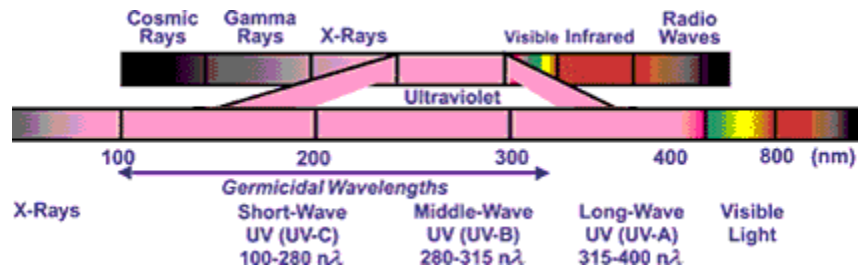


ULTRAVIOLET STERILIZATION

What is ultraviolet?

Ultraviolet light is part of the light spectrum, which is classified into three wavelength ranges:

- UV-C, from 100 nanometers (nm) to 280 nm
- UV-B, from 280 nm to 315 nm
- UV-A, from 315 nm to 400 nm.



What is germicidal ultraviolet?

UV-C light is germicidal - i.e., it deactivates the DNA of bacteria, viruses and other pathogens and thus destroys their ability to multiply and cause disease. Specifically, UV-C light causes damage to the nucleic acid of microorganisms by forming covalent bonds between certain adjacent bases in the DNA. The formation of such bonds prevents the DNA from being unzipped for replication, and the organism is unable to reproduce. In fact, when the organism tries to replicate, it dies.

What are the beneficial uses of germicidal uv?

Ultraviolet technology is a non-chemical approach to disinfection. In this method of disinfection, nothing is added which makes this process simple, inexpensive and requires very low maintenance. Ultraviolet purifiers utilize germicidal lamps that are designed and calculated to produce a certain dosage of ultraviolet (usually at least 16,000 microwatt seconds per square centimeter but many units actually have a much higher dosage.) The principle of design is based on a product of time and intensity - you must have a certain amount of both for a successful design.

How do ultraviolet purifiers work?

Ultraviolet purifier units contain one or more germicidal ultraviolet. Approximately 95% of the ultraviolet energy emitted is at the mercury resonance line of 254 nanometers. This wavelength is in the region of maximum germicidal effectiveness and is highly lethal to virus, bacteria and mold spores. Therefore, the water or air that passes through the chamber is exposed to the germicidal uv light and the genetic material of the micro-organism is deactivated, which prevents them from reproducing and renders them harmless.