

# UV Accelerated Weatherometer



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**HEM TECHSYS**  
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# UV Accelerated Weatherometer

## HT-UVWM 260

**HT-UVWM 260** Ultraviolet accelerated Weatherometer is suitable to do the artificial light and the sun resistance aging test of non-metallic materials.

## HT - UVAW

Conform with standard: ASTM D4329、D499、D4587、D5208、G154、G53; ISO 4892-3; ISO 11507 etc..

### Features

- Imported USA made Q-Panel lamps;
- Spray function, condensing function, UV function, can be circulate .
- Heating from water tanker in the inner bladder, heating fast, temperature uniform.
- Drain system match to backset-style and U-style deposition device, convenient to clean.
- Black board connect to temperature sensor, the device controls heating, lead to stable temperature.
- Fix style radiation meter probe.

### Specification

- Working room size: 450(D)×1170(W)×500(H)mm
- External size: 580(D)×1280(W)×1350(H)mm
- Temperature Range: RT+10°C~70°C;
- Humidity: 90~98%R·H;
- Humidity uniformity: ±2%;
- Temperature uniformity: ±2°C;
- Temperature Fluctuation: ±0.5°C;
- Humidity fluctuation: ±2%;
- Temperature control: PID self-tuning temperature control;
- Lamp center distance: 70mm;
- The distance between sample and lamp: 50mm;
- Standard sample shelf: 75×150mm, approximately 40 pieces  
300×75mm, approximately 20 pieces(optional)
- Water depth in tanker requirements: 25mm, automatic control;
- Effective irradiation: 900×210mm;
- UV wavelength: UV-B wavelength range 280-315nm ,UV-A wavelength range 315-400nm (optional) ;
- Test time: 0~999H adjustable
- Blackboard temperature: 40°C~65°C;
- UV, Condensation time adjustable alternating



#### Configuration :

- Outer Material: SUS304 Stainless steel plate, A3 sheet spray treatment;
- Interior materials: SUS304 Stainless steel plate;
- Cover Material: SUS304 stainless steel spray treatment;
- Lamp: 8 pieces of UV-A or UV-B UV lamp
- Heating from inner water tanker lead to warming fast, uniform temperature distribution;
- Two-way clamshell cover, opening and closing easily;
- Automatic water supply to prevent dryout damage to the heating pipe;
- Sample holder made of stainless steel or aluminum;
- The bottom of chamber with high-quality PU activity wheel can be fixed;
- Drainage system use backset-style and U-shaped plot sink to drain
- Sample surface parallel with UV light plane
- Spray-type equipment is installed with an automatic sprinklers inside, water pressure adjustable;
- Once the cabinet door opened while the lamp is on, the machine will automatically cut off the lamp power supply, and automatically turn into a state of equilibrium for cooling, so it is not harm to the human;





### TOUCH PANEL DISPLAY & INTELLIGENT CONTROL SYSTEM

- Intelligent Korea "Alto Knicks" temperature controller, accuracy is  $\pm 0.1$  °C;
- Thin-film style KEY BOARD button;
- LED digital display;
- Temperature controlled by P. I. D + S. S. R, the system coordinate and control in the same channel, and can improve the stability and lifetime of interface and controlling elements;
- With P. I. D automatic calculation function, can reduce manual working;
- Light and condensation can be controlled independently or alternating circulate, and the time of both can be arbitrarily set within 1000 hours;
- If an error occurs when setting or operation, warning signal will be released.
- French "Schneider" components;
- Philips rectifier and trigger to ensure UV light can be lit at every start.

## PROTECTION SYSTEM

- Protection switch (no-fuse style)
- Electric leakage;
- Over heated;
- Over load;
- Short circuit;
- Water shortage;
- Over current;
- Automatic power off;
- Controller's memory function

## WORKING

### UV cycle

First stage of photochemical reaction is not sensitive to temperature change. However, the subsequent second stage reaction rate closely relate to temperature. In general, with increasing temperature, the reaction is speed up. Therefore, in UV exposure test process, the temperature control becomes very important, more important is to match temperature in accelerating test to the practical maximum temperature which material will encounter in application. The temperature in the UV equipment can be set at any point from 50°C to 70 °C, depending on the illumination level and temperature of the indoor environment. The temperature control device is a micro-computer controller, which direct calculation function devices such as air heaters, water heaters, and a series of systems to complete.

### Moisture cycle

As the temperature increased, humidity's destructive power to material will increase dramatically. Therefore, in the process of moisture exposure, temperature control is a basic requirement. Furthermore, to produce acceleration effect, keeping high temperature is required in the process of moisture exposure. During condensation process in the device, temperature can be set at any point from 40°C to 60 °C.

### Heating system

- U-type titanium alloy high-speed electric heating tube;
- Independent temperature control system and lighting systems
- Temperature control and power output are all calculated by the microcomputer, to achieve high accuracy and high efficiency;
- With over heated protection function to the heating system;
- Heating and temperature to black aluminum plate is controlled by intelligent temperature controller made in Korea, the output power calculated by microcomputer, PID self-tuning. The monitor is standard Pt-100 blackboard temperature sensor;
- Heating and temperature of water tanker is controlled by Korean "Knicks Alto" temperature controller. The water tank locates in the lower position of chamber, with built-in electric heater. In the cycle test, a test section is a dark condensation process, it requires the inside cabinets can produce hot saturated steam. As the steam touch to the relatively cool surface of sample board, condensation occur.

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