Explanatory Paper For Fight Against COVID 19

The **RW AIR STERILIZER SYSTEMS** as a wavelength of 253.7nm, which complies with CDC's recommendations. At the same time, it is important to underline that coronaviruses have been found as highly susceptible to germicidal UV irradiation, taking into consideration that UVC directly interacts with nucleic acids, causing the formation of nucleotide dimers and has been used widely for the inactivation of the mechanism of genome replication.There are plenty of studies which show that using C-band with a wavelength of 253,7nm the microbial safety can improve. Below there is a list of references justifying the efficacy.

Latest scientific studies of effectiveness of UV-C light 253,7 nm against Viruses as well as SARS Cov-2/COVID-19

- 2020, Global Lighting Association, Germicidal UV-C radiation

https://www.globallightingassociation.org/images/files/GLA_-_Germicidal_UV-C_Irradiation_Sources_Products_Applications.pdf

- 2020, Boston University School of Medicine, Effectiveness of Signify UV-C light sources on inactivating virus that causes Covid 19

Signify and Boston University validate effectiveness of Signify's UV-C light sources on inactivating the virus that causes COVID-19

- 2020, International Commission on Illumination, CIE Position Statement on Ultraviolet (UV) Radiation to Manage the Risk of COVID-19 Transmission

CIE Position Statement on Ultraviolet (UV) Radiation to Manage the Risk of COVID-19 Transmission video

- 2020, Boston university. Research Square, rapid and complete inactivation of SARS-CoV-2-by ultraviolet-C irradiation

Rapid and complete inactivation of SARS-CoV-2 by ultraviolet-C irradiation

- 2020, Universitätsklinikum Tübingen, Rapid and efficient inactivation of surface dried SARS-CoV-2 by UV-C irradiation

Rapid and efficient inactivation of surface dried SARS-CoV-2 by UV-C irradiation

- 2020, National Institute of Allergy and Infectious Diseases, Hamilton, MT, Aerosol and Surface Stability of SARS-CoV-2 as Compared with SARS-CoV-1

Aerosol and Surface Stability of SARS-CoV-2 as Compared with SARS-CoV-1

- 2020, University of Milan and INAF, UV-C radiation is highly effective in inactivating and inhibiting SARS-COV-2 replication

University of Milan

- 2020, International Ultraviolet Association (IUVA), SARS-CoV-2 UV Dose-response Behavior

IUVA

- 2019, ASHRAE, American Society of Heating, Refrigerating and Air-Conditioning Engineers, Ultraviolet Air and Surface Treatment

Chapter 62

- 2016, Icahn School of Medicine at Mount Sinai, CIE Guide foe Measurement of Upper Room UVFI Luminaires CIE TC 6-52

CIE Guide foe Measurement of Upper Room UVFI Luminaires CIE TC 6-52

- 2009, US National Institute for Occupational Safety and Health, Environmental Control for Tuberculosis: Basic Upper-Room Ultraviolet Germicidal Irradiation Guidelines for Healthcare Settings

Environmental Control for Tuberculosis: Basic Upper-Room Ultraviolet Germicidal Irradiation Guidelines for Healthcare Settings

Positioning Papers

- 2020, National Electrical Manufacturers Association (NEMA), Covid-19 Response

NEMA

- 2020, National Electrical Manufacturers Association (NEMA), Ultraviolet-C (UVC) germicidal devices: what consumers need to know

NEMA

- 2020, Global Lighting Association, Germicial UV-C Irradiation

GLA

- 2020, Global Lighting Association, Position Statement on Germicidal UV-C Irradiation

GLA

- 2020, Lighting Europe, Lighting Europe Position Paper on the benefits of using UV-C disinfection to combat COVID 19

Lighting Europe

- 2020, Signify, Signify urges industry to adopt UV-C safety guidelines issued by Global Lighting Association

Signify

Effectiveness from UV-C/HEPA-Filter

molekule.science/pros-cons-hepa-filter/

ftc.gov/coronavirus/enforcement/warning-letters

unibw.de/lrt7/raumluftreiniger.pdf

References

Chang L, Yan Y, Wang L. Coronavirus Disease 2019: Coronaviruses and Blood Safety [published online ahead of print, 2020 Feb 21]. Transfus Med Rev. 2020;. doi:10.1016/j.tmrv.2020.02.003

Eischeid AC, Meyer JN, Linden KG. UV disinfection of adenoviruses: molecular indications of DNA damage efficiency. Appl Environ Microbiol. 2009;75(1):23-28. doi:10.1128/AEM.02199-08

Nerandzic MM, Fisher CW, Donskey CJ. Sorting through the wealth of options: comparative evaluation of two ultraviolet disinfection systems. PLoS One. 2014;9(9):e107444. Published 2014 Sep 23. doi:10.1371/journal.pone.0107444

Kim DK, Kang DH. Elevated Inactivation Efficacy of a Pulsed UVC Light-Emitting Diode System for Foodborne Pathogens on Selective Media and Food Surfaces. Appl Environ Microbiol. 2018;84(20):e01340-18. Published 2018 Oct 1. doi:10.1128/AEM.01340-18

Nishisaka-Nonaka R, Mawatari K, Yamamoto T, et al. Irradiation by ultraviolet light-emitting diodes inactivates influenza a viruses by inhibiting replication and transcription of viral RNA in host cells. J Photochem Photobiol B. 2018;189:193-200. doi:10.1016/j.jphotobiol.2018.10.017

Eickmann M, Gravemann U, Handke W, et al. Inactivation of Ebola virus and Middle East respiratory syndrome coronavirus in platelet concentrates and plasma by ultraviolet C light and methylene blue plus visible light, respectively. Transfusion. 2018;58(9):2202-2207. doi:10.1111/trf.14652

Li X, Cai M, Wang L, Niu F, Yang D, Zhang G. Evaluation survey of microbial disinfection methods in UV-LED water treatment systems. Sci Total Environ. 2019;659:1415-1427. doi:10.1016/j.scitotenv.2018.12.344

Anderson DJ, Moehring RW, Weber DJ, et al. Effectiveness of targeted enhanced terminal room disinfection on hospital-wide acquisition and infection with multidrug-resistant organisms and Clostridium difficile: a secondary analysis of a multicentre cluster randomised controlled trial with crossover design (BETR Disinfection). Lancet Infect Dis. 2018;18(8):845-853. doi:10.1016/S1473-3099(18)30278-0

Jelden KC, Gibbs SG, Smith PW, et al. Comparison of hospital room surface disinfection using a novel ultraviolet germicidal irradiation (UVGI) generator. J Occup Environ Hyg. 2016;13(9):690-698. doi:10.1080/15459624.2016.1166369

Beck SE, Wright HB, Hargy TM, Larason TC, Linden KG. Action spectra for validation of pathogen disinfection in medium-pressure ultraviolet (UV) systems. Water Res. 2015;70:27- 37. doi:10.1016/j.watres.2014.11.028

Air plus energy

AIR-CONDITIONNING - UVC SOLUTIONS - ENERGY SYSTEMS
Profiti Ilia 27 / Pilea TK 55535 / Thessaloniki / GREECE
Tel: +30 2310609090 Tel: +30 2310329400
ISO 9001:2008