

Heraeus

The One.



**Semray® UV4000 series –**

**The One UV LED plug & play system**

Unbeaten for industrial applications due to performance,  
flexibility and robustness.

# Complexity made simple.

**The Semray® UV4000 series 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.**

UV LED systems often appear as sealed, square boxes with a window for UV light. Each of these boxes is then connected to a power and data cable and fixed inside a machine, where it is out of sight as it is hidden behind cables in numerous cases. Whenever service is needed or an upgrade to boost performance becomes possible, the whole production process needs to be halted, cables disconnected and the LED boxes unscrewed. The whole process is costly in regards to time and money. To tackle all the above mentioned challenges we developed a solution: And it was – with the Semray® UV4000 series.

## **The best thing that can happen to UV LED**

The Semray® UV4000 series simplifies complexity due to a backplane, which is installed inside the machine and incorporates connections for communication and power. As many UV LED segments as needed can be clicked into place via the plug & play system and can be replaced with ease, without any tooling. This approach is just as innovative as the air-cooled UV LED system itself.



Segment

# Markets, challenges.

Discover almost unlimited possibilities.



**Lower energy consumption, shorter drying times, higher throughput, and constantly increasing product quality requirements** – these challenges were set by competition with all developments of recent years. As a response to these set challenges a high level of production flexibility, short response times and cost-effectiveness is asked for. It is therefore all the more important for you to be able to rely on a UV system that enables you to respond to these challenges and solve them.

## Welcome to the future

Progress can be seen in many details, summarized in one name – **Semray®**.

Whether it be converting, printing, display or fiber, the Semray® 4000 series impresses due to its outstanding quality, even for the most demanding challenges. A decision for Semray® The One is therefore an investment in the future that pays off through cost reductions, top performance and an added bonus of flexibility and robustness.

## Freedom for greater flexibility

The Semray® 4000 series enables you to be flexible and react fast to changing demands. It is in a class of its own, using innovative technology to meet the most demanding performance. In optimizing your workflow and achieving lasting improvements to your cost-effectiveness, it does everything you could ask for.

# Semray® – The One

LEDs are the future. But we will be the ones, who make the future bright. With Semray® we have set new market standards: in performance, in flexibility, in reliability, in ease and last but not least, in profitability.

## Simply more performance

It isn't just the number of LED chips that matter, but how much energy interacts with the substrate. Efficiency is key!

Therefore we developed a unique system of micro-optics in our Semray® 4000 series. Our invention enables a focus of UV light, thereby reducing stray light to a minimum – with an exit angle of 60 instead of 120 degrees. This ensures more UV energy reaches the substrate.

## Higher UV efficiency = better performance

The results of high uniformity and precise UV adjustment will show clearly in your balance sheets: a very high, consistent and even dimmable UV output that optimizes each curing process. Quality stays constant, even with large curing widths or working distances. The powerful cooling system enhances your curing results and increases your efficiency and reliability through intelligent thermal management.







### Simply more flexibility

The Semray® UV4000 series is the all-in-one solution. It can be adapted to any task – thanks to its modular design and revolutionary plug & play backplane concept.

#### ONE-concept:

- ONE UV LED segment
- ONE backplane
- ONE data cable
- ONE power cable
- Adaptable to your ideal working width

Everything is possible, from altering machine width and changing wavelengths to extending the working clearance and to increasing the process speed.

Semray® – The One enables you to respond to new customer requirements with lightning speed, simply by swapping segments, each 77 mm wide, in the backplane.

**No technician required:** Each UV LED segment can be simply clicked in and out of the backplane via a unique plug & play system, without having to remove any additional power or communication cables. **Your result:** **Reduced time and cost and a higher productivity.**

### Simply more reliability

Every Semray® UV4103 segment has an individual thermal management. Additional sensors for the monitoring of electronic, fan and LED ensure a safe operation: They increase the uptime of the machine and secure an ongoing process. This user-friendly, highly intelligent technology in combination with quartz emission window turns the UV LED system into a robust and durable solution – ensuring stability and a long lifetime for industrial and custom applications.

Process safety thanks to our Application Competence Center worldwide and an ISO 17025 certified measurement lab in Hanau, Germany.

Our unique Application Competence Centers worldwide (ACC) and the unique accredited measurement laboratory provide extensive analysis, testing and measuring – and our profound chemical formulation knowledge due to the history and experience of Heraeus ensures an optimal solution for your individual production process.

### Simply more profitability

Semray® – The One is a modular and scalable product: The replaceable UV LED channel with its unique plug & play concept reduces not only replacement time and costs for cleaning, maintenance and upgrading without expensive de-installation. It also enables you to minimize your fixed capital and the need for storing spare parts. The result: An extended useful lifetime and reduced costs of ownership.

#### Semray® – The One is simply more:

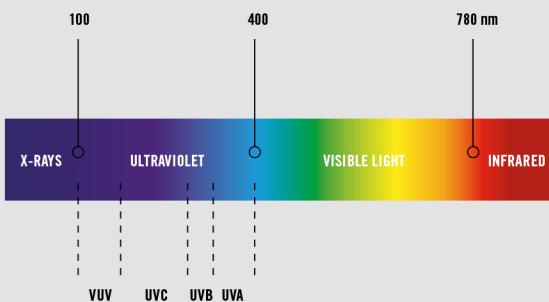
- simply more performance
- simply more flexibility
- simply more reliability
- simply more profitability



# 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.



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.**



**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.