



LUXIONA

UV-C LUMINAIRES
Specialized Disinfection Lighting

troll

DISINFECTION OF AIR AND SURFACE WITH UV-C RAYS

TYPES OF THE UV SPECTRUM AND ITS PROPERTIES

UV-C radiation irreversibly terminates bacteria, viruses, molds, fungi and all other microorganisms as soon as they are in the range of rays emitted by direct action lamps.

UV ultraviolet radiation belongs to electromagnetic wave radiation, the same like X-rays, radio or light waves.

For practical use, the UV spectrum has been divided into three categories:

UV-A - long-wave 400 nm - 315 nm

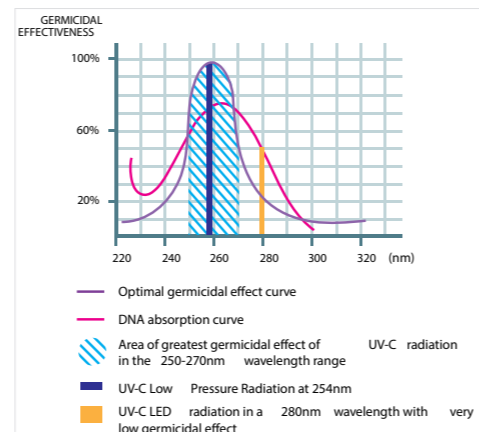
Natural rays from the sun. Refers to photochemical processes, pigmentation. The erythral effect is negligible.

UV-B - medium wave 315 nm - 280 nm

It has basic application in therapy. Creates provitamin D. There is a pigmentation and erythral effect.

UV-C - short wave 280 nm - 100 nm

It has a strong bactericidal and germicidal effect. Causes skin burns (Eritema) and conjunctivitis (conjunctive effect).



HOW DOES UV DISINFECTION WORK?

UV-C radiation is created at low-pressure mercury discharges (germicidal radiators). Radiation with a wavelength below 200 nm creates ozone in the air. This is a harmful situation. For the manufacture of UV radiators, special quartz glass was used, which has a high transmission rate for bactericidal radiation, whereby the glass absorbs undesirable UV radiation with a wavelength below 200 nm. So UV radiators produce a negligible amount of ozone and only during the first 100 hours of lighting.

It was found that the greatest bactericidal effect occurs at radiation wavelengths from 250 to 270 nm. The bactericidal mechanism involves the absorption of UV-C radiation energy by nucleic acids and proteins, which induces chemical reactions in the testicles, it kills microorganisms.

CHOOSING THE RIGHT LUMINAIRE

The selection of this type of equipment largely depends on the dimensions of the room and the air parameters (humidity and level of dust). Direct-acting germicidal lamps irreversibly terminate viruses, bacteria, fungi, molds and yeast when nobody is in the room. Their strong impact could harm staff and patients, so make sure that everyone leaves the room before starting the device.

From a practical point of view, we can assume that we will achieve a sufficient degree of microbiological purity* using:

- 15 W lamp on an area up to 6 m²
- 2x15 W lamp on an area up to 10 m²
- 30 W lamp on an area up to 12 m²
- 2x30 W lamp on an area up to 18 m²

* - in a room 2.5 to 3 m high in room conditions.

HOW TO USE?

2 to 8 hours - depending on the purpose of the room (patient room, doctor's office, treatment room, operating room).

15 to 20 min. - to obtain an immediate effect of disinfection of air in the room (e.g. between two treatments).

LUXIONA POLAND UV-C PRODUCTS



Luxiona Poland is a leader offering clean room lighting systems. A wide range of CLEAN luminaires guarantees the quality and safety of lighting in clean places such as: operating rooms, rooms surrounded by operating rooms, sterilization rooms, laboratories, pharmacy and other specialized solutions. The luminaires are manufactured in our factory, which has a quality management system for the production of Medical Devices ISO 13485 - a certificate in the field of design and manufacture of lighting fittings for medical use.

All UV products can be optionally equipped bactericidal coating in accordance with the same technology which our luminaires up to class I, II and III cleanliness are carried out. In addition, each fitting can be equipped in motion sensor. The emitted UV-C radiation is harmful to humans and they should not be in the room with the luminaire attached during ongoing disinfection. The sensor helps to immediately disconnect the power supply if detected in the room of human presence. For Agaline and Oktan luminaires mounted on a stand, it is possible to equip with a Timer that counts the hours of fluorescent lamps and has different modes of operation, among others delayed switching on and off, cyclical switching off or on, delayed momentary switching on.



