

-86°C Hydrocarbon ULT Freezer

&

-86 °C Variable Frequency ULT Freezer with Dual System



-86°C Hydrocarbon ULT Freezer

Suitable for hospital, blood-bank, center for Disease Prevention, scientific research institution, bioengineering, Animal Husbandry industry, pelagic fishery, electronic and chemical industry, etc. Used for the refrigeration of red and white cell, skin, skeleton, germ, virus, seminal fluid, biological products and for low temperature testing of electron devices and special materials.



Temperature Control System

Controlled by micro-computer, LCD display, touched screen;
The inner temperature can be adjusted at the range of -20°C~-86°C,
the temperature regulation accuracy is 0.1°C.



Security Control System

Multi malfunction alarms: high temperature alarm, low temperature alarm, sensor malfunction alarm, condenser dirty alarm, low battery alarm, power failure alarm, over pressure alarm, over ambient temperature alarm, open the door alarm and so on for safe use; Besides, you can check history alarming information and derive data. All the history data can be saved over 10 years; Three alarming methods: buzzer alarming, independent icon alarming, and remote alarming; Protection function: compressor power-on delay protection, time between power off; over pressure protection, password protection and normal operation protection under failure mode, door lock.

Password protection can prevent parameters from being changed randomly. Display screen with running indication and communication status indication can show real-time operation of the freezer; The power switch has two-way fuse over-current protection, together with the power-on indicator light ensure safety.



Refrigeration System

Optimized cascade refrigeration technology, special evaporation system and condensation system, strong refrigerating efficiency
CFC, HCFC free natural Refrigeration International famous brand compressor and EBM fan electromotor and oil separator, stable product performance, strong refrigerating efficiency; Enhanced sealing design: double door seal.



TW-86V480D



Humanized Design

Unique handle design: the door can be opened by both hands, individual press lock on the handle and 2 padlocks;;
Wide voltage design can help it work stably under 198-254V;
Can show the temperature curve and history data, and have derive data function;
Press-out type dust removal screen with locks, simple and convenient for maintenance;
Thermometer holes design for temperature examination, Battery backup for control system up to 5 hours at to power failure.

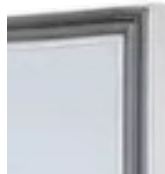
Ergonomic Design

Individual Removable Foam Inner Doors



- * Individual inner doors can be opened independently to minimize frost buildup inside the chamber.
- * Unique door seal design for the minimum loss of cold temperature during a door opening.
- * Compatibility with existing racking system from competitors.
- * Stainless Steel handle to ensure proper strength for door latching.
- * Some interior door handles have been upgraded to stainless steel for more comfortable door opening experience.

Excellent Doors Seals



Total of Five gasket to safeguard the freezer temperature including four seals for the exterior door, one for each inner door.



Touch Screen
7 LCD Display Simple Operation ,
Visible running status



Optimized slideway design, easier to open and close the door.



Two port holes for ease of temperature monitoring.



High Efficiency Refrigeration Components

- Hermetically sealed industrial grade compressors for ultra-low refrigeration application.
- Low sound level.
- High efficient oil separator.
- Unique hydrocarbon refrigeration system to provide maximum efficiency in extreme conditions.

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Energy Saving Refrigeration

High efficiency cooling fans and compressors, combined with hydrocarbon refrigerants, ensure energy savings and long-term sample security



Pressure Equalisation Port

Heated port with spring assisted mechanism to prevent icing on the vent allows users to reopen the main door soon after entering
Adopts chromium plating, rust-proof



USB Interface

Enables users to download historical temperature data for compliance/auditing purposes



TW-86V480D



Multilayered Sealing Structure

Triple layer of gaskets split between main and inner doors decreases heat loss and guarantee excellent warm up times in the event of a power failure



Improved Handle Design

Lockable handle with unique key prevents other Thermolab freezer owner's access to your precious samples, also comes with space for a padlock for that extra security



