



**Haier Biomedical**  
Intelligent Protection of Life Science

# ULT Freezer Solutions







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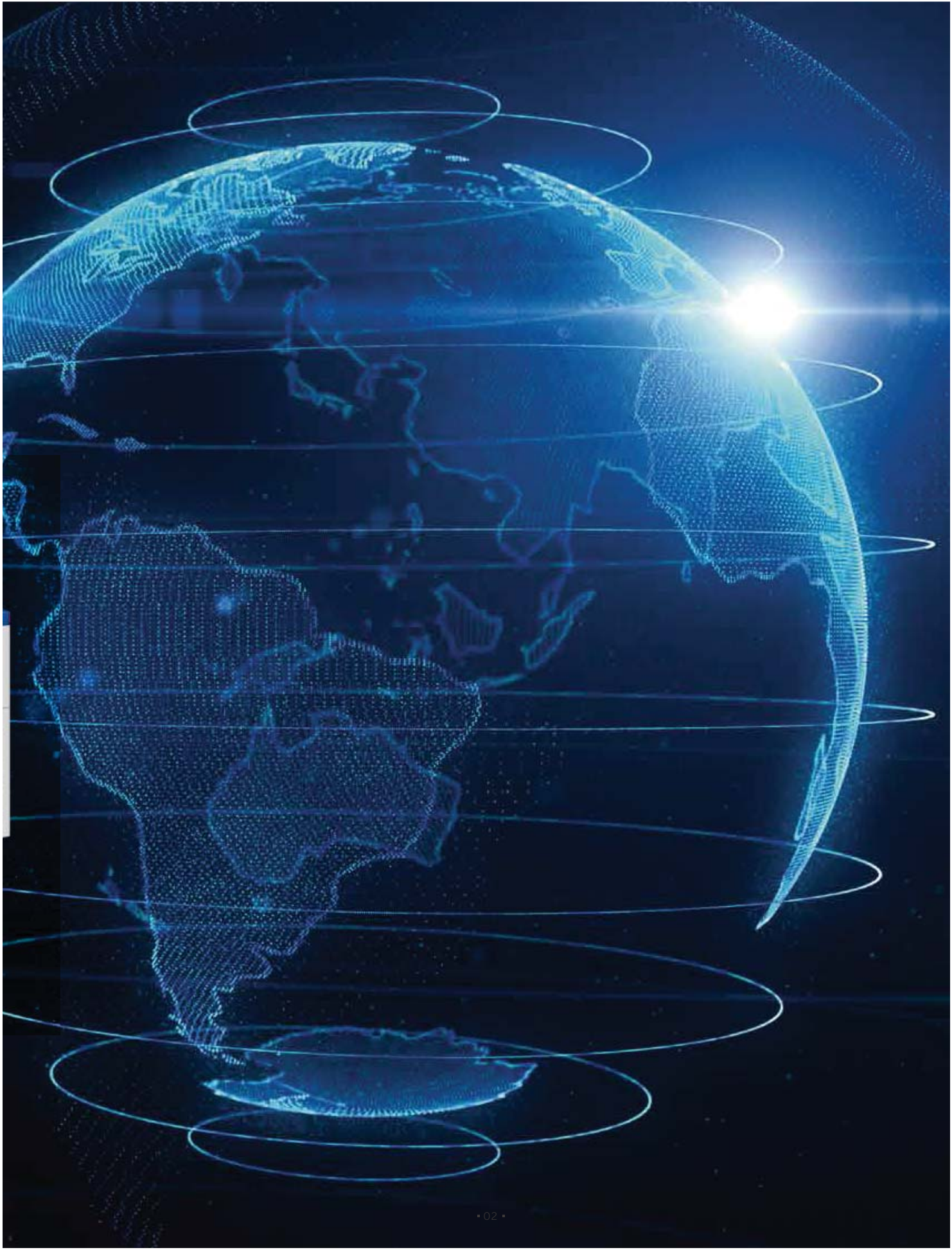
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**Haier Biomedical**  
Intelligent Protection of Life Science



**Cryo Freezer**







Haier Biomedical

## -150°C 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

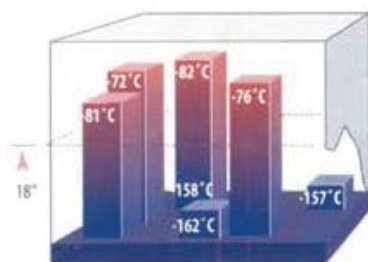
- Large LED display for easy viewing
- Ambient range of 10 °C to 30°C
- LN<sub>2</sub> back up system compatible
- Remote monitoring
- Smart condenser fans for energy saving

### Safety Control System

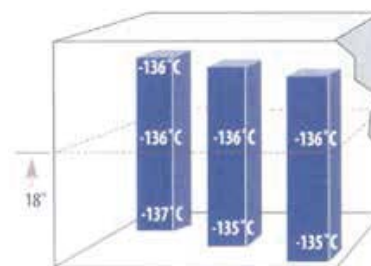
- Alarm system: User programmable high and low temperature alarm set points, power failure, sensor error, extreme voltage, hot condenser, and extremely high ambient
- Alarm types: audible buzzer and visible flashing
- Protection functions: Settable pass codes for control panel, start-up delay, voltage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



