TROJANUV3000®PTP

Wastewater Treatment

TROJANUV®

Water Confidence®

TROJAN UV3000®PTP

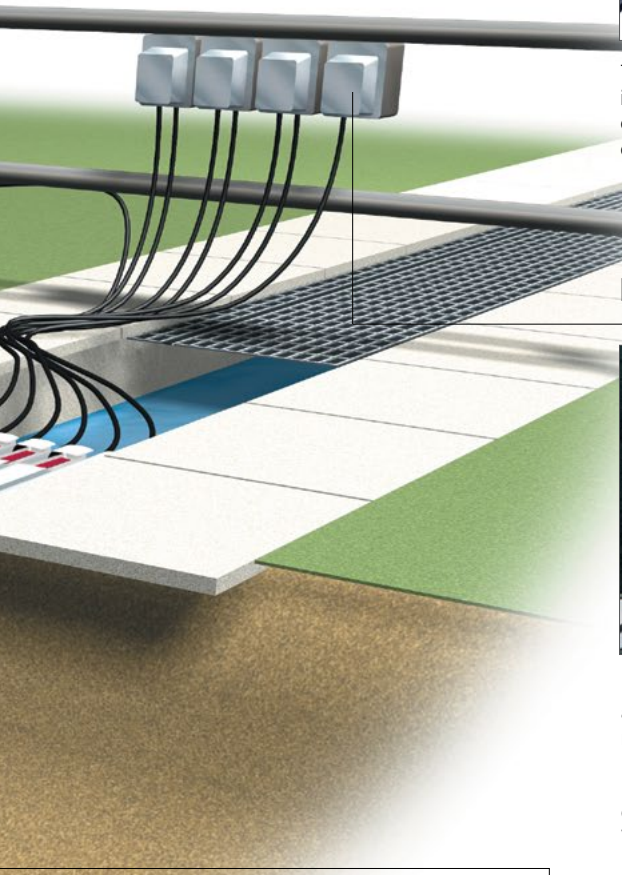
Robust, operator-friendly solutions designed for economical treatment

System Monitor/Control Center

The optional System Monitor includes a submersible UV sensor, and provides digital output of UV intensity at each bank. Elapsed time display provides continuous readout of actual hours of operation (lamp hours). A dry contact enables a remote low UV intensity alarm.

Water Level Control

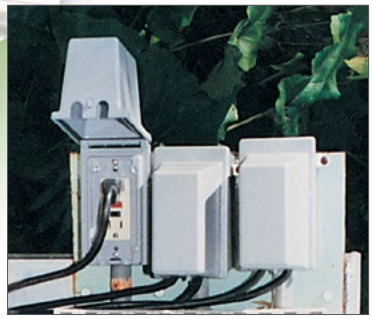
A fixed weir maintains the correct channel effluent depth over different flow rates, allowing a maximum head loss of 1.5 inches (3.8 cm). The system is also equipped with a drain for easy channel cleaning, and available for both concrete channels and stainless steel channel option.



Electronic Ballast

The electronic ballast is mounted within its own Type 6P (IP67)-rated watertight enclosure within the module frame and is cooled by convection.

Power Distribution



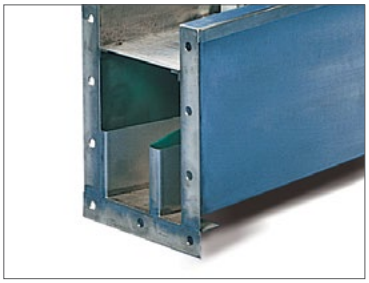
For **UL system**, each Power Distribution Receptacle (PDR) powers two (2) UV modules and allows for quick and safe electrical disconnect. The duplex ground fault interrupter receptacles ensure operator safety and are mounted inside Type 3R rain shield boxes.

For **CE system**, Power Distribution Receptacle is provided by third-party and must be outdoor-rated and protected as per local electrical code. The third party is to supply 230 Volt, single phase, 50 Hz power to the Power Distribution Receptacle.

UV Modules

UV lamps are mounted on stainless steel frames. Lamps are enclosed in quartz sleeves and submerged horizontally and parallel to water flow. A bank is made up of multiple modules placed in parallel positions. All wiring, from ballasts to lamps, runs inside the module frame. A display showing individual lamp status is provided on top of each module.

Stainless Steel Effluent Channel



An optional Type 304 stainless steel channel, complete with UV module support rack, can be used. Channel can be installed as a freestanding structure connected to flanged pipes using the optional transition boxes.

Simple & Reliable Wastewater Treatment

UV is a simple and cost-effective way to treat wastewater. A key advantage is its ability to treat Cryptosporidium and Giardia, which if released into lakes and rivers increases the potential of contamination in communities that rely on these same bodies of water for their drinking water source and recreational use.

