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## **OPERATIONAL & MAINTENANCE GUIDE**

### **UV-C HANDHELD HIGH POWER ULTRAVIOLET DISINFECTION SYSTEM**

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**All guidelines must be reviewed prior to use of equipment.**

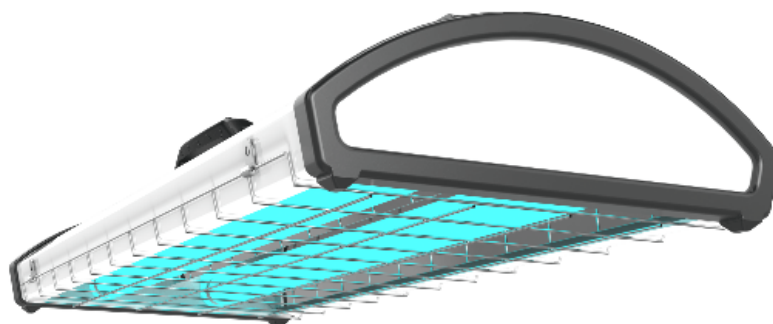
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### **GENERAL INFORMATION**

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This product emits 254 nm wavelength of UVC energy. the handheld system is a germicidal ultraviolet system that is intended to disinfect high touch surfaces and areas.

**CAUTION:** Observe basic safety precautions including the use of personal protective equipment (PPE) while operating and handling the system. please read and follow all instructions, warnings, and safety notices. do not expose skin or eyes to direct or indirect UVC rays as UVC energy can be harmful to these areas.



**Figure 1**

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### **IMPORTANT SAFETY WARNINGS**

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**Please read and review all safety warnings prior to use of equipment.**

- **WARNING - UVC Light Hazard:** Direct and indirect exposure to UV-C rays can cause temporary loss of vision and sunburn. Take proper safety precautions to protect the eyes and skin from any exposure.
- **WARNING - UVC Light Hazard:** The operator must cover any exposed skin and eyes while equipment is in use. The operator should never direct the UV-C rays towards themselves or any other person.
  - UV-C Rated safety glasses are provided with each handheld system along with gloves, face shield and warning sign. PPE should be used while system is in operation. It is important to protect yourself and others from any exposure.
  - People and animals without the proper PPE are forbidden to occupy any room with this device while it is in operation.

- **WARNING – Burn Hazard:** Unplug the power source before replacing lamps.
- Allow lamps to cool down at least 10 minutes before removing them. Personal injury may result otherwise.
- **WARNING – Mercury Hazard:** Do not break UVC lamps. Each UV-C lamp contains small amounts of mercury that can have harmful effects if exposed or ingested.
  - Exposure to mercury may cause redness or irritation.
  - In the case of a broken UVC lamp, sweep up the broken glass and debris into a plastic bag and secure it with a seal.
  - Dispose of used or broken UVC lamp debris at a local recycling center.
  - Do not use a vacuum cleaner or incinerator to collect or dispose of any lamp debris.
- Unplug the power source during maintenance or when system is not in use.
- Store device in a dry area.

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## INCLUDED IN THE BOX

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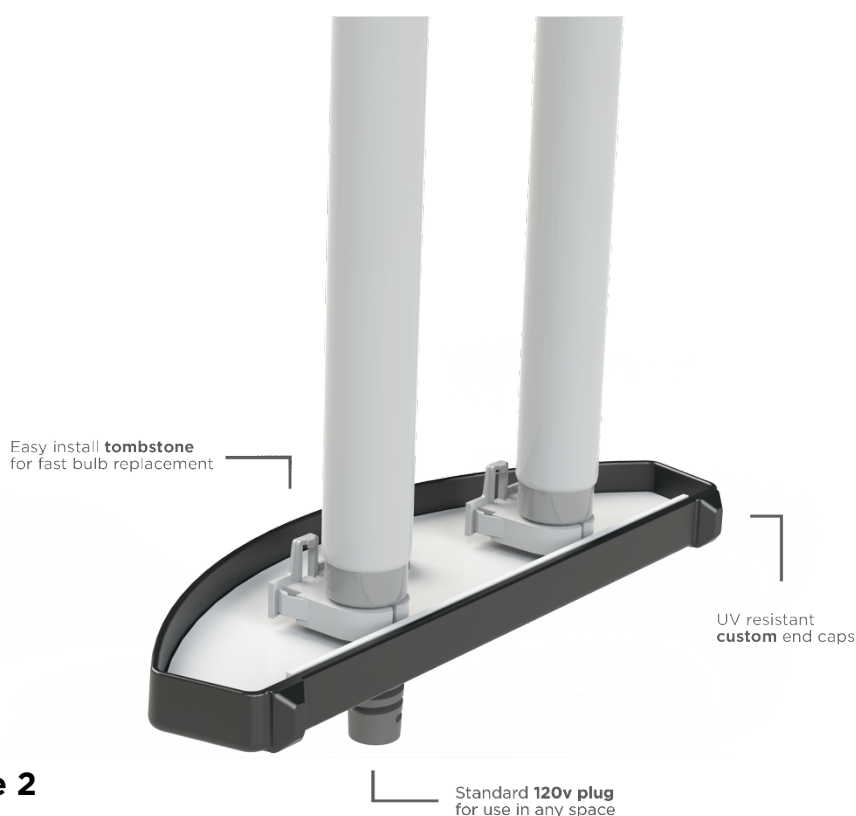
- 1 UV-C Handheld High Power Ultraviolet Disinfection System with power cord
- 1 Pair UVC Glasses with protective case
- 1 Pair UVC Gloves
- 1 UVC Face Shield
- 1 UVC Warning Sign
- 10 Dosimeter Cards
- 1 Mobile carrying case
- 2 UVC quartz lamps
- 1 additional replacement UV-C quartz lamp
- UVC Services Window Cling (to display services rendered in business front)

