Efficient curing processes with innovative UV-LED technology
The Heraeus Noblelight UV-LED portfolio
Energy-efficient curing.
Heraeus Noblelight develops energy efficient UV curing solutions that meet individual process requirements, increase production speed and improve process accuracy.

The use of UV-LEDs has established and proven itself in numerous applications. Our systems fit perfectly in every production process as we offer a high UV intensity even at large working distances. The available peak wavelength achieves an excellent depth of cure, especially suitable for curing heat-sensitive materials due to the low heat generation.

The simple integration and maintenance makes it easy to upgrade your production process with a UV-LED system from Heraeus Noblelight.

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 goal is to provide the suitable wavelength within the appropriate output class at the right point of time.

The manufacturing of a UV-LED system is a complex process and at Heraeus we combine value-added and technical know-how. In this way, all manufacturing steps and technologies used, such as chip-on-board (CoB), special thermal and optical components, are optimized with each other and tested in the Heraeus Noblelight production facility.

In addition to standard LED solutions, Heraeus Noblelight offers customer-specific LED systems custom designed to meet individual customer’s needs. Only this will allow a cost-efficient process, optimized in terms of energy consumption. All LED systems are available in three wavelengths: 365, 385, 395 nm. Other wavelengths are also available upon request. Optical specifications and footprints can be tuned to meet individual requirements.

UV-LEDs can be manufactured with a range from small to large emission windows. Adapted control and cooling units complete the range. Our application experts will assist you to get the perfect solution for your requirements. Benefit from our global service network. We are all over the globe – and we cover everything from installation, training to process optimization.

Benefit from our global service network

The use of UV-LEDs has established and proven itself in numerous applications like glass printing, digital flexo and screen printing, adhesive and paint curing and many more.
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 cables and resistors, higher reliability due to improved heat management result in increased UV output.

Expecting long service life?
Powerful thermal management delivers the long life of the UV-LED module. The UV-LEDs are protected against dust and soiling to retain their performance for a long time.

Looking to have low UV losses and improved efficiency?
Special micro-optics ensure 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?
Manufacturing of our UV-LED systems is flexible, and we respond to your needs! Heraeus optimizes the cooling system specifically for your process and offers both water-cooled and air-cooled LED systems. Due to our CoB technology we can customize the module design to meet your requirements.

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 ease of 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 since no ozone is generated
- Energy-efficient and flexible due to instantaneous switching on and off, and dimming option
- Customer-specific, process-optimized solutions due to globally available service and application experts
### NobleCure® Altair series (air-cooled) line-up

<table>
<thead>
<tr>
<th>Model</th>
<th>Altair 75</th>
<th>Altair 150</th>
<th>Altair 250</th>
<th>Altair 350</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak wavelength [nm]</td>
<td>365</td>
<td>385</td>
<td>395</td>
<td>365</td>
</tr>
<tr>
<td>Irradiation intensity [W/cm²]</td>
<td>4</td>
<td>3.3</td>
<td>3.7</td>
<td>4</td>
</tr>
<tr>
<td>Irradiation surface [mm²]</td>
<td>80 × 13</td>
<td>160 × 13</td>
<td>260 × 13</td>
<td>360 × 13</td>
</tr>
<tr>
<td>Standard dimensions [mm³]</td>
<td>121(W) × 289(D) × 42.4(H)</td>
<td>218(W) × 213(D) × 70(H)</td>
<td>329(W) × 213(D) × 70(H)</td>
<td>430(W) × 213(D) × 70(H)</td>
</tr>
</tbody>
</table>

### NobleCure® Altair series output wavelength

![Wavelength Graph](image)

#### Irradiation distance and light intensity

![Irradiance Graph](image)

### NobleCure® IRIS series output wavelength

![Wavelength Graph](image)

### Altair series output wavelength

![Wavelength Graph](image)

#### Irradiation distance and light intensity

![Irradiance Graph](image)
Semray®

ONE UV LED segment.
ONE backplane.
ONE data cable.
ONE power cable.
Independent of the width.

Semray® is the plug & play UV LED curing revolution, designed for maximum performance, flexibility and reliability. All components are perfectly matched to ensure a high and uniform UV output for optimum curing results.

**Specifications** per segment of air-cooled UV-LED Semray®

<table>
<thead>
<tr>
<th>Model</th>
<th>UV4003 Segment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak wavelength [nm]</td>
<td>365 385 395</td>
</tr>
<tr>
<td>Typ. Irradiance [W/cm²]</td>
<td>10 14 14</td>
</tr>
<tr>
<td>Typ. Optical Output [W]</td>
<td>130 160 160</td>
</tr>
<tr>
<td>Emission window [mm²]</td>
<td>75 × 45</td>
</tr>
<tr>
<td>Electrical connections [W]</td>
<td>typical 600, max. 750</td>
</tr>
<tr>
<td>Weight [kg]</td>
<td>1.7</td>
</tr>
<tr>
<td>Outer dimensions of housing (W × D × H) [mm³]</td>
<td>77 × 136 × 253</td>
</tr>
<tr>
<td>Noise level [db]</td>
<td>68</td>
</tr>
</tbody>
</table>

*measured at 395 nm

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**The all-in-one solution.**Semray® can adapt to any task – thanks to its modular design and revolutionary plug & play backplane concept. Everything is possible, from reducing the machine width and changing the wavelength to extending the working clearance and increasing the process speed. Semray® enables you to respond to new customer requirements with lightning speed, simply by inserting or removing segments, each 77mm wide, in the backplane.
We make light productive!

Heraeus Noblelight is the top global name in photonics-based products and solutions from UV to infrared. We offer sophisticated and dependable lighting systems that are developed for specific customer applications. Benefit from major productivity gains, product improvements and optimized energy use in industrial, scientific and medical applications.

We work closely with plant manufacturers and end-customers to develop customized solutions for industrial processes. In 1904, the invention of the mercury vapor quartz glass lamp paved the way for the production of special UV lamps at Heraeus. Today, more than 90 percent of our UV developments are customer-specific solutions.

Our UV experts will work with you to find the optimum solution for your process. They carry out practical tests on customer materials and optimize industrial processes in our in-house application and development centers around the world. We also have an ISO 17025-accredited measurement lab in Hanau, where various lamp types and devices are calibrated and customer-specific measurements can also be carried out. Make the most of our expertise and our decades of experience with technical lighting systems.

Our top priority is to find the right solution for your process requirements. No matter whether you want to optimize existing applications or are keen to move into new markets, Heraeus Noblelight offers you efficient, well thought-out and durable solutions that will make sure you stay one step ahead of the competition. Put your trust in tried-and-tested Heraeus quality!

Think UV. Think Heraeus
www.heraeus-noblelight.com