

Wastewater Treatment

TROJANUV®

Water Confidence®

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Instrumentación | Proyectos | Servicios

TROJAN UV FIT®



In-pipe UV Wastewater Treatment for Non-potable Reuse

Around the globe, wastewater treatment plants of all sizes are responding to the water quality and quantity demands of the communities they serve. As more municipalities adopt wastewater reuse policies and practices, wastewater treatment plants are required to treat effluent to higher levels–essentially eliminating all microorganisms prior to reuse or discharge.

Depending on site and design conditions, wastewater treatment plants producing filtered effluent sometimes prefer a solution using closed-vessel or pressurized UV chambers. The TrojanUVFit® offers an effective and energy-efficient closed-vessel UV solution. This compact chamber is available in multiple configurations to treat a wide range of flow rates. The streamlined hydraulic profile of closed-vessel systems treat filtered effluent without breaking head in the treatment process. These benefits, along with UV's ability to provide treatment of *Cryptosporidium* and *Giardia* make the TrojanUVFit an attractive option.

Key Benefits

TrojanUVFit

Validated performance. Validated through microbial testing. Through this testing, performance data has been generated for UV dose delivery to inactivate Poliovirus, *Escherichia coli* (*E. coli*) and fecal coliform.

For reuse applications in California, the California Department of Public Health has approved several TrojanUVFit models for Title 22 reuse applications.

Compact design. The small chamber footprint simplifies indoor retrofit installations and reduces construction costs.

Reliable, proven components. UV lamps, quartz sleeves, electronic lamp drivers, sensors and sleeve wiping system have been tested, proven reliable and are operating in hundreds of installations.

Design flexibility. Chambers can be installed in parallel or in series, making it simple to incorporate redundancy or future expansion needs.

Wide range of flow rates. Peak flow rates per chamber are suitable for either individual post-filter or manifold installation. Flows up to 7 MGD per chamber – the largest validated low-pressure lamp in-pipe wastewater system in the industry.

Automatic wiping. Automatic sleeve wiping saves operator's time and money. Ensures the maximum UV output is available for treatment and minimizes energy consumption.

Guaranteed performance and comprehensive warranty. TrojanUV systems include a Lifetime Performance Guarantee* and comprehensive warranties for systems and parts.

TROJAN UVFIT®

Designed for efficient, reliable performance

System Control Center (SCC)

The microprocessor or Programmable Logic Controller (PLC) based controller continuously monitors and controls UV system functions. Supervisory Control and Data Acquisition (SCADA) communication for remote monitoring, control and dose pacing is available. Programmable digital and analog input/output (I/O) capabilities can generate unique alarms for individual applications and send signals to operate valves and pumps.

Sleeve Wiping System

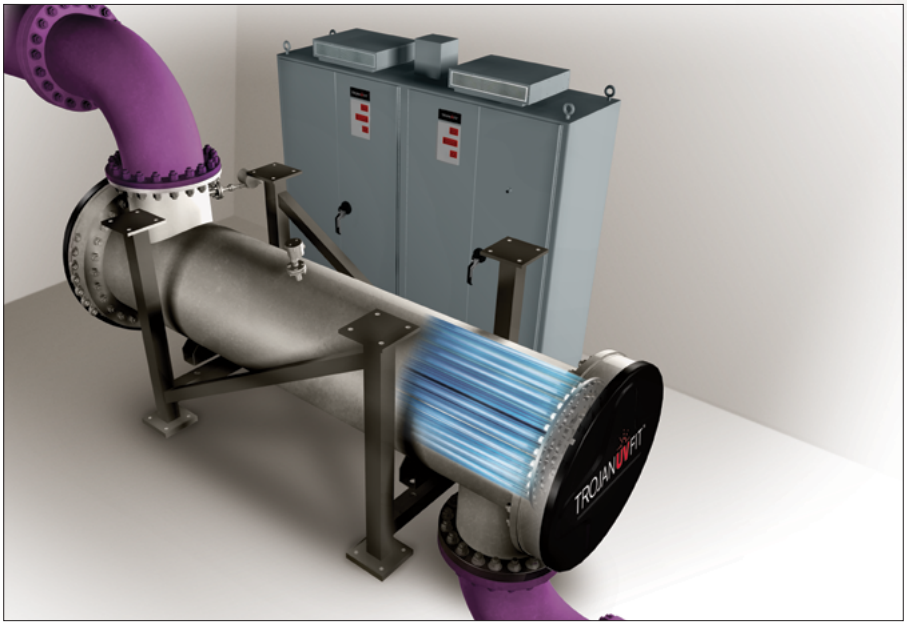
Automatic sleeve wiping system operates online without interrupting treatment. The wiping sequence occurs automatically at preset intervals without operator involvement.

