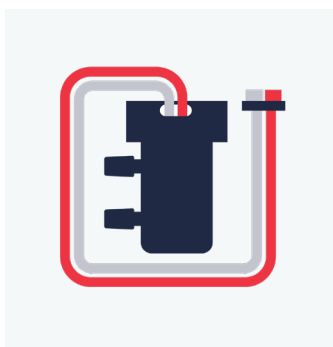




Klaran® WS Series Retrofit Kit

Plug and Play UVC LED Disinfection for Water Coolers and Dispensers



QUALITY DISINFECTION ON-DEMAND

Capable of providing 4 Log Reduction of *pseudomonas aeruginosa* at a flow rate of 2 liters per minute.



LONGER LIFE AND HIGHER RELIABILITY

On-demand Klaran UVC LEDs provide optimal useful lifetime, reduced energy consumption, and a replacement cycle that matches your business needs.



EASY AFTERMARKET INTEGRATION

Push fit water lines, AC wall plug adapter, and automatic flow detection make it easy to add on Demand UVC LED treatment to most dispensers.



Model Numbers

| Model | Description |
|--------------|--|
| WS2-2U-A1 | WS unit assembled with WR Reactor, 24VDC power input |
| WS2-2U-A1-UK | WS unit assembled with WR Reactor, UK power adapter supplied |
| WS2-2U-A1-EU | WS unit assembled with WR Reactor, EU power adapter supplied |
| WS2-2U-A1-US | WS unit assembled with WR Reactor, US power adapter supplied |

Product Characteristics

| Attribute | Unit |
|---------------------------|-------------------------------------|
| Size | 158 x 93 x 55 mm |
| Flow rate | .5 – 2.8 Liters per minute |
| Inlet and outlet fittings | 1/4" push fittings |
| Power options | UK or EU wall plug, or 24V DC input |

Electrical Characteristics

| Characteristic | Unit | Value | Note |
|---|------|----------------|---------------------|
| Power Adapter Characteristics (Optional) | | | |
| Input voltage | VAC | 90-230 | |
| Wattage | W | 12 | |
| Cord length | M | 1.5 | |
| Plug configuration -UK | | Type G Plug | |
| Plug configuration -EU | | Type C Plug | |
| WS Unit Electrical Characteristics | | | |
| Barrel jack size | mm | 5.5 x 2.1 Dia. | Female, plug size A |
| Unit voltage | VDC | 24 | |
| Unit amperage | A | 0.4 | Maximum |
| Power consumption (Stand-By) | mW | 100 | |
| Power consumption (UVC LED ON) | W | 10 | |
| LED indicator output header pins size | in | .1 x .1 | |
| LED indicator voltage output | VDC | 1.74 | |
| LED indicator amperage output | mA | 1.5 | |

Mechanical Characteristics

| Characteristic | Unit | Value | Note |
|-----------------------------------|------|------------------------------------|-----------------|
| Major Dimensions | mm | 158 x 93 x 55 | |
| Inlet water fitting (Tube OD) | in | 1/4" | Female Push-fit |
| Outlet water fitting (Tube OD) | in | 1/4" | Female Push-fit |
| Pressure drop | kPa | 15 | At 2 LPM |
| Total internal water volume | mL | 37.8 | |
| Enclosure water resistance rating | | None | |
| Maximum Ambient Temperature | C | 40 | |
| Mounting | | 40mm diameter filter clip included | |

Inlet Water Specifications

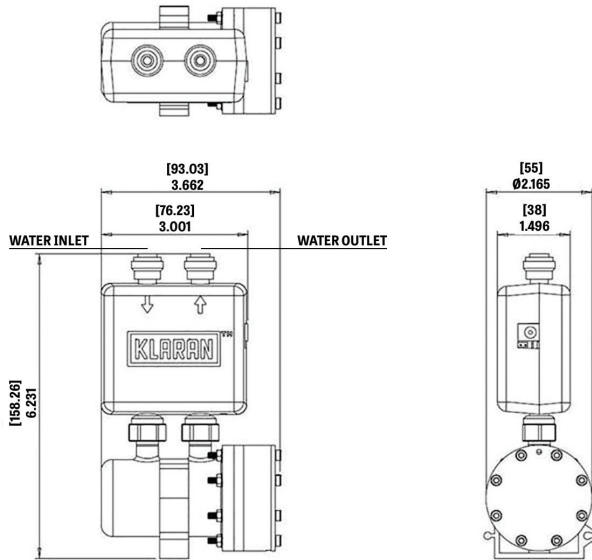
| Characteristic | Unit | Value | Note |
|---|--------|-----------|----------------------------|
| Flow rate range | LPM | .5 - 2.8 | |
| Maximum pressure rating | PSI | 100 | |
| Minimum flow to trigger Disinfection On | LPM | .5 | |
| Minimum UV Transmission | % / cm | 95 | |
| pH range | | 5.8 - 8.6 | |
| Water Temperature Range | C | >1-50 | Freezing must be prevented |

* Inlet water should be filtered by an at least 5 micron or equivalent filtration cartridge before entering the Klaran WS unit.

