

HC SERIES

-86°C Ultra-low Freezers



*Cooling specialist
in your laboratory!*



Stable performance **Efficient** **Energy-saving**



GET STARTED WITH HC SERIES ULT FREEZERS

EFFICIENT COOLING SYSTEM

- High-performance reliable compressors with long service time
- Excellent performance even in extreme ambient conditions
- Low noise operation @ 50dB
- CFC-free refrigerant R290&R170



ADVANCED INSULATION

- Internal V.I.P panels reduce cold loss
- CFC-free high-density PU foam
- Better warm up time keeps the samples cold as long as possible once power failure

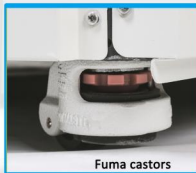
INTELLIGENT CONTROLLER

- Eye-level 7" color touch screen for simple and intuitive operation
- Integrated temperature display, graphs, Freezer status, and events monitoring
- Complete alarm system escorts your valuable bio-samples



EXCELLENT EXTENSIBILITY

- Internal USB data logger
- Equiped with remote alarm interface
- Optional RS485/232 contact
- Optional water cooling system
- Optional temperature chart recorder



USER-FRIENDLY DESIGN

- Automatic vacuum release port allows users to open&close the door frequently
- Ergonomic one-handed operation handle
- File box design for keeping daily files
- Standard built-in door lock and padlock port

OPTIMIZED CONSTRUCTION

- Quick-release condenser cover
- Sturdy shell & chamber for longer service life
- Heavy duty fuma universal castors

Guide to Models

MDF - 86 V 588

Model	Code	Temp. Range	Type	Capacity
Ultra-low temperature Freezer	Medical Deep Freezer	-40°C ~ -86°C	Vertical	338 liters
				408 liters
				588 liters
				728 liters
				838 liters



Humanized Designs



Quick release magnetic filter



One-hand operation handle



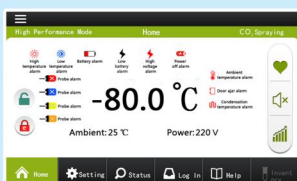
File-box for keeping Logbooks



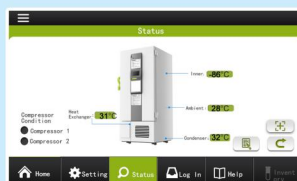
Easy access USB interface



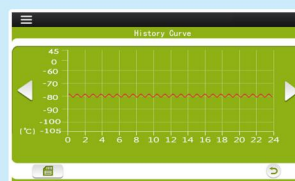
Intelligent Controller



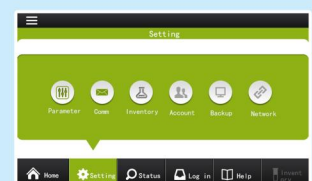
Complete alarm function



Monitoring of status



Temp. graphs & downloading



Parameter settings

INNER QUALITIES ARE MORE IMPORTANT



DELICATE INTERIOR

Stepped door frame design
Reduce cold air leakage and ice buildup



Keep the cold inside

Advanced VIP panels, thick PU insulation, and efficient sealings firmly lock the cold air inside.



Compartment doors
Stainless steel and 27mm thick PU foam-filled inner doors for better insulation

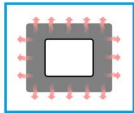


Complete SS chamber
Robust stainless steel body for high sample safety and easy cleaning



Access port
For extra monitoring device

Enhanced shelf design
SS shelf supports 40kg



Door frame heating
Effectively prevents ice buildup



Detachable design
Inner doors can be easily removed and cleaned



Vacuum release port
For quick re-access to samples



Inner door gaskets
Low temp. resistance flexible silicone sealings recede cold leakage