Amalgam Lamps

High-output amalgam lamps are energy-efficient and save operating costs due to reduced electrical consumption. Lamps are located within protective quartz sleeves with easy access from the service entrance.

UV Intensity Sensor

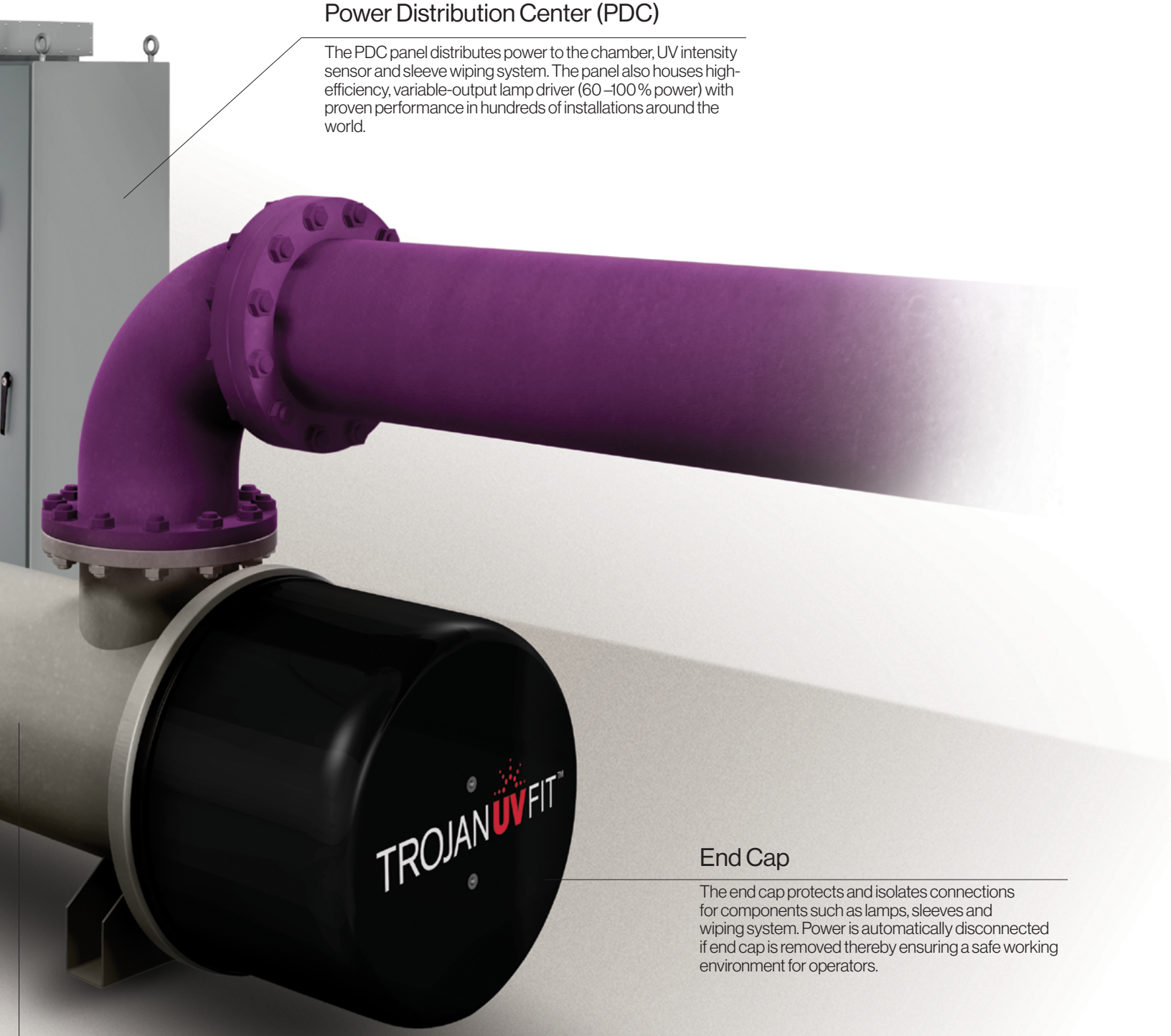
Highly accurate, photodiode sensor monitors UV output within the chamber. The sensor ensures UV light is fully penetrating the water for complete treatment.



