hönle group

hönle uv technology

bluepoint LED

UV point source with Process FLOW Control

Max. irradiation intensity: up to 16.000 mW/cm²

Wavelength: 365, 385 and 405 nm

System-Features

- Clean room capable
- Processing of temperature-sensitive materials
- LED power output separately adjustable
- Entry of complete program sequences

Advantages

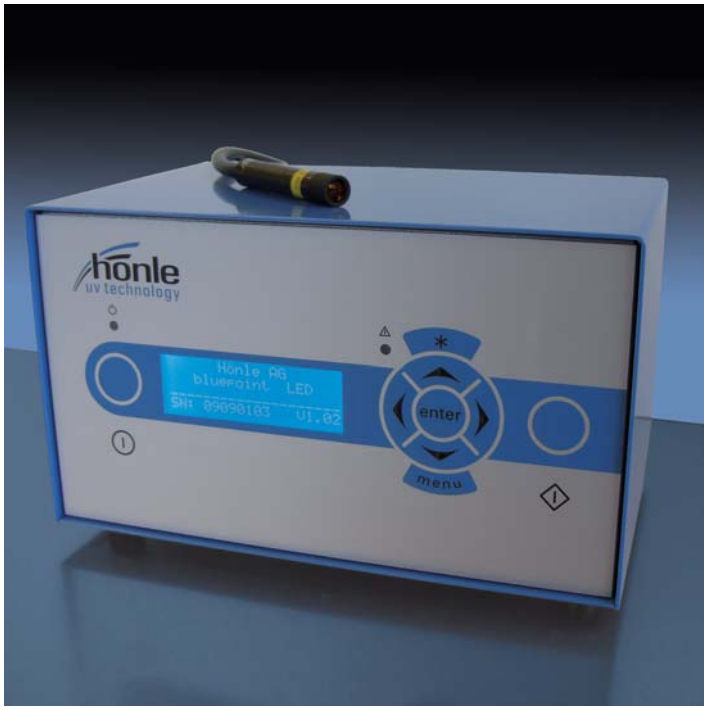
- Reduction of maintenance costs
- Extremely long service life
- Low temperature load
- Intelligent power control

bluepoint LED

bluepoint LED has been developed for all applications requiring a **most intensive UV irradiation**. Thanks to its high intensity and the possibility to program complete process sequences, e.g. exposure series with different intensities and holding times, it is possible to realise **shortest cycle and machine throughput times** especially in fully automated production lines.

The typical **service life of a LED is longer than 20,000 hours***. The LEDs can be switched on and off as often as necessary. They do not require a heating or cooling phase. The emitted wavelengths are 365/385/405 nm +/- 10 nm. It is thus possible to adapt the intensity to any application in question.

Up to four LED heads can be connected to the operating unit whereby the diodes can emit **different wavelengths**. Each LED can be **activated separately**. bluepoint recognises autonomously the type of LED and automatically adapts the parameters.



Applications

bluepoint spot sources are appropriate for various applications like:

- Bonding, fixing or encapsulating of components in the electronic, optical or medical sector
- Fluorescence stimulation for materials testing and picture processing
- High-intensive UV irradiation in the chemical, biological and pharmaceutical sector
- UV-irradiation for different applications in a clean room

Lamp activation

The irradiation time can be adjusted for each LED head separately in range between 0.1 and 999.9 seconds. The alternative is a continuous operation. With a very long non-stop irradiation, an additional passive cooling of the heads may be necessary.

The **electric lamp power output can also be adjusted between 10% and 100% in 1%-steps** (depending on the LED head). The unit registers the LED operating hours as well as the unit's operating hours.

Due to the application bluepoint LED offers different modes of power control. In the standard power-mode a value between 10% and 100% is forced, according to which the LED capacity gets adjusted.

The ConstPower mode allows an almost constant optical output. In this mode the intensity of irradiation is kept constant over a broad temperature range. For a short time irradiation with longer breaks between separate irradiation cycles the optical output can be maximised in the PeakPower mode.

