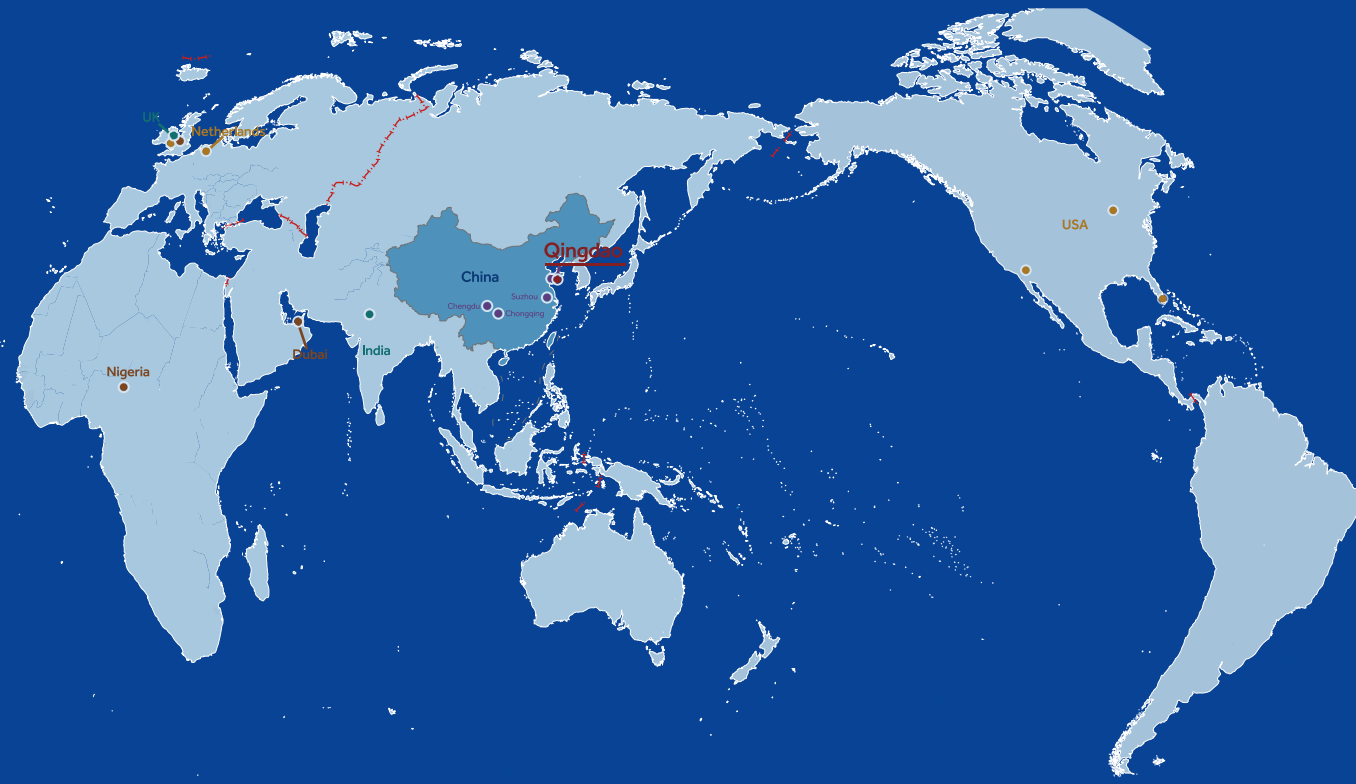


ULT Freezer Solutions



● Headquarters ● Global warehouse ● Training center ● Global subsidiary ● Manufacturing base



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Note: If a slight difference occurs between pictures and actual products, please refer to actual products. Our company reserves the right of final interpretation of this brochure, please contact us for any further information if required.



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-150°C
Cryo Freezer



A mechanical cryogenic freezer is used for the long-term cryopreservation of samples such as cell cultures, tissue samples, bacteria, viruses and non-biological products such as electronics. Applications include cord blood preservation, biobanks, reproductive procedures, blood banks, life science research, biomedical engineering and fisheries. Mechanical cryopreservation is a safe alternative to LN2 and can reduce or eliminate the reliance on LN2, reducing safety concerns.

Energy Efficient Hydrocarbon Refrigeration

- Includes specialist industrial compressor, hydrocarbon refrigerant, dual-compressors 4-stage cascade refrigeration system, which delivers excellent energy-efficiencies
- Energy-efficient fan design with intelligent start/stop

Environmentally Friendly

- 100% HC refrigerant truly environmental-ly-friendly refrigeration system with zero global warming potential (GWP)
- LBA polyurethane foam has low GWP and is significantly lower than most HFCs commonly used, offering better environmental protection

Superior Uniformity

The temperature **uniformity** is **±5°C** with the setting temperature of -150°C

Low Noise

Noise-reduction features and noise reduction design lowers to noise to 55 dB (A)

Safe, Secure and Reliable

Multiple alarms, including high and low temperature, power failure, door ajar, hot condenser, low battery, sensor error, and high ambient temperature. The standard ambient temperature ranges from 10°C to 32°C. The pressure state of the system can be automatically adjusted by the pressure controller to prevent the pressure from being too high to effect the freezer operation.



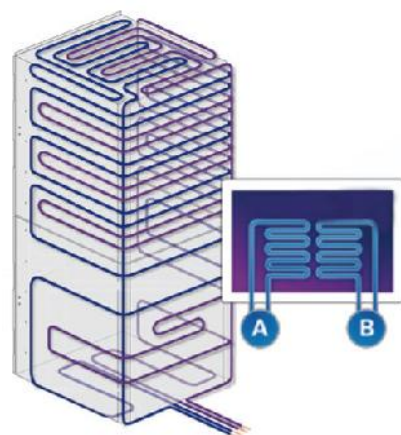
Specifications

Model		DW-150W209	DW-150W209A
Technical Data	Cabinet Type	Chest	Chest
	Climate Class	N	N
	Cooling Type	Direct cooling	Direct cooling
	Defrost Mode	Manual	Manual
	Refrigerant	HC	HC
	Sound Level (dB(A))	55	55
Performance	Cooling Performance (°C)	-150	-150
	Temperature Range (°C)	-140~-150	-140~-150
Control	Controller	Microprocessor	Microprocessor
	Display	LCD	LCD
Electrical Data	Power Supply (V/Hz)	220-240/50	208-230/60
	Electrical Current (A)	10	12
Dimensions	Capacity (L/Cu.Ft)	209/7.4	209/7.4
	Net/Gross Weight	kg	260/295
		lbs	573.2/650.4
	Interior Dimension (W*D*H)	mm	667*462*677
		in	26.3*18.2*26.7
	Exterior Dimension (W*D*H)	mm	1650*860*1010
		in	65.0*33.9*39.8
	Packing Dimension (W*D*H)	mm	1810*960*1170
		in	71.3*37.8*46.1
	Container Load (20'/40'/40'H)	12/24/24	12/24/24
Functions	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
	Start-up Delay	Y	Y
Accessories	Caster	Y	Y
	Foot	Y	Y
	Porthole	Y/1	Y/1
	Shelves/Inner Doors	-/2	-/2
	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
	CO2 Backup System	N/A	N/A
	LN2 Backup System (Built-in/External)	Optional/Optional	Optional/Optional
	Freezing Rack	433026, Quantity: 12 433028, Quantity: 12	433026, Quantity: 12 433028, Quantity: 12
Other	Certification	CE	UL

Product appearance and specifications are subject to change without notice

**TwinCool
Frequency Conversion
ULT Freezer**

Product Advantages



Dual refrigeration system for optimal reliability and security

Two independent hydrocarbon (HC) refrigeration systems, each 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 LBA foam material



Optional IoT System

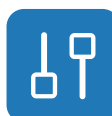
The optional IoT monitors the operating status of the equipment in real time. Equipped with multiple alarm functions and a self-diagnostics system to identify and warn users to ensure sample safety

Ergonomic Design



Low Noise Design

Optimised systems and noise-reducing cabinet design lower noise out to 43dB for a quieter working experience



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



Large loading capacity

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



Intelligent Control

10.1-inch high-performance touch screen, sensitive touch operation. Using the optional IoT module, users can check the real-time operating status from an App

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



DW-86L828BPST

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

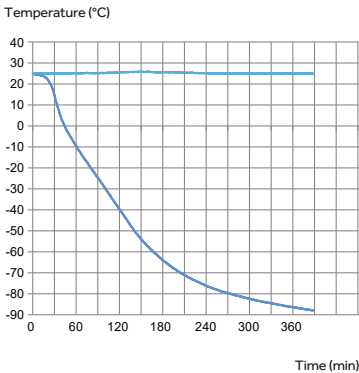


Networking function

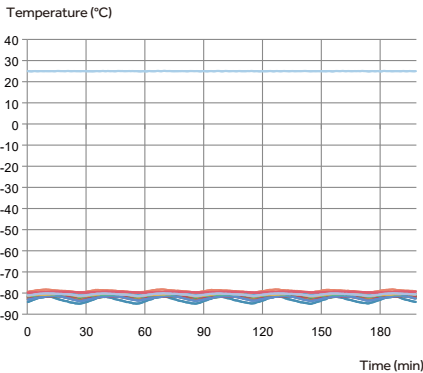
Equipped with RS485 interface to connect multiple freezers

