

# UV LED APPLICATIONS FOR COFFEE MACHINE SANITIZATION



# Introduction

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**UV LED technology** is revolutionizing the way we think about and implement **cleaning, maintenance, and safety of components in coffee machines** and, more broadly, in the equipment used in the Ho.Re.Ca. industry. Thanks to UV LED technology, it is possible to perform **instant or timed sanitization** of various critical parts of the coffee machine and its accessories. This quick and efficient process **ensures a hygienically safe environment for the preparation of high-quality coffee.**

What are the potential applications of this innovative technology? Here is our proposal.

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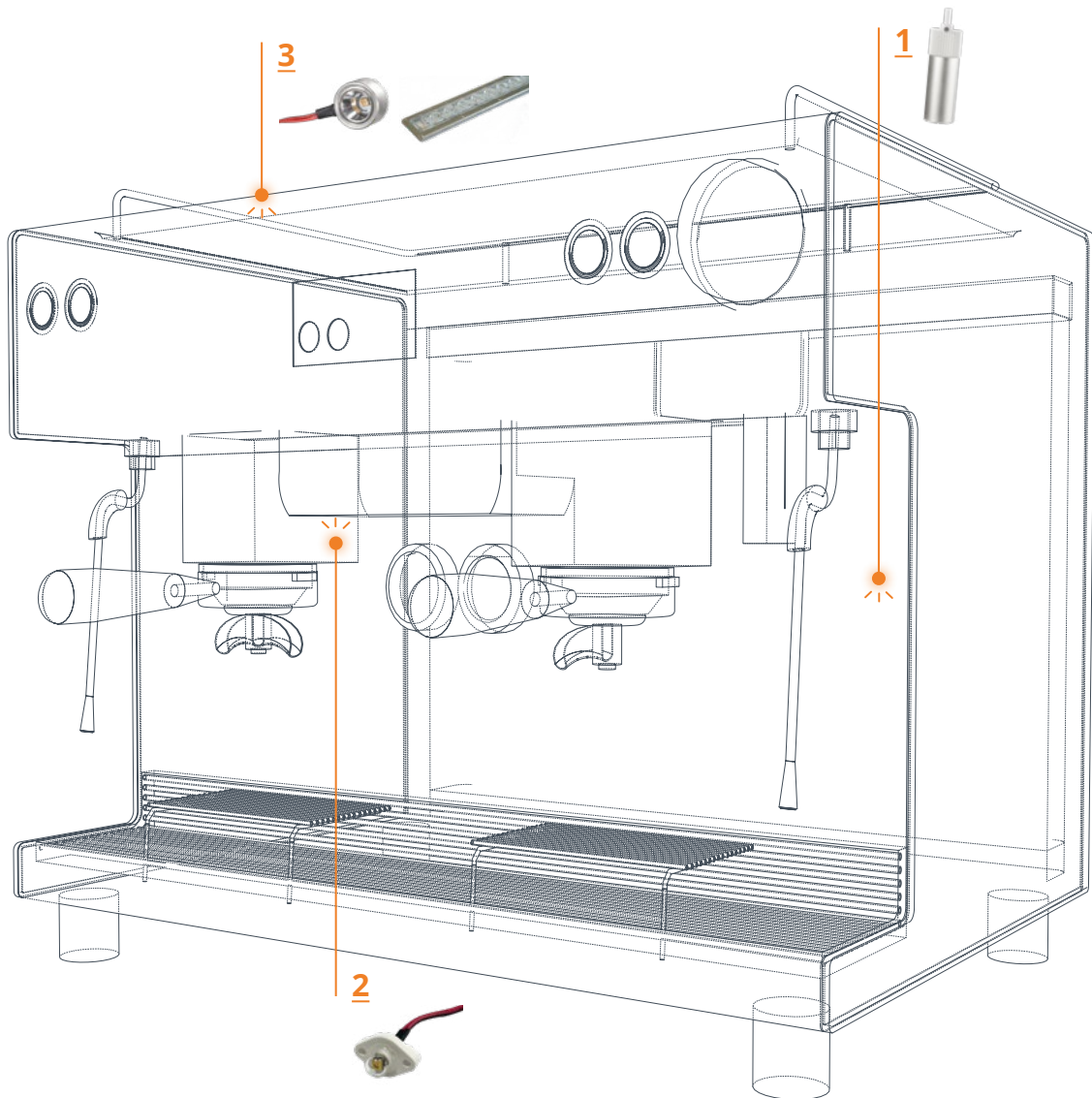
# Where does UV LED sanitization take place?

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Accessories and parts of the coffee machine that can benefit from sanitization through UV LED technology:

1. **Internal hydraulic circuit:** the UV LED module, positioned at water passage points, eliminates bacteria and contaminants that may affect the quality of the coffee.
2. **Dispensing unit:** instant sanitization of the internal part of the dispensing unit ensures that each cup of coffee is prepared in a sterilized environment, free from germs.
3. **External surfaces:** in addition to internal parts, UV light can be used to sanitize the external surfaces of the coffee machine, ensuring a hygienic environment free from contaminants.  
For example, the cup storage area positioned above a professional coffee machine.
4. **Water tank** (if present): UV LED technology, positioned inside the water container or above the tank, sanitizes the water contained within.

