MHW-500-5V6A80CH Constant Temperature Chamber

(With Integrated Battery Testing System)

Technical Agreement

Neware Technology Limited

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Product Name:

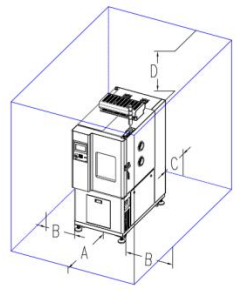
Constant Temperature Chamber

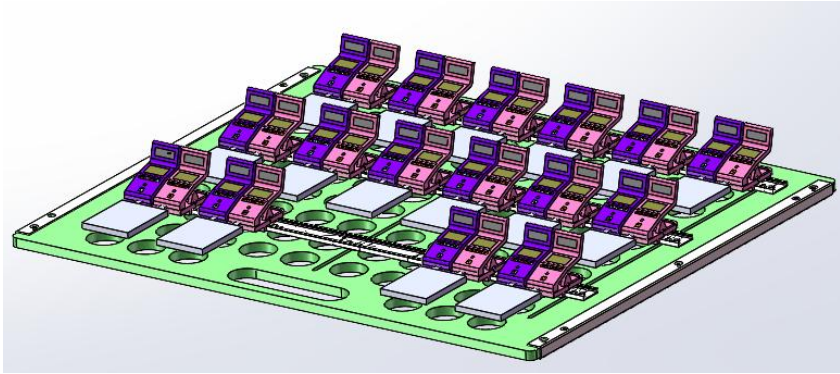
(With Integrated Battery Testing System)

P.S. Image is for reference purpose only.

Model Code	**MHW-500-5V6A80CH**
Application	Constant temperature tests of battery cells
Prohibitions	Testing or storage of : - flammable, explosive and volatile material samples; - corrosive substances; - strong electromagnetic emission source; - radioactive material samples; - highly toxic substances; - samples that may produce the above substances or objects during testing or storage.
Dimensions	
Nominal Volume	500L
Inner Dimension	W700 mm×D700 mm×H1000 mm
Outer Dimension	W1100 mm×D1700 mm×H1950 mm
Net Weight	Around 420kg
Performance	
Testing Environment	Operating Room Temperature: above 25℃ Relative humidity: ≤85%
Temperate Range	10～85℃
Fluctuation	≤1℃ (No load, or during stable temperature)
Deviation	±2.0℃ (No load, or during stable temperature)
Heating Time	25℃→85℃ ≤40 min (no load, average non-linearity)
Cooling Time	25℃→10℃ ≤40 min (no load, average non-linearity)
Heat Load	≤500W (caused by heat generated during cell charging)

Structure	
Insulation Envelope	- Outer wall material: High quality cold rolled steel plate with surface spray paints. - Inner wall material: Stainless Steel SUS304 - Insulation material: Polyurethane foam
Air-conditioning Channel	Axial Fan, heater, evaporator
Standard Configuration	- Door: insulated tempered glass + Frames - 10 Lead holes (with soft rubber stopper): ϕ50mm - 4 casters; - Cell Trays: electrically insulated (load bearing: 15kg/tray); - LED illuminating light.
Control Panel	Control buttons
Heater	Nickel-chromium alloy electric heating wire Non-contact equal-period pulse width modulation, SSR
Cooling System	
Refrigeration Compressors	Hermetic Piston Compressor 
Cooling Method	Air-cooled
Throttling Device	Capillary
Refrigerant	R134a
Welding Process	Nitrogen protected welding
Electrical Control System	
Controller	LED digital display + button controller
Setting Method	Button controller
Control Method	Forced circulation ventilation. The system controls the output of the semiconductor refrigeration/heating module through the PID results, in order to achieve a dynamic balance.
Communication	Ethernet
Temperature Control Module	Independent R&D (passed relevant reliability performance tests such as high and low temperature shock tests, vibration tests, EMC tests etc.)

Health and Safety Protection	
Test Chamber	- Leakage Protection - Short circuit protection - Operating protection of circulating fan
Other Configuration	
Power Cable	5 cores (three-phase four-wire + protective ground wire)
Leakage Circuit Breaker	Three-phase four-wire + protective ground wire
Conditions of Use	
Installation Site	- Level ground, comply with GB50209-2002Specification. - Flatness≤5mm/2m - Good ventilation - No strong vibration around the device - No strong electromagnetic fields around the device - No flammable/explosive/corrosive substances & dust around the device. - Appropriate space for use and maintenance should be reserved around the equipment: A: not less than 100cm B: not less than 60cm C: not less than 70cm D: not less than 50cm  There should be enough room for the door to be opened and closed normally, and there should be no other objects directly in front of the door of the equipment.
Environmental Conditions	Temperature: 5℃～35℃ Relative humidity: ≤85%; Atmospheric pressure: 86kPa～106kPa
Power Supply Condition	Input: AC(380±38)V (50±0.5)Hz single phase + protective ground wire. The grounding resistance of the protective ground wire is less than 4Ω. The user is required to configure an independent air or power switch of the corresponding capacity for the equipment at the installation site.
Distribution Power	4kW(thermal chamber) +4kW(power supply)
Maximum Current	8A+8A
Precautions	Opening the door while testing will cause temperature fluctuations. During the test, if the door is opened many times or the door is left open for a long time or the test sample emits moisture, it may cause the heat exchanger of the refrigeration system to frost or freeze and cannot work properly.

Battery Specifications and Placement	
Cell Specification	Pouch/cylindrical cells (max. 80 channels)
Cell Placement	- Max. 16 channels on each tray (depending on specific dimensions of the cells and considering heat generation) - 5 trays in total
Battery Trays (customization available)	
Simulation Diagram (reference only)	
No-Load Operation