Interfaces

bluepoint LED has the following interfaces:

- PLC inputs: 4x LED on, start "Process FLOW Control" (PFC), inquiry input for PFC, start calibration through PLC
- PLC outputs: 4x status LED (LED on, LED off, LED error, LED warning), 1x status unit (unit on, unit error, PFC is running, ...)
- Dry contact with selectable function (cf. PLC outputs)
- RS 232 interface for programming the operating parameters, for operating the unit with PLC or PC, for transferring program sequences or for downloading the update of the operating software
- Foot switch
- Release safety circuit
- Signal „Radiation on“
- Safety code in order to protect the unit against unauthorised use

Process FLOW Control

With bluepoint LED, **complete process sequences can be programmed**. They can be entered through the control system or by transferring a text file compiled on PC. The following sequences can be programmed:

- Exposure series with different intensities
- Activation of external handling components
- Holding times
- Conditional commanding depending on extern control signals

Further features

All parameter settings can be filed in six memory locations and reloaded when needed. The language for the menu texts can be selected between German, English, French or Italian.

Advantages of the LED technology

LEDs do not emit IR radiation. Thanks to the inferior tem perature load of the substrate, even temperature-sensitive materials can be irradiated. The different spectra available guarantee a safe and fast curing. As LEDs do not require a warm-up phase, LED heads can be switched on and off without any problems: they are immediately ready for operation.

Moreover, the following features characterise bluepoint LED:

- Large and clear display with all relevant information
- Intelligent power control (for each LED head separately)
- Temperature compensation of the LED
- Entry of complete program sequences

LED head

Technical Data bluepoint LED

LED service life	> 20.000 hours*
Max. UVA intensity	up to 16.000 mW/cm² **
Adjustment range of timer	0,1 – 999,9 sec or continuous op.
Wavelengths	365, 385, 405 nm
Power supply	90 V – 264 V 47 Hz – 63 Hz
Max. input current	1,5 A
Power input	120 W
Dimensions (H x W x D)	146 x 236 x 151 mm
Weight	approx. 3 kg

* typical time for usage under standard environment conditions

** measured with Hönle UV meter with LED sensor

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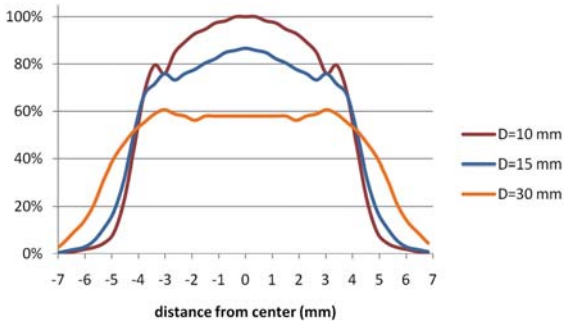
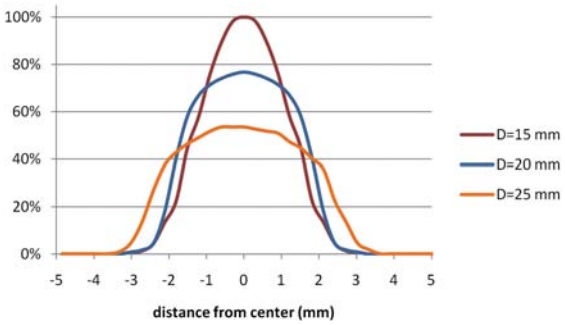
UV-LED lens types

