

METHER

SERIES

-86 °C Dual System



MDF-86V728D

This product is specially designed and manufactured for long term storage of various biological product, including viruses, germs, erythrocytes, leucocyte and cutis. Applications can be found in blood banks, hospitals, epidemic prevention services, and research institutes, laboratories in electronic and chemical plants, bio-logical engineering institutes and marine fishery companies.

01

-86 °C Mether Dual System



FILED PROVEN RELIABILITY

- Unique insulated inner door design for four separate storage compartments to minimize frost buildup inside the chamber.
- Specialized control system design for a well-balanced operation of dual refrigeration system.
- Positive filed proven reliability record.



SAFETY

- Malfunction alarms including high and low temperature, power failure, sensor error, clean-filter, and extremely high ambient, abnormal voltage, thermostat failure, low battery, condenser clean, door ajar.
- Capable of producing two types of alarm outputs, audible buzzer and visible flashing light.
- Door open feature standard and USB port for temperature date downloading standard on upright models.
- Remote alarm contacts.



INSTALLATION AND APPLICATION

- Wide rage operating voltage system from 187V to 242V designed to allow units installed in areas with poor voltage condition
- Suitable for 10°C to 32°C ambient temperature



MDF-86V838D



MDF-86V598D



MDF-86V408DL



ENERGY SAVING

- Unique door seal design for the minimum loss of cold temperature during a door opening.
- High performance VIP insulation panels to minimize cabinet heat gain and to improve temperature stability.



KEY DESIGN FEATURES

- Microprocessor-controlled system designed for controlled rage of -40°C to -86°C for cabinet space with 1°C increment
- Settable high temperature and low temperature alarms.
- Automatic clean-filter alarm and sensor error alert.
- Adjustable storage shelf height
- Optional temperature recorder, storage racks and storage box
- Double security with two independent cooling system, when one system breakdown, the other system could maintain the inner temperature at -70°C.

02



03



-86 °C Mether Dual System

--7 Inches Touch Screen & Functions

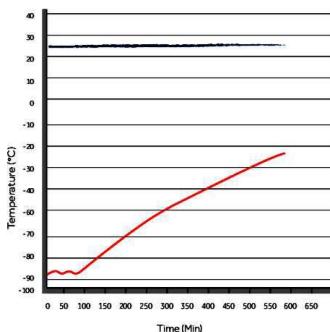
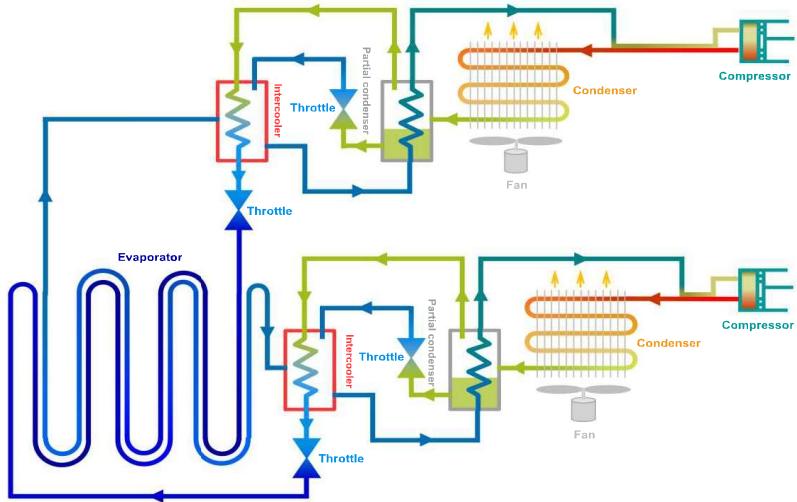


The touch screen interface includes the following sections:

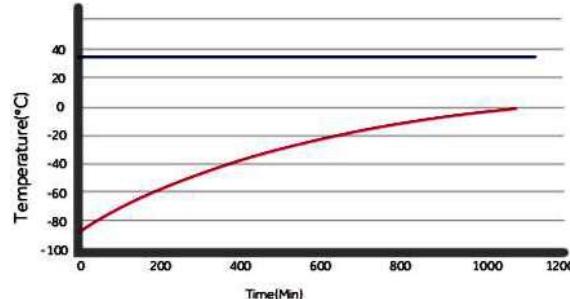
- Status:** Displays the system's status with icons for Inner, Ambient, and Condenser temperatures, and compressor conditions (Compressor 1 and Compressor 2).
- Setting:** Includes icons for Parameter, Time, Inventory, Account, Backup, and Network.
- Initial Setting:** Allows setting Date (Y/M/D), Time (H/M/S), and Unit (°C/F).
- High Performance Mode:** Shows ambient temperature and power level.
- History Curve:** A graph showing historical data over time.

| Alarm | Alarm Triggering Condition |
|--------------------------|--|
| High Temperature | Temperature reaches the warm alarm limit |
| Low Temperature | Temperature reaches the low alarm limit |
| Power Failure | Equipment loses power |
| Door Ajar | Door open period exceeds 5 mins |
| Probe Failure | <ol style="list-style-type: none"> Main cabinet temperature control sensor fails Condenser sensor fails Ambient sensor fails Heat exchanger sensor fails Heat exchanger temperature fails |
| Low Battery | Battery capacity runs low or battery switch is not turned on |
| Hot Condenser | <ol style="list-style-type: none"> Condensers filter element is clogged Ambient temperature is too high |
| High Ambient Temperature | Ambient temperature exceeds 32°C |
| Other alarms | <ol style="list-style-type: none"> Thermostat failure Abnormal voltage alarm |

Dual System Circulation System



Pull-up test at 25°C ambient
MDF-86V588D



MDF-86V588D

METHER SERIES

-86°C Cascade System



METHER -86°C Cascade System



01



-86 °C Mether Cascade System



FILED PROVEN RELIABILITY

- Unique insulated inner door design for four separate storage compartments to minimize frost buildup inside the chamber.
- Specialized control system design for a well-balanced operation of cascade refrigeration system.
- Positive filed proven reliability record.



ENERGY SAVING

- Unique door seal design for the minimum loss of cold temperature during a door opening.
- High performance VIP insulation panels to minimize cabinet heat gain and to improve temperature stability.
- HC Refrigerant with better efficiency & less energy cost, good for environment.



SAFETY

- Malfunction alarms including high and low temperature, power failure, sensor error, clean-filter, and extremely high ambient, abnormal voltage, thermostat failure, low battery, condenser clean, door ajar.
- Capable of producing two types of alarm outputs, audible buzzer and visible flashing light.
- Door open feature standard and USB port for temperature date downloading standard on upright models.
- Remote alarm contacts.



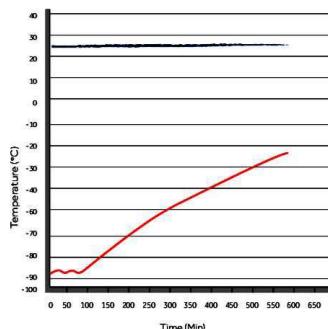
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- Adjustable storage shelf height
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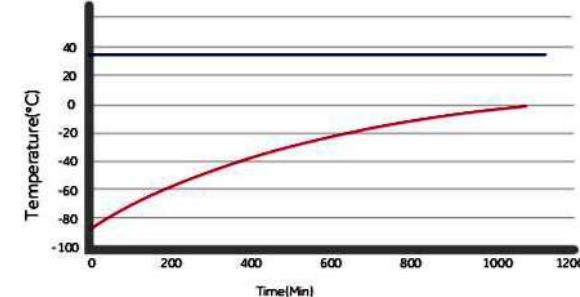
INSTALLATION AND APPLICATION

- Wide range operating voltage system from 187V to 242V designed to allow units installed in areas with poor voltage condition
- Suitable for 10°C to 32°C ambient temperature