# Liquid Nitrogen Preservation System in Cryo Freezer



LN<sub>2</sub> Freezer System(-196 °C)



Cryo Freezer(-140°C)

## Specifications

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 (W/HZ)	380/50	
	Electrical Current (A)	11	
Dimensions	Capacity (L/Cu.Ft)	200/7.1	
	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	
	CO <sub>2</sub> Backup System	N/A	
LN <sub>2</sub> Backup System	Optional		
Others	Certification	N/A	

Product appearance and specifications are subject to change without notice



**Haier Biomedical**  
Intelligent Protection of Life Science

A large commercial airplane engine is the central focus, shown from a low angle on a runway. The engine's fan blades are a deep blue, and the core is visible. The runway is paved and has white markings. In the background, a city skyline is visible under a clear blue sky with some light clouds.

**TwinCool  
ULT Freezer**







# TwinCool<sup>®</sup> 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.

### 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.

## 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



### Wireless Monitoring Connectivity

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

## 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			
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 <sub>2</sub> Backup System	Optional		Optional		Optional		Optional	
	LN <sub>2</sub> Backup System	Optional		Optional		Optional		Optional	
Others	Certification	CE/ENERGY STAR	UL/ENERGY STAR	UL/ENERGY STAR	CE/ENERGY STAR	UL/ENERGY STAR	UL/ENERGY STAR		

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Haier Biomedical

## TwinCool<sup>®</sup> ULT Freezer

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



**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



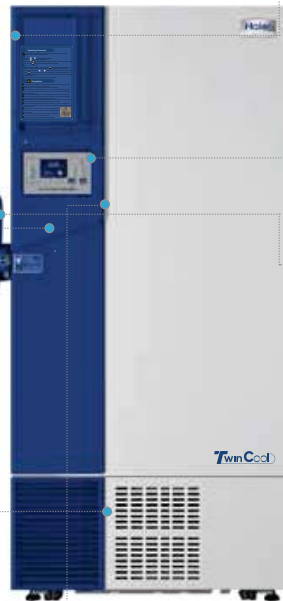
**Pressure Equalisation Port**

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**

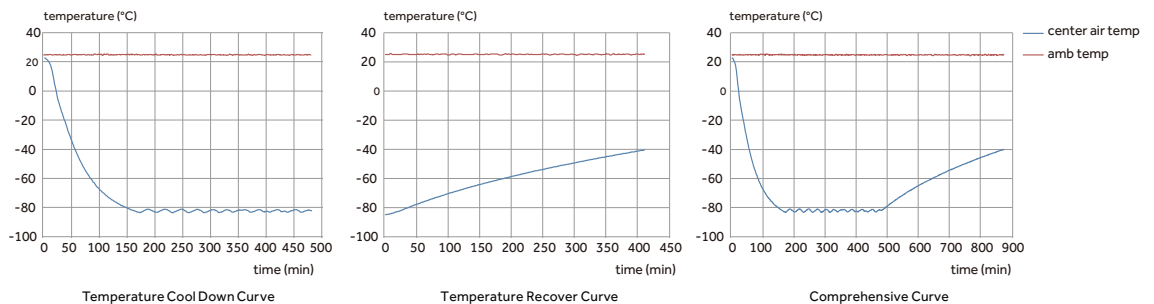
Enables users to download historical temperature data for compliance/auditing purposes



**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**





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

**Haier Biomedical**  
Intelligent Protection of Life Science



**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 <sub>2</sub> Backup System	Optional	Optional	Optional	Optional	
	LN <sub>2</sub> 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 inverter 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 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



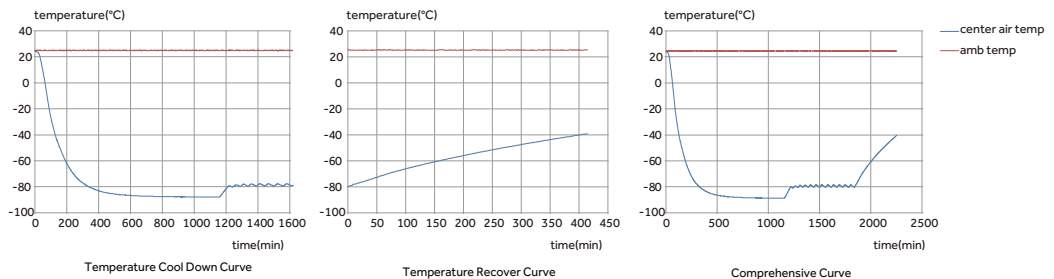
**Multilevel Alarms**

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



DW-86L829BP

**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	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 <sub>2</sub> Backup System	Optional	Optional	Optional	Optional	
	LN <sub>2</sub> 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 inverter compressor