This chamber contains lamps in both ends of the chamber. Multiple inlet and outlet flange orientations are available.

Power Distribution Center (PDC)

The PDC panel distributes power to the chamber, UV intensity sensor and sleeve wiping system. The panel also houses high-efficiency, variable-output lamp driver (60–100% power) with proven performance in hundreds of installations around the world.



End Cap

The end cap protects and isolates connections for components such as lamps, sleeves and wiping system. Power is automatically disconnected if end cap is removed thereby ensuring a safe working environment for operators.

UV Chamber

Electropolished 316L stainless steel chamber available in multiple configurations for a wide range of flow rates. Optional flange orientations allow chambers to fit into existing piping galleries or tight spaces.

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Bioassay Validation

Field testing ensures accurate dose delivery

Benefits:

- Validated in accordance with industry protocols established by National Water Research Institute (NWRI)
- Performance data is generated from actual field testing over a wide range of flow rates and water quality (UV transmission)
- Bioassay testing offers peace of mind due to verified dose delivery – not theoretical calculations

Compact Chamber for Installation Flexibility

Efficient, cost-saving design enables retrofit or new construction

Benefits:

- Compact footprint simplifies installation and minimizes related capital costs – ideal for retrofit and new construction applications
- Lamps and sleeves are fully serviceable from the chamber end – allowing the system to be installed against walls, other equipment or piping
- Low head loss design simplifies integration into existing process, and avoids additional pumping and associated capital and operational costs
- Multiple flange orientations available – increasing design flexibility



Chambers can be installed in parallel or in series for increased design and installation flexibility.

Amalgam Lamps Require Less Energy

Maintain maximum output and reduce O&M costs

Benefits:

- Each lamp draws 250 Watts
- Our amalgam lamps maintain high output during entire lamp life – 20% less decline than competitive UV lamps
- Validated performance provides assurance of reliable dose delivery and prolonged lamp life
- Deliver consistent and stable UV output over a wide range of water temperatures

Built for Reliable Performance and Easy Maintenance

Designed for trouble-free operation and minimal service

Benefits:

- Routine procedures, including lamp change-outs are simple and require minimal time – reducing maintenance costs
- Access to internal components (lamps, sleeves, cleaning system) through service entrance at one end
- Service entrance and connections protected by end cap
- Intensity sensor continuously monitors UV output to ensure dose delivery



The TrojanUVFit lamps are easily replaced in minutes without the need for tools.

Robust Sleeve Wiping System

Automatic wiping system maintains consistent dose delivery

Benefits:

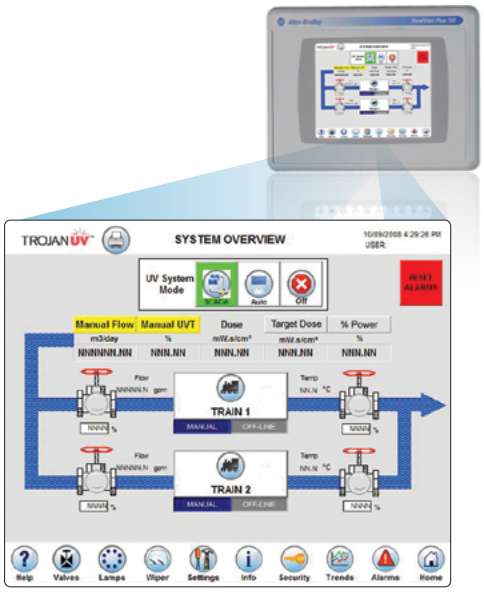
- Wiping system minimizes fouling of quartz sleeves
- Ensures consistent UV dose delivery and optimum performance
- Automatic wiping occurs while the lamps are operating, reducing downtime
- Optional off-line chemical cleaning to reduce maintenance associated with manual cleaning

