

Smart Frequency Conversion ULT Freezer



DW-86L579/729/829/959BPT

Scope of Application

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, the agriculture/fishery sector as well as the electronics and chemical industries.

Friendly Design

- Intelligent frequency conversion technology
- Low noise design
- Safe and secure
- Precise temperature control to ensure the cabinet temperature stability

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Smart Frequency Conversion ULT Freezer

Product Parts



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



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



Energy Saving Refrigeration

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



DW-86L829BPT



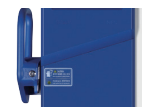
Multilayered Sealing Structure

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



USB Interface

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



Improved Handle Design

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

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 superior energy savings. The energy consumption is down to a single digit.

Smart Frequency Conversion ULT Freezer

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 portable tablet, 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 Biomedical'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 optional electromagnetic lock, fingerprint lock, providing multiple safeguards for sample safety.



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.



Low Noise

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



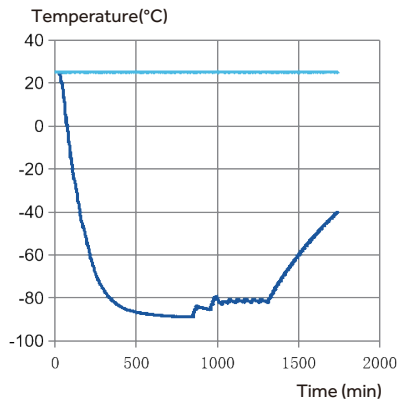
Optimized Insulation

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%.

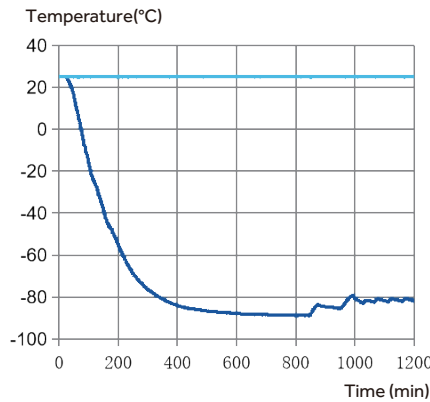
Temperature Curve



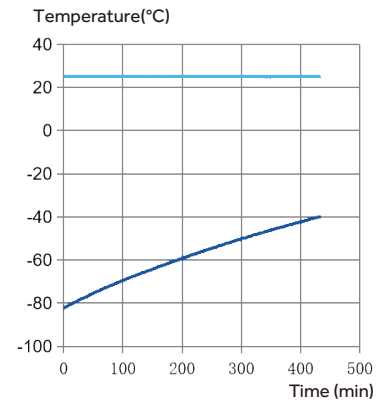
DW-86L959BPT Typical Performance Characteristics



Comprehensive Curve



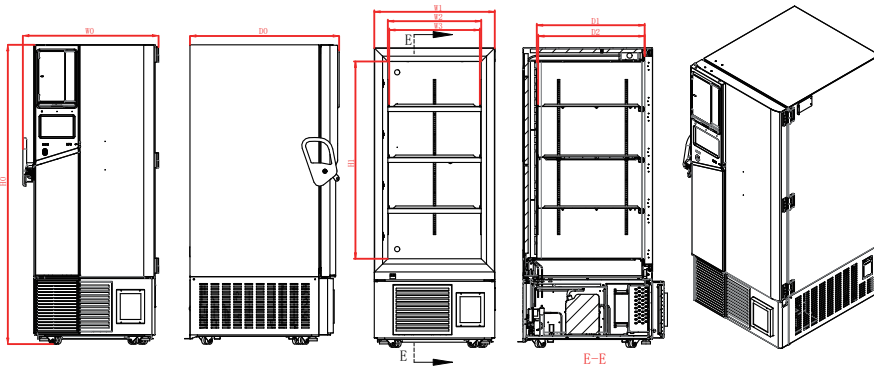
Temperature Cool Down Curve



Temperature Recover Curve

— Cen temp
— Amb temp

Product Dimensions



Parameter Description:

- W0--Overall width of the machine
- W1--Outer width of the cabinet
- W2--Inner liner width
- W3--Width of inner shelf
(Width of shelf for effective placement of freezing rack)
- D0--Overall depth of the machine
- D1-- Inner liner depth
- D2-- Inner depth of shelf
(Depth of shelf for effective placement of freezing rack)
- H0--Overall height of the machine
- H1--Inner liner height

Parameter	W0	W1	W2	W3	H0	H1	D0	D1	D2
DW-86L579BPT	895mm	800mm	620mm	602mm	1980mm	1310mm	998mm	716mm	706mm
DW-86L729BPT	1046mm	946mm	766mm	750mm	1980mm	1310mm	998mm	716mm	706mm
DW-86L828BPT	1145mm	1050mm	870mm	854mm	1980mm	1310mm	998mm	716mm	706mm
DW-86L959BPT	1296mm	1196mm	1016mm	1000mm	1980mm	1310mm	998mm	716mm	706mm