Product appearance and specifications are subject to change without notice

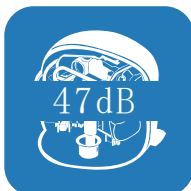


Haier water-cooled ULT freezers are designed to meet strict requirements for storage of plasma, biological materials, vaccines, reagents, specimens, and other valuable samples. They are ideal for installations in hospitals, clinics, blood banks and medical research facilities where freezer heat must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



# Salvum Ultimate Water-Cooled ULT Freezer



## 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	
Alarms	Container Load (20'/40'/40'H)	8/20/20	8/16/16	
	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	
Accessories	Door Ajar	Y	Y	
	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 <sub>2</sub> Backup System	Optional	Optional	
LN <sub>2</sub> 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

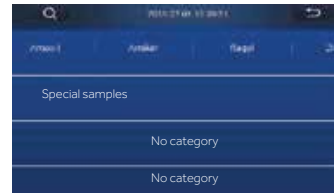


**Large Intelligent LCD Screen Visual Management**

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.



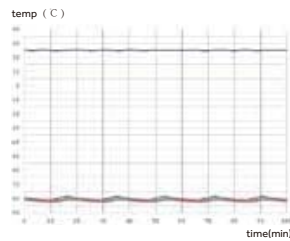
### Optional IoT System Realizes Real-time Monitoring

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  $-40^{\circ}\text{C}$  ~  $-86^{\circ}\text{C}$  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



# Standard Low Energy ULT Freezer with Touchscreen

## 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	
	CO <sub>2</sub> Backup System	Optional	Optional	Optional	Optional	
LN <sub>2</sub> 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.



### Advantages

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





## Standard Low Energy ULT Freezer with LED Display



### 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)

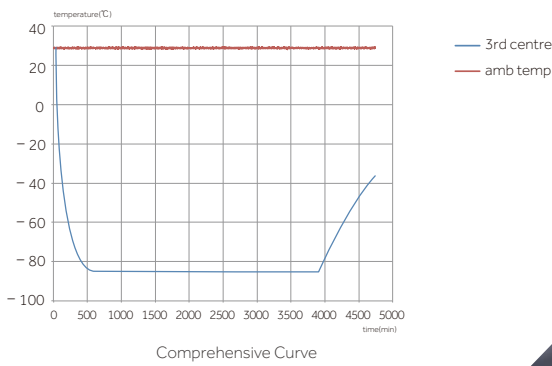
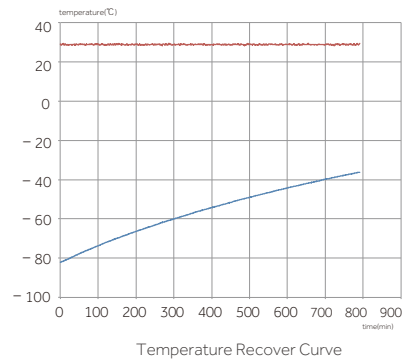
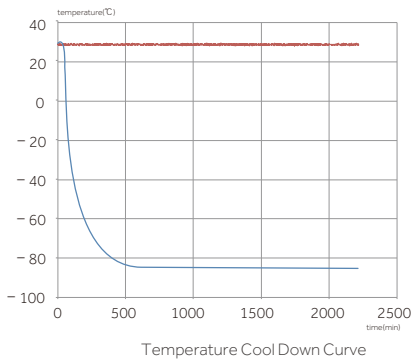
- Adjustable High/Low temperature alarm
- Sensor error
- Low battery
- Door ajar
- Power failure
- Hot condenser
- High ambient
- Remote alarm contact