The TrojanUV3000®PTP (Packaged Treatment Plant) is a simple, robust and operator-friendly UV systems used for the treatment of wastewater. This highly flexible system has demonstrated effective and reliable performance around the world. The TrojanUV3000PTP is pre-engineered for quick, inexpensive installation with pipe runs using pre-fabricated, flanged stainless steel channels, or into existing chlorine contact basins and effluent channels.

The proven infrastructure of the TrojanUV3000PTP has been continuously refined to enhance friendly operation.

Key Benefits

TrojanUV3000PTP

Reduced engineering and installation costs. The TrojanUV3000PTP can be equipped with pre-fabricated stainless steel channels and transition boxes for inline integration with existing flanged piping – thus minimizing engineering and installation costs. The system can be easily retrofitted into existing chlorine contact tanks and effluent channels, and comes pre-tested, pre-assembled and pre-wired to minimize installation costs.

Designed for simplicity and reliability. Systems are straightforward to operate and require minimal operator involvement, thanks to modular design and robust components.

Operator-friendly maintenance. Our lamps are guaranteed for 12,000 hours of operation and can be replaced without tools in less than three minutes per lamp. Modules are electrically separate, allowing a single module to be removed without disrupting flow or taking the system offline.

Outdoor installation flexibility. All components can be installed outdoors, eliminating the need and costs of a building, shelter and air conditioning for ballast cooling.

Well suited to changing regulations. Our systems do not have any negative impact on receiving waters, making them strategically sound choice for long-term treatment as regulations continue to become increasingly stringent.

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

Advanced, Self-Contained UV Modules

Compact footprint simplifies installation and eliminates air conditioning costs

Benefits:

- Space-saving, electronic ballasts are housed in the modules to minimize footprint size, installation time and costs
- Convection cooling of the ballasts eliminates costs associated with air conditioning or forced-air cooling
- Lamps are protected in a fully-submersible, Type 316 stainless steel frame
- All wiring and cables are safely enclosed inside the waterproof module frame – fully protecting them from effluent and UV light
- Modules are electrically separated from each other, allowing them to be individually removed for maintenance and spare modules quickly inserted to maintain maximum performance

The advanced, self-contained modules incorporate convection-cooled ballasts and feature a UV lamp status indicator (below) for at-a-glance confirmation that all lamps are operating.

- Streamlined modules minimize head loss and prevent buildup of debris on the lamps
- All module wiring is pre-installed and factory-tested

Innovative Ballasts and Enclosures Provide Significant Advantages	
Module-mounted Ballasts	• Take up less space and reduce footprint, minimizing installation time and costs
Convection Cooling	• Housing the ballasts in the module allows for natural convection cooling to dissipate the heat of the ballasts into the air • The ballasts are kept sealed and protected • No air conditioning or forced-air cooling required
Clean, Water-tight Protection	• Some suppliers use external cabinets with forced-air cooling. This introduces dust and moisture onto circuit boards and other electronic components, greatly reducing the life of these components • Internal housing in sealed modules keeps all components dry and clean
Internal Cabling	• All lamp/ballast wiring is contained within the module frame. This configuration protects wires and cables from exposure to effluent, debris fouling and UV light • Internal cabling allows all electrical connections within the module to be factory-tested

Proven Performance, Components and Design

Validated through microbial testing

Benefits:

- Validated through microbial testing – through this testing, performance data has been generated for UV dose delivery to inactivate Escherichia coli (E. coli) and fecal coliform
- Most accurate assessment of system sizing needs
- Low-pressure lamps and ballasts have proven their outstanding reliability in thousands of installations
- Open-channel design allows cost-effective installation into existing effluent channels & chlorine contact basins
- Systems can be installed outdoors to reduce building capital costs
- Modular design is scalable for precise sizing, and expandable to meet new regulatory or capacity requirements

Gravity-fed, open channel design delivers cost savings at installation through simple retrofits into existing effluent channels and chlorine contact tanks. Rugged components make operation and maintenance extremely cost effective.

Designed & Built for Easy Maintenance

User-friendly design requires minimal service and operator involvement

Benefits:

- Lamps are warranted for 12,000 hours
- Routine maintenance can be scheduled and completed without disrupting treatment
- Replacement of UV lamps can be completed without tools and requires less than three minutes per lamp

Lightweight, self-contained modules are operator-friendly and make routine maintenance quick and easy. Modules can be individually removed for periodic sleeve cleaning and lamp replacement after 12,000 hours. An optional, mobile cleaning rack simplifies maintenance procedures.

