spectral.blue®

MULTI-WAVELENGTH ANTIMICROBIAL BLUE LIGHT (ABL)

Automated, continuous blue light disinfection for laboratories

✓ *Touch-free*

✓ *Chemical-free*

✓ *UV-free*

✓ *Safe for people, instruments & labware*

Spectral Blue MWHI® antimicrobial blue light

Automated and continuous disinfection for laboratory environments

Traditionally, contamination control in laboratories has relied on chemical disinfectants and manual procedures. While effective, these traditional practices are often expensive and labor-intensive, and results can vary depending on execution. Today, they are increasingly challenged by concerns around chemical exposure, material compatibility, environmental impact, and microbial adaptation. As a result, the demand for more sustainable, automated disinfection practices continues to grow.

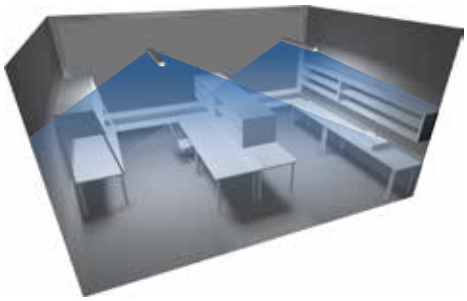
Spectral Blue MWHI® Multi-Wavelength, High-Intensity antimicrobial blue light (aBL) is a patented, fully automated disinfection technology for laboratory environments. The chemical-free and UV-free solution provides continuous microbial control without operator input. It disinfects air, surfaces, equipment, and water, reducing the need for chemicals and manual routines. It's effective on a wide range of micro-organisms, including multi-resistant strains and biofilms, while remaining uniquely safe for staff, instruments, labware, and the environment.

Protect your samples against cross-contamination

Spectral Blue MWHI® disinfection devices operate automatically during off-hours or 24/7, continuously reducing bioburden. Install them in equipment like biosafety cabinets and laminar flow hoods to automatically and continuously reduce the risk of cross-contamination and to protect your staff.

Replace UV lamps in biosafety cabinets & laminar flow hoods

Workbenches & equipment



Whole rooms

Continuous disinfection protects sample integrity

Replace UV lamps & reduce reliance on chemical disinfection

Spectral Blue supports analytical, clinical, food, and research laboratories in reducing microbial contamination risk and safeguarding the reliability of test results. You can reduce reliance on UV lamps and manual chemical disinfection, while improving staff safety and protecting sensitive instruments.

Prevent cross-contamination & false positives

Spectral Blue reduces background microbial contamination between workflows—helping prevent cross-contamination and supporting reliable results.

Maintain continuous microbial control in rooms and work zones

Spectral Blue operates automatically during off-hours or 24/7, providing continuous microbial control of air, surfaces, and equipment in laboratory environments.

More sustainable operations with safe & environmentally friendly technology

Our chemical-free and UV-free technology supports more sustainable laboratory work without compromising quality. The long-lifetime LED devices contain no mercury, generate no ozone, and require no routine lamp changes or special maintenance.

Proven customer results

Testimonials from leading laboratories

Discover five laboratory case examples demonstrating how Spectral Blue improves hygiene management in laboratories. All these and more stories are presented in detail on our website at www.spectral.blue/testimonials

CASE 1:

Eurofins Scientific Finland selects Spectral Blue over UV lamps

Eurofins Scientific Finland introduced Spectral Blue antimicrobial blue light to strengthen hygiene in its laboratory production areas and support the reliability of analytical work. The team chose the solution as a practical and occupationally safe alternative that complements existing disinfection routines. Spectral Blue improves surface hygiene without uncertainty linked to UV lamp ageing and hazardous waste from mercury-containing UV tubes—supporting both staff safety and sustainability goals.

CASE 2:

Thermo Fisher Scientific introduced Spectral Blue to improve hygiene

"Microbial exposure of our working environment and premises can constantly be retained on an appropriate level by using blue light disinfection. Blue light is very suitable for this purpose, since it's safe and does not harm materials. Spectral Blue delivered a comprehensive disinfection solution quickly and easily. In the future Spectral Blue solutions can be introduced in to our other premises too."

CASE 3

Nofima, the Norwegian Food Institute

Nofima, selected Spectral Blue antimicrobial blue light disinfection for its accredited laboratory, BioLab. It strengthens everyday hygiene and reduces contamination risks in sensitive laboratory work, where clean conditions are essential for reliable results.

