

# 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



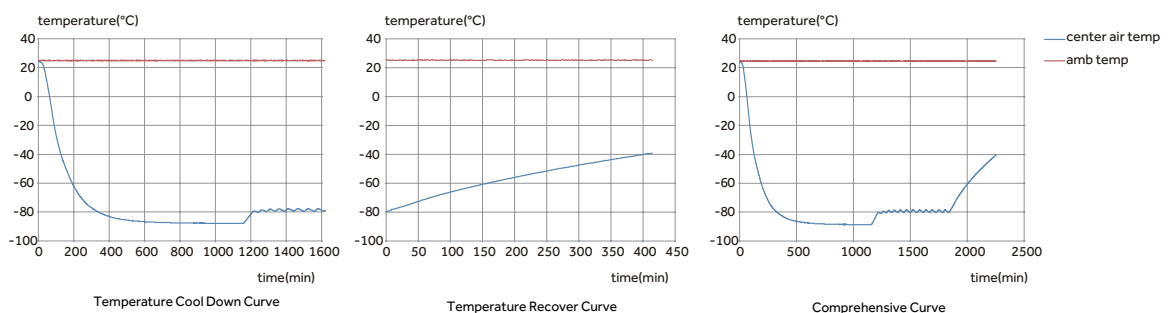
**Multilevel Alarms**

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	15   6	20   7		
Construction	Capacity (L/Cu.Ft)	579/20.4	729/25.7	829/29.2	959/33.9		
	Net/Gross Weight (approx)	kg	325/355	350/385	380/415	450/485	
		lbs	716.5/782.6	771.6/848.8	837.7/914.9	992.1/1069.2	
	Interior Dimensions (W*D*H)	mm	620*716*1310	766*716*1310	870*716*1310	1016*716*1310	
		in	24.4*28.2*51.6	30.2*28.2*51.6	34.3*28.2*51.6	40.0*28.2*51.6	
	Exterior Dimensions (W*D*H)	mm	895*998*1980	1046*998*1980	1145*998*1980	1296*998*1980	
		in	35.2*39.3*78	41.2*39.3*78.0	45.1*39.3*78.0	51.0*39.3*78.0	
	Packing Dimension (W*D*H)	mm	975*1095*2130	1120*1090*2130	1240*1080*2130	1410*1160*2185	
in		38.4*43.1*83.9	44.1*42.9*83.9	48.8*42.5*83.9	55.5*45.7*86		
Container Load (20'/40'/40'H)		12/24/24	10/22/22	5/11/11	5/10/10		
Alarms	Remote Alarm (Dry contacts)	Y	Y	Y	Y		
	High/Low Temp	Y	Y	Y	Y		
	Hot Condenser	Y	Y	Y	Y		
	Power Failure	Y	Y	Y	Y		
	Sensor Error	Y	Y	Y	Y		
	Low Battery	Y	Y	Y	Y		
	High Ambient Temp	Y	Y	Y	Y		
	Door Ajar	Y	Y	Y	Y		
Accessories	Caster	Y	Y	Y	Y		
	Foot	Y	Y	Y	Y		
	Porthole	Y/2	Y/2	Y/2	Y/2		
	Shelves/ Inner Doors	3/4	3/4	3/4	3/4		
	USB Interface	Y	Y	Y	Y		
	5V Power Supply Port	Y	Y	Y	Y		
	Temp Recorder	Optional	Optional	Optional	Optional		
	RS485 Port	Y	Y	Y	Y		
	CO <sub>2</sub> Backup System	Optional	Optional	Optional	Optional		
	LN <sub>2</sub> Backup System	Optional	Optional	Optional	Optional		
Certifications	CE	Y	Y	/	Y	/	Y
	UL	Y	Y	Y	/	Y	/
	ENERGY STAR	Y	Y	Y	Y	Y	Y

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