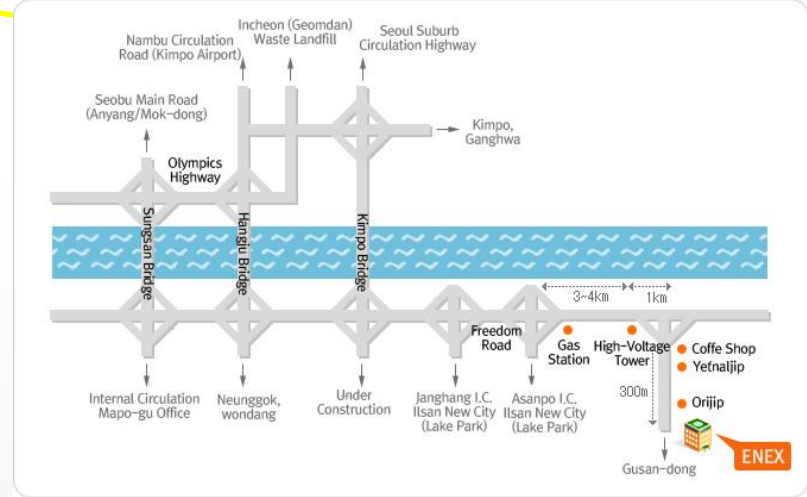
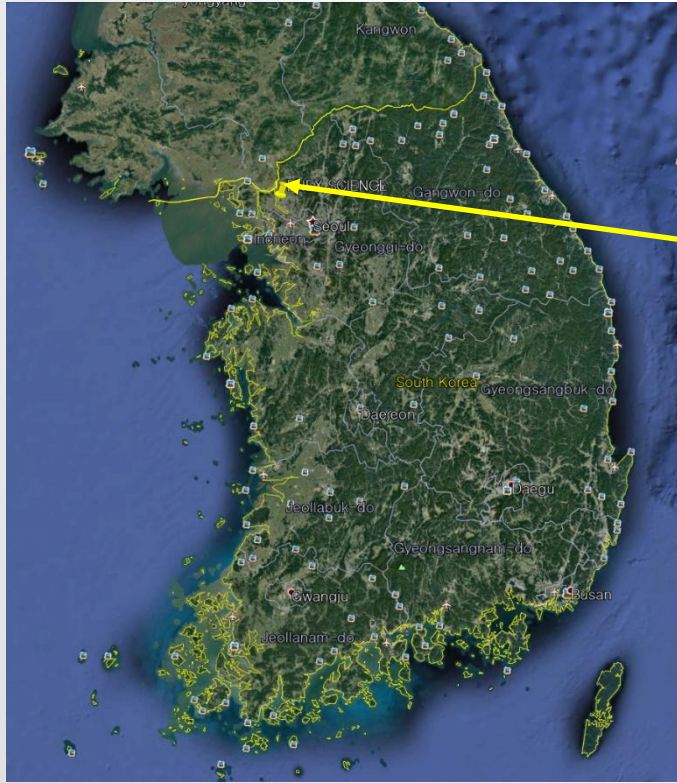




