

New Generation

-86°C Ultra-low Freezers



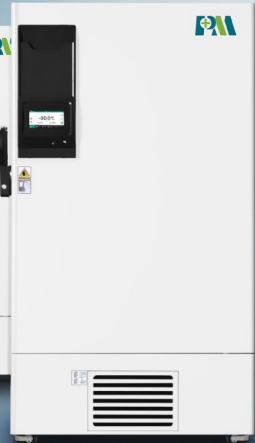
More efficient, more economical



MDF-86V408E



MDF-86V728E



MDF-86V838E



MDF-86V588E



MDF-86V340E

The new generation Ultra-low freezers are devices intended for the storage of blood components and blood plasma, human cells, tissues, live virus vaccines, and other laboratory samples at ultra-low temperatures down to -86°C . Superior performance and cost-effective are its Impressive features.



Super Cooling Performance

3 hours down to -80°C *



Advanced Insulation Tech

VIP + PURF & better sealing



Intelligent Controller

Touch screen with graphs



High Quality Materials

Sturdy & anti-corrosion

The reliable partner in your laboratory



GET STARTED WITH NEW GENERATION ULT FREEZERS

EFFICIENT COOLING SYSTEM

- Faster pull down & door recovery time
- High-performance reliable compressors with long service time
- Excellent performance even in extreme ambient conditions
- Low noise operation at 50d
- Unique CFC-free mixed refrigerant



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

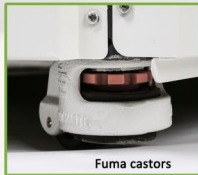
INTELLIGENT CONTROLLER

- 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
- Equipped with remote alarm interface and 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

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 E

Model	Code	Temp. Range	Type	Capacity	Series
Ultra-low temperature Freezer	Medical Deep Freezer	-40°C ~ -86°C	Vertical	340 liters 408 liters 588 liters 728 liters 838 liters	Economic



Humanized Designs



Quick release filter



One-hand operation handle



File-box for keeping daily files



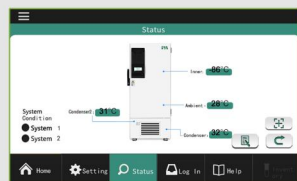
Easy access USB interface



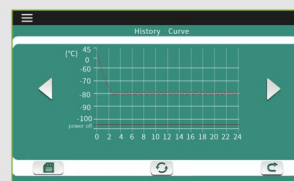
Intelligent Controller



Complete alarm function



Monitoring of status



Temp. graphs & downloading

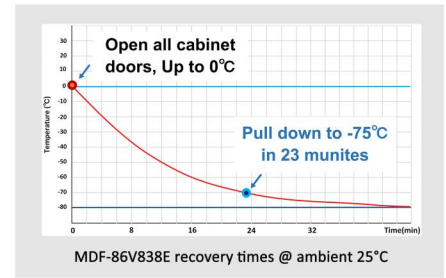
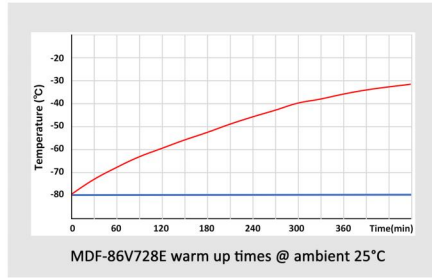
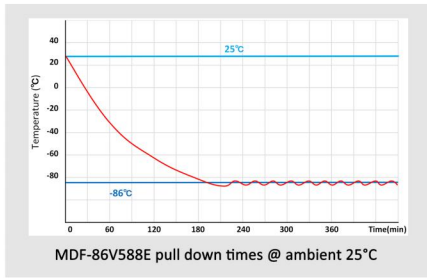


Parameter settings

INSIDE IS MORE IMPORTANT THAN OUTSIDE



RELIABLE PERFORMANCE



FAST PULL DOWN TIME

- 3 hours down to -80°C *
- 2 compressors cooperate intelligently to improve the cooling performance by 50%
- Superior microcomputer control for longer service life of the freezer

LEADING WARM UP TIME

- 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
- Hold over to -40°C in 300 minutes **

PERFECT RECOVERY TIME

- Protect your temperature sensitive biological samples
- No afraid of frequent door opening and closing
- Recovery to -75°C in 23 minutes ***



DELICATE INTERIOR

Stepped door frame design
Reduce cold air leakage and ice buildup

Keep the cold inside
Advanced internal VIP panels flexible and efficient silicone sealings firmly lock the cold air inside.