## 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





# Standard Low Energy ULT Freezer with LED Display



### 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

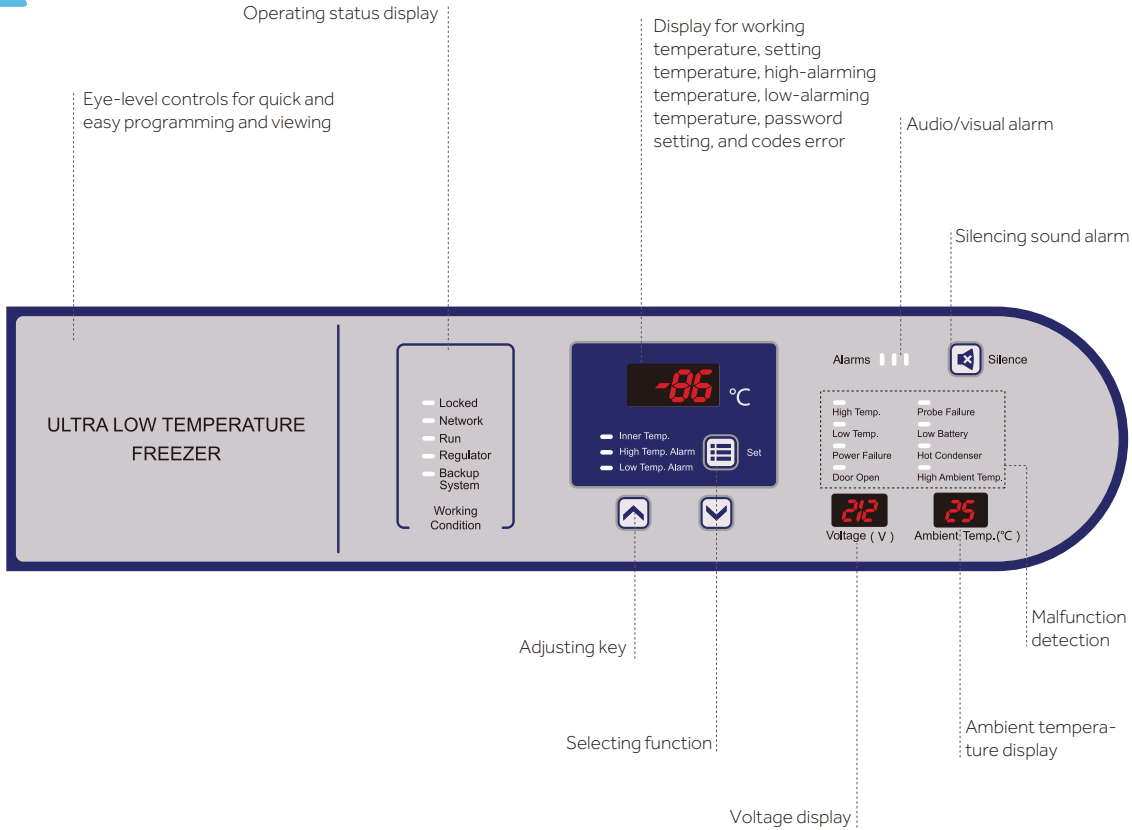
- Hermetically sealed industrial grade compressors for ultra-low refrigeration application.
- Low sound level.
- High efficient oil separator.
- Unique hydrocarbon refrigeration system to provide maximum efficiency in extreme conditions.



Two port holes for ease of temperature monitoring



# Standard Low Energy ULT Freezer with LED 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 exceeds 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



## Standard Low Energy ULT Freezer with LED Display



### Field proven reliability

- 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°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



### 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

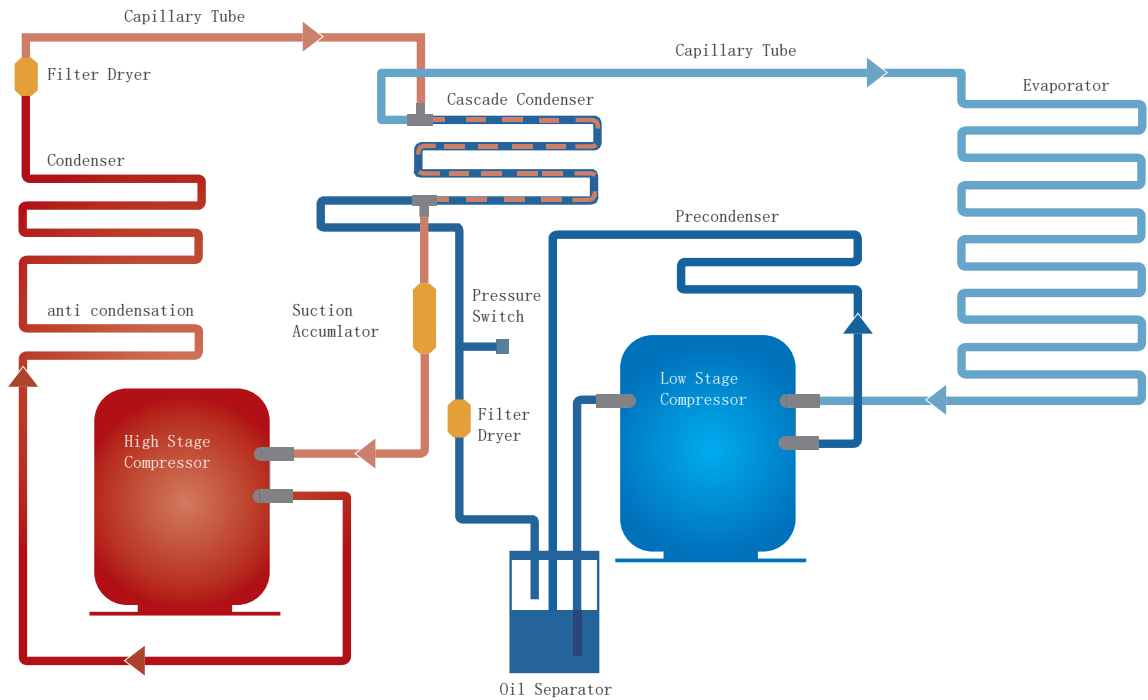











### Key design features

- Microprocessor-controlled system designed for controllable range of -40°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