Your on stop solution for environmental chamber

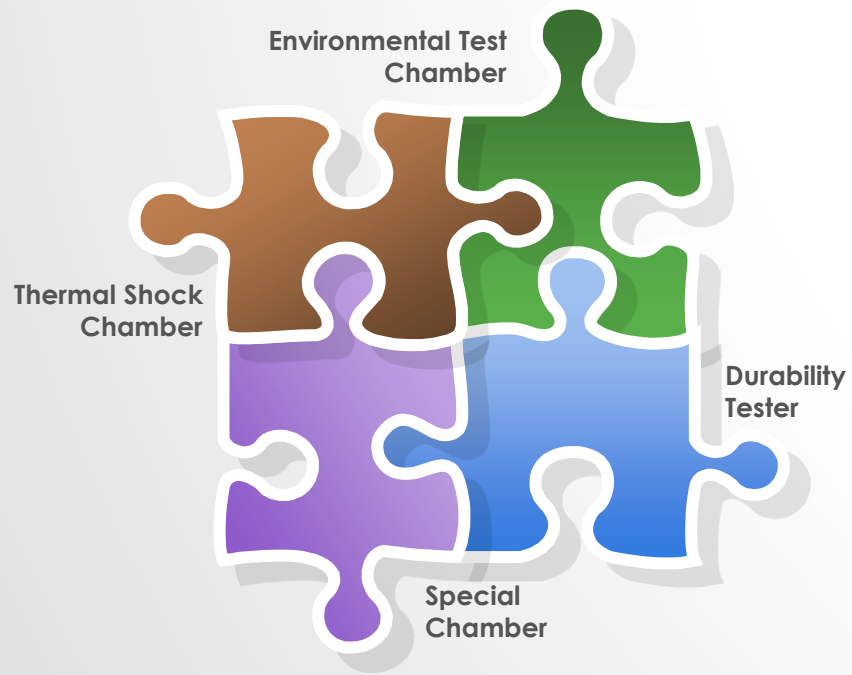
ENEX SCIENCE CO.,LTD

➤ LOCATION



1519-43, Gusan-dong, Ilsan-gu, Goyang-si, Gyeonggi-do
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· **PRODUCT PORTFOLIO**



• Temperature & Humidity Chamber (Standard)

Based on accumulated knowhow through extensive experience and outstanding technical skills, it is designed and manufactured for everyone to use safely with ease and convenience by building a safety-system that could not only provide user's safety and convenience but also prevent any hazards may cause by fires.

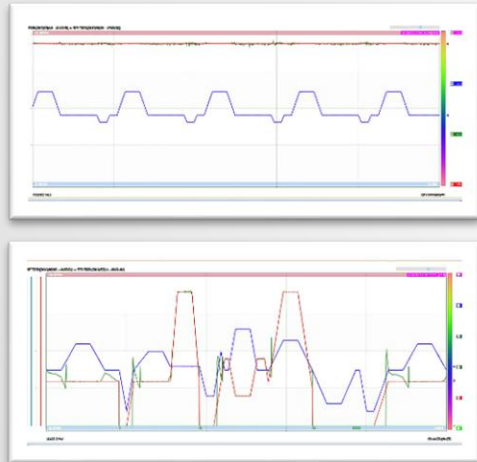
It is designed and manufactured by maximizing the user's safety and equipment's durability

By adjusting appropriate level of refrigerant for established temperature and humidity range, the equipment not only provides accurate and safe distribution of temperature and humidity but also could be used steady for a long-period of time.

Reinforced safety measures through using the components certified by KS,CE, and UR.

Since it is equipped with built-in viewing window and LED lamp that is embedded with no-dew thin film-heating element, the testing object can be observed in detail.

Establishing of P.I.D. value for each temperature and humidity interval maintains faster and more stable conditions.



• Temperature & Humidity Chamber (Slim type)

Based on accumulated knowhow through extensive experience and outstanding technical skills, it is designed and manufactured for everyone to use safely with ease and convenience by building a safety-system that could not only provide user's safety and convenience but also prevent any hazards may cause by fires.

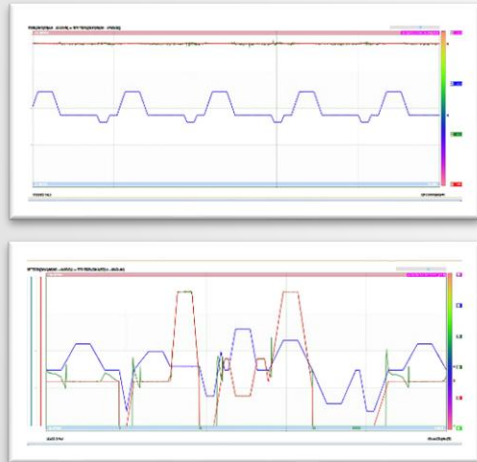
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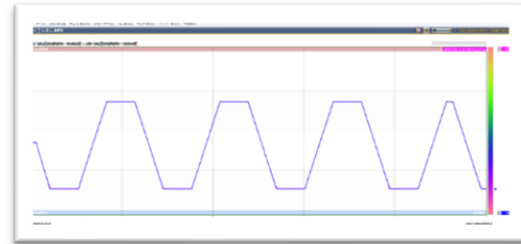


