

## CASE STUDY 4

# The collaboration between SLIM and Quick Mill: the UV-C LED steriliser kit

[Quick Mill S.r.l.](#) is a company based in Senago (MI) and specialised in the design and manufacture of **domestic and professional coffee machines**, which are extremely **functional and easy-to-use**.

Quick Mill, with whom we have been cooperating for the development of light sources for coffee machines, contacted us to create a UV-C LED holder for sanitising the water tank of their coffee machines.





## Quick Mill's application

We received the request during Covid-19 pandemic. The goal of the application was to create a tool that could further improve the coffee machines and, meanwhile, could contribute to people's health. Our distinctive features as **the experience and the continuous innovation in the development of functional lighting solutions**, with an emphasis on aesthetics, have ensured that Quick Mill picked us for the development of a unique custom solution.

The initial idea was to create another type of device: a sterilising device for housing coffee cups but, unfortunately, the following criticalities were highlighted:

- the reflection and dispersion of the LED light on the machines which are made of steel;
- the suitable length of the sterilization cycle to reach an effective bacteria abatement.

Therefore, we worked proactively to seek a solution to this set of problems. Consequently, we proposed **a replacement device to sterilise the water in the tanks**, since some microorganisms are resistant to water-heating for making coffee.

## SLIM's solutions for Quick Mill

Our R&D team carried out an in-depth study to identify **the most suitable UV-C module** and the appropriate **plastic holder** that allowed the same module to be placed on top of both water tank's models required. This location was designed so that during the disinfection process the UV-C rays would avoid hitting the eyes or other parts of the user's body.

In developing the project, we have taken account of the aesthetic result. In fact, the appearance of the light sources is important because, being placed at the front of the machines, they must satisfy the end customer

The realization has lived up to Quick Mill expectations, and the first satisfactory results encouraged us to implement this innovative project.

The collaboration has led to the creation of a [complete kit](#), which includes: a **holder**, a **light source**, a **power cable with a USB port** and an **instruction booklet**. The UV-C module is mounted on a plastic holder that fits onto the tank. Above it, the button to start the sterilisation cycle contains a LED that changes colour when the operating status changes.

The circuit inside the plastic holder starts a **180-second sterilisation cycle**; if held down for longer, it carries out 360-second cycles. A double cycle completes the sanitisation process and the **bacteria destruction rate rises to over 99%**. The percentage is certified by [Pro Lab Service](#) laboratory.

We are at your disposal, ready to support you with the development of the perfect **custom solutions**, both in terms of configuration and functionality.

In order to know further details, simply consult the area dedicated to [How a project comes to life](#) and evaluate our partnership.

