

# TREEVOS

## UV-C

DISINFECTING LIGHT TECHNOLOGY



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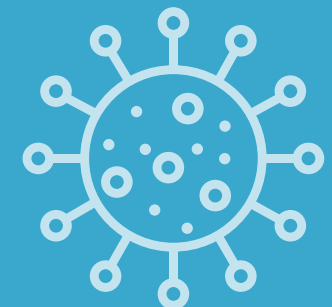
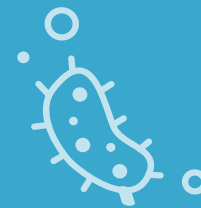
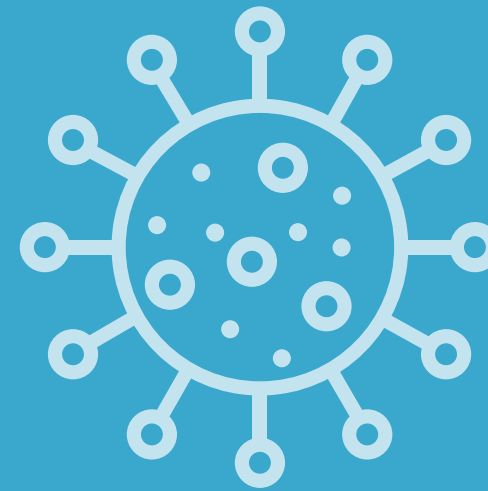
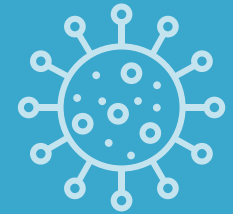
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# UV-C DISINFECTING LIGHT TECHNOLOGY

## UV-C method

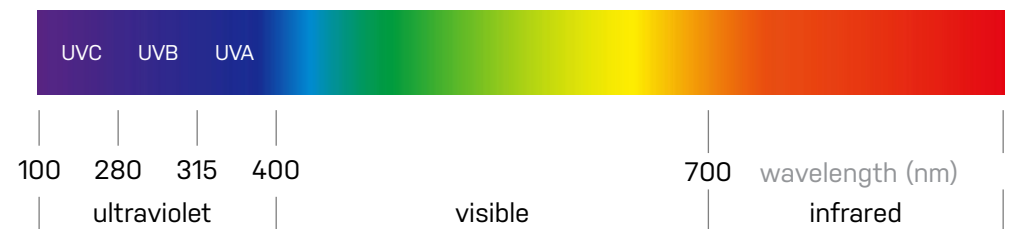
**TREVOS** offers **UV-C** germicidal light solutions for the effective purification of air, water and surfaces. This disinfection method uses **UV-C** radiation in the short-wave ultraviolet range, which has the power to kill harmful micro-organisms such as viruses, bacteria and moulds, quickly. Our germicidal light is ozone-free at a specific wavelength of **UV-C radiation at 254 nm**, which ensures its maximum purification effectiveness.



## LIGHT SPECTRUM

UV-C = 100 - 280 nm

Ultraviolet (UV) light is invisible to human eyes. It can be subdivided into three categories



