

TITAN provides its customers with **BIO-SECURITY mobile units** which is capable of **disinfecting** spaces and equipment by eliminating **99.99% of all viruses (including COVID-19), bacteria and germs**. The technology is based on ultraviolet spectrum with wavelengths between 200–280 nm (UV-C).

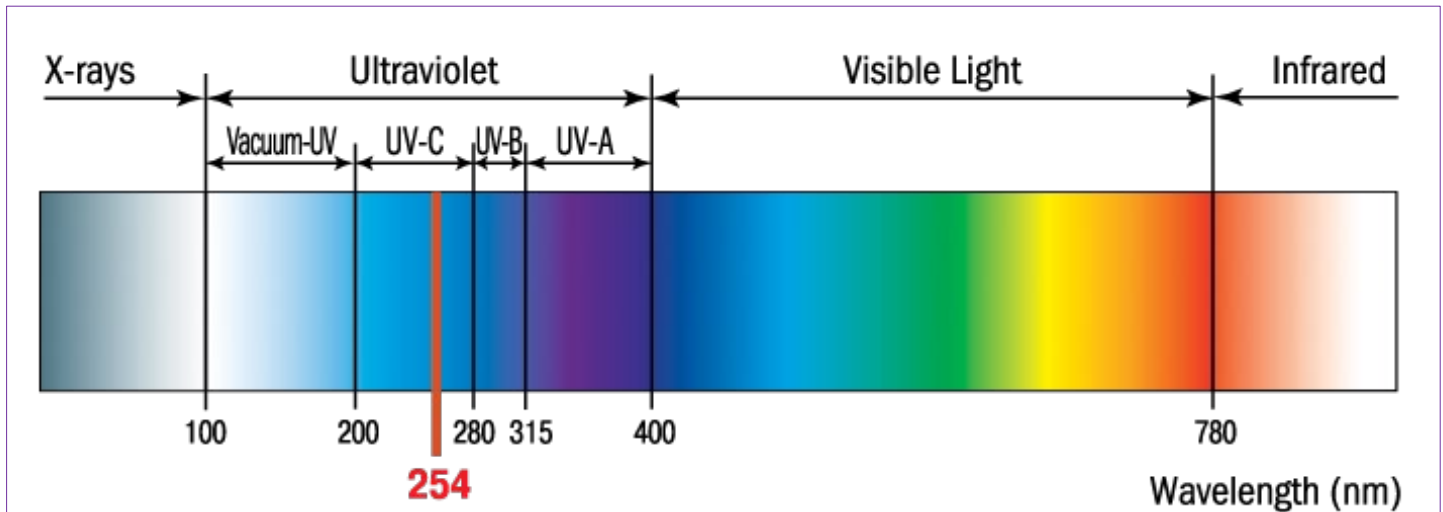
## UV DISINFECTION TECHNOLOGY

Ultraviolet technology for water, air and surface disinfection is based on germicidal effect of UV-C radiation.

UV radiation is electromagnetic radiation between x-rays and visible light. UV wavelengths range from 100 to 400 nanometer.

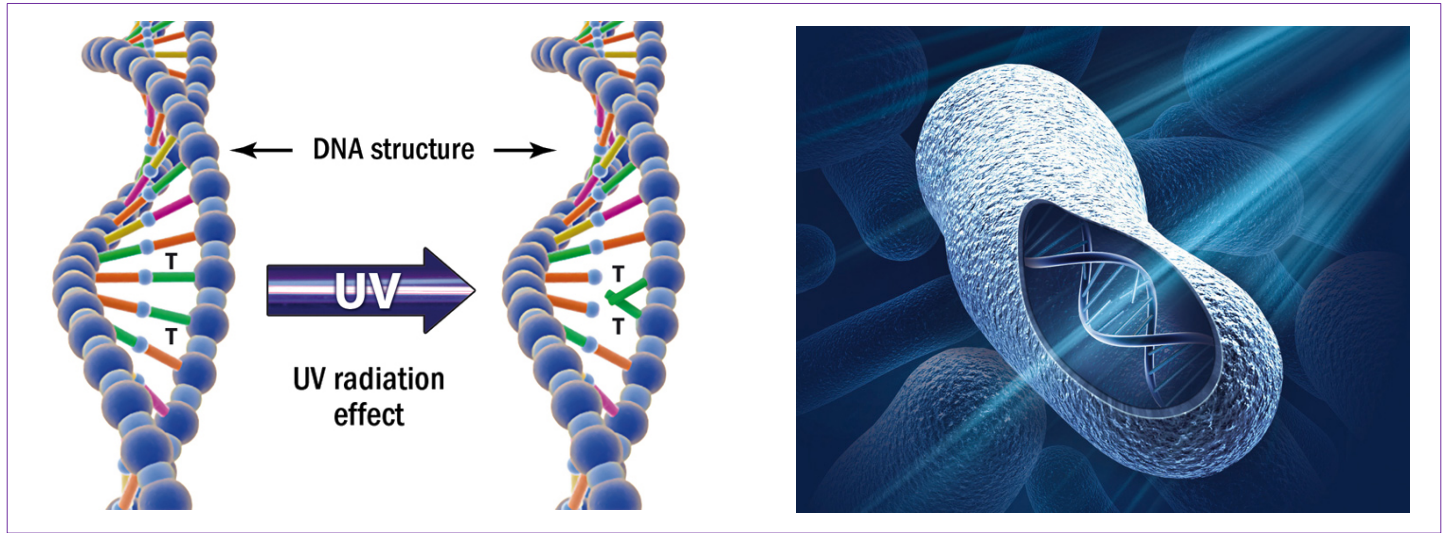
The UV wavelengths are divided in 4 groups, each with a different germicidal effect – UV-A (315–400 nm), UV-B (280–315 nm), UV-C (200–280 nm) and Vacuum UV (100–200 nm).

ULTRAVIOLET IN ELECTROMAGNETIC SPECTRUM



Within the UV spectrum, UV-C range is considered the strongest UV radiation, which is easily absorbed by DNA, RNA and proteins. This range is often called germicidal due to its high disinfection efficiency against bacteria and viruses. The highest germicidal effect occurs at 205-280 nm and the maximum germicidal sensitivity of microorganisms at 265 nm.

The germicidal effect is based on photon absorption by DNA and RNA molecules. Photochemical reaction provokes dimerization of DNA and RNA bonds, which inhibits the ability of microorganisms to replicate. This process is known as inactivation of microorganisms.



UV disinfection technology can be applied for potable water supply, wastewater treatment as well as for air and surface disinfection applications.

**The major advantages of this technology:**

- **high efficiency against a wide range of microorganisms including chlorine resistant ones (viruses and protozoa oocysts).**
- **no impact on physical, chemical and organoleptic properties of water and air.**
- **no by-products.**
- **no dangerous overdosing.**
- **low capital costs, power consumption and operational costs.**
- **UV systems are compact and easy to operate.**
- **no need for special operational safety precautions.**

Main industrial available sources of UV radiation are low pressure amalgam lamps and mercury medium pressure lamps. Medium pressure lamp technology has higher power per lamp (several kW) but significant lower efficiency (9-12%) in comparison to low pressure lamp technology with efficiencies between of 35-40% and power per lamp up to 1000 watt.

## OUR EQUIPMENT

### 1. THE BLADE, Handheld UVC Wind



#### **SPECIFICATIONS :**

- Polished aluminum reflector maximizes UVC intensity
- Quick and easy lamp-change out requires no extra tools
- On/Off safety switch
- Voltage: 110-277V, 50/60Hz
- Provides  $\geq 735\mu\text{W-s}/\text{cm}^2$  of UVC intensity @ 6"
- Dimensions: 18"L x 5"W x 6.25"H
- 6 foot 3 -prong power cord standard on 120V version
- Uses one SBL350T shatterproof germicidal UVC lamp
- Lightweight aluminum housing is sturdy yet weighs less than 5lbs.

#### **DESCRIPTION:**

Handheld and portable UVC disinfection device designed to deactivate bacteria, viruses and fungi in spaces where traditional hard-mounted UVC fixtures are inconvenient to be mounted; and where portable devices have limited access. Common environments include laboratories and food manufacturing, including food storage and packaging.

In healthcare environments the UVC Blade is ideal for the disinfection of:

- Bathroom handrails, toilet surfaces, sinks, and other surfaces
- Cell phones, chairs, doorknobs, bed rails, tray tables, etc.

The UVC Blade is fully portable and plugs into any standard 120V outlet. It comes equipped with a shatterproof UVC high output lamp, an oversized handle designed to maximize grip comfort, an on /off switch, a power cord, and UVC safety glasses.

#### **BENEFITS:**

- Quickly disinfects common bacteria, viruses and fungi on hard to reach surfaces.
- Lightweight handheld device with shatterproof lamp.
- Easy to use.
- Lamp rated for 12,000 hours.

## 2. MRS33-8 Mobile UV Unit



### **SPECIFICATIONS :**

- Weight: 85lbs
- Dimensions: 47"H x 20"W x 20"D
- Lamps: GML100 x 8
- Electrical Requirements:
- 4A @ 120V
- 2.2A @ 220V

### **DESCRIPTION:**

This unit uses 360-degree motion sensors as a safety precaution and features eight (8), 33" slimline UVC lamps optically centered around a highly polished reflector for maximum intensity.

System controls are located directly on the unit, which allows utilization of a touchscreen with 3 preprogrammed disinfection cycle times, and the option to manually set disinfection cycles times.

### **FEATURES:**

- 304 stainless steel construction
- Motion sensor for 360-degree automatic shut-off
- Large, high quality, locking casters for ease of transport
- 120/220 Volt, 50/60 Hertz
- Formed stainless tube structure protects lamps and improves ability to handle and transport the unit
- Access panel for ease of maintenance
- Touchscreen controller with pre-set and manual disinfection
- 15 foot power cord

### **EFFICIENCY:**

<b>Coronavirus (SARS-CoV1)</b>	<b>99,9%</b>	<b>Mycobacterium tuberculosis</b>	<b>99,9%</b>	<b>Poliovirus</b>	<b>99,9%</b>
<b>Staphylococcus aureus</b>	<b>99,9%</b>	<b>Pseudomonas aeruginosa</b>	<b>99,9%</b>	<b>Rotavirus</b>	<b>99,9%</b>
<b>Hepatitis virus</b>	<b>99,9%</b>	<b>Klebsiella pneumoniae</b>	<b>99,9%</b>	<b>Total microbial number</b>	<b>99,9%</b>