Pull-up test at 25°C ambient

MDF-86V728

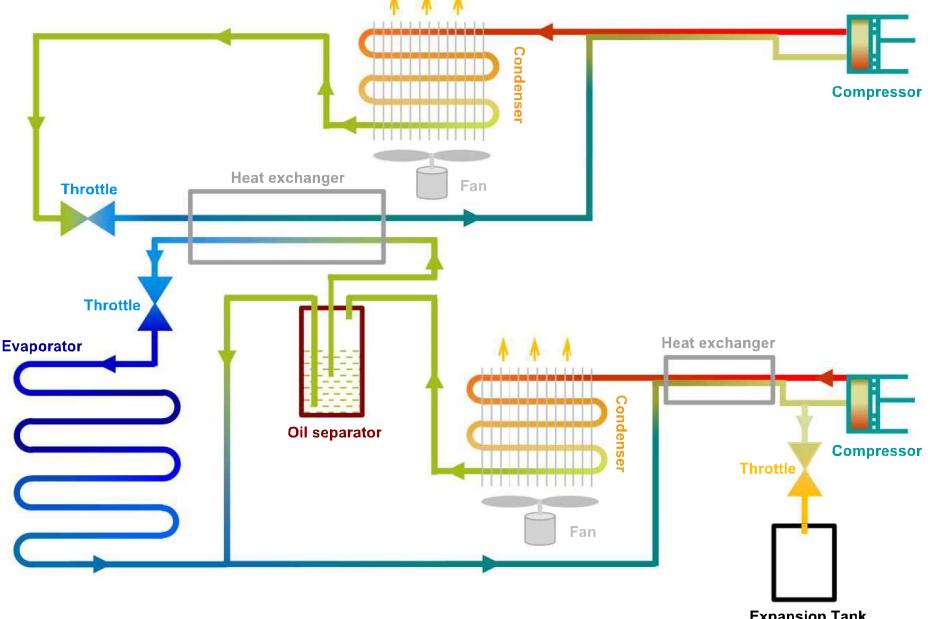


Pull-up test at 32°C ambient

MDF-86V728

02

Cascade System Heat Exchange Circulation



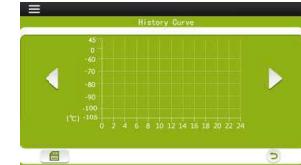
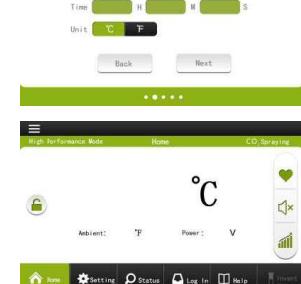
03



-86 °C Mether Cascade System --7 Inches Touch Screen & Functions



| Alarm | Alarm Triggering Condition |
|--------------------------|---|
| High Temperature | Temperature reaches the warm alarm limit |
| Low Temperature | Temperature reaches the low alarm limit |
| Power Failure | Equipment loses power |
| Door Ajar | Door open period exceeds 5 mins |
| Probe Failure | 1. Main cabinet temperature control sensor fails 2. Condenser sensor fails 3. Ambient sensor fails 4. Heat exchanger sensor fails 5. Heat exchanger temperature fails |
| Low Battery | Battery capacity runs low or battery switch is not turned on |
| Hot Condenser | 1. Condensers filter element is clogged 2. Ambient temperature is too high |
| High Ambient Temperature | Ambient temperature exceeds 32°C |
| Other alarms | 1. Thermostat failure 2. Abnormal voltage alarm |



04



2 individual inner doors can be opened independently to minimize frost buildup inside the chamber
 Unique door seal design for the minimum loss of cold temperature during a door opening
 Stainless Steel handle to ensure the door open conveniently even in the case of frost



Excellent Doors Seals
 5 gasket seal, 4 seals for out door

7 Inches touch Screen
 All data display on the screen, easy to observe

Write Board for short records which would pass to next user

Green Handle, easy to use with 2 locks

Special V.I.P(Vacuum Insulation Panel) design with extra insulation factor cuts down heat loss to cabinet by 25%



Big condenser for better heat dissipation



Changeable sensor box or you could put another sensor from here to monitor or record temperature



PROMED

SERIES

-86 °C Self- Cascade System



MDF-86V728E



This product is specially designed and manufactured for long term storage of various biological product,including viruses, germs. erythrocytes, leucocytes and cutis. Applications can be found in blood banks, hospitals, epidemic prevention services, and research institutes, laboratories in electronic and chemical plants. bio-logical engineering institutes and marine fishery companies.