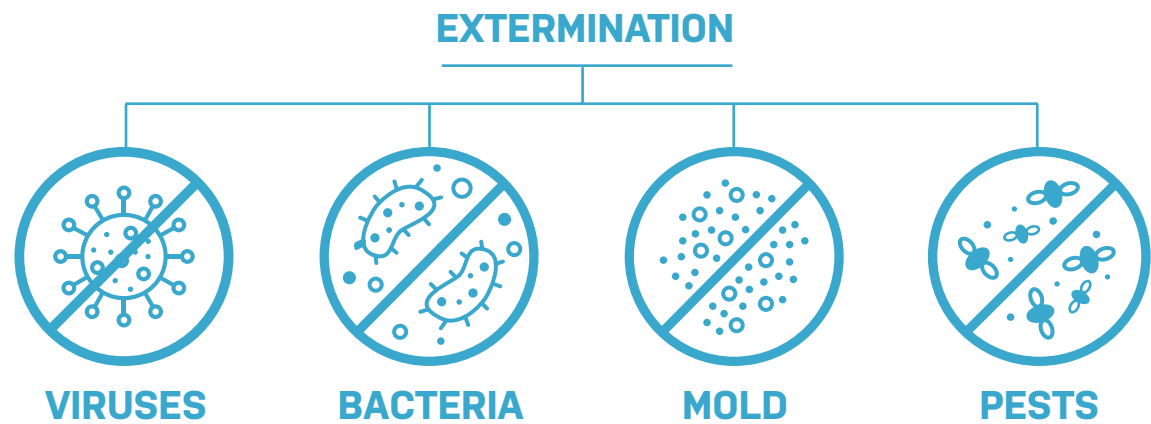
# UV-C DISINFECTING LIGHT TECHNOLOGY

## WHY?

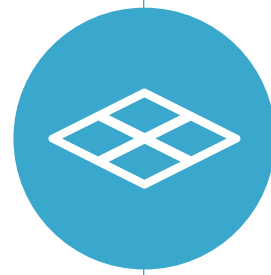
Every day, we visit public places, touch money or take a bus. We work in open-spaces in big factories where we meet a lot of various people work. Therefore we risk a lot of infections from various viruses and bacteria. We want to help improve infection control and prevent cross-contamination in those spaces.

Since the end of 2019, we have been feeling enormous anxiety about Covid-19, this too contributed to renewed interest in UV-C disinfection.

We know that since 1878, UV-C has become a staple method of surface sterilisation, as well as for water since 1910 and air since 1935. Recent studies have shown that UV-C can be used against other coronaviruses, such as SARS and MERS.



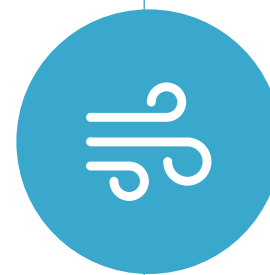
**AREAS**  
OF APPLICATION



**SURFACE**



**WATER**

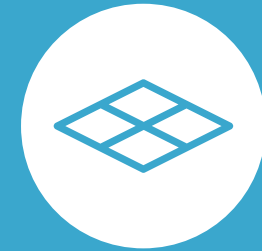


**AIR**

## SURFACE CLEANSING

COVID-19 infections can be caused by coming into by contact with contaminated surfaces. Moreover, COVID-19 can survive on plastic and steel surfaces for up to 3 days.

Micro-organisms on surfaces, which are not directly exposed to UV-C disinfection (hidden or shadowed) will not be disinfected. UV-C surface disinfection can be used for following areas:



### AREAS

- Hair and beauty salons
- Food and pharmaceutical industry
- Health care, hospitals and other aseptic zones
- Schools
- Offices
- Banking
- Hospitality
- Retail



## WATER

### PURIFICATION AND SANITISING DRINKING WATER

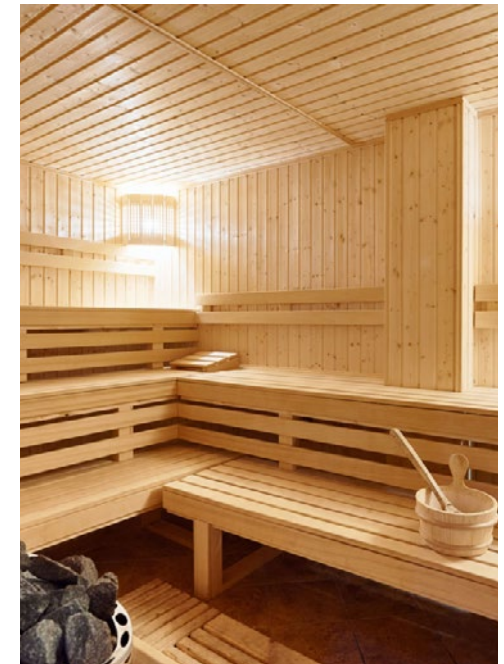
UV-C is used for water purification and for sanitising drinking water. UV-C disinfection does not alter the physiochemical composition of the water. It only disinfects by killing viruses, microbes and bacteria.

Other technologies like using chlorine, ozone, bleach or chlorine dioxide will alter the quality of the water and leave residual traces, which can threaten health.



