

Haier Biomedical



# Variable Frequency Drive -86°C ULT Freezer

IoT technology for more intelligent management  
HC & Inverter technology for better energy saving



## Scope of Application >

It can be used for low-temperature tests and other tests which require strict storage condition for the viruses, pathogens, red blood cells, white blood cells, skin, bones, bacteria, semen, biological products, ocean products, electronic devices and special materials. Application could be found at blood stations, hospitals, disease control and prevention centers, scientific research institutions, enterprises in electronics and chemical industry, biomedical engineering institutes and pelagic fishery companies and etc.

## Advanced hardware system



### Smart full-size touch screen

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



### HC & variable frequency drive refrigeration system for additional energy saving

More advanced innovative design and excellent energy saving performance. Energy consumption is down to a single digit



### New robust and durable handle, optional finger print lock and NFC electromagnetic lock

New robust and durable handle and built-in lock with 4 keys  
More flexible configuration: optional finger print lock and NFC card access

## IoT software system



### Simplified sample management experience

Smart storage: scanning gun& barcode for precise identification, simple and effortless  
Precise delivery: retrieve your samples with higher precision and efficiency



### Interconnected multi terminals for monitoring safety

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

### A Shortening the access time from 1 minute to 1 second

Changing ransacking boxes and chests and manually recording to one-gun, one-code and one-key operation, realizing double screen synchronization and one-second access

### B Changing safety control from unknown to 24-hour controlled

Changing scattered equipment to all-time, all-weather, all-direction and multi-screen status monitoring and equipment self-diagnosis by IoT, protecting the sample safety

### C Three-times energy saving and environmental protection

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

## Friendly design



### Equipped with a variety of safety locks, providing more safety guarantee

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



### Multiple noise reduction measures, lower noise level of 44dB

Special noise-reduction design, ultra silent inverter compressor and variable speed fan, enabling the surroundings to be as silent as possible



### Massive sample information storage available in the cloud

Hundreds of millions of scientific research and sample information being able to be stored into the cloud server



### Double foaming for both inner and outer doors and five-layer sealing design

Optimized super-thick V+P thermal insulation technology, extending temperature holdover time during power failure and increasing insulation efficiency by 20%



# Specification

	Model	DW-86L579BPT	DW-86L729BPT	DW-86L829BPT	DW-86L959BPT
<b>Technical Data</b>	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
	Noise((dB(A))	43.5	43.5	43.5	47
<b>Performance</b>	Cooling Performance(°C)	-86	-86	-86	-86
	Temp Range(°C)	-40~-86	-40~-86	-40~-86	-40~-86
<b>Control</b>	Controller	Microprocessor	Microprocessor	Microprocessor	Microprocessor
	Display	LCD	LCD	LCD	LCD
<b>Electrical Data</b>	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
<b>Dimensions</b>	Capacity(L/Cu.Ft)	579/20.4	729/25.7	829/29.2	959/33.9
	Net/Gross Weight	325/355	350/385	380/415	450/485
	(approx)	716.5/782.6	771.6/848.8	837.7/914.8	992.1/1069.2
	Interior Dimension	620*716*1310	766*716*1310	870*716*1310	1016*716*1310
	(W*D*H)	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	895*998*1980	1046*998*1980	1145*998*1980	1296*998*1980
	(W*D*H)	35.4*39.3*78.0	41.2*39.3*78.0	45.1*39.3*78.0	51.0*39.3*78.0
	Packing Dimension	950*1055*2150	1100*1105*2150	1190*1045*2150	1365*1105*2150
(W*D*H)	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	
<b>Functions</b>	Remote Alarm	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
<b>Accessories</b>	Caster	Y	Y	Y	Y
	Foot	Y	Y	Y	Y
	Test Hole	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
	485 Port	Standard	Standard	Standard	Standard
	CO2 Backup System	Optional	Optional	Optional	Optional
	LN2 Backup System	Optional	Optional	Optional	Optional
<b>Others</b>	Certificate	CE、UL	CE、UL	CE、UL	CE、UL



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# -86°C ULT Freezer (Twin Cool)



## Scope of Application >

It can be used for low-temperature tests and other tests which require strict storage condition for the viruses, pathogens, red blood cells, white blood cells, skin, bones, bacteria, semen, biological products, ocean products, electronic devices and special materials. Application could be found at blood stations, hospitals, disease control and prevention centers, scientific research institutions, enterprises in electronics and chemical industry, biomedical engineering institutes and pelagic fishery companies and etc.

