

Irradiation chamber BS-02CT



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dose controller UV-MAT

The irradiation chamber BS-02CT is a chamber to test samples according IEC 60335-1:

“Household and similar electrical appliances – Safety – Part 1: General requirements - Edition 5.2”

This test is designed for non-metallic materials that are exposed to direct or reflected UVC radiation from 200 nm to 280 nm. The test can be used to test radiation stability against UVC radiation that can cause aging like discolorations, changes in material properties, crack formation and smell.

Therefore the UVC low pressure mercury lamps emit a continuous spectral irradiance of 10 W/m² at 254 nm.

IR heater heat up the samples so that a black-panel temperature of 63 °C ± 3 °C can be reached and controlled.

The time can be set to an exposure duration of 1000 h.

The irradiation chamber BS-02CT can also be used to test material properties that are disinfected by UV-C. Typically the UVC dose of a daily disinfection for a period of two years can be accelerated to 12 hours.

The BS-02CT is compact, robust equipment for the time- or dose-controlled irradiation of samples with UVC.

The interior irradiation chamber has a base area of 46 x 32 cm and a height of 20 cm. The sample chamber operating temperature is about 25 °C to 70 °C so that thermal damage to the specimen can be avoided or accelerated.

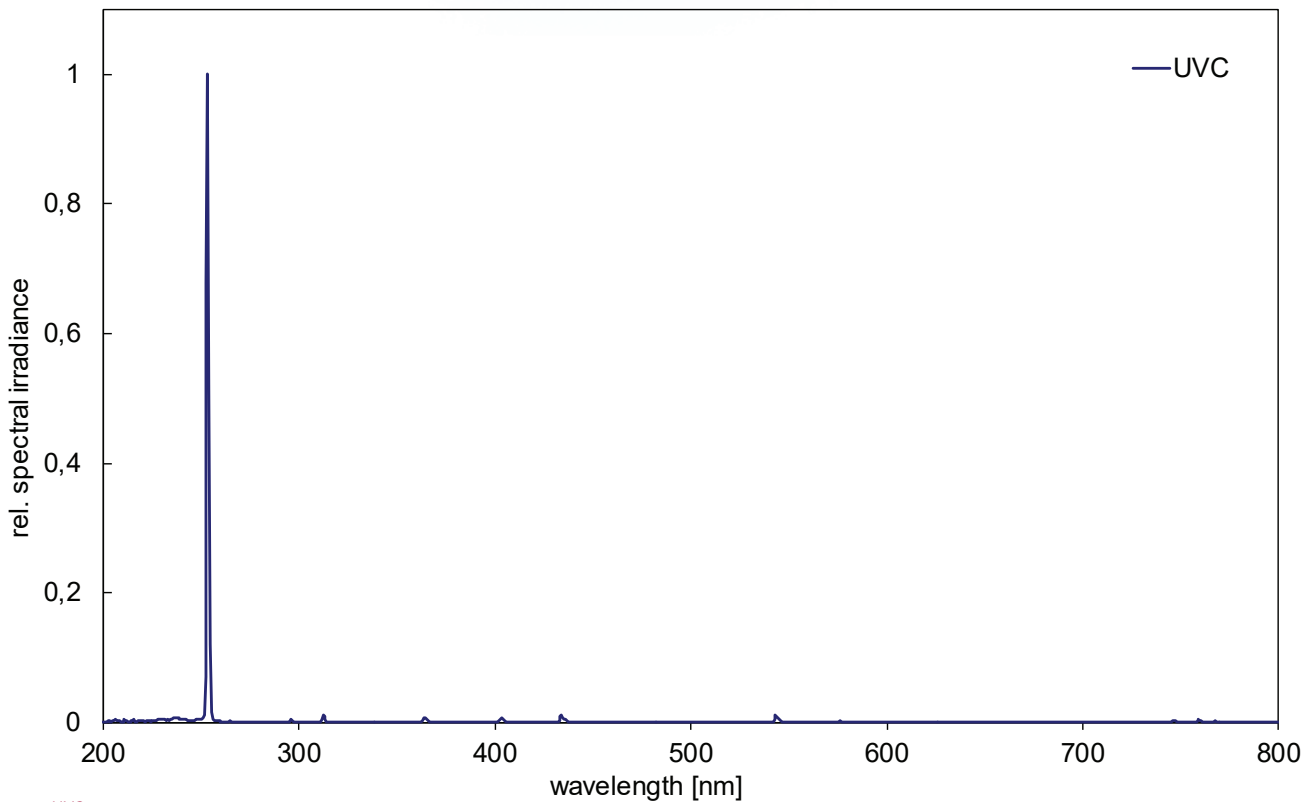
Due to the high uniformity of the irradiation, the samples may be positioned in any order.