User-Friendly Operator Interface

Touchscreen display allows easy operation and monitoring

Benefits:

- Microprocessor or PLC-based system controls all functions and dose pacing to minimize energy use while maintaining required UV dose
- Controller features intuitive, graphical display for at-a-glance system status
- Controller communicates with plant SCADA systems for centralized monitoring of performance, lamp status, power levels, hours of operation and alarm status



The PLC-based controller combines sophisticated system operation and reporting with an operator-friendly, touchscreen display.

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System Specifications

Model			04AL20	08AL20	18AL40	32AL50
Number of Lamps			4	8	18	32
Lamp Type			High-efficiency, High-output, Low-pressure Amalgam			
Sleeve Wiping			Automatic wiping system			
Lamp Driver			Electronic, constant output (100% power) or electronic, variable output (60 to 100% power)			
Chamber						
Materials of Construction			316L Stainless Steel			
Flange Size (ANSI/DIN), inches (mm)			6 (150)		10 (250)	12 (300)
Outlet Flange Orientation			Multiple orientations available 3, 6, 9 or 12 o'clock position			
Approx. Chamber Length, inches (mm)			80 (2032)	80 (2032)	82 (2083)	90 (2286)
Max. Operating Pressure, PSI (bar)			150 (10)	150 (10)	150 (10)	100 (6.8)
Dry Chamber Weight, lbs (kg)			107 (49)	115 (52)	400 (181)	1600 (726)
Wet Chamber Weight, lbs (kg)			230 (105)		877 (398)	2200 (998)
Power Distribution Center (PDC)						
Electrical Supply	Standard: Single phase, 2 wire + gnd, 50/60 Hz L-L	120V	N/A	N/A	N/A	N/A
		208V	√	√	√	√
		240V	√	√	√	√
	3 Phase, 4 wire + gnd, 50/60 Hz	400/230V	N/A	N/A	√	√
Dimensions (H × W × D) inches (mm)		Type 12	30 × 16 × 10 (760 × 410 × 250)		36 × 30 × 10 (920 × 760 × 250)	60 × 36 × 10 (1520 × 920 × 250)
		Type 3R				
		Type 4X	30 × 24 × 10 (760 × 610 × 250)			60 × 36 × 12 (1520 × 920 × 305)
Material		Type 12	Painted Mild Steel			
		Type 3R	Painted Mild Steel			
		Type 4X	304 Stainless (1.4301 in Europe)			
Panel Rating			NEMA 12, 3R or 4X			NEMA 12 or 4X
Network Interface			Modbus RTU RS485, Modbus TCP/IP, AB Ethernet I/P, ProfiNet			
System Control Center (SCC)						
Panel is Required/Optional			N/A (requires only PDC)			Optional
Electrical			N/A (see PDC)			Two (2) Supplies of 120 V single phase, 2 wire plus ground, 60 Hz, 1.2 kVA (one (1) for the PLC, one (1) for lights & heater)
Material		Type 12	Painted Mild Steel			
		Type 4X	Stainless(1.4301 in Europe)			
Panel Rating			N/A (see PDC)			NEMA 12 or 4X
Typical Outputs Provided			Chamber status, common alarms and SCADA communication			
Network Interface			Modbus RTU RS485, Modbus TCP/IP, AB Ethernet I/P, ProfiNet			

* When you use TrojanUV parts, we guarantee that your system will meet the treatment requirement specified at purchase, provided that the system's original design parameters haven't changed (e.g., flow rate, UV Transmittance) and maintenance is completed per the UV System O&M manual. Should you experience an issue, our Service Technicians will work with you to resolve it as fast as possible

To learn more about the brands and affiliates of Trojan Technologies, please visit www.trojantechnologies.com

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