• Hi-speed Temperature & Humidity Chamber

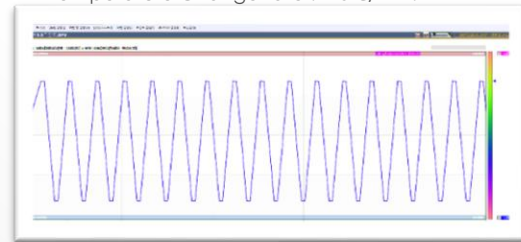
- It can be manufactured to support various temperature change rate such as 5'C/min, 7'c/min and 10'c/min depending on the specifications.
- The condenser of the refrigeration unit is designed based on a water-cooled system (Air-cooled type is also available)
- A touch screen controller is applied as a standard feature, allowing anyone to operate the system easily.
- By adjusting the refrigerant amount according to the temperature and humidity setting range, the system maintains excellent accuracy, uniformity and stability.
- A large observation window equipped with a condensation-free thin-film heater and LED lamps provides a clear view of the test sample.
- Since PID values are set for each temperature and humidity section, the system maintains faster and more stable control conditions.



- Temperature Change rate : 5°C/min.

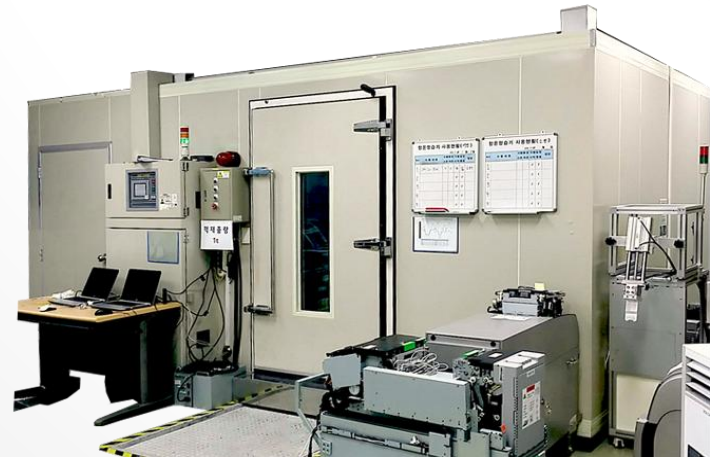
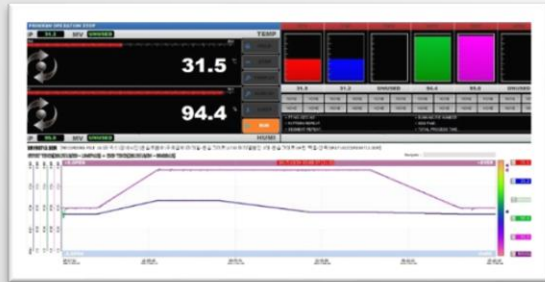


- Temperature Change rate : 10°C/min.



