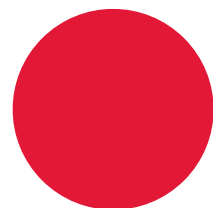


WASTEWATER DISINFECTION
DESIGNED FOR LARGE-SCALE APPLICATIONS





Revolutionary Advancement in Wastewater Disinfection.

Specifically designed for large-scale disinfection applications

UV is the most effective, safe and environmentally-friendly way to disinfect wastewater. It provides broad-spectrum protection against a wide range of pathogens including bacteria, viruses and chlorine-resistant protozoa such as *Cryptosporidium* and *Giardia*.

No longer should large wastewater facilities feel limited to chlorine disinfection. Now – with the TrojanUVSigna™ – those facilities can confidently choose UV and benefit from its inherent safety features, cost-saving advantages and disinfection performance.

TrojanUVSigna incorporates revolutionary innovations, including TrojanUVSolo Lamp™ Technology, to reduce the total cost of ownership and drastically simplify operation and maintenance. It is the ideal solution for those large facilities wanting to upgrade their disinfection system or easily and cost-effectively convert from chlorine.

Key Benefits

TrojanUVSigna™

Low Lamp Count and High Electrical Efficiency. The revolutionary, 1000 Watt TrojanUV Solo Lamp combines the best features of low pressure and medium pressure lamps.

Maximum Disinfection Performance. Staggered, inclined lamp configuration maximizes disinfection and integral bank walls prevent short-circuiting.

Optimized Power Consumption. The advanced Solo Lamp Driver enables lamp dimming from 100 to 30% power and has built-in diagnostic capabilities for easy troubleshooting. Banks or rows of lamps are turned on/off based on UV demand.

Intuitive Controls. Automatically monitor water quality and adjust key system operating parameters to meet disinfection targets, while minimizing overall power consumption.

Simple Water Level Control. Light locks at each bank enable high tolerance to fluctuations in flow rates and water levels, simplifying water level control while maximizing disinfection.

Worry-free Maintenance. Lamp change-outs and cleaning solution replacement are done while the UV system is in the channel – minimizing downtime and simplifying maintenance.

Less Time Spent Changing Lamps. Fewer lamps, long lamp life and easy change-outs save time and money.

Chemical and Mechanical Sleeve Cleaning. Without removing equipment or disrupting disinfection, the dual-action ActiClean™ system provides superior, automatic sleeve cleaning to prevent fouling.

Easy Bank Removal. Routine maintenance can be performed while banks are in the channel, but an Automatic Raising Mechanism (ARM) makes other tasks – such as winterization – simple, safe and easy.

Simple Retrofitting. UV banks include integral bank walls to make installation easy. Stringent tolerances on concrete channel walls are not required – making chlorine contact tank retrofits simple and cost-effective.

TROJAN UV SIGNA™

Designed for large-scale applications

Hydraulic System Center

The Hydraulic System Center houses the components required to operate the automatic cleaning system and the bank Automatic Raising Mechanism (ARM). One HSC can service up to four UV banks.