### AREAS

- Swimming pools
- Private households
- Mobile stations (camping activities)
- Aquatic centres
- Restrooms
- Wellness



# UV-C DISINFECTING LIGHT TECHNOLOGY

## AIR PURIFICATION

UV-C disinfects room air at times when there are no people present, e.g. during the night or in closed areas.



### AREAS

- Rooms with frequent public access
- Offices with or without air-conditioning systems
- Doctors' practices
- Hospitals
- Cars





# UV-C DISINFECTING LIGHT TECHNOLOGY

## BENEFITS

With our UV-C method of sterilisation our clients will get an **effective**, **eco-friendly** and **non-chemical** alternative of purification. Moreover, it has been a reliable and proven method for many years.

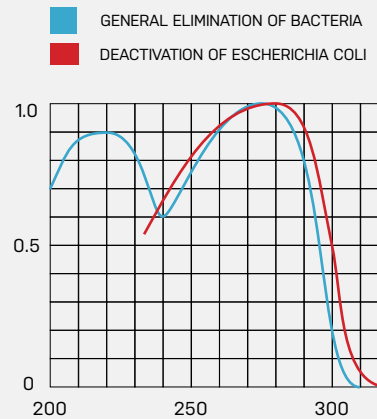
Meeting rooms, offices, beauty salons, schools, swimming pools, fitness centres and many other places can be lit up by the blue light each night to disinfect them and prepare them ready for the next day. Your employees will start to feel safer in their workplace.



# UV-C DISINFECTING LIGHT TECHNOLOGY

## TECHNOLOGY

We use Osram branded and high quality PURITEC UV-C lamps. These germicidal lamps are 100% RoHS-conform conformed, Lead-free, very low mercury content and „Made in Europe“. Lamps operate in UV radiation at 254 nm (UVC) giving a cell-destroying effect of maximum efficiency, and are ozone-free.



## Upper surface and air disinfection calculations

### Rules of radiation:

- 0.2 - 0.5 W UV-C/m<sup>2</sup> floor space of normal environment
- Lamp maintenance (EOL: 80%)
- Humidity > 50%, you must increase UV-C power by 25%
- 20 - 30 min. is the recommended exposure time

### Calculation:

$$\frac{W}{0,35} * EOL * humidity = ? \text{ surface in m}^2$$

### Example:

- 50m<sup>2</sup> open space
- Humidity 40%
- EOL 80%

$$\frac{? W}{0,35} * 0,8 * 1 = 50$$

$$W = 21,88$$

If you choose **ST UV-C lamp 1 x 36 W** with UVC power of 15 W, you need **2 lamps**

If you choose 1 **ST UV-C lamp 1 x 30 W** with 12 W:

$$\frac{12}{0,35} * 0,8 * 1 = 27,43 \text{ m}^2$$

- You will get 27 m<sup>2</sup> of disinfected area.

If you choose 1 **ST UV-C lamp 1 x 36 W** with 15 W:

$$\frac{15}{0,35} * 0,8 * 1 = 34,29 \text{ m}^2$$

- You will get 34 m<sup>2</sup> of disinfected area.

