

## Compact UV-LED chamber BSL-01



By modern UV LED technology, the chamber BSL-01 reaches a high irradiance of **up to 2400 mW/cm<sup>2</sup>**. Despite its compact dimensions, the UV LED chamber BSL-01 reaches a 240-fold irradiance compared to our classical irradiation chambers. As a compact tabletop unit, the BSL-01 is perfectly suitable for laboratories and manufactory.

For different applications, the wavelengths 365 nm, 385 nm, 395 nm, 405 nm and 450 nm are available. Optionally, two wavelengths can be controlled separately. This means that the irradiation chamber can be perfectly adapted to the photoinitiator's requirements and is ideal for laboratory use or product changes.

The irradiance is adjustable from 2% to 100%. The integrated timer controls the irradiance precisely. For even better results, we recommend one of our calibrated UVA+ sensors. The dose control is already integrated in the LEDControl. By means of an optional sensor, the LEDControl measures the irradiance continuously, and stops the irradiance at the set target dose.

Due to the free adjustability of the irradiance and the exposure time, the optimum parameters can be determined reliably. For an even more specific application, we offer the BSL-01 with four irradiances:

- 0 to 2400 mW/cm<sup>2</sup> (version HO+)
- 0 to 600 mW/cm<sup>2</sup> (version HO)
- 0 to 300 mW/cm<sup>2</sup> (version ECO)
- 0 to 150 mW/cm<sup>2</sup> (version ECO+)

Due to the low heat input of the UV LEDs, a thermal damage of the samples is minimized.

In the completely closed and monitored irradiation chamber, the operating personnel are fully protected from the UV radiation.

### APPLICATIONS

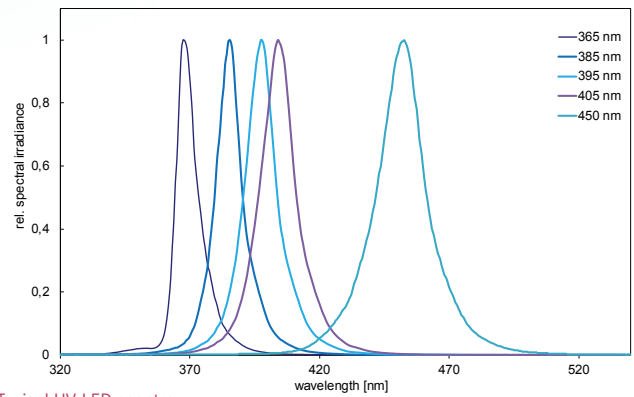
- UV curing and UV bonding
- Sealing and encapsulating
- Laboratory use
- Manual bonding

## TECHNICAL DATA

Interior chamber	20 x 20 x 17 cm
Dimensions, chamber	28 x 34 x 43 cm
Weight	~ 20 kg
Power consumption	200 W - 750 W
Mains	100 - 240 V, 50/60 Hz
Operation temperature	10 to 40 °C
Storage temperature	-10 to 60 °C
Humidity	< 80% non-condensing
Cooling	air cooling
Sample temperature	~40 °C +/- 10 °C. Heating up by high UV irradiance
Classification	group 0 according DIN EN 12198:2000
Dimensions, LEDControl	305 mm x 358 mm x 145 mm
Measuring range, LEDControl	0-2500 mW/cm <sup>2</sup>
Resolution	12 bit
Display	graphical, 128 x 64 px
Timer	0,01 s to 9999 h
Resolution	0,01 s
Dose control	with optional sensor
Connections	failure out, pot. free
Internal security circuit	Over-temperature, door contact

80%	85%	90%	83%	72%
84%	93%	97%	88%	81%
84%	95%	100%	93%	82%
76%	88%	92%	85%	75%
66%	70%	73%	69%	66%

Uniformity of irradiation (20 x 20 cm<sup>2</sup>)



Typical UV-LED spectra

## SPECIFICATIONS UV-LEDS

Wavelength	365, 385, 395, 405, 450 nm
Emission, peak tolerance	+/- 5 nm
Emission, FWHM	10 - 20 nm

## IRRADIANCES HO+

365 nm	1200 mW/cm <sup>2</sup>
385 nm, 395 nm, 405 nm	2000 mW/cm <sup>2</sup>
450 nm	2400 mW/cm <sup>2</sup>

## IRRADIANCES HO

365 nm	300 mW/cm <sup>2</sup>
385 nm, 395 nm, 405 nm	600 mW/cm <sup>2</sup>
450 nm	640 mW/cm <sup>2</sup>

## IRRADIANCES ECO

365 nm	160 mW/cm <sup>2</sup>
385 nm, 395 nm, 405 nm	300 mW/cm <sup>2</sup>
450 nm	320 mW/cm <sup>2</sup>

## IRRADIANCES ECO+

365 nm	80 mW/cm <sup>2</sup>
385 nm, 395 nm, 405 nm	150 mW/cm <sup>2</sup>
450 nm	160 mW/cm <sup>2</sup>

## NOTES

Given irradiances are measured at a internal height of 30 mm for versions ECO+ to HO. Irradiances can be in-

creased even closer to the light source. Exception: Version HO+, here the irradiance is measured direct below the light source.

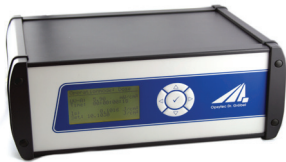
## ATTACHMENTS & OPTIONS

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

We gladly support you with your individual configuration.

### UV-MAT

The LEDcontrol continuously measures the irradiance and stops the irradiation at the set target dose. Irradiation doses can be defined separately for different spectral ranges. A sensor is required for this purpose.

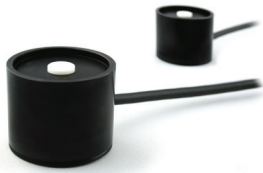


### TIMER



Alternative to the dose control, we offer a settable timer. This timer is suitable for simple irradiances between 0,01 s and 9999 h. Included in the standard system.

### SENSORS & CALIBRATION

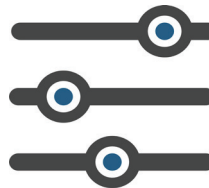


The calibrated radiometer sensors are available for any LED wavelength. The integrated diffuser ensures the required cosine correction. Excellent long-term stability is achieved through

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.

Opsytec Dr. Gröbel GmbH has an accredited calibration laboratory. As an option, calibration according to ISO 17025 with DAkkS calibration certificate is possible. Just ask us!

### DIMMING & SPECTRAL MATCHING



LEDs are available for various applications. As an option, two wavelengths are available. The LEDs can be dimmed from 2-100 %.

## PART NUMBERS

<b>BSL-01 HO+ Version</b>	860801L-HO+ xxx nm
<b>BSL-01 HO Version</b>	860801L-HO xxx nm
<b>BSL-01 ECO Version</b>	860801L-ECO xxx nm
<b>BSL-01 ECO+ Version</b>	860801L-ECO+ xxx nm
<b>Option 2. wavelength</b>	860801X2
<b>UVA+ sensor</b>	811045
<b>DAkkS calibration</b>	17025L

## SCOPE OF DELIVERY

BSL-01, LEDControl, cable 3 m, manual