brightside
SCIENTIFIC PTY LTD

Haier Biomedical
Intelligent Protection of Life Science

ULT Freezer Solutions

North America
UK
Europe
Russia
Middle East
China
Africa
South East Asia
South America
Oceania

JAN 2021

Qingdao Haier Biomedical Co.,Ltd.

No.280 Feng Yuan Road, High-tech Zone,
Qingdao, 266109, P.R. China
Tel: +86-0532-88935593
Website: www.haiermedical.com

Haier Biomedical International
Haier Biomedical International
@haiermedicalint
Haier Biomedical International
Haier Biomedical International

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.

CONTENT

Haier Biomedical
Intelligent Protection of Life Science

Cryo Freezer

-150°C Cryo Freezer

Liquid Nitrogen Preservation System in Cryo Freezer

-150°C Cryo freezer, developed by Haier Biomedical, provides a safe, convenient and economical alternative long term storage method for customers. By providing a storage environment about 20°C colder than the water recrystallization temperature, the freezer is suitable for storage of a varieties of biological samples such as viruses, erythrocytes, leukocytes, cutis, skeleton, sperms, oceanic products, special test materials and even electronic products for testing. It can be installed in institutions including blood banks, hospitals, epidemic prevention services, research institutes, and research laboratories.

Temperature Control

• Microprocessor control: Large LED display features a clear cabinet temperature display at an easy viewing angle and allows an adjustable range of -126°C to-150°C

Refrigeration System

• Optimized single stage refrigeration system
• Hermetically sealed system
• Environmentally safe refrigerants
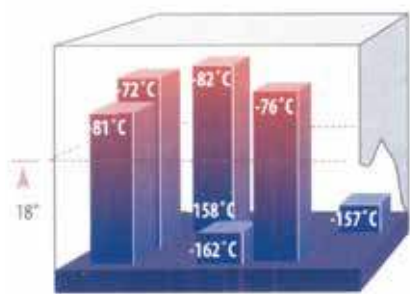• Permanently lubricated fan systems

Other Features

• Large LED display for easy viewing
• Ambient range of 10 °C to 30°C
• LN₂ back up system compatible
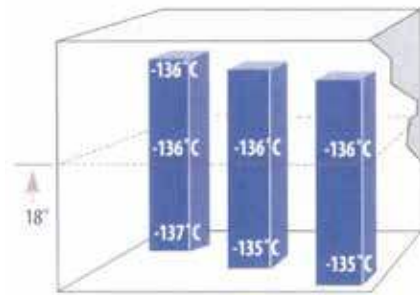• Remote monitoring
• Smart condenser fans for energy saving

Safety Control System

• Alarm system: User programmable high and low temperature alarm set points, power failure, sensor error, extreme voltage, hot condenser, and extremely high ambient
• Alarm types: audible buzzer and visible flashing
• Protection functions: Settable pass codes for control panel, start-up delay, voltage compensation system
• Properly grounded

Specifications

LN₂ Freezer System(-196 °C) **Cryo Freezer(-140°C)**

	Model		DW-150W200
Technical Data	Cabinet Type		Chest
	Climate Class		N
	Cooling Type		Direct Cooling
	Defrost Mode		Manual
	Refrigerant		HFC
	Sound Level (dB(A))		67
Performance	Cooling Performance (°C)		-150
	Temperature Range (°C)		-126 ~ -150
Control	Controller		Microprocessor
	Display		LED
Electrical Data	Power Supply (V/HZ)		380/50
	Electrical Current (A)		11
	Capacity (L/Cu.Ft)		200/7.1
Dimensions	Net/Gross Weight (approx)	kg	315/385
		lbs	694.4/848.8
	Interior Dimension (W*D*H)	mm	667*462*650
		in	26.3*18.2*25.6
	Exterior Dimension (W*D*H)	mm	1670*850*1060
		in	65.7*33.5*41.7
	Packing Dimension (W*D*H)	mm	1810*940*1240
		in	71.3*37.0*48.8
	Container load (20'/40'/40'H)		6/13/13
Alarms	High/Low Temperature		Y
	Hot Condenser		Y
	Power Failure		Y
	High/Low Voltage		Y
	Sensor Error		Y
	Low Battery		Y
	High Ambient Temperature		Y
	Door Ajar		N/A
Accessories	Caster		Y
	Foot		Y
	Porthole		Y/1
	Shelves/Inner doors		-/2
	USB Interface		Optional
	Remote Alarm (Dry contacts)		Y
	5V Power Supply Port		N/A
	Temperature Recorder		Optional
	RS485 Port		Y
	CO₂ Backup System		N/A
	LN₂ Backup System		Optional
Others	Certification		N/A

Product appearance and specifications are subject to change without notice

Haier Biomedical
Intelligent Protection of Life Science

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.

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

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.

Wireless Monitoring Connectivity

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

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 electromagnetic lock as standard, 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	Touch Screen LCD		Touch Screen LCD	Touch Screen LCD		Touch Screen LCD
Electrical Data	Power Supply (V/Hz)	208～230/60	120/60	208～230/60	208～230/50	120/60	208～230/60
	Power (W)	1400		1800	1400		1800
	Electrical Current (A)	10	14	10	10	14	10
Dimensions	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		350/385
	lbs	716.5/782.6		716.5/782.6	771.6/848.8		771.6/848.8
	Interior Dimension (W*D*H) mm	620*716*1310		620*716*1310	766*716*1310		766*716*1310
	in	24.4*28.2*51.6		24.4*28.2*51.6	30.2*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		1046*998*1980
	in	35.4*39.3*78.0		35.4*39.3*78.0	41.2*39.3*78.0		41.2*39.3*78.0
	Packing Dimension (W*D*H) mm	950*1055*2150		950*1055*2150	1100*1105*2150		1100*1105*2150
	in	37.4*41.5*84.6		37.4*41.5*84.6	43.3*43.5*84.6		43.3*43.5*84.6
	Container Load (20'/40'/40'H)	12/24/24		12/24/24	10/20/20		10/20/20
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	Optiona		Optional	Optional		Optional
Others	Certification	CE/ENERGY STAR	UL/ENERGY STAR	UL/ENERGY STAR	CE/ENERGY STAR	UL/ENERGY STAR	UL/ENERGY STAR

Product appearance and specifications are subject to change without notice

_T_win_C_∞_l_ ULT Freezer

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

DW-86L578S

_T_win_C_∞_l_ ULT Freezer

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
Depending on the load demands and ambient conditions, one or both re
demand, ensuring the samples are fully protected under the worst poss

Maximum Sample Security

TwinCool system means extra insurance for tempe
refrigeration system can maintain -80°C separately

Fast Cabinet Pull Down

Fast and efficient cabinet pulldown, it usually takes
-80°C at 25°C ambient. This means the tempera
excellent ensuring the stored samples are not expo
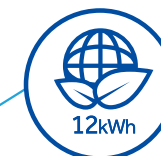
Maximum Energy Efficiency

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.

