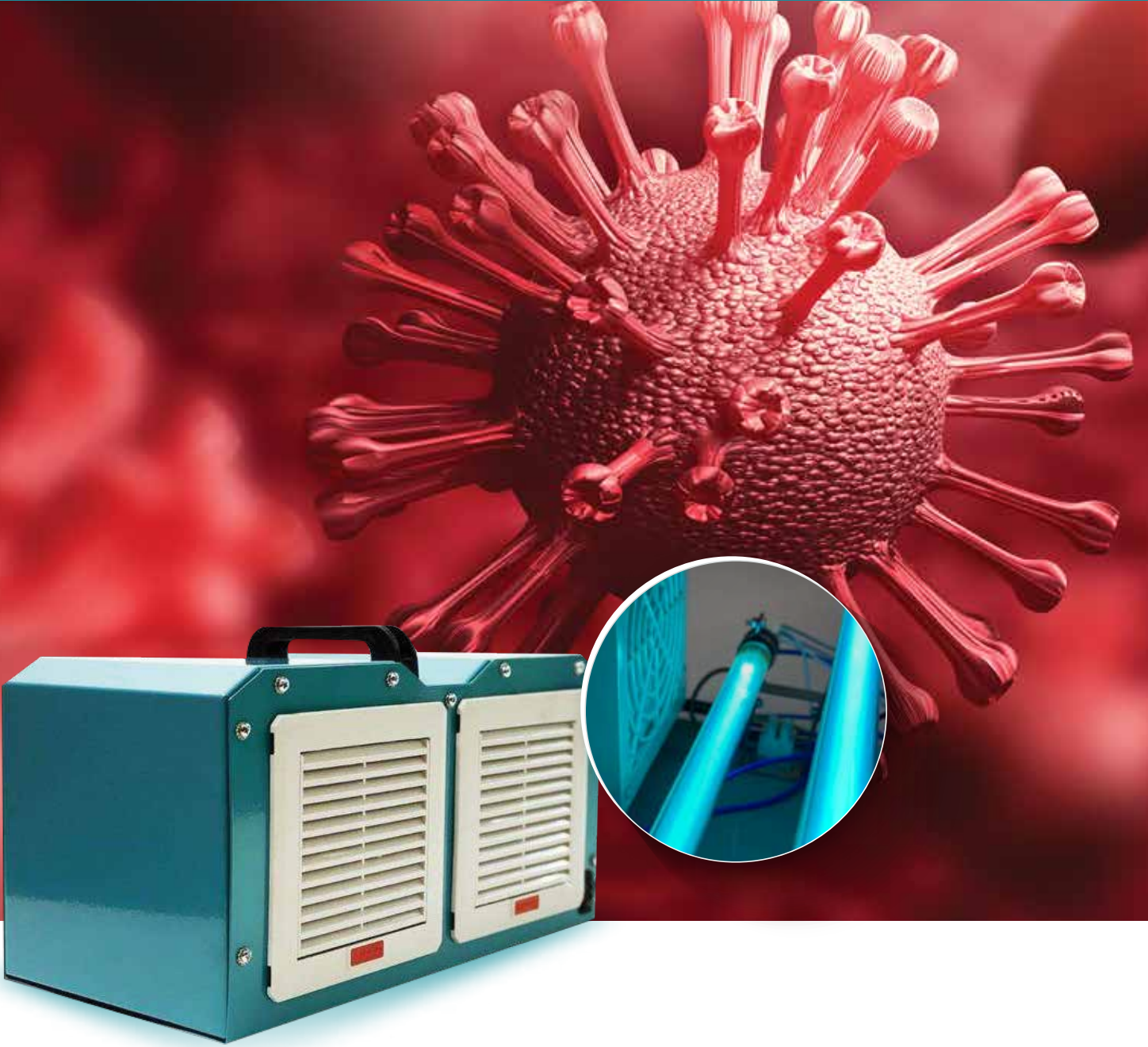




YEŞİL GRUP  
ENERJİ



Aerem 19 UV-C

**AIR STERILIZER**



AEREM 19, BY UTILIZING THE UV-C LIGHT; neutralizes bacteria, viruses and fungus. powered by 2 x 16w Sylvania UV-C light sources in a closed-boxed casing there are 2 fans that create air suction to force the air to pass through the uv-c light sources to sterilize the ambient air. The capacity of the fans is 200 m<sup>3</sup> \ h. aerem19 can make room environment approximately 50m<sup>2</sup> germ-proof.