Lamp Plug LED Indicator

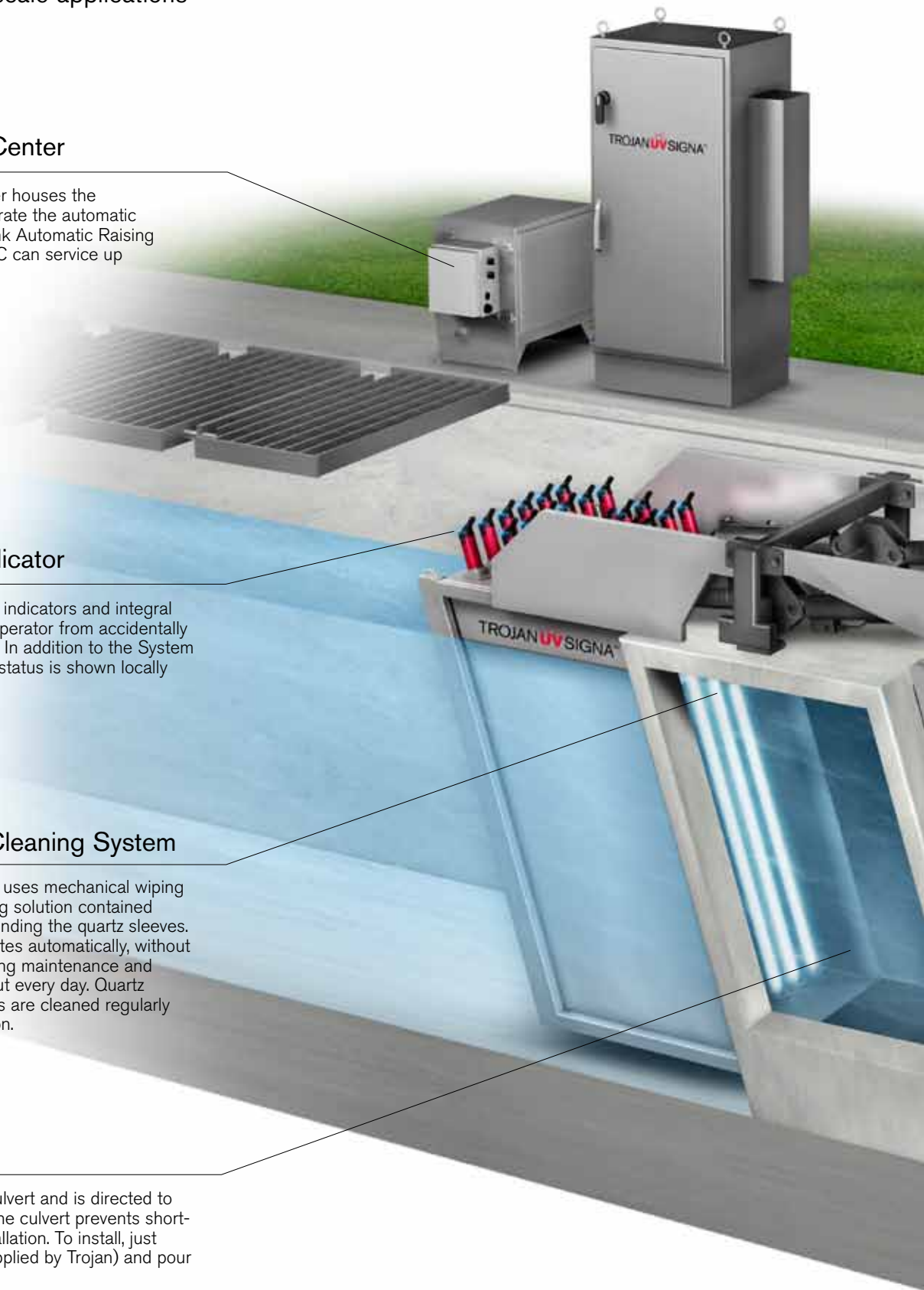
Lamp plugs with LED status indicators and integral safety interlock prevent an operator from accidentally removing an energized lamp. In addition to the System Control Center (SCC), lamp status is shown locally and visually with the LED.

ActiClean Sleeve Cleaning System

Dual-action cleaning system uses mechanical wiping in conjunction with a cleaning solution contained within wiper canisters surrounding the quartz sleeves. This advanced system operates automatically, without operator involvement, reducing maintenance and ensuring maximum UV output every day. Quartz sleeves and intensity sensors are cleaned regularly without disrupting disinfection.

Culvert

Effluent passes through a culvert and is directed to the TrojanUV Solo Lamps. The culvert prevents short-circuiting and simplifies installation. To install, just mount the culvert frame (supplied by Trojan) and pour concrete around it.



Power Distribution Center (PDC)

The compact PDC panel contains state-of-the-art lamp drivers that power and control the UV lamps. Lamp drivers are rack-mounted in a compact outdoor-rated panel, are quick and easy to change, and generate very little waste heat.

