

Standard Low Energy ULT Freezer with LED Display



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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





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

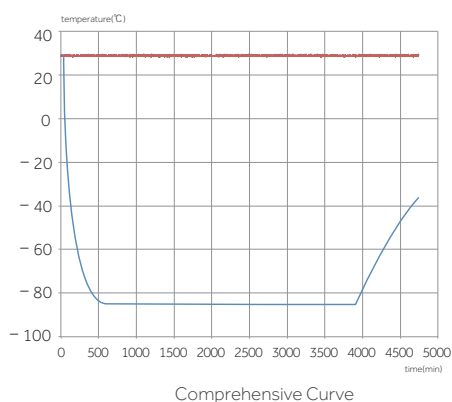
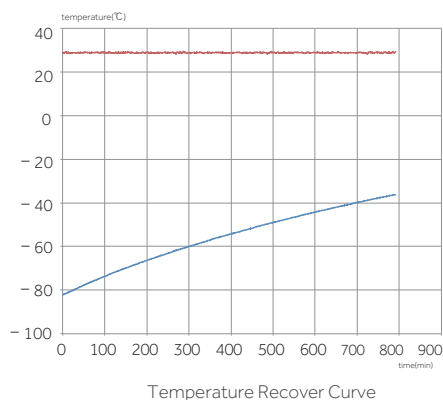
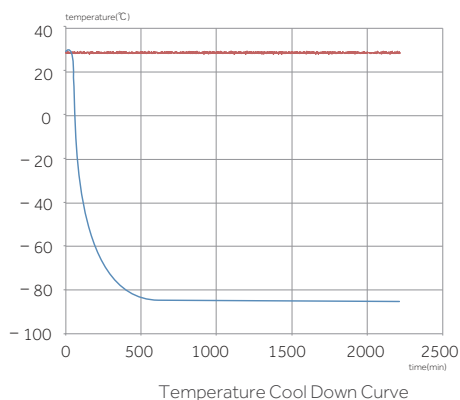
Alarms (Visual and Audible)

- 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



— 3rd centre
— amb temp





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)

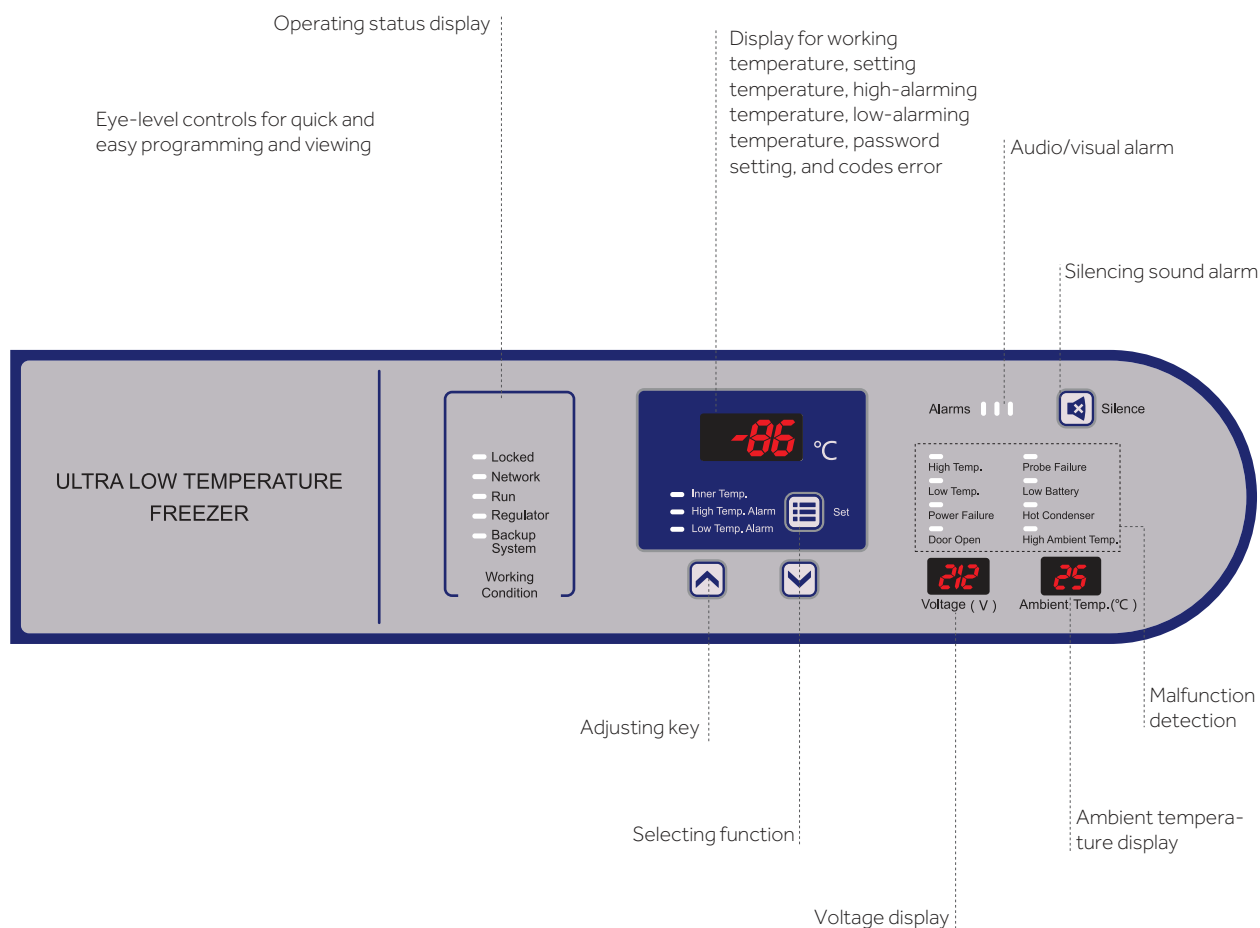
- Front-mounted.
- For independent temperature monitoring.