SAFETY

- Malfunction alarms including high and low temperature, power failure, sensor error, clean-filter, and extremely high ambient , abnormal voltage, thermostat failure, low battery, condenser clean, door ajar.
- Capable of producing two types of alarm outputs, audible buzzer and visible flashing light.
- Door open feature standard and USB port for temperature date downloading standard on upright models.
- Remote alarm contacts.



KEY DESIGN FEATURES

- Microprocessor-controlled system designed for controlled range of -40°C to -86°C for cabinet space with 1°C increment
- Settable high temperature and low temperature alarms.
- Automatic clean-filter alarm and sensor error alert.
- Adjustable storage shelf height
- Optional temperature recorder, storage racks and storage box



INSTALLATION AND APPLICATION

- Wide range operating voltage system from 187V to 242V designed to allow units installed in areas with poor voltage condition
- Suitable for 10°C to 32°C ambient temperature



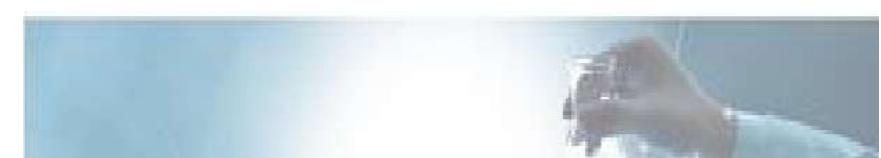
FILED PROVEN RELIABILITY

- Unique insulated inner door design for four separate storage compartments to minimize frost buildup inside the chamber.
- Specialized control system design for a well-balanced operation of cascade refrigeration system.
- Positive filed proven reliability record.



ENERGY SAVING

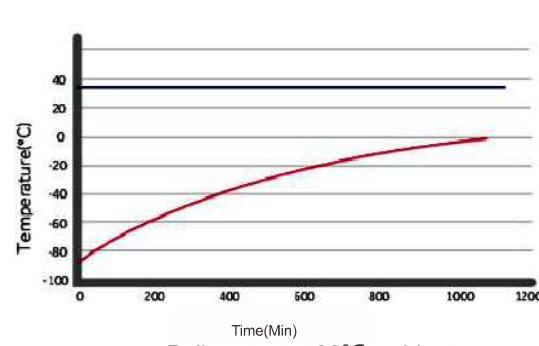
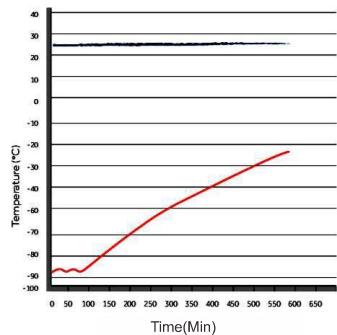
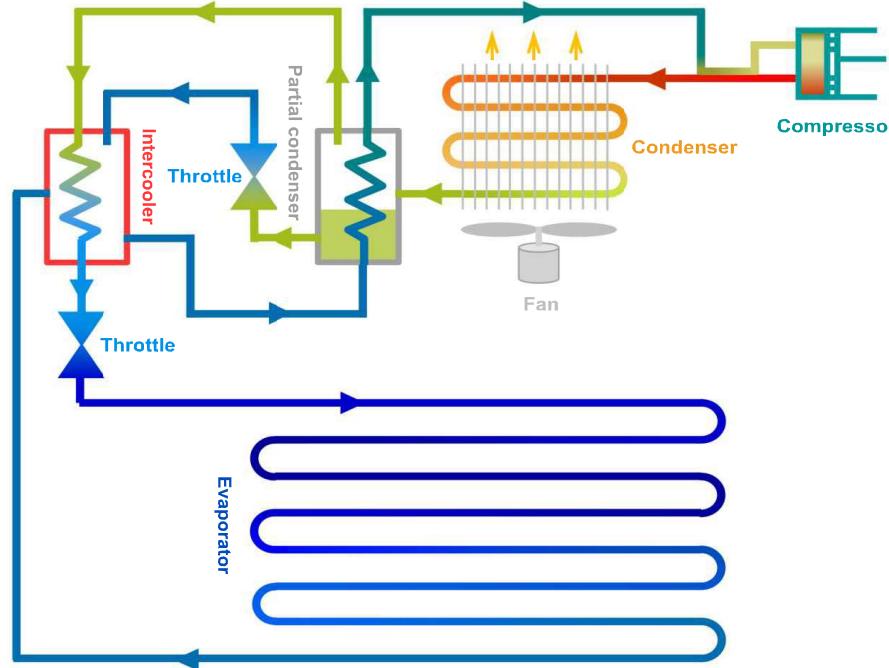
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- High performance VIP insulation panels to minimize cabinet heat gain and to improve temperature stability.