UV Bank

A bank consists of TrojanUV Solo Lamps, positioned in a staggered, inclined configuration. With a push of a button the ARM lifts the bank out of the channel. Integral bank walls optimize performance, prevent short-circuiting and simplify installation by eliminating the need for stringent concrete tolerances at the channel walls.

Light Locks

Regardless of flow rate, high or low, light locks at each bank help direct the flow through the bank, maximizing disinfection & efficiency while minimizing quartz sleeve fouling.

TrojanUV Solo Lamp Technology

The revolutionary TrojanUV Solo Lamp enables high electrical efficiency and reduced lamp count. Lamps are located within protective quartz sleeves and positioned in a staggered, inclined configuration for maximum disinfection performance and easy accessibility.



SOLO
LAMP™
TECHNOLOGY

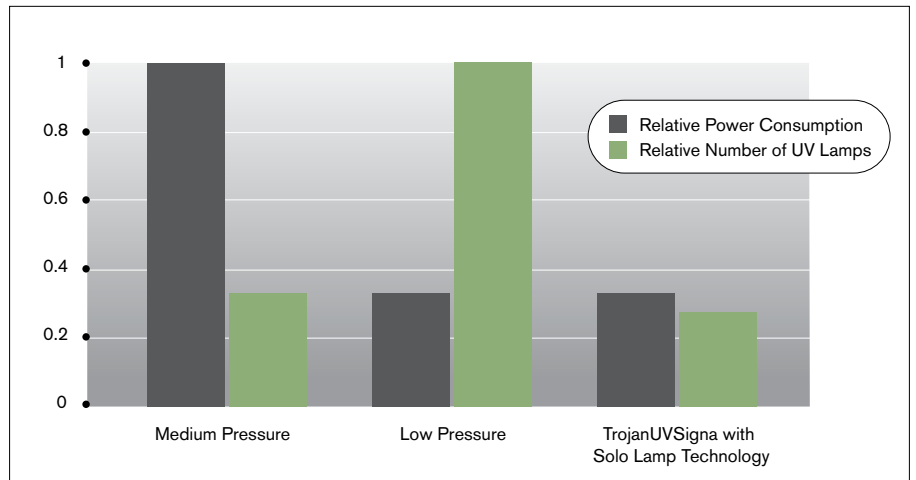
Revolutionary Lamp and Driver Technology

The best features of both low and medium pressure lamps



Benefits:

- Energy-efficient, 1000 Watt TrojanUV Solo Lamp – the most powerful amalgam lamp in the industry
- High UV output, high electrical efficiency and lowest total lamp count
- Power consumption is approximately 1/3 that of medium pressure lamps
- Long lamp life (12,000 hours guaranteed)
- Solo Lamp Driver has a high power factor, low total harmonic distortion, and cost-saving lamp dimming from 100 to 30% power
- Solo Lamp Drivers are rack-mounted for easy removal and replacement, if required



TrojanUV Solo Lamp systems combine the benefits of other lamp technologies – the low lamp count of medium pressure systems with the high electrical efficiency of LPHO systems. The result is a compact, cost-effective installation that is easy and quick to maintain.

Bioassay Validation

Third-party testing that meets and exceeds industry protocols ensures accurate dose delivery

Benefits:

- Real-world performance data is generated over a range of flow rates, UVT, and using multiple organisms to represent pathogens with varying UV resistance
- Bioassay validation is the only way to evaluate disinfection performance of a UV system
- Incorporates the impact of actual lamp output, lamp spacing and configuration, hydraulics, quartz sleeve transmission, lamp driver efficiency and other variables affecting performance



Validation testing incorporates UV sensors for accurate dose delivery and disinfection confidence.

Easy Operation and Simplified Maintenance

Designed to make the operator's job easier

Benefits:

- Reduced number of lamps means less time and money spent changing, maintaining and replacing them
- Dose pacing extends lamp life and reduces number of lamps replaced each year
- Inclined lamp configuration makes lamp replacement quick and easy - while the UV system remains in operation
- Safety interlocks prevent operators from accidentally removing an energized lamp
- The dual-action ActiClean system provides superior, automatic sleeve cleaning to remove fouling
- Cleaning solution can be refilled anytime, without removing banks from the channel



Routine maintenance is performed while banks are in the channel. But, when needed, each bank can be raised by pressing a button and activating the ARM.