Temperature Curve

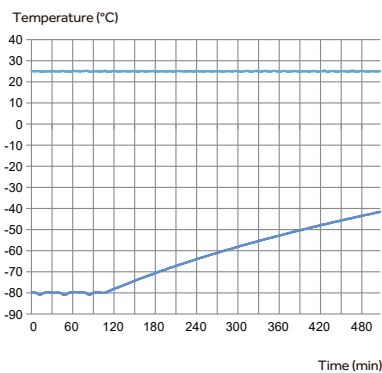
Temperature Cool Down Curve



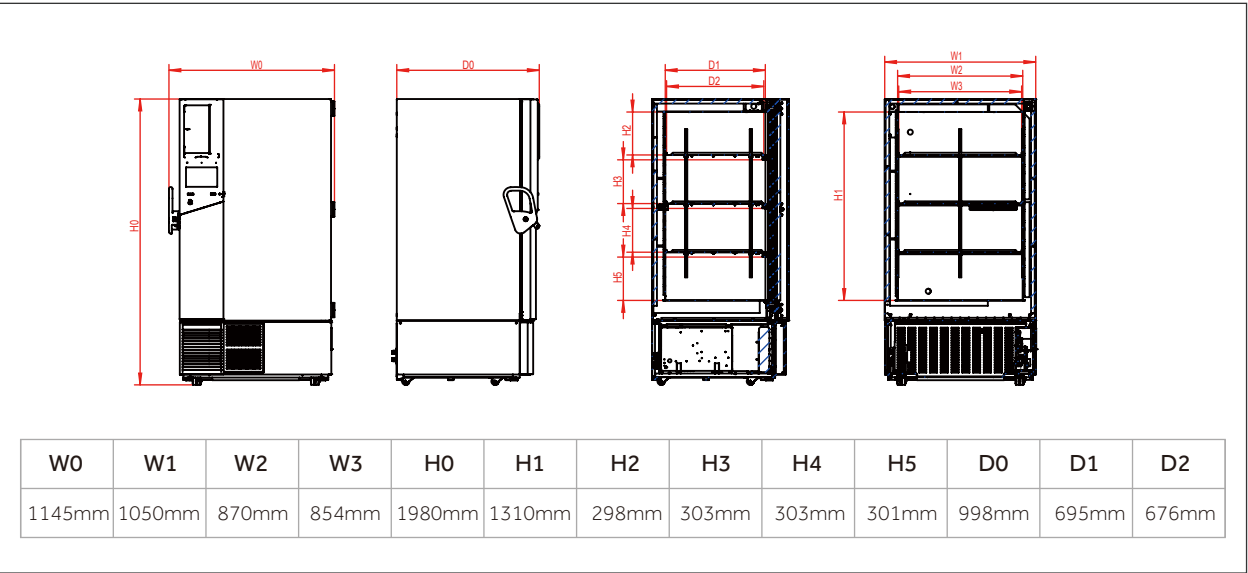
Stability Curve



Temperature Recovery Curve



Product Dimensions



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	LCD	LCD
Electrical Data	Power Supply (V/Hz)	100~230/50/60Hz	100~230/50/60Hz	100~230/50/60Hz
	Electrical Current (A)	10.4	10.4	13
Dimensions	Capacity (L/Cu.Ft)	578/20.4	728/25.7	828/29.2
	Net/Gross Weight (approx)	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	975*1095*2130	1120*1090*2130
		in	38.4*43.1*83.9	44.1*42.9*83.9
	Cabinet Width (without handle and hinge)	mm	800	946
Functions	Container Load (20'/40'/40'H)		12/24/24	10/22/22
	High/Low Temperature	Y	Y	Y
	Hot Condenser	Y	Y	Y
	Power Failure	Y	Y	Y
	High/Low Voltage	Y	Y	Y
	Sensor Error	Y	Y	Y
	Low Battery	Y	Y	Y
	High Ambient Temperature	Y	Y	Y
	Door Ajar	Y	Y	Y
	Start-up Delay	Y	Y	Y
Accessories	Caster	Y	Y	Y
	Foot	Y	Y	Y
	Porthole	Y/2	Y/2	Y/2
	Shelves/ Inner Doors	3/4	3/4	3/4
	USB Interface	Y	Y	Y
	Remote Alarm	Y	Y	Y
	5V Power Supply Port	Y	Y	Y
	Temperature Chart Recorder	Optional	Optional	Optional
	RS232/485 Port	NA/Standard	NA/Standard	NA/Standard
	CO2 Backup System	Optional	Optional	Optional
	LN2 Backup System	Optional	Optional	Optional
Certifications	CE	Y	Y	Y
	UL	Y	Y	Y

TwinCool ULT Freezer



Scope of Application

The TwinCool ULT freezer can be used for the storage and protection of valuable samples which require strict and continuous storage conditions, designed to operate even in the event of a compressor failure. Suitable for viruses, pathogens, blood cells and other biological sample cold storage applications found within hospitals, disease control, research institutions and biomedical engineering. Also used to store special materials and other products within electronics and chemicals industries.

Advanced Hardware System



Smart Full-size Touch Screen

10-inch touch screen with state-of-art user interface design, coupled with sample management system provides optimal user experience.

A Dual independent refrigeration systems for maximum sample safety

The dual refrigeration systems run independently and alternately, both reaching -80°C, such that if one system fails the other will maintain temperature to ensure sample storage safety.

Optional IOT & Sample Management System (Professional Edition)



Simplified Sample Management Experience

Barcode scanner for simple, effortless and precise identification. Input and retrieve your samples with higher precision and efficiency



Wireless Monitoring Connectivity

Check the real-time operating status via mobile phones or palmtop, simple and reliable

B High speed refrigeration system for faster pull down and temperature recovery after door opening

Utilizing auto-cascade hydrocarbon (HC) refrigeration technology to deliver fast temperature pull down. From an ambient of 25°C it takes just 180 minutes to reach -80°C. It provides a quick temperature recovery after door opening, with the internal temperatures returning to -75°C within 1 minute, guaranteeing safety of samples.

C World-leading energy saving refrigeration technology

The HC refrigeration technology coupled with superinsulation, which increases the insulation efficiency by 30%, and a cabinet designed to reduce heat loss ensures an energy efficient freezer. The 578L model has a power consumption of 11 kWh/day and is certified by The National Quality Certification Center for Energy Saving and Environmental Protection.

Friendly Design



Safe and secure

Equipped with key lock, padlock and optional electromagnetic lock, with optional fingerprint lock, providing multiple safeguards for sample safety



Low noise design, reducing the noise down to 53dB

Special noise-reduction design plus super silent compressor technology and energy-saving fan, considerably lowers noise level



Cloud data storage available

Store hundreds of millions of scientific research and sample information in the cloud server



Optimized insulation

Double foaming for both inner and outer doors and five-layer sealing design and optimized super-thick VIP thermal insulation technology, extends temperature holdover time during power failure and increases insulation efficiency by 30%

Specifications

	Model	DW-86L578ST		DW-86L578SAT	DW-86L728ST		DW-86L728SAT
Technical Data	Cabinet Type	Upright		Upright	Upright		Upright
	Climate Class	N		N	N		N
	Cooling Type	Direct cooling		Direct cooling	Direct cooling		Direct cooling
	Defrost Mode	Manual		Manual	Manual		Manual
	Refrigerant	HC		HC	HC		HC
	Sound Level (dB(A))	53	52	53	50	53	53
Performance	Cooling Performance (°C)	-86		-86	-86		-86
	Temperature Range (°C)	-40~-86		-40~-86	-40~-86		-40~-86
Control	Controller	Microprocessor		Microprocessor	Microprocessor		Microprocessor
	Display	LCD Touchscreen		LCD Touchscreen	LCD Touchscreen		LCD Touchscreen
Electrical Data	Power Supply (V/Hz)	220~240/50		120/60	208~230/50		120/60
	Electrical Current (A)	10		18	10		18
Construction	Capacity (L/Cu.Ft)	578/20.4		578/20.4	728/25.7		728/25.7
	Net/Gross Weight (approx)	kg	325/355		325/355		350/385
		lbs	716.5/782.6		716.5/782.6		771.6/848.8
	Interior Dimension (W*D*H)	mm	620*716*1310		620*716*1310		766*716*1310
		in	24.4*28.2*51.6		24.4*28.2*51.6		30.2*28.2*51.6
	Exterior Dimension (W*D*H)	mm	895*998*1980		895*998*1980		1046*998*1980
		in	35.4*39.3*78.0		35.4*39.3*78.0		41.2*39.3*78.0
	Packing Dimension (W*D*H)	mm	975*1095*2130		975*1095*2130		1120*1090*2130
		in	38.4*43.1*83.9		38.4*43.1*83.9		44.1*42.9*83.9
Loading Quantities	Container Load (20'/40'/40'H)	12/24/24		12/24/24	10/22/22		10/22/22
Alarms	High/Low Temperature	Y		Y	Y		Y
	Hot Condenser	Y		Y	Y		Y
	Power Failure	Y		Y	Y		Y
	High/Low Voltage	Y		Y	Y		Y
	Sensor Error	Y		Y	Y		Y
	Low Battery	Y		Y	Y		Y
	High Ambient Temperature	Y		Y	Y		Y
	Door Ajar	Y		Y	Y		Y
Accessories	Caster	Y		Y	Y		Y
	Foot	Y		Y	Y		Y
	Porthole	Y/2		Y/2	Y/2		Y/2
	Shelves/Inner Doors	3/4		3/4	3/4		3/4
	USB Interface	Y		Y	Y		Y
	Remote Alarm (Dry contacts)	Y		Y	Y		Y
	5V Power Supply Port	Y		Y	Y		Y
	Temperature Recorder	Optional		Optional	Optional		Optional
	RS485 Port	Y		Y	Y		Y
	CO ₂ Backup System	Optional		Optional	Optional		Optional
	LN ₂ Backup System	Optional		Optional	Optional		Optional
Certifications	CE	Y	/	/	Y	/	/
	UL	/	Y	Y	/	Y	Y
	ENERGY STAR	Y	Y	Y	Y	Y	Y

Product appearance and specifications are subject to change without notice

The TwinCool ultra-low temperature freezer of Haier Biomedical provides the highest level of protection for your valuable samples.

**DW-86L578S**

Safer by Design

Haier Biomedical's ultra low temperature freezers with intelligent TwinCool technology are designed to provide optimal cabinet reliability, longevity, efficiency and sample protection. This super efficient technology also improves the energy efficiency of our third generation ULT freezers and leads the way in terms of product innovation.

Intelligent TwinCool Refrigeration System

Two independent refrigeration systems are designed to ensure optimal reliability, longevity and efficiency. Depending on the load demands and ambient conditions, one or both refrigeration systems will operate on demand, ensuring the samples are fully protected under the worst possible condition.



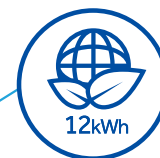
Maximum Sample Security

TwinCool system means extra insurance for temperature. Each independent refrigeration system can maintain -80°C separately.



Fast Cabinet Pull Down

Fast and efficient cabinet pulldown, it usually takes an average of three hours to reach -80°C at 25°C ambient. This means the temperature recovery after door opening is excellent ensuring the stored samples are not exposed to undesirable temperatures.



Maximum Energy Efficiency

The TwinCool ultra-low temperature system operates with 12 kWh/day.



World-leading Energy Saving Refrigeration Technology

The Haier hydrocarbon refrigeration technology uses less than 50% energy compared to traditional CFC refrigerants to reduce the operating cost. The refrigerants do not contain fluorine or chlorine giving it a GWP value of just three, which is better for the environment.



Reduced Running Costs

VIP thermal insulation system is designed to significantly reduce heat gain and operating cost.



