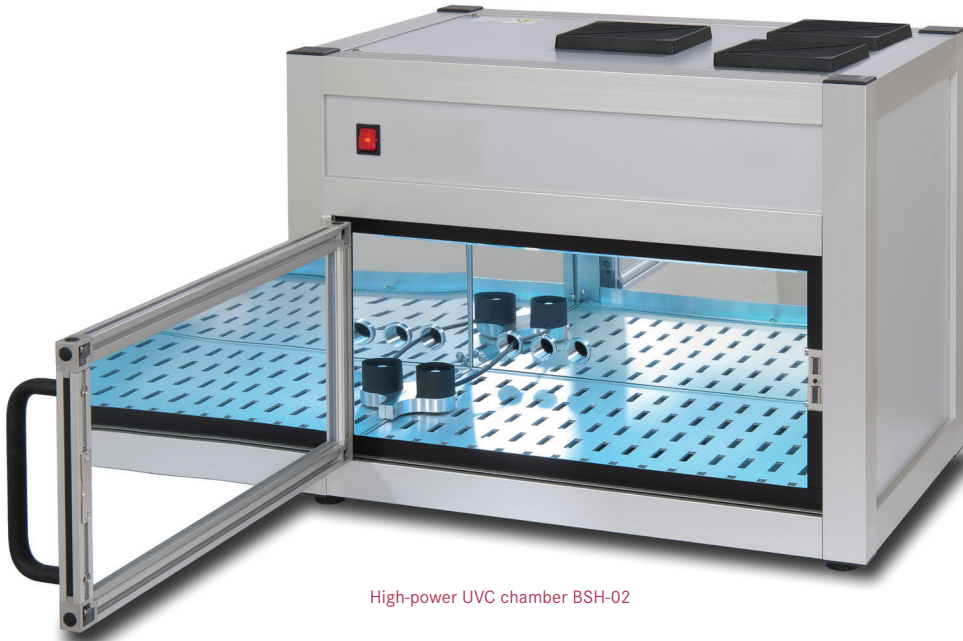


## High-power UVC chamber BSH-02



High-power UVC chamber BSH-02

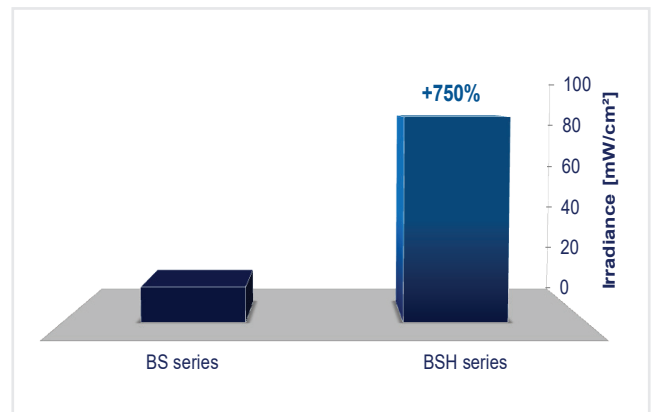


dose controller UV-MAT Touch

The irradiation chamber BSH-02 is a high-powered UVC chamber with superior irradiance of 85 mW/cm<sup>2</sup>. Like all BS irradiation chambers, the BSH-02 offers time- or dose-controlled irradiation of samples with UV light. The chamber is fully equipped with ozone-free UVC amalgam lamps with a total lamp power of 750 W. Compared to our standard BS series, the BSH-02 offers irradiance that is 750% higher. Thus, the irradiance is high enough for high-energy applications or UV curing.

The BSH-02 has compact outer dimensions and the interior irradiation chamber has a base area of 49 x 32 cm and a height of 25 cm. The sample chamber operating temperature is about 45°C so that thermal damage to the specimen is minimized. Due to the high uniformity of the irradiation, the samples may be positioned in any order.

For the BSH-02 we offer two irradiation controllers, the UV-MAT and the UV-MAT Touch. Both irradiation controllers achieve a consistent dose regardless 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.



