

# -86 °C ULT Freezer

## EcoTouch Series ULT freezer



**Stable Refrigeration system and Reliable performance, provide extra safety for samples**  
 Double hydrocarbon cascade cooling system ensures stable cooling performance; Inner temperature can reach -86 °C with temp uniformity within 3 °C

**Intelligent Large Touch Screen for easy operation**  
 7-inch LCD touch screen, sensitive touch, user-friendly operation; highly visible display, intelligent controls and simplified programming, easy to set up, program, check, and monitor parameters and conditions. display all necessary data and temperature curves. Password lock provides unauthorized access to the freezer.

**A green freezer with HC refrigerant, more energy saving**  
 Non greenhouse gas is used, more environmental friendly. Hydrocarbon refrigeration, super low power consumption.

**Multiple Interfaces, available for temperature remote monitority**  
 Standard USB port, capable of storing 10 years data; RS485/232 and remote dry contact port, available for remote temperature monitority and central monitority

**Optional co2 backup system and LN2 backup system can be supplied to guarantee extra safety for samples.**

### > Application

The -86 °C ULT freezer is specially designed for a stable ultra low temperature storage condition, to store germs, erythrocytes, leucocytes, viruses and many other biological materials. Installations can be found in research institutes, pharmacy industry, clinical labs, blood banks and laboratories in electronic & chemical plants.



### > A SMART Freezer

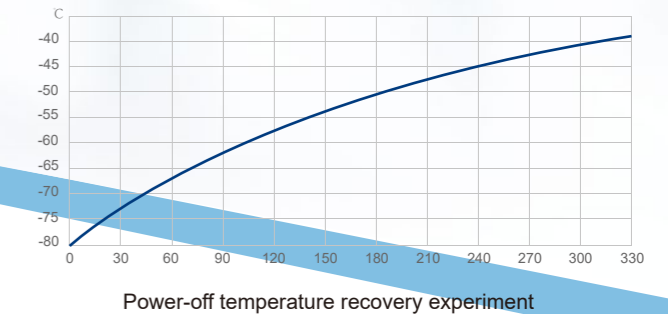
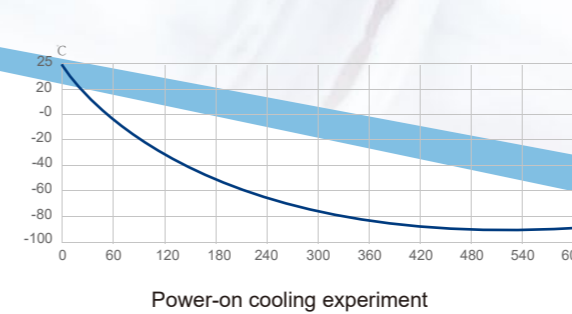
- 7" touch screen, easy observation & convenient operation
- Checking history temperature curve and alarm record on screen
- Self-diagnostic, automatic check & alarm for key components
- USB port, download data conveniently



### > A GREEN Freezer

- Non greenhouse gas is used, an environmental friendly freezer.
- Hydrocarbon two compressor cascade cooling system for super low power consumption.

### > Temperature Performance



## > A USER-FRIENDLY Freezer

- SUS304 interior for easy cleaning & rust free
- Document groove to put paper, create a stylish lab
- Optional electric lock for safety and convenient administration
- Maximum sample storage capacity with an optimum footprint
- Special noise reduction design, a real quite lab partner

7" touch screen including microprocessor control and monitoring system is installed in eye level, all controls and displays are easy to operate and read.

Exterior cold-rolled steel cabinets with a powder coat paint finish for a uniform exterior that anti-corrosion and anti-rust.

Interior #304 Stainless steel for durable use and easy cleaning.

Vacuum Insulation panel (VIP) in foaming insulation improves temperature control, increases storage capacity and samples storage efficiency.



2 foaming stainless steel inner doors with ergonomic latch and double seals, reducing cold air leakage and ensure quick temperature recovery after door open.

#304 Stainless steel shelves with adjustable height is easy for various samples storage.

Pressure release port permits easy access after door closing.

outer door with double gaskets, better for insulation

4 casters with brake and the level feet are easy to move and install freezer.

Easy-to-remove washable filter provides protection from dust on the condenser, increasing refrigeration performance.