TwinCool ULT Freezer

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

Multi-layer Sealing Structure
Triple gaskets provide a tight seal between the inner doors and outer door, reducing heat gain and retaining the temperature better in the event of a power failure
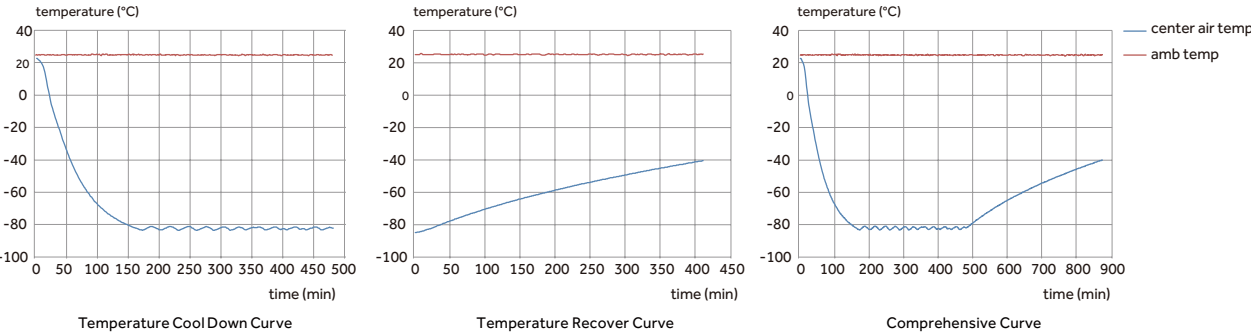
Pressure Equalisation Port
Heated Pressure Equalization Port allows users to re-open the main door quickly when entering
Adopts chromium plating, rust-proof

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

DW-86L578S

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 | TYPICAL PERFORMANCE CHARACTERISTICS AT 25°C AMBIENT

Temperature Cool Down Curve

Temperature Recover Curve

Comprehensive Curve

center air temp
amb temp

TwinCool ULT Freezer

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
	Sound Level (dB(A))		53	50
Performance	Cooling Performance (°C)		-86	-86
	Temperature Range (°C)		-40~-86	-40~-86
Control	Controller		Microprocessor	Microprocessor
	Display		LED	LED
Electrical Data	Power Supply (V/Hz)		208~230/50	208~230/50
	Power (W)		1400	1400
	Electrical Current (A)		10	10
Dimensions	Capacity (L/Cu.Ft)		578/20.4	728/25.7
	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	950*1055*2150	1100*1105*2150
		in	37.4*41.5*84.6	43.3*43.5*84.6
	Container load (20'/40'/40'H)		12/24/24	10/20/20
Alarms	High/Low Temperature		Y	Y
	Hot Condenser		Y	Y
	Power Failure		Y	Y
	High/Low Voltage		N/A	N/A
	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
Others	Certification		CE/ENERGY STAR	CE/ENERGY STAR

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

Smart 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 centres, 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 53dB

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		LCD Touch Screen	LCD Touch Screen	LCD Touch Screen	LCD Touch Screen
Electrical Data	Power Supply (V/Hz)		100～230/50/60	100～230/50/60	208～230/50/60	208～230/50/60
	Power (W)		1100	1100	1100	1300
	Electrical Current (A)		6	6	6	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	950*1055*2150	1100*1105*2150	1190*1045*2150	1365*1105*2150
		in	37.4*41.5*84.6	43.3*43.5*84.6	46.9*41.1*84.6	53.7*43.5*84.6
	Container load (20'/40'/40'H)		12/24/24	10/20/20	8/20/20	8/16/16
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
Others	Certification		CE,UL,ENERGY STAR	CE,UL,ENERGY STAR	CE,UL,ENERGY STAR	CE,UL,ENERGY STAR

BP suffix - Variable frequency invertor compressor
T suffix - Advanced with touchscreen
Product appearance and specifications are subject to change without 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.
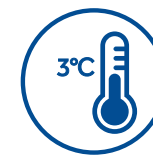
Intelligent frequency Conversion technology

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

Maximum er

Our SmartFrequ
coupled with our
friendly hydrocar
allows the Haier
low level of energ

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 ±3°C.

Frequency c
Adaptive te

Variable speed c
Biomedical freez
produce the cap
demand of the l
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).

Salvum Ultimate Smart Frequency Conversion ULT Freezer

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, highambient, clean filter and door ajar

DW-86L829BP

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

temperature(°C)

Temperature Cool Down Curve

temperature(°C)

Temperature Recover Curve

temperature(°C)
— center air temp
— amb temp

Comprehensive Curve

Salvum Ultimate Smart Frequency Conversion ULT Freezer
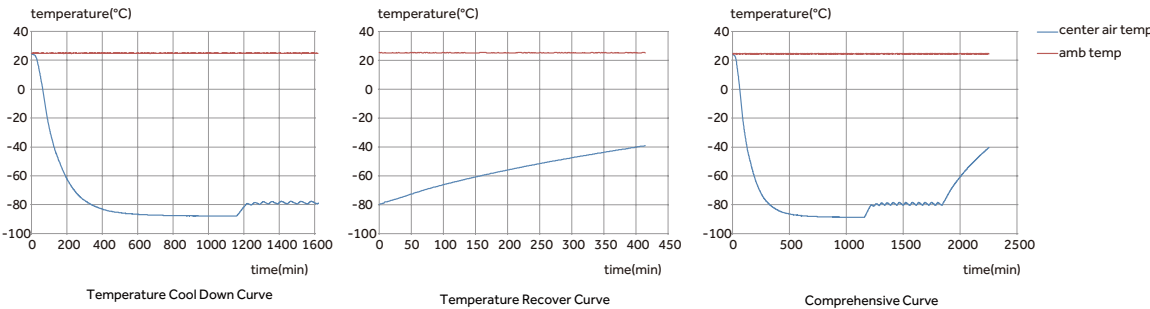
Specifications

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	208～230/50/60	208～230/50/60
	Power (W)	1100	1100	1100	1300
	Electrical Current (A)	6	6	6	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 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	950*1055*2150	1100*1105*2150	1190*1045*2150	1365*1105*2150
	in	37.4*41.5*84.6	43.3*43.5*84.6	46.9*41.1*84.6	53.7*43.5*84.6
	Container Load (20'/40'/40'H)	12/24/24	10/20/20	8/20/20	8/16/16
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
Other	Certification	CE,UL,ENERGY STAR	CE,UL,ENERGY STAR	CE,UL,ENERGY STAR	CE,UL,ENERGY STAR

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

Salvum Water-Cooled ULT Freezer

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

47dB

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
	Power (W)		1100	1300
	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	1190*1045*2150	1365*1105*2150
		in	46.9*41.1*84.6	53.7*43.5*84.6
	Container Load (20'/40'/40'H)		8/20/20	8/16/16
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.
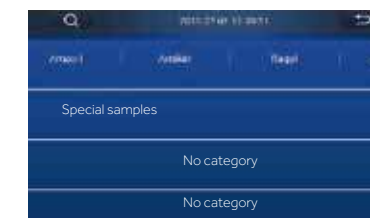
Single version (standard)

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.

