Efficient industrial curing processes with innovative UV LED technology
The Heraeus Noblelight UV LED portfolio
UV LED portfolio by Heraeus
Various solutions from water to air cooled systems of different intensities, power classes and lamp head sizes to fit any industrial application

UV LED is the industrial standard for curing and drying processes, due to its efficiency and energy-saving potential. Heraeus offers UV LED curing solutions and customer specific UV LED curing systems tailored to the application. Users can choose between water- or air-cooled UV LED curing systems depending on their process and production needs. While water cooling offers high power solutions in challenging industrial environments, air cooling offers easy and fast integration.

Water-cooled systems

Semray® UV5000 & UV7000 (water-cooled) line-up. Unique water based compact platform concept for highest dose and intensity.

<table>
<thead>
<tr>
<th>Model</th>
<th>UV 5000 – 400 mm</th>
<th>UV 5000 – 1000 mm</th>
<th>UV 7000 – 400 mm</th>
<th>UV 7000 – 1000 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irradiation intensity [W/cm²]</td>
<td>15 18 23 20</td>
<td>15 18 23 20</td>
<td>22 26 30 26</td>
<td>22 26 30 26</td>
</tr>
<tr>
<td>Emission window size [mm]</td>
<td>410 × 84</td>
<td>1000 × 84</td>
<td>410 × 84</td>
<td>1000 × 84</td>
</tr>
<tr>
<td>Standard dimensions [mm]</td>
<td>422(W) × 100(D) × 100(H)</td>
<td>1016(W) × 100(D) × 100(H)</td>
<td>422(W) × 100(D) × 100(H)</td>
<td>1016(W) × 100(D) × 100(H)</td>
</tr>
</tbody>
</table>

Customized sizes in 50mm steps are available, please reach out to our global contacts.

In addition to standard UV LED solutions, Heraeus Noblelight offers customer-specific LED systems designed to meet individual needs. This enables customers to find a cost-efficient solution, optimized in terms of energy consumption. All UV LED systems are available in different wavelengths. In addition, we can tune optical specifications and footprints to meet individual requirements.

Learn more about UV technology: www.heraeus-noblelight.com/semray
Reliable energy efficient UV solutions
meeting individual process requirements, increase production efficiency and improve process accuracy.

The use of UV LEDs is state of the art in industrial curing processes and proven in numerous applications. Our systems fit perfectly in diverse production processes as we offer high UV intensity even at large working distances. The different available peak wavelengths achieve an excellent depth of cure, especially suitable for curing heat-sensitive materials due to the low heat generation. A UV LED curing system from Heraeus Noblelight is simple to integrate into any production process and requires significantly less maintenance.

UV LED light sources offer many advantages to industrial 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 use.

**Heraeus solution: custom engineered system.**
Our UV LEDs are manufactured with a range from small to wide 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.

**Made in Germany.** The manufacturing of a UV LED system is a complex process. Heraeus provides expertise in high end materials combined with experience and knowledge from different business segments. 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.

**Your advantages with Heraeus UV LEDs**
- High power density for an efficient and optimized curing process
- Especially suitable for curing heat-sensitive materials due to low heat generation
- Most flexible working distances (max. irradiance even at large working distances) due to special micro-optics and resulting beam focusing
- High process reliability: Smart thermal management maximizes the stability of the UV output
- Easy integration and maintenance because the system components are modular, adjusted to each other and optimized for the specific application
- Customer-specific, process-optimized solutions due to globally available service and application experts
- In-house CoB technology for optimum UV LED performance
- Adjustable intensity for more flexible use
**NobleCure® IRIS series (water-cooled) line-up**

<table>
<thead>
<tr>
<th>Model</th>
<th>IRIS 250</th>
<th>IRIS 375</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak wavelength [nm]</td>
<td>365</td>
<td>385</td>
</tr>
<tr>
<td>Irradiation intensity [W/cm²]</td>
<td>15</td>
<td>22</td>
</tr>
<tr>
<td>Emission window size [mm]</td>
<td>254 × 26.5</td>
<td>379 × 26.5</td>
</tr>
<tr>
<td>Standard dimensions [mm]</td>
<td>275(W) × 178(D) × 60(H)</td>
<td>400(W) × 100(D) × 60(H)</td>
</tr>
</tbody>
</table>

*Further wavelengths available on request

**NobleCure® IRIS series output wavelength**

<table>
<thead>
<tr>
<th>Wavelength (nm)</th>
<th>365</th>
<th>385</th>
<th>395</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irradiance (a.u.)</td>
<td>1</td>
<td>0.8</td>
<td>0.6</td>
</tr>
</tbody>
</table>

