UV LED Filter

In-line UVC LED water sterilizers for water purifiers and appliances, in 2, 2.5 and 5 L/min capacities.

The JIN INTER UV LED filter disinfects water as it flows. Water passes through a quartz tube while UVC LEDs outside the tube irradiate it, damaging the DNA/RNA of microorganisms so they can no longer reproduce. No mercury and no chemicals are used. The compact, low-power module runs from a DC 24 V supply and drops into the water line of a purifier or appliance.

Designed to simplify your product

Withstands water pressure and water hammer

Tolerates high water pressure and the water hammer caused by valve opening and closing, for up to 150,000 cycles. Maximum water pressure: 100 PSI.

Low power consumption

Only 2.5 W, 3.5 W or 5.5 W (±15%) at DC 24 V, depending on the model.

Shares your DC power supply

Runs on DC 24 V, so it can use the same DC supply as the other electrical components in your product.

Can be powered continuously

No dedicated switching or timing circuit is required. Keep water inside the unit and avoid dry operation.

Three models by flow rate

Model	Rated flow	Power	UVC flux	Connection	E. coli reduction
LU19-G1	0.5 - 2 L/min	2.5 W	90 mW	1/4 inch	99.937% at 2 L/min
LE25-S2	2.5 L/min	3.5 W	180 mW	1/4 inch quick connector	99.99% at 2.5 L/min
LU25-P3	1 - 5 L/min	5.5 W	270 mW	3/8 inch	99.994% at 5 L/min

Specification comparison

Item	LU19-G1	LE25-S2	LU25-P3
Rated water flow	0.5 - 2 L/min	2.5 L/min (min 0.5)	1 - 5 L/min
Input voltage	DC 24 V	DC 24 V (adapter incl.)	DC 24 V
Power consumption	2.5 W ±15%	3.5 W ±15%	5.5 W ±15%
UVC radiant flux (VF = 24 V)	90 mW	180 mW	270 mW
Peak wavelength	270 - 280 nm	270 - 280 nm	270 - 280 nm
Flow sensor	No	Built in, automatic ON/OFF	No
Operating indicator	LED indicator	Multi-function LED indicator	LED indicator
Water connection	1/4 inch	1/4 inch quick connector	3/8 inch
Body diameter	Ø19.1 mm	Ø25.4 mm	Ø25.4 mm
Overall length	113 mm	143.2 mm	138 mm
Power cable	480 mm, custom connector	480 mm, DC jack	480 mm, custom connector
Maximum water pressure	100 PSI	100 PSI	100 PSI
Main materials	SUS 304 / quartz / aluminum	SUS 304 / quartz / aluminum / plastic	SUS 304 / quartz / aluminum

Operating conditions (all models)

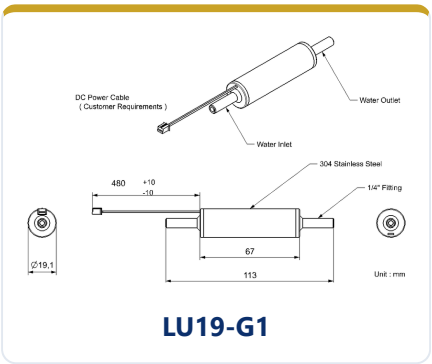
Water UV transmittance (UVT)	Ambient temperature	Storage temperature	Operating / storage humidity
> 95% / cm	0 to +60 °C	-20 to +80 °C	30 - 65%

E. coli disinfection test results

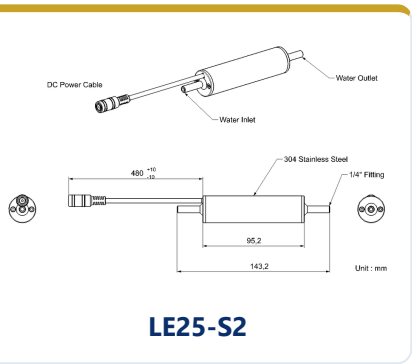
Model	Flow rate	Inlet (CFU/mL)	Outlet (CFU/mL)	Reduction
LU19-G1	2 L/min	1.9×10^5	120	**99.937%**
LE25-S2	2.5 L/min	3.1×10^4	< 1	**99.99%**
LU25-P3	5 L/min	1.9×10^5	11	**99.994%**

Flow-through tests with Escherichia coli in an independent laboratory. Results apply to the tested organism, model, flow rate and water conditions, and cannot be extended to all spores, protozoa or viruses.

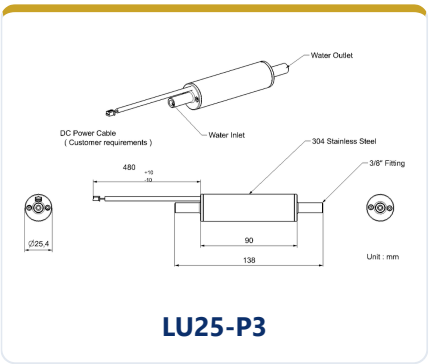
Outline drawings



LU19-G1



LE25-S2



LU25-P3

Unit: mm. Power cable length 480 mm (±10). Connectors on the LU19-G1 and LU25-P3 cables are made to customer requirements.

Features

- Mercury-free and chemical-free: disinfects with UVC light only.
- High UV utilization: ray-tracing-based reflective structure limits light loss.
- UV shielding protects internal fittings and plastic tubing from UV degradation.
- Compact cylindrical body fits into the water line, even in limited space.
- SUS 304 stainless steel housing and water-safe materials.
- LED indicator shows the operating status (LE25-S2: multi-function indicator).

Applications

- Home and commercial drinking water systems
- Under-sink water purifiers (tap water and bottled water)
- Point-of-use water sterilization
- RV, caravan and marine water systems
- Dental equipment water supply
- Portable and compact water treatment systems
- Potential: smart farms, food and beverage plants, ice makers and coffee machines (validate water quality, flow and conditions)

Installation and operating notes

- Install in the drinking water line after filtration and before the tap or dispenser.
- Stay within the flow range: below the minimum the LED is not cooled enough; above the rated flow the sterilization effect is reduced.
- Keep water inside the unit and avoid dry operation, to prevent thermal stress on the UVC LED.
- Recommended for water with UV transmittance (UVT) of 95% or higher.
- Peak wavelength 275 ±5 nm. Power tolerance ±15%. Wavelength tolerance ±3.5 nm.

JIN INTER - product inquiries, partnerships and OEM integration
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