# Heat Exchange Circulation System



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

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			
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))	50			50		49		
Performance	Cooling Performance (°C)	-86			-86		-86		
	Temperature Range (°C)	-40~-86			-40~-86		-40~-86		
Control	Controller	Microprocessor			Microprocessor		Microprocessor		
	Display	LED			LED		LED		
Electrical Data	Power Supply (V/Hz)	220~240/50		115/60	208~230/60		220~240/50		
	Power (W)	650		700	1000		650		
	Electrical Current (A)	7.5		12	7.5		5		
Dimensions	Capacity (L/Cu.Ft)	338/11.9			388/13.7		486/17.1		
	Net/Gross Weight (approx)	kg	238/278			255/286		290/310	
		lbs	524.7/612.9			562.2/630.5		639.3/683.4	
	Interior Dimension (W*D*H)	mm	465*630*1165			465*716*1310		590*630*1310	
		in	18.3*24.8*45.9			18.3*28.2*51.6		23.3*24.8*51.6	
	Exterior Dimension (W*D*H)	mm	830*893*1846			812*980*1980		945*900*1980	
		in	32.7*35.2*72.7			31.2*38.6*78.0		37.2*35.4*78.0	
	Packing Dimension (W*D*H)	mm	875*970*2010			893*1078*2135		995*995*2150	
in		34.4*38.2*79.1			35.2*42.4*84.1		39.2*39.2*84.6		
Container load (20'/40'/40'H)		12/24/24			12/24/24		12/24/24		
Alarms	High/Low Temperature	Y			Y		Y		
	Hot Condenser	Y			Y		Y		
	Power Failure	Y			Y		Y		
	High/Low Voltage	N/A			N/A		N/A		
	Sensor Error	Y			Y		Y		
	Low Battery	Y			Y		Y		
	High Ambient Temperature	Y			Y		Y		
	Door Ajar	Y			Y		Y		
Accessories	Caster	Y			Y		Y		
	Foot	Y			Y		Y		
	Porthole	Y/2			Y/2		Y/2		
	Shelves/Inner doors	3/2			3/2		3/4		
	USB Interface	Y			Y		Y		
	Remote Alarm (Dry contacts)	Y			Y		Y		
	5V Power Supply Port	Y			Y		Y		
	Temperature Recorder	Optional			Optional		Optional		
	RS232/485 Port	Optional			Optional		Optional		
	CO <sub>2</sub> Backup System	Optional			Optional		Optional		
LN <sub>2</sub> Backup System	Optional			Optional		Optional			
Others	Certification	CE		UL		CE			

# -86°C ULT Freezer



DW-86L490J | DW-86L490JA      DW-86L578J | DW-86L578JA      DW-86L628E

DW-86L490J		DW-86L490JA		DW-86L578J		DW-86L578JA		DW-86L628E
Upright				Upright				Upright
N				N				N
Direct cooling				Direct cooling				Direct cooling
Manual				Manual				Manual
HC				HC				HC
50				50				49
-86				-86				-86
-40~-86				-40~-86				-40~-86
Microprocessor				Microprocessor				Microprocessor
LED				LED				LED
220~240/50		208~230/60		220~240/50	120/60	208~230/60		220~240/50
900		1000		750	1000	1000		1200
8		8		7.5	12	9		11
490/17.3				578/20.4				626/22.1
295/335				300/330				301/323
650.4/738.5				661.4/727.5				664.0/712.0
590*630*1310				620*716*1310				760*630*1310
23.2*24.8*51.6				24.4*28.2*51.6				29.9*24.8*51.6
860*900*1980				903*980*1960				1035*900*1980
33.9*35.4*78.0				35.6*38.6*77.2				40.7*35.4*78.0
925*985*2150				950*1055*2125				1080*965*2150
36.4*38.8*84.6				37.4*41.5*83.7				42.5*38.0*84.6
12/24/24				12/24/24				12/24/24
Y				Y				Y
Y				Y				Y
Y				Y				Y
N/A				N/A				N/A
Y				Y				Y
Y				Y				Y
Y				Y				Y
Y				Y				Y
Y				Y				Y
Y				Y				Y
Y/2				Y/2				Y/2
3/4				3/4				3/4
Y				Y				Y
Y				Y				Y
Y				Y				Y
Optional				Optional				Optional
Optional				Optional				Optional
Optional				Optional				Optional
Optional				Optional				Optional
CE	UL			CE,ENERGYSTAR	UL,ENERGYSTAR	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			
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))	50				50	51.5			
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)	220~240/50		120/60	208~230/60		220~240/50		208~230/60	
	Power (W)	1000		1000	1000		1000		1100	
	Electrical Current (A)	10		18	10		10		10	
Dimensions	Capacity (L/Cu.Ft)	728/25.7				828/29.2				
	Net/Gross Weight (approx)	kg	345/385				380/410			
		lbs	760.6/848.8				837.7/903.9			
	Interior Dimension (W*D*H)	mm	766*716*1310				870*716*1310			
		in	30.2*28.2*51.6				34.3*28.2*51.6			
	Exterior Dimension (W*D*H)	mm	1049*980*1980				1145*980*1980			
		in	41.3*38.6*78.0				45.1*38.6*78.0			
Packing Dimension (W*D*H)	mm	1090*1050*2150				1190*1045*2150				
	in	42.9*41.3*84.6				46.9*41.1*84.6				
	Container load (20'/40'/40'H)	12/20/20				8/20/20				
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	Y				Y				
	5V Power Supply Port	Y				Y				
	Temperature Recorder	Optional				Optional				
	Rs232/485 Interface	Optional				Optional				
	CO <sub>2</sub> Backup System	Optional				Optional				
LN <sub>2</sub> Backup System	Optional				Optional					
Others	Certification	CE,ENERGY STAR		UL		CE,ENERGY STAR		UL		