Access port
For extra monitoring device

Enhanced shelf design
SS shelf supports 50kg

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

Heavy duty hinges
Garantee 10 years of door body without deformation

Door frame heating
Effectively prevents ice buildup

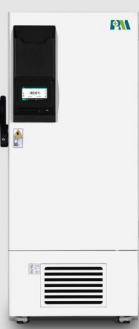
Compartment doors
Stainless steel and 27mm thick PU foam-filled inner doors for better insulation

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

Vacuum release port
For quick re-access to samples

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

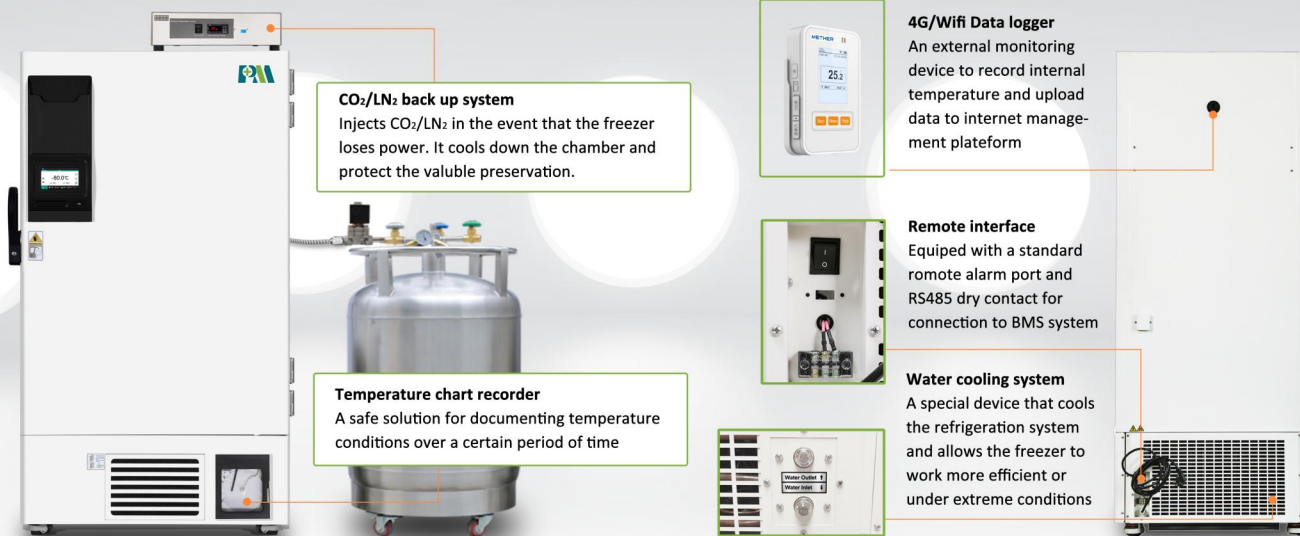
Detachable design
Inner doors can be easy removal and cleaning



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



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 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.



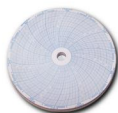
6" Temperature Chart Recorder

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


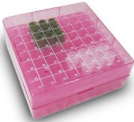

Fit into ULT freezers. The outer footprint dimensions (133mm) are compatible with common racks and the inner grid provides for a perfect fit to cryotubes.

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.

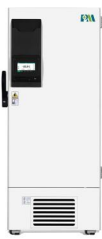
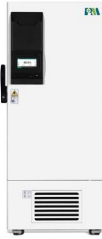



Optimize your limited freezer space				
Model	N3J-244D	N3J-254D	N3J-255D	MN3J-264D
Material	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Box type	2 inch 9*9/10*10	2 inch 9*9/10*10	2 inch 9*9/10*10	2 inch 9*9/10*10
Box layout(H*D)	4 * 4	5 * 4	5 * 5	6 * 4
Box Qty(pc)	16	20	25	24
Dimensions 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-86V340E	MDF-86V408E	MDF-86V588E	MDF-86V728E	MDF-86V838E
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 Specifications							
New generation Ultra-low temperature Freezers							
Model		MDF-86V340E	MDF-86V408E	MDF-86V588E	MDF-86V728E	MDF-86V838E	
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	R4001(mixed gas)	R4001(mixed gas)	R4001(mixed gas)	R4001(mixed gas)	R4001(mixed gas)	
	Power Consumption(kWh/24h)	13.09	12.82	16.02	23.44	19.98	
	Noise (db)	52	50	53	50	55	
	Ambient temperature (°C)	10~32°C	10~32°C	10~32°C	10~32°C	10~32°C	
	Temperature range (°C)	-40~-86°C	-40~-86°C	-40~-86°C	-40~-86°C	-40~-86°C	
Cooling system	Compressor brand/QTY	SECOP/1	SECOP/1	SECOP/2	SECOP/2	SECOP/2	
	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)	224	245	178	247	268	
Power	Warm up time**(min)	205	234	273	292	304	
	Voltage/frequency (V/Hz)	220/50Hz	220/50Hz	220/50Hz	220/50Hz	220/50Hz	
	Power (W)	810W	890W	1500W	1400W	1700W	
Material	Current (A)	5.13A	5.34A	10.35A	10.37A	10.75A	
	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	
Size	Insulation	VIP + PURF	VIP + PURF	VIP + PURF	VIP + PURF	VIP + PURF	
	Capacity (L/cu.ft)	340/12	408/14.40	588/20.76	728/25.7	838/29.59	
	NT./GT. (kg)	268/288	268/293	303/332	374/394	391/424	
	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	2.13	1.92	2.42	2.79	3.05	
	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
Alarms	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	
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) *** Recovery to -75°C @ ambient temperature 25°C (No load)