Salvum Ultimate Standard Low Energy ULT Freezer with Touchscreen

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.
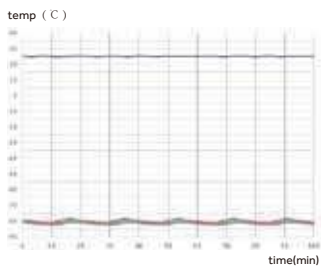
Precise Temperature Control Ensures Safe Storage

Adjustable temperature set-point between -40ºC ~ -86ºC 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

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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	LCD	LCD	LCD
Electrical Data	Power Supply (V/Hz)	220～240/50	220～240/50	220～240/50	220～240/50
	Power (W)	800	1000	1700	1700
	Electrical Current (A)	5	5.5	9	10
Dimensions	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	380/410
	lbs	562.2/630.5	661.4/727.5	771.6/848.8	837.7/903.9
	Interior Dimensions (W*D*H) mm	465*716*1310	620*716*1310	766*716*1310	870*716*1310
	in	18.3*28.2*51.6	24.4*28.2*51.6	30.2*28.2*51.6	34.3*28.2*51.6
	Exterior Dimensions (W*D*H) mm	830*980*1980	903*980*1960	1049*980*1980	1153*980*1980
	in	32.7*38.6*78.0	35.6*38.6*77.2	41.3*38.6*78.0	45.4*38.6*78.0
	Packing Dimension (W*D*H) mm	897*1078*2135	950*1055*2130	1100*1105*2150	1190*1045*2150
	in	35.3*42.4*84.1	37.4*41.5*83.9	43.3*43.5*84.6	46.9*41.1*84.6
	Container Load (20'/40'/40'H)	12/26/26	12/24/24	10/20/20	10/20/20
Alarms	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	3/2	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	Standard	Standard	Standard	Standard
	CO₂ Backup System	Optional	Optional	Optional	Optional
	LN₂ Backup System	Optional	Optional	Optional	Optional
Other	Certification	CE	CE	CE	CE

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.

ENERGY STAR

Advantages

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

SAVE

VIP+

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℃ to -50℃) at 25℃ 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 ℃ AMBIENT

Temperature Cool Down Curve

Temperature Recover Curve

Comprehensive Curve

— 3rd centre
— amb temp

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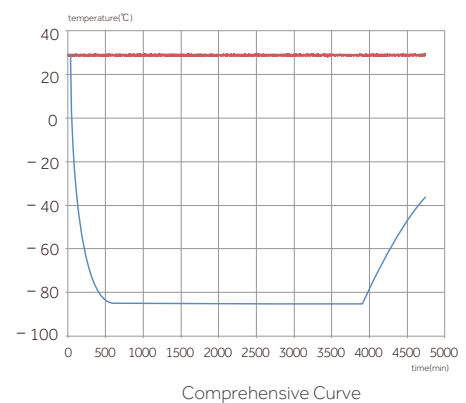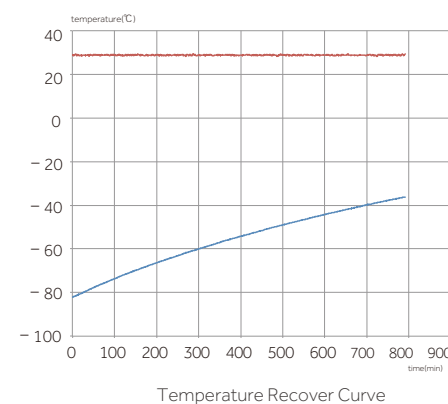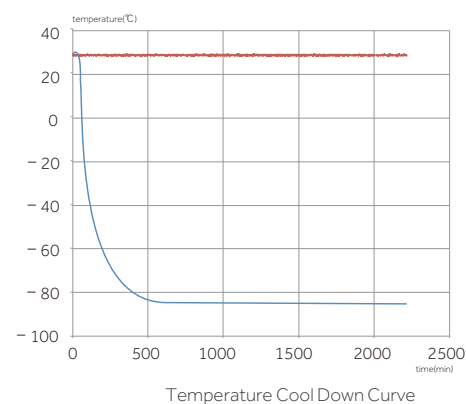
4 Individual Removable Foam Inner Doors

- 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
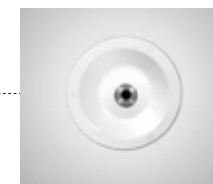
Pressure Equalization Port

- 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.

DW-86L728J

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.

Two port holes for ease of temperature monitoring

Operating status display

Eye-level controls for quick and easy programming and viewing

Display for working temperature, setting temperature, high-alarming temperature, low-alarming temperature, password setting, and codes error

Audio/visual alarm

Silencing sound alarm

ULTRA LOW TEMPERATURE FREEZER

- Locked
- Network
- Run
- Regulator
- Backup System

Working Condition

-86 °C

- Inner Temp.
- High Temp. Alarm
- Low Temp. Alarm

Set

Alarms | | | Silence

High Temp.	Probe Failure
Low Temp.	Low Battery
Power Failure	Hot Condenser
Door Open	High Ambient Temp.

Voltage (V) | 212

Ambient Temp.(℃) | 25

Adjusting key

Selecting function

Voltage display

Malfunction detection

Ambient temperature display

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℃

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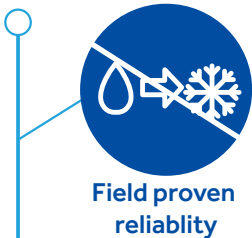
- Unique insulated inner door design for four separate storage compartments to minimize frost buildup inside the chamber
- Specialized control system design for a well-balanced operation of cascade refrigeration system
- Positive field proven reliability record