Multilevel Alarms

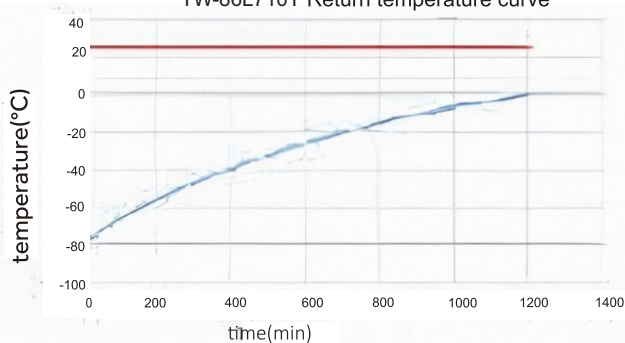
Alarming functions that include high and low temperature sensor error power failure high ambient center ant door ajar

Dual cascading:- Dual cascade refrigeration system with height adjustable shelves- TW-86V480D/TW-86L570T/710T

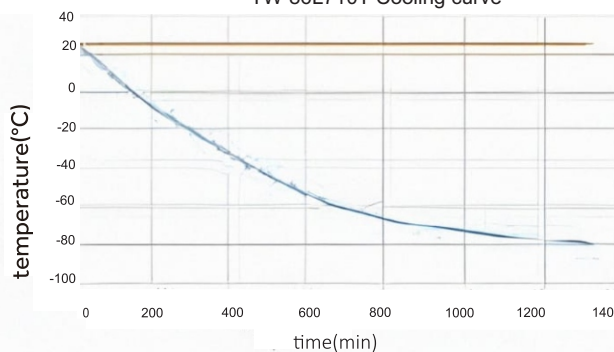
IoT Software System (optional)

Simplified Sample Management Experience
barcode scanner for simple, effortless and precise identification. Input and retrieve your samples with higher precision and efficiency.

TW-86L710T Return temperature curve



TW-86L710T Cooling curve



-86°C Hydrocarbon ULT Freezer



Specifications



Model			TW-86V480D	TW-86L570T	TW-86L710T
Technical Data	Cabinet Type			Upright	
	Climate Class			N	
	Cooling Type			Direct Cooling	
	Defrost Mode			Manual	
	Refrigerant			HC	
	Sound Level (dB(A))			60dB	
Performance	Cooling Performance (°C)			-86	
	Temp Range (°C)			-20~-86	
Control	Controller			Microprocessor	
	Display			LCD	
Electrical Data	Power Supply (V/Hz)			220.50Hz	
	Electrical Current (A)		5	5.5	9
	Power (W)		1300	1450	1600
Construction	Capacity (L/Cu.Ft)		440/15.4	570/20.1	710/25.1
	Made Of Constriction		Internal- ABS/ SS 304-as per user requirment		
			External- PPGI/CRCA Powder coated-as per user requairment		
	Net/Gross Weight (approx)		300/330kg	317/395kg	359/395kg
	Interior Dimensions (W*D*H)		465*725*1310mm	600*725*1310mm	750*725*1310mm
	Exterior Dimensions (W*D*H)		795*1075*1990mm	925*1075*1990mm	1075*1075*1990mm
Alarms	Packing Dimension (W*D*H)		880*1149*2100mm	1010*1149*2100mm	1160*1149*2100mm
	Remote Alarm (Dry contacts)			Y	
	High/Low Temp			Y	
	Hot Condenser			Y	
	Power Failure			Y	
	Sensor Error			Y	
	Low Battery			Y	
	High Ambient Temp			Y	
Door Ajar			Y		
Optional Accessories	Freezer Rack Qty	Qty.	12	16	20
		Rows	5*5	5*5	5*5
	Cryogenic Box Qty	Qty.	300	400	500
		Size	2 inch	2 inch	2 inch
	Cryogenic Vial Qty	9*9 grid	24300	32400	40500
		10*10 grid	30000	40000	50000
Certifications	Foot/Caster		Y	Y	Y
	Porthole		Y/2	Y/2	Y/2
	Shelf/compartment		3 to 4/4	3 to 5/4	4 to 6 /5
	USB Interface		Y	Y	Y
	5 V Power Supply Port		Y	Y	Y
	Temp chart Recorder-Data logger		Optional/ as per user requirement		
	Co ₂ Backup System		Optional/ as per user requirement		
	LN ₂ Backup System		Optional/ as per user requirement		
	Voltage stabilizer, ,		Optional/ as per user requirement		
	Internal stainless steel 304 ,		Optional/ as per user requirement		
	Extra shelf		Optional/ as per user requirement		
	Cryo gloves scraper		Optional/ as per user requirement		
ISO 9001, ISO 13485,-IAF Body, NABL, European CE with IEC test std ISO 60601/61010, WHO-GMP &ISO 14001 ISO 40001 ROHS					

-86 °C Variable Frequency ULT Freezer with Dual System

Product advantages

Used by scientific research institute, disease control center, college, bioengineering project, hospital, blood station, deep-sea fishing, electronic and chemical industries etc.