## Advanced hardware system



### Smart full-size touch screen

10 inch capacitive touch screen, state-of-art UI design coupled with sample management system, optimal user experience, better man-machine interaction



### New robust and durable handle, optional fringer print lock and NFC electromagnetic lock

New robust and durable handle and built-in lock with 4 keys  
More flexible configuration: optional finger print lock and NFC card access

## IoT software system



### Simplified sample management experience

Smart storage: scanning gun& barcode for precise identification, simple and effortless  
Precise delivery: retrieve your samples with higher precision and efficiency



### Interconnected multi terminals for monitoring safety

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

### A Dual independent refrigeration systems, making the samples safer

The dual refrigeration systems run independently and alternately, and both of them can reach up to -80°C through independent refrigeration. In case that failure occurs to one system, the sample storage safety can still be guaranteed.

### B High speed refrigeration and frequently opening of the door needing not to be worried

It uses auto-cascade hydrocarbon refrigeration technology and can realize quick cooling; it only needs 180 minutes to reduce the temperature from 25°C to -80°C. Normally, the temperature in the refrigerator can quickly recover to -75°C in 1 minutes after the door being opened and closed so that the sample safety can be guaranteed.

### C Energy saving and environment protection

It adopts auto-cascade hydrocarbon refrigeration technology, three-layer energy saving and superinsulation design, which can increase the insulation efficiency by 30%, and realize the energy saving by 50%. Its daily power consumption is only 11 degrees, which leads the world. It has obtained the energy saving and environmental protection certification issued by the national quality certification center.

## Friendly design



### Equipped with a variety of safety locks, providing more safety guarantee

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



### Massive sample information storage available in the cloud

Hundreds of millions of scientific research and sample information being able to be stored into the cloud server



### Multiple noise reduction measures, reducing the noise down to 53dB

Special noise-reduction design matching with super silent compressor and energy-saving fan, lower noise level



### Double foaming for both inner and outer doors and five-layer sealing design

Optimized super-thick V•••P thermal insulation technology, extending temperature holdover time during power failure and increasing insulation efficiency by 20%.



# Specification

	Model	DW-86L578ST	DW-86L578ST(120/60)	DW-86L728ST
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))	53	52	50
Performance	Cooling Performance(°C)	-86	-86	-86
	Temp Range(°C)	-40~-86	-40~-86	-40~-86
Control	Controller	Microprocessor	Microprocessor	Microprocessor
	Display	LCD	LCD	LCD
Electrical Data	Power Supply(V/Hz)	208~230/50	120/60	208~230/50
	Power(W)	1400	1400	1400
	Electrical Current(A)	10	14	10
Dimensions	Capacity(L/Cu.Ft)	578/20.4	578/20.4	728/25.7
	Net/Gross Weight(approx)	325/355	325/355	350/385
		716.5/782.6	716.5/782.6	771.6/848.8
	Interior Dimensions(W*D*H)	620*716*1310	620*716*1310	766*716*1310
		24.4*28.2*51.6	24.4*28.2*51.6	30.2*28.2*51.6
	Exterior Dimensions(W*D*H)	895*998*1980	895*998*1980	1046*998*1980
		35.4*39.3*78.0	35.4*39.3*78.0	41.2*39.3*78.0
	Packing Dimension(W*D*H)	950*1055*2150	950*1055*2150	1100*1105*2150
37.4*41.5*84.6		37.4*41.5*84.6	43.3*43.5*84.6	
Container Load(20'/40'/40'H)	12/24/24	12/24/24	10/20/20	
Functions	Remote Alarm	Y	Y	Y
	High/Low Temp	Y	Y	Y
	Hot Condenser	Y	Y	Y
	Power Failure	Y	Y	Y
	Sensor Error	Y	Y	Y
	Low Battery	Y	Y	Y
	High Ambient Temp	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	3/4	3/4	3/4
	USB Interface	Y	Y	Y
	5V Power Supply Port	Y	Y	Y
	Temp Recorder	Optional	Optional	Optional
	RS232/485 Port	Standard	Standard	Standard
	CO2 Backup System	Optional	Optional	Optional
	LN2 Backup System	Optional	Optional	Optional
Other	Certification	CE	UL	CE