Smart Frequency Conversion ULT Freezer

Specifications



Model		DW-86L579BPT	DW-86L729BPT	DW-86L829BPT		DW-86L959BPT	
Technical Data	Cabinet Type	Upright	Upright	Upright		Upright	
	Climate Class	N	N	N		N	
	Cooling Type	Direct Cooling	Direct Cooling	Direct Cooling		Direct Cooling	
	Defrost Mode	Manual	Manual	Manual		Manual	
	Refrigerant	HC	HC	HC		HC	
	Sound Level (dB(A))	43.5	43.5	43.5		47	
Performance	Cooling Performance (°C)	-86	-86	-86		-86	
	Temperature Range (°C)	-40~-86	-40~-86	-40~-86		-40~-86	
Control	Controller	Microprocessor	Microprocessor	Microprocessor		Microprocessor	
	Display	Touch Screen LCD	Touch Screen LCD	Touch Screen LCD		Touch Screen LCD	
Electrical Data	Power Supply (V/Hz)	100-230/50/60	100-230/50/60	110-120/60	208-230/50/60	110-120/60	208-230/50/60
	Power (W)	1100	1100	1400		1750	
	Electrical Current (A)	14	14	15	6	20	9
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	
Functions	High/Low Temperature	Y	Y	Y		Y	
	Hot Condenser	Y	Y	Y		Y	
	Power Failure	Y	Y	Y		Y	
	High/Low Voltage	Y	Y	Y		Y	
	Sensor Error	Y	Y	Y		Y	
	Low Battery	Y	Y	Y		Y	
	High Ambient Temperature	Y	Y	Y		Y	
	Door Ajar	Y	Y	Y		Y	
	Start-up Delay	Y	Y	Y		Y	
Accessories	Caster	Y	Y	Y		Y	
	Foot	Y	Y	Y		Y	
	Porthole	Y/2	Y/2	Y/2		Y/2	
	Shelves/Inner Doors	3/4	3/4	3/4		3/4	
	USB Interface	Y	Y	Y		Y	
	Remote Alarm	Y	Y	Y		Y	
	5V Power Supply Port	Y	Y	Y		Y	
	Temperature Chart Recorder	Optional	Optional	Optional		Optional	
	RS485 Port	Y	Y	Y		Y	
	CO ₂ Backup System	Optional	Optional	Optional		Optional	
LN ₂ Backup System	Optional	Optional	Optional		Optional		
Certifications	CE	Y	Y	/	Y	/	Y
	UL	Y	Y	/	Y	/	Y
	ENERGY STAR	Y	Y	Y	Y	Y	Y

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

Smart Frequency Conversion ULT Freezer

DW-86L579BP DW-86L729BP
DW-86L829BP DW-86L959BP



The Smart Frequency 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.

Ergonomic Design

- Energy Saving Refrigeration
- Improved Handle Design
- Multilayered Sealing Structure
- USB Interface
- Pressure Equalisation Port
- Multilevel Alarms

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Scope of Application



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



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



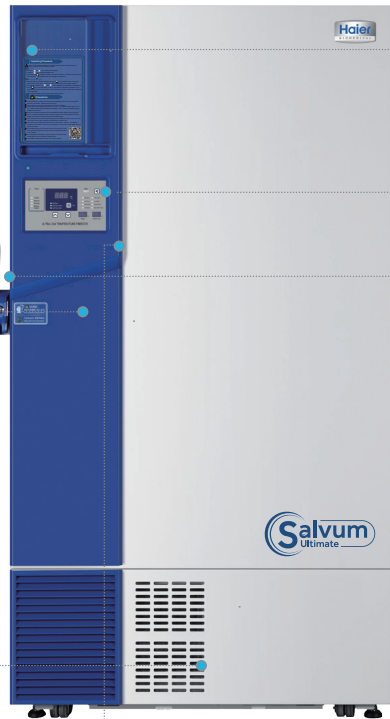
Improved Handle Design

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



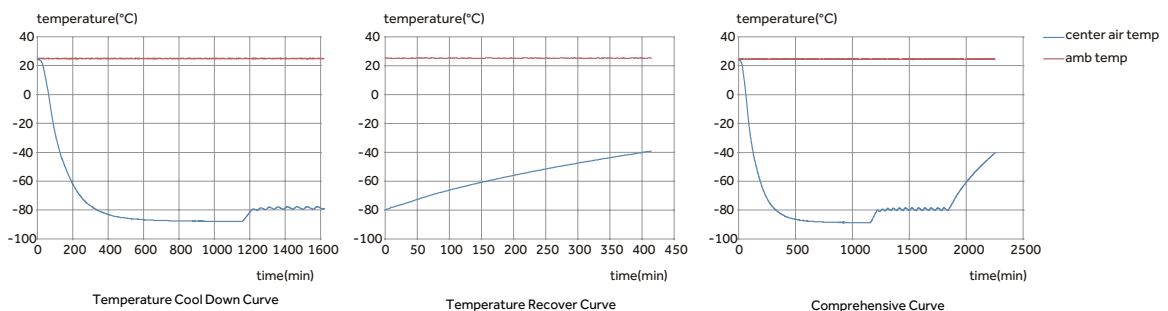
Multilevel Alarms

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	
	Electrical Current (A)	14	14	6	7	
	Power Consumption (kWh/24h)	7.5	8	8.2	9.8	
Construction	Capacity (L/Cu.Ft)	579/20.4	729/25.7	829/29.2	959/33.9	
	Net/Gross Weight (approx)	kg	325/355	350/385	380/415	450/485
		lbs	716.5/782.6	771.6/848.8	837.7/914.9	992.1/1069.2
	Interior Dimensions (W*D*H)	mm	620*716*1310	766*716*1310	870*716*1310	1016*716*1310
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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	
Loading Quantities	Container Load (20'/40'/40'H)	12/24/24	10/20/20	9/20/20	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	
Certifications	CE	Y	Y	Y	Y	
	UL	Y	Y	Y	Y	
	ENERGY STAR	Y	Y	Y	Y	

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