Haier Biomedical
Intelligent Protection of Life Science

Standard Low Energy ULT Freezer with LED Display

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Salvum Ultimate Standard Low Energy ULT Freezer with LED Display

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.

ENERGY STAR

Advantages

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

SAVE

VIP+

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

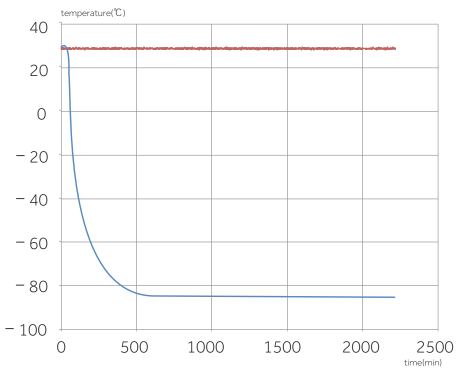
Alarms (Visual and Audible)

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

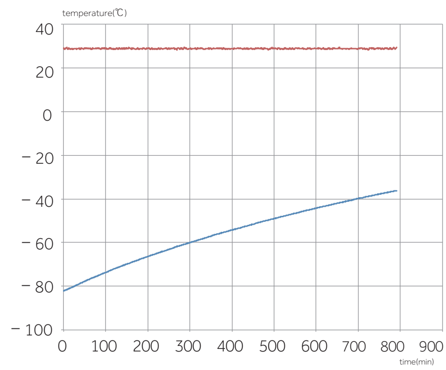
Extended Warm up Time During Power Failure

- 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.

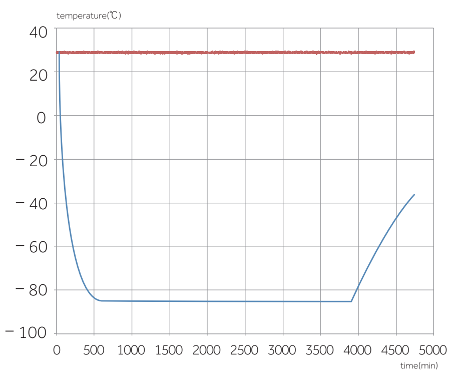
TYPICAL PERFORMANCE CHARACTERISTICS AT 25 °C AMBIENT