Dual variable frequency system

Two independent variable frequency hydrocarbon refrigeration systems, single system enables independent refrigeration to -80°C, sample safety is guaranteed in case of single system failure .

Intelligent Interaction

Multiple Interconnected terminals, enabling inspection of freezer status in any place at any time and ensuring perfect safety.

Accurate temperature control

- Microcomputer control, temperature control accuracy up to 0.1C, adjustable internal temperature -40 °C to -86C, uniform temperature control.

IoT - Optional

- WEB-based intelligent sample management system, without code customization, supporting browser of various platforms, quick and easy use.

Intelligent control

- 10.1' display with Android system, new UI design concept sample management system as standard version.

Energy saving

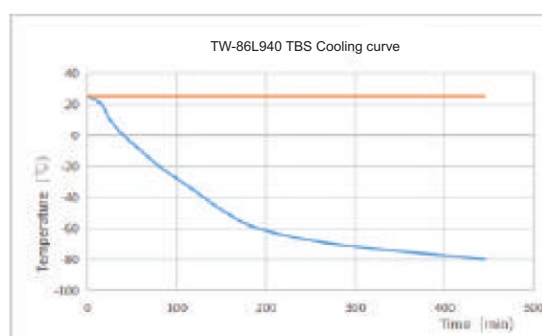
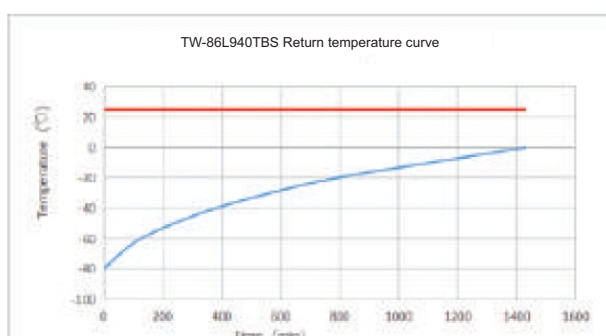
Variable frequency hydrocarbon compressor, perfect dual energy saving.

Safe

Turn-on delay protection, power-off interval protection, password protection, high and low temperature alarm, power failure alarm, condenser dirty alarm, high ambient temperature alarm, sensor fault alarm, low battery level alarm, open door alarm etc.

Muting

Variable frequency compressor, optimized noise reduction design of compressor room to realize noise below 55dB of the whole machine, creating a comfortable working environment..