CASE 4:

Hankkija, feed and grain lab. Salmonella lab reduced need for chemicals.

Hankkija deployed Spectral Blue automated blue light disinfection in its grain and feed laboratory to strengthen hygiene and reduce contamination risks in daily testing work. The laboratory handles microbiological screening, including *Salmonella* in grain-related samples.

With Spectral Blue in place, Hankkija was able to keep rooms and key areas hygienic without relying on constant manual effort. As a result, the need for chemical disinfectants in cleaning was significantly reduced, making laboratory routines simpler and safer.

CASE 5:

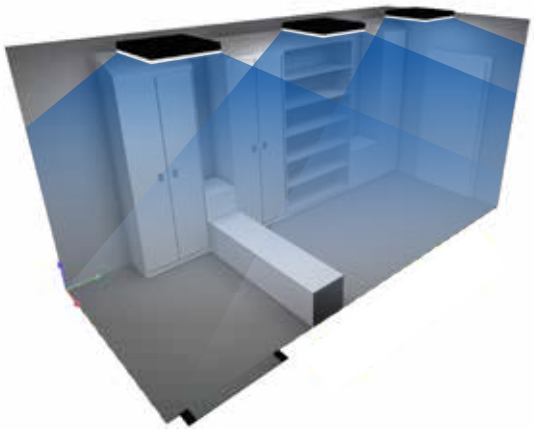
SeiLab, a service laboratory. Ended a persistent *Listeria* incident

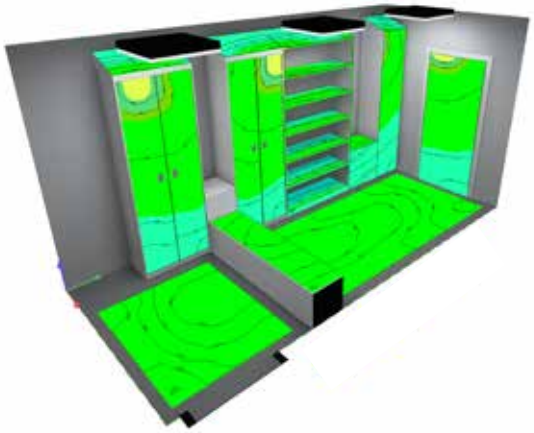
SeiLab, an accredited food and environmental laboratory, faced a *Listeria* contamination incident where the bacteria was repeatedly found on surfaces in a waste disposal room. Even after increasing cleaning and chemical disinfection efforts, the contamination could not be fully eliminated and a fast and practical solution was needed.

SeiLab introduced a portable Spectral Blue BERLIN device in the affected area and directed it towards the contaminated surfaces. After a few days of use, *Listeria* could no longer be detected. SeiLab decided to keep Spectral Blue as part of its daily contamination control routines—also valuing the ability to move the device to different areas whenever needed.

3D disinfection planning

Optimal device placement through simulation





Every site is different and every microbial challenge is unique. Using a proprietary simulation model developed by our scientists, we create a 3D model of your space and Spectral Blue device placements. We verify the blue light coverage and optimize the setup, ensuring a solution that works in real operating conditions and delivers faster return on investment.

How the simulation process works

We simulate different device layouts and refine the design with you until the setup matches your goals — whether you want to tackle a specific problem, improve hygiene management, or reduce chemical disinfection.

What you will receive

You will get a clear recommendation for the optimal Spectral Blue MWHI® setup for your site, including:

- Recommended device type(s) and quantity
- Suggested placement for best coverage
- Price, either as an investment or as a monthly subscription fee

What we need from you

To get started, we only need basic information, such as:

- A floor plan or drawing (PDF or CAD if available — a sketch works too)
- Room dimensions and ceiling height
- Major equipment or furniture placement
- Notes on room usage and operational routines

Spectral Blue is your long-term partner in contamination control

Our approach is to help you strengthen hygiene performance, protect critical boundary areas, and achieve measurable, sustainable results in day-to-day operations. We measure success by the results you achieve.

Ready to let us run a simulation for you?

Simply send us your layout and requirements and we'll propose an optimized Spectral Blue MWHI® setup for your facility. The planning is a free service from us and there's no obligation to purchase.