DW-86L728J

High Efficiency Refrigeration Components



Two port holes for ease of temperature monitoring



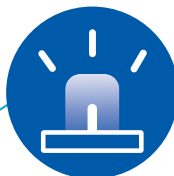
Specifications

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



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

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.



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.

4 casters + 2-foot locks, easy to move, lock and level.



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-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	220-240/50
	Electrical Current (A)	7.5	12	7.5	7.5	10
	Power Consumption (kWh/24h)	9	7.5	8.2	9.5	13
Construction	Capacity (L/Cu.Ft)	338/11.9			388/13.7	486/17.1
	Net/Gross Weight (approx)	238/278			255/286	290/310
		524.7/612.9			562.2/630.5	639.3/683.4
	Interior Dimension (W*D*H)	465*630*1165			465*716*1310	590*630*1310
		18.3*24.8*45.9			18.3*28.2*51.6	23.3*24.8*51.6
	Exterior Dimension (W*D*H)	830*893*1846			830*980*1980	953*900*1980
		32.7*35.2*72.7			32.7*38.6*78.0	37.5*35.4*78.0
	Packing Dimension (W*D*H)	875*970*2010			893*1078*2135	995*995*2150
		34.4*38.2*79.1			35.2*42.4*84.1	39.2*39.2*84.6
Loading Quantities	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
	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
Certifications	CO ₂ Backup System	Optional			Optional	Optional
	LN ₂ Backup System	Optional			Optional	Optional
	CE	Y	/	/	Y	Y
	UL	/	Y	/	/	/
	ENERGYSTAR	/	/	/	/	/



