Product Picture Xenon Test Chambers

1.1 Xenon Test Chambers Working Principle

The xenon lamp aging chamber is used to imitate weather conditions such as sunlight exposure, rain, and dew condensation to assess the endurance of materials in light and moist environments. Xenon lamp aging test equipment offers a simulated accelerated test material aging light and moist environment, may vary the light intensity to create an accelerated test effect, light intensity and various wavelengths will impact the performance stability of the material. The xenon lamp aging test equipment' s basic operation is broken down below for your perusal and comprehension.

The xenon lamp aging test apparatus is designed to imitate the effects of light, temperature, and humidity on the test materials. This is the fundamental operating concept of the apparatus. It is responsible for controlling the intensity of the light as well as the temperature and humidity. The employment of fluorescent lamps, halogen lamps, and other sources of brilliant light will, amongst other things, produce photodegradation of many different things over time. This will cause a lot of things to deteriorate.

The damaging light wave in sunlight, such as UV visible and infrared light, is the primary focus of the Xenon lamp aging test equipment employed by the light. The irradiation level within the container is comparable to that of a setting illuminated by bright sunlight throughout the summer.

It can break down the operation of xenon lamp aging test equipment into two parts that work in tandem with one another. The first part is designed to evaluate the photodeterioration of the sample. In contrast, the second part is intended to affect the sample being evaluated by increasing the amount of moisture present and spraying water over it. The primary goal of the photodegradation test is to speed up the natural aging process of the sample material by increasing the amount of light exposure it receives.

Additionally, the material may be affected by humidification or water spray. The material will sustain a greater amount of wear and tear if it has a larger percentage of moisture. It is well knowledge that high levels of humidity have a detrimental impact on the material's resistance to the elements and their colorfastness.

It may use xenon lamp aging test equipment to select new materials, improve current materials, or evaluate the change in the material's durability after the composition of the material has been altered. The apparatus exposes the samples to several wavelengths of light (including ultraviolet, visible, and infrared) to determine how well they can withstand the effects of illumination.

The xenon lamp aging chamber uses filtered xenon arc lamps to produce a full sunlight spectrum that is a good match to sunlight. This is a useful method for testing the sensitivity of products to the longer wavelengths of ultraviolet and visible light that are present in sunlight that passes through glass. Cooling System:

The xenon light aging chamber's multi-wing vigorous air circulation blower ensures that the test area's temperature and humidity are uniformly distributed.

The air pressure and wind speed used in the construction of air ducts for return air are both by testing regulations and will allow the door to swing open as soon as the temperature and humidity stabilize.

It's possible to boost productivity, cut down on testing expenses, extend product life, and decrease the likelihood of product failure. I radiation Control System:

Light source: Full air-cooled solar spectrum long-arc xenon lamp.

Full illumination control: A xenon lamp radiation intensity and Control instrumentation comprising a control loop closed loop adjustment can modify xenon lamp radiation intensity flexibly.

Radiation measurements: Optical fiber transmission to prevent fluctuations in interior temperature and humidity impacts the precision of radiation measurements.

The ultraviolet radiation sensors: It may be necessary to adjust the lamp because of its advanced age or any other light energy changes brought on by time.