Heraeus

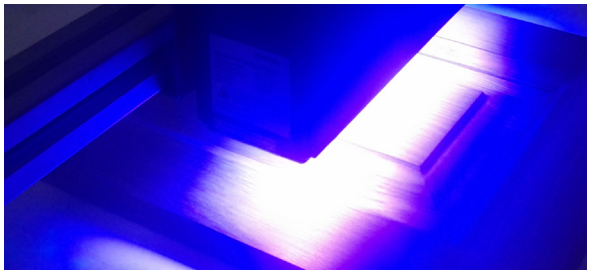
WISAG

Efficient curing processes with innovative UV-LED technology

The Heraeus Noblelight UV-LED portfolio

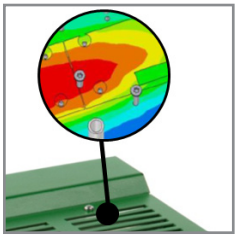
LED competence

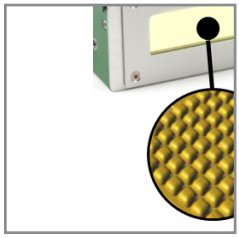
Energy-efficient curing



UV-LEDs are the innovation of the future for curing and drying processes. It is worthwhile to closely examine these industrial processes and look for methods that provide optimal results with the best possible energy efficiency.

UV-LEDs are unique light sources offering many advantages to curing processes. Optical, electrical and thermal parameters, as well as operating conditions and lamp dimensions, have to be taken into account for UV light curing processes because they have a substantial influence on the curing results. The aim is to provide the suitable wavelength within the appropriate output class at the right point in time.
The production of a UV-LED system is a complex process and its value added and technical know-how are bundled at Heraeus. In this way, all production steps and technologies used, such as chip-on-board (CoB), special thermal management systems or micro-optics, can be adjusted to each other and examined, but also improved and developed.
In addition to standard LED solutions, Heraeus Noblelight designs customer-specific LED systems which are directly adjusted to the specific curing process. Only this allows the process to be made cost-efficient and optimized in terms of energy consumption. All LED systems are available with standard wavelengths: 365,385, 395 nm. Other wavelenghts are also available on demand. They can be adjusted to different output classes and installation sizes depending on the requirements.



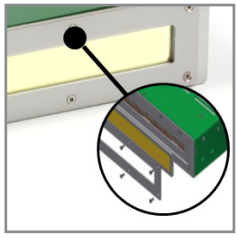


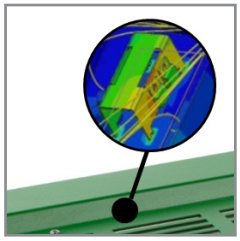
A range from small to large emission windows can be specifically manufactured. Control and cooling units adapted to the system are included in the delivery.
Our versed application experts will accompany you on the route to this future technology.
You benefit from our global service network. We are on hand all over the globe and always ready to help with everything from installation, training, and trouble shooting to process optimization.

Looking to have the best possible performance and process control?
To achieve the optimum UV-LED performance, Heraeus employs the chip-on-board (CoB) technology. A maximal chip density enables compact design and high intensities. Less connecting lines and resistors, higher reliability due to improved heat distribution and fewer solder joints result in increased UV output.

Expecting long service life?
A powerful thermal management warrants the long life of the UV-LED module.
Heraeus optimizes the cooling system specifically for the process and offers both water-cooled and air-cooled LED systems.

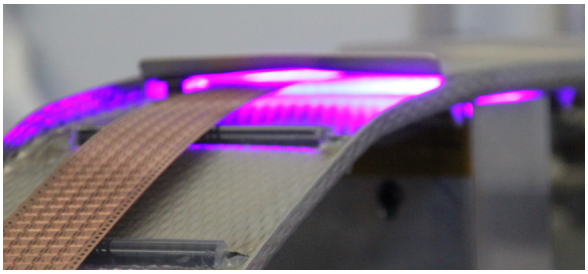
Looking to have low UV losses and improved efficiency?
Special micro-optics technology ensures maximum UV output at different working distances. You get optimal UV photon output and low divergence even at large working distances. In this way, more intensive UV light improves productivity - with the same amount of energy consumption!



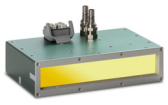


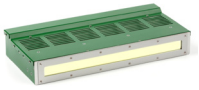
Looking to have a process tailored to your system?
Production of our UV-LED systems is flexible, and we respond to your needs! Quick-exchange front panes make maintenance easy. The UV-LEDs are protected against dust and soiling to retain their performance for a longer time. Due to our COB technology we can influence the module design to meet your requirements.

Optimal curing results
with our UV-LED standard portfolio



UV light sources precisely adjusted to the process improve reliability, reduce stress on the material and save costs, and above all, energy.

