



MATERIAL TESTING SOLUTIONS

ACCELERATING YOUR EXPERTISE

XENOTEST® 220/440

Light Exposure and
Weathering Testing Instruments



AMETEK®
MEASUREMENT & CALIBRATION
TECHNOLOGIES

APPLICATIONS AND STANDARDS

When predicting how materials will stand up to the elements, it isn't enough to guess. Ideally, you need to know within the shortest period of time.

Inside Xenotest® chambers, material changes caused by sunlight, temperature and moisture can be highly accelerated. For example, color fading, embrittlement or yellowing that would occur naturally over the course of months or years can be realistically simulated within days or weeks.

Within the Atlas Xenotest series, the 220 model is regarded as the textile testing specialist, meeting all common textile standards. The Xenotest 440 model is a highly versatile weathering instrument suitable for a variety of materials including textiles, plastics, coatings, automotive interiors or exteriors and others. The Xenotest 440's twin-lamp test chamber with XenoLogic™ technology enables faster testing. Powered by two 2200 W xenon lamps, the 440 can reach 2-sun irradiance levels for significantly shorter test times.

Standards 220 / 220+

ISO	105-B02, -B04
GB/T	8427
AATCC	TM 16.1-2012 (option 3), TM 169 (option 2&3)
M&S	C9, C9A

Standards 440

ISO	105-B02, -B04, -B06, -B10, 4892-2, 11341, 16474-2
GB/T	8427
ASTM	G151, G155, D2565
AATCC	TM 16.1-2012 (option 1,2,3), TM 169 (option 2&3)
VDA	75202



FEATURES

Xenotest® 220/220+

- 2310 cm² exposure area; 1 x 2200 W air-cooled xenon lamp
- LCD display and key pad control (220)
- Full color multiple language touch screen user interface with online networking features (220+)
- Pre-programmed textile standards

- Rotating specimen rack with 38 test positions 13.5 cm x 4.5 cm
- Radio-controlled on-rack light and BST monitor XENOSENSIV®
- Automatic control of irradiance, Black Standard Temperature (BST), Chamber Temperature (CHT), and relative humidity (RH)
- Ultrasonic humidifier with 60 litre integrated water reservoir
- Specimen spray option

Xenotest® 440

- 2310 cm² exposure area; 2 x 2200 W air-cooled xenon lamps
- Full color multiple language touch screen user interface with online networking features
- Pre-programmed lightfastness and weathering standards
- Rotating specimen rack with 38 positions (13.5 cm x 4.5 cm) 33 (10.0 cm x 6.8 cm), 22 (13.5 cm x 5.5 cm), 11 (29.5 cm x 7.0 cm)
- Radio-controlled on-rack light and BST monitor XENOSENSIV®
- Automatic control of irradiance, Black Standard Temperature (BST), Chamber Temperature (CHT), and relative humidity (RH)
- Ultrasonic humidifier with 60 litre integrated water reservoir
- Specimen spray
- XenoLogic™ lamp operating technology
- High irradiance up to 120 W/m² (300-400 nm)



PROGRAMMING AND MONITORING



Each model comes with a digital controller, featuring multiple languages to support error-free operation around the world.

Xenotest 220

Keypad Control

- Easy-to-use keypad
- Large 4-line display for easy viewing available in 11 languages for error-free programming
- Space for 6 user-defined test methods
- Quick-start of test programs
- Parameter check for set values
- Automatic system / alarm messages



Xenotest 220+/440

Touch Screen Control

- TFT full color 5.7" touch screen control panel
- Touch screen operation available in multiple languages for error-free programming
- Pre-programmed standard weathering tests
- Space for 10 user-defined test methods
- Quick-start of test programs
- Graphic display of the progression of all test parameters
- Parameter check for set values
- Automatic system / alarm messages
- Memory card for easy data acquisition and software updates
- Ethernet interface
- Add-ons for online programming and monitoring

ACCESSORIES

XenoCal® Sensors for Accurate Long-lasting Instrument Calibration

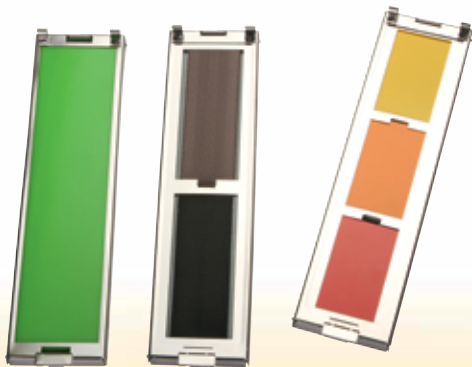
All XenoCal calibration sensors work independently to accurately support calibration routines.