Biofilm Control Feature

Klaran validated UV pulsing protocol: Disinfection ON enabled for 2 minutes after 12 hours of continuous Stand-By time.

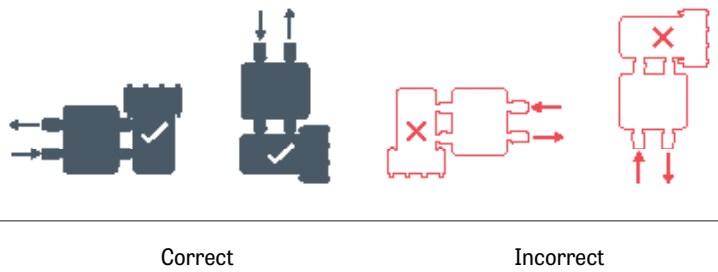
Mechanical Dimensions



Installation Orientation:

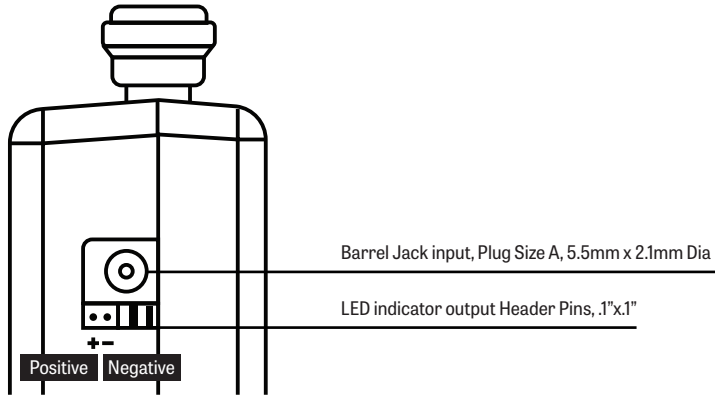
Designs incorporating Klaran WS should use the reactor in one of the two acceptable orientations to ensure performance meets specifications.

Failing to do so may result in inadequate disinfection performance or damage to the Klaran WS.



All dimensions are in millimeters. Unless noted otherwise, all dimensions have a tolerance of ± 0.05 mm.

Electrical Connections Diagram



Indicator LED Output Logic

| Status | Indicator LED Output |
|---|-------------------------|
| UVC Disinfection Off | LED Output off |
| UVC Disinfection On | LED Output 100% |
| End of Service Life, replacement required | LED Output blinking 1hz |
| Fault, restart required | LED Output blinking 5hz |

Certifications

| | |
|----|------|
| CE | RoHS |
|----|------|

Packaging Contents

| |
|---|
| 1X Klaran WS Unit |
| 1X WR Unit (pre-installed) |
| 1X LED on Wire Indicator |
| 1X Product Manual |
| 1X Mounting Bracket |
| 1X #8 3/4" Self-drilling Screw |
| 1X Klaran Sticker |
| Optional: 1X Power Adapter and Plug Fitting – Specified by Model Number Ordered |

Packaging Dimensions

Contact Klaran for package, case, and pallet specifications

Handling and Operation Precautions

The Klaran WS is available for purchase, installation, and service by professional providers of water conditioning and plumbing systems and services. Klaran WS is not for consumer or stand-alone use and must be installed into a properly installed and operating water conditioning or plumbing system.

- > The Klaran WS contains microelectronic components sensitive to shock, moisture, and operation in conditions beyond stated maximums. Care should be taken in handling the Klaran WS during shipping, handling, installation, and operation.
- > The Klaran WS is ESD (electrostatic discharge) sensitive; static electricity and surge voltages seriously damage internal components and can result in product failure.
- > Ensure that tools, jigs and machines being used are properly grounded and do not exert excessive force upon the Klaran WS.
- > Dropping the product may cause damage. Drops from over 30 cm will cause permanent damage.
- > Pre-filtration should be used before the Klaran WR that can assure inlet water is of sufficient quality to meet required specifications. Operating without pre-filtration may lead to a reduction of disinfection performance or damage to the Klaran WS.
- > The Klaran WS should be filled with water during LED ON operation. Operating the Klaran WS dry for extended periods may cause permanent damage.
- > The Klaran WS should be flushed with flowing water for a minimum of two minutes before use after initial installation or for any occurrences of electrical power loss longer than 12 hours.
- > The Klaran WS should not be modified or disassembled in any way. Doing so may result in damage, hazardous operation conditions, and Ultraviolet (UV) light exposure hazards.



DISCLAIMER

The specifications, characteristics, and technical data presented in this datasheet are subject to change without prior notice. It is recommended that the most updated specifications, characteristics, and technical data be used in your application.

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WE INVITE YOU TO LEARN MORE ABOUT OUR UVC LEDs.

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