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



Multilayered Sealing Structure
Multilayered gaskets decrease heat loss and guarantee excellent warm up times in the event of a power failure



Pressure Equalisation Port
Heated Pressure Equalization Port allows users to re-open the main door quickly when entering
Adopts chromium plating, rust-proof



Improved Handle Design
Lockable handle safeguards your precious samples. A padlock can also be added for extra sample safety



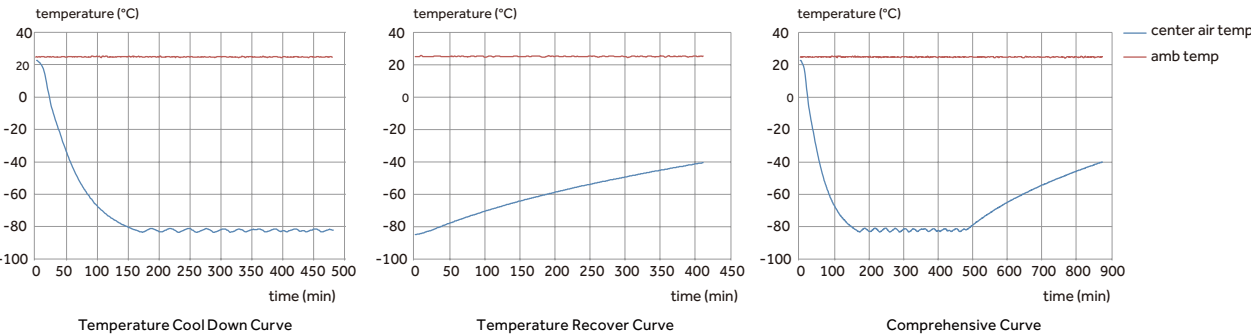
USB Interface
Enables users to download historical temperature data for compliance/auditing purposes



Multi-level Alarms
Alarm functions include high, low temperature, sensor error, power failure, high ambient, clean filter and door ajar

DW-86L578S

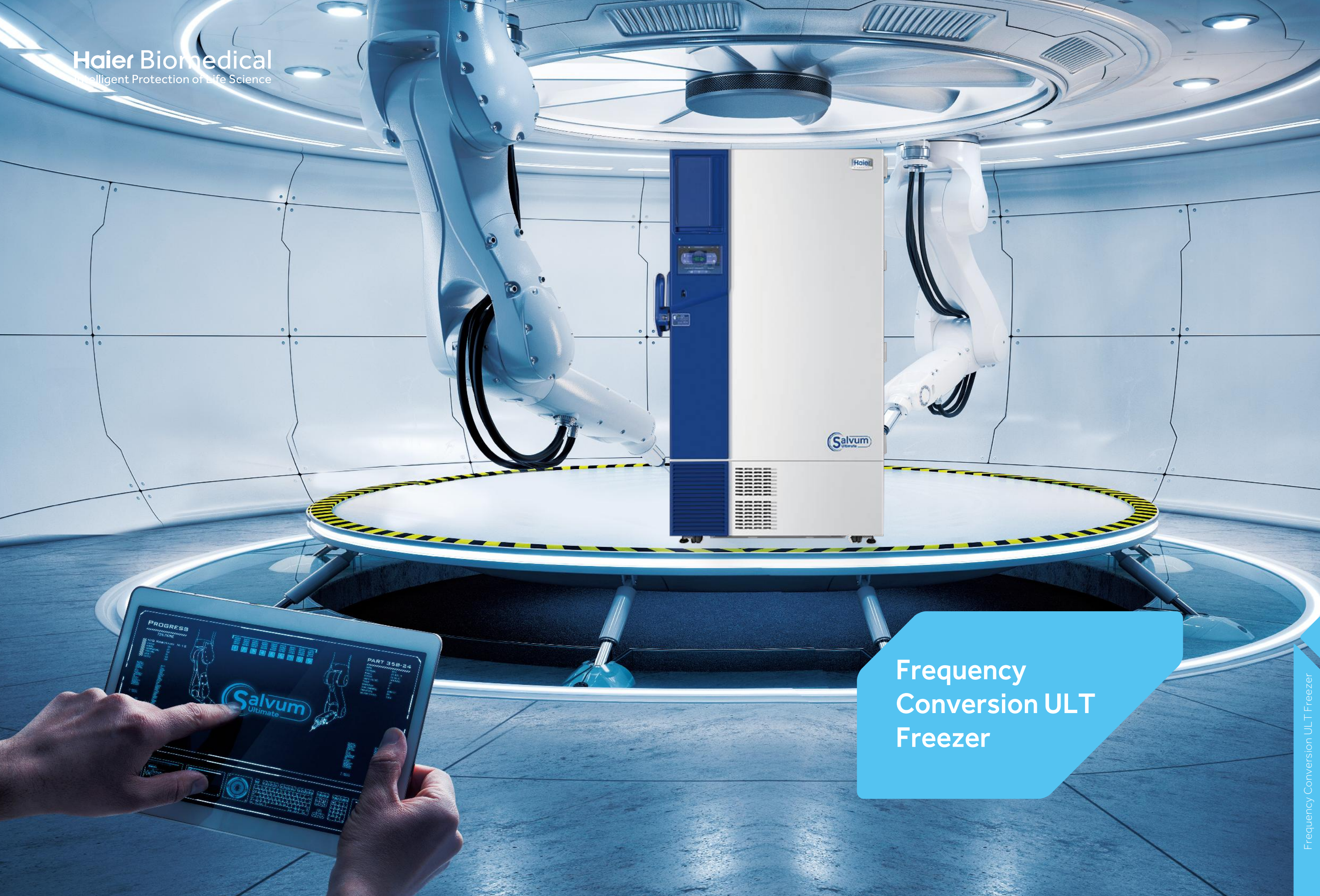
DW-86L578S | TYPICAL PERFORMANCE CHARACTERISTICS AT 25°C AMBIENT



Specifications

Model		DW-86L578S	DW-86L728S
Technical Data	Cabinet Type	Upright	Upright
	Climate Class	N	N
	Cooling Type	Direct Cooling	Direct Cooling
	Defrost Mode	Manual	Manual
	Refrigerant	HC	HC
Performance	Sound Level (dB(A))	53	50
	Cooling Performance (°C)	-86	-86
Control	Temperature Range (°C)	-40~-86	-40~-86
	Controller	Microprocessor	Microprocessor
Electrical Data	Display	LED	LED
	Power Supply (V/Hz)	220~240/50	220~240/50
Construction	Electrical Current (A)	10	10
	Capacity (L/Cu.Ft)	578/20.4	728/25.7
	Net/Gross Weight (approx)	kg	325/355
		lbs	716.5/782.6
	Interior Dimension (W*D*H)	mm	620*716*1310
		in	24.4*28.2*51.6
	Exterior Dimension (W*D*H)	mm	895*998*1980
		in	35.4*39.3*78.0
	Packing Dimension (W*D*H)	mm	975*1095*2130
		in	38.4*43.1*83.9
Loading Quantities	Container load (20'/40'/40'H)	12/24/24	10/22/22
Alarms	High/Low Temperature	Y	Y
	Hot Condenser	Y	Y
	Power Failure	Y	Y
	Sensor Error	Y	Y
	Low Battery	Y	Y
	High Ambient Temperature	Y	Y
	Door Ajar	Y	Y
Accessories	Caster	Y	Y
	Foot	Y	Y
	Porthole	Y/2	Y/2
	Shelves/Inner doors	3/4	3/4
	USB Interface	Y	Y
	Remote Alarm (Dry contacts)	Y	Y
	5V Power Supply Port	Y	Y
	Temperature Recorder	Optional	Optional
	RS485	Y	Y
	CO ₂ Backup System	Optional	Optional
	LN ₂ Backup System	Optional	Optional
Certifications	CE	Y	Y
	ENERGY STAR	Y	Y

S suffix - Dual independent refrigeration systems
Product appearance and specifications are subject to change without notice



Frequency
Conversion ULT
Freezer

Scope of Application

Applicable for products and samples which require strict storage conditions such as viruses, pathogens, red blood cells, white blood cells, skin, bones, bacteria, semen, biological products, electronics and special materials. Suitable for long term storage applications and compliant with typical storage requirements found in hospitals, disease control and prevention centers, scientific research institutions, biomedical engineering institutes, agriculture/ fishery companies as well as the electronics and chemical industry.

Advanced Hardware System



Smart Full-size Touch Screen

10-inch capacitive touch screen, state-of-art UI design coupled with sample management system to provide the optimal user experience.



HC & Variable Frequency Drive Refrigeration System for Additional Energy Saving

Advanced innovative design delivers excellent energy savings. The energy consumption is down to a single digit.

Optional IoT Software System



Simplified Sample Management Experience

Optional barcode scanner for simple, effortless and precise identification. Input and retrieve your samples with higher precision and efficiency



Wireless Monitoring Connectivity

Check the real-time operating status via mobile phones or palmtop, simple and reliable

A Quicker product access, identification and retrieval

Instead of a manual system, the one-gun, one-code and one-key operation plus touch screen synchronization means you can access and retrieve your samples within seconds

B 24-hour sample protection

Using Haier's app and IoT technology the unit can be monitored and can self-diagnose faults, ensuring you are always aware of your unit's status and able to make real-time and informed choices to protect your samples

C Cloud data storage available

Store hundreds of millions of scientific research and sample information in the cloud server

Friendly Design



Safe and secure

Standard equipped with key lock, padlock and electromagnetic lock with optional fingerprint lock, providing multiple safeguards for sample safety



Low noise design, reducing the noise down to 43.5dB

Special noise-reduction design plus super silent compressor technology and energy-saving fan, considerably lowers noise level



Super energy efficient with three environmentally friendly innovations

Ultra-low power consumption, down to less than 10kWh/day, ensuring a world leading energy saving performance



Optimized insulation

Double foaming for both inner and outer doors and five-layer sealing design and optimized super-thick VIP thermal insulation technology, extends temperature holdover time during power failure and increases insulation efficiency by 20%

Specifications

Model			DW-86L579BPT	DW-86L729BPT	DW-86L829BPT		DW-86L959BPT	
Technical Data	Cabinet Type		Upright	Upright	Upright		Upright	
	Climate Class		N	N	N		N	
	Cooling Type		Direct Cooling	Direct Cooling	Direct Cooling		Direct Cooling	
	Defrost Mode		Manual	Manual	Manual		Manual	
	Refrigerant		HC	HC	HC		HC	
	Sound Level (dB(A))		43.5	43.5	43.5		47	
Performance	Cooling Performance (°C)		-86	-86	-86		-86	
	Temperature Range (°C)		-40~-86	-40~-86	-40~-86		-40~-86	
Control	Controller		Microprocessor	Microprocessor	Microprocessor		Microprocessor	
	Display		Touch Screen LCD	Touch Screen LCD	Touch Screen LCD		Touch Screen LCD	
Electrical Data	Power Supply (V/Hz)		100-230/50/60	100-230/50/60	100-230/50/60	208-230/50/60	100-230/50/60	208-230/50/60
	Electrical Current (A)		14	14	15	6	20	7
Dimensions	Capacity (L/Cu.Ft)		579/20.4	729/25.7	829/29.2		959/33.9	
	Net/Gross Weight (approx)	kg	325/355	350/385	380/415		450/485	
		lbs	716.5/782.6	771.6/848.8	837.7/914.9		992.1/1069.2	
	Interior Dimension (W*D*H)	mm	620*716*1310	766*716*1310	870*716*1310		1016*716*1310	
		in	24.4*28.2*51.6	30.2*28.2*51.6	34.3*28.2*51.6		40.0*28.2*51.6	
	Exterior Dimension (W*D*H)	mm	895*998*1980	1046*998*1980	1145*998*1980		1296*998*1980	
		in	35.2*39.3*78.0	41.2*39.3*78.0	45.1*39.3*78.0		51.0*39.3*78.0	
	Packing Dimension (W*D*H)	mm	975*1095*2130	1120*1090*2130	1240*1080*2130		1410*1160*2185	
		in	38.4*43.1*83.9	44.1*42.9*83.9	48.8*42.5*83.9		55.5*45.7*86.0	
	Container load (20'/40'/40'H)			12/24/24	10/22/22	5/11/11		5/10/10
Functions	High/Low Temperature		Y	Y	Y		Y	
	Hot Condenser		Y	Y	Y		Y	
	Power Failure		Y	Y	Y		Y	
	High/Low Voltage		Y	Y	Y		Y	
	Sensor Error		Y	Y	Y		Y	
	Low Battery		Y	Y	Y		Y	
	High Ambient Temperature		Y	Y	Y		Y	
	Door Ajar		Y	Y	Y		Y	
	Start-up Delay		Y	Y	Y		Y	
Accessories	Caster		Y	Y	Y		Y	
	Foot		Y	Y	Y		Y	
	Porthole		Y/2	Y/2	Y/2		Y/2	
	Shelves/Inner Doors		3/4	3/4	3/4		3/4	
	USB Interface		Y	Y	Y		Y	
	Remote Alarm		Y	Y	Y		Y	
	5V Power Supply Port		Y	Y	Y		Y	
	Temperature Chart Recorder		Optional	Optional	Optional		Optional	
	RS485 Port		Y	Y	Y		Y	
	CO ₂ Backup System		Optional	Optional	Optional		Optional	
	LN ₂ Backup System		Optional	Optional	Optional		Optional	
	Certifications	CE		Y	Y	/	Y	/
UL		Y	Y	Y	/	Y	/	
ENERGY STAR		Y	Y	Y	Y	Y	Y	

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

Haier Biomedical's SmartFrequency technology manages the compressor speeds on demand. The ultra-low temperature freezers can thus achieve the world-leading energy efficiency in ultra-low temperature.



