TROJAN UV FIT™

WASTEWATER DISINFECTION
FILTERED IN-PIPE TREATMENT

TROJAN UV FIT™

Proven Trojan products. A new application.

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 reactors. The TrojanUVFit™ offers an effective and energy-efficient closed-vessel UV solution. This compact reactor 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.

Trojan Technologies is an ISO 9001:2000 registered company that has been leading the UV disinfection market with open-channel solutions for wastewater disinfection (e.g. TrojanUV3000Plus™) in over 5,000 municipal installations worldwide – the largest UV installation base. The TrojanUVFit™, the latest addition to the Trojan product line, rounds out a complete portfolio of products for wastewater disinfection and reuse applications.

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 reactor footprint simplifies indoor retrofit installations and reduces construction costs.

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

Design Flexibility. Reactors 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 reactor are suitable for either individual post-filter or manifold installation. Flows up to 7 MGD per reactor – 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. Trojan's comprehensive network of certified service providers offers fast response for service and spare parts.

Guaranteed Performance and Comprehensive Warranty. Trojan systems include a Lifetime Disinfection Performance Guarantee. Ask for details.

TROJAN UV FIT™

Designed for efficient, reliable performance

System Control Center

The microprocessor or PLC-based controller continuously monitors and controls UV system functions. SCADA communication via ModBus for remote monitoring, control and dose pacing is available. Programmable digital and analog 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 on-line 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 reactor. The sensor ensures UV light is fully penetrating the water for complete disinfection.

Compact reactors designed for high flow rates also available. This reactor contains lamps in both ends of the reactor. Multiple inlet and outlet flange orientations are available.

Power Distribution Center (PDC)

The PDC panel distributes power to the reactor, UV intensity sensor and sleeve wiping system. The panel also houses high-efficiency, variable-output (60 –100% power) or constant-output ballasts 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 Reactor

Electropolished 316L stainless steel chamber available in multiple configurations for a wide range of flow rates. Optional flange orientations allow reactors 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 Reactor 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 reactor end – allowing the system to be installed against walls, other equipment or piping
- Low headloss design simplifies integration into existing process, and avoids additional pumping and associated capital and operational costs
- Multiple flange orientations available – increasing design flexibility

Reactors 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
- Trojan's 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 changeouts 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 isolated and 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:

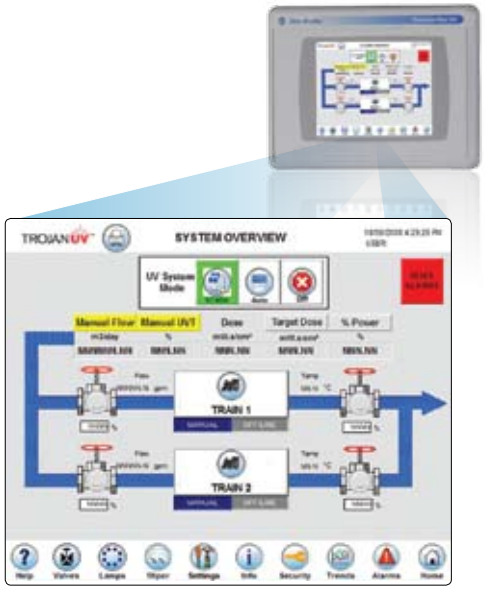
- Wiping system minimizes fouling of quartz sleeves
- Ensures consistent UV dose delivery and optimum performance
- Automatic wiping occurs while the lamps are disinfecting, reducing downtime
- Optional off-line chemical cleaning to reduce maintenance associated with manual cleaning

User-Friendly Operator Interface

Touch-screen 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, touch screen display.

TROJANUVFIT™

System Specifications						
Model	04AL20	08AL30	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 (Optional Off-line Chemical Cleaning)					
Ballast	Electronic, constant output (100% power)			Electronic, variable output (60 to 100% power)		
Reactor Chamber						
Materials of Construction	316L Stainless Steel					
Standard Flange Size (ANSI/DIN), inches (mm)	6 (150)	8 (200)	10 (250)	12 (300)	20 (500)	20 (500)
Outlet Flange Orientation	Multiple orientations available 3, 6, 9, or 12 o'clock position					
Approx. Reactor Length, inches (mm)	80 (2032)	80 (2032)	80 (2032)	90 (2286)	90 (2286)	152 (3861)
Max. Operating Pressure, PSI (bar)	150 (10)	150 (10)	150 (10)	100 (6.8)	65 (4.5)	65 (4.5)
Dry Reactor Weight, lbs (kg)	107 (49)	210 (95)	400 (181)	1600 (726)	2100 (953)	3700 (1678)
Wet Reactor Weight, lbs (kg)	232 (105)	480 (218)	877 (398)	2200 (998)	3700 (1678)	7200 (3265)
Power Distribution Center						
Electrical Supply	240 VAC, 1 phase, 2 wire + GND, 50/60 Hz			480Y/277 V, 3 phase, 4 wire + GND, 60 Hz		
Dimensions, inches	24 x 24 x 10	30 x 24 x 10	36 x 48 x 10	40 x 78 x 18	48 x 86 x 24	96 x 86 x 24
Dimensions, mm	610 x 610 x 254	762 x 610 x 254	914 x 1219 x 254	1016 x 1981 x 457	1219 x 2184 x 610	2438 x 2184 x 610
Available Materials of Construction	Mild Painted Steel 304 Stainless Steel					
Panel Rating	NEMA 3R or 4X			NEMA 12 or 4X		
System Control Center						
Controller	Microprocessor			PLC-based		
Location	Built into Power Distribution Center (PDC)			Stand-alone Panel		
Electrical Supply	N/A (see PDC)			120 V, 1 phase, 2 wire + GND, 60Hz		
Panel Rating	N/A (see PDC)			NEMA 12 or 4X		
Typical Outputs Provided	Reactor status, common alarms and SCADA communication					

Find out how your wastewater treatment plant can benefit from proven TrojanUVFIT™ solutions. Contact us today.

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