Lock the cold air
Inner door closing pressure can be adjusted by the handle



Heavy duty hinges
Guarantee 10 years of door body without deformation



User-friendly design



Stable performance



Excellent insulation



Energy-saving



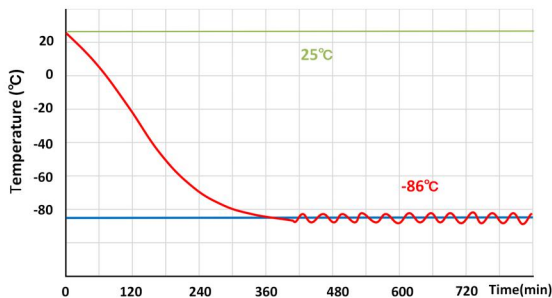
CFC-free



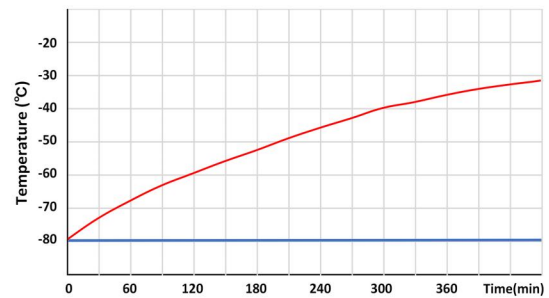
Quiet operation



RELIABLE PERFORMANCE



MDF-86V588 pull down times @ ambient 25°C



MDF-86V728 warm up times @ ambient 25°C

Proven cascade system

- Proven 2 stages cooling system with CFC-free refrigerant
- Superior microcomputer control for longer service life
- Efficient cascade cooling system saves you electricity bills

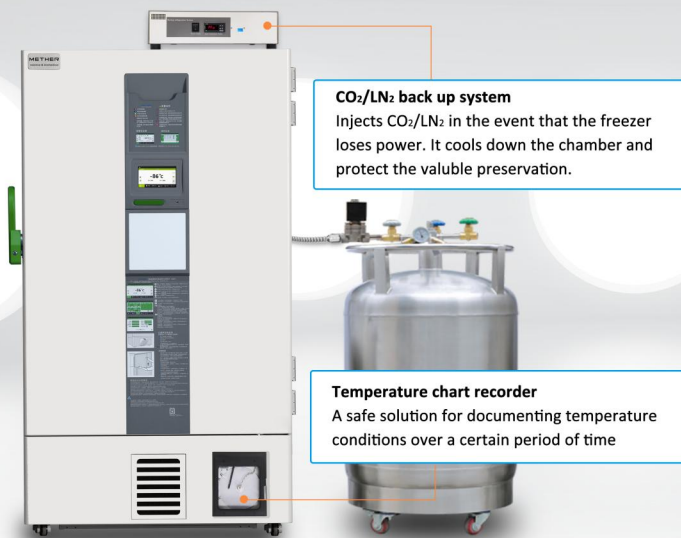
Leading warm up times

- Slower warm-up during an extended power failure buys the user time for carrying out a back-up plan
- Advanced insulation tech maximum the locking of cold air

MORE THAN A ULT FREEZER



SUPER EXTENSIBILITY



CO₂/LN₂ back up system

Injects CO₂/LN₂ in the event that the freezer loses power. It cools down the chamber and protect the valuable preservation.

Temperature chart recorder

A safe solution for documenting temperature conditions over a certain period of time



4G/Wifi Data logger

An external monitoring device to record internal temperature and upload data to internet management platform



Remote interface

Equipped with a standard remote alarm port and RS485 dry contact for connection to BMS system



Water cooling system

A special device that cools the refrigeration system and allows the freezer to work more efficient or under extreme conditions



ACCESSORIES



110V System

The freezer can be customized to operate on 110V power, making it suitable for use in countries with 110V power supply.



Voltage stabilizer

It is for regions with unstable voltage to ensure optimal operating conditions for the freezers.