For visual aids, please visit: <https://www.youtube.com/watch?v=gF7x9GVw7jk>



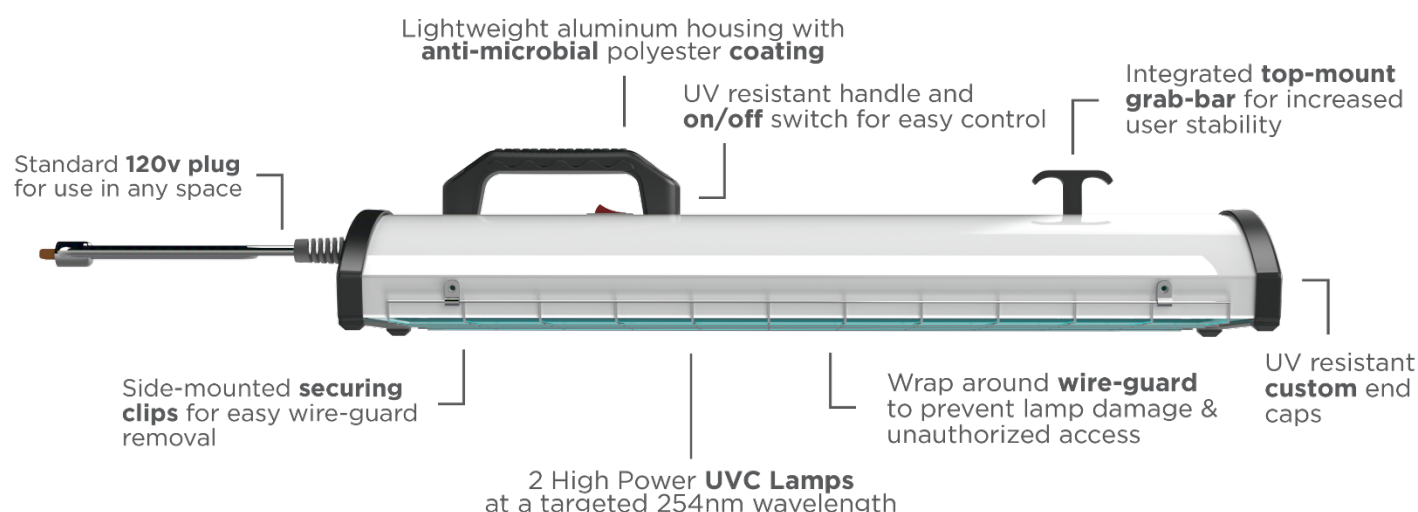
## UV-C LAMP INSTALLATION

1. Make sure the disinfection system is disconnected from any power source before installing the UV-C lamps.
2. Remove the protective wire guard from the disinfection system by removing the securing clips and setting the wire guard aside.



**Figure 2**

3. When handling UV-C lamps, wearing lint free gloves is strongly advised. Oils from skin contact can reduce lamp life and output if not removed prior to installation.
4. Remove the lamps from their protective sleeves.
5. Clean each lamp prior to installation to maximize the efficiency of use and lamp life. Use isopropyl alcohol and a soft cotton cloth to wipe dust and fingerprints from the lamp.
6. Gently insert the lamp into the lamp holder / tombstone and secure the lamps into position on the lamp sockets by rotating the lamp until the lamp holder / tombstone locks.
7. To complete installation, replace the wire guard and secure the securing clips to the housing.
8. A soft, lint free cloth can be used to wipe off the reflector and lamp area to remove any dirt, dust or fingerprints after installation.