# -86°C ULT Freezer



DW-86L100J		DW-86W100J	DW-86W420J	DW-86W420JA
Upright		Chest	Chest	
N		N	N	
Direct cooling		Direct cooling	Direct cooling	
Manual		Manual	Manual	
HC		HC	HC	
46.8		49	50	
-86		-86	-86	
-40~-86		-40~-86	-40~-86	
Microprocessor		Microprocessor	Microprocessor	
LED		LED	LED	
220~240/50	120/60	220~240/50	220~240/50	208~230/60
680	680	550	1000	
3	6.5	4	7.5	
100/3.5		100/3.5	420/14.8	
108/132		138/160	310/357	
238/291		304.2/352.7	683.4/787.0	
330*481*630		470*450*480	1367*462*652	
13*19*25		18.5*17.7*18.9	53.8*18.2*25.7	
770*660*810		769*825*1120	2130*870*1020	
30*26*32		30.3*32.5*44.1	83.9*34.3*40.2	
830*710*970		845*855*1250	2195*895*1130	
32*28*38.5		33.3*33.7*49.2	90.6*38.2*45.8	
44/88/88		12/24/48	6/12/24	
Y		Y	Y	
Y		Y	Y	
Y		Y	Y	
Y		N/A	N/A	
Y		Y	Y	
Y		Y	Y	
Y		Y	Y	
Y		Y	Y	
Y		Y	Y	
Y		Y	Y	
Y		Y	Y	
Y		Y	Y	
Y		Y	Y	
Y/1		Y/1	Y/1	
1/2		-/1	-/3	
Y		Y	Y	
Y		Y	Y	
Y		N/A	N/A	
/		Optional	Optional	
-Y		Optional	Optional	
Optional		Optional	Optional	
Optional		Optional	Optional	
CE	UL	CE	CE	UL

Product appearance and specifications are subject to change without notice

## Advantage

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

## Safety

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

## Reliability

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



## Specifications

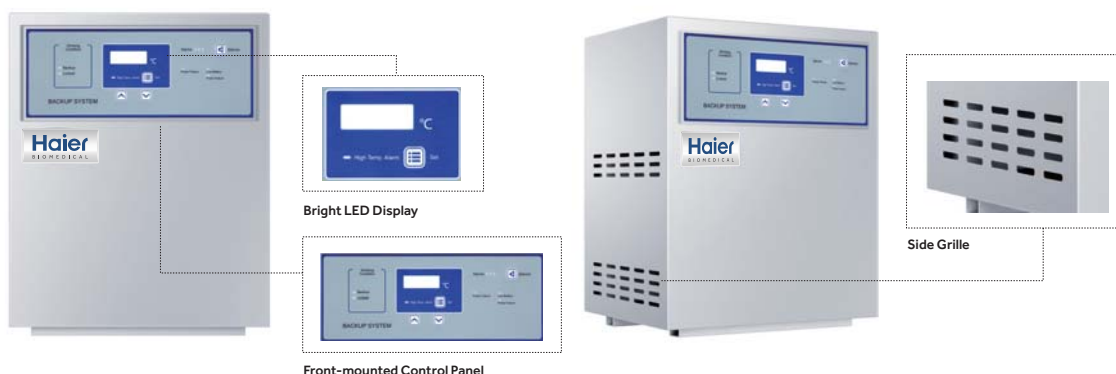
	Model	HBX-IC
Technical Data	Cabinet Type	Horizontal
	Climate Class	N
	Cooling Type	Direct cooling
	Refrigerant	CO <sub>2</sub>
Performance	Cooling Performance (°C)	-70
	Temperature Range (°C)	-40--70
Control	Controller	Thermostat
	Display	LED
Electrical Data	Power Supply (V/Hz)	220-240/50
		208-230/60
	Power (W)	115/60
	Electrical Current (A)	20
Dimensions	Net/Gross Weight (approx)	0.25
		11.2/14
	Exterior Dimensions (W*D*H)	24.7/30.86
		200*400*160
		7.8*15.7*6.3
Packing Dimensions (W*D*H)	370*530*330	
	14.6*20.9*13	
Alarms	CO <sub>2</sub> Margin Insufficient Alarm	Y
	Low Battery Alarm	Y
	Sensor Error Alarm	Y
	Main Power Off Alarm	Y
	Charge Indicator	Y
	CO <sub>2</sub> Injection Test Button	Y
Accessories	Foot	4
Others	Certification	CE/UL

Product appearance and specifications are subject to change without notice



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

LN<sub>2</sub> 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<sub>2</sub> backup system can be automatically activated to inject LN<sub>2</sub> into the chamber to maintain the freezer temperature. The backup system operates on a rechargeable battery when there is a loss of main power.