DW-86L829BP

Smarter by Design

The SmartFrequency Conversion range of ultra low temperature freezers have been designed and developed at the Haier Biomedical R&D Institute. They are certified by one of the world's leading energy conservation and environmental protection organisations.



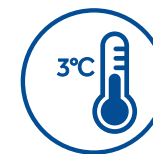
Intelligent frequency Conversion technology

Two variable speed compressors are controlled for optimal freezer performance. Low energy consumption is achieved.



Maximum energy efficiency

Our SmartFrequency Technology, coupled with our environmentally safe and friendly hydrocarbon refrigeration system, allows the Haier freezers to operate at a low level of energy of 8.2 kWh/day.



Precise temperature control

The innovative control algorithm balances the effects of temperature loss with the unique frequency conversion refrigeration system, ensuring the cabinet temperature stability of $\pm 3^{\circ}\text{C}$.



Frequency conversion Adaptive technology

Variable speed compressors in Haier Biomedical freezers are operated to produce the capacity that matches the demand of the load. The control system automatically tunes the speed of the compressors to optimize the operation.



World-leading energy saving Refrigeration technology

Our hydrocarbon refrigeration technology can save energy by 50%, significantly reducing operator's cost. The refrigerants do not contain fluoride and chloride. The global warming potential is extremely low at 3. Thus they are very friendly to the environment.



Minimal sound level output

Adaptive control technology controls the fans and compressors to reduce the sound level to 43.5 dB(A).



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



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

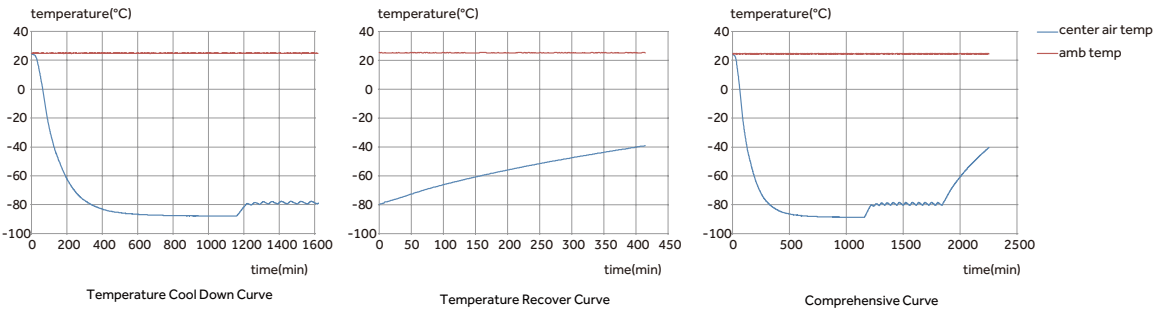
Lockable handle with unique key prevents other Haier freezer owner's access to your precious samples, also comes with space for a padlock for that extra security



Multilevel Alarms

Alarming functions that include high and low temperature, sensor error, power failure, high ambient, clean filter and door ajar

DW-86L829BP | TYPICAL PERFORMANCE CHARACTERISTICS AT 25°C AMBIENT



Specifications

Model			DW-86L579BP	DW-86L729BP	DW-86L829BP		DW-86L959BP	
Technical Data	Cabinet Type		Upright	Upright	Upright		Upright	
	Climate Class		N	N	N		N	
	Cooling Type		Direct Cooling	Direct Cooling	Direct Cooling		Direct Cooling	
	Defrost Mode		Manual	Manual	Manual		Manual	
	Refrigerant		HC	HC	HC		HC	
	Sound Level (dB(A))		43.5	43.5	43.5		47	
Performance	Cooling Performance (°C)		-86	-86	-86		-86	
	Temp Range (°C)		-40~-86	-40~-86	-40~-86		-40~-86	
Control	Controller		Microprocessor	Microprocessor	Microprocessor		Microprocessor	
	Display		LED	LED	LED		LED	
Electrical Data	Power Supply (V/Hz)		100~230/50/60	100~230/50/60	100-230/50/60	208-230/50/60	100-230/50/60	208-230/50/60
	Electrical Current (A)		14	14	15	6	20	7
Construction	Capacity (L/Cu.Ft)		579/20.4	729/25.7	829/29.2		959/33.9	
	Net/Gross Weight (approx)	kg	325/355	350/385	380/415		450/485	
		lbs	716.5/782.6	771.6/848.8	837.7/914.9		992.1/1069.2	
	Interior Dimensions (W*D*H)	mm	620*716*1310	766*716*1310	870*716*1310		1016*716*1310	
		in	24.4*28.2*51.6	30.2*28.2*51.6	34.3*28.2*51.6		40.0*28.2*51.6	
	Exterior Dimensions (W*D*H)	mm	895*998*1980	1046*998*1980	1145*998*1980		1296*998*1980	
		in	35.2*39.3*78.0	41.2*39.3*78.0	45.1*39.3*78.0		51.0*39.3*78.0	
	Packing Dimension (W*D*H)	mm	975*1095*2130	1120*1090*2130	1240*1080*2130		1410*1160*2185	
in		38.4*43.1*83.9	44.1*42.9*83.9	48.8*42.5*83.9		55.5*45.7*86.0		
Loading Quantities	Container Load (20'/40'/40'H)		12/24/24	10/22/22	5/11/11		5/10/10	
Alarms	Remote Alarm (Dry contacts)		Y	Y	Y		Y	
	High/Low Temp		Y	Y	Y		Y	
	Hot Condenser		Y	Y	Y		Y	
	Power Failure		Y	Y	Y		Y	
	Sensor Error		Y	Y	Y		Y	
	Low Battery		Y	Y	Y		Y	
	High Ambient Temp		Y	Y	Y		Y	
	Door Ajar		Y	Y	Y		Y	
Accessories	Caster		Y	Y	Y		Y	
	Foot		Y	Y	Y		Y	
	Porthole		Y/2	Y/2	Y/2		Y/2	
	Shelves/ Inner Doors		3/4	3/4	3/4		3/4	
	USB Interface		Y	Y	Y		Y	
	5V Power Supply Port		Y	Y	Y		Y	
	Temp Recorder		Optional	Optional	Optional		Optional	
	RS485 Port		Y	Y	Y		Y	
	CO ₂ Backup System		Optional	Optional	Optional		Optional	
	LN ₂ Backup System		Optional	Optional	Optional		Optional	
Certifications	CE		Y	Y	/	Y	/	Y
	UL		Y	Y	Y	/	Y	/
	ENERGY STAR		Y	Y	Y	Y	Y	Y

BP suffix - Variable frequency inverter compressor
Product appearance and specifications are subject to change without notice

Haier water-cooled ULT freezers are designed to meet strict requirements for storage of plasma, biological materials, vaccines, reagents, specimens, and other valuable samples. They are ideal for installations in hospitals, clinics, blood banks and medical research facilities where freezer heat must be removed by cooling water.



Advantages

- Intelligent frequency conversion technology
- Advanced control Touchscreen
- Higher efficiency to yield more energy savings of up to 20%
- Approximately 90% of the compressor heat generated during operation is removed by the cooling water, thus posting little impact to a laboratory's ambient
- Use less air-conditioning power for a comfortable laboratory condition
- Advanced control
- Low sound level
- Smart coolant control
- High quality industry grade hermetically sealed compressors
- Pressure protection system due to lack of water flow



Specifications

Model			DW-86L828W	DW-86L959W
Technical Data	Cabinet Type		Upright	Upright
	Climate Class		N	N
	Cooling Type		Direct cooling	Direct cooling
	Defrost Mode		Manual	Manual
	Refrigerant		HC	HC
	Sound Level (dB(A))		43.5	47
Performance	Cooling Performance (°C)		-86	-86
	Temperature Range (°C)		-40~-86	-40~-86
Control	Controller		Microprocessor	Microprocessor
	Display		LCD Touch Screen	LCD Touch Screen
Electrical Data	Power Supply (V/Hz)		208-230/50/60	208-230/50/60
	Electrical Current (A)		6	7
Dimensions	Capacity (L/Cu.Ft)		828/29.2	959/33.9
	Net/Gross Weight (approx)	kg	380/415	450/485
		lbs	837.7/914.9	992.1/1069.2
	Interior Dimension (W*D*H)	mm	870*716*1310	1016*716*1310
		in	34.3*28.2*51.6	40.0*28.2*51.6
	Exterior Dimension(W*D*H)	mm	1145*998*1980	1296*998*1980
		in	45.1*39.3*78.0	51.0*39.3*78.0
	Packing Dimension (W*D*H)	mm	1240*1080*2130	1410*1160*2185
		in	48.8*42.5*83.9	55.5*45.7*86.0
	Container Load (20'/40'/40'H)		5/11/11	5/10/10
Alarms	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	Caster		Y	Y
	Foot		Y	Y
	Porthole		Y/2	Y/2
	Shelves/Inner doors		3/4	3/4
	USB Interface		Y	Y
	Remote Alarm (Dry contacts)		Y	Y
	5V Power Supply Port		Y	Y
	Temperature Recorder		Optional	Optional
	Rs485 Port		Y	Y
	CO ₂ Backup System		Optional	Optional
	LN ₂ Backup System		Optional	Optional
Others	Certification		CE	CE

Product appearance and specifications are subject to change without notice

Haier Biomedical Salvum brand of ULT freezers has been designed to deliver energy savings and reduced carbon footprint. This range uses environmentally safe hydrocarbon refrigerants and high efficiency fan motors to maximize the cooling ability of the system and reduce energy consumption. While providing sample safety, the freezer design makes energy savings possible for laboratories.