Safety

- 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

Installation & Application

- Wide range operating voltage system from 185V to 260 V designed to allow units installed in areas with poor voltage condition
- Suitable for 10℃ to 32℃ 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
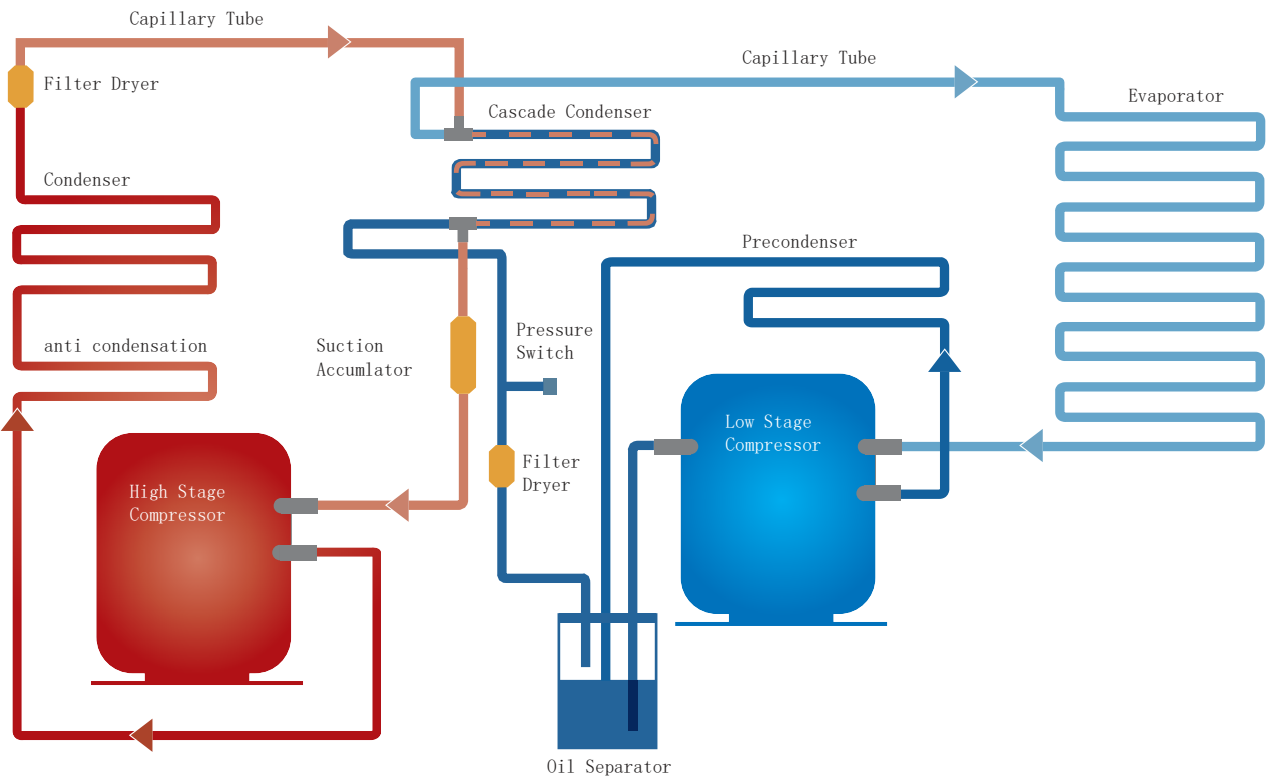
Low sound level
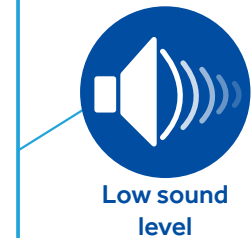
- Specialized refrigeration system design using whisper quiet fan and compressors
- Freezer chassis designed to absorb vibration and sound

Energy saving

- 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

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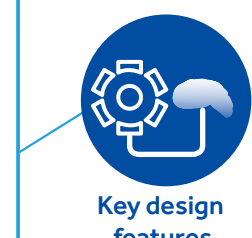
- Microprocessor-controlled system designed for controllable range of -40℃ to -86℃ for cabinet space with 1℃ increment
- Large LED display for cabinet temperature, set temperature, ambient temperature, and input voltage
- Settable high temperature and low temperature alarms
- Automatic clean-filter alarm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

Heat Exchange Circulation System

Capillary Tube

Filter Dryer

Condenser

anti condensation

Capillary Tube

Cascade Condenser

Precondenser

Evaporator

Suction Accumlator

Pressure Switch

Low Stage Compressor

Filter Dryer

High Stage Compressor

Oil Separator

Filter dryer
• Filtration and drying device for water and debris

Capillary tube for high stage
• Expansion device for high stage liquid refrigerant

Capillary tube for low stage
• Expansion device for low stage refrigerant

High stage condenser
• Extra-large air cooled condenser dissipates product heat content efficiently.

Low stage evaporator
• Heat exchanger for expanded low stage refrigerant

Ultra low noise compressor
• 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
• Heat exchanger between the high and low temperature stage in the system

Temprite oil separator
• Temprite oil separator can effectively separate oil and water so as to improve the refrigeration performance

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Under Counter ULT freezer

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 centres, 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
	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	49	50		50		49
Performance	Cooling Performance (℃)	-86		-86	-86	-86		-86		-86
	Temperature Range (℃)	-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 · 115/60 · 208～230/60		220～240/50	220～240/50	220～240/50 · 208～230/60		220～240/50 · 120/60 · 208～230/60		220～240/50
	Power (W)	650 · 700 · 1000		650	1000	900 · 1000		750 · 1000 · 1000		1200
	Electrical Current (A)	7.5 · 12 · 7.5		5	10	8 · 8		7.5 · 12 · 9		11
Dimensions	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
	Net/Gross Weight (approx) 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
	Interior Dimension (W*D*H) 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	830*893*1846		812*980*1980	945*900*1980	860*900*1980		903*980*1960		1035*900*1980
	Exterior Dimension (W*D*H) in	32.7*35.2*72.7		31.2*38.6*78.0	37.2*35.4*78.0	33.9*35.4*78.0		35.6*38.6*77.2		40.7*35.4*78.0
	Packing Dimension (W*D*H) mm	875*970*2010		893*1078*2135	995*995*2150	925*985*2150		950*1055*2125		1080*965*2150
	Packing Dimension (W*D*H) in	34.4*38.2*79.1		35.2*42.4*84.1	39.2*39.2*84.6	36.4*38.8*84.6		37.4*41.5*83.7		42.5*38.0*84.6
	Container load (20'/40'/40'H)	12/24/24		12/24/24	12/24/24	12/24/24		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
	High/Low Voltage	N/A		N/A	N/A	N/A		N/A		N/A
	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
	CO_2 Backup System	Optional		Optional	Optional	Optional		Optional		Optional
	LN2 Backup System	Optional		Optional	Optional	Optional		Optional		Optional
Others	Certification	CE	UL	CE	CE	CE	UL	CE,ENERGY STAR · UL,ENERGY STAR	UL	CE

· Product appearance and specifications are subject to change without notice
· DW-86L338J/490J/578/628/959 stainless steel interior optional

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		Chest	Chest	
	Climate Class	N		N		N		N	N	
	Cooling Type	Direct cooling		Direct cooling		Direct cooling		Direct cooling	Direct cooling	
	Defrost Mode	Manual		Manual		Manual		Manual	Manual	
	Refrigerant	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	
	Temperature Range (°C)	-40～-86		-40～-86		-40～-86		-40～-86	-40～-86	
Control	Controller	Microprocessor		Microprocessor		Microprocessor		Microprocessor	Microprocessor	
	Display	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	220～240/50	208～230/60
	Power (W)	1000	1000 / 1000	1000	1100	680	680	550	1000	
	Electrical Current (A)	10	18 / 10	10	10	3	6.5	4	7.5	
Dimensions	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	1090*1050*2150		1190*1045*2150		830*710*970		845*855*1250	2195*895*1130	
	in	42.9*41.3*84.6		46.9*41.1*84.6		32*28*38.5		33.3*33.7*49.2	90.6*38.2*45.8	
	Container load (20'/40'/40'H)	12/20/20		8/20/20		44/88/88		12/24/48	6/12/24	
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	N/A		N/A		Y		N/A	N/A	
	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		-/Y		Optional	Optional	
	CO₂ Backup System	Optional		Optional		Optional		Optional	Optional	
	LN₂ Backup System	Optional		Optional		Optional		Optional	Optional	
Others	Certification	CE,ENERGY STAR	UL	CE,ENERGY STAR	UL	CE	UL	CE	CE	UL

Product appearance and specifications are subject to change without notice

CO₂ 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_2 injection pipe is designed in combination of filter, to prevent the blockage of CO_2 back-up system

Safety
- Liquid CO_2 test button to ensure the backup system is working
- Low CO_2 alarm system alerts the user when liquid CO_2 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

Specifications

	Model	HBX-IC
Technical Data	Cabinet Type	Horizontal
	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
	Exterior Dimensions (W*D*H)	200*400*160
		7.8*15.7*6.3
	Packing Dimensions (W*D*H)	370*530*330
		14.6*20.9*13
Alarms	CO_2 Margin Insufficient Alarm	Y
	Low Battery Alarm	Y
	Sensor Error Alarm	Y
	Main Power Off Alarm	Y
	Charge Indicator	Y
	CO_2 Injection Test Button	Y
Accessories	Foot	4
Others	Certification	CE/UL

Product appearance and specifications are subject to change without notice

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LN₂ Backup System

LN_2 backup cooling system is an independent refrigeration system for a ULT freezer. When there is a loss of power or the temperature of the freezer rises to the high alarm set point, the LN_2 backup system can be automatically activated to inject LN_2 into the chamber to maintain the freezer temperature. The backup system operates on a rechargeable battery when there is a loss of main power.

