

High Low Temperature Alternating Constant Temperature Test Chamber

Item Number: DA11



Introduction

High low temperature alternating constant temperature test chamber delivers controlled 20C to 100C environmental reliability testing for batteries automotive components and electrical electronic products with 408L capacity stable accuracy and programmable thermal cycling performance for demanding laboratory qualification programs.

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Application	Description	Key Benefit
Battery reliability evaluation	Expose battery-related products and components to controlled high-temperature, low-temperature, and alternating-temperature conditions during research and reliability assessment.	Helps identify thermal-response issues before broader cell, pack, or component qualification activities.
Automotive component environmental testing	Test vehicle-related parts under programmed thermal conditions, including high and low temperature exposure and repeated temperature changes.	Supports evaluation of component durability for automotive development and quality programs.
Electrical product qualification	Assess electrical products and subassemblies for performance consistency after exposure to controlled temperature environments.	Provides repeatable conditions for investigating temperature-related functional or physical changes.
Electronic component screening	Evaluate electronic products, modules, and related parts under sustained and alternating thermal conditions.	Helps engineering teams compare samples under defined chamber performance limits.
Materials thermal performance research	Study materials, product parts, and assemblies under high-temperature, low-temperature, and temperature-transition environments.	Creates a controlled basis for observing thermal endurance and material response.
Component and part reliability testing	Subject individual parts and product components to environmental simulation during design verification or incoming quality evaluation.	Enables targeted investigation without requiring a full finished-product test setup.
Laboratory environmental simulation	Establish defined temperature conditions for R&D and validation laboratories working with products, parts, and materials.	Combines usable chamber capacity with specified fluctuation, deviation, gradient, and overshoot controls.

Parameter	Specification
Product Item Number	DA11
Applicable Test Types	High-temperature test, low-temperature test, high-low temperature alternating test, and environmental simulation reliability test
Applicable Samples	Batteries, various automotive parts, electrical and electronic products, other products, components, and materials
Effective Volume	408L
Internal Chamber Dimensions	W600mm × H850mm × D800mm
External Dimensions	W800mm × H1800mm × D1620mm
Test Condition: Ambient Temperature	5□ 35℃
Test Condition: Ambient Humidity	≤85%RH

Parameter	Specification
Test Condition: Specimen Weight	None
Test Condition: Specimen Heat Generation	None
Temperature Range	20°C ~ +100°C (full-range controllable)
Temperature Fluctuation	≤±0.5°C (after temperature stabilization, the magnitude of temperature change at any point in the test chamber within the specified time)
Temperature Deviation	≤±2.0°C (after temperature stabilization, the difference between the maximum temperature, minimum temperature, and nominal temperature at any time)
Temperature Gradient	≤±2°C (after temperature stabilization, the maximum difference between the average values of any two points in the chamber at any time interval; the new standard uses temperature gradient in place of the previous temperature uniformity designation)
Heating Rate	Full-range average 1~3°C/min (non-linear, no-load)
Cooling Rate	Full-range average 0.75~1°C/min (non-linear, no-load)
Heating and Cooling Overshoot	≤±2.0°C
Applicable Test Standards	GB/T 2423.1 2008 Test A, High Temperature Test Method; GB/T 2423.2-2008 Test B, Low Temperature Test Method
Noise	≤70dB (A-weighted sound level)
Equipment Weight	540KG
Rated Power	5.0KW
Power Supply	AC 380V, 50Hz, three-phase