Peak Disinfection Performance

Revolutionary UV technology and design features guarantee optimal results

Benefits:

- Light locks direct the flow through the bank, enabling high tolerance to water level changes and maximizing the UV energy delivered to the effluent
- Integral bank walls eliminate the risk of short-circuiting around the bank
- Staggered, inclined Solo Lamp configuration – optimized through computational fluid dynamics – reduces sleeve stress and debris collection, and maximizes disinfection performance
- Advanced sensors continuously monitor lamp intensity to guarantee disinfection and meet permit requirements while balancing energy usage



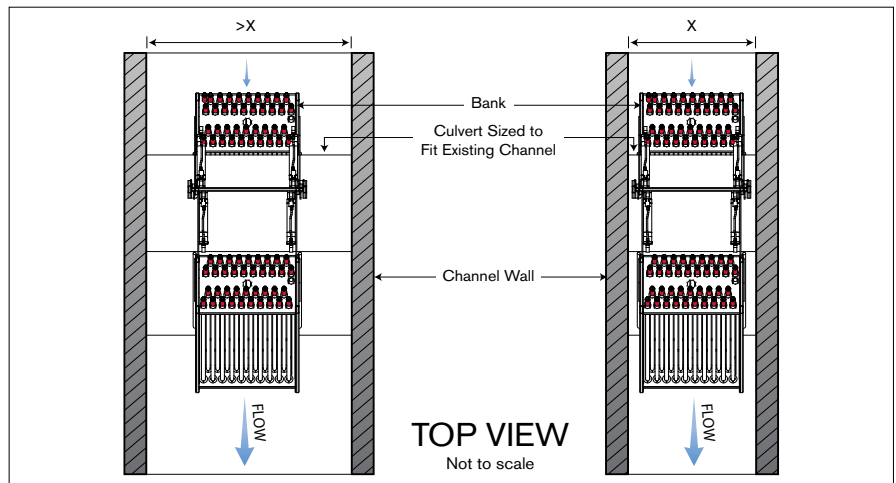
Light locks, along with downstream level controller, ensure that no portion of the lamp arc is exposed to air. This ensures operator safety, prevents sleeve fouling and maximizes disinfection.

Flexible Installation and Easy Retrofitting

Cost-effective installation in existing effluent channels

Benefits:

- Designed to fit into an existing chlorine contact chamber while reducing civil and concrete work
- Integral bank walls and light locks make retrofits or new installations easy - disinfection performance no longer relies on concrete channel wall tolerances or downstream water level controller
- All system components can be installed outdoors



With the UV bank integral walls and the easy-to-install culvert, the TrojanUVSigna can be placed into an existing chlorine contact tank without major modifications to the channel depth or width. Gone are the days of time-consuming installations requiring new concrete channel walls with tight-tolerances or stepped floors.

System Specifications

System Characteristics	TrojanUVSigna
Lamp Type	TrojanUV Solo Lamp (amalgam)
Lamp Driver	Electronic, high-efficiency (99% power factor)
Input Power Per Lamp	1000 Watts
Lamp Control	30 - 100% variable lamp power (1% increments)
Lamp Configuration	Staggered, incline configuration
Cleaning System	Automatic ActiClean chemical/mechanical
UV Intensity Sensor	1 per bank – with automatic cleaning
Bank Lifting Device	1 per bank - Automatic Raising Mechanism (ARM)
Level Control Device	Fixed or motorized weir gate
Water Level Sensor	High and low water level sensors available (one per channel)
Installation Location	Indoors or outdoors
System Control Center	Standard color HMI, 16 digital I/O, 4 analog I/O, SCADA compatible PLC options available

Find out how your wastewater treatment plant can benefit from the TrojanUVSigna — call us today.

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