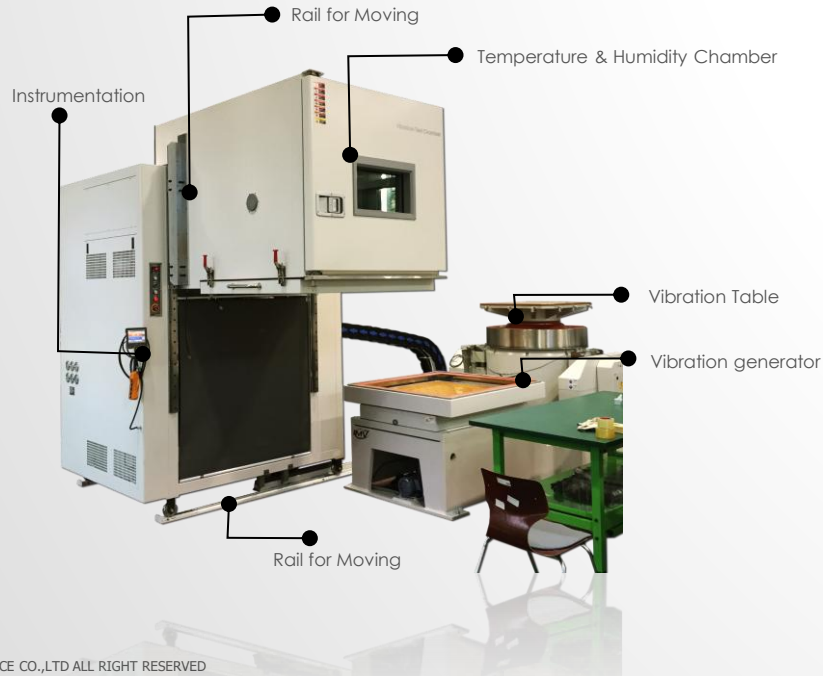
• Walk-in Chamber

- The corners of the urethane panel are constructed as a single integrated structure, preventing any leakage caused by temperature or humidity.
- Depending on site conditions, the refrigeration unit can be configured as either an indoor or outdoor type.
- A touch-screen controller is applied as a standard feature, allowing easy operation for all users.
- By adjusting the refrigerant amount according to the temperature and humidity range, the system maintains excellent accuracy, uniformity, and stability, ensuring reliable long-term performance.
- A large observation window equipped with a condensation-free thin-film heater and LED lamps provides a clear view of the test sample.
- Since PID values are set for each temperature and humidity section, the system maintains faster and more stable control conditions.



• Multi-axis vibration combined environmental test Chamber

Today, the automotive industry accelerates electronic multi-functions. According to this trend, safety standards such as ISO26262 and IEC61508 require high environmental stress that is generated by thermal shock chambers for higher reliability of vehicle equipments.



**(Vertical and horizontal) Temperature, humidity and vibration combined environmental test system
Reproducing more realistic field condition with simultaneous vibration along the X, Y and Z axes**

- Simulates up to 3 Combined Environments in one Chamber
- Versatile - Chamber may interface with your existing vibration shaker or new shaker of your choice
- Dual Purpose - May be operated as a separate temperature/humidity chamber maximizing your investment
- High performance with fast change rates for accelerated stress testing
- Customizable design to meet stringent test requirements
- User-friendly controls for easy integration into your test system
- Refrigeration design protects compressors and prolongs life keeping cool during all operating conditions
- Refrigeration design uses less power saving operating costs
- An electronic humidity sensor is used on all humidity models for accurate and minimal maintenance
- Humidity water filtration system is included to filter impurities and protect your chamber interior

- **Multi-axis vibration combined environmental test Chamber**



- **Temperature Range**

cascade : -70°C to +190°C (-94°F to +375°F)
single stage: -34°C to 190°C (-30°F to 375°F)

- **Humidity Range**

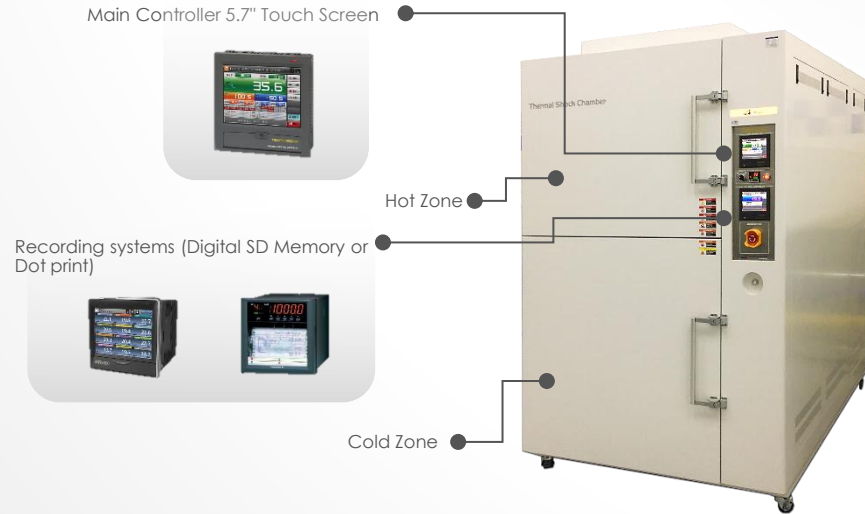
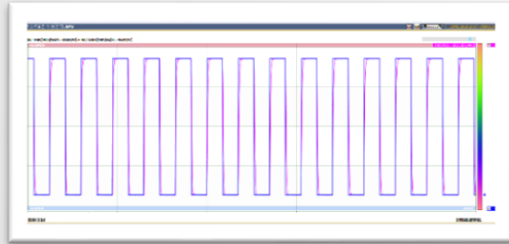
10% to 95% relative humidity as limited by a +85°C (+185°F)
maximum dry bulb and +7°C (+45°F) minimum dewpoint.

