UV Water Treatment Products

FILTEC

Making Water Safer

Contents

Why Choose FILTEC & Trojan Technologies

Water Confidence

When investing in UV disinfection for your drinking water or wastewater plants you need to have confidence that your supplier will deliver a product that meets the standards and consents for treating water for the life of that asset. To put your mind at ease the Trojan Technologies UV range offers a number of benefits including a comprehensive warranty coverage. Trojan Technologies lamps are validated for their output during the entire lamp life – ensuring you meet drinking water standards or your resource consent – giving you water confidence.

#1 Market Leader

FILTEC is a market leader in UV and the exclusive New Zealand distributor for the Trojan Technologies municipal and residential/light commercial brands TrojanUV and VIQUA. FILTEC has a decades long partnership with Trojan and together we have installed numerous water and wastewater systems within Australasia.

Service and support

FILTEC has fully validated Trojan systems that treat a wide range of flow rates for drinking water and wastewater treatment. FILTEC has Trojan trained personnel to provide back-up service if required. FILTEC carries spare parts in its Auckland, Wellington, Christchurch, Dunedin and Melbourne warehouses. By using genuine Trojan parts, you get access to technical assistance, and a lifetime disinfection guarantee.

When you purchase through FILTEC, you not only receive the best products in the industry, but ongoing local support for the lifetime of your asset.

Drinking Water

UV disinfection is a physical process that instantaneously deactivates micro-organisms as they pass by ultraviolet lamps. The process adds nothing to the water but UV light, and therefore, has no impact on the chemical composition or the dissolved oxygen content of the water.

UV light offers a broad-spectrum of protection against a wide range of pathogens, including bacteria, viruses and chlorine-resistant protozoa. It provides Cryptosporidium, Giardia and virus inactivation of up to 4-log. UV is one element of a multi barrier approach, and provides a cost-effective component for a treatment strategy.

TrojanUV and VIQUA Drinking Water Systems

TrojanUV and VIQUA's range of advanced systems safeguard drinking water around the world.

Whether the project requires DVGW or USEPA validation, Trojan has validated solutions for drinking water treatment. Products range from small UV systems for light commercial use/small communities to large municipal water treatment plants.

VIQUA™ Pro Series

The VIQUA Pro Series offers a compact piece of equipment for light commercial installations as well as regulated and non-regulated drinking water applications. The systems are designed to treat flows from 2.2 to 11.3 m³/hr.

The Pro Series is a fully featured unit offering convenient color-coded plug & play connections A sophisticated UV intensity monitor, innovative high-output amalgam lamps with 2 year service life, dynamic flow restrictor, true UV dose monitoring incorporating UV intensity and flow rate data, built-in cooling system, and a host of other performance and convenience features designed to make installation, operation, and maintenance as simple as possible.

The Pro Series is suitable for the treatment of private wells, surface water supplies, bores and municipal water. It is a popular UV for regulated small community point-of-entry water treatment systems. The Pro Series are also a very popular choice in executive homes, and light commercial applications including day cares, residential care homes, bed & breakfasts, restaurants, small resorts, lodges, and similar facilities.

