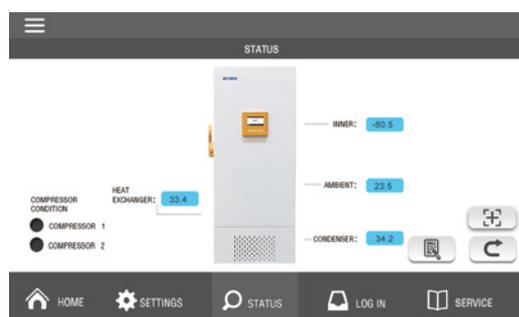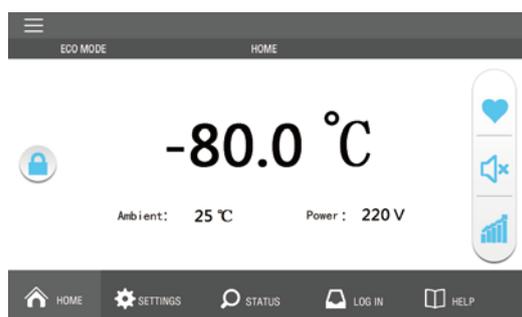# BioSafe ECO/DUAL/MINI ULT Freezer

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 forming 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-quite 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

ANTECH

-80.0 °C

BioSafe-ECO

Stainless steel 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

TC-300 touch screen controller

TC-300 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.
· SECOP brand compressor & EBM brand blower.
· VIP (vacuum insulation panel) + high density polyurethane forming for insulation.
· Forming inner doors for better insulation

ALARMS

• High temperature
• Low temperature
• High ambient temperature
• Door ajar
• Power failure
• Sensor error

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
· Auto heating & manual pressure release port for easy opening of outer door
· Ultra-quite design reduces noise level
· Optional sliding drawer rack & side access rack for 2ml vials, 5ml vials or SBS boxes

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

ENVIRONMENT FRIENDLY

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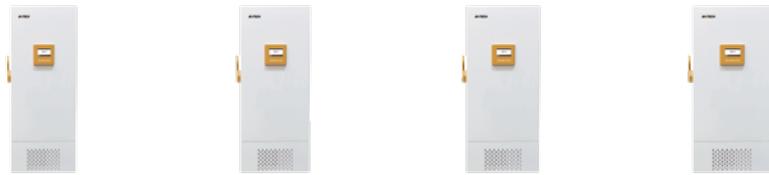· High efficiency cooling system for lower energy consumption and less carbon emission

-86°C
BioSafe-DUAL series

	Model	MDF-86U458D	MDF-86U588D	MDF-86U728D	MDF-86U838D
Basic	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
	Cooling type	Direct	Direct	Direct	Direct
	Defrost	Manual	Manual	Manual	Manual
	Refrigerant	R4001	R4001	R4001	R4001
	Number of compressor	2	2	2	2
	Compressor brand	SECOP	SECOP	SECOP	SECOP
Control	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	●	●	●	●
	Temperature graph	●	●	●	●
	USB port	●	●	●	●
	RS 485 port	●	●	●	●
	Cloud monitoring (Wi-Fi)	○	○	○	○
	Chart recorder	/	/	/	/
Power	Power supply (V/Hz)	220/50	220/50	220/50	220/50
	Rated power (W)	1350	1500	1400	1700
Alarm	Visible/audible alarm	●	●	●	●
	High/Low temp	●	●	●	●
	Remote alarm contact	●	●	●	●
	Hot condenser	●	●	●	●
	Power failure	●	●	●	●
	Sensor failure	●	●	●	●
	High ambient temp	●	●	●	●
	Door open	●	●	●	●
	Power failure backup system(alarm)	72h	72h	72h	72h
Accessories	Inner door	2	2	2	2
	Casters	●	●	●	●
	Test access port	Φ25mm	Φ25mm	Φ25mm	Φ25mm
	Adjustable shelves	3	3	3	3
	Safety door lock	●	●	●	●
	Pressure equalization port	●	●	●	●
	Freezer rack	○	○	○	○
	Rack type (LxH)	4x5&4x4	5x5	4x5& 4x6	5x5
	Rack Qty	8+8	16	18+6	24
	CO2/LN2 backup system	○	○	○	○
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)	●	●	●	●
	Cabinet insulation thickness (mm)	100	100	100	100
	Outer door thinkness (mm)	105	105	105	105
Weight & size	Net weight（kg）	236	283	316	310
	Gross weight (kg)	315	359	392	419
	Internal W×D×H (mm)	606×575×1180	606×738×1310	963×571×1350	894×718×1310
	Extermal W×D×H (mm)	891×992×1946	891×1155×1995	1248×975×1995	1179×1135×1995
	Packing W×D×H (mm)	965×1025×2125	970×1180×2200	1330×1015×2210	1270×1170×2200
	Packing volume (m3)	2.10	2.52	2.97	3.27