The irradiation control UV-MAT can control the UVC lamps to achieve a constant dose independent of lamp aging, contamination or temperature. The dose is measured with a calibrated sensor. For this purpose, the sensor already contains an extremely precise analog-digital converter and a temperature sensor. This can also be calibrated according to ISO/IEC 17025 on request.

The UV-MAT can optionally be controlled by a PC. This allows multi-stage irradiation and documentation of the irradiation.

Temperature controlling is made by an extern PID controller with measures the temperature of a thermocouple or black-panel temperature sensor.

SPECTRA



Spectrum UVC

TECHNICAL DATA BS-02CT

Interior chamber	46 x 32 x 20 cm
Dimensions	58 x 40 x 47 cm
Weight	~ 32 kg
Power consumption	700 W
Mains	110 - 230 V _{AC} , 50/60 Hz
Operation temperature	10 to 40 °C
Humidity	< 80% non-condensing
Lamp lifetime	up to 10.000 h
Number of UVC lamps	4
UVC lamp power	15 W each
Irradiance UVC	10 - 50 W/cm ²
IR heater	4, emitting form top
IR lamp power	150 W each
Sample temperature	25 °C - 70 °C
	The cooling uses ambient air
	minmally the temperaure of
	the samples is ambient + 5 °C

TECHNICAL DATA UVMAT

Measuring range	0-200 mW/cm ²
Resolution	24 bit
Sensor connectors	1, fully digital
PC interface	USB 2.0
Sensor identification	yes
Display	graphical, 128 x 64 px
Dimensions	185 mm x 251 mm x 100 mm
Operation temperature	0 - 40 °C

TEMPERATURE DATA

Temperature control	extern PID controller
Measuring range	0- 150 °C
Resolution	0,1 °C
Sensor connectors	1, thermocouple
Dimensions	185 mm x 251 mm x 100 mm
Operation temperature	0 - 40 °C

Listed irradiance values are max values.

INCLUDED ACCESSORIES

The irradiation chamber is modular expandable and thus optimal for different applications.

UV-MAT

The irradiance controller UV-MAT continuously measures the irradiance and stops the irradiation at the set target dose. Irradiation doses can be set separately for two spectral ranges. Included: Timer, dimming and operating mode switch



The following functions are always included:

TIMER

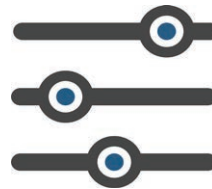


As an alternative to dose controlled irradiation, the UV-MAT offers an adjustable timer. This timer is suitable for time-controlled irradiations between 1 s and 999 days.

SENSOR

Calibrated radiometric sensors are available. The integrated diffuser ensures the required cosine correction. Excellent long-term stability is achieved through the use of appropriate materials. The sensor is calibrated with traceability to PTB (the German national test authority); after being calibrated, they are supplied with a factory calibration certificate.

DIMMING



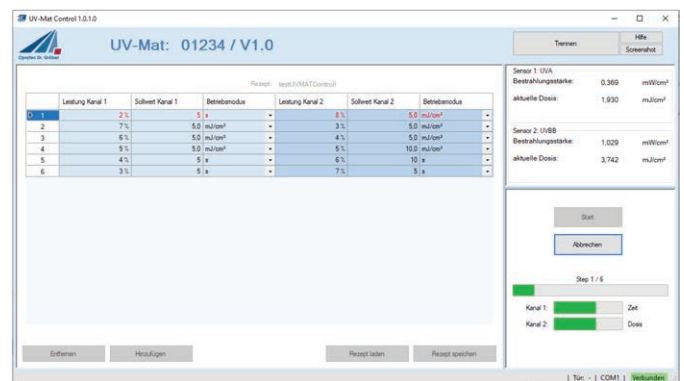
With the option of the lamp dimming the irradiance can be varied. The setting can be done at the UV-MAT.

OPTIONAL - REMOTE CONTROL OPTION

Complex, multi-stage irradiations, e.g. a pre-irradiation at low irradiance and then a high-intensity UVC irradiation can be easily and individually parameterized with the remote control option. Up to 30 dose- or time-controlled steps and pauses are possible.

At the same time the irradiation is logged and stored on the PC.

PC connection: USB 2.0



PART NUMBERS

BS-02CT	860902CT
Remote control, USB	860900
Radiometric sensor	814410
ISO 17025 calibration UV	17025
Simple thermocouple	860902TCK

SCOPE OF DELIVERY

BS-02CT, UV-MAT, PID temperature controller, manual, UVC lamps (ozone free), 4 lamp sleeves

Our calibrations are available as factory and ISO 17025 calibrations and are traceable to PTB standards. IP65 sensors, further measuring and spectral ranges available. Just ask us!