Get your free planning service:

www.spectral.blue/free-planning

Spectral Blue devices for laboratories

Designed & made in Finland

WHOLE ROOMS:

P100 DUAL-MODE recessed ceiling panel

- Has both MWHI antimicrobial blue light and white light modes
- Power consumption: 100 W
- Dimensions: LxWxH 595x595x110 mm
- Control method: DALI or on/off

WORK BENCHES & WHOLE ROOMS:

OSLO plug & play disinfection device

- Surface installation on walls or ceilings
- Power consumption: 100 W
- Dimensions: L x W x H 657 x 90 x 59 mm
- Control method: on/off

BIOSAFETY CABINETS & LAMINAR FLOW HOODS

SALO & SALO XL plug & play disinfection devices

- Magnetic mounting for quick deployment and removal
- Power consumption: 50 W / 100 W
- Dimensions: L x W x H 604/1160 x 109 x 66 mm
- Control method: on/off

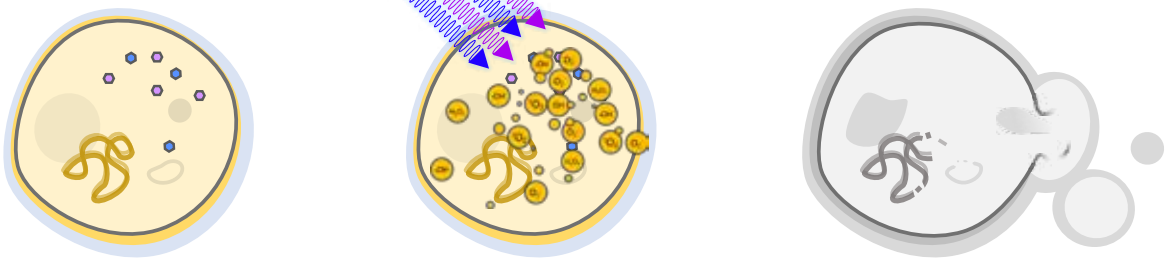
WORK BENCHES & WHOLE ROOMS:

BERLIN plug & play disinfection device

- Self-standing device for quick deployment
- Power consumption: 200 W
- Dimensions: L x W x H 304 x 1236 x 304 mm
- Control method: on/off

The science & how it works

Multi-wavelength, High-Intensity MWHI blue light technology



Microbial cells contain light-absorbing compounds such as porphyrins and flavins.

Spectral Blue wavelengths activate the compounds. ROS start forming inside the cell.

The ROS damage the cell's vital structures, leading to microbial inactivation and death.

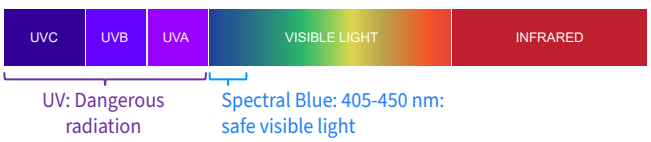
How it works

Spectral Blue MWHI® devices emit safe visible blue light at 405 nm and 450 nm wavelengths. When exposed to these specific wavelengths of high-intensity blue light, light-absorbing compounds naturally occurring within microbial cells are activated.

This activation triggers a cascade of reactions, leading to the intracellular production of reactive oxygen species (ROS). The ROS cause widespread, non-specific damage to vital cellular structures, resulting in microbial inactivation and death.

Spectral Blue wavelengths travel well through water and other clear materials such as glass and plastics. The light can also penetrate biofilms, allowing it to efficiently attack colonies protected inside biofilms.

The spectrum of light



Scientifically & field proven

Backed by nearly 3,000 peer-reviewed studies and proven in real-world pharmaceutical manufacturing environments, Spectral Blue has demonstrated efficacy on bacteria, yeasts, molds, and viruses—including spore-forming micro-organisms and biofilms.

Learn more about the science and efficacy of Spectral Blue at: www.spectral.blue/science

Safe for people

Human cells do not contain these same light-sensitive compounds in a way that causes this reaction. As a result, blue light does not trigger the same effects in human skin, eyes, or tissues—making it safe for human environments when used as intended.

Learn more about the safety profile of Spectral Blue at: www.spectral.blue/safety

spectral.blue®

Safeguards your samples and reputation.

Learn more & request free 3D disinfection planning

www.spectral.blue/labs

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Spectral Blue MWHI® is a next-generation disinfection technology patented in the USA, Europe, and China

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analytichem
your science enabled