# UV-C DISINFECTING LIGHT TECHNOLOGY

## SPECIFICATION

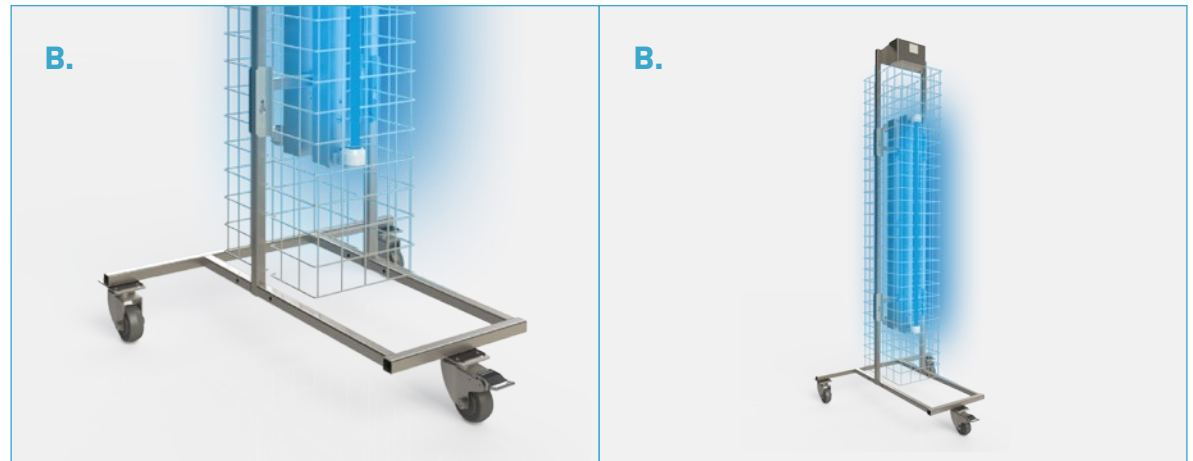
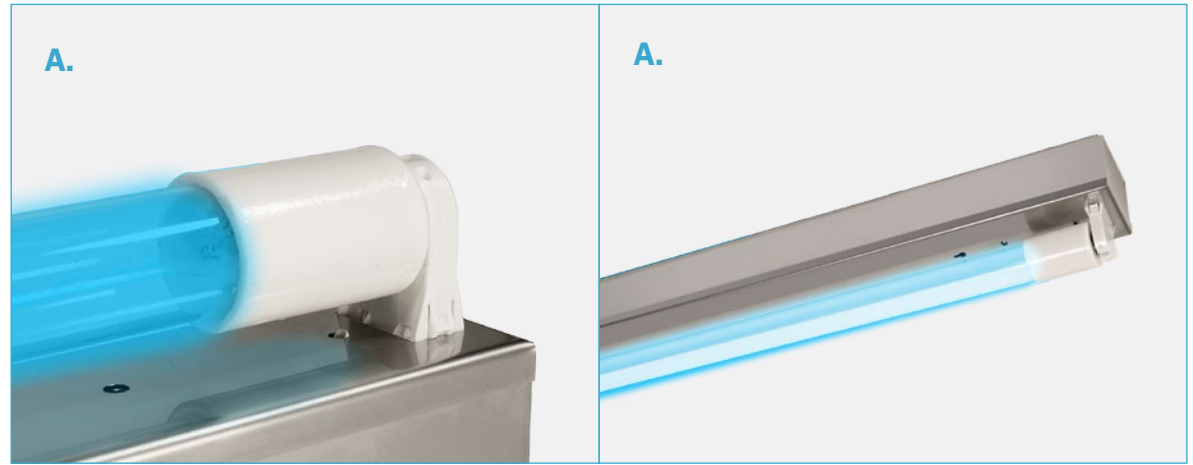
We offer two batten design solutions:

- A. Ceiling or wall surface mounted, power 30 or 36 W**
- B. Freestanding mobile room disinfection, power 30 or 36 W**

**Material:** Sheet steel white or aluminium  
Available with or without a **timer**

We are well-known Czech Republic LED and fluorescent lighting manufacturer with 30 years of expertise. For the safe use of UV-C light equipment, our professionals can provide specialized risk management training. We also strongly recommend that UV-C disinfection luminaires should only be sold only to qualified professionals.

[MORE IN DATASHEET](#)



# UV-C DISINFECTING LIGHT TECHNOLOGY

## WARNING

UV-C lamp classification according to IEC/EN 62471 (photo biological risk). **The radiation from UV-C lamps poses a health risk.** UV-C can be hazardous to both the human eye and human skin. The risk depends on a range of factors, such as radiation intensity and duration (energy). It can cause conjunctivitis and erythema after only brief exposure. The skin and eyes must be protected against direct exposure. Suitable protective clothing must therefore be worn in rooms that do not offer direct protection. If germicidal lamps are used to purify rooms in which food is kept the relevant food regulations governing the use of germicidal lamps must be followed. **UV-C lamps are not be used for General Lighting application.**

TREEVOS

TREEVOS, a.s. is renowned czech fluorescent and led lighting manufacturer with 30 years of tradition

TREEVOS, a.s. boasts its own research, which is based on its own professional knowledge and protected know-how.

The goal of the company is to offer top class quality for competitive prices.

**TREEVOS, a.s.**

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