- **Standard Feature**

- 4.0" Access Port
- Non-Settling Fiberglass Insulation
- Fog-Free Wiperless Window
- Diaphragm Interface to Shaker
- Adjustable Chamber Height
- Stainless Steel Interior
- High Volume Air Flow
- Internal Light with Switch
- Fused Electrical Components
- RS-232/485 Computer Interface
- Solid State RH Sensor
- Refrigeration Service Taps
- Digital Display Temp. Limit & Alarm
- Zero Ozone Depletion Refrigerants
- Refrigeration High Temperature Protection
- Water Cooled Condenser
- Refrigeration Pressure Gauges
- Humidity Demineralizer Water System

• Thermal shock testing Chamber (2 Zone Elevator type)

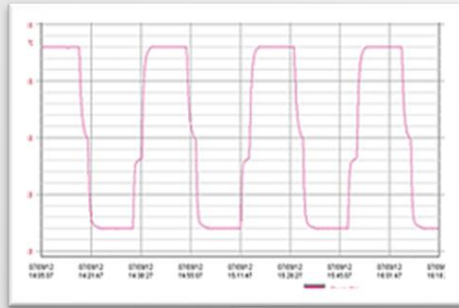
- The equipment is an elevator-type design, in which test tub moves vertically between hot temperature and cold temperature chambers
- It is designed and structured to assemble aluminum plates(5t in thickness) and install them in 7 mm intervals in hot and cold chambers, and this makes significant contribution to meet thermal shock specifications and durability of refrigerator and heater .
- Test tub's movement is available in two types; air type and motor type. In general, air type is more frequently used.
- The controller is equipped with 5.7 inch high definition LCD touch screen color monitor
- By applying individual deviation PID on high temperature and cold temperature chambers, it attains more accurate temperature control.
- It has a built-in timer with 36 types of various outputs, which can be utilized for many different purposes.
- It used durability-certified components such as KS, CE, UR certified.



• Thermal shock testing Chamber (3 Zone Damper type)

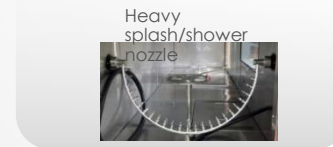
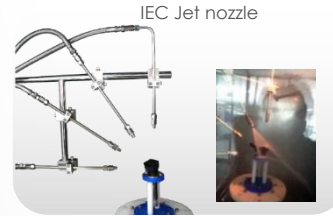
- By opening and closing a damper while test tub is in fixed position, it meets the requirements of hot temperature-room temperature-cold temperature.
- It is designed and structured to assemble aluminum plates(5t in thickness) and install them in 7 mm intervals in hot and cold chambers, and this makes significant contribution to meet thermal shock specifications and durability of refrigerator and heater
- 3 Zone Thermal Shock Chamber, by adjusting opening and closing time of a damper, can meet the conditions of 2 Zone.
- It is structured to operate with electrical power in hot temperature, room temperature, and cold temperature.
- The controller is equipped with 5.7 inch high definition LCD touch screen type color monitor.
- By applying individual deviation PID on high temperature and cold temperature chambers, it attains more accurate temperature control.
- It used durability-certified components such as KS, CE, UR certified.

- A large observation window equipped with a condensation-free thin-film heater and LED lamps provides a clear view of the test sample.
- Since PID values are set for each temperature and humidity section, the system maintains faster and more stable control conditions.



• Water spray test Chamber

- The equipment is a high-pressure washer tester and rain tester that complies with KS, JIS and DIN standard.
- It is designed to perform water-resistance and moisture-resistance tests on automotive parts.
- Electrical and electronic components
- And mechanical parts, evaluating their durability and corrosion resistance.
- The temperature of the sprayed water can be adjusted, and the water pressure can be controlled according to the test conditions.