Bright LED Display

Side Grille

Front-mounted Control Panel
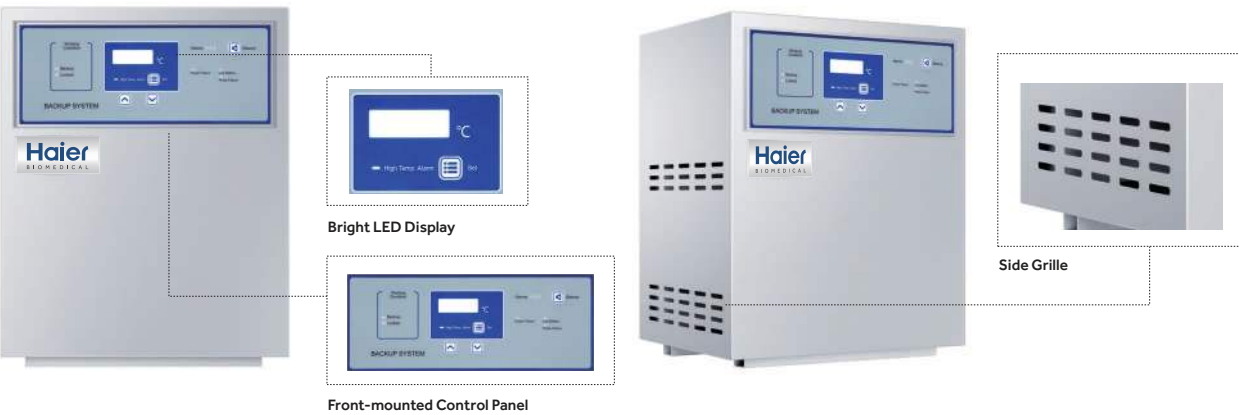
Features
- Interlocked design to turn off the LN_2 injection when the door is opened
- Protection circuit to prevent over-charging battery
- Light weight and portable design, suitable for installation on top of a freezer
- Alarm functions to include low battery and sensor error

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
	Exterior Dimensions (W*D*H)	360*305*445
		14.2*12.0*17.5
	Packing Dimensions (W*D*H)	417*357*698
		16.4*14.1*27.5
Alarms	Low Battery Alarm	Y
	Sensor Error Alarm	Y
	Main Power Off Alarm	Y
	Charge Indicator	Y
Others	Certification	CE/UL

Product appearance and specifications are subject to change without notice

Consumables
for ULT Freezer

Laboratory Consumables

Single Tube (Flat Cover)

PCR single tube is made from polypropylene(PP). The thin wall and smooth surface of the tube ensure the effectiveness and uniformity of heat transfer between samples, which is suitable for the mainstream PCR instrument and real-time PCR instrument in the market. The sealing property of the pipe cover is excellent, and the opening cover is smooth, and the reaction volume loss is less than 0. 2% when using the heat cover.

Product features

○ Pure polypropylene, it has thin and uniform wall for optimal heat transfer
○ The pipe cover and the pipe body are connected together with a strong sealing property to prevent leakage and it is also easy to open
○ Free from DNase, RNase, pyrogens, PCR inhibitors

PCR 96-Well Plate

Product features

It is suitable for standard 96-well model, and is produced in strict accordance with the highest quality standard. The experimental results show excellent uniformity. The tube wall is thin and uniform, with tube cap or sealing plate film.

○ Polypropylene(PP)
○ Suitable for 0.1ml, 0.2ml thermal cycle modules
○ Free from DNase, RNase and endotoxins

Laboratory Consumables
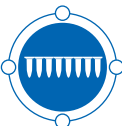
8-Strip Tubes and Caps
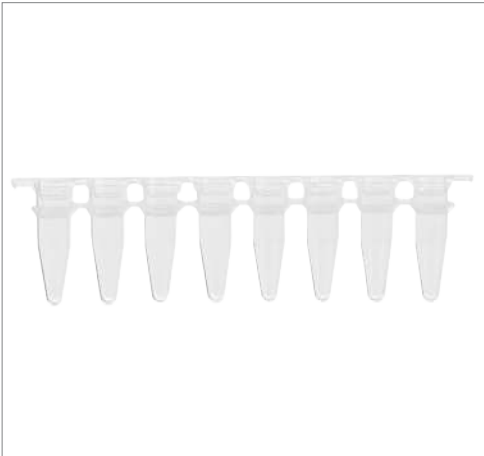
Product features

○ Pure polypropylene, it has a thin and uniform wall for optimal heat transfer
○ The 8-strip pipe cover and the pipe body are connected together with a strong sealing property to prevent leakage and it is also easy to open
○ It is suitable for the PCR instrument with the corresponding model specification
○ Suitable for 0.1ml/0.2ml 8-strip tubes or 96-well plate
○ Superior sealing property
○ Flat caps work for QPCR experiments better