VIQUA's LightWise™ technology allows the system's electronic controller to automatically reduce lamp power during periods of no water flow, reducing the rate of sleeve fouling by up to 60%, and providing estimated energy savings of 30% compared to standard PRO systems. By adjusting the lamp power, water temperature is maintained below 40˚C, and the rate of sleeve fouling is consequently reduced by as much as 60%. This can more than double the amount of time between cleanings in the sleeve cleaning maintenance cycle.
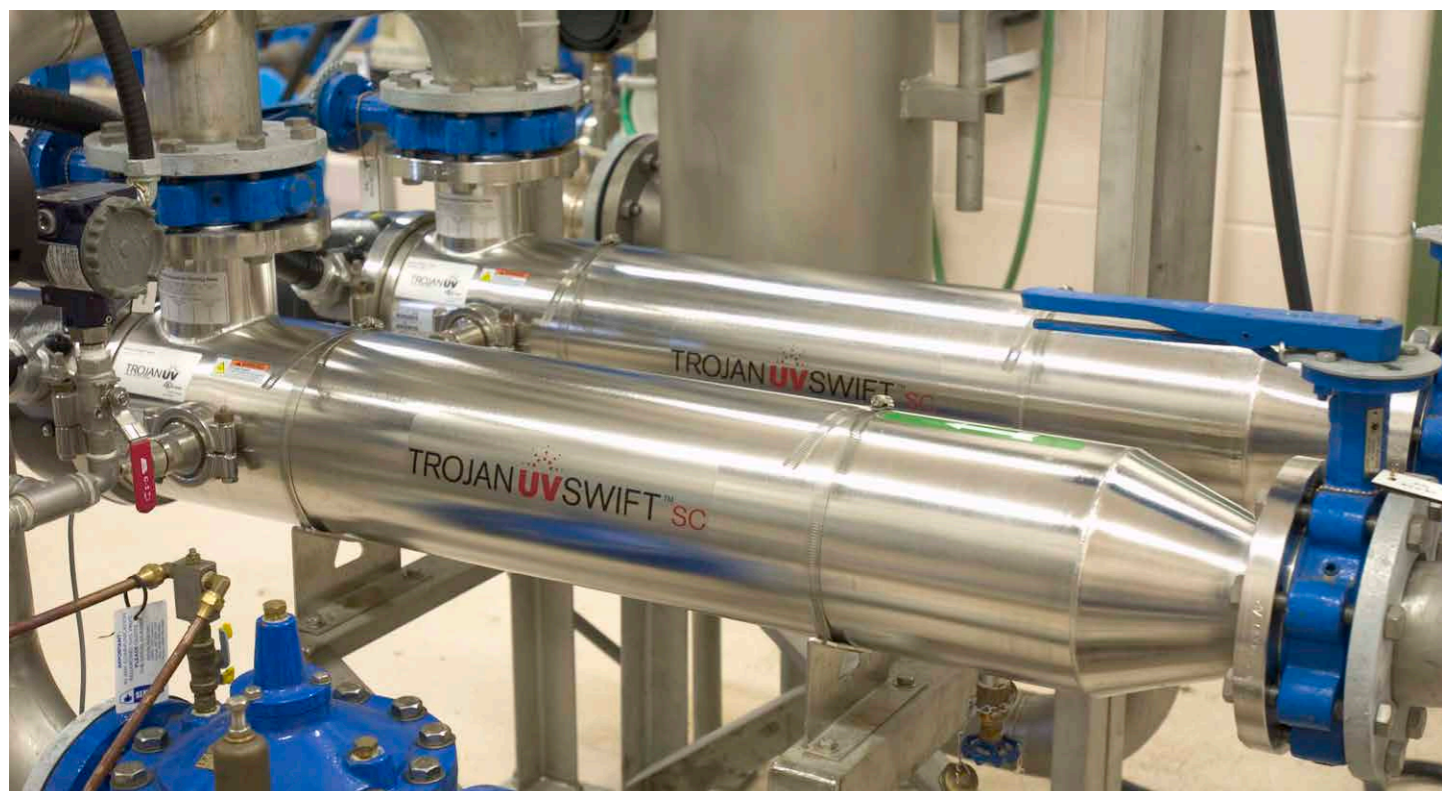
VIQUA Pro Series

The VIQUA Pro range offers outstanding reliable UV disinfection performance for commercial and residential applications. All models use the powerful amalgam lamp giving you a compact single lamp system that are half the size of their predecessors. For customer convenience, features include a timer with a digital display and audible lamp changes reminders.