• Industrial Ovens

- 2Chamber Oven / 4Chamber Oven / 6Chamber
- Application : Epoxy Cure oven / Silicone Cure Oven



Main controller



Recording systems (Digital SD Memory or Dot print)

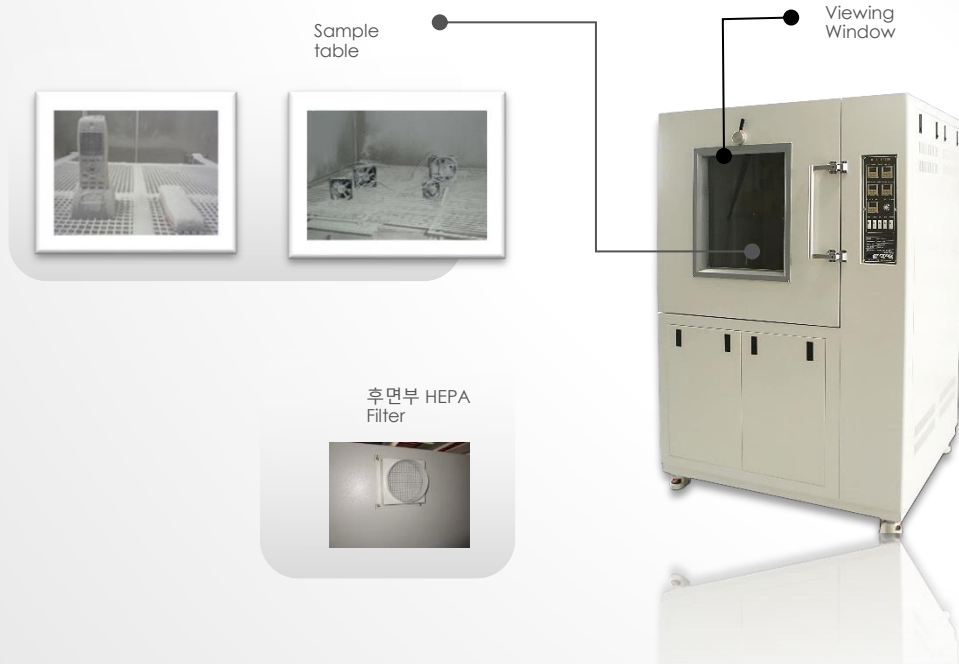


Air cooling



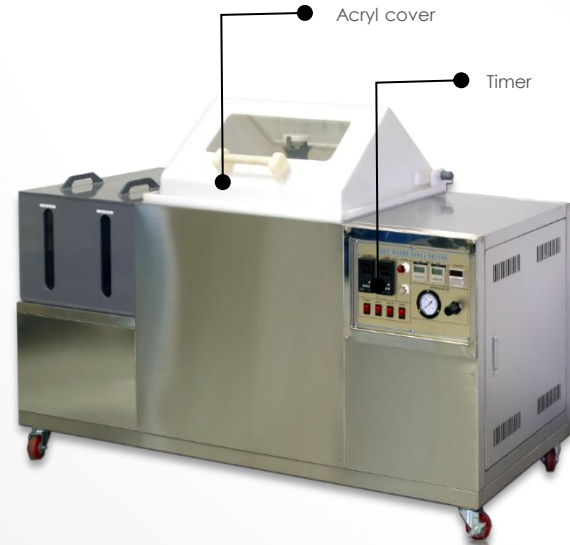
• Dust test Chamber

- The dust tester is designed to evaluate durability against dust generated under natural environmental conditions or artificially induced environments. It is used to test the effects of dust adhesion or penetration on the performance of components such as electronic parts, automotive parts, and marine electrical part.
- Two types are available : suspension type and airflow type.
- This dust tester complies with standards such as IEC 60529 and is classified into suspension dust tester for automotive components and flow dust tester for electronic components.
- A Fully automatic control system using a touch screen controller is available as an option.
- Safety features such as an emergency stop button and overload protection for the pump and motor are included to enhance equipment safety.