Classification	Model	Specification	Loading Quantity (Per Case)	Package
PCR Tube	PCR–021T	0.2ml PCR single tube, transparent, flat cover	10000	1000 Pcs/bag, 10 bags/case
	PCR–A–028T	Conventional type A-0.2ml PCR 8-strip tube+optical flat cover, transparent	1250	125 Strips/bag, 10 bags/case
	PCR–A–028W	Conventional type A-0.2ml PCR 8-strip tube+optical flat cover, white	1250	125 Strips/bag, 10 bags/case
	PCR–A–018T	Conventional type A-0.1ml PCR 8-strip tube+optical flat cover, transparent	1250	125 Strips/bag, 10 bags/case
	PCR–A–018W	Conventional type A-0.1ml PCR 8-strip tube+optical flat cover, white	1250	125 Strips/bag, 10 bags/case
	PCR–B–028T	Strength type B-0.2ml PCR 8-strip tube+optical flat cover, transparent	1250	125 Strips/bag, 10 bags/case
	PCR–B–018T	Strength type B-0.1ml PCR 8-strip tube+optical flat cover, transparent	1250	125 Strips/bag, 10 bags/case
	PCR–B–018W	Strength type B-0.1ml PCR 8-strip tube+optical flat cover, white	1250	125 Strips/bag, 10 bags/case
PCR Plate	PCR–96B–02HT	0.2ml 96-well PCR plate-Half skirt edge, transparent	50	10 Pcs/bag, 5 bags/case
	PCR–96B–02NT	0.2ml 96-well PCR plate-No skirt edge, transparent	50	10 Pcs/bag, 5 bags/case
	PCR–96B–02NW	0.2ml 96-well PCR plate-No skirt edge, white	50	10 Pcs/bag, 5 bags/case
	PCR–96B–01NT	0.1ml 96-well PCR plate-No skirt edge, transparent	50	10 Pcs/bag, 5 bags/case
	PCR–96B–01NW	0.1ml 96-well PCR plate-No skirt edge, white	50	10 Pcs/bag, 5 bags/case
	PCR–96B–02HTB	0.2ml 96-well PCR plate-Half skirt edge, transparent, black writing	50	10 Pcs/bag, 5 bags/case
	PCR–96B–02NTB	0.2ml 96-well PCR plate-No skirt edge, transparent, black writing	50	10 Pcs/bag, 5 bags/case
	PCR–96B–01HT(Roche)	0.1ml 96-well PCR plate-Half skirt edge, transparent (Suitable for Roche PCR instrument)	50	10 Pcs/bag, 5 bags/case
	PCR–96B–01HW(Roche)	0.1ml 96-well PCR plate-Half skirt edge, white (Suitable for Roche PCR instrument)	50	10 Pcs/bag, 5 bags/case
	PCR–96B–01HT(ABI)	ABI 0.1ml 96-well PCR plate-Half skirt edge, transparent	50	10 Pcs/bag, 5 bags/case
	PCR–96B–02HT(ABI)	ABI 0.2ml 96-well PCR plate-Half skirt edge, transparent	50	10 Pcs/bag, 5 bags/case
	PCR–MEM	PCR sealing plate film, pressure-sensitive, transparent, box-packed	100	100 Pcs/box

Laboratory Consumables

15ml/50ml Centrifuge Tube

Microcentrifuge Tube

Product features

○ Black clear scale line and white writing area
○ Recommended maximum centrifugal force: 12000×g
   Electron beam sterilization
○ Free from DNase, RNase and pyrogens
○ Temperature range: -80℃~120℃
○ Easy grip cap for single-handed operation, reliable sealing
○ Frame-packed and bag-packed

Product features

○ PP material complies with USP-6, free from heavy metals
○ Endotoxin content is less than 0.1 EU
○ Temperature range: -80℃~120℃
○ RCF: 30000xg
○ The cover is easy to puncture and comfortable to handle
○ Free from DNase, RNase and pyrogens

Laboratory Consumables

500ml Centrifuge Bottle

250ml Centrifuge Bottle

Product features

○ Suitable for high capacity centrifugation
○ Sterile and free from pyrogens

○ Polypropylene (PP) material, sealed pipe cover
○ 250ml and 500ml centrifuge bottles

Classification	No.	Model	Specification	Loading Quantity (Per Case)	Package
Centrifuge Tube	1	CEN−06T	0.6ml Microcentrifuge tube, colorless	10000	1000Pcs/box,10boxs/case
	2	CEN−15T	1.5ml Microcentrifuge tube, colorless	5000	500Pcs/box,10boxs/case
	3	CEN−2T	2ml Microcentrifuge tube, colorless	5000	500Pcs/box,10boxs/case
	4	CEN−15CB0	15ml Conical centrifuge tube, sterile, bag-packed	500	25Pcs/bag, 20bags/case
	5	CEN−15CS0	15ml Conical centrifuge tube, sterile, racked	500	50Pcs/rack, 10Racks/case
	6	CEN−50CB0	50ml Conical centrifuge tube, sterile, bag-packed	500	25Pcs/bag, 20bags/case
	7	CEN−50CS0	50ml Conical centrifuge tube, sterile, racked	500	25Pcs/rack, 20Racks/case
Centrifuge Bottle	8	EN−500B	500ml Centrifuge bottle	40	8Pcs/bag,40Pcs/case
	9	CEN−250B	250ml Centrifuge bottle	102	4Pcs/bag,100Pcs/case

PCR Lab Consumables

Cell Culture Dish

Cell Culture Bottle

Cell Culture Plate

Erlenmeyer Flasks with Flat Cap

Product features

PETG/PE flat-bottomed erlenmeyer flask saves preparation time and avoids the risk of contamination, making it an ideal choice for cell suspension culture, medium configuration, mixing and storage. The high clarity PETG/PE is firm and hard to crack, which reduces any personnel safety risks and is an ideal choice for shaker culture applications.

Pipettes

Product features

○ Serum pipettes are suitable for tissue culture and cell culture and other biological research.
○ They are made of high clarity polystyrene and they are individually packaged in paper-plastic bags.
○ Different sizes of pipettes are distinguished by different colors.
○ No pyrogen, no cytotoxicity, no hemolysis
○ Polyolefine filter element to prevent pollution
○ Free from DNase and RNase

Product features

○ Cell culture dishes are ideal for all types of culturing. Flat transparent surface for distortion-free observation under microscope. Numeric indicators at the bottom for easy identification of cell locations
○ Free from pyrogens and endotoxins
○ Made from high clarity medical polystyrene
○ Flat transparent surface for distortion-free observation under microscope
○ Electron beam sterilization
○ Vacuum Gas Plasma treated for uniform and consistent cell attachment
○ Stackable for easy storage and handling

Product features

○ Packing in sterile self-sealing bag
○ Stackable design, safe & stable, easy for storage
○ Clear lot numbers for batch traceability
○ Unique patent design, no dead angle in bottle
○ High definition, 100% polystyrene
○ Electron beam sterilization
○ Free from pyrogens and endotoxins
○ Permeable cover (filter cover), 0.22pm hydrophobic membrane to facilitate air exchange and prevent microbial pollution

Product features

○ Electron beam sterilization
○ Vacuum plasma treatment
○ DuPont Tyvek hot melt independent packaging, moistureproof, waterproof
○ Free from pyrogens and endotoxins
○ Made from high clarity, 100% polystyrene
○ Clear lot numbers for batch traceability
○ Products are available in bags or with brackets

