

UVC effective, environmental friendly and affordable

The current COVID-19 pandemic shows how important hygiene measures are, to stop the virus from spreading. Despite all rules, not everything can be cleaned with disinfectants. The aerosols are, especially in public spaces such as event venues, schools, waiting areas or conference rooms, a great risk of infection, which can be reduced with UVC technology.

Irradiation with UVC light is a very effective disinfection method, in which short-wave ultraviolet light is used to inactivate microorganisms by destroying their RNA or DNA, so that vital cell functions can no longer be carried out.

- ▶ A statement from the International Ultraviolet Association (IUVA) (* 1) confirms that UVC light has been used extensively for disinfection purposes for more than 40 years. All bacteria and viruses examined so far (many hundreds over the years, including various coronaviruses) react to UVC disinfection.
- ▶ The American Chemistry Society (ACS) published a paper (* 2) in which the authors describe the use of UVC light as an efficient, easy-to-use and affordable method to limit the spread of SARS-CoV-2.
- ▶ There is a specific lethal dose (LD) for each type of microorganism. The LD90, i.e. the dose at which 90% of the organisms of a species are inactivated, serves as the standard and often as a basis for assessment.
- ▶ The latest studies show that a 99.9% inactivation of SARS-CoV-2 takes place already at 3.7 mJ / cm² (* 3). For the dimensioning of our devices, we assume significantly higher doses, up to 18mJ / cm² for a 99.9% inactivation of this coronavirus.

Covid19-Risk AEROSOLS

A study by the TU Berlin presented by zdfheute (* 4) shows how quickly aerosols can spread:

- ▶ After a few seconds, the exhaled aerosols will have risen to the ceiling due to the heat given off by the body.
- ▶ After one minute they have already spread 3m around the person.
- ▶ After just two minutes, the aerosols from have been distributed throughout the room.
- ▶ It is important whether the infectious aerosols accumulate in the room or if their concentration is reduced in good time, such as with a correspondingly high proportion of fresh air and / or with an AIR SANITIZER.

References

(*1) IUVA: <https://iuva.org/IUVA-Fact-Sheet-on-UV-Disinfection-for-COVID-19>

(*2) ACS: <https://pubs.acs.org/doi/10.1021/acsnano.0c04596?ref=pdf>

(*3) medrxiv: www.medrxiv.org/content/10.1101/2020.06.05.20123463v2

(*4) zdfheute; https://zdfheute-stories-scroll.zdf.de/aerosole-klassenzimmer-corona/?utm_source=pocket-newtab-global-de-DE

AIR SANITIZER Series powered by UVpro

- ▶ Many specialist studies and the Federal Ministry of Health confirm that SARS-CoV-2 is transmitted by infectious aerosols and that these play a decisive role in the spread of the disease (* 5)
- ▶ “When staying in small, poorly or non-ventilated rooms for a long time, the likelihood of aerosol transmission can increase even at a distance greater than 2m. Due to the accumulation and distribution of aerosols in the room, maintaining the minimum distance to prevent infection may no longer be sufficient. An effective air exchange can reduce the aerosol concentration in a room” declares the Robert Koch Institute (Briefing on the Coronavirus Disease-2019 (*6))
- ▶ The AIR SANITIZER are reliable devices, made in Germany, which during operation continuously lower the concentration of germs in the air (including SARS-CoV-2) and thus significantly reduce the risk of disease transmission by infectious aerosols in closed rooms.



Note:

UVC light can be dangerous for skin and eyes. Direct radiation must be avoided at all times. The UVC unit of the AIR SANITIZER series is built into a housing with special light traps to prevent the escape of UVC radiation.

All information provided has been evaluated and applied to the best of our knowledge and under careful examination, but without guarantee or claim to completeness. The operating instructions provided and other documents must be observed. You can find our disclaimer at www.exactsolutions.de/en/

References

(*5) medrxiv www.medrxiv.org/content/10.1101/2020.08.03.20167395v1

(*6) SARS-CoV-2 Steckbrief www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Steckbrief