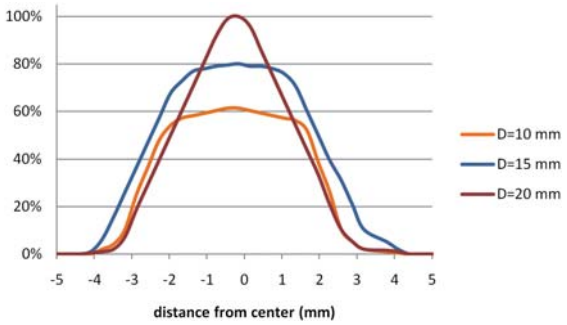
Hönle LED head „Flat Optic“



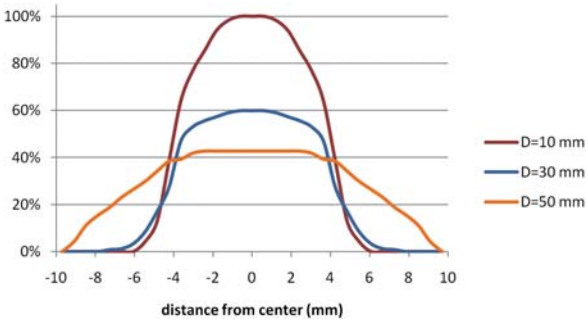
Hönle LED lens Type 3



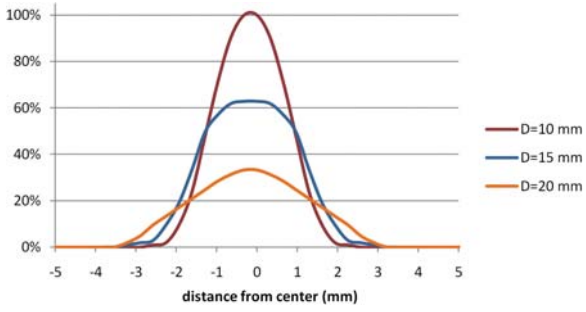
Hönle LED lens Type 4



Hönle LED lens Type 5

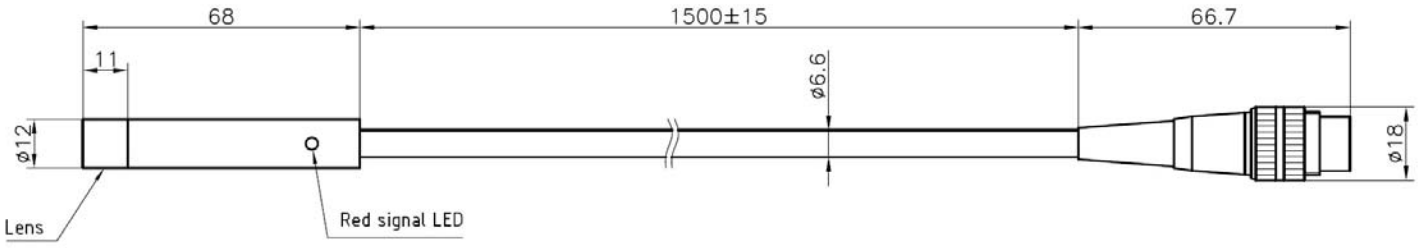


Hönle LED lens Type 6

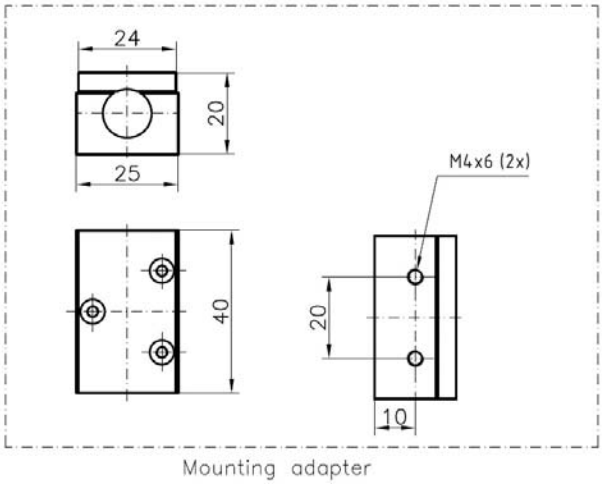


	LED Head Flat Optic			LED Lens Type 3			LED Lens Type 4			LED Lens Type 5			LED Lens Type 6		
Wavelength [nm]	365	385	405	365	385	405	365	385	405	365	385	405	365	385	405
Peak intensity* [mW/cm²]	950	1100	1500	6000	7000	10000	3000	3700	5000	1500	2100	3000	10000	12800	16000
Fokus-distance [mm]	10			15			15			10			10		
Fokus-Diameter [mm]	10			3			4			9			2		

* measured at focus-distance with a Hönle UV meter and LED sensor



Drawing LED head



More Hönle LED-Units