

THB (Temperature Humidity Bias) Evaluation System



The THB Evaluation System is a reliability test system that applies voltage at high temperature and humidity to allow automotive semiconductors, etc. to achieve high reliability under rigorous conditions compared to consumer semiconductors.

The features of the chamber support various types of devices while allowing heat generation of devices up to 500 W in high temperature and humidity environments.

It provides custom support for static burn-in, dynamic burn-in, and monitor burn-in, according to your needs, and it offers the optimal system to meet your temperature and humidity range and test quantity demands.

Applicable devices

- Automotive semiconductors

Microcontrollers, HIC, and other automotive semiconductors are a major component technology for controlling automotive electronics, and the market is expected to grow by more than 10% annually. As a large trend in on-board electronic technology, electric vehicles (EV) have developed rapidly in recent years together with improvements in in-car networks, mechatronics, and safety.

In the continually growing automotive semiconductor market, the importance of reliability testing and evaluation is increasing to ensure safety as processes become more intricate and new materials are used.

Features and application

- Achieve highly accurate temperature and humidity control over a wide range
With the use of a refrigerator system equipped with a no-stage control electronic expansion valve, highly accurate temperature and humidity control can be achieved over a wide range not only for a normal environment of 85°C and 85% RH.
- Highly accurate temperature and humidity control even with high heat generation
With the use of a large air capacity sirocco fan and a chamber rack structure that ensures temperature uniformity, this system enables high accuracy testing even at device heat generation of up to 500 W. (Allowable heat of 500 W at 85°C and 85% RH)
- New refrigeration system that achieves an energy savings of 30%

The development of ESPEC's new refrigeration capacity control system reduces power consumption by as much as 67% compared to conventional products for major energy savings. (ESPEC comparison)

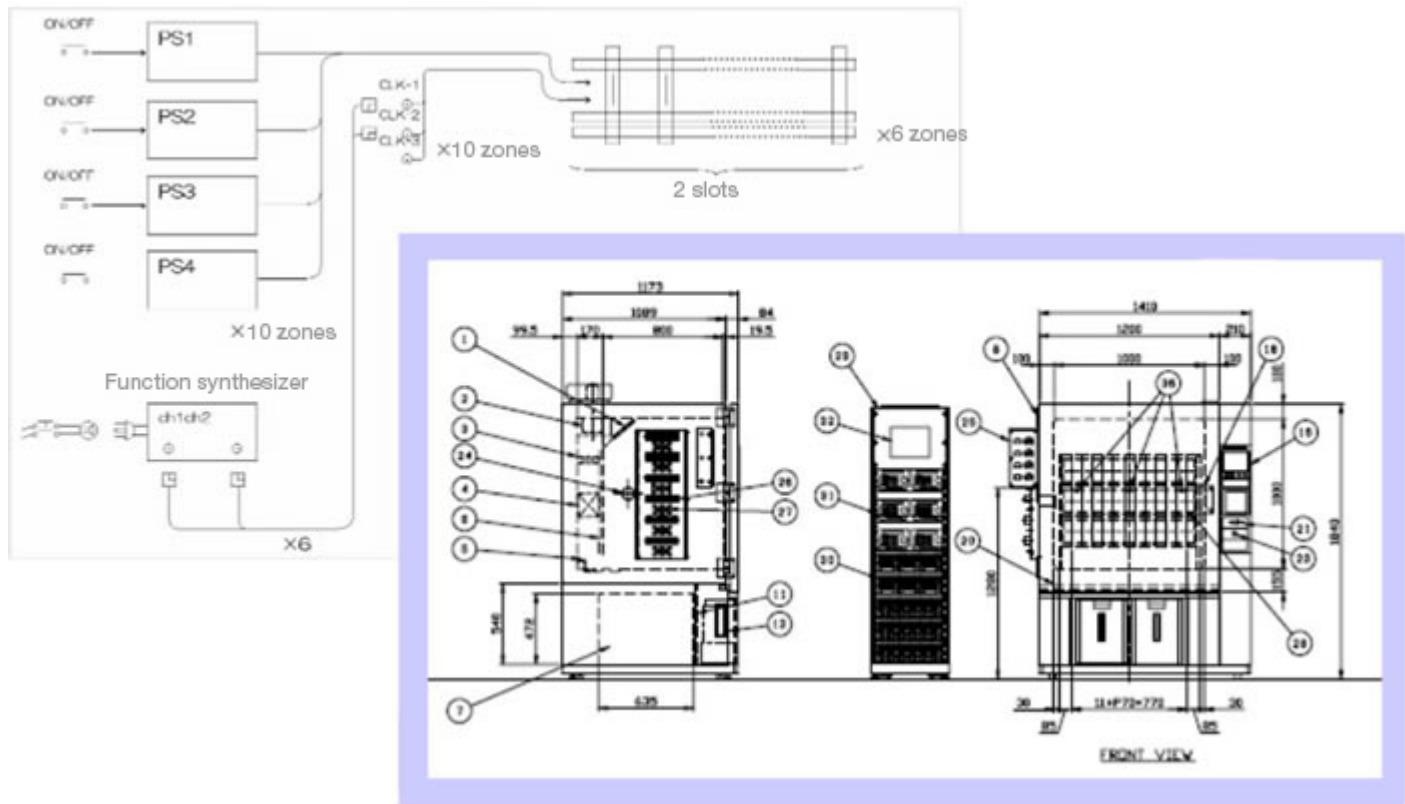
- Low noise level

The exhaust heat blower, which accounts for much of the noise generated by the chamber, is equipped with a low-noise level fan to greatly contribute to an improvement in the equipment environment.

- Environmentally-friendly system

With a design focused on recycling, the use of HFC refrigerant with a zero ozone layer depletion coefficient, and a space-saving ceiling ventilation system (air cooled system), this product was designed with the environment in mind.

Appearance/system block diagram (example)



Specifications

Item	Specifications
Temperature/humidity range	50°C to 95°C/70% to 95%RH (50°C to 85°C)
Temperature and humidity distribution performance	±2°C/±5%RH (no specimen)
Allowable heat load	500 W (at 85°C/85% RH)
External dimensions Chamber System rack	1583 (W) × 1970 (H) × 1347 (D) mm 530 (W) × 1810 (H) × 1200 (D) mm
DUT power specifications	Customized to your needs
Clock specifications	Customized to your needs
DUT power supply input cutoff	Sequence can be operated by program

Burn-in controller (touch panel)

Burn-in time setting
Remaining burn-in time monitor
DUT power supply, clock signal ON/OFF, operation sequence by zone
Specimen sampling during testing function

Recommended products for customers viewing this product

Monitored Burn-In System



Automotive Sensor Burn-In System



Platinous J Series Low Temperature (& Humidity) Chamber / Temperature & Humidity Chamber

