

PureFize® UVC light sources

PureFize® UV Disinfection Technology is a simple, fast and extremely efficient way to eradicate bacteria and viruses. It produces a mercury-free UVC light that provides the perfect germicidal spectrum to destroy all bacteria, viruses and other germs beyond repair.

PureFize can be used to disinfect surfaces, foods, air and liquids in all applications, also where very high levels of disinfection are wanted. Unlike any other UVC technology, PureFize performs with maximum effectiveness in a very wide temperature range. There is no need for thermal management, which allows for smooth integration into any chosen design.

Key benefits

- Totally mercury-free
- 99.999999% germicidal reduction
- Powerful and efficient
- Wide working temperature
- Freedom of design
- Instant on/off
- Plug'n'play



Application examples

- Small and medium size boxes for household items such as mobile phones and tablets, remote controls, glasses, toys etc.
- Large size boxes for office and workplace electronics
- Refrigerators, dishwashers and other home appliances
- Disinfection containers for various restaurant items, bar code scanners, card readers, etc.
- HVAC systems and air filters
- Liquid containers, and many other applications





Clean and safe with PureFize®

The smart way to UV disinfection

PureFize builds on the principle of field emission in a nanostructured environment. Field emission is the discharge of electrons from the surface of a material due to the presence of a strong electric field. The electrons strike the inside of a lamp glass coated with light powder (luminescent layer) and a conductive layer, creating light. The properties of the light, such as wavelength, are controlled by the light powder.

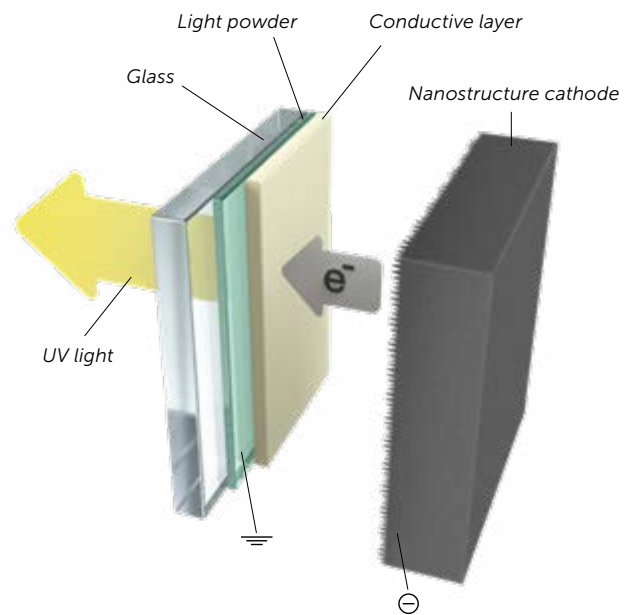
The light sources are supported by intelligent drive units, including precise constant power control.

Truly sustainable

PureFize does not contain any mercury. No materials or substances harmful to the environment are used during manufacturing. The entire light source can be treated just like ordinary electronic waste.

Perfect germicidal spectrum

PureFize creates a unique UVC light that provides the perfect germicidal spectrum. The wavelength peaks at 267 nm which is when germs best absorb UV light and exceptionally high degrees of germicidal reduction ($\log_8=99.999999\%$) are reached very rapidly.



The broad spectrum means that all bacteria, viruses and other germs are destroyed beyond repair.

Powerful and efficient

PureFize has a great power conversion rate. Its optimized geometrical design combined with the ability to operate fully over a very wide temperature range eliminates the need for thermal management.

Wide working temperature

PureFize has a wide working temperature ranging from -20 to +100 °C. This makes it very reliable as outer conditions (heat or cold) or small confined areas that easily overheat do not jeopardize the result. You can always be 100% sure that the item is properly disinfected.

Freedom of design

With PureFize thermal management is greatly reduced. Thus, you can easily integrate PureFize into any design.

Instant on/off

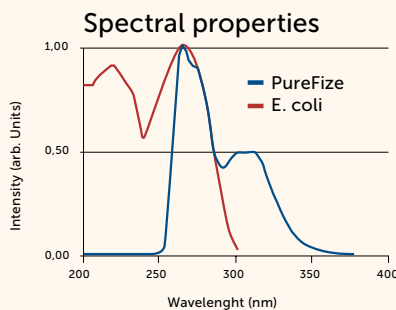
Some UVC-technologies require a warm-up and cool-off time, whereas PureFize starts and stops instantly. This makes it suitable for applications that require frequent or instant disinfection.

Plug'n'play

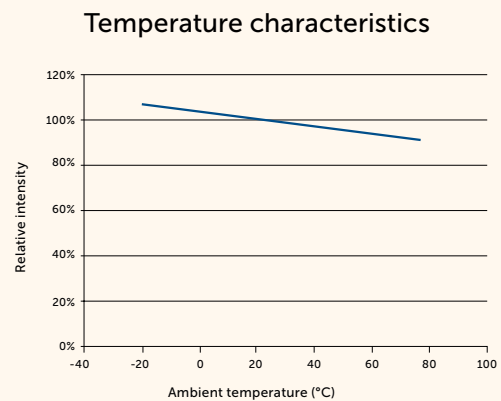
The PureFize component kit comes with the light source and driver facilitating integration. No additional components are needed, just plug'n'play.

The PureFize UVC chip

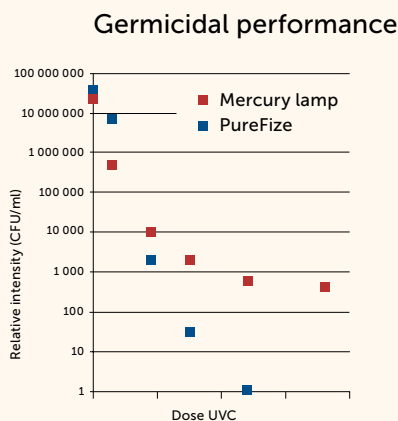
The PureFize UV disinfection technology represents a new and game-changing way in its view on UVC sources for consumer applications and its ability to serve mass market applications. With its low cost, ease of integration, proven germicidal performance and freedom of design, the PureFize UVC chip is the perfect choice for integration into disinfection boxes, white goods, water taps, air conditioners, etc.



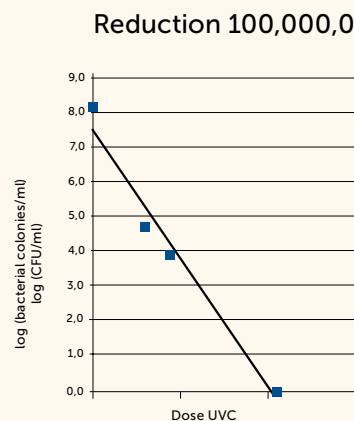
PureFize spectrum and absorption for E. coli



Measured intensity variation as a function of temperature



Measured deactivation of E. coli demonstrating the absence of tailing



Measured deactivation of E. coli demonstrating 99.999999% reduction



Partner up with us

LightLab Sweden is a Swedish cleantech company with a strong belief in sustainable technological innovation. Being Swedish, our heritage reminds us to take care of each other and to live close to and in harmony with nature.

We are also raised in a culture of high-quality standards, where functionality is prioritized and where science continuously inspires us to evolve. We innovate with sustainability in mind to improve quality of life for ourselves and our loved ones, here and now, and for future generations to come.

LightLab Sweden

LightLab Sweden AB
Uppsala Business Park
Virdings Allé 32B,
SE-754 50 Uppsala, Sweden
www.lightlab.se

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