**Irradiation distance and light intensity**

<table>
<thead>
<tr>
<th>Distance (mm)</th>
<th>0</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irradiance (a.u.)</td>
<td>1</td>
<td>0.8</td>
<td>0.6</td>
<td>0.4</td>
<td>0.2</td>
<td>0</td>
</tr>
</tbody>
</table>

**Air-cooled systems**

**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>Emission window size [mm]</td>
<td>80 × 13</td>
<td>160 × 13</td>
<td>260 × 13</td>
<td>360 × 13</td>
</tr>
<tr>
<td>Standard dimensions [mm]</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**

<table>
<thead>
<tr>
<th>Wavelength (nm)</th>
<th>365</th>
<th>385</th>
<th>395</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irradiance (a.u.)</td>
<td>1</td>
<td>0.8</td>
<td>0.6</td>
</tr>
</tbody>
</table>

**Irradiation distance and light intensity**

<table>
<thead>
<tr>
<th>Distance (mm)</th>
<th>0</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irradiance (a.u.)</td>
<td>1</td>
<td>0.8</td>
<td>0.6</td>
<td>0.4</td>
<td>0.2</td>
<td>0</td>
</tr>
</tbody>
</table>
Semray® UV4103. ONE UV LED segment. ONE backplane. ONE data cable. ONE power cable. Independent of the width.

Semray® UV4103 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.

The all-in-one solution. Semray® UV4103 The One can support very different processes – due to its modular design and revolutionary plug & play backplane concept. Everything is possible, from reducing the machine width or changing the wavelength to extending the working clearance and increasing the process speed. Semray® The One enables you to respond to new requirements, simply by inserting or removing segments, each 77 mm wide, in the backplane.

Heraeus unique micro-optics reduce stray light to a minimum with an exit angle of 60 instead of 120 degrees – for all available wavelengths.
The incredible power of light®
Photonics-based solutions from ultraviolet to infrared

Heraeus Noblelight covers the total spectrum of technically usable wavelengths and can help find the optimum light system solution to suit specific processes. Whether you wish to optimize existing applications or win new markets, we offer efficient, well thought-out and long-life solutions that give you a lasting competitive advantage.

Productive light solutions with wavelengths from UV to IR improve many industries, from analytical to automotive or semiconductors and water treatment.

Need to make your industrial process more efficient? The solution for your process challenges has the highest priority to us. Our light solutions operate efficiently and increase production rates.

 Tested, checked and proven. Our in-house application competence and development centers around the world allow you to:
- test your material under practical conditions
- optimize your industrial processes
- determine feasibility for your application

In addition, Hanau has an ISO 17025-accredited measuring laboratory that offers its know-how and takes customer-specific measurements.

Heraeus Noblelight is part of the Heraeus technology group, a globally active family-owned enterprise. Within the Heraeus group, we have direct access to fundamental technologies and high-quality materials such as quartz glass, important precious metals and specialty materials. Rely on the acknowledged Heraeus quality!

Think UV. Think Heraeus.

www.heraeus-noblelight.com/semray

Germany
Heraeus Noblelight GmbH
Heraeusstrasse 12–14
63450 Hanau
Phone +49 6181 35 4499
Fax +49 6181 35 164499
hng-uv@heraeus.com
semray@heraeus.com

USA
Heraeus Noblelight America LLC
910 Clopper Road
Gaithersburg, MD 20878
Phone +1 301 527 2660
Fax +1 301 527 2661
info.hna.uvp@heraeus.com

Japan
Heraeus K.K.
Noblelight Division
Sumitomo Fudosan Otowa
Bldg. 1F, 2F, 5F
2-9-3 Otsuka, Bunkyo-ku
112-0012, Tokyo
Phone +81 3 6902 6602
Fax +81 3 6902 6613
info.hkk@heraeus.com

China
Heraeus Noblelight (Shenyang) Ltd.
Shanghai Branch
2F, 5th Building, No. 406 Guilin Road,
Xuhui District
Shanghai 200233, P.R. China
Phone +86 400 080 2255
Fax +86 21 3357 5333
info.hns@heraeus.com

South Korea
Heraeus Suwon, South Korea
Heraeus Korea Corp
13F, 156, Gwanggyo-ro
(Eui-dong, Gwanggyo business center)
Yeongtong-gu, Suwon-shi,
Gyeonggi-do, 16506
Phone +82 31 270 9441