The XenoCal BB 300-400 BST combined sensor measures irradiance in the UV 300-400 nm and BST simultaneously. The XenoCal NB 420 measures irradiance at 420 nm and the XenoCal BPT measures uninsulated Black Panel Temperature. Using these accurate sensors, typically only annual or semi-annual calibration routines are required.



220/220+ Specimen Holders and Cover Masks

Specimen preparation is easy when using Atlas' quick-insertion holders. Holders for < 3 mm thick specimens, thick materials up to 10 mm as well as ISO & AATCC textilecover masks are available.



440 Specimen Holders

The Xenotest® 440 accommodates all 220 specimen holders as well as three wide holders, providing greater flexibility to expose different types of materials, including textiles, plastics, coatings, automotive interior and others.



Atlas XenoTouch Add-ons for the Xenotest 220+ and 440

Additional software modules activate the Ethernet interface on the instrument control board. Online features help make your daily lab work easier:

Add-on 1

Remote Control

Conveniently program the instrument remotely. Security protection via access rights.



Add-on 2

E-Mail Service

Receive important system information and error messages quickly and securely via E-mail.



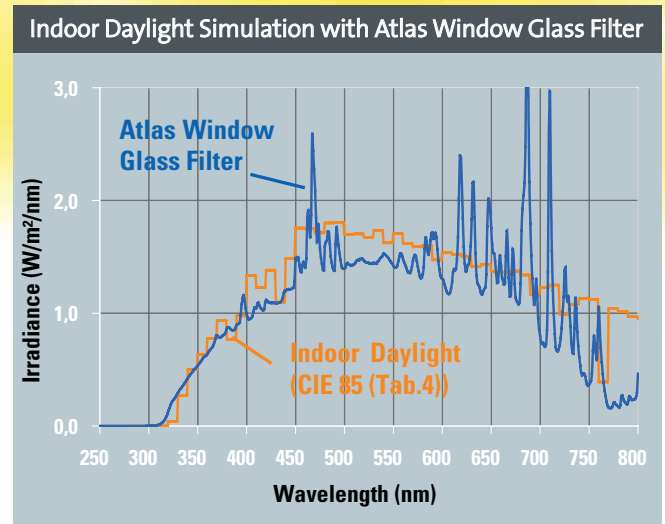
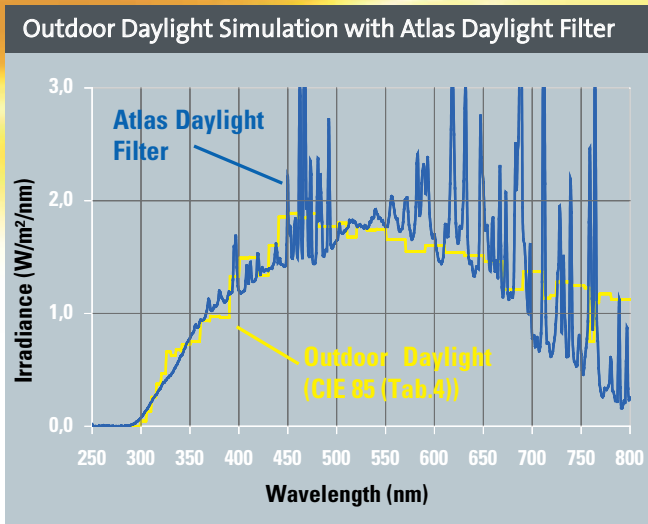
Add-on 3

Online Monitoring

Online access to instrument status reports via a web browser.



