



Multiple alarms



Hydrocarbon refrigerant  
and foam material LBA



High performance in  
temperature uniformity



Intelligent frequency  
conversion technology

# TwinCool Frequency Conversion ULT

The Twincool Frequency conversion range of freezers utilize two key innovations to delivery outstanding sample security and energy efficiency – dual cooling and adaptive refrigeration technologies.



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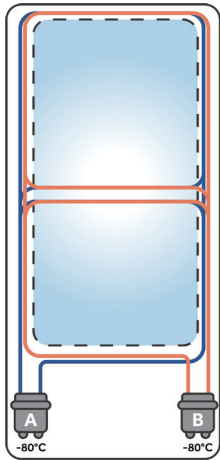


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## Product Advantages



### Dual refrigeration system, double safety and optimal reliability

Double independent hydrocarbon refrigeration system design, each system can maintain -80°C ensuring the safety of stored samples



### World-Leading Energy Saving Refrigeration Technology

Intelligent frequency conversion technology and HC refrigeration system delivers a 50% reduction in energy usage when compared to traditional HFC refrigeration systems



### Environmental Protection

Environmentally friendly hydrocarbon refrigerant and foam material LBA



### Faster Re-Entry

The optimized pressure relief port makes re-entry possible within just 60 seconds



### Optional IoT System

The optional IoT monitors the operating status of the equipment in real time. Equipped with multiple alarm functions and a self-diagnostics system to identify and warns users to ensure sample safety

## Ergonomic Design



### Adjustable Sample Loading Tray (Optional)

The adjustable height sample load tray provides users with a convenient place to hold samples while opening and accessing storage compartments



### Intelligent Control

10.1-inch high-performance touch screen, sensitive touch operation. Users can check the real-time operating status via IoT



### Large Loading Capacity

Maximum Capacity: 600 boxes (2 inch boxes with 10\*10 configuration) 60,000 samples can be stored



### Low Noise Design

Optimised systems and noise-reducing cabinet design lower noise out to 53dB for a quieter working experience

## Product Parts

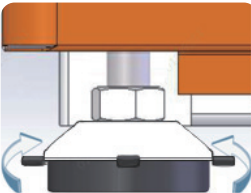
### Ergonomic design

Document holder for easy storage of documents



### High quality door opening experience

The ergonomic chamfer design of the handle ensures smooth operation and maximum durability



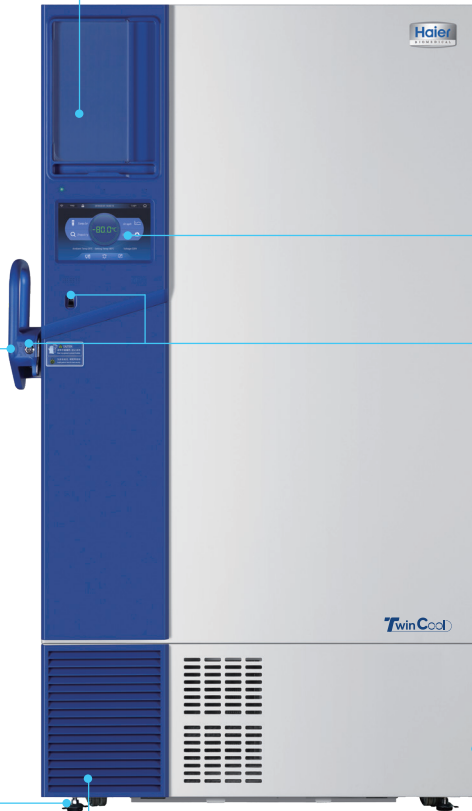
### Adjustable feet

For easy positioning and levelling



### Magnetic filter screen

Filter screen is easy to clean



### Microcomputer control

Microcontroller with 10,1 inch LCD touch screen displays temperature and other important data. Temperature display precision is 0,1°C

### Multiple alarms

Including high/ low temperature alarm, sensor error alarm, hot condensor alarm, power failure alarm, low battery alarm, door ajar alarm, high ambient temperature alarm, etc



### Multiple safety lock

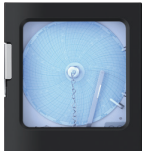
Standard mechanical lock, optional electromagnetic lock  
Optional fingerprint lock and NFC for optimal security and access



### Networking function

Equipped with RS485 interface to connect multiple freezers

## Product Accessories (Optional)



## Temperature Recorder (Optional)

- Front-mounted.
- For independent temperature monitoring.