Specifications

	Model	DW-86L490J		DW-86L578J		DW-86L578JA		DW-86L628E
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))	50		50		49		49
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	LED		LED		LED		LED
Electrical Data	Power Supply (V/Hz)	220-240/50		220-240/50	120/60	208-230/60		220-240/50
	Electrical Current (A)	8		8	12	9		11
	Power Consumption (kWh/24h)	11.5		10	8.5	8.5		14
Construction	Capacity (L/Cu.Ft)	490/17.3		578/20.4		626/22.1		626/22.1
	Net/Gross Weight (approx)	kg		295/335		300/330		301/323
		lbs		650.4/738.5		661.4/727.5		664.0/712.0
	Interior Dimension (W*D*H)	mm		590*630*1310		620*716*1310		760*630*1310
		in		23.2*24.8*51.6		24.4*28.2*51.6		29.9*24.8*51.6
	Exterior Dimension (W*D*H)	mm		873*900*1980		903*980*1960		1035*900*1980
		in		34.4*35.4*78.0		35.6*38.6*77.2		40.7*35.4*78.0
	Packing Dimension (W*D*H)	mm		925*985*2150		950*1055*2125		1080*965*2150
		in		36.4*38.8*84.6		37.4*41.5*83.7		42.5*38.0*84.6
Loading Quantities	Container load (20'/40'/40'H)	12/24/24		12/24/24		12/24/24		12/24/24
Alarms	High/Low Temperature	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 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
	RS232/485 Port	Optional		Optional		Optional		Optional
Certifications	CO ₂ Backup System	Optional		Optional		Optional		Optional
	LN2 Backup System	Optional		Optional		Optional		Optional
	CE	Y	/	Y	/	/	/	Y
	UL	/	Y	/	Y	Y	Y	/
	ENERGYSTAR	/	/	Y	Y	/	/	/



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		220v~240/50		208~230/60
	Electrical Current (A)		10		18	10		10		10
	Power Consumption (kWh/24h)		10.5		10.5	10.5		12		12
Construction	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				
Loading Quantities	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		/			/				
	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		Y			Y				
	5V Power Supply Port		Y			Y				
	Temperature Recorder		Optional			Optional				
	Rs232/485 Interface		Optional			Optional				
	CO ₂ Backup System		Optional			Optional				
Certifications	CE		Y	/	/	Y		/		
	UL		/	Y	Y	/		Y		
	ENERGY STAR		Y	Y	/	Y		Y		



Specifications

Model		DW-86L100J		DW-86W100J		DW-86W420J		DW-86W420JA	
Technical Data	Cabinet Type	Upright		Chest		Chest			
	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))	46.8		49		50			
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		120/60		220-240/50		208-230/60	
	Electrical Current (A)	3		6.5		4		7.5	
	Power Consumption (kWh/24h)	5.5		5.5		5		12.5	
Construction	Capacity (L/Cu.Ft)	100/3.5		100/3.5		420/14.8			
	Net/Gross Weight (approx)	kg		108/132		138/160		310/357	
		lbs		238/291		304.2/352.7		683.4/787.0	
	Interior Dimension (W*D*H)	mm		330*481*630		470*450*480		1367*462*652	
		in		13*19*25		18.5*17.7*18.9		53.8*18.2*25.7	
	Exterior Dimension (W*D*H)	mm		770*660*810		769*825*1120		2130*870*1020	
		in		30*26*32		30.3*32.5*44.1		83.9*34.3*40.2	
Loading Quantities	Packing Dimension (W*D*H)	mm		830*710*970		845*855*1250		2195*895*1130	
		in		32*28*38.5		33.3*33.7*49.2		90.6*38.2*45.8	
Alarms	Container load (20'/40'/40'H)	44/88/88		12/24/48		6/12/24			
	High/Low Temperature	Y		Y		Y			
	Hot Condenser	Y		Y		Y			
	Power Failure	Y		Y		Y			
	High/Low Voltage	Y		/		/			
	Sensor Error	Y		Y		Y			
	Low Battery	Y		Y		Y			
	High Ambient Temperature	Y		Y		Y			
Accessories	Door Ajar	Y		Y		Y			
	Caster	Y		Y		Y			
	Foot	Y		Y		Y			
	Porthole	Y/1		Y/1		Y/1			
	Shelves/Inner doors	1/2		-/1		-/3			
	USB Interface	Y		Y		Y			
	Remote Alarm	Y		Y		Y			
	5V Power Supply Port	Y		N/A		N/A			
	Temperature Recorder	/		Optional		Optional			
	Rs232/485 Interface	-/Y		Optional		Optional			
Certifications	CO ₂ Backup System	Optional		Optional		Optional			
	LN ₂ Backup System	Optional		Optional		Optional			
	CE	Y	/	Y	/	Y	/	Y	/
	UL	/	Y	/	Y	/	Y	/	Y
	ENERGY STAR	/	/	/	/	/	/	/	/