UVC irradiance compared to BS series

The memory in the sensor contains all sensor identifications and the calibration history. The UV-MAT Touch also records the irradiations and can be controlled by the PC. This makes multi-stage irradiations and the documentation of the irradiation possible.

Applications:

- UV-C curing, sealing and bonding
- Irradiation of bacteria and spores
- UV-C materials testing

## UNIFORMITY OF IRRADIATION

53%	59%	68%	84%	84%	89%	92%	94%	92%	87%	83%	79%
55%	62%	71%	89%	87%	93%	96%	97%	95%	91%	87%	83%
58%	65%	73%	90%	91%	96%	99%	100%	98%	94%	91%	87%
59%	65%	74%	90%	91%	96%	99%	100%	99%	95%	92%	88%
58%	64%	73%	90%	90%	95%	98%	98%	98%	94%	91%	87%
56%	61%	70%	86%	85%	91%	92%	94%	93%	90%	87%	84%
52%	58%	65%	80%	80%	82%	87%	88%	88%	86%	81%	77%
49%	54%	63%	76%	76%	79%	83%	83%	84%	83%	77%	70%

Uniformity of irradiation

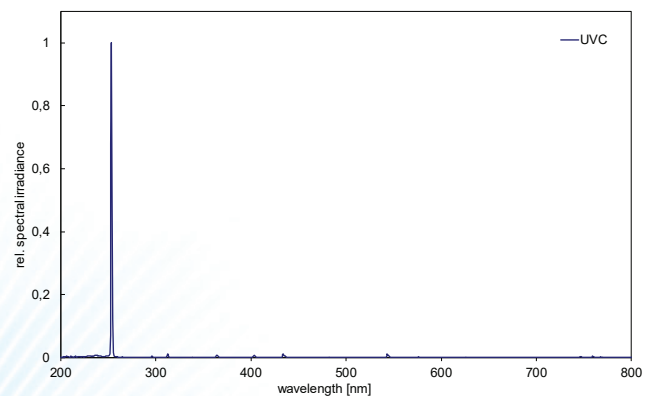
## SPECIFICATIONS

Interior chamber	46 x 32 x 25 cm
Dimensions	55,5 x 40 x 43 cm
Weight	~ 32 kg
Power consumption	1000 W
Mains	230 V <sub>AC</sub> , 6 A
	3 x 110/208 V <sub>AC</sub> , 8 A, optional
Operation temperature	10 to 40 °C
Humidity	< 80% non-condensing
Lamp lifetime	up to 8.000 h
Number of lamps	5
Lamp type	UVC amalgam, ozone free
	alternative: ozone generating
Lamp power	150 W each
Sample temperature	45 °C +/- 5 °C
Spectra range	1 (UV-C)
Irradiance UVC	85 mW/cm <sup>2</sup>

The maximum irradiance is indicated.

## GEMEINSAME DATEN UV-MAT

Sensor connector	1 piece, 24 bit, fully digital
Dose range	0 - 1.000.000 J/cm <sup>2</sup>
Dose resolution	1 mJ/cm <sup>2</sup>
AD conversion	24 bit
PC interface	USB 2.0
Sensor identification	yes
Dimensions	185 mm x 251 mm x 100 mm
Operation temperature	5 - 60 °C
Spectral range UVC:	200 - 280 nm



Spectrum UVC

## UV-MAT TOUCH

The UV-MAT Touch user interface is a high-resolution capacitive touchscreen. A powerful Cortex ARM processor ensures durability and updateability. This means that new functions can be installed directly on site. The UV-MAT Touch and the PC software are Windows 10 / 11 compatible.

Numerical and graphical single and multi-channel irradiations, oscillograms and the settings are clearly displayed. The parameterization is done intuitively directly on the UV-MAT Touch and is password protected.