-86 °C Variable Frequency ULT Freezer with Dual System

Specifications



Model			TW-86L570TBS	TW-86L710TBS	TW-86L940TBS
Technical Data	Cabinet Type			Upright	
	Climate Class			N	
	Cooling Type			Direct Cooling	
	Defrost Mode			Manual	
	Refrigerant			HC	
	Sound Level (dB(A))			60dB	
Performance	Cooling Performance (°C)			-86	
	Temp Range (°C)			-40~-86	
Control	Controller			Microprocessor	
	Display			LCD	
Electrical Data	Power Supply (V/Hz)			220.50Hz	
	Electrical Current (A)		14	14	20
	Power (W)		1450	1600	1700
Construction	Capacity (L/Cu.Ft)		570/20.1	710/25.1	940/33.2
	Made Of Constriction		Internal- ABS/ SS 304-as per user requirment		
			External- PPGI/CRCA Powder coated-as per user requairment		
	Net/Gross Weight (approx)		317/350kg	359/395kg	417/459kg
	Interior Dimensions (W*D*H)		595*725*1310mm	745*725*1310mm	1025*730*1265mm
	Exterior Dimensions (W*D*H)		925*1075*1950mm	1075*1075*1950mm	1365*1075*1960mm
Alarms	Remote Alarm (Dry contacts)			Y	
	High/Low Temp			Y	
	Hot Condenser			Y	
	Power Failure			Y	
	Sensor Error			Y	
	Low Battery			Y	
	High Ambient Temp			Y	
	Door Ajar			Y	
	Freezer Rack Qty	Qty.	16	20	28
		Rows	5x5	5x5	5x5
	Cryogenic Box Qty	Qty.	400	500	700
		Size	2 inch	2 inch	2 inch
	Cryogenic Vial Qty	9*9 grid	32400	40500	56700
		10*10 grid	40000	50000	70000
Optional Accessories	Foot/Caster		Y	Y	Y
	Porthole		Y/2	Y/2	Y/2
	Shelf/compartment		3 to 4/4	4 to 6 /5	4 to 6 /5
	USB Interface		Y	Y	Y
	5 V Power Supply Port		Y	Y	Y
	Temp chart Recorder-Data logger		Optional/ as per user requairment		
	Co ₂ Backup System		Optional/ as per user requairment		
	LN ₂ Backup System		Optional/ as per user requairment		
	Voltage stabilizer, ,		Optional/ as per user requairment		
	Internal stainless steel 304 ,		Optional/ as per user requairment		
	Extra shelf		Optional/ as per user requairment		
	Cryo gloves scraper		Optional/ as per user requairment		
	Certifications	ISO 9001, ISO 13485,-IAF Body, NABL, European CE with IEC test std ISO 60601/61010, WHO-GMP & ISO 14001 ISO 40001 ROHS			

Dual cascading:- Dual cascade + VFD Compressor Only For TW-86L570TBS/71TBS/940TBS.

Bioline ULT Freezer Consumables Configuration Plan

Model	Plan	Freezer Rack Model	Plan	Freezer Rack Quantity /Unit		Cryogenic Box Quantity /Unit		Cryogenic Vial Quantity (2ml)	
				Rows	Qty.	Box Size	Qty.	Box 9x9	Box 10x10
DW-86L940TBS	A	-55-CQ-940	Side Type	5 x 5	28	2 inch	700	56700	70000
	B	-55-CT-940	Drawer Type	5 x 5	28		700	56700	70000
DW-86L800	A	-54-CQ-800	Side Type	5 x 4	28	2 inch	560	45360	56000
	B	-54-CT-800	Drawer Type	5 x 4	28		560	45360	56000
DW-86L710T	A	-55-CQ-710	Side Type	5 x 5	20	2 inch	500	40500	50000
	B	-55-CT-710	Drawer Type	5 x 5	20		500	40500	50000
DW-86L630	A	-54-CQ-640	Side Type	5 x 4	18	2 inch	360	29160	36000
	B	-54-CT-640	Drawer Type	5 x 4	18		360	29160	36000
DW-86L570T	A	-55-CQ-570	Side Type	5 x 5	16	2 inch	400	32400	40000
	B	-55-CT-570	Drawer Type	5 x 5	16		400	32400	40000
DW-86L500	A	-54-CQ-500	Side Type	5 x 4	14	2 inch	280	23328	28800
	B	-54-CT-500	Drawer Type	5 x 4	14		280	23328	28800
DW-86L440T	A	-55-CQ-440	Side Type	5 x 5	12	2 inch	300	24300	30000
	B	-55-CT-440	Drawer Type	5 x 5	12		300	24300	30000
DW-86L400	A	-43-CQ-400	Side Type	4 x 3	18	2 inch	216	17496	21600
	B	-43-CT-400	Drawer Type	4 x 3			216	17496	21600
DW-86L350	A	-43-CQ-400	Side Type	4 x 3	18	2 inch	216	17496	21600
	B	-43-CT-400	Drawer Type	4 x 3			216	17496	21600
DW-86L300	A	-43-CQ-300	Side Type	4 x 3	12	2 inch	144	11664	14400
	B	-43-CT-300	Drawer Type	4 x 3	12		144	11664	14400
DW-86W305	A	-10-ST-305	Portable	10 layer	20	2 inch	200	16200	20000
DW-86W155	A	-9-ST-155	Portable	9 layer	9	2 inch	81	6561	8100

Manufactured by



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