

# UV BOX

## UV TESTER FOR UV-CONDENSATION ACCELERATION AGING TESTS

**UV BOX simulates the effects of sunlight with ultraviolet rays using UV fluorescent lamps and also reproduces dew and rain using moisture condensation and water spray**



- **New compact and functional design**
- **High connectivity 4.0**
- **Customizable sample holder**



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The accelerated UV aging test reproduces the damage caused by **sunlight**, **rain** and **dew**. In a few days or weeks of exposure of the samples inside the UV BOX, damages occurring in months or years of outdoor exposure can be reproduced.

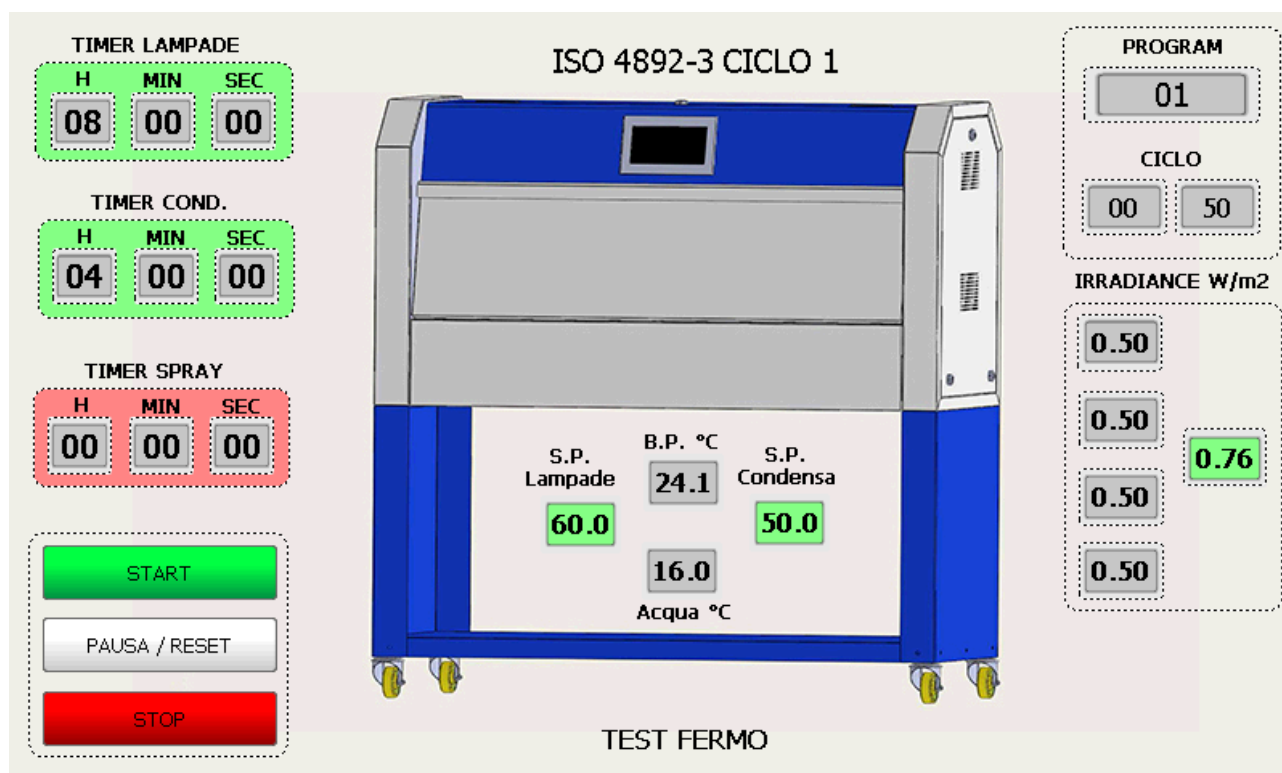
To simulate aging due to external atmospheric agents, UV BOX subjects the materials to alternating cycles of UV radiation and humidity at controlled high temperatures. The instrument simulates the effects of sunlight through the use of special **UV fluorescent lamps** and the simulation of the effect of dew and rain occurs through condensation or a spray of water (**Spray** option).

UV radiation is responsible for almost all the processes of photo degradation of durable materials exposed to the external environment. The fluorescent lamps used in the UV BOX simulate critical UV short waves and realistically reproduce the damage caused by sunlight. The types of damage that can be simulated with the UV BOX are the following: color change, loss of gloss, chalking, cracking, cracks, blistering, veiling, brittleness, loss of strength and oxidation.

Dew is mainly responsible for most of the moisture that occurs during outdoor exposure, much more than rain. The condensation system of the UV BOX realistically simulates dew and amplifies its effect through the use of high temperatures.

The condensation process automatically purifies the network water used in the system. This is because the process of evaporation and condensation of water on samples is actually a distillation process, which allows to remove all impurities.

UV BOX can accommodate up to **48 standard samples** (75mm x 150mm) and it is possible to create special sample holders according to customer specifications.