## TECHNICAL DATA UV-MAT TOUCH

<b>Display</b>	Capacitive touch display
	5" WVGA
<b>Display output</b>	Irradiance + dose
	Oscilloscope view
<b>Data recording rate</b>	adjustable: 1 s - 1 h
<b>Recording duration</b>	> 24000 h
<b>Memory interface</b>	1 USB flash drive (up to 32 GB)

## TECHNICAL DATA UV-MAT

<b>Display</b>	graphical, 128 x 64 px
	monochrom
<b>Display output</b>	Irradiance + dose
	-
<b>Data export</b>	via USB
<b>Recording duration</b>	-

## FEATURES IN DETAIL

Did you know? The UV-MAT and the UV-MAT Touch use the same sensors. Therefore, these can be used on both devices.

The differences are:



UV-MAT Touch



UV-MAT

	UV-MAT Touch	UV-MAT
<b>Display</b>	Capacitive touch display	monochrom, 128 x 64 px
<b>Memory</b>	USB flash drive	-
<b>Number of channels</b>	2	2
<b>Irradiance, dose and temperature measurement</b>	✓	✓
<b>Time and dose controlled irradiations</b>	✓	✓
<b>Recordings of measurements</b>	✓	-
<b>Oscilloscope view</b>	✓	-
<b>Screenshots can be saved on USB flash drive</b>	✓	-
<b>Pause and restart of irradiations</b>	✓	-
<b>Add notes and comments to the irradiation</b>	✓	-
<b>Remote control from PC</b>	✓	-
<b>Irradiation logs</b>	USB flash drive	PC
<b>User control &amp; admin mode</b>	✓	-
<b>Easy firmware upgrades</b>	✓	✓

## INCLUDED ACCESSORIES

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

The following functions are always included:

## DOSE CONTROLLER



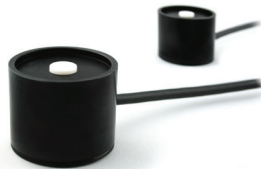
The irradiation controller UV-MAT continuously measures the irradiance and stops the irradiation at the set target dose.



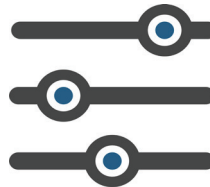
The dose control UV-MAT Touch offers alternatively all functions of the UV-MAT, but simplifies the operation and documentation of the irradiations.

## SENSORS

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 sensors are calibrated with traceability to PTB (the German national test authority); after being calibrated, they are supplied with a factory calibration certificate.



## CONTROL AND DIMMING



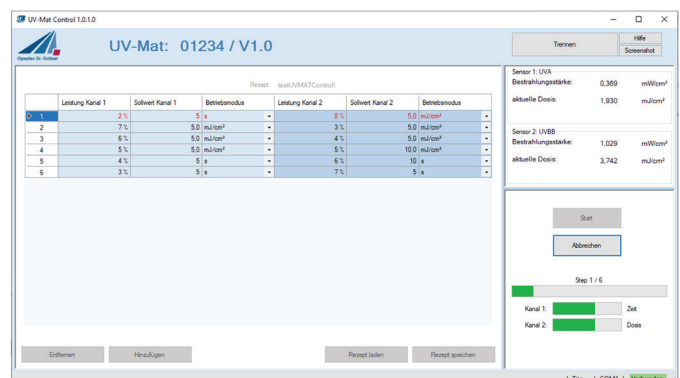
The lamps are dimmable.

## OPTION: PC SOFTWARE FOR UV-MAT TOUCH

Complex, multi-stage irradiations, e.g. a pre-irradiation at low irradiance and then a high-intensity UV-C 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



## SCOPE OF DELIVERY

BSH-02, cable, manual, UVC lamps (ozone free, if not specified)

## PART NUMBERS

<b>BSH-02</b>	860802H
<b>UV-MAT Touch</b>	820930
<b>UV-MAT</b>	820920
<b>PC-Software UV-MAT TOUCH</b>	860901
<b>Radiometric sensors</b>	8110XX
<b>Sensor holder</b>	86080H