**Figure 3**

## UV-C DISINFECTION SYSTEM USE

1. The handheld UV-C System should always be stored in its protective case. Before use, inspect the system for any damage. Do not use the system if lamps or cord is broken or appear to be damaged.
2. Put on all provided PPE and plug the system into a compatible power source and turn system on. Direct the UV-C energy in a slow, hovering motion over the surface needing disinfection. Keep the bottom of the system parallel to the surface and remain close to the surface for the best applied dose. See following page for dosage information.
3. Use the Dosimeter cards provided to validate dose and provide a visual indicator of UV-C delivered onto the target area.

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## **GENERAL MAINTENANCE & LAMP REPLACEMENT**

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- A convenient power switch is located on the device and should be turned off before any maintenance.
- To clean, UV-C lamps and reflector surfaces can be wiped down with a soft, lint free cloth and isopropyl alcohol.
- UV-C lamps should be replaced annually. To replace, you should:
  1. Obtain the correct replacement lamp for your model.
  2. Disconnect equipment from power source.
  3. Remove the protective wire guard from the disinfection system by removing the securing clips and setting the wire guard aside. See Figure 2.
  4. Allow lamp to cool down at least 10 minutes before removing. Personal injury may result otherwise.
  5. Carefully remove the used UV-C lamp and replace with the new lamp. Refer to the Lamp Installation Instructions above listed 1 through 8.
- UV-C lamps should be replaced and changed annually or every 9,000 hours of operation to maintain maximum output and effectiveness.
- For broken lamps and proper disposal, follow your local safety information regarding hazardous waste and material related to fluorescent lamps.  
<https://www.epa.gov/cfl/cleaning-broken-cfl>

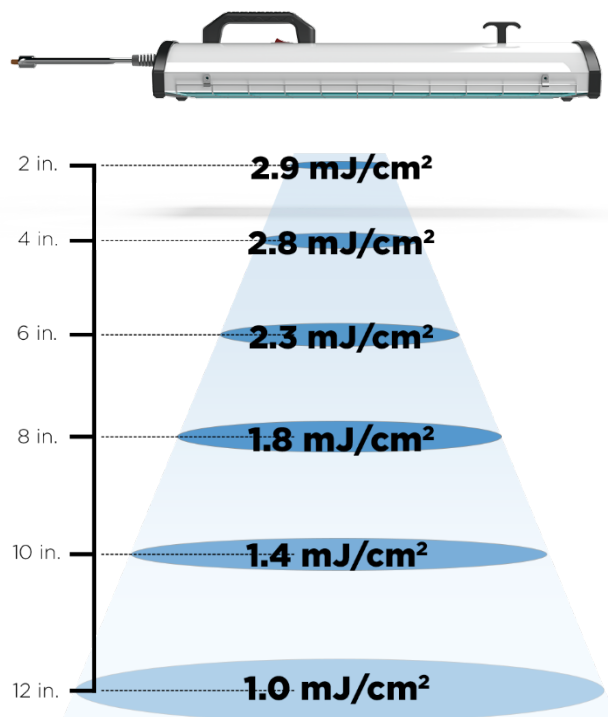
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## **UV DOSE**

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1. Reference **XtraLight's UV Dose and Log Reduction Guide** for help with determining degree of inactivation and exposure time required to deactivate targeted microorganisms.  
<https://info.xtralight.com/ultraviolet-disinfection>

2. For further information regarding XtraLight's recommended steps for disinfection, please visit <https://blog.xtralight.com/uv-dosage-for-disinfection>



**Figure 4**

## **UV-C QUESTIONS & ADDITIONAL INFORMATION**

- Contact our Customer Service department at [800-678-6960](tel:800-678-6960) or email [customerservice@xlm.com](mailto:customerservice@xlm.com)
- Visit <https://info.xtralight.com/en-us/uv-c-ultraviolet-disinfection-system>
- FAQ <https://info.xtralight.com/faq-ultraviolet-disinfection-system>
- Learn More about UV <https://info.xtralight.com/ultraviolet-disinfection>
- Effects on Coronavirus <https://blog.xtralight.com/does-uv-light-kill-the-covid19-coronavirus>