OPTICAL COMPONENTS



Light According to Standards

A variety of optical filter systems are available to produce full spectrum Indoor / Outdoor daylight as required for ISO, ASTM, or AATCC xenon test methods.

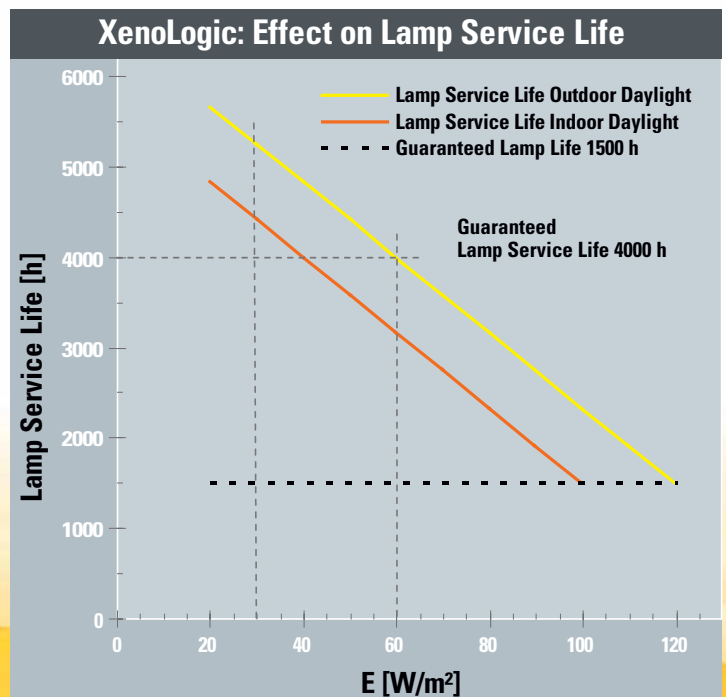
All filter systems are non-aging and maintain the required spectrum a lifetime. A special UV glass outer cylinder completes the optics.



XenoLOGIC Lamp Operating Technology

XenoLogic™, Atlas' revolutionary new twin-lamp operating technology for extended lamp service life.

XenoLogic continuously synchronizes the two xenon lamps at the lowest possible stress level which allows for optimum light efficiency. With new XenoLogic technology, the two xenon lamps combined can last over 4000 hours under irradiance levels of 30-60 W/m² (300-400nm).



TEMPERATURE, HUMIDITY AND SPECIMEN SPRAY

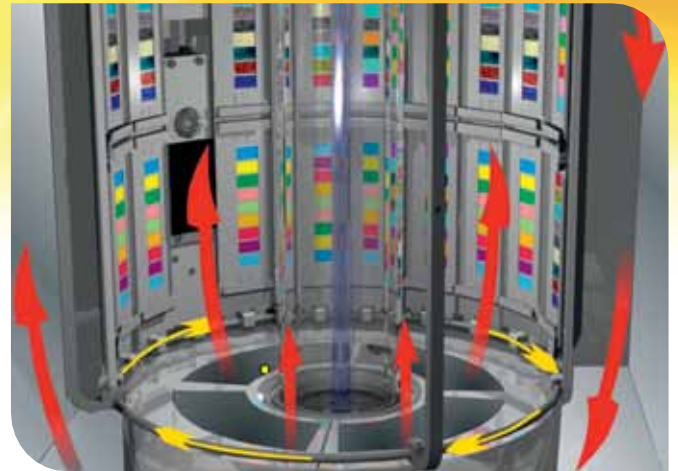
Humidity Control

Because water is a precious resource, Xenotest® humidifiers are optimized to reduce water consumption necessary to meet test requirements.

The highly efficient ultrasonic humidifiers are linked to an integrated 60 litre water reservoir, enabling continuous operation for a period of 3-4 weeks*.

Additionally, the humidifiers design allows the speed and direction of the airflow inside the test chamber to operate as efficiently as possible, providing the highest uniformity on the specimen rack.