## CO<sub>2</sub> Backup System

### Advantage

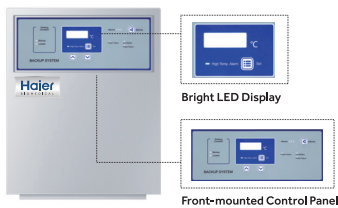
- Small footprint, light and easy for installation
- User adjustable temperature setting
- Simple to program and operate
- Flexible – Can be installed on any ULT freezer, which has a port hole
- The CO<sub>2</sub> injection pipe is designed in combination of filter, to prevent the blockage of CO<sub>2</sub> back-up system

## Safety

- Liquid CO<sub>2</sub> test button to ensure the backup system is working
- Low CO<sub>2</sub> alarm system alerts the user when liquid CO<sub>2</sub> bottle is low in liquid level
- Ultra-low sound level compressors

## Reliability


- Stainless steel covering, more elegant
- Stainless steel input pipe design, allows for flexibility and ease of cylinder positioning
- Durable battery lasts up to 48 hours




## LN<sub>2</sub> Backup System

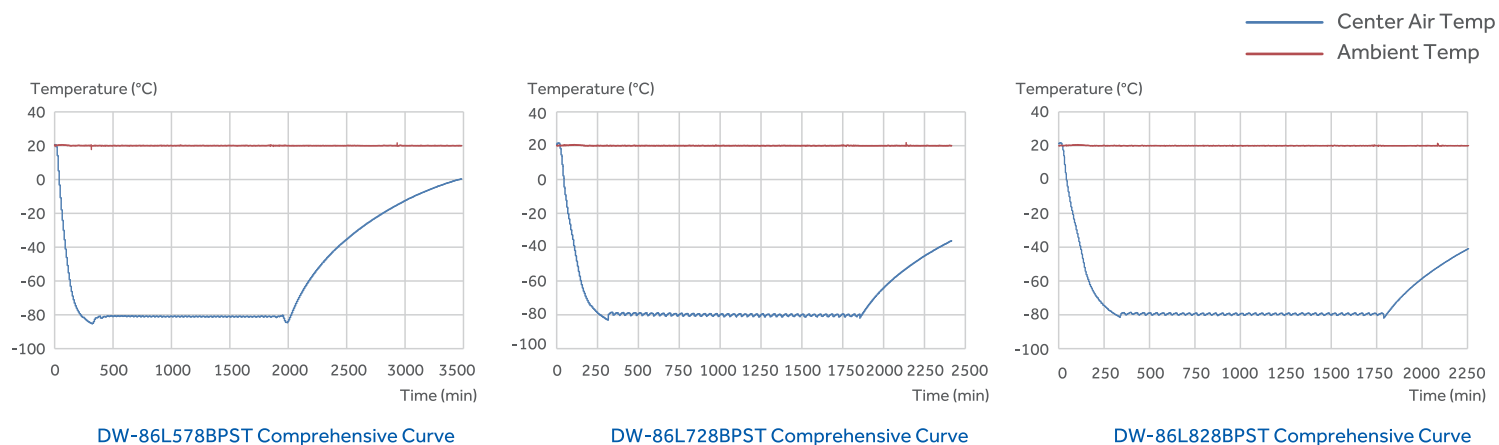
## Features

- Interlocked design to turn off the LN<sub>2</sub> injection when the door is opened
- Protection circuit to prevent over-charging battery
- Light weight and portable design, suitable for installation on top of a freezer
- Alarm functions to include low battery and sensor error

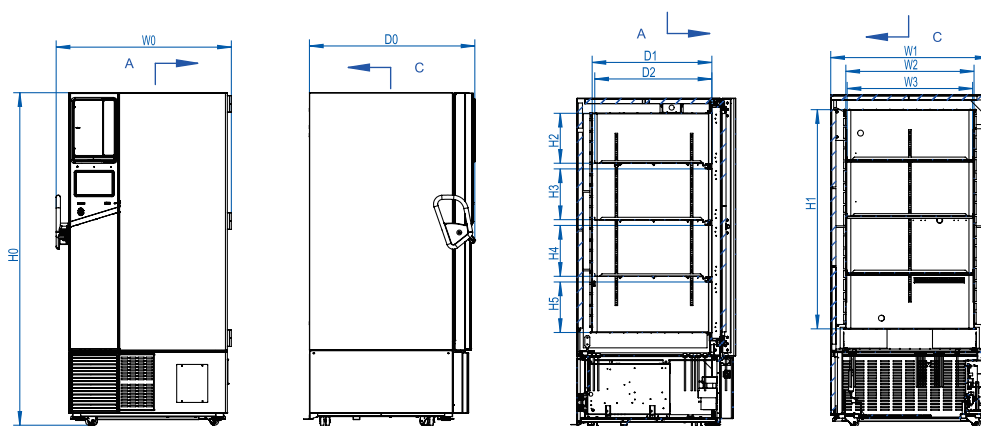
Rack Type	ULT Freezer	Freezer Rack						Freezer Rack Quantity	Box Capacity
		CAT.NO.	Model	Material	Layout (Rows*Columns)	Box Type	Dimensions (D*W*H)(mm)		
 Sliding-drawer freezer rack	DW-86L578BPST	433001	(EXP) DCJ-55-B (SUS201)	SUS201	5*5	2 inch	686*141*291	16	400
	DW-86L728BPST							20	500
	DW-86L828BPST							24	600
	DW-86L578BPST	433002	(EXP) DCJ-55-B (SUS304)	SUS304	5*5	2 inch	686*141*291	16	400
	DW-86L728BPST							20	500
	DW-86L828BPST							24	600

