

MP-UVC-4LC / 10LC / 48LC / 70LP

MASSPHOTON

UVC LED Standalone Smart Water Disinfection Device



SGS



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MASSPHOTON LIMITED

Semiconductor Ultraviolet Technology and Applications Expert

PRODUCT OVERVIEW

The standalone smart UVC-LED water disinfection system is an all-in-one treatment unit. Equipped with integrated disinfection chamber, intelligent controller, real-time flow & UV intensity monitoring and multi-safety protections, it connects to diverse water sources for 24/7 high-flow continuous disinfection.



Powerful Disinfection



Easy Installation & Maintenance



Safe Physical Disinfection



Mercury-Free Zero Pollution



15,000-Hour Long-term Service



Instant On-Demand

CORE FEATURES

All-in-One Design, Unattended Operation

Integrated disinfection chamber, independent power supply and LED driver. No external main unit required; fully-automatic operation after water and power connection for unattended use.

Smart & Precise Disinfection with Controllable Data

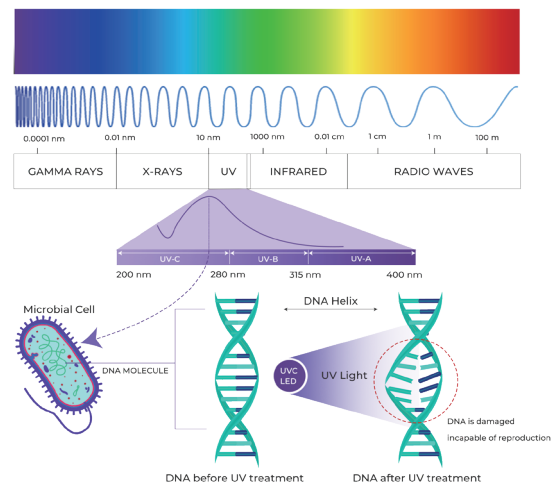
Built-in real-time monitoring system dynamically tracks water flow, UV intensity and disinfection dosage for reliable disinfection performance. Visualized water-quality data meets commercial project acceptance standards.

Multi-Level Smart Protection, Zero Failure Risk

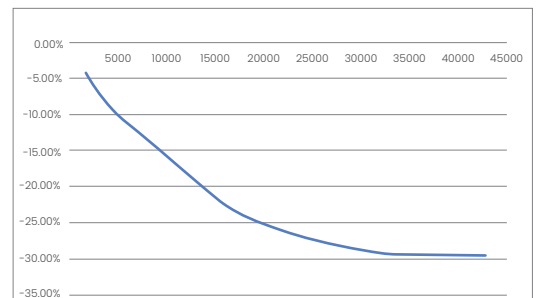
Dedicated dry-burn protection cuts off UV light automatically under no-water condition. Interlocked safeguards including water-shortage, over-pressure, fault alarm and emergency shutdown secure equipment & water safety and extend lamp service life.

Flexible Expansion for Engineering Retrofits

Supports series or parallel pipe connection, compatible with new and existing water pipe networks with minimal modification. Ideal for installation, renovation and expansion of large water-supply systems for high-flow continuous disinfection.



UVC-LED Output Degradation Trend Under Standard Operating Conditions



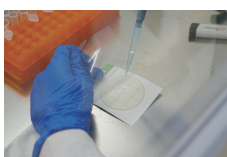
100% FACTORY-TESTED FOR DISINFECTION EFFICACY



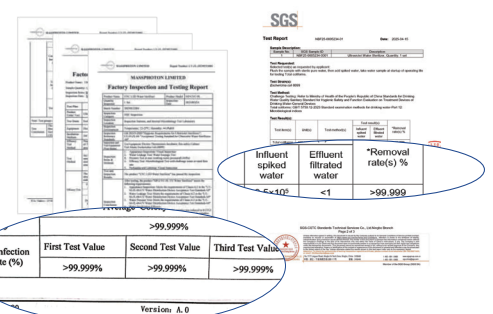
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Control	4.3x10 ⁶ CFU/mL	2.2x10 ⁶ CFU/mL	2.5x10 ⁶ CFU/mL
Control Group Image (10,000 dilution)	41CFU	22CFU	25CFU
Test Group Image (Non dilution)	0CFU	0CFU	0CFU
Test Summary	No E. coli was detected in the experimental group samples	No E. coli was detected in the experimental group samples	No E. coli was detected in the experimental group samples



PRODUCT PORTFOLIO

MP-UVC-4LC

Corrosion-resistant stainless-steel design with a flow rate of 4 L/min. Features 1/4" push-fit connections for easy installation, pressure resistance, and corrosion resistance.



MP-UVC-10LC

Space-saving rectangular design with a flow rate of 10 L/min. Features ZG 1/2" connections and a slim profile for confined-space installation.