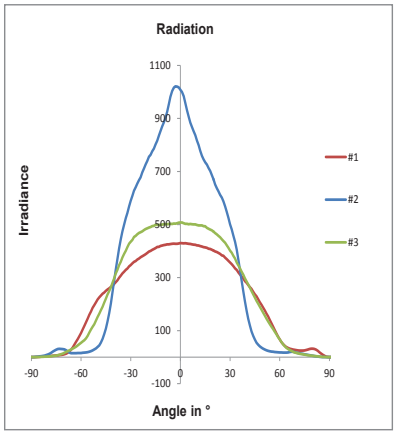




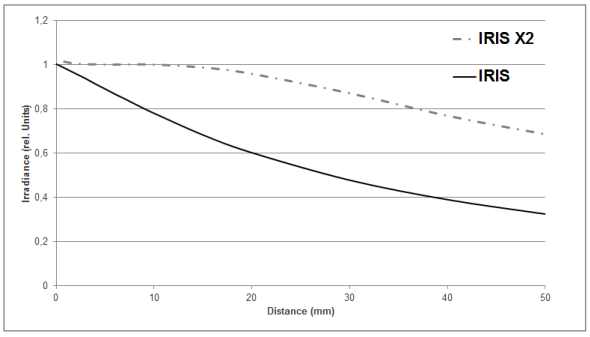
	Iris Series	Altair Series
Irradiance	365 nm: 7 W/cm² 385 nm: 14 W/cm² 395 nm: 16 W/cm²	365 nm: 1.2 W/cm² 385 nm: 3.3 W/cm² 395 nm: 3.7 W/cm²
Emission window size	45 x 254 / 385 mm 66 x 142 mm	13 x 80 / 135 / 160 / 260 / 360 mm
Cooling	Water cooling	Air cooling
Wavelengths	365, 385, 395 nm* *other wavelenghts are available on demand	
Applications / industries	Printing industry (digital, flexo, silk-screen printing), curing of adhesives and varnishes, glass printing, surface coating, automotive industry, printed electronics	

Your advantages with Heraeus UV-LEDs

- High power density for an efficient and optimized curing process using CoB technology
- Especially suitable for curing heat-sensitive materials due to low heat generation
- Flexible working distances (max. irradiance even at large working distances) due to special micro-optics and resulting beam focusing
- High process reliability: Adjusted thermal management ensures that UV output will only decrease slightly over service life.
- Low servicing expenditure and long machine operating times due to design optimized for maintenance
- Easy integration and maintenance because the system components are modular, adjusted to each other and optimized for the specific application
- Environmentally friendly process and occupational safety made easy as no ozone is generated
- Energy-efficient and future-oriented due to instantaneous switching on and off, and dimming option
- Customer-specific, process-optimized solutions due to globally available service and application experts



Advantages of the Heraeus micro-optics:
The high peak (blue line) proves good beam focusing and hence high power density (Fig. left) Large working distance without loss of intensity (Fig. at bottom)

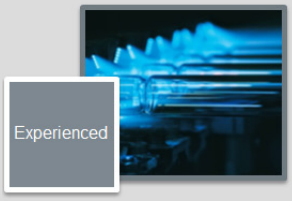


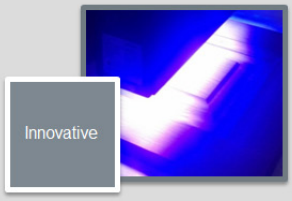
UV-LED technology
Innovative edge with Heraeus Noblelight

We make light productive!

Heraeus Noblelight is the top global name in photonics-based solutions from ultraviolet to infrared. Our sophisticated and dependable lighting systems are optimized for dedicated customer use. Benefit from major gains and improvements in productivity and an ideal use of energy in industrial, scientific and medical applications.
We closely cooperate with system manufacturers and end users to develop customer-optimized solutions for industrial processes. The invention of the quartz glass mercury silver lamp in 1904 laid the foundation at Heraeus for the production of specialty UV lamps. Today, more than 90 percent of our UV developments are customer-specific.
Our UV experts are happy to support you to find the optimal solution for your process. Customer materials can be tested in step with actual practice and industrial processes can be optimized in our own Applications and Development Competence Centres all over the world. In addition, the Hanau site features an ISO 17025 accredited measuring laboratory where various lamp types and appliances can be measured, but customer-specific measurements can be taken as well.
Profit from our know-how and decades of experience in the field of technical light sources.
Meeting your process challenges is our first concern. Whether you wish to optimize existing applications or win new markets, Heraeus Noblelight offers efficient, well thought-out and long-life solutions that give you a permanent competitive edge.

Rely on the recognized Heraeus quality!





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Subject to technical modifications.
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