Data Logger (DLW-100EC)

DLW-100EC is a monitoring device independent of the freezer, it can record the realtime temperature in the chamber and provide the necessary alerts to protect your irreplaceable samples



4G/Wifi Data Logger (DLW-360P)

DLW-360P is a networked device that can upload real-time temperature data to the cloud. Users can monitor and manage the data through the mobile app or web based cloud platform.



CO₂/LN₂ Back-up System

The back-up system injects liquid CO₂/LN₂ on demand when cabinet temperature warms to a pre-set level. Back-up system includes all hardware except the supply cylinder. In the event of a power failure, the system will operate on a charged battery.



6" Temperature Chart Recorder

The chart recorder provides an easy-to-read graph of data vs time. It is a reliable, accurate, and stable instrument, for on-the-spot written documentation of freezer chamber temperature.



Additional Shelves

Each ULT freezer comes standard with 3 shelves. Extra shelves are available and each shelf comes with 4 clips.



6" Temperature Chart

6" Temperature Chart, 7day, 54/pack



Ice Scraper

Ice scraper is available for cleaning ice built up on door gasket, PEP and other places in the freezer



Cryo Safety Gloves

Mid-arm style cryo safety gloves are available for use with ultra-cold surfaces. Cryo safety gloves protect hands and arm when inserting or removing inventory



Stainless Steel Racks

Store the 2" cyo-boxes within organized freezer racks. High quality stainless steel racks to optimize your freezer space and makes it easy to find the items you desire.







Cryo-boxes & Cryo-tubes




Fit into ULT freezers. The outer footprint dimensions (133mm) are compatible with common racks and the inner grid provides for a perfect fit to cryotubes.

MANAGE YOUR BIO-SAMPLES PERFECTLY






CRYO-RACKS & CRYO BOXES

Store your freezer storage boxes within organized freezer racks. Stainless steel racks are optional to optimize your freezer space and makes it easy to find the items you desire. We offer variety of racks for our freezers. These racks are made of high-quality stainless steel and help you organize the samples inside your freezer.

Optimize your limited freezer space				
Model	N3J-244D	N3J-254D	N3J-255D	MN3J-264D
Material	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Box type	2 inch 9*9/10*10	2 inch 9*9/10*10	2 inch 9*9/10*10	2 inch 9*9/10*10
Box layout(H*D)	4 * 4	5 * 4	5 * 5	6 * 4
Box Qty(pc)	16	20	25	24
Dimensions W*D*H(mm)	140*559*236	140*559*291	140*686*291	140*559*350
Net weight (kg)	3.4	4.3	5.2	5.0

Organize your numerous bio-samples			
Model	Cardboard box	PP box	PC box
Material	Cardboard	Polypropylene	Polycarbonate
Temp. range	-196°C ~ 121°C		
Grid	9*9 wells for crew-cap vial 10*10 wells for internal-thread vial		
Cryo-vial	0.5/1.5/1.8/2.0ml		
Dimensions W*D*H	133*133*53mm		

CRYO-RACKS LAYOUT

Fit into your daily lab work					
Model	MDF-86V338	MDF-86V408	MDF-86V588	MDF-86V728	MDF-86V838
Layout	N3J-244D*12	N3J-254D*8 N3J-244D*8	N3J-255D*16	N3J-254D*18 N3J-264D*6	N3J-255D*24
Boxes (2 Inches)	192	288	400	504	600
Cryo-vial (2ml)	19,200	28,800	40,000	50,400	60,000