# UV LED sanitization devices



**1. UV LED module for internal hydraulic circuit**, also with IP68 rating through potting or silicone protection





**2. UV LED module for dispensing unit**, also with IP68 rating through potting or silicone protection/lens

**3. UV LED module for external surfaces**

\* *The images, descriptions, and any other information contained in this brochure are provided exclusively for illustrative purposes: each specific UV LED sanitization solution will be designed and implemented according to the technical project specifications of the end customer.*

# Advantages of UV LED sanitization

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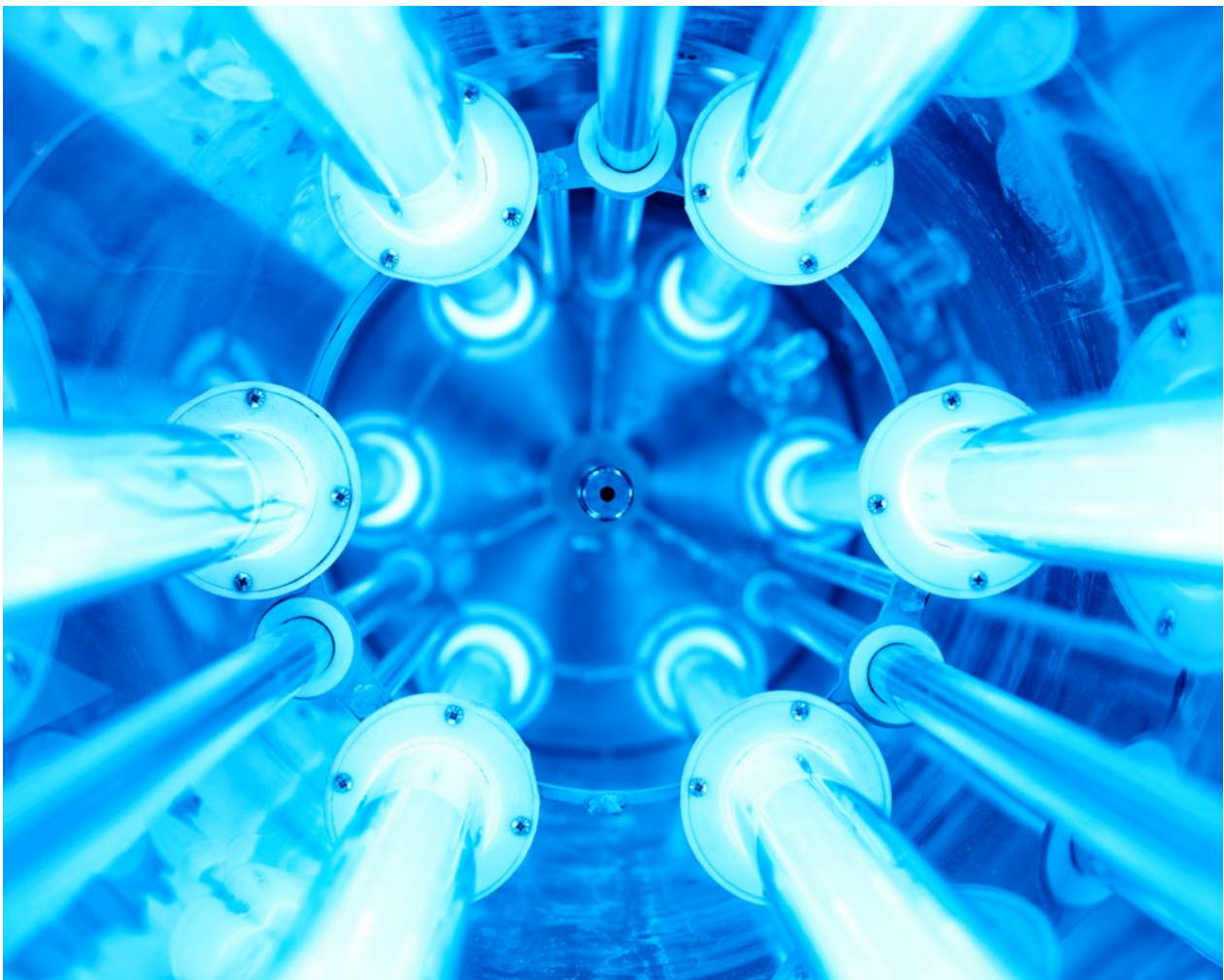
-  **Fast sanitization:** thanks to UV LED technology, it is possible to perform instant or timed sanitization of the internal parts of the coffee machine, with sanitization cycles lasting just a few minutes.
-  **Maximum efficiency in cleaning:** UV LED technology provides deep and comprehensive cleaning (bacteria, viruses, molds), surpassing the limitations of traditional cleaning methodologies.
-  **Prevention of pathogens:** the UV LED system acts as a continuous protective barrier, preventing the formation of pathogens between uses.
-  **Energy savings and longevity:** UV LEDs offer high energy efficiency, ensuring a long operational lifespan. It is a reliable technology with low environmental impact.

# Technical specifications

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**UV LED modules must be certified** for the specific application by an accredited company: materials, technical application specifications, pathogens, and timing determine the choice of the most suitable UV LED module and its use.





To ensure the reliability of the proposed sanitization system, thorough checks will be conducted with the support of research laboratories. The **tests and reports carried out and specially certified** ensure the **necessary parameters for effective and efficient sanitization** of the appliance and materials.



# Additional applications

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Not only sanitization for coffee machines, **but the versatility of UV LED technology can be applied to a wide range of surfaces and components.** UV LED technology can be extended to other devices in the food equipment, Ho.Re.Ca. and home appliance sectors for the sanitization of surfaces, water, and air. Here are some examples of applications:

-  water, ice, or other beverage dispensers;
-  internal water circuits within appliances;
-  containers for sanitizing kitchen components and cutlery;
-  ventilation systems.

The modularity of the technology, however, leaves ample room for further possible applications.



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