▲ Insulated inner door with latch



▲ SS304 inner door latch



▲ SS304 inner cabinet, figure marked strip and sensor



▲ Protection against Wall



▲ Washable filter



▲ Heavy-duty caster with lock



▲ Testing port



▲ 7-day circular chart recorder is Optional

## > Optimal Capacity

Model	Capacity(L)	2ml Vial	2" box *	Rack Type	Rack Qty	Total Rack Qty
MDF-86U340T	338	19200	192	4x4	12	12
MDF-86U458T	408	28800	288	5x4 4x4	8 8	16
MDF-86U588T	588	40000	400	5x5	16	16
MDF-86U728T	728	50400	504	5x4 6x4	18 6	24
MDF-86U838T	838	60000	600	5x5	24	24

\* Notes: calculated based on 100-well box.

## > Specification

Model		MDF-86U340T	MDF-86U458T	MDF-86U588T	MDF-86U728T	MDF-86U838T
Technical Data	Type	Upright	Upright	Upright	Upright	Upright
	2" box load	192	288	400	500	600
	Capacity (L/cu ft)	338/11.93	408/14.41	588/20.76	728/25.70	838/29.59
	Inner doors	2 pcs, SUS304 forming door	2 pcs, SUS304 forming door	2 pcs, SUS304 forming door	2 pcs, SUS304 forming door	2 pcs, SUS304 forming door
	Shelves	3 pcs, SUS304	3 pcs, SUS304	3 pcs, SUS304	3 pcs, SUS304	3, made in SUS304
	Inner chamber material	SUS304	SUS304	SUS304	SUS304	SUS304
	Cooling type	Direct cooling	Direct cooling	Direct cooling	Direct cooling	Direct cooling
	Refrigerant	Hydrocarbon, CFC Free, Non greenhouse	Hydrocarbon, CFC Free, Non greenhouse	Hydrocarbon, CFC Free, Non greenhouse gas	Hydrocarbon, CFC Free, Non greenhouse gas	Hydrocarbon, CFC Free, Non greenhouse gas
	Noise level (dB)	50	50	51	52	53
Temperature	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 & Controller	Cooling System	Two compressor cascade system	Two compressor cascade system	Two compressor cascade system	Two compressor cascade system	Two compressor cascade system
	Compressor Brand	SECOP	SECOP	SECOP	SECOP	SECOP
	Sensor	PT100	PT100	PT100	PT100	PT100
	Controller	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor
	Display & Control	7" Touch Screen	7" Touch Screen	7" Touch Screen	7" Touch Screen	7" Touch Screen
	Electronic parameter	Voltage/Frequency	220~240V 50/60Hz 110V 60Hz	220~240V 50/60Hz 110V 60Hz	220~240V 50/60Hz 110V 60Hz	220~240V 50/60Hz 110V 60Hz
	Power (W)	870	845	815	935	890
	Current (A)	7.93	8.43	8.33	8.48	8.64
Size & Weight	Internal (W*D*H) mm	488×607×1140	606×575×1180	606×738×1310	963×558×1350	894×718×1310
	External (W*D*H) mm	880×980×1940	900×940×1940	880×1080×2000	1248×975×1995	1190×1045×2010
	Packing (W*D*H) mm	940×1070×2130, 2.14CBM	955×960×2100, 1.93CBM	975×1140×2200, 2.45CBM	1320×970×2185, 2.80CBM	1270×1105×2220, 3.12CBM
	Container Load (20'/40'/40'H)	12/24/24	12/24/24	12/24/24	8/18/18	8/18/18
	Net/Gross weight (kg)	250/350	292/317	307/368	360/402	397/430
Alarm System	High/low temperature	√	√	√	√	√
	Power off failure	√	√	√	√	√
	Abnormal voltage	√	√	√	√	√
	Sensor error	√	√	√	√	√
	Battery	72h	72h	72h	72h	72h
	Controller failure	√	√	√	√	√
	Low battery	√	√	√	√	√
	Condenser malfunction	√	√	√	√	√
	High ambient temperature	√	√	√	√	√
Door ajar	√	√	√	√	√	
Accessories	Caster	4	4	4	4	4
	Test hole/Diameter	2/25mm	1/25mm	1/25mm	1/25mm	1/25mm
	Remote alarm contact	√	√	√	√	√
	RS232/485 port	√	√	√	√	√
	USB Port	Y	Y	Y	Y	Y
	Temperature recorder	Optional	Optional	Optional	Optional	Optional
	CO2 backup system	Optional	Optional	Optional	Optional	Optional
	LN2 backup system	Optional	Optional	Optional	Optional	Optional