display | LED | LED | LED | LED | LED |
| Material | | | | | |
| Interior | SUS304 | SUS304 | SUS304 | SUS304 | SUS304 |
| Exterior | Powder Coated Steel | Powder Coated Steel | Powder Coated Steel | Powder Coated Steel | Powder Coated Steel |
| Shelf | SUS304 | SUS304 | N/A | N/A | N/A |
| Insulation | PU Forming | PU Forming | PU Forming | PU Forming | PU Forming |
| Electrical Data | | | | | |
| Voltage/Frequency | 220V~240V, 50Hz/60Hz 115V/60Hz | 220V~240V, 50Hz/60Hz 115V/60Hz | 220V~240V, 50Hz/60Hz 115V/60Hz | 220V~240V, 50Hz/60Hz 115V/60Hz | 220V~240V, 50Hz/60Hz 115V/60Hz |
| Power (W) | 400 | 450 | 450 | 500 | 550 |
| Dimensions | | | | | |
| Net/Gross Weight (kg) | 75/95 | 130/160 | 90/135 | 220/240 | 240/270 |
| Internal Dimension (W/D/H, mm) | 364x405x409 | 460x455x800 | 700x470x360 | 780x500x660 | 1330x500x600 |
| External Dimension (W/D/H, mm) | 540x620x1115 | 700x700x1580 | 900x750x920 | 1510x885x1095 | 2110x885x1095 |
| Packing Dimension (W/D/H, mm) | 610x700x1240 | 780x800x1710 | 1330x850x1140 | 1570x945x1230 | 2170x945x1230 |
| Container Load (20'/40'/40'H) | 27/57/104 | 21/45/45 | 16/36/36 | 7/15/30 | 5/11/22 |
| Functions | | | | | |
| High/Low Temperature Alarm | Y | Y | Y | Y | Y |
| Remote Alarm Contact | Y | Y | Y | Y | Y |
| Power Failure Alarm | Y | Y | Y | Y | Y |
| Sensor Error Alarm | Y | Y | Y | Y | Y |
| Accessories | | | | | |
| Door Lock | Y | Y | Y | Y | Y |
| Caster | 4 | 4 | 6 | 6 | 8 |
| Shelf/Chamber | 1/2 | 2/3 | N/A | N/A | N/A |
| Inner Door | 1 | 3 | 1 | 1 | 1 |
| Remote Alarm Contact | Standard | Standard | Standard | Standard | Standard |
| Test Hole | Standard | Standard | Standard | Standard | Standard |
| Chart Recorder | Optional | Optional | Optional | Optional | Optional |
| CO2 Backup System | Optional | Optional | Optional | Optional | Optional |
| LN2 Backup System | Optional | Optional | Optional | Optional | Optional |
| Others | | | | | |
| Certificate | CE, ISO9001 | CE, ISO9001 | CE, ISO9001 | CE, ISO9001 | CE, ISO9001 |