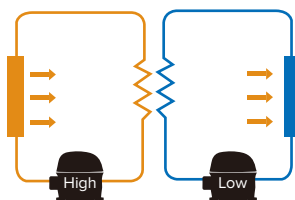


# -86°C Ultra-low Temperature Freezer

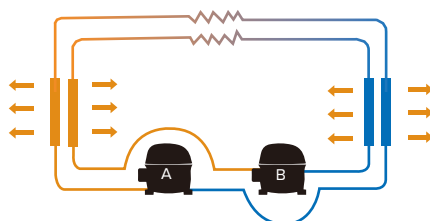
ANTECH offers advanced BioSafe ULT freezers with optimized cooling system and ergonomic design. Both upright freezers and chest freezers are available, from 88 liter compact freezer to 838 liter large volume biobanking freezer. Various of high efficiency cooling systems to meet different requirements of users. Dual compressor cooling technology (BioSafe-DUAL) are adopted on ANTECH ULT freezers, providing lowest energy consumption & highest level protection.

## BioSafe-ECO series



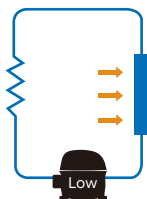
2-compressor cascade system, SECOP brand;  
Hydrocarbon refrigerant for lower power consumption;  
Capacity: 338L, 408L, 588L, 728L, 838L.

## BioSafe-DUAL series



Independent dual compressor system:  
inner temperature maintain -75°C when one  
compressor fails;  
Capacity: 408L, 588L, 728L, 838L.

## BioSafe-MINI series



Single compressor cooling system:  
compact construction with high efficiency,  
reach -86°C with 1 compressor;  
Capacity: 88L.

## Upright freezers

Capacity	88L	338L	408L	588L	728L	838L
BioSafe-MINI	MDF-86U108	-	-	-	-	-
BioSafe-ECO	-	MDF-86U340T	MDF-86U458T	MDF-86U588T	MDF-86U728T	MDF-86U838T
BioSafe-DUAL	-	-	MDF-86U458D	MDF-86U588D	MDF-86U728D	MDF-86U838D

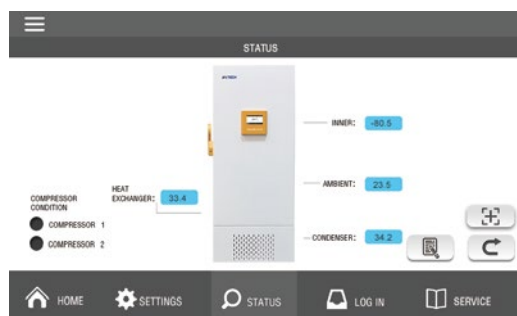
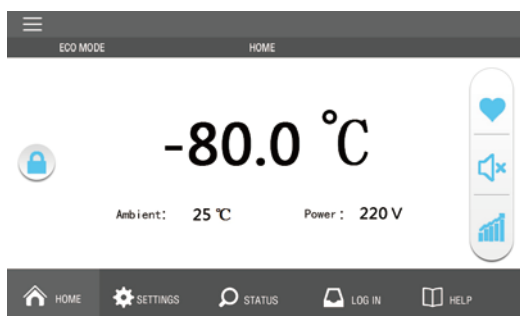
## Chest freezers

Capacity	130L	495L	746L
BioSafe-MINI	MDF-86C118	-	-
BioSafe-ECO	-	MDF-86C458	MDF-86C728

# TC-310 touch screen controller

TC-310 smart control system is adopted for easy observation and convenient operation.

- 7" LCD touch screen: sensitive touch, user-friendly HIM;
- Large display of chamber temperature, easy observation at distance;
- Status icon to show freezer situation at first sight: normal or abnormal;
- Password administration to prevent unauthorized change of settings;
- Show temperature curve on touch screen;
- Temperature and event data storage and USB port for download.



LOW CO2 EMISSIONS



CFC /HCFC FREE



USB PORT



POWER FAILURE ALARM



DIRECT COOLING



SAFETY DOOR LOCK

## PERFORMANCE

- Optimized cooling system & high efficiency hydrocarbon refrigerant. (Biosafe-ECO system)
- SECOP brand compressor & EBM brand blower.
- VIP (vacuum insulation panel) + high density polyurethane foaming for insulation.
- Forming inner doors for better insulation

## ERGONOMIC DESIGN

- 7-inch touch screen for easy operation
- Forming inner doors with door seal for better insulation and less frost
- Adjustable stainless steel shelves to load different size products
- Pressure release port for easy opening of outer door
- Ultra-quiet design reduces noise level
- Optional sliding drawer rack & side access rack for 2ml vials, 5ml vials or SBS boxes

## ENVIRONMENT FRIENDLY

- Natural refrigerant compliant with EPA and SNAP non-ozone depleting mandates (only for Biosafe-ECO series)
- CFC-Free polyurethane foaming insulation
- High efficiency cooling system for lower energy consumption and less carbon emission

## ALARMS

- High/low temperature
- High ambient temperature
- Door ajar
- Power failure
- Sensor error
- Abnormal voltage
- Controller failure
- Low battery
- Condenser malfunction

## SAFETY

- Build-in data storage and USB port for download
- Temperature quick check via temperature curve
- Password protection avoids key parameters unauthorized change
- Safety door lock, preventing unauthorized access
- Access port for additional temperature probe
- Remote alarm contacts
- Optional online monitoring system
- Optional CO2/LN2 backup system



