



TORONTECH

HAST HIGHLY ACCELERATED STRESS TEST CHAMBER



Torontech provides cutting-edge HAST Highly Accelerated Stress Test Chamber to assess the durability of electronic components, semiconductors, and materials under harsh environmental conditions. Our advanced HAST test chambers speed up aging by subjecting products to extreme temperature, humidity, and pressure, guaranteeing adherence to JEDEC, IEC, and MIL-STD standards.

APPLICATIONS

What is a HAST Chamber?

A HAST (Highly Accelerated Stress Test) Chamber is an advanced environmental testing system designed to rapidly accelerate product aging. It exposes materials and components to high temperature, humidity, and pressure—simulating years of real-world stress in just days or weeks. Unlike standard Temperature Humidity Bias (THB) tests, HAST chambers deliver faster and more aggressive reliability assessments.

Key Applications

- Detecting moisture-related failures in electronics
- Identifying corrosion and material degradation
- Ensuring reliability in semiconductors, automotive, aerospace, and medical devices

By accelerating failure analysis, HAST chambers help manufacturers improve product durability while complying with **JEDEC, IEC, and MIL-STD standards**.

Applications of Torontech HAST Chambers

1. Semiconductor & Microelectronics Reliability Testing

- Evaluates ICs, PCBs, transistors, and capacitors under accelerated stress
- Detects moisture penetration, corrosion, and electrical leakage
- Complies with JEDEC JESD22-A118, IEC 60068-2-66, and MIL-STD-883

2. **Automotive Electronics Testing**

- Simulates extreme humidity, temperature swings, and pressure for ECUs, sensors, and modules
- Validates reliability in harsh automotive environments

3. **Aerospace & Defense Component Testing**

- Ensures durability of avionics, satellite electronics, and military-grade systems
- Identifies material weaknesses before deployment

4. **Medical Device & Pharmaceutical Testing**

- Tests implantable devices, diagnostic tools, and electronic monitoring systems
- Assesses humidity resistance in polymer-based materials

5. **Consumer Electronics & IoT Device Testing**

- Validates long-term performance of smartphones, wearables, and smart home devices
- Detects humidity-related defects in touchscreens, batteries, and circuitry

With faster failure detection, **Torontech HAST chambers** help manufacturers improve product reliability and meet international standards efficiently.

Why Choose Torontech HAST Chambers?

- **Faster Time-to-Market:** Reduces testing time from weeks to days—accelerating validation and reliability assessment.
- **Advanced Stress Simulation:** Replicates high-temperature, high-humidity, and high-pressure conditions for real-world accuracy.
- **Energy-Efficient & Cost-Saving:** Optimized power consumption lowers operating costs and supports sustainable testing.
- **Full Compliance with Global Standards:** Certified for JEDEC, IEC, and MIL-STD reliability testing protocols.
- **Tailored Testing Solutions:** Customizable chamber sizes and configurations for different product requirements.

Engineered for Precision & Reliability

Torontech HAST Chambers provide accurate, repeatable, and efficient accelerated aging tests. They are trusted by R&D laboratories and quality control teams worldwide for product reliability validation.

Enhance your testing process today—contact us to learn more.

Torontech HAST Chamber front view

Torontech HAST Chamber testing unit

Torontech HAST Chamber with control panel

FEATURES

- **Exterior:** High-quality cold steel with a durable static color spray finish.
- **Interior:** SUS316 matte stainless steel for exceptional resistance and longevity.
- **Insulation:** Ultra-fine glass wool with flame-retardant grade A1 for enhanced safety.
- **Controller:** 7-inch touch screen for intuitive operation.

TECHNICAL SPECIFICATIONS

Model No.		TT-HAST-35	TT-HAST-55
Interior Size (mm)	Diameter(Φ)	350	550
	Depth(D)	450	650
Exterior Size (mm)	Width(W)	730	1150
	Height(H)	1630	1550
	Depth(D)	1100	1400
Temperature Range		+105°C~+135°C	
Humidity Range		65%RH to 100%(Unsaturation control) 100%RH (Saturation control)	
Pressure Range		0.05~0.3MPa Gauge pressure: +0.2~200kPa Absolute pressure: 100 ~ 300kPa	
Temperature Fluctuation		$\pm 0.5^{\circ}\text{C}$	
Temperature Uniformity		$\leq 3.0^{\circ}\text{C}$	
Temperature Deviation		$\leq \pm 3.0^{\circ}\text{C}$	
Humidity Fluctuation		$\pm 3.0\% \text{ RH}$	
Humidity Deviation		$\pm 5.0\% \text{ RH}$	
Pressure Deviation		$\leq \pm 2\text{kPa}$	

Heating Rate	$\pm 25^{\circ}\text{C} \sim +135^{\circ}\text{C}$ within 45 min (average in whole process) (no-load,no heating)
Pressurization Time	Normal Pressure $\sim 200\text{kPa}$ within 20 min
Voltage	220V AC 1Ø 50Hz (110V is also available)
Noise	$\leq 68\text{dB}$ (1 meter distance from the door)
Safety Protection Device	NFB (No fuse breaker), over pressure, overheat and over current protectors for compressor, over temperature protectors, overload protector of fan, dry heat protector, short of water protector.



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