TROJAN UV FIT™

WASTEWATER DISINFECTION FILTERED IN-PIPE TREATMENT

TROJANUVFIT™

Proven TrojanUV Closed-Vessel Chambers for Reuse Disinfection.

Validated, chemical-free disinfection from the industry leader

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 pathogens prior to reuse or discharge.

Depending on site and design conditions, wastewater treatment plants producing filtered effluent sometimes prefer a disinfection 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 disinfect filtered effluent without breaking head in the treatment process. These benefits, along with UV's ability to provide environmentally friendly, chemical-free treatment for chlorine resistant microorganisms (such as *Cryptosporidium* and *Giardia*) make the TrojanUVFit closed-vessel solution an attractive option for wastewater disinfection.

Key Benefits

TrojanUVFit

Fully validated performance. System sizing is based on actual dose delivery verified through bioassay validation. Real-world, field performance data eliminates sizing assumptions and risks associated with theoretical dose calculations.

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.

Validated lamp performance. Lamp output and aging characteristics validated through industry protocols and proven through years of operating experience.

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

Global support. Local service. Our comprehensive network of certified service providers offers fast response for service and spare parts.

Guaranteed performance and comprehensive warranty. Our systems include a Lifetime Disinfection Performance Guarantee.

TROJAN UV FIT™

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 disinfection. 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 disinfection.

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.

Regulatory-Endorsed 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 and improved public and environmental safety 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 98% 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:

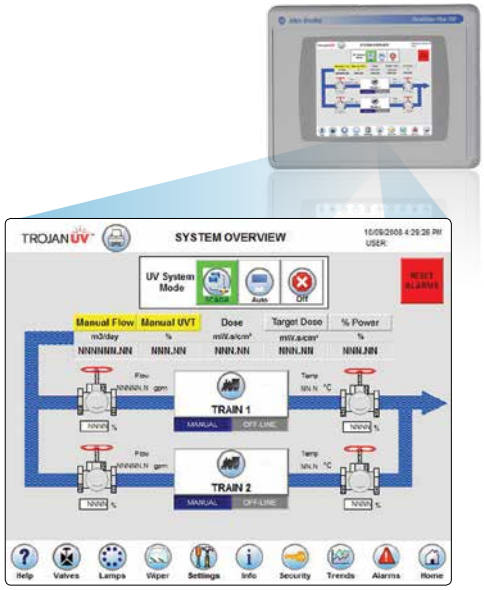
- Wiping system minimizes fouling of quartz sleeves
- Ensures consistent UV dose delivery and optimum performance
- Automatic wiping occurs while the lamps are disinfecting, reducing downtime
- Optional off-line chemical cleaning to reduce maintenance associated with manual cleaning

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.

TROJAN UV FIT™

System Specifications

Model			04AL20	08AL20	18AL40	32AL50	72AL75	D72AL75
Number of Lamps			4	8	18	32	72	144
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)	20 (500)	20 (500)
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)	90 (2286)	152 (3860)
Max. Operating Pressure, PSI (bar)			150 (10)	150 (10)	150 (10)	100 (6.8)	65 (4.5)	65 (4.5)
Dry Chamber Weight, lbs (kg)			107 (49)	115 (52)	400 (181)	1600 (726)	2100 (953)	3700 (1678)
Wet Chamber Weight, lbs (kg)			230 (105)		877 (398)	2200 (998)	3700 (1678)	7200 (3265)
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	N/A	N/A
		208V	√	√	√	√	N/A	N/A
		240V	√	√	√	√	N/A	N/A
	3 Phase, 4 wire + gnd, 50/60 Hz	400/230V	N/A	N/A	√	√	√	√
Dimensions (H x W x D) inches (mm)		Type 12	30 x 16 x 10 (760 x 410 x 250)		36 x 30 x 10 (920 x 760 x 250)	60 x 36 x 10 (1520 x 920 x 250)	86 x 48 x 24 (2184 x 1219 x 610)	86 x 96 x 24 (2184 x 2438 x 610)
		Type 3R						
		Type 4X	30 x 24 x 10 (760 x 610 x 250)			60 x 36 x 12 (1520 x 920 x 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				N/A	
System Control Center (SCC)								
Panel is Required/Optional			N/A (requires only PDC)			Optional	Required	
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					

TrojanUV is part of the Trojan Technologies group of businesses.

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TROJAN UV
WATER CONFIDENCE™