PARAMETERS OF NEW GENERATION ULT FREEZERS

General Parameters



Model	MDF-86V338	MDF-86V408	MDF-86V588	MDF-86V728	MDF-86V838	
Specifications	Shelf/drawer QTY	Stainless steel shelf/3	Stainless steel shelf/3	Stainless steel shelf/3	Stainless steel shelf/3	Stainless steel shelf/3
	Cooling	Direct cooling	Direct cooling	Direct cooling	Direct cooling	Direct cooling
	Defrost	Manual	Manual	Manual	Manual	Manual
	Refrigerant	HC (R290&R170)	HC (R290&R170)	HC (R290&R170)	HC (R290&R170)	HC (R290&R170)
	Noise(db)	50	50	53	53	53
	Ambient temperature (°C)	10~32℃	10~32℃	10~32℃	10~32℃	10~32℃
	Temperature range (°C)	-40~-86℃	-40~-86℃	-40~-86℃	-40~-86℃	-40~-86℃
Cooling system	Compressor brand/QTY	SECOP/2	SECOP/2	SECOP/2	SECOP/2	SECOP/2
	Cooling system	Cascade	Cascade	Cascade	Cascade	Cascade
	Sensor	PT 100	PT 100	PT 100	PT 100	PT 100
	Temperature controller	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor
	Display	7" LCD touch screen	7" LCD touch screen	7" LCD touch screen	7" LCD touch screen	7" LCD touch screen
	Pull down time*(min)	276	314	340	360	365
	Warm up time**(min)	205	234	273	292	304
Power	Voltage/frequency(V/Hz)	220V/50Hz	220V/50Hz	220V/50Hz	220V/50Hz	220V/50Hz
	Power(W)	620W	650W	690W	710W	720W
	Power Consumption(kWh/24h)	11.17	12.43	14.85	14.98	16.47
Material	Inside material	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
	Outside material	Color sprayed steel	Color sprayed steel	Color sprayed steel	Color sprayed steel	Color sprayed steel
	Insulation	VIP + PURF	VIP + PURF	VIP + PURF	VIP + PURF	VIP + PURF
Measurement	Capacity(L/cu.ft)	338/11.93	408/14.40	588/20.76	728/25.7	838/29.59
	NT./GT.(kg)	244/304	235/279.5	290/354	300/370	331/408
	Exterior size(W*D*H)(mm)	854*1006*1907	872*1028*1945.5	872*1192*1994.5	1229*1012*1994.5	1160*1172*1994.5
	Interior size(W*D*H)(mm)	488*607*1140	606*575*1180	606*738*1310	963*571*1350	894*718*1310
	Package size(W*D*H)(mm)	935*1070*2128	954*955*2094	970*1138*2185	1320*970*2185	1270*1100*2185
	Shipping CBM	2.14	1.93	2.45	2.8	3.12
	20GP/40GP/40HQ	12/24/24	12/24/24	12/24/24	10/21/21	8/18/18
Rack	Racks	N3J-244D*12	N3J-254D*8 N3J-244D*8	N3J-255D*16	N3J-254D*18 N3J-264D*6	N3J-255D*24
	Boxes (2 Inches)	192	288	400	504	600
	Samples(2ml)	19200	28800	40000	50400	60000
Alarms	High/low temperature	Y	Y	Y	Y	Y
	Power failure	Y	Y	Y	Y	Y
	Abnormal voltage	Y	Y	Y	Y	Y
	Sensor error	Y	Y	Y	Y	Y
	Filter screen check	Y	Y	Y	Y	Y
	Thermostat failure	Y	Y	Y	Y	Y
	Low battery	Y	Y	Y	Y	Y
	Condenser clean	Y	Y	Y	Y	Y
	High ambient temperature	Y	Y	Y	Y	Y
	Door ajar	Y	Y	Y	Y	Y
Power failure backup	72h	72h	72h	72h	72h	
Accessories	Castor	Y	Y	Y	Y	Y
	Compartment door	2	2	2	2	2
	Access port QTY/diameter	1/25MM	1/25MM	1/25MM	1/25MM	1/25MM
	USB port	Y	Y	Y	Y	Y
	Chart recorder	Optional	Optional	Optional	Optional	Optional
	Data logger	Optional	Optional	Optional	Optional	Optional
Remote alarm port	Y	Y	Y	Y	Y	

* Pull down to -80°C @ ambient temperature 25°C (No load) ** Hold over to -40°C @ ambient temperature 25°C (No load)