AGALINE UV-C

Linear luminaire for clean and industrial rooms

- T8 linear fluorescent lamps
- Power 1x30/36 W or 2x30/36 W
- Holder with adjustable work position
- Wall or ceiling mounting (W version)
- Can be mounted on an optional portable stand with wheels (GM version)
- A protective foil for fluorescent lamps that protects the glass in the event of breakage
- Optional: version with bactericidal coating



UNIVERSAL UV-C

Modular luminaire for disinfecting office rooms

- TC-L compact fluorescent lamps
- 1x36/55 W or 2x36/55 W
- Ceiling mounting or in suspended ceiling
- Possible mounting in plasterboard ceilings with dedicated frame
- Optional: version with bactericidal coating



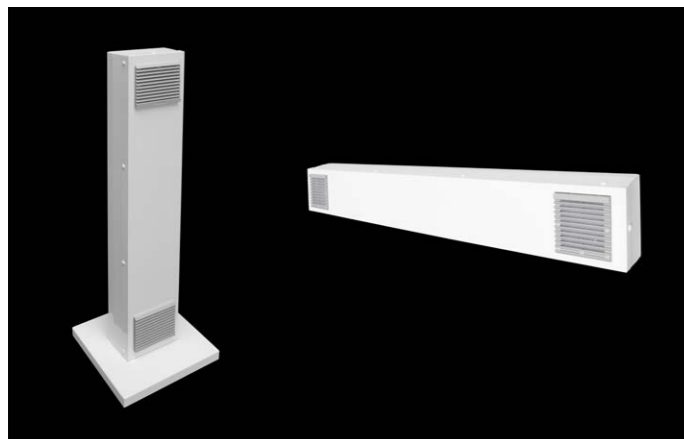
OKTAN UV-C

Compact wall luminaire

- TC-L compact fluorescent lamps
- Small size, high power
- 2x36 W or 2x55 W
- Wall mounting (W version)
- Can be mounted on an optional portable stand with wheels (GM version)
- Optional: version with bactericidal coating



FLOW LUMINAIRE AIRSTREAM UV-C



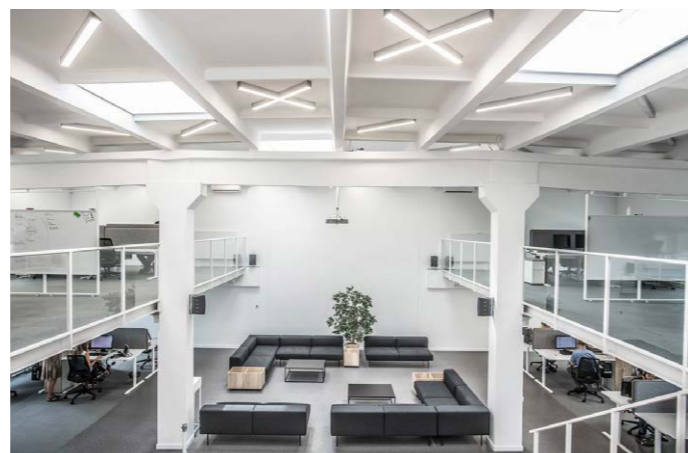
Bactericidal luminaire with forced air circulation, designed for T8 fluorescent lamps and adapted for wall and ceiling mounting. It is a luminaire that has an internal closed and sealed disinfection chamber and the whole process takes place thanks to the air flow. Due to the fact that the entire disinfection process takes place inside the luminaire, it is completely safe and recommended for work in rooms where working staff must stay at the same time.

The most important features:

- ✗ A closed structure where the disinfection process takes place in an internal chamber
- ✗ Tight housing prevents air from flowing through the gaps
- ✗ Oblique construction protecting against dust settling
- ✗ Housing protected by anti-bacterial coat
- ✗ Power 2 x 30 W or 2 x 36 W
- ✗ The ignition system is placed in a separate chamber to protect against the ingress of pollen that can cause voltage breakdown on the housing
- ✗ The components used are resistant to UV rays
- ✗ Replaceable air filter to prevent pollen from entering the disinfection chamber
- ✗ Filter change without opening the housing
- ✗ Air inlet on the front together with the outlet grid air (GF / GMF version) or with a filter on the end cap which ensures greater efficiency of governance (GS / GMS version).

Optional:

- ✗ Signaling system informing about burnout of light sources
- ✗ Mounting on a dedicated mobile floor stand (GS / GF versions) or on a dedicated mobile floor stand with wheels (GMS / GMF versions)
- ✗ Timer that counts the hours of fluorescent lamps and has different modes of operation, among others delayed switching on and off, cyclical switching off or on, delayed momentary switching on.



OPTIONAL MODIFICATIONS FOR UV-C LUMINAIRES



Motion sensor (CMW) turns off the luminaire in the case of detecting human presence)



Timer
Programmable lamp cycle timer with following options:

- Delayed shutdown
- Delayed switching on
- Cyclical shutdown
- Cyclical switching
- Delayed momentary switching on

PORTABLE STANDS FOR UV-C LUMINAIRES



OKTAN GM UV-C
(available also for Agaline)



AIRSTREAM GMS UV-C
(available also Airstream GMF UV-C)



AIRSTREAM GS UV-C
(available also Airstream GF UV-C)



APPLICATION

Air purification

Ultraviolet (UV) purification is a very effective method to clean the air of biological pollutants such as bacteria, viruses and fungal spores. UV germicidal lamps can be installed in ventilation ducts to clean the air passing through them. UV air purification is more economical and efficient than other air filtration and cleaning methods.

For air purification in:

- ✕ Hospitals
- ✕ Doctors' practices
- ✕ Clean rooms
- ✕ Offices with or without air-conditioning systems
- ✕ Cars
- ✕ Storage rooms
- ✕ Food processing
- ✕ Rooms with frequent public access
- ✕ Animal stalls



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