## Features

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

## Specifications

	Model	HBX-IIA
Technical Data	Cabinet Type	Horizontal
	Cooling Type	Direct cooling
	Refrigerant	LN <sub>2</sub>
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
	Power (W)	115/60
Dimensions	Net/Gross Weight (approx)	20
		0.05
	Exterior Dimensions (W*D*H)	15/17
		33.1/37.5
Packing Dimensions (W*D*H)	360*305*445	
	14.2*12.0*17.5	
Alarms	Low Battery Alarm	417*357*698
		16.4*14.1*27.5
	Sensor Error Alarm	Y
	Main Power Off Alarm	Y
Others	Charge Indicator	Y
	Certification	CE/UL

Product appearance and specifications are subject to change without notice



**Consumables  
for ULT Freezer**



# Haier Biomedical

Intelligent Protection of Life Science





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





## 15ml/50ml Centrifuge 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°C~120°C
- Easy grip cap for single-handed operation, reliable sealing
- Frame-packed and bag-packed



## Microcentrifuge Tube



### Product features

- PP material complies with USP-6, free from heavy metals
- Endotoxin content is less than 0.1 EU
- Temperature range: -80°C~120°C
- 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,10boxes/case
	2	CEN-15T	1.5ml Microcentrifuge tube, colorless	5000	500Pcs/box,10boxes/case
	3	CEN-2T	2ml Microcentrifuge tube, colorless	5000	500Pcs/box,10boxes/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



### Cell Culture Dish



#### 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



### Cell Culture Bottle

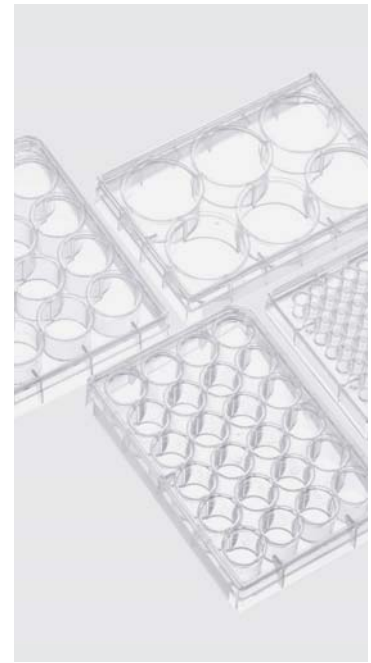


#### Product features

- 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), 0.22µm hydrophobic membrane to facilitate air exchange and prevent microbial pollution



### Cell Culture Plate



#### 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

# PCR Lab Consumables



## 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

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, 25cm <sup>2</sup> , vented caps, plasma treatment	300	12Pcs/bag, 25bags/case
	CELL-T75-P	T75 cell culture bottle, 75cm <sup>2</sup> , vented caps, plasma treatment	90	5Pcs/bag, 18bags/case
	CELL-T175-P	T175 cell culture bottle, 175cm <sup>2</sup> , 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



## Standard Frozen Rack

### Product features

- 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
- Load bearing capacity 16720 g, load bearing redundancy 25%
- 25 counterweights
- No deformation after continuous test for 30 days





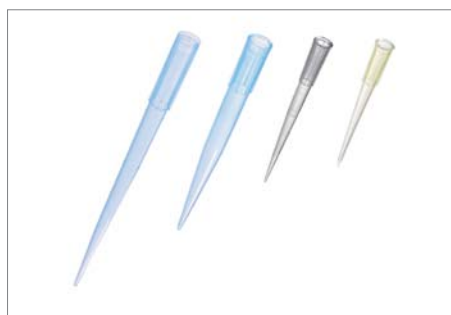
## Haier ULT Freezer + Consumables Solutions

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

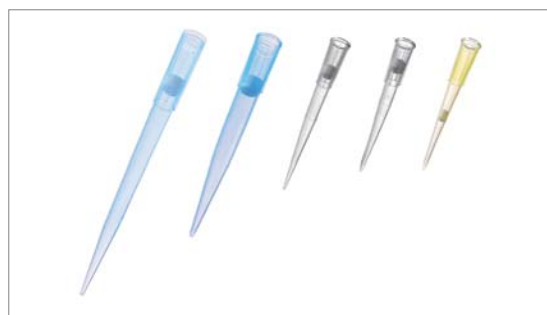


#### Product features

- 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 C ~121 C , no deformation after high temperature and high pressure
- Clear scale, high clarity, visual confirmation of pipette suction