Highly Flexible Installation Configurations

Pre-engineered for cost-effective integration with piping or channels

Benefits:

- Designed to meet treatment requirements with minimal engineering costs
- Can be installed in series to treat higher flows or provide additional redundancy
- Pre-engineered stainless steel channels with built-in weirs are installed as a freestanding structure
- Stainless steel channels are easily integrated with existing flanged piping using our highly flexible transition boxes (Figure 1)
- Optional turn boxes minimize system footprint by connecting stainless steel channels and allowing two banks in series to be installed side-by-side (Figure 2)
- Transition boxes can be designed for straight, left or right pipe connections (Figure 3)

Figure 1: Banks in Series – Side View

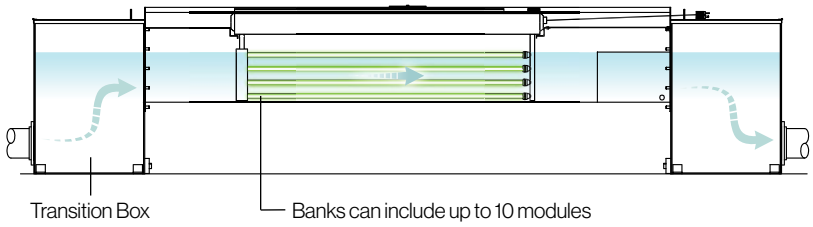


Figure 2: Banks in Series With Turn Box – Overhead View

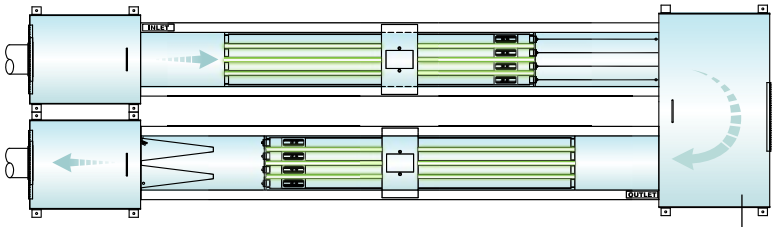
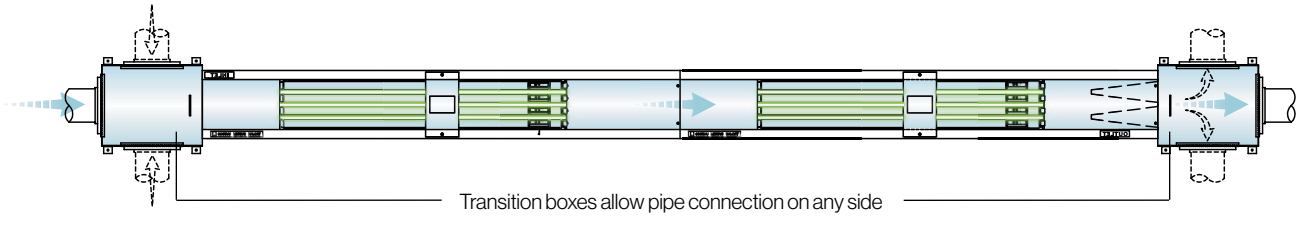


Figure 3: Banks in Series – Overhead View



Pre-engineered for simple, effective, low-cost wastewater treatment. The optional 304 stainless steel channels feature a UV module support rack, and can be installed as a freestanding unit. Turn boxes and transition boxes allow systems to be incorporated with maximum flexibility and minimal footprint.

TROJAN UV3000® PTP

System Specifications		
System Characteristics	**TrojanUV3000PTP**	
Typical Applications	Up to 3 MGD (473 m³/hr)	
Lamp Type	Low-pressure	
Ballast Type	Electronic; non-variable	
Input Power Per Lamp	45 or 87.5 Watts	
Lamp Configuration	Horizontal, parallel to flow	
Module Configuration	2 or 4 lamps per module	
Bank Configuration	Up to 10 modules per bank	
Channel Configurations		
Lamp Banks in Series	Up to 2	
Channel Options	Stainless Steel (Trojan option) or Concrete (by others)	
Flanged Transition Connections	Optional for stainless steel channels	
U-Turn Connector Box	Optional for stainless steel channels	
Level Control Device Options	Fixed weir	
Enclosure Ratings		
System Monitor/Control Center	Fibreglass	
Ballast Enclosure	TYPE 6P (IP67)	
Ballast Cooling Method	Convection; no air conditioning or forced air required	
Installation Location	Indoor or outdoor	
System Monitoring & Controls		
Controller	Optional; Monitoring only	
UV Intensity Monitoring	Optional	
Flow Pacing	—	
Inputs Required	None	
Local Status Indication	Lamp Age (hours) UV Intensity (mW/cm²)	
Remote Alarms	UV Intensity (4-20 mA)	
Location	Indoor or outdoor	
Maximum Distance from UV Channel	15 ft. (4.5 m)	
Electrical Requirements	**UL System**	**CE System**
Power Distribution	Individual GFI Receptacles for UL system.	Receptacle provided by third-party with outdoor-rated, 16 Amps, 220-250 Volt, 3 poles in compliance with local electrical code..
Quantity Required	1 receptacle per 2 modules for UL system.	CE system determined by third-party electrical code.
Power Input	120V, single phase for UL system.	230V, single phase for CE system

* 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

TROJAN technologies®