

Principle of Photovoltaic Panel Germicidal Lamp

What is a germicidal lamp?

A germicidal lamp is a special type of lamp which produces ultraviolet light (UVC). A UV lamp that generates energy at 185nm which is particularly effective in producing ozone. An ozone producing UV lamp that produces UV energy of wavelengths shorter than 220nm that decomposes oxygen, O₂, producing ozone, O₃. What does a Germicidal Lamp Do?

What are the applications of ultraviolet germicidal lamps?

Important applications are discussed such as the use of ultraviolet germicidal lamps in developing countries, in heating, ventilating and air-conditioning systems to improve energy efficiency and indoor air quality, and for whole room disinfection.

What wavelength does a germicidal lamp emit UV light?

The maximum absorption of UV light by the nucleic acid, DNA, occurs at a wavelength of 260nm. The germicidal lamp emitting UV at 254nm is operating very close to the optimized wavelength for maximum absorption by nucleic acids.

What is ultraviolet germicidal irradiation (UVGI)?

This paper is part of the Symposium-in-Print on "Ultraviolet Germicidal Irradiation." Ultraviolet germicidal irradiation (UVGI) for air disinfection applications has relied on low-pressure mercury vapor lamps for decades. New design requirements have generated the need for alternatives in some uses.

How much power does a germicidal lamp produce?

Total emission power is dependent on the arc lamp length allowing a range of germicidal lamps to operate in the 100-400 WUV power range. Germicidal lamps are readily available from many manufacturers/distributors worldwide ().

Can UV light provide germicidal effects?

This is the rationale for using this UV source technology to provide germicidal effects. Germicidal lamps use liquid Hg that vaporizes when a steady voltage is applied causing a low-pressure Hg vapor to form and normally operate at approximately 30 °C with 30-35% overall efficiency in converting electric to UV power.

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The composition and working principle of solar panel street light: solar street lights are mainly composed of solar panel components, smart controllers, battery packs, street lights, light poles and supports. Solar panel ...

Due to the impact of the COVID-19 epidemic, UVC germicidal lamps have gained public attention and are expected to maintain good market growth for a long time to come. There is a wide ...

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