#### Filter Pipette Tips



#### Product features

- 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



## 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
 <p>Universal Pipette Tips</p>	1	B10T	10 $\mu$ L tip, bag-packed, basic type, colorless	20000	1000Pcs/bag,20Bags/case
	2	B01TL	0.1-10 $\mu$ L extended tip, bag-packed, basic type, colorless	10000	1000Pcs/box,10Boxes/case
	3	B05TL	0.5-10 $\mu$ L extended tip, bag-packed, basic type, colorless	20000	1000Pcs/bag,20Bags/case
	4	B200Y	200 $\mu$ L tip, bag-packed, basic type, yellow	20000	1000Pcs/bag,20Bags/case
	5	B250T	250 $\mu$ L tip, bag-packed, basic type, colorless	20000	1000Pcs/bag,20Bags/case
	6	B350T	350 $\mu$ L tip, bag-packed, basic type, colorless	20000	1000Pcs/bag, 20Bags/case
	7	B1000B	1000 $\mu$ L tip, bag-packed, basic type, blue	5000	1000Pcs/bag,5Bags/case
	8	B1250B	1250 $\mu$ L tip, bag-packed, basic type, blue	5000	1000Pcs/bag,5Bags/case
	9	X10T0	10 $\mu$ L tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	10	X01TL0	0.1-10 $\mu$ L extended tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	11	X05TL0	0.5-10 $\mu$ L extended tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	12	X200Y0	200 $\mu$ L tip, box-packed, sterile, yellow	4800	96Pcs/box,50Boxes/case
	13	X250T0	250 $\mu$ L tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	14	X350T0	350 $\mu$ L tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	15	X1000B0-100	1000 $\mu$ L tip, box-packed, sterile, blue	5000	100Pcs/box,50Boxes/case
	16	X1000B0-96	1000 $\mu$ L tip, box-packed, sterile, blue	4800	96Pcs/box,50Boxes/case
	17	X1250B0	1250 $\mu$ L tip, box-packed, sterile, blue	4800	96Pcs/box,50Boxes/case

# Haier ULT Freezer + Consumables Solutions

Classification	No.	Model	Specification	Loading Quantity (Per Case)	Package
 <b>Filter Pipette Tips</b>	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,10Boxes/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,50Boxes/case
	30	FX01TLO	0.1-10µL extended filter tip box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	31	FX05TLO	0.5-10µL extended filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	32	FX20Y0	20µL filter tip, box-packed, sterile, yellow	4800	96Pcs/box,50Boxes/case
	33	FX50Y0	50µL filter tip, box-packed, sterile, yellow	4800	96Pcs/box,50Boxes/case
	34	FX100Y0	100µL filter tip, box-packed, sterile, yellow	4800	96Pcs/box,50Boxes/case
	35	FX200Y0-150	200µL(1-150ul) filter tip, box-packed, sterile, yellow	4800	96Pcs/box,50Boxes/case
	36	FX200T0-200	200µL(1-200ul) filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	37	FX300T0	300µL(1-300ul) filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	38	FX500B0	500µL filter tip, box-packed, sterile, blue	4800	96Pcs/box,50Boxes/case
39	FX1000B0-100	1000µL filter tip, box-packed, sterile, blue	5000	100Pcs/box,50Boxes/case	
40	FX1000B0-96	1000µL filter tip, box-packed, sterile, blue	4800	96Pcs/box,50Boxes/case	
41	FX1250B0	1250µL filter tip, box-packed, sterile, blue	4800	96Pcs/box,50Boxes/case	
 <b>Low Retention Tips</b>	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,10Boxes/case
	44	AB05TL	0.5-10µL extended low retention tip, bag-packed, colorless	20000	1000Pcs/bag,20Bags/case
	45	AB200T	200µL low retention tip, bag-packed, colorless	20000	1000Pcs/bag,20Bags/case
	46	AB250T	250µL low retention tip, bag-packed, colorless	20000	1000Pcs/bag,20Bags/case
	47	AB350T	350µL low retention tip, bag-packed, colorless	20000	1000Pcs/bag,20Bags/case
	48	AB1000T	1000µL low retention tip, bag-packed, colorless	5000	1000Pcs/bag,5Bags/case
	49	AB1250T	1250µL low retention tip, bag-packed, colorless	5000	1000Pcs/bag,5Bags/case
	50	AX10T0	10µL low retention tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	51	AX01TLO	0.1-10µL extended low retention tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	52	AX05TLO	0.5-10µL extended low retention tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	53	AX200T0	200µL low retention tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	54	AX250T0	250µL low retention tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	55	AX350T0	350µL low retention tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	56	AX1000T0	1000µL low retention tip, box-packed, sterile, colorless	5000	100Pcs/box,50Boxes/case
	57	AX1250T0	1250µL low retention tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	58	AFX10T0	10µL low retention filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	59	AFX01TLO	0.1-10µL extended low retention filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	60	AFX05TLO	0.5-10µL extended low retention filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	61	AFX200T0-150	200µL(1-150ul) extended low retention filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
	62	AFX200T0-200	200µL(1-200ul) extended low retention filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case
63	AFX300T0	300µL(1-300ul) extended low retention filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case	
64	AFX1000T0-100	1000µL extended low retention filter tip, box-packed, sterile, colorless	5000	100Pcs/box,50Boxes/case	
65	AFX1000T0	1000µL extended low retention filter tip, box-packed, sterile, colorless	4800	100Pcs/box,50Boxes/case	
66	AFX1250T0	1250µL extended low retention filter tip, box-packed, sterile, colorless	4800	96Pcs/box,50Boxes/case	
<b>Racked Tip</b>	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