AEREM 19 will sterilize all the air in the environment depending on the application time thanks to the air flow it creates in the stagnant air. AEREM 19's greatest convenience to its users; Since UV-C rays do not leak out of a closed chamber, there is no hazard using it daily areas.



## TECHNICAL SPECIFICATIONS

- Power: 32 W
- Voltage: 220 V
- Frequency: 50 Hz
- Weight: 4.25 Kg
- Effective Area: 50 m<sup>2</sup>
- Dimensions (LxSxH): 39x22x23 cm
- UV Fluorescent Average Life: 8000 hours

## FEATURES OF THE UV-C LIGHT

UV radiation is an electromagnetic radiation that is shorter than the visible beam and long wavelength from the X-ray (about 10-400 nm).

UV radiation, according to wavelength; It can be divided into two as extreme-UV (extreme-UV, 10-200 nm) and near UV (near-UV, 200-380 nm).

**Considering the effects of the close UV on human health and the environment;**

### • UVA

(long UV, longwave UV, black light; 315-400 nm)

### • UVB

(medium UV, mediumwave UV; 280-315 nm)

### • UVC

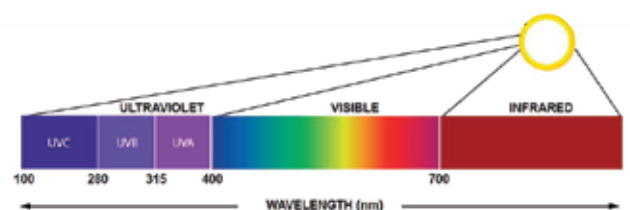
(short UV, shortwave UV, germicidal UV; 200-280 nm)

## UV LIGHT SPECTRUM

UV-C lights are antiseptic lights known as germicidal.

Due to UV radiation, short wavelength and high energy, it can kill all kinds of the microorganism. The most effective antimicrobial activity of the UV ray is at a wavelength of 250-260 nm (253.7 nm).

This wavelength is the wavelength most effectively absorbed by DNA.



Why is air  
sterilization  
important?

Scientific research PROVES that viruses can stay in the air for 3 to 4 hours and are released into the environment with micro-droplets when people sneeze, cough and even speak. Air sterilization is of great importance to purify the air from microorganisms. The biggest convenience AEREM19 provides to its users is that there is no health risk when using UV-C lights in the same environment as living creatures as they do not leak out in a closed chamber.

How does  
UV-C kill  
germs?

UV radiation absorbed by cellular DNA creates chemical covalent bonds between adjacent Thymine bases to form Thymine dimers. These resulting thymine dimers form the primary mechanism of cellular UV damage. The thymine dimers caused by UV cause folds in the DNA strands and the natural helical structure of DNA is disrupted. This complicates chromosome replication before cell division, and transcription and expression of genes cannot be performed. Even if chromosome replication can be performed, mutant cells will appear that will not grow. When thymine dimers are seen in genes with vital functions, they are lethal because they inhibit DNA replication. The effect of UV-C light on viruses and bacteria is proportional to the energy emitted from the light source to the unit area and the time that the microorganism touches this light.

What is the  
effect time of  
UV-C light?

The germicidal effect of UV radiation depends on the dose exposed. As the radiation time increases or the radiation intensity increases (high voltage or proximity to light source), the number of vegetative cells that die will increase. The energy of the light given from the UV source to a certain area is measured in microwatt ( $\mu$  W). In inactivation of microorganisms, the required energy is calculated by multiplying the intensity of the UV ray and the irradiation time ( $\mu$ W. Seconds /  $\text{cm}^2$ ). The energy required for this inactivation varies according to the type and structure of microorganisms.

Does  
UV light  
harm people?

UV radiation causes erythema in human skin as a result of prolonged and intense contact and can lead to the onset of skin cancer. Also, direct eye contact with UV lamps can cause serious damage to the retina. Due to these side effects, UV radiation is used only as a sterilization tool in some special cases.





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