

Stirling Portable ULT Freezer

Offering exceptional storage flexibility, the Stirling Portable ULT Freezer features a compact design and an industry-leading wide adjustable temperature range. It is ideally suited for the safe transport of valuable biological materials, secure personal storage of high-value specimens, and reliable cold-chain storage and distribution of pharmaceuticals.



DW-86WZ25STL

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Product Features



Wide Temperature Range

Ultra-wide temperature control, adjustable in 1°C increments across the full range from +5°C to -86°C.*



Precise Temperature Control

Temperature uniformity $\leq \pm 3^\circ\text{C}$, single-point fluctuation $\leq \pm 0.5^\circ\text{C}$. Stable and reliable temperature performance ensures sample integrity



Robust Construction

All-ABS cabinet with anti-vibration design for the cooling system, ensuring stable and reliable storage



Compact & Lightweight Design

23 L capacity and only 18kg – highly portable and easy to transport



Flexible Power Supply

Supports universal AC 100–240V, 50/60Hz and vehicle 12V/24V DC



Excellent Thermal Insulation

Long-lasting temperature retention effectively reduces energy consumption and ensures more stable, reliable transportation



Eco-Friendly & Energy Efficient

Adopts eco-friendly HC refrigerant and a low-power design, with power consumption as low as 1.68 kWh/24h, ensuring high energy efficiency and eco-friendliness

*The range of +5°C ~ -20°C is achievable at an ambient temperature $\geq 10^\circ\text{C}$.

Ergonomic Design



Specifications

Model		DW-86WZ25STL	
Basic Information	Capacity (L/Cu.Ft)	23/0.8	
	Storage Capacity	16 standard 2"boxes	
	Net/Gross Weight	kg	18/26
		lbs	40/57
	Interior Dimensions (W×D×H)	mm	300×250×300
		in	11.8×9.8×11.8
	Exterior Dimensions (W×D×H) (mm)	mm	616×392×455
		in	24.3×15.4×17.9
	Packaging Dimensions (W×D×H) (mm)	mm	700×535×552
		in	27.6×21.1×21.7
	Temperature Range (°C)	+5°C to -86°C, adjustable in 1°C increments	
	Power Supply	<ul style="list-style-type: none"> • AC 100–240V, 50/60Hz (converted to DC 24V via adapter) • DC 12–24V for vehicle power supply or external portable power sources 	
	Maximum Power (Current)	100W (0.5A @220V, 4.6A @24V)	
Temperature Sensor	One RTD (PT100 Class A)		
Noise Level (dB(A))	≤55		
Certification	CE		
Operating Environment	<ul style="list-style-type: none"> • Non-corrosive, non-flammable, non-explosive indoor environment • Ambient temperature: +5°C - +32°C • Relative humidity: ≤80% • Altitude: Up to 2,000m 		
Performance	Power Consumption (Stable State, 25°C Ambient)	1.68kWh/day (average power 70W) @-80°C, no-load	
	Cool-down Time (25°C Ambient)	≤5h	
	Temperature Recovery Time	110minutes to -50°C (no load)	
	Temperature Uniformity	≤±3°C @-80°C	
Refrigeration System	Refrigeration Method	Helium-driven continuous free-piston Stirling engine	
	Heat Transfer Method	Gravity-driven thermosiphon	
	Refrigerant	R170 (flammable), 10-12g	
Control System	Controller Type	Microprocessor controller	
	Control Panel	LED display	
	Alarm Mode	Over-temperature alarm (±10°C from setpoint)	
Optional Accessories	Freezer Rack (5-layer SS, 2 per unit)		
	Foldable Trolley		
	Temperature Recorder		

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