

# UV BASICS

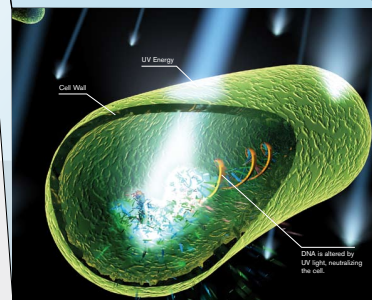
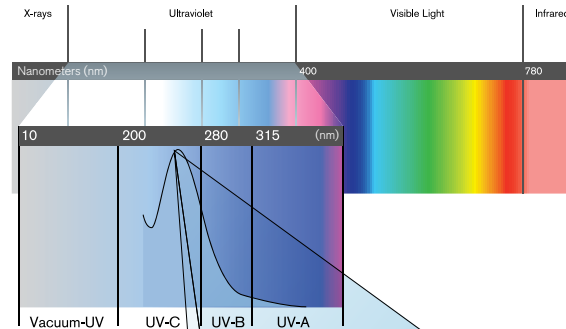
## >> WATER FACTS

### WHAT IS ULTRAVIOLET (UV) LIGHT?

Ultraviolet means “*beyond violet*” (from Latin ultra, “beyond”), violet is the color of the shortest wavelength of visible light. Ultraviolet (UV) light is a form of light that is invisible to the human eye. Specific wavelengths, between 200 and 300 nanometres (or billionths of a metre), are categorized as germicidal – meaning they eliminate bacteria and viruses.

### HOW UV LIGHT WORKS

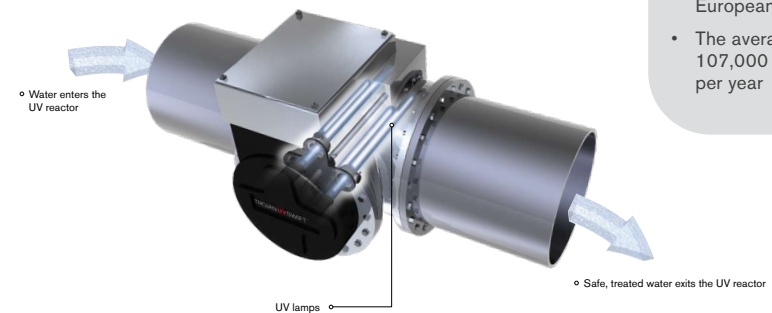
Microorganisms in the water are exposed to ultraviolet light when they pass by special lamps. The UV energy instantly destroys the genetic material (DNA) within bacteria, viruses and protozoa, eliminating their ability to reproduce and cause infection. Unable to multiply, the microorganisms die and no longer pose a health risk. With UV technology it is possible to inactivate harmful microorganisms, including *E.coli*, *Cryptosporidium* and *Giardia*.



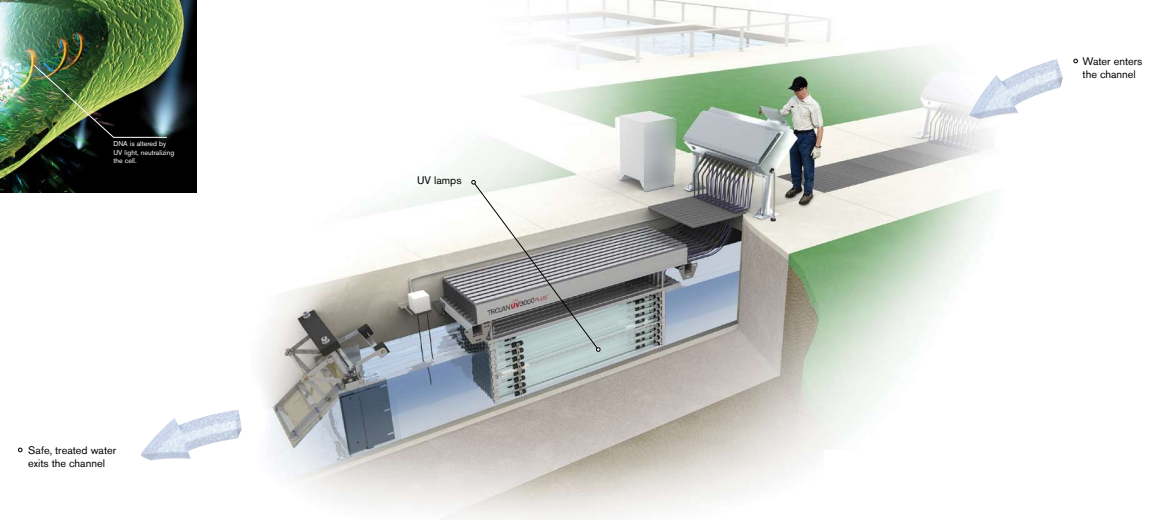
### >> WHY DISINFECT WITH TROJAN UV?

- UV is simple, chemical-free and highly effective
- UV inactivates bacteria, viruses and chlorine-resistant protozoa
- UV is used at over 20% of all North America wastewater treatment plants
- UV is extremely safe – it eliminates the transportation, storage and handling of toxic, corrosive chemicals
- UV does not require special staff training, certification, or emergency response & evacuation plans
- UV is environmentally-friendly and has no negative effects on aquatic life
- Unlike chlorine, UV cannot be overdosed and it does not create and release carcinogenic disinfection by-products or toxins
- UV is very cost-competitive with chemical disinfection and offers much lower operations & maintenance costs
- UV does not alter water taste or odor

### TREATING OUR DRINKING WATER WITH TROJAN UV



### TREATING OUR WASTEWATER WITH TROJAN UV



- The water we use today is the same water the dinosaurs used
- Only 1% of the world's water is fresh water, and only 1% of the world's fresh water is drinkable
- 10% of the world's fresh water is in Canada
- Per capita, North Americans use four times more water than Europeans
- The average home uses 107,000 gallons of water per year