(*running ISO 105-B02 conditions)



Airflow Inside the Test Chamber



BST Control on Sample Rack

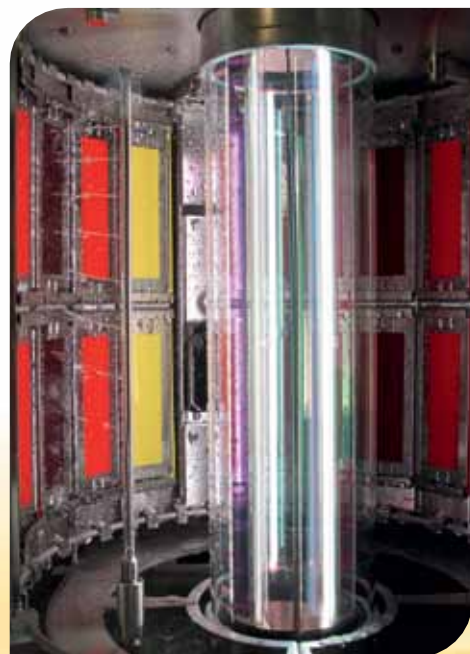
Temperature Control

Temperature can have a significant impact on degradation and fading rates.

Xenotest chambers control BST on-rack within narrow tolerances of maximum $\pm 2^{\circ}\text{C}$ vertically. All Xenotest models control both BST and CHT simultaneously for ideal test conditions.

Specimen Spray

To simulate the effects of rain, the Xenotest 220 and 220+ can be equipped with an optional specimen spray system. Specimen spray is standard in the Xenotest 440.



Integrated Specimen Spray System



Atlas offers more than testing instruments. From technical advice to final test method implementation, Atlas provides the support you need when determining the right weathering testing solution for your products. For more information, please contact your local Atlas sales office or visit us at www.atlas-mts.com

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Specifications, features and standards are subject to change without notice.

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Xenotest® 220 / 220+ and 440 Technical Data

	220 / 220+	440
Air-cooled xenon lamps	2200 W (1)	2200 W (2)
Specimen rack capacity	2310 cm ²	2310 cm ²
Test positions	38	38 / 33 / 11
Specimen holder Standard	13.5 x 4.5 cm	13.5 x 4.5 cm
Specimen holder Special 1B	N/A	29.5 x 7.0 cm
Specimen holder Special 3B	N/A	10.0 x 6.8 cm
Light monitor (on-rack)	XENOSENSIV®	XENOSENSIV®
Irradiance range (300-400 nm)	30-50 W/m ²	30-120 W/m ²
BST range	40-100 °C	40-115 °C
BPT range	40-95 °C	40-110 °C
CHT range	up to 65 °C	up to 65 °C
Humidity range (light cycle)	20-85 %	10-75 %
Integrated water reservoir	60 litre	60 litre
Water consumption (humidifier)	approx. 0.12 l/h*	approx. 0.12 l/h*
Water consumption (spray)	approx. 0.7 l/min	approx. 0.7 l/min
Simultaneous BST+CHT control	automatic	automatic
Specimen spray	◇ / ◇	●
Parameter check for set values	● / ●	●
Serial interface	● / ●	●
Touch screen control panel	N/A / ●	●
Memory card interface	N/A / ●	●
Ethernet interface + Add-ons	N/A / ●	●
XenoLogic Technology	N/A / N/A	●

All ranges may not be achieved depending on other instrument parameter set points.

* ISO 105-B02 conditions

● Standard

◇ Optional

Physical & Electrical Data

	220 / 220+	440
Width x Depth x Height	90 x 78 x 180 cm	90 x 78 x 180 cm
Weight	280 kg	290 kg
Electrical	230 V ±10%, 50/60 Hz	400 V ±10%, 50/60 Hz
Maximum power consumption	approx. 5 kVA	approx. 8 kVA
Amperage	16 A	32 A

Optical Filters

	Application	220 / 220+	440
Daylight B04	Weathering (ISO 4892-2, 11341, 105-B04, 105-B10)	● / ●	●
XENOCHROME 320	Lightfastness (ISO 105-B02, M&S)	● / ●	●
TM16	Lightfastness (AATCC TM 16)	● / ●	●