02



-86 °C Self- Cascade System



03



-86 °C Self- Cascade System



3 individual inner doors can be opened independently to minimize frost buildup inside the chamber. Unique door seal design for the minimum loss of cold temperature during a door opening. Stainless Steel inner handle to ensure the door open conveniently even in the case of frost.



Excellent Doors Seals 5 gasket seal, 4 seals for out door, 1 seal for inner door which provides maximum protection against thermal intrusion



Big Door handle, easy to open



Sample port on back for temperature monitoring conveniently



Big condenser for better heat dissipation, Ambient Temperature sensor



04



-86 °C Self- Cascade System

Eye-level controls for quick and easy programming and viewing

Display for working temperature, setting temperature, high-alarming temperature, low-alarming temperature, password setting, and codes error

04

Eye-level controls for quick and easy programming and viewing

Display for working temperature, setting temperature, high-alarming temperature, low-alarming temperature, password setting, and codes error



Operating status display

Selecting function

Adjusting key

Audio alarm

Silencing sound alarm

Malfunction detection
Visual alarm

| Alarm | Alarm Triggering Condition |
|--------------------------|---|
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| Low Temperature | Temperature reaches the low alarm limit |
| Power Failure | Equipment loses power |
| Door Ajar | Door open period exceeds 5 mins |
| Probe Failure | 1. Main cabinet temperature control sensor fails 2. Condenser sensor fails 3. Ambient sensor fails 4. Heat exchanger sensor fails 5. Heat exchanger temperature fails |
| Low Battery | Battery capacity runs low or battery switch is not turned on |
| Hot Condenser | 1. Condensers filter element is clogged 2. Ambient temperature is too high |
| High Ambient Temperature | Ambient temperature exceeds 32°C |
| Other alarms | 1. Thermostat failure 2. Abnormal voltage alarm |

05



-86 °C Self- Cascade System



CHARACTERISTIC FUNCTION

- Safety door lock design to prevent abnormal door open
- Wide voltage for AC187V-AC242V
- Mute design for salient needed environment
- Digital display with big screen, easy to check
- Excellent thermal insulation performance with silicone door seal design (second door seal optional)
- Mobile and fixable wheel for move



BOX

The box is made of high quality cold rolled steel plate, and the surface is treated with advanced anti-corrosion phosphatic spraying process with elegant orange powder coating. High-class 304 SUS inner box, durable and reliable.