- ▶ **USB port**  
Temperature data storage and download



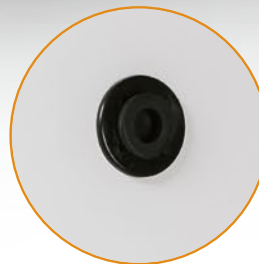
- ▶ **Door handle with safety lock**  
For easy operation and prevent unauthorized access



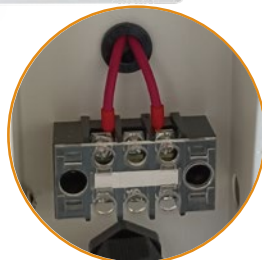
- ▶ **SUS304 inner cabinet**  
Adjustable shelves



- ▶ **RS485 interface**  
Enables freezer to communicate with the computer



- ▶ **Access port**  
One access ports at side and back of freezer, for easy access of additional temperature probe

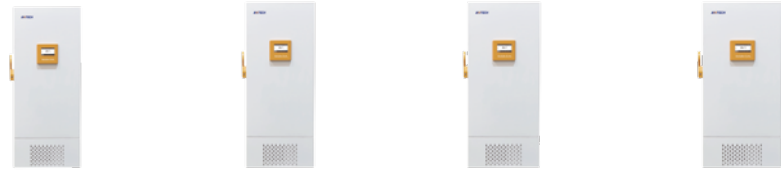


- ▶ **Remote alarm contact**  
Sending signal to a remote alarm system



# -86°C

## BioSafe-DUAL series



	Model	MDF-86U458D	MDF-86U588D	MDF-86U728D	MDF-86U838D
Main specifications	Type	Upright	Upright	Upright	Upright
	Cooling technology	Independent dual cooling	Independent dual cooling	Independent dual cooling	Independent dual cooling
	Temperature setting range (°C)	-40~-86	-40~-86	-40~-86	-40~-86
	Climate type	N	N	N	N
	Capacity (L)	408	588	728	838
	2" box storage Qty (Pcs)	288	400	504	600
	Net weight (KGs)	236	283	316	310
	Internal W×D×H (mm)	606*575*1180	606*738*1310	963*571*1350	894*718*1310
	External W×D×H (mm)	891*992*1946	891*1155*1995	1248*975*1995	1179*1135*1995
	Cooling type	Direct	Direct	Direct	Direct
	Defrost	Manual	Manual	Manual	Manual
	Refrigerant	Mixed gas	Mixed gas	Mixed gas	Mixed gas
	Number of compressor	2	2	2	2
Control & display system	Controller	TC-310	TC-310	TC-310	TC-310
	Display	7" LCD touch screen	7" LCD touch screen	7" LCD touch screen	7" LCD touch screen
	Temperature display accuracy	0.1	0.1	0.1	0.1
	Password protection	Yes	Yes	Yes	Yes
	Temperature graph	Yes	Yes	Yes	Yes
Power	Power supply (V/Hz)	220/50	220/50	220/50	220/50
	Rated power (W)	1350	1500	1400	1700
Data memory & monitoring	USB port	Yes	Yes	Yes	Yes
	RS 485 port	Yes	Yes	Yes	Yes
	Cloud monitoring (Wi-Fi)	CryoMonitor 2000TF, optional	CryoMonitor 2000TF, optional	CryoMonitor 2000TF, optional	CryoMonitor 2000TF, optional
	Chart recorder	/	/	/	/
Alarm functions	Visible/audible alarm	Yes	Yes	Yes	Yes
	High/Low temp	Yes	Yes	Yes	Yes
	Hot condenser	Yes	Yes	Yes	Yes
	Power failure	Yes	Yes	Yes	Yes
	Sensor failure	Yes	Yes	Yes	Yes
	High ambient temp	Yes	Yes	Yes	Yes
	Door open	Yes	Yes	Yes	Yes
	Power failure backup system	72h	72h	72h	72h
	Remote alarm contact	Yes	Yes	Yes	Yes
Accessories	Inner door	2	2	2	2
	Casters	Yes	Yes	Yes	Yes
	Test access port	Φ 25mm	Φ 25mm	Φ 25mm	Φ 25mm
	Adjustable shelves	3	3	3	3
	Safety door lock	Yes	Yes	Yes	Yes
	Pressure equalization port	Yes	Yes	Yes	Yes
	Freezer rack	Optional	Optional	Optional	Optional
	Rack type (LxH)	4x5&4x4	5x5	4x5&4x6	5x5
	Rack Qty	8+8	16	18+6	24
CO2/LN2 backup system	Optional	Optional	Optional	Optional	
Material	Exterior	Powder coated steel	Powder coated steel	Powder coated steel	Powder coated steel
	Interior	Stainless steel	Stainless steel	Stainless steel	Stainless steel
	Insulation	Polyurethane	Polyurethane	Polyurethane	Polyurethane
	Vacuum insulation panel (VIP)	Yes	Yes	Yes	Yes
	Cabinet insulation thickness (mm)	100	100	100	100
	Outer door thickness (mm)	105	105	105	105
	Compressor brand	SECOP	SECOP	SECOP	SECOP
Shipping	Gross weight (KGs)	278	346	392	384
	Packing W×D×H (mm)	963*1035*2120	970*1190*2190	1333*1010*2210	1271*1165*2190
	Volume (m <sup>3</sup> )	2.11	2.53	2.97	3.24