| Classification	Model	Specification	Loading Quantity (Per Case)	Package
TCT Cell Culture Plate	CELL-B6-P	6-well cell culture plate, plasma treatment	50	1Pcs/bag, 50bags/case
	CELL-B12-P	12-well cell culture plate, plasma treatment	50	1Pcs/bag, 50bags/case
	CELL-B24-P	24-well cell culture plate, plasma treatment	50	1Pcs/bag, 50bags/case
	CELL-B48-P	48-well cell culture plate, plasma treatment	50	1Pcs/bag, 50bags/case
	CELL-B96-P	96-well cell culture plate, plasma treatment	65	1Pcs/bag, 65bags/case
Cell Culture Bottle	CELL-T25-P	T25 cell culture bottle, 25cm², vented caps, plasma treatment	300	12Pcs/bag, 25bags/case
	CELL-T75-P	T75 cell culture bottle, 75cm², vented caps, plasma treatment	90	5Pcs/bag, 18bags/case
	CELL-T175-P	T175 cell culture bottle, 175cm², vented caps, plasma treatment	50	5Pcs/bag, 10bags/case
Cell Culture Dish	CELL-D100-P	100mm cell culture dish, plasma treatment	300	10Pcs/bag, 30bags/case
	CELL-D60-P	60mm cell culture dish, plasma treatment	500	10Pcs/bag, 50bags/case
	CELL-D35-P	35mm cell culture dish, plasma treatment	500	10Pcs/bag, 50bags/case
Erlenmeyer Flasks with Flat Cap	CELL-SB125-PC	125ml Triangular cell shaking flask, vented caps (PC)	50	1Pcs/bag, 50bags/case
	CELL-SB250-PC	250ml Triangular cell shaking flask, vented caps (PC)	50	1Pcs/bag, 50bags/case
	CELL-SB500-PC	500ml Triangular cell shaking flask, vented caps (PC)	25	1Pcs/bag, 25bags/case
	CELL-SB1000-PETG	1000ml Triangular cell shaking flask, vented caps (PETG)	25	1Pcs/bag, 25bags/case
Pipettes	PIP1	Pipette 1ml, one-step forming	1000	50Pcs/bag, 20bags/case
	PIP2	Pipette 2ml, one-step forming	1000	50Pcs/bag, 20bags/case
	PIP5	Pipette 5ml, one-step forming	200	50Pcs/bag, 4bags/case
	PIP10	Pipette 10ml, one-step forming	200	50Pcs/bag, 4bags/case
	PIP25	Pipette 25ml, two-step forming	200	50Pcs/bag, 4bags/case
	PIP50	Pipette 50ml, two-step forming	100	25Pcs/bag, 4bags/case

Laboratory Consumables

Standard Frozen R ack

○ Made of high quality 304 stainless steel
○ The rack is stable when used at high temperatures, ultra low temperature and corrosive environments

Anti-freezing handle design

○ The handle design does not freeze easily compared with traditional grip
○ Precision grinding process, no burr, no risk of cutting
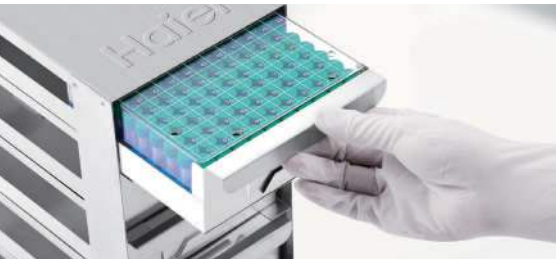
Welding process

○ The advanced pulse capacitor energy storage resistance welding machine is used for welding, it is firm, smooth and appealing.

Test

○ Load bearing test of 5×5 drawer type frozen rack
○ 25 counterweights
○ Load bearing capacity 16720 g, load bearing redundancy 25%
○ No deformation after continuous test for 30 days

Haier ULT Freezer + Consumables Solutions

| No.	Model	Specification	Loading Quantity
1	DCJ-55-drawer A(2020)	5*5 frozen rack; SUS304; drawer, top, bottom and guide rail thickness of the rack are 0.5; thickness of shelf column is 0.8	4 pcs/case
2	DCJ-55-drawer B(2020)	5*5 frozen rack; SUS201; drawer, top, bottom and guide rail thickness of the rack 0.5; thickness of shelf column is 0.8	4 pcs/case
3	DCJ-55-drawer C(2020)	5*5 frozen rack; SUS304; drawer, top, bottom and guide rail thickness of the rack are 1.0; thickness of shelf column is 0.6	4 pcs/case
4	DCJ-54-drawer C	5*4 frozen rack; SUS304; drawer, top, bottom and guide rail thickness of the rack are 1.0; thickness of shelf column is 0.6	4 pcs/case
5	DCJ-53-drawer C	5*3 frozen rack; SUS304; drawer, top, bottom and guide rail thickness of the rack are 1.0; thickness of shelf column is 0.6	4 pcs/case
6	DCJ-44-drawer C	4*4 frozen rack; SUS304; drawer, top, bottom and guide rail thickness of the rack are 1.0; thickness of shelf column is 0.6	4 pcs/case

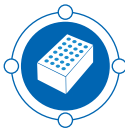## PIPETTE TIPS
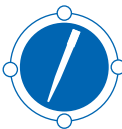
Pipette Tips
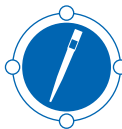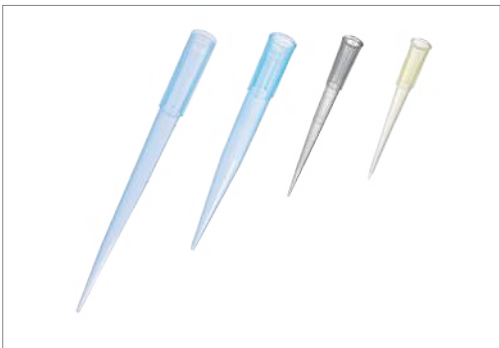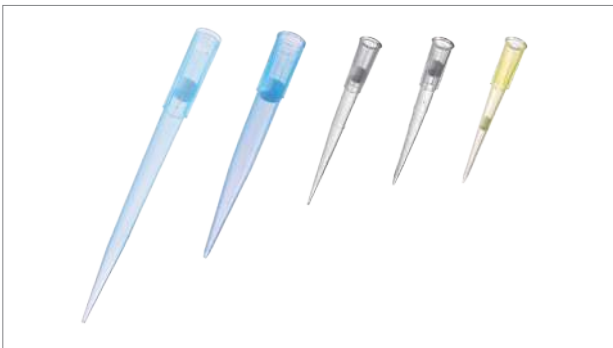
Filter Pipette Tips

○ Medical polypropylene (PP)
○ Matching most brands of single-channel and multi-channel pipettes
○ 100,000 grade dust-free workshop. The product is free from pyrogen, endotoxin, DNase and RNase
○ The inner wall is smooth and the liquid residue is minimized to ensure accurate suction
○ Temperature range: -80℃~121℃, no deformation after high temperature and high pressure
○ Clear scale, high clarity, visual confirmation of pipette suction

○ Super hydrophobicity, the hydrophobic filter element forms a strong barrier to the aerosol, eliminating the risk of cross contamination between the sample and the pipette
○ Ultra-fine grinding molding technology, demoulding without agent guarantees better product quality
○ Ultra-fine point ensures smooth sample absorption
○ Innovative design to ensure good flexibility, sealing and compatibility

