



Aeraze

Hand guided Far UV Sanitizer
Rapid Automated Mobile

www.aeraze.com



BACKGROUND

Preventing outbreaks by clearing high-touch surface and indoor high-traffic environments from pathogens has become a global priority. UV Germicidal Irradiation (UVGI) is an effective, proven and environmentally friendly method avoiding the use of harmful chemicals or heat.

APPROACH

- Far UV-C, the subset of UV-C ranging from 200 to 225nm, is an effective viral disinfectant, with particular suitability as a technology response to transmission of SARS-CoV-2 via air and surfaces. Is also considered to be safer for human exposure.
- UVGI meet efficiently the need as alternative disinfection technology to chemicals while the inactivation of germs depends on the actual target exposure. Most UVGI hand guided devices are limited by either power or design and don't provide a means to the operator to ensure that disinfection has been obtained.
- Aeraze is a technological breakthrough in the concept of Photoinactivation via UVGI. A compact FarUV (222nm) Kr:Cl excimer high power source targets the infected areas from a handheld reflector.
- The innovative Dynamic Dosage Control (patent pending) allows operators to perform and ensure an easy, fast and controlled UVGI procedure.
- Aeraze inactivates Sars-CoV-2 from 1m² in less than 10 seconds while monitoring the delivery of the effective dose to the target.
- Aeraze enables by design all the benefits of IoT technology for process and device supervision.
- Aeraze is designed for performance. The highest quality of its components, and its IoT features make it a new paradigm in the UVGI world for professional operators, with delivery of "service consumption models", with a direct operating cost per m² below 0.01€.



“ORION HAS DEVELOPED THE CONCEPT OF CONTROLLED PHOTOINACTIVATION TO DELIVER A NEW CLASS OF UVGI SYSTEMS - WITH *Aeraze*

Aeraze has been developed in Italy by Orion Technologies with the effort of the some of the most reputable Italian research institutions:

INAF (Astrophysics National Institute), DIBIC (Department of Biomedical and Clinical Sciences Milan L. Sacco), Fondazione Bruno Kessler (Microelectronics Lab) and jointly designed with the top European skills from Amarula Solutions BV, JUNO Design Srl, Radium Lampenwerk GmbH.



PRODUCT FEATURES

As a new paradigm in UV microbial photoinactivation Aeraze has unique features:



HIGH POWER TO DELIVER TOP OPERATIONAL SPEED

Aeraze's 222nm custom Kr:Cl excimer source power is 400W, because "time is of essence" and power delivers a high speed of effective inactivation.



PRACTICALITY AND RELIABILITY

Aeraze's components have been designed to provide reliability and its base dimensions fit an airplane aisle. Its lightweight and ergonomic handpiece connects to a 2m long cable, and the assembly is rugged for any "heavy duty" task.



DYNAMIC DOSAGE CONTROL

Is the innovative feature that ensures an appropriate Photoinactivation. During irradiation an algorithm constantly elaborates the values detected by the sensors showing a correct dosage delivery to the operator. The settings references for inactivation of the pathogens have been determined from trials performed with Aeraze and from academic publications on the FAR UV dosage thresholds for microbial inactivation, specifically for Sars-CoV-2.



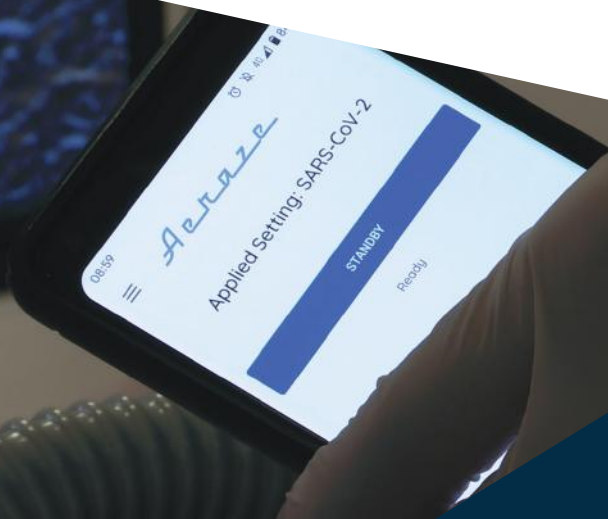
IoT CAPABILITIES

Aeraze is controlled and programmed via an Android App that enables preset or free UV dosage setting to the Dynamic Dosage Control, Exposure Limits setting for the operator and sensors calibration. The App monitors and stores all the parameters on the cloud for predictive maintenance and disinfection process acknowledgment. The USB port keeps the operator smartphone charging.



SAFETY

A grip activation control turns the handpiece off when released by the operator. The App enables an Exposure Limit setting for the operator that disables the device once it has been reached. Aeraze's sensors are calibrated by an App procedure while the handpiece sits in the cradle, and for added safety and consistency the irradiation is monitored real time by 2 different UV sensors.



SHORT TECHNICAL SUMMARY

Technical summary - main features

Source	Far UV Kr:Cl excimer, the most compact and powerful UV source of its kind – for top speed and efficiency of irradiation – custom designed	Wavelength	222nm – best effectiveness of photoinactivation, most safe for operator
Radiated power	210 mW/cm ²	Emission surface	63 x 80 mm = 50,40 cm ²
Delivery	via 2m long cable and handpiece controlled	Max absorbed power	1050 VA
Power	ready for global deployment 100-240 VAC	IoT features	localization, cloud storage of operational data, predictive maintenance
Controls	via BLE with smartphone - dedicated Aeraze App for Android	Safety features	Automated handpiece inactivation by "grip control" and Exposure Limit setting (countdown for operator)
Dosage	proprietary Dynamic Dosage Control (movement and position of the handpiece referred to target) – 2 UV sensors – preset values based on scientific evidence	Dimensions	Dimensions with handpiece in cradle: 53 x 34 x 81 (h) cm
Body	compact stainless-steel frame and body – four wheels – USB smartphone charger – sized for commercial airplane aisle passage – handpiece well designed for automatic sensors calibration	Weight	Body weight: ≈ 25 kg Handpiece weight: ≈ 1kg

DEVICE SPECIFICATIONS

AERAZE IS THE MOST FUNCTIONAL AND POWERFUL UVGI MOBILE DEVICE FOR PROFESSIONALS.

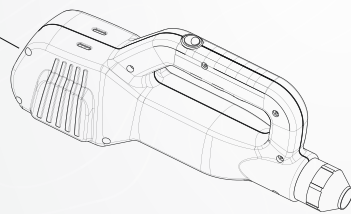


Cart & Handpiece

53 x 34 x 81 (h) cm

Handpiece Only

53 x 34 x 81 (h) cm



It is CE marked, in compliance with medical devices standards, and ready to be integrated in any sanitization procedure.

Some of Aeraze's design features and components are patent pending. Due to product improvements Aeraze's design and features are subject to change without notice or liability.

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Aeraze

Aeraze is intended for professional operators use. Operator's skin and eyes must be properly protected by PPE according to safety regulations. Aeraze is not meant as a device for treatment its radiation at its power level is dangerous if directed on eyes or skin. Although 222nm wavelength is considered less harmful to skin than conventional UVC we recommend to follow safety recommendations based on ICNIRP guidelines.