Temperature Cool Down Curve



Temperature Recover Curve



Comprehensive Curve

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

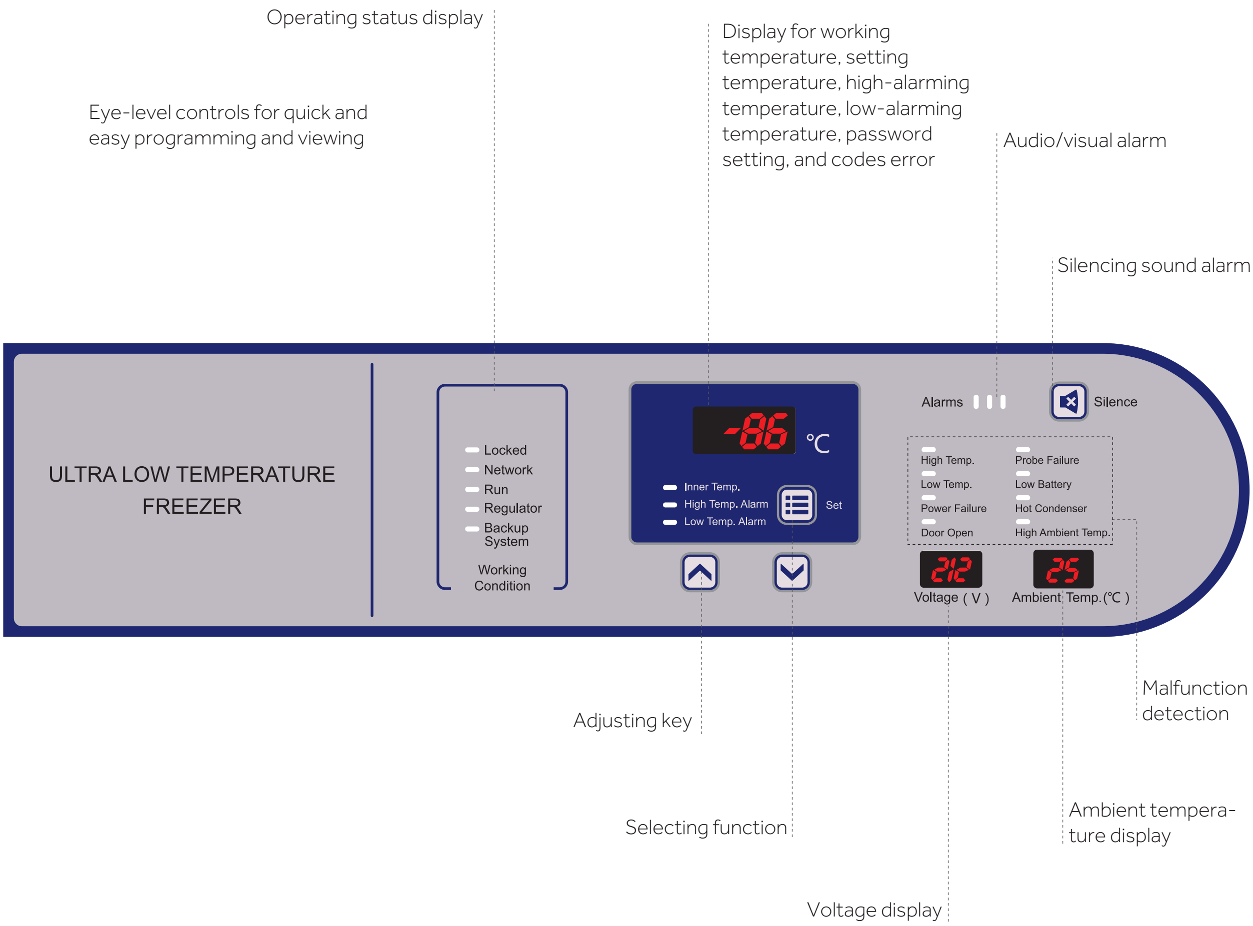
Circular- chart Recorder (Optional)

- 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 secedes 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℃

Field proven reliablity

- 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

Under Counter ULT freezer

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.

Under Counter ULT freezer

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	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)	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			830*980*1980	953*900*1980
		in	32.7*35.2*72.7			32.7*38.6*78.0	37.5*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
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
	CO_2 Backup System		Optional			Optional	Optional
	LN2 Backup System		Optional			Optional	Optional
Certifications	CE		Y	/		Y	Y
	UL		/	Y		/	/
	ENERGYSTAR		/	/		/	/

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Specifications

	Model		DW-86L490J	DW-86L490JA	DW-86L578J		DW-86L578JA	DW-86L628E
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	208~230/60	220~240/50	120/60	208~230/60	220~240/50
	Electrical Current (A)		8	8	8	12	9	11
	Power Consumption (kWh/24h)		11.5	11.5	10	8.5	8.5	14
Construction	Capacity (L/Cu.Ft)		490/17.3		578/20.4			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
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		3/4		3/4			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_2 Backup System		Optional		Optional			Optional
	LN2 Backup System		Optional		Optional			Optional
Certifications	CE		Y	/	Y	/	/	Y
	UL		/	Y	/	Y	Y	/
	ENERGYSTAR		/	/	Y	Y	/	/

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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	
	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_2 Backup System		Optional			Optional	
	LN_2 Backup System		Optional			Optional	
Certifications	CE		Y	/	/	Y	/
	UL		/	Y	Y	/	Y
	ENERGY STAR		Y	Y	/	Y	Y

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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	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	
	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	
Loading Quantities	Container load (20'/40'/40'H)		44/88/88		12/24/48	6/12/24	
Alarms	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	
	Door Ajar		Y		Y	Y	
Accessories	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	
	CO_2 Backup System		Optional		Optional	Optional	
	LN_2 Backup System		Optional		Optional	Optional	
Certifications	CE		Y	/	Y	Y	/
	UL		/	Y	/	/	Y
	ENERGY STAR		/	/	/	/	/

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