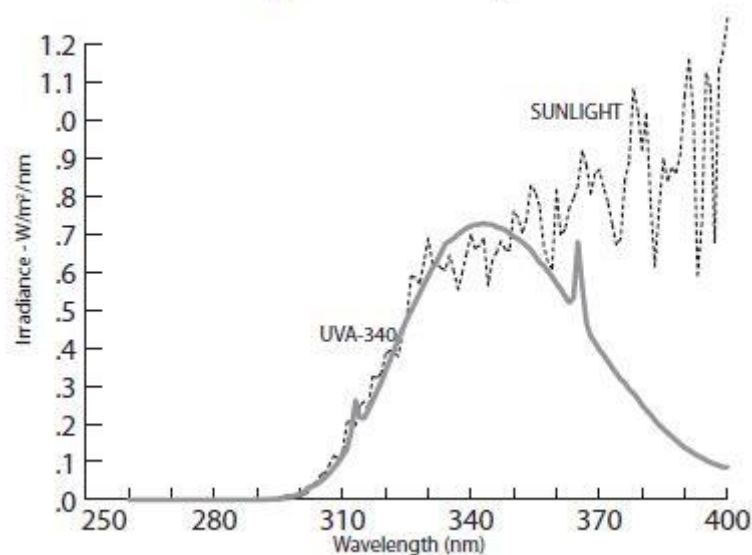
## UV lamps

UV fluorescent lamps are more stable than other types of lamps, including xenon arc lamps. The spectral distribution (SPD) is not changed with the aging of the lamp, even after thousands of hours of operation, and this feature involves in more reproducible results, less frequent lamp replacements and a reduction in operating costs.

### **Lamps UVA-340:**

UVA-340 lamps offer the best simulation of sunlight in the critical wavelength region from 365 nm up to the solar cut-off value of 295 nm.

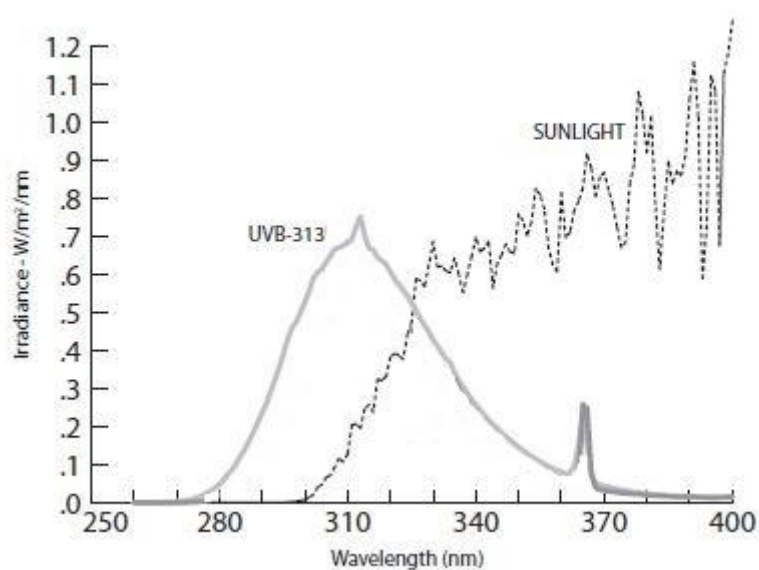
**UVA-340 Lamps vs. Sunlight**



### **Lamps UVB-313:**

UVB-313 lamps maximize acceleration through the use of the most aggressive UV short waves compared to those normally arriving on the earth's surface. As a result, for some materials these lamps can produce too severe and unrealistic results.

**UVB Lamps vs. Sunlight**



UV BOX meets a wide range of international and industry specifications, ensuring the reliability and reproducibility of the tests.

Model UV BOX – Enhanced	
<b>Electrical requirements</b>	
Mains voltage	230 Vac 10%, 50/60 Hz.
Mains connection	1/N/PE
Current consumption	10 A (max.)
<b>Measures and weight</b>	
Dimensions	1300 x 700 x 1500 mm.
Weight	120 Kg.
Specimen Capacity	48
<b>Features</b>	
Lamp UV (UVA or UVB)	8
Adjustment and control of irradiance level	yes
Display of current irradiance level	yes
Irradiance:	min 0.35 W/m <sup>2</sup> (UVA, UVB) – max 1.55 W/m <sup>2</sup> (UVA) - 1.23 W/m <sup>2</sup> (UVB)
BPT black panel temperature range	Stage UV 35-80°C – stage condensation 35-60°C
Microprocessor control	yes
Control panel touch screen	yes
Test report	yes
Storing various test conditions, free programming of tests standards	yes
Calibration sensor program	yes
Connectivity	Ethernet yes – WiFi optional
Water for condensation stage	Pression 2-3 bar – water demineralized recommended
Water for spray stage (optional)	Pression 2-6 bar – conductivity <5µS/cm
Standard	ASTM D4329, D4587, D4799, D5208, G154, G151 ISO 4892-3, 11507, 11895, 11997-2 EN 927-6, 1297, 12224, 13523-10, 1898, pr 1062-4 SAE J2020

## Other products



**Vertical Corrosionbox**



**Rectangular Corrosionbox H**



**Solarbox tabletop Xenon tester**



**Solarbox Xenon tester with RH**

We reserve the right to make changes to equipment and systems in line with technological advances and change the parameters accordingly.



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