DW-86L829



DW-86L579

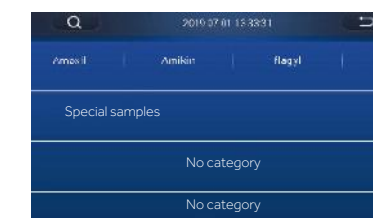


Large Intelligent LCD Screen Visual Management

10-inch high-performance LCD capacitive screen, sensitive touch operation; intuitive display of inside temperature, ambient temperature, input voltage and other data and temperature curves.

Inventory Management System

The single version of the inventory management allows users who do not have a racking system within the freezer to easily record item locations, entry and exit records.



Single version (standard)



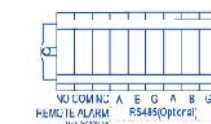
Professional version (optional)

In instances where customers use racking systems, the optional professional version of the inventory management is available. Freezer racks, boxes, and vials can easily record item locations and entry and exit records, facilitate item inventory and statistics, realize multi-screen interaction and reduce errors through secondary verification.

The freezer comes with the single version as standard.

Equipped with Multiple Interfaces

- Standard USB interface, capable of storing data for 10 years
- Standard remote alarm terminal RS485 port



Multiple Options for Safe Management and Control Systems

Standard password lock, optional fingerprint module, punch card module, face recognition, realizing safe and secure multi-user management.

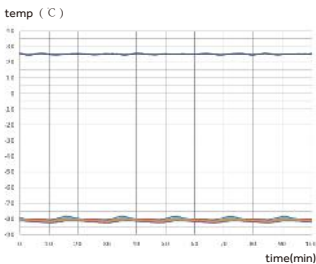
Optional IoT System Realizes Real-time Monitoring

The IoT APP can monitor the operating status of the equipment anytime and anywhere. Equipped with multiple alarm functions and able to self-diagnose system faults to ensure sample safety. (Contact your local area representative to check local availability.)



Safe and Secure with Multiple Alarms

Multiple alarm functions include high temperature alarm, low temperature alarm, sensor failure alarm, power failure alarm, low battery alarm, door ajar alarm and high ambient temperature alarm.



Precise Temperature Control Ensures Safe Storage

Adjustable temperature set-point between -40°C ~ -86°C and the ability to monitor temperature curves in real time, equipped with sophisticated temperature safety alarm system to ensure product safety.

Ergonomic Design



Narrow Door Design

The freezer can pass through an 750mm wide door when the door is open



New Handle Design

Adopting exclusive slide design, easy to open and close the door



Pressure Equalization Port

Equipped with pressure equalization port, realize easy opening
Adopts chromium plating, rust-proof



Porthole

Two portholes as standard, allows for independent testing of cabinet temperature



Filter Design

Tool-free removable filter design, easy and quick to clean the filter



Detachable Inner Door Design

Tool-free detachable inner door, realizing easy and quick defrost

Specifications

Model		DW-86L419	DW-86L579	DW-86L729	DW-86L829
Technical Data	Cabinet Type	Upright	Upright	Upright	Upright
	Climate Class	N	N	N	N
	Cooling Type	Direct cooling	Direct cooling	Direct cooling	Direct cooling
	Defrost Mode	Manual	Manual	Manual	Manual
	Refrigerant	HC	HC	HC	HC
	Sound Level (dB(A))	47	47	52	52
Performance	Cooling Performance (°C)	-86	-86	-86	-86
	Temp Range (°C)	-40~-86	-40~-86	-40~-86	-40~-86
Control	Controller	Microprocessor	Microprocessor	Microprocessor	Microprocessor
	Display	LCD Touchscreen	LCD Touchscreen	LCD Touchscreen	LCD Touchscreen
Electrical Data	Power Supply (V/Hz)	220~240/50	220~240/50	220~240/50	220~240/50
	Electrical Current (A)	5	5.5	9	10
Construction	Capacity (L/Cu.Ft)	419/14.8	579/20.45	729/25.75	829/29.3
	Net/Gross Weight (approx)	kg	255/286	300/330	350/385
		lbs	562.2/630.5	661.4/727.5	771.6/848.8
	Interior Dimensions (W*D*H)	mm	465*716*1310	620*716*1310	766*716*1310
		in	18.3*28.2*51.6	24.4*28.2*51.6	30.2*28.2*51.6
	Exterior Dimensions (W*D*H)	mm	830*980*1980	903*980*1960	1049*980*1980
		in	32.7*38.6*78.0	35.6*38.6*77.2	41.3*38.6*78.0
	Packing Dimension (W*D*H)	mm	890*1090*2130	975*1095*2130	1120*1090*2130
		in	35.0*42.9*83.9	38.4*43.1*83.9	44.1*42.9*83.9
Loading Quantities	Container Load (20'/40'/40'H)	12/26/26	12/24/24	10/22/22	5/11/11
Alarms	High/Low Temp	Y	Y	Y	Y
	Hot Condenser	Y	Y	Y	Y
	Power Failure	Y	Y	Y	Y
	High/Low Voltage	Y	Y	Y	Y
	Sensor Error	Y	Y	Y	Y
	Low Battery	Y	Y	Y	Y
	High Ambient Temp	Y	Y	Y	Y
	Door Ajar	Y	Y	Y	Y
Accessories	Caster	Y	Y	Y	Y
	Foot	Y	Y	Y	Y
	Porthole	Y/2	Y/2	Y/2	Y/2
	Shelves/ Inner Doors	3/2	3/4	3/4	3/4
	USB Interface	Y	Y	Y	Y
	Remote Alarm (Dry contacts)	Y	Y	Y	Y
	5V Power Supply Port	Y	Y	Y	Y
	Temp Recorder	Optional	Optional	Optional	Optional
	RS485 Port	Y	Y	Y	Y
	CO ₂ Backup System	Optional	Optional	Optional	Optional
	LN ₂ Backup System	Optional	Optional	Optional	Optional
Certification	CE	Y	Y	Y	Y
	Energy star	/	Y	Y	Y

Product appearance and specifications are subject to change without notice

This product line is designed and manufactured for long term storage of various biological products, including viruses, germs, erythrocytes and leucocytes. Applications can be found in blood banks, hospitals, epidemic prevention services, research institutes, biological engineering institutes, laboratories in electronic and chemical plants.



Advantages

- World leading energy-efficient
- Hydrocarbon refrigeration system
- Slim cabinet design
- Reliable sample protection
- Malfunction alarms
- Excellent insulation performance



Insulation and System Design

- Special V-I-P (Vacuum Insulation Panel) insulation system reduces the heat gain by 25%
- High efficiency HC refrigeration system improves the overall efficiency by 45%
- Four individual insulated inner doors reduce the cold air loss to the minimum
- Heated Pressure Equalization Port makes re-accessing the unit fast
- About 50 dba sound level

Safe and Reliable Storage

- Superior temperature uniformity
- Dependable fans, compressors and other system related components

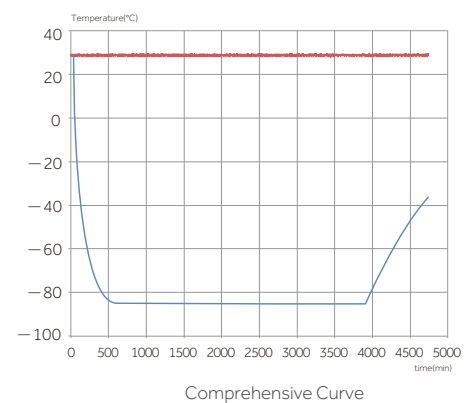
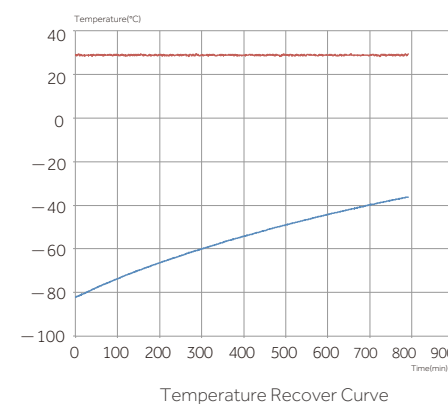
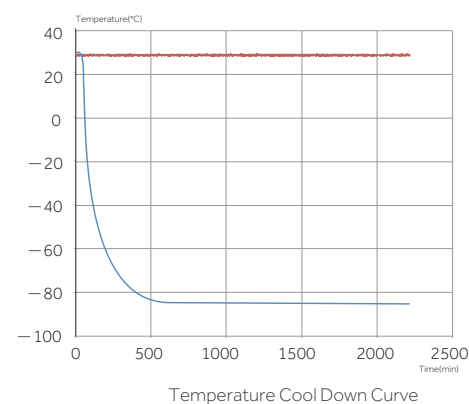
Alarms (Visual and Audible)

- Adjustable High/Low temperature alarm
- Sensor error
- Low battery
- Door ajar
- Power failure
- Hot condenser
- High ambient
- Remote alarm contact

Extended Warm up Time During Power Failure

- Warm up time measures the time taken for temperature to rise up (from -80°C to -50°C) at 25°C ambient when the power is interrupted.
- Haier has the longest warm up time when compared with other major brands in the market.

TYPICAL PERFORMANCE CHARACTERISTICS AT 25°C AMBIENT



4 Individual Removable Foam Inner Doors

- 4 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

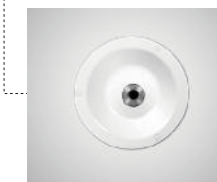


Excellent Doors Seals

- Total of five gaskets to safeguard the freezer temperature, including four seals for the exterior door, one for each inner door



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



Pressure Equalization Port

- Heated port with spring-assisted mechanism to prevent icing on the vent.
- Allows re-accessing the freezer after initial door opening.
- Adopts chromium plating, rust-proof



Circular- chart Recorder (Optional)

