

-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 -86 °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 authorized 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;
 Standard remote dry contact port, optional RS485/232, 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.

> A SMART Freezer

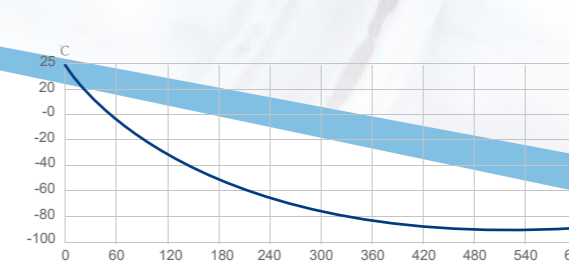
- 7" touch screen, easy observation & convenient operation
- Historical temperature curve and alarm records on screen
- Self-diagnostic, automatic check & alarm for key components
- Standard USB port, download data conveniently



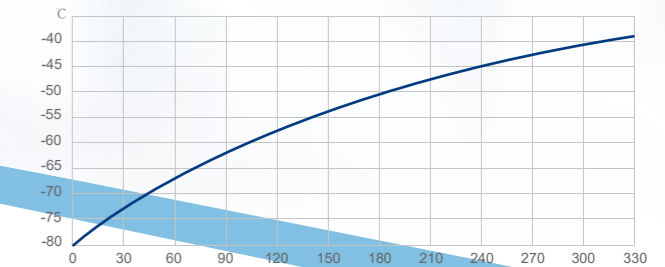
> A GREEN Freezer

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

> Temperature Performance



Power-on cooling experiment



Power-off temperature recovery experiment

> 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 USER-FRIENDLY Freezer

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

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 cabinet with a powder coat paint finish for a uniform exterior that anti-corrosion and anti-rust.

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

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



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

#304 Stainless steel shelves with adjustable height are 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 are easy for moving

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



▲ Foamed inner door with latch



▲ SS304 inner door latch



▲ SS304 interior, figure marked strip and sensor



▲ Protection against Wall



▲ Washable filter



▲ Heavy-duty caster with lock



▲ Testing port



▲ 7-day circular chart recorder is Optional

> 2ml vials Storage

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
	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 compressors cascade system	Two compressors cascade system	Two compressors cascade system	Two compressors cascade system	Two compressors 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	220~240V 50/60Hz 110V 60Hz
	Power (W)	870	845	815	935	890
	Power Consumption (kWh/24h)	6.75	11.6	12	13.28	13.86
Vials load	2ml Vials (pcs)	19200	28800	40000	50000	60000
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	1260×890×2010	1190×1045×2010
	Packing (W*D*H) mm	937×1075×2135	950×960×2110	970×1140×2190	1320×975×2185	1280×1120×2210
	Net/Gross weight (kg)	190/220	215/245	249/275	320/350	275/305
Alarm System	High/low temperature	√	√	√	√	√
	Power off failure	√	√	√	√	√
	Abnormal voltage	√	√	√	√	√
	Sensor error	√	√	√	√	√
	Filter screen check	√	√	√	√	√
	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	√	√	√	√	√
	USB Port	Y	Y	Y	Y	Y
	RS232/485 port	Optional	Optional	Optional	Optional	Optional
	Temperature recorder	Optional	Optional	Optional	Optional	Optional
	Freezer racks	Optional	Optional	Optional	Optional	Optional
	CO2 backup system	Optional	Optional	Optional	Optional	Optional
LN2 backup system	Optional	Optional	Optional	Optional	Optional	