

## Large Highly Accelerated Stress Test System (HAST Chamber)



There is now an even greater need for highly accelerated stress tests of parts and materials, as electrical and electronic components have become denser. The Highly Accelerated Stress Test System (HAST Chamber) is designed primarily for bias testing using a set applied voltage and signal.

Control functions can be selected from the standard two-modes of unsaturated control and wet-saturated control, and the three-modes of dry & wet-bulb temperature control, unsaturated control and wet-saturated control (M type). The M type chamber can be used for pressure cooker tests and unsaturated pressure cooker tests. Although it is quite large, the chamber conforms to the international standard IEC-60068-2-66.

Our range of chambers also includes a long type with greater depth. In addition to the standard HAST Chamber, we also offer larger sizes than standard type.

### Features

- Achieve shorter test times compared to humidity resistance tests under ordinary pressure
- Available in two larger capacity types, in addition to the standard types.
- Features a standard mechanical door lock mechanism and door lock safety mechanism

### Conforms to various testing standards for semiconductors

IEC 60068-2-66	Compact electrical and electronic components (mainly non-hermetically sealed components)	Unsaturated
IEC 60749-4	Semiconductor devices	Unsaturated
EIAJ ED-4701	Semiconductor devices	Unsaturated
JESD22-A110E	Non-hermetically sealed (not hollow) device	Unsaturated

JESD22-A102E      Non-hermetically sealed IC discrete device      Saturated

\* We recommend the M type chambers for tests conforming to the above testing standards.

**Conforms to other testing standards**

JIS C 60068-2-66      Aluminum metal corrosion of integrated circuits and semiconductor devices      Unsaturated

JPCA-ET08-2002      Printed circuit boards      Unsaturated

**Specifications**

Model	EHS-431(M) * (M) Features dry & wet-bulb temperature control	
Dimensions	Test chamber internal dimensions	φ635×L728 mm (130 L)
	External dimensions (W×H×D)	W800×H1575×D1260
Performance	Unsaturated control	Temperature control range 105.0 - 162.2°C
		Humidity control range 75 - 100% rh
		Pressure range 0.0196 - 0.392 MPaG
		Heating and pressurization time (at RT.23°C): approximately 90 minutes
	Wet-saturated control	Temperature control range 105.0 - 151.1°C
		Pressure range 0.0196 - 0.392 MPaG
		Heating and pressurization time (at RT.23°C): approximately 90 minutes
	Dry & wet-bulb temperature control (M type)	Temperature control range 105.0 - 162.2°C
		Humidity control range 75 - 95% rh
		Pressure range 0.0196 - 0.392 MPaG
		Heating and pressurization time (at RT.23°C): approximately 120 minutes
	Model	EHS-431(M)-L L : Long-type Chamber
Dimensions	Test chamber internal dimensions	φ635×L928 mm (180 L)
	External dimensions (W×H×D)	W800×H1575×D1460

Performance	Unsaturated control	Temperature control range 105.0 - 162.2°C
		Humidity control range 75 - 100% rh
		Pressure range 0.0196 - 0.392 MPaG
		Heating and pressurization time (at RT.23°C): approximately 120 minutes
	Wet-saturated control	Temperature control range 105.0 - 151.1°C
		Pressure range 0.0196 - 0.392 MPaG
		Heating and pressurization time (at RT.23°C): approximately 120 minutes
	Dry & wet-bulb temperature control (M type)	Temperature control range 105.0 - 162.2°C
		Humidity control range 75 - 95% rh
		Pressure range 0.0196 - 0.392 MPaG
		Heating and pressurization time (at RT.23°C): approximately 150 minutes

Remarks: The Large Highly Accelerated Stress Test System (HAST Chamber) (EHS-431) is a regulated class-1 pressure vessel. (\* The long-type chamber EHS-431L is also a regulated class-1 pressure vessel.) This requires you to complete the necessary procedures for submitting a Notification of Installation and Application for Completion Inspection and Conducting a Completion Inspection to the Labor Standards Inspection Office in your jurisdiction 30 days prior to delivery of the chamber. Also, when operating and managing the chamber, you will need to appoint a chief worker for handling an ordinary class-1 pressure vessel.

Please note that when exporting the chamber overseas, the pressure vessel may be subject to restrictions due to the applicable standards. Please inquire for further details.

\* The wide-range HAST test, whisker accelerated test, and air HAST test are adjusted according to their individual requirements. Please contact our sales representatives.

\* We can supply specimen power supply terminals in accordance with the customer's requested specifications. Please contact our sales representatives.

\* A request for the application of high voltage inside the chamber area may cause an electrical discharge to occur within the chamber. We will individually respond to each request after checking the specifications in detail. Please contact our sales representatives. Please note that we may not be able to meet this request if the creepage distance cannot be secured or for other reasons. We apologize in advance for the inconvenience.

### Test examples

- Wire bonding conduction evaluation

Specimen: Semiconductor packages

Test conditions: 130°C/85%rh 100h

- LED humidity degradation evaluation

Specimen: LED

Test conditions: 105°C/87%rh 250h

- Whisker evaluation

Specimen: Printed board

Test conditions: 120°C/85%rh 2500h

- Migration evaluation

Specimen: Printed board

Test conditions: 110°C/85%rh 100h, 130°C/85%rh 400h

\* Compared to ordinary temperature and humidity exposure, the HAST Chamber allows you to conduct saturated and unsaturated tests in a shorter time and with the ability to reproduce certain conditions. The chamber can be used to conduct tests conforming to IEC-68-2-66, IEC749, EIAJ ED-4701 and other leading standards.

## Recommended products for customers viewing this product

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Highly Accelerated Stress Test System (HAST)



Low Temperature (& Humidity) FM Chamber



Large Highly Accelerated Stress Test System (HAST Chamber)