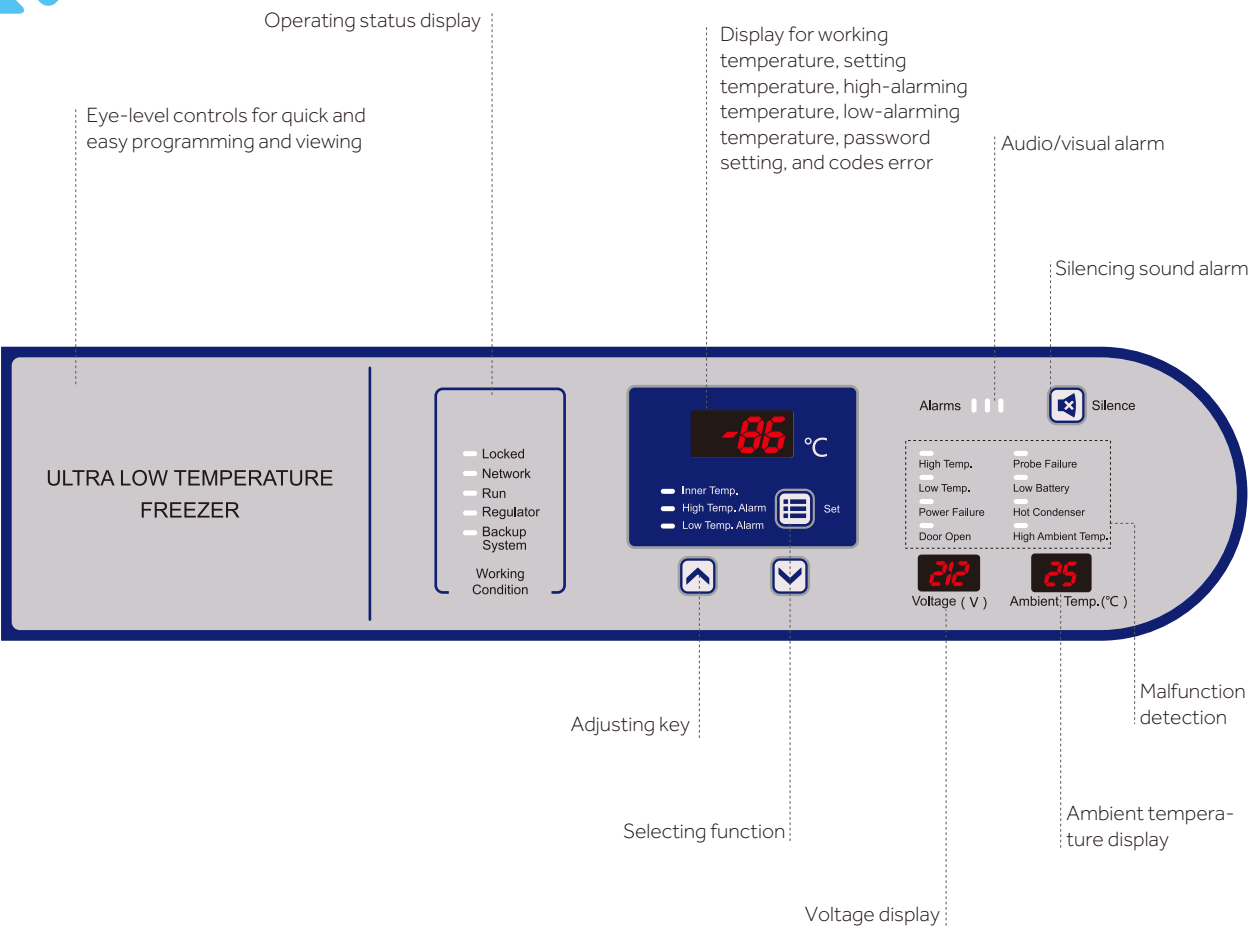
- Front-mounted.
- For independent temperature monitoring.



High Efficiency Refrigeration Components

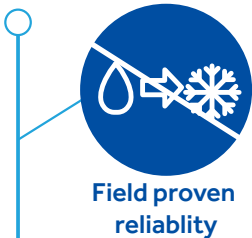


Two port holes for ease of temperature monitoring



Specifications

Alarm	Alarm Triggering Condition
High Temperature	Temperature reaches the warm alarm limit
Low Temperature	Temperature reaches the low alarm limit
Power Failure	Equipment loses power
Door Ajar	Door opening time secedes set time, settable between 0 and 20 minutes
Sensor Error	E0.Ambient sensor fails E1.Condenser sensor fails E2.Main cabinet temperature control sensor fails E3.Heat exchanger sensor fails E4.Heat exchanger temperature fails
Low Battery	Battery capacity runs low or battery switch is not turned on
Hot Condenser	1. Condensers filter element is clogged 2. Ambient temperature is too high
High Ambient Temperature	Ambient temperature exceeds 32°C



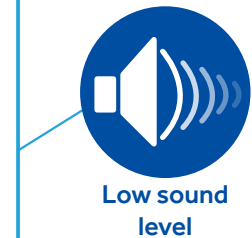
- Unique insulated inner door design for four separate storage compartments to minimize frost buildup inside the chamber
- Specialized control system design for a well-balanced operation of cascade refrigeration system
- Positive field proven reliability record



- Malfunction alarms including high and low temperature, power failure, sensor error, clean -filter, and extremely high ambient
- Capable of producing two types of alarm outputs: audible buzzer and visible flashing light
- Multiple built-in system protection features including user-settable protection code for controls, user settable delay to start, voltage compensation system, and protection against extreme high voltages
- Door open feature standard and USB port for temperature data downloading standard on upright models
- Remote alarm contacts



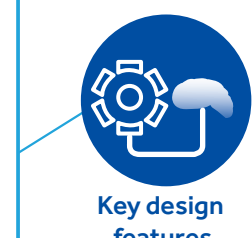
- Wide range operating voltage system from 185V to 260 V designed to allow units installed in areas with poor voltage condition
- Suitable for 10°C to 32°C ambient temperature
- Input voltage and ambient temperature shown simultaneously for ease of monitoring environmental conditions
- Robust door latch designed for secure door closing
- Compact casters for ease of maneuvering



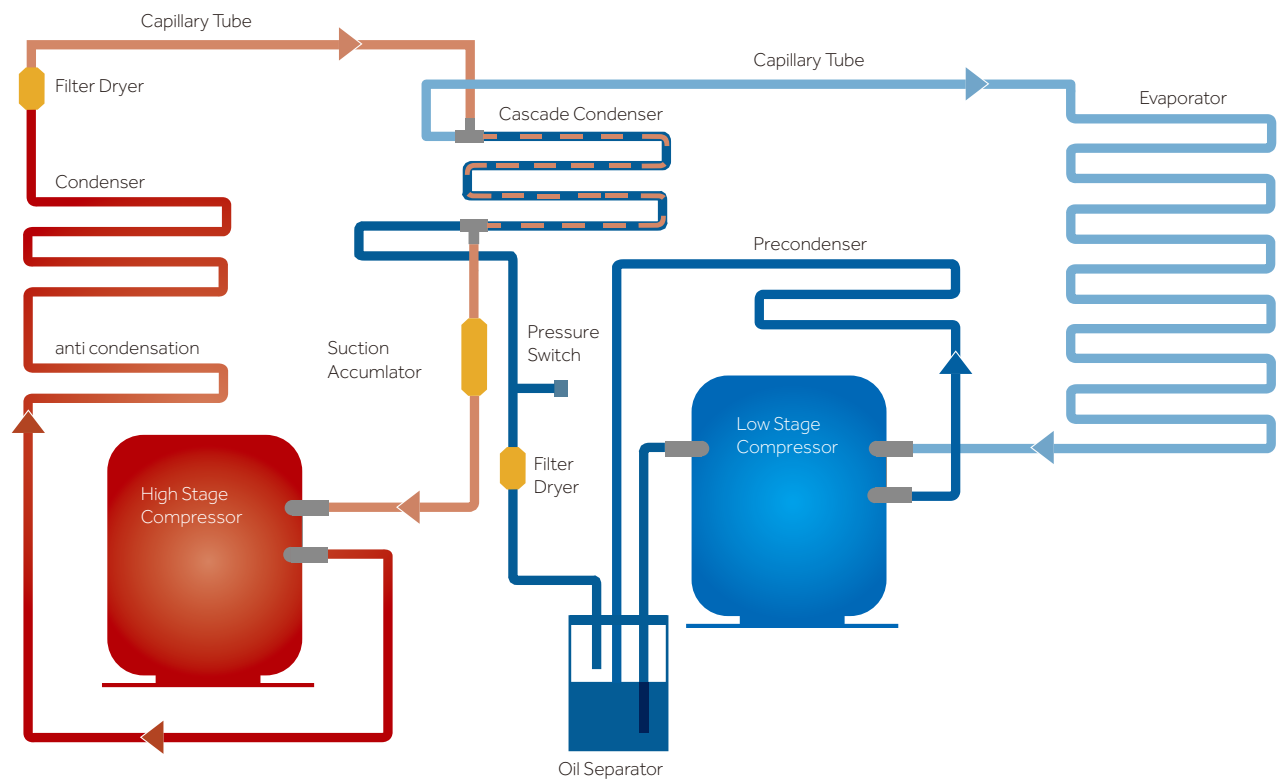
- Specialized refrigeration system design using whisper quiet fan and compressors
- Freezer chassis designed to absorb vibration and sound



- Unique door seal design for the minimum loss of cold temperature during a door opening
- High performance VIP insulation panels to minimize cabinet heat gain and to improve temperature stability
- Patented cabinet insulation system designed for optimal performance of cold storage temperature and minimal frost buildup
- Unique design of independent insulated inner door systems for independent access of storage space to provide the maximum protection of stored samples



- Microprocessor-controlled system designed for controllable range of -40°C to -86°C for cabinet space with 1°C increment
- Large LED display for cabinet temperature, set temperature, ambient temperature, and input voltage
- Settable high temperature and low temperature alarms
- Automatic clean-filter alarm and sensor error alert
- Adjustable storage shelf height
- Optional temperature recorder, storage racks and storage boxes



	Filter dryer <ul style="list-style-type: none">• Filtration and drying device for water and debris
	Capillary tube for high stage <ul style="list-style-type: none">• Expansion device for high stage liquid refrigerant
	Capillary tube for low stage <ul style="list-style-type: none">• Expansion device for low stage refrigerant
	High stage condenser <ul style="list-style-type: none">• Extra-large air cooled condenser dissipates product heat content efficiently.
	Low stage evaporator <ul style="list-style-type: none">• Heat exchanger for expanded low stage refrigerant
	Ultra low noise compressor <ul style="list-style-type: none">• Compressor provides reliable performance with ultra low noise• Specially designed low stage evaporator yields excellent temperature uniformity and recovery after loading and door opening.• Both high and low stage compressors are industrial grade hermetically sealed compressor designed for low temperature application. Sound level is extremely low.
	Cascade condenser <ul style="list-style-type: none">• Heat exchanger between the high and low temperature stage in the system
	Temprite oil separator <ul style="list-style-type: none">• Temprite oil separator can effectively separate oil and water to improve the refrigeration performance

Suitable for clinical, medical, scientific research, quarantine and other departments to store items under low temperature conditions. Applicable for universities, hospitals, disease prevention and control centers, blood stations, scientific research institutes, electronics and chemical enterprise laboratories and biomedical engineering research institutes. For storage of biological products and biological samples such as red and white blood cells, viruses, bone and bacteria. Also used for electronic devices and other materials used for cryogenic tests.



DW-86L100J



Energy Efficient, Safe and Reliable

High efficiency HC refrigeration system, optimised for energy efficiency delivering a power consumption figure of just 5.5kW/24hrs.



Personal ULT Storage

810mm cabinet height makes it easy to place on or under counter, saving storage space. Stackable design.



Ergonomic design

Ergonomic handle design ensures easy one-hand door opening.



Low noise

Optimized noise reduction cabinet and system design, emits sound level of only 46.8dB.

VIP insulation and multilayered sealing design

70mm insulating layer with 25mm VIP and 4 layers of gasket improves energy efficiency and reduces heat loss to deliver excellent warm up times in event of power failure.

**Optional IoT Module**

Real time monitoring of cabinet temperature, temperature setting, high and low temperature alarm value, temperature curve, alarm log and event log.

- User-settable parameters such as set point and alarms.
- Real-time cabinet temperature display, alarm information, power supply and compressor start/stop state.
- Standard USB port capable of storing >15 years of operating data for compliance.



Filter is easy to remove and clean without the need for tools.

4 casters + 2-foot locks, easy to move, lock and level.



Ergonomic design for easy door opening and closing. Lockable and equipped with 4 keys as standard with the ability to add a padlock for extra security when required.