• Salt water spray Tester

- It is used for corrosion-resistance testing, including plated or coated film evaluation and aluminum anodized film oxidation tests.
- The transparent acrylic cover on the top is automatically open and closed by an air cylinder (available for large models or as an optional feature)
- The internal and external chambers are completely sealed, preventing any leakage into the surrounding environment.
- A spray tower system is applied as the standard configuration, and depending on the capacity, the equipment is available in either a single tower or dual tower type.



• Cyclic corrosion test Chamber

- The cyclic corrosion tester is equipped not only with a salt spray function but also with drying and humidity testing capabilities, distinguishing it from standard salt spray testers that cannot perform humidity tests.
- The humidity level can be selected and controlled within a range of 30% to 100% (may be limited depending on extreme ambient temperature conditions)
- Humidity control and monitoring are performed through the touch screen interface. This function is required by test specifications such as ASTM G85 Annex 5, GMW14872, GM 9540P and SAE J2334, and the system is equipped with protective humidity sensor shielding system to ensure accurate readings and reliable testing even under harsh test environments.



• Industrial Ovens

- 1Chamber Oven / 2Chamber Oven / 4Chamber Oven / 6Chamber / 8Chamber
- Application : Epoxy Cure oven / silicon cure oven
- Because it uses a forced-air circulation system driven by a fan, it provides excellent temperature uniformity and fast curing performance..
- Digital PID Auto Tuning system ensures safe and precise temperature control.
- The Air Cooling method offers superior cooling capability.

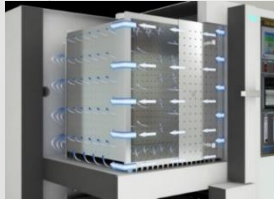
Main controller



Recording systems (Digital SD Memory or Dot print)



Air cooling

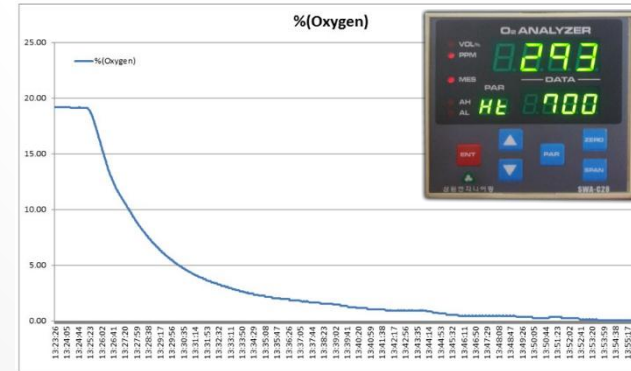


• Industrial Ovens (Nitrogen Oven)

- 1 or 2 Chamber nitrogen oven.
- A nitrogen oven designed to prevent thermal oxidation generated during high temperature curing.
- A high precision N2 regulator is installed to supply a stable and controlled flow of gas,
- A SEPA filter for removing fumes or resin can be installed as an optional feature.

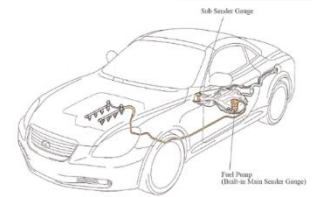


- With the nitrogen purge function, the oven can maintain an internal oxygen concentration below 300 PPM, and an oxygen-concentration analyzer can be installed as an option.



• Durability tester

- Durability testing and evaluation equipment for automotive parts, electrical components and electronic devices.
- Custom-designed according to the sample configuration and specific test conditions.
- Test equipment designed to reproduce automotive fuel pump performance evaluations conducted in high temperature, High altitude conditions such as those in Death valley and Denver in north America.



- Automotive fuel pump sender durability tester / Fuel pump durability tester



• Others

- Infrared irradiation Chamber

This is a combined environmental test chamber designed to evaluate deformation, Discoloration, and overall durability of interior and exterior components used in passenger cars and vans when exposed to Infrared radiation. The system accelerates and reproduces real world field condition as closely as possible, Enabling reliable temperature and humidity environmental testing



- Ozone Tester

This equipment is designed for accelerated aging testes of rubber products. It artificially generates O₃ to increase the ozone concentration in the atmosphere, Allowing evaluation of accelerated deterioration or aging of stretched test specimens.



• Others

- Drop Tester

It is a structure that checks for equipment abnormalities by allowing the test specimen to freely fall from a specified height.



- PTC