Rack Type	ULT Freezer	Freezer Rack						Freezer Rack Quantity	Box Capacity
		CAT.NO.	Model	Material	Layout (Rows*Columns)	Box Type	Dimensions (D*W*H)(mm)		
 Side-access freezer rack	DW-86L578BPST	4330012	(EXP) DCJ-55-A (SUS304)	SUS304	5*5	2 inch	686*141*291	16	400
	DW-86L728BPST							20	500
	DW-86L828BPST							24	600

## Typical Performance Characteristics at 20°C Ambient



## Product Size Drawing



Ramark

W0=Total Width

W1=Freezer Width

W2=Inner Cabinet Width

W3=Inner Cabinet Shelf Width

H0=Total Height

H1=Inner Cabinet Height

H2=1<sup>st</sup> Floor Height

H3=2<sup>nd</sup> Floor Height

H4=3<sup>rd</sup> Floor Height

H5=4<sup>th</sup> Floor Height

D0=Total Depth

D1=Inner Cabinet Width

D2=Inner Cabinet Shelf Width

Parameter	W0	W1	W2	W3	H0	H1	H2	H3	H4	H5	D0	D1	D2
Model													
DW-86L578BPST	895mm	800mm	620mm	602mm	1980mm	1310mm	298mm	303mm	303mm	301mm	998mm	716mm	700mm
DW-86L728BPST	1046mm	946mm	766mm	750mm	1980mm	1310mm	298mm	303mm	303mm	301mm	998mm	716mm	700mm
DW-86L828BPST	1145mm	1050mm	870mm	854mm	1980mm	1310mm	298mm	303mm	303mm	301mm	998mm	716mm	700mm

## Specifications



Model		DW-86L578BPST	DW-86L728BPST	DW-86L828BPST
Technical Data	Cabinet Type	Upright	Upright	Upright
	Climate Class	N	N	N
	Cooling Type	Direct Cooling	Direct Cooling	Direct Cooling
	Defrost Mode	Manual	Manual	Manual
	Refrigerant	HC	HC	HC
	Sound Level (dB (A))	42	42	42
Performance	Cooling Performance (°C)	-86	-86	-86
	Temperature Range (°C)	-40~-86	-40~-86	-40~-86
Control	Controller	Microprocessor	Microprocessor	Microprocessor
	Display	LCD Touchscreen	LCD Touchscreen	LCD Touchscreen
Electrical Data	Power Supply (V/Hz)	100-230/50/60	100-230/50/60	100-30/50/60
	Max Power (W)	1100	1100	1400
Dimensions	Capacity (L/Cu.Ft)		578/20.4	728/25.7
	Net/Gross Weight	kg	325/355	350/385
		lbs	716.5/782.6	771.6/848.8
	Interior Dimension (W*D*H)	mm	620*716*1310	766*716*1310
		in	24.4*28.2*51.6	30.2*28.2*51.6
	Exterior Dimension (W*D*H)	mm	895*998*1980	1046*998*1980
		in	35.2*39.3*78.0	41.2*39.3*78.0
	Packing Dimension (W*D*H)	mm	953*1071*2127	1105*1066*2117
		in	37.5*42.1*83.7	43.5*42*83.3
Functions	Container Load (20'/40'/40'H)		12/24/24	10/20/20
	High/Low Temperature		Y	Y
	Hot Condenser		Y	Y
	Power Failure		Y	Y
	High/Low Voltage		Y	Y
	Sensor Error		Y	Y
	Low Battery		Y	Y
	High Ambient Temperature		Y	Y
	Door Ajar		Y	Y
Accessories	Start-Up Delay		Y	Y
	Caster		Y(4)	Y(4)
	Leveling Feet		Y(2)	Y(2)
	Porthole		2 rears, (25mm)diameter	2 rears, (25mm)diameter
	Inner Doors		4	4
	Shelves		3- stainless steel adjustable shelves	3- stainless steel adjustable shelves
	Shelf Dimensions (W*D) (mm)		606*650	752*650
	Max. Load per Shelf (kg)		72	90
	Freezer Racks Quantity (2" boxes)		16	20
	Capacity (2" boxes)		400	500
	USB Interface		Y	Y
	Remote Alarm		Y	Y
	5V Power Supply Port		Y	Y
	Temperature Chart Recorder		Optional	Optional
	RS232/485 Port		NA/Standard	NA/Standard
	CO <sub>2</sub> Backup System		Optional	Optional
	LN <sub>2</sub> Backup System		Optional	Optional
Other	Certification		CE, UL, ENERGY STAR	CE, UL, ENERGY STAR

\*Haier Biomedical reserves the right to change products and specifications without prior notice.