Brand	VIQUA	VIQUA	VIQUA	VIQUA
Model No	**Pro 10**	**Pro 20**	**Pro 30**	**Pro 50**
Variables				
Flow Rates @70% UVT (40mJ/cm²)	38lpm (2.2m³/hr)	76lpm (4.5m³/hr)	113lpm (6.8m³/hr)	189lpm (11.3m³/hr)
Maximum Operating Pressure (bar/PSI)	8.62/125	8.62/125	8.62/125	8.62/125
Operating Water Temperature	2°C to 40°C	2°C to 40°C	2°C to 40°C	2°C to 40°C
UV Chamber				
Number of Lamps	1	1	1	1
Lamp Type	Amalgam	Amalgam	Amalgam	Amalgam
Power per Lamp (W)	120	160	230	240
Lamp Life	2 years	2 years	2 years	2 years
Visual Lamp Life Remaining	✔	✔	✔	✔
Audible Failure	✔	✔	✔	✔
Audible Lamp Replacement	✔	✔	✔	✔
Cool-Touch fan technology	✔	✔	✔	✔
LightWise Technology	✔	✔	✔	
Flow Meter	✔	✔	✔	
UV Sensor	✔	✔	✔	✔
Chamber Material	304L Stainless Steel	304L Stainless Steel	304L Stainless Steel	304L Stainless Steel
Location	Indoor/Vertical	Indoor/Vertical	Indoor/Vertical	Indoor
Reactor Dimensions				
Approximate Dimension Length mm	540	780	1030	1030
Approximate Dimension Width mm	100	100	100	100
Certification/Validation				
NSF-55 class A	✔	✔	✔	
USEPA Validated				✔

TrojanUVSwift™SC

The TrojanUVSwiftSC is designed to meet the needs of large and small communities, treating flow rates from 4.5 to 2,525 m³/hr.

The TrojanUVSwiftSC municipal drinking water system offers proven performance against waterborne pathogens including viruses, bacteria and protozoa. These advanced systems meet disinfection targets with unsurpassed reliability and without creating disinfection by-products. The TrojanUVSwiftSC is bioassay validated, having undergone rigorous DVGW and USEPA validation to ensure verified dose delivery, maximum public safety and peace of mind.

The TrojanUVSwiftSC's compact footprint simplifies installation and minimises capital costs – making it ideal for retrofit installations into existing water treatment plants. It is also engineered to fit into restrictive pipe galleries.

It is engineered and built to provide reliable performance, simplified maintenance, and reduced operating costs with innovative features like a hydraulically optimised, "L-shaped" chamber, high-intensity amalgam lamps and optional automatic or manual sleeve wiping.

User-Friendly Digital Controller

The intuitive system provides at-a-glance system status and allows remote operation.

Benefits:

- Robust, microprocessor-based controller combines extensive functionality with an operator friendly, digital interface

- Display provides at-a-glance, real-time system status information

- Programmable digital and analogue I/O capabilities allow remote on/off control and alarm code differentiation for fast identification of changes in system status

- Optional dose pacing on high capacity D-Series systems minimises energy use while maintaining required dose

- Optional Modbus, Modbus TCP/IP, EtherNet/IP and PROFINET protocols communicate with plant SCADA systems for centralised monitoring of UV performance, lamp status, power levels and other parameters

The TrojanUVSwiftSC controller and high-efficiency electronic ballasts have been proven successful in thousands of installations. The Control Panel features a user-friendly digital interface and can be mounted up to 25m from the chamber.

The OptiView™ measures the UV transmittance (UVT) of drinking water continuously, accurately and in real-time.

When paired with a TrojanUV system, the OptiView helps ensure that your water is being treated with the proper dose of UV and gives you confidence that you are maintaining regulatory compliance and providing safe water to your community. If you require UVT measurements for wastewater, please contact FILTEC for an alternative option.

TrojanUVSwiftSC

The TrojanUVSwiftSC is a validated, compact UV system that offers communities an economical solution for drinking water disinfection. It meets the stringent, internationally-recognised DVGW and USEPA standards – having undergone comprehensive validation at a wide range of flow rates and UV transmittance levels.

Brand	TrojanUV	TrojanUV	TrojanUV	TrojanUV	TrojanUV
Model No	SwiftSC D03	SwiftