

ILLUMINATION “HT-LAB” Series Ultraviolet Water Disinfection Systems



IL-HT-LAB-050
IL-HT-LAB-050-TOC
IL-HT-LAB-050-OD

ULTRAVIOLET DISINFECTION

The technology uses UV light to target and disable disease causing microorganisms (pathogens). When you expose pathogens to UV light, their reproduction is limited. The UV lamp produces light in the UVC range of the light spectrum. Specifically, light in the 254 nanometer (nm) range is an effective wavelength.

When water pathogens are exposed to UV light, their cells become damaged and this damage inhibits reproduction. The UV light, damages the cell's DNA and RNA and once damaged, they are unable to replicate. This physical process renders them harmless. The amount of damage is a result of the intensity of the UVC output multiplied by the time the water is exposed to the light. The applied dosage is commonly referred to as microwatts and is often expressed as mJ/cm².

SYSTEM OVERVIEW

Flow Characteristics	
Applications	Disinfection / TOC reduction / Ozone destruction
Flow rate gpm (lpm)	.5 (2) [.15 (.5) TOC, .15 (.5) OD]
Dosage	40 mJ (100 mJ TOC, 100 mJ OD)
Vessel Overview	
Vessel	316 L stainless steel
Treatment	Electropolished
Pressure rating	100 psi (6.9 bar)
Mounting	Horizontal
Connections	1/4" FNPT
Lamps	1
System nominal watts	<10
Lamp type	Low pressure standard output
Wavelength	254 nm (185 nm TOC)
Lamp life	> 1 year
Compression fitting	Aluminum anodized
Oring	Viton
Washer	Stainless steel
Removal space lamps	8"
Power Supply Center	
Type	Remote UL Ballast Control
Power	120 Volt 50/60 Hz
Ballast type	Electronic
Options	
Voltage	220 Volt 50/60 Hz
Enclosures	Painted steel, Stainless steel, Explosion proof



Available in larger flow rates.



UV is effective on many

- Bacteria
- Viruses
- Fungi
- Algae
- Protozoa

Applications

- Disinfection
- TOC reduction
- Ozone destruction

Microorganisms

- Cryptosporidium
- Giardia
- Cholera
- Salmonella
- e-Coli
- Coliform bacteria
- Fecal coliform

Water quality considerations

- Pre-filtering / treatment
- UV transmission >70%
- Iron < 0.3 ppm
- Turbidity < 1 NTU
- Hardness < 120 mg/l
- Manganese < 0.05 ppm