Double stainless-steel inner doors to prevent cooling loss when opening the outer door, easy to clean.

**Microprocessor control system**

- Microcomputer electronic thermostat, LED temperature display, display precision 1°C, adjustable cabinet temperature set point -40°C~-86°C.
- Cabinet temperature/voltage/ambient temperature checking are available.
- Multiple alarm functions: high temperature alarm, low temperature alarm, sensor fault alarm, power failure alarm, low battery power alarm, open door alarm and high ambient temperature alert.
- Sound and light alarm mode, attachable to remote alarm interface.
- Battery backup alarm function operates continuously for >24hrs in the event of a power outage.
- Standard configuration: RS485 port and USB interface.
- Standard 5V power supply available for test equipment.
- Optional IoT module.

**Superior thermal insulation performance**

70mm super thick insulation layer design, aviation vacuum insulation material VIP, thickness of 25 mm or more, 4 layers of silicone seal, superior thermal insulation and energy saving effect.

**Porthole**

Portholes as standard, allows for independent testing of cabinet temperature.

**Security lock**

Standard door lock and padlock to ensure sample security and prevent unauthorised access.

**USB data storage**

Capable of storing more than 15 years of data.



Specifications

Model		DW-86L338J			DW-86L338JA		DW-86L388J		DW-86L486E		DW-86L490J		DW-86L490JA		DW-86L578J			DW-86L578JA		DW-86L628E	
Technical Data	Cabinet Type	Upright			Upright		Upright		Upright		Upright		Upright			Upright			Upright		
	Climate Class	N			N		N		N		N			N			N				
	Cooling Type	Direct cooling			Direct cooling		Direct cooling		Direct cooling		Direct cooling			Direct cooling			Direct cooling				
	Defrost Mode	Manual			Manual		Manual		Manual		Manual			Manual			Manual				
	Refrigerant	HC			HC		HC		HC		HC			HC			HC				
	Sound level (dB(A))	50			50		49		50		50			50			49				
Performance	Cooling Performance (°C)	-86			-86		-86		-86		-86			-86			-86				
	Temperature Range (°C)	-40~-86			-40~-86		-40~-86		-40~-86		-40~-86			-40~-86			-40~-86				
Control	Controller	Microprocessor			Microprocessor		Microprocessor		Microprocessor		Microprocessor			Microprocessor			Microprocessor				
	Display	LED			LED		LED		LED		LED			LED			LED				
Electrical Data	Power Supply (V/Hz)	220~240/50	120/60	208~230/60	220~240/50	220~240/50	220~240/50	220~240/50	208~230/60	220~240/50	120/60	208~230/60	220~240/50	120/60	208~230/60	220~240/50					
	Electrical Current (A)	7.5	12	7.5	7.5	10	8	8	7.5	12	9	11									
Construction	Capacity (L/Cu.Ft)	338/11.9			388/13.7		486/17.1		490/17.3			578/20.4			626/22.1						
	Net/Gross Weight (approx)	kg	238/278			255/286		290/310		295/335			300/330			301/323					
		lbs	524.7/612.9			562.2/630.5		639.3/683.4		650.4/738.5			661.4/727.5			664.0/712.0					
	Interior Dimension (W*D*H)	mm	465*630*1165			465*716*1310		590*630*1310		590*630*1310			620*716*1310			760*630*1310					
		in	18.3*24.8*45.9			18.3*28.2*51.6		23.3*24.8*51.6		23.2*24.8*51.6			24.4*28.2*51.6			29.9*24.8*51.6					
	Exterior Dimension (W*D*H)	mm	823*900*1871			830*980*1980		953*900*1980		873*900*1980			903*980*1960			1035*900*1980					
		in	32.4*35.4*73.6			32.7*38.6*78.0		37.5*35.4*78.0		34.4*35.4*78.0			35.6*38.6*77.2			40.7*35.4*78.0					
Packing Dimension (W*D*H)	mm	887*995*2040			890*1090*2130		1020*1020*2130		920*990*2130			970*1085*2130			1110*1005*2130						
	in	34.9*39.2*80.3			35.0*42.9*83.9		40.2*40.2*83.9		35.2*39.0*83.9			38.2*42.7*83.9			43.7*39.6*83.9						
Loading Quantities	Container load (20'/40'/40'H)	12/26/26			12/26/26		10/22/22		12/26/26			12/24/24			12/24/24						
Alarms	High/Low Temperature	Y			Y		Y		Y			Y			Y						
	Hot Condenser	Y			Y		Y		Y			Y			Y						
	Power Failure	Y			Y		Y		Y			Y			Y						
	Sensor Error	Y			Y		Y		Y			Y			Y						
	Low Battery	Y			Y		Y		Y			Y			Y						
	High Ambient Temperature	Y			Y		Y		Y			Y			Y						
	Door Ajar	Y			Y		Y		Y			Y			Y						
Accessories	Caster	Y			Y		Y		Y			Y			Y						
	Foot	Y			Y		Y		Y			Y			Y						
	Porthole	Y/2			Y/2		Y/2		Y/2			Y/2			Y/2						
	Shelves/Inner doors	3/2			3/2		3/4		3/4			3/4			3/4						
	USB Interface	Y			Y		Y		Y			Y			Y						
	Remote Alarm (Dry contacts)	Y			Y		Y		Y			Y			Y						
	5V Power Supply Port	Y			Y		Y		Y			Y			Y						
	Temperature Recorder	Optional			Optional		Optional		Optional			Optional			Optional						
	RS232/485 Port	Optional			Optional		Optional		Optional			Optional			Optional						
	CO2 Backup System	Optional			Optional		Optional		Optional			Optional			Optional						
	LN2 Backup System	Optional			Optional		Optional		Optional			Optional			Optional						
Certifications	CE	Y	/	/	Y	Y	Y	/	Y	/	/	Y									
	UL	/	Y	Y	/	/	/	Y	/	Y	Y	/									
	ENERGY STAR	/	/	/	/	/	/	/	/	Y	Y	/									

Specifications



Model		DW-86L728J			DW-86L728JA		DW-86L828J		DW-86L828JA		DW-86L100J		DW-86W100J		DW-86W420J		DW-86W420JA		
Technical Data	Cabinet Type	Upright			Upright			Upright			Upright			Chest			Chest		
	Climate Class	N			N			N			N			N			N		
	Cooling Type	Direct cooling			Direct cooling			Direct cooling			Direct cooling			Direct cooling			Direct cooling		
	Defrost Mode	Manual			Manual			Manual			Manual			Manual			Manual		
	Refrigerant	HC			HC			HC			HC			HC			HC		
	Sound level (dB(A))	50			50			51.5			46.8			49			50		
Performance	Cooling Performance (°C)	-86			-86			-86			-86			-86			-86		
	Temperature Range (°C)	-40~-86			-40~-86			-40~-86			-40~-86			-40~-86			-40~-86		
Control	Controller	Microprocessor			Microprocessor			Microprocessor			Microprocessor			Microprocessor			Microprocessor		
	Display	LED			LED			LED			LED			LED			LED		
Electrical Data	Power Supply (V/Hz)	220~240/50	120/60	208~230/60	220~240/50	208~230/60	220~240/50	120/60	220~240/50	208~230/60	220~240/50	120/60	220~240/50	208~230/60	220~240/50	208~230/60	220~240/50	208~230/60	
	Electrical Current (A)	10	18	10	10	10	3	6.5	4	7.5	4	7.5	4	7.5	4	7.5	4	7.5	
Construction	Capacity (L/Cu.Ft)	728/25.7			828/29.2			100/3.5			100/3.5			420/14.8					
	Net/Gross Weight (approx)	kg	345/385			380/410			108/132			138/160			310/357				
		lbs	760.6/848.8			837.7/903.9			238/291			304.2/352.7			683.4/787.0				
	Interior Dimension (W*D*H)	mm	766*716*1310			870*716*1310			330*481*630			470*450*480			1367*462*652				
		in	30.2*28.2*51.6			34.3*28.2*51.6			13*19*25			18.5*17.7*18.9			53.8*18.2*25.7				
	Exterior Dimension (W*D*H)	mm	1049*980*1980			1145*980*1980			770*660*810			769*825*1120			2130*870*1020				
		in	41.3*38.6*78.0			45.1*38.6*78.0			30*26*32			30.3*32.5*44.1			83.9*34.3*40.2				
	Packing Dimension (W*D*H)	mm	1120*1090*2130			1240*1080*2130			865*755*1020			860*880*1310			2230*930*1180				
in		44.1*42.9*83.9			48.8*42.5*83.9			34.1*29.7*40.2			33.9*34.6*51.6			87.8*36.6*46.5					
Loading Quantities	Container load (20'/40'/40'H)	10/22/22			5/11/11			32/64/64			14/28/56			12/26/26					
Alarms	High/Low Temperature	Y			Y			Y			Y			Y					
	Hot Condenser	Y			Y			Y			Y			Y					
	Power Failure	Y			Y			Y			Y			Y					
	High/Low Voltage	/			/			Y			/			/					
	Sensor Error	Y			Y			Y			Y			Y					
	Low Battery	Y			Y			Y			Y			Y					
	High Ambient Temperature	Y			Y			Y			Y			Y					
	Door Ajar	Y			Y			Y			Y			Y					
Accessories	Caster	Y			Y			Y			Y			Y					
	Foot	Y			Y			Y			Y			Y					
	Porthole	Y/2			Y/2			Y/1			Y/1			Y/1					
	Shelves/Inner doors	3/4			3/4			1/2			-/1			-/3					
	USB Interface	Y			Y			Y			Y			Y					
	Remote Alarm	Y			Y			Y			Y			Y					
	5V Power Supply Port	Y			Y			Y			N/A			N/A					
	Temperature Recorder	Optional			Optional			/			Optional			Optional					
	Rs232/485 Interface	Optional			Optional			NA/Y			Optional			Optional					
	CO ₂ Backup System	Optional			Optional			Optional			Optional			Optional					
Certifications	CE	Y	/	/	Y	/	Y	/	Y	/	Y	/	Y	/	Y	/	Y	/	
	UL	/	Y	Y	/	Y	/	Y	/	Y	/	Y	/	Y	/	Y	/	Y	
	ENERGY STAR	/	Y	/	/	Y	/	Y	/	Y	/	Y	/	Y	/	Y	/	Y	

Product appearance and specifications are subject to change without notice

Ergonomic Design



Light Weight
The whole unit weighs 27kg, easy to carry.



Superior Insulation Performance
25mm VIP + 70mm thick LBA foam insulation layer design, dual seal strips for better insulation.



Safety Lock Catch
Simple adjustable mechanical lock with lock catch, and it can be equipped with an external lock to guarantee the safety of sample transportation and storage.



Metal Handle
Hidden metal handle, stylish and comfortable, safe and durable, easy to carry.