MP-UVC-48LC

High-performance, high-flow design with a flow rate of 48 L/min. Features 1" MNPT connections, strong pressure resistance, and reliable continuous operation.



MP-UVC-70LP

Industrial-grade medium-to-high-flow design with a capacity of 4.2 TPH (approximately 70 L/min). High-pressure resistant and reliable for building water supply, process water, and reclaimed water disinfection.



APPLICATION SCENARIOS

Widely used in single-family whole-house inlet water disinfection, central water-supply systems for office buildings, hotels and residential compounds, venue centralized water supply, industrial process water, well-water/rainwater recycling, aquaculture water supply and small-community water projects. It fully safeguards water quality safety for centralized water-use scenarios.



Under-sink
Water Disinfection



Whole-house
Water Purification System



RV and Yacht
Water Purification



Food & Beverage
Process Water



Medical and Laboratory
Applications



Swimming Pool and Spa
Water Treatment



Aquaculture
& Irrigation Water



Secondary Water Supply
and Wastewater Treatment

KEY PRODUCT PARAMETERS

Model	MP-UVC-4LC	MP-UVC-10LC	MP-UVC-48LC	MP-UVC-70LP
MASSPHOTON STANDARD CONFIGURATION (30 mJ/cm ² at 95% UVT)	4 LPM (1.1 gpm) (0.25 m ³ /hr)	10 LPM (2.6 gpm) (0.6 m ³ /hr)	48 LPM (12.7 gpm) (2.9 m ³ /hr)	93 LPM (24.7 gpm) (5.6 m ³ /hr)
ALTERNATE CONFIGURATION (16 mJ/cm ² at 95% UVT)	7.5 LPM (2.1 gpm) (0.4 m ³ /hr)	19 LPM (4.9 gpm) (1.1 m ³ /hr)	90 LPM (23.8 gpm) (5.5 m ³ /hr)	175 LPM (46.3 gpm) (10.5 m ³ /hr)
ALTERNATE CONFIGURATION (40 mJ/cm ² at 95% UVT)	3 LPM (0.8 gpm) (0.2 m ³ /hr)	7.5 LPM (2 gpm) (0.5 m ³ /hr)	36 LPM (10 gpm) (2.1 m ³ /hr)	70 LPM (18.5 gpm) (4.2 m ³ /hr)
Operating Pressure	0.4 MPa (60 psi)	0.4 MPa (60 psi)	0.1 to 0.8 MPa (14 to 116 psi)	0.1 to 0.8 MPa (14 to 116 psi)
Connection Size	1/4" Quick Connect	G 1/2"	1" MNPT	1" MNPT
UVC LED Wavelength	270 nm-280 nm	270 nm-280 nm	270 nm-280 nm	270 nm-280 nm
Electrical	100~240 V 50/60 Hz	100~240 V 50/60 Hz	100~240 V 50/60 Hz	100~240 V 50/60 Hz
UVC LED Lifetime	L70 > 15,000 hours			
Power	8 W	10 W	15 W	29 W
Disinfection Efficiency	≥99.999% or 5.0 Log Reduction (*)			
Exterior Material	304 Stainless Steel (316 Available Upon Request)	Anodized Aluminum	Anodized Aluminum	Anodized Aluminum
Operating Water Temperature	5°C to 40°C (41°F to 104°F)	4°C to 60°C (39.2°F to 140°F)	5°C to 40°C (41°F to 104°F)	5°C to 40°C (41°F to 104°F)
Product Dimensions	Φ1.7*10 in (Φ42*252 mm)	1.7*1.7*8.9 in (42*42*225 mm)	Φ2.8*13.3 in (Φ70*338.5 mm)	Φ3.3*18 in (Φ84*458mm)

(*) The actual disinfection efficiency subjects to the water quality.

The above test results are based on the following test conditions with test strain of Escherichia coli (8099), with 5×10^4 to 5×10^5 CFU/mL dechlorinated sterile test water.

pH	UV transmittance	Turbidity	Temperature	TDS
7.5+/-0.5	98+/-2%	< 1.0 NTU	20±2.5°C(68+/-5 °F)	200 to 500 mg / L

OPTIONAL EQUIPMENT MODULES

Smart Control Box



- **Real-time parameter monitoring:** UV output intensity, runtime, water temperature, flow rate, etc.
- **Multi-level alarms:** insufficient UV dosage, abnormal flow/humidity, overdue operation and other faults.

Water Flow Sensor



- UVC-LED disinfection activates automatically when flow reaches preset value.
- Instant start, energy saving and

UV Module App (Tuya™)



- Integrated WiFi monitoring solution compatible with WEB, Android and iOS platforms.
- Supports remote data management for single or multiple devices with simple configuration.