SAFETY GUARANTEE

- Temperature high/low alarm, sensor malfunction alarm, thermostat failure alarm
- Audible and visible alarm
- Keyboard lockable, password protection to prevent change running parameter randomly
- Display running parameter with real-time monitoring to guarantee the stability of freezer



TEMPERATURE CONTROL MODE

- With the international famous brand computer temperature control system to keep the inner temperature accurate and stable. Temperature adjusted from -40°C~86°C
- High light digital display
- High/low temperature alarm, the alarm temperature can be set as needed
- Platinum resistance temperature sensor, sensing temperature accurately



REFRIGERATION SYSTEM

- Imported brand compressor work with CFC-Free environmental refrigerant
- High density insulation foam layer with better heat preservation effect
- Optimized self-cascade refrigeration system to provide faster cooling speed with lower power consumption

3、BIOLOGICAL SAMPLE BANKS REQUIRE CONSUMABLES

1.Medical ULT Freezer

MDF-86V838D

Temperature Range
-40°C~ -86°C

Capacity
838L



MDF-86V588D

Temperature Range
-40°C~ -86°C

Capacity
588L

| Model | Volume | Exterior dimensions (W*D*H/mm) | Interior dimensions (W*D*H/mm) | Net Weight/kg | Power/W | Temp Range/°C | Compressor/NO. | Optional accessory |
|-------------|--------|--------------------------------|--------------------------------|---------------|---------|---------------|----------------|-------------------------------------|
| MDF-86V838D | 838L | 1160*1085*1994.5 | 894*718*1310 | 275kg | 1475W | -40°C~ -86°C | Secop/2 | Data logger, CO2\LN2 back up system |
| MDF-86V588D | 588L | 872*1100*1994.5 | 606*738*1310 | 249kg | 1250W | -40°C~ -86°C | Secop/2 | Data logger, CO2\LN2 back up system |

2.CONSUMABLES FOR ULT FREEZER



Two code management system to locate and monitor vials



Label Printer



Batch code recognition machine



Multiple Color for multiple choice



PPT BOX



304SUS Racks

| Freezer Brand | Freezer Model | Capacity(L) | Shelves | Compartments | Size of Racks(H*D) | Racks per Shelf | Racks per Freezer | Boxes Per Rack | Boxes per Freezer | Box Size(mm) | Vials per Freezer |
|---------------|---------------|-------------|---------|--------------|--------------------|-----------------|-------------------|----------------|-------------------|--------------|-------------------|
| METHER | MDF-86V408 | 408 | 3 | 4 | 5*4 | 4 | 16 | 20 | 288 | 28800 | |
| | MDF-86V408DL | | | | 4*4 | 4 | | 16 | | | |
| | MDF-86V588 | 588 | 3 | 4 | 5*5 | 4 | 16 | 25 | 400 | | |
| | MDF-86V588D | | | | 5*4+6*4 | 6 | | 24 | | | |
| | MDF-86V728 | 728 | 3 | 4 | 5*4+6*4 | 6 | 24 | 20+24 | 504 | 50400 | |
| | MDF-86V838 | 838 | 3 | 4 | 5*5 | 6 | 24 | 25 | 600 | | |
| PROMED | MDF-86V838D | | | | 5*5 | 6 | | 25 | | | |
| | MDF-86V188E | 188 | 2 | 3 | 4*3 | 3 | 9 | 12 | 108 | 10800 | |
| | MDF-86V340E | 340 | 3 | 4 | 4*4 | 3 | 12 | 16 | 192 | 19200 | |
| | MDF-86V408E | 408 | 3 | 4 | 5*4 | 4 | 16 | 20 | 288 | 250 | |
| | MDF-86V588E | | | | 4*4 | 4 | | 16 | | | |
| | MDF-86V838E | 838 | 3 | 4 | 5*5 | 6 | 24 | 25 | 600 | | |
| | MDF-86H105 | 105 | / | 1 | 11*1+6*1 | / | 4 | 11+6 | 34 | 3400 | |
| | MDF-86H485 | 485 | / | 1 | 11*1+6*1 | / | 30 | 11+6 | 300 | 30000 | |
| | MDF-86V58 | 58 | / | 1 | 6*2 | / | | 2 | 24 | | |

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