Specifications

Model			DW-80WZ15		DW-86L51J	
Technical Data	Cabinet Type		Chest		Upright	
	Climate Class		N		N	
	Cooling Type		Direct Cooling		Direct Cooling	
	Defrost Mode		Manual		Manual	
	Refrigerant		HC		HC	
	Sound Level (dB(A))		60		46.8	
Performance	Cooling Performance (°C)		-80		-86	
	Temperature Range (°C)		-60~-80		-40~-86	
Control	Controller		Temperature Controller		Microprocessor	
Electrical Data	Display		LED		LED	
	Power Supply (V/Hz)		220/50, DC 24	110/60, DC 24	120/60	220~240/50
	Electrical Current (A)		2.5, 12	4.5, 12	7.5	3
Dimensions	Capacity (L/Cu.Ft)		15/0.53		51/1.8	
	Net/Gross Weight (approx)	(kg)	27/33		77/90	73/86
		(lbs)	59.52		169.8/198.4	160.9/189.6
	Exterior Dimension (W*D*H)	(mm)	690*320*500		532*640*806	
		(in)	27.2*12.6*19.7		20.9*25.2*31.7	
	Interior Dimension (W*D*H)	(mm)	260*180*330		330*481*316	
		(in)	10.2*7.1*13.0		13*16.5*12.4	
	Packing Dimension (W*D*H)	(mm)	805*430*725		570*735*1100	
		(in)	31.7*17.0*28.5		22.4*28.9*43.3	
Cabinet Width (Without Handle and Hinge)		/		470		
Container Load (20'/40'/40'H)		105/210/210		60/126/126		
Alarms	High/Low Temperature		Y		Y	
	Hot Condenser		N		Y	
	Power Failure		Y		Y	
	High/Low Voltage		N		Y	
	Sensor Error		Y		Y	
	Low Battery		N		Y	
	High Ambient Temperature		N		Y	
	Door Ajar		N		Y	
Start-up Delay		/		Y		
Accessories	Caster		N		Y	
	Foot		Y		Y	
	Porthole		N		Y/1	
	Shelves/Basket		N/N		1/1	
	USB Interface		N		Y	
	Remote Alarm		N		Y	
Other	RS232/485 Port		N		NA/Standard	
	Certification		CE	UL	UL	CE

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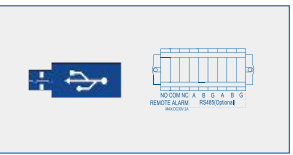
Suitable for pharmaceutical, clinical and medical research use, for the long-term storage of samples and products under ultra-low temperature conditions.

Advantage



Microprocessor Control System

Microprocessor control, with temperature display precision at 0.1°C. Internal temperature is adjustable from of -40°C ~ -86°C



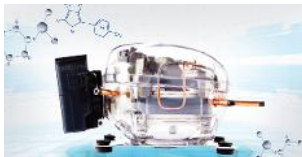
Multiple Ports

Enables users to download historical temperature data (up to 15 years) Equipped with remote alarm function and RS485 port



Quick Access Filter Design

Tool-free removable filter design, easy and quick to clean the filter



Auto-cascade Hydrocarbon (HC) Refrigeration Technology

Utilizing auto-cascade hydrocarbon compressor, with superior refrigeration and energy saving effect



Excellent Doors Seals

Total six gaskets to safeguard the freezer temperature, including a 70mm insulation layer, a 25mm vacuum VIP and 4 layers of silicone seal



Stainless Steel Inner Door

Prevents loss of internal air to keep samples safe



Ergonomic Design

Unique hook slide handle design, allows users to open and close the door with one hand



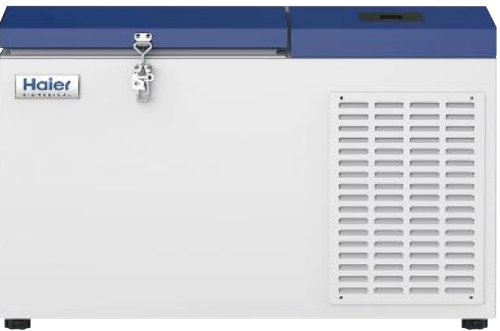
Porthole

One porthole as standard, allows for independent testing of cabinet temperature



DW86L51J

Advantage



DW-80WZ15



HC Energy Saving

High quality HC high-efficiency compressor with optimized refrigeration system, which can save 50% on power consumption.



One Unit for Multiple Applications

*Vehicle-mounted transportation with 24V(DC) power supply
*Long-term storage with 110V power supply.



Superior Uniformity

Built-in evaporator, fast cool down refrigeration, the temperature is safe, secure and reliable with the uniformity of ±3°C at key characteristic points.

Suitable for primary cells and cooling cells that are highly sensitive to temperature changes.

Product Functions

USB Interface

Easier to connect external modules such as printer and barcode reader

Adjustable Feet

Convenient to adjust the height of machine

Temperature Record

Information traceability: the frozen temperature curve and data can be transmitted to the computer for display, and PDF files can be generated synchronously for printing and archiving

Handle

Easy to open and close the door, the user process is safer

Lock

Ergonomic design, easy to operate

Side-opening Door

Convenient access of frozen samples, suitable height

Double Layer Sealing Structure

Good sealing performance

Superior Insulation Performance

Environmental friendly polyurethane foam material has good thermal insulation performance

Power Switch

Easy to operate, safe and reliable

RS 232 Interface

Liquid nitrogen level monitoring port

Gas inlet

Pipe thread connection, safe and stable

Pressure Relief Hole

When the inner pressure is too large, the pressure relief hole releases the pressure by itself to achieve the equilibrium state of internal and external pressure

Power Connector

Plug and play

Drain

Product Advantages



Precise Temperature Control

- Fine temperature control, the temperature rises and fall rate can be controlled in a large range, can achieve the cooling rate of 0.1~99°C/min
- Stable temperature control, double solenoid valve design and special jet ring design, stable temperature control, effectively reduces cell damage
- Precise temperature control, ADCR control algorithm, temperature fluctuation range is $\pm 0.5^{\circ}\text{C}$



Ergonomic Design

- 7-inch touch LCD screen, easy to operate
- Liquid nitrogen allowance warning: Real-time display of liquid nitrogen allowance, timely warning when it is lower than 20%
- Single handle press lock, simple and labor-saving, locking function, and the safety of the test process is guaranteed
- Equipped with a real-time temperature curve printer and electronically archived temperature records

Standard System Consists of

- Controlled Rate Freezer
- LN₂ Container
- LN₂ Transfer Hose
- Sample Probe
- Printer



Controlled Rate Freezer



LN₂ Container



LN₂ Transfer Hose



Sample Probe



Printer

Specifications

Model	Power Supply (V/Hz)	Rated Power (W)	Effective Volume (L)	Temperature Range (°C)
CJ-L37	230~50/60	1300	37	-180~50
Display Screen	Serial Port Form	Exterior Dimensions (W*D*H mm)	Interior Dimensions (W*D*H mm)	Net Weight (Kg)
7 "colorful LCD touch screen	USB Interface/RS232 serial port	941*571*527	330/340/330	73

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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 CO₂ injection pipe is designed in combination of filter, to prevent the blockage of CO₂ back-up system

Safety

- Liquid CO₂ test button to ensure the backup system is working
- Low CO₂ alarm system alerts the user when liquid CO₂ bottle is low in liquid level
- Ultra-low sound level compressors

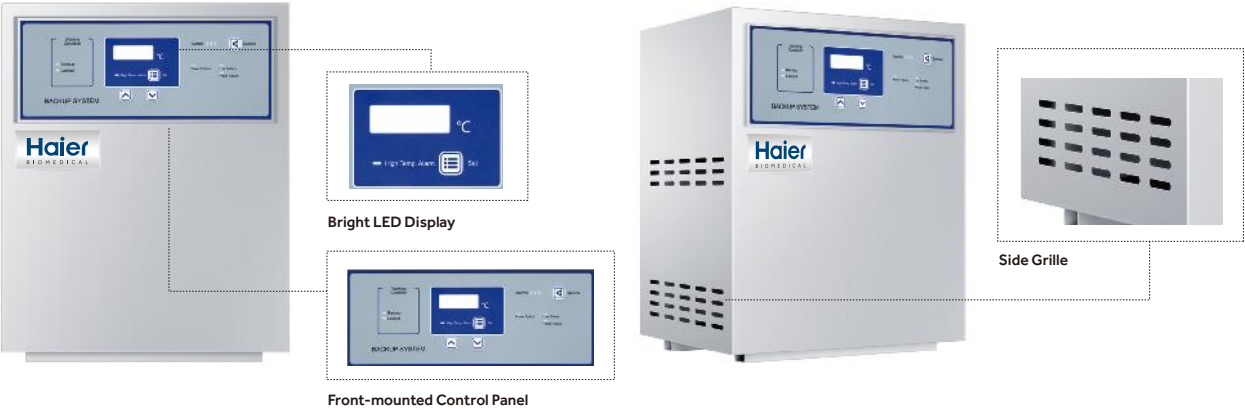
Reliability

- 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



LN₂ Backup System

LN₂ backup cooling system is an independent refrigeration system generally used for a -150°C mechanical cryo freezer. When there is a loss of power or the temperature of the freezer rises to the high alarm set point, the LN₂ backup system can be automatically activated to inject LN₂ into the chamber to maintain the freezer temperature. The backup system operates on a rechargeable battery when there is a loss of mains power.



Features

- Interlocked design to turn off the LN₂ 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

Specifications

	Model	HBX-IIA
Technical Data	Cabinet Type	Horizontal
	Cooling Type	Direct cooling
	Refrigerant	LN ₂
Performance	Cooling performance (°C)	-135
	Temperature Range (°C)	-90~-135
Control	Controller	Thermostat
	Display	LED
Electrical Data	Power Supply (V/Hz)	220-240/50 208-230/60 115/60
	Power (W)	20
	Electrical Current (A)	0.05
Dimensions	Net/Gross Weight (approx)	15/17 33.1/37.5
		360*305*445
	Exterior Dimensions (W*D*H)	14.2*12.0*17.5
		450*375*720
Alarms	Packing Dimensions (W*D*H)	17.7*14.8*28.3
	Low Battery Alarm	Y
	Sensor Error Alarm	Y
Others	Main Power Off Alarm	Y
	Charge Indicator	Y
Others	Certification	CE/UL

Product appearance and specifications are subject to change without notice

Specifications

	Model	HBX-IC
Technical Data	Climate Class	N
	Cooling Type	Direct cooling
	Refrigerant	CO ₂
Performance	Cooling Performance (°C)	-70
	Temperature Range (°C)	-40~-70
Control	Controller	Thermostat
	Display	LED
Electrical Data	Power Supply (V/Hz)	220-240/50 208-230/60 115/60
	Power (W)	20
	Electrical Current (A)	0.25
Dimensions	Net/Gross Weight (approx)	11.2/14 24.7/30.86
		200*400*160
	Exterior Dimensions (W*D*H)	7.8*15.7*6.3
		550*390*330
Alarms	Packing Dimensions (W*D*H)	21.7*15.4*13.0
	CO ₂ Margin Insufficient Alarm	Y
	Low Battery Alarm	Y
Accessories	Sensor Error Alarm	Y
	Main Power Off Alarm	Y
	Charge Indicator	Y
Others	CO ₂ Injection Test Button	Y
	Foot	4
Others	Certification	CE/UL

Product appearance and specifications are subject to change without notice