Laboratory Consumables

Racked Tips

Box-Packed Tips

Product features

° Box-packed and racked design

° Various packaging methods to meet the needs of different scenarios

Classification	No.	Model	Specification	Loading Quantity (Per Case)	Package
Universal Pipette Tips	1	B10T	10μL tip, bag-packed, basic type, colorless	20000	1000Pcs/bag,20Bags/case
	2	B01TL	0.1-10μL extended tip, bag-packed, basic type, colorless	10000	1000Pcs/box,10Boxs/case
	3	B05TL	0.5-10μLextended tip, bag-packed, basic type, colorless	20000	1000Pcs/bag,20Bags/case
	4	B200Y	200μLtip, bag-packed, basic type, yellow	20000	1000Pcs/bag,20Bags/case
	5	B250T	250μLtip, bag-packed, basic type, colorless	20000	1000Pcs/bag,20Bags/case
	6	B350T	350μLtip, bag-packed, basic type, colorless	20000	1000Pcs/bag，20Bags/case
	7	B1000B	1000μLtip, bag-packed, basic type, blue	5000	1000Pcs/bag,5Bags/case
	8	B1250B	1250μL tip, bag-packed, basic type, blue	5000	1000Pcs/bag,5Bags/case
	9	X10T0	10μL tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxs/case
	10	X01TL0	0.1-10μL extended tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxs/case
	11	X05TL0	0.5-10μL extended tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxs/case
	12	X200Y0	200μL tip,box-packed, sterile, yellow	4800	96Pcs/box,50Boxs/case
	13	X250T0	250μL tip, box-packed, sterile , colorless	4800	96Pcs/box,50Boxs/case
	14	X350T0	350μL tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxs/case
	15	X1000B0-100	1000μL tip,box-packed, sterile, blue	5000	100Pcs/box,50Boxs/case
	16	X1000B0-96	1000μL tip, box-packed, sterile, blue	4800	96Pcs/box,50Boxs/case
	17	X1250B0	1250μL tip, box-packed, sterile, blue	4800	96Pcs/box,50Boxs/case

Haier ULT Freezer + Consumables Solutions

Classification	No.	Model	Specification	Loading Quantity (Per Case)	Package
Filter Pipette Tips	18	FB10T	10μL filter tip bag-packed, colorless	20000	1000Pcs/bag,20Bags/case
	19	FB01TL	0.1-10μL extended filter tip, bag-packed, colorless	10000	1000Pcs/box,10Boxs/case
	20	FB05TL	0.5-10μL extended filter tip, bag-packed, colorless	20000	1000Pcs/bag,20Bags/case
	21	FB20Y	20μL filter tip, bag-packed, yellow	20000	1000Pcs/bag,20Bags/case
	22	FB50Y	50μL filter tip, bag-packed, yellow	20000	1000Pcs/bag,20Bags/case
	23	FB100Y	100μ filter tip, bag-packed, yellow	20000	1000Pcs/bag,20Bags/case
	24	FB200Y-150	200μL(1-150ul) filter tip, bag-packed, yellow	20000	1000Pcs/bag,20Bags/case
	25	FB200T-200	200μL(1-200ul) filter tip, bag-packed, colorless	20000	1000Pcs/bag,20Bags/case
	26	FB300T	300μL(1-300ul) filter tip, bag-packed, colorless	20000	1000Pcs/bag,20Bags/case
	27	FB1000B	1000μL filter tip bag-packed, blue	5000	1000Pcs/bag,5Bags/case
	28	FB1250B	1250μL filter tip bag-packed, blue	5000	1000Pcs/bag,5Bags/case
	29	FX10T0	10μL filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxs/case
	30	FX01TL0	0.1-10μL extended filter tip box-packed, sterile, colorless	4800	96Pcs/box,50Boxs/case
	31	FX05TL0	0.5-10μL extended filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxs/case
	32	FX20Y0	20μL filter tip, box-packed, sterile, yellow	4800	96Pcs/box,50Boxs/case
	33	FX50Y0	50μL filter tip, box-packed, sterile, yellow	4800	96Pcs/box,50Boxs/case
	34	FX100Y0	100μL filter tip, box-packed, sterile, yellow	4800	96Pcs/box,50Boxs/case
	35	FX200Y0-150	200μL(1-150ul)filter tip, box-packed, sterile, yellow	4800	96Pcs/box,50Boxs/case
	36	FX200T0-200	200μL(1-200ul)filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxs/case
	37	FX300T0	300μL(1-300ul)filter tip, box-packed, sterile , colorless	4800	96Pcs/box,50Boxs/case
	38	FX500B0	500μL filter tip, box-packed, sterile, blue	4800	96Pcs/box,50Boxs/case
	39	FX1000B0-100	1000μL filter tip, box-packed, sterile, blue	5000	100Pcs/box,50Boxs/case
	40	FX1000B0-96	1000μL filter tip, box-packed, sterile, blue	4800	96Pcs/box,50Boxs/case
	41	FX1250B0	1250μL filter tip, box-packed, sterile, blue	4800	96Pcs/box,50Boxs/case
Low Retention Tips	42	AB10T	10μL low retention tip, bag-packed, colorless	20000	1000Pcs/bag,20Bags/case
	43	AB01TL	0.1-10μL extended low retention tip, bag-packed, colorless	10000	1000Pcs/box,10Boxs/case
	44	AB05TL	0.5-10μL extended low retention tip, bag-packed, colorless	20000	1000Pcs/bag,20Bags/case
	45	AB200T	200μLlow retention tip, bag-packed, colorless	20000	1000Pcs/bag,20Bags/case
	46	AB250T	250μLlow retention tip, bag-packed, colorless	20000	1000Pcs/bag,20Bags/case
	47	AB350T	350μLlow retention tip, bag-packed, colorless	20000	1000Pcs/bag,20Bags/case
	48	AB1000T	1000μLlow retention tip, bag-packed, colorless	5000	1000Pcs/bag,5Bags/case
	49	AB1250T	1250μLlow retention tip, bag-packed , colorless	5000	1000Pcs/bag,5Bags/case
	50	AX10T0	10μLlow retention tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxs/case
	51	AX01TL0	0.1-10μL extended low retention tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxs/case
	52	AX05TL0	0.5-10μL extended low retention tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxs/case
	53	AX200T0	200μLlow retention tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxs/case
	54	AX250T0	250μLlow retention tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxs/case
	55	AX350T0	350μLlow retention tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxs/case
	56	AX1000T0	1000μLlow retention tip, box-packed, sterile, colorless	5000	100Pcs/box,50Boxs/case
	57	AX1250T0	1250μLlow retention tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxs/case
	58	AFX10T0	10μL low retention filter tip,box-packed, sterile, colorless	4800	96Pcs/box,50Boxs/case
	59	AFX01TL0	0.1-10μL extended low retention filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxs/case
	60	AFX05TL0	0.5-10μL extended low retention filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxs/case
	61	AFX200T0-150	200μL(1-150ul) extended low retention filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxs/case
	62	AFX200T0-200	200μL(1-200ul) extended low retention filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxs/case
	63	AFX300T0	300μL(1-300ul) extended low retention filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxs/case
	64	AFX1000T0-100	1000μL extended low retention filter tip, box-packed, sterile, colorless	5000	100Pcs/box,50Boxs/case
	65	AFX1000T0	1000μL extended low retention filter tip, box-packed, sterile, colorless	4800	100Pcs/box,50Boxs/case
	66	AFX1250T0	1250μL extended low retention filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxs/case
Racked Tip	67	D10Y0	10ul racked tip, sterile	4800	960Pcs/rack,10Racks/case
	68	D200Y0	200ul racked tip, sterile	4800	960Pcs/rack,10Racks/case
	69	D1250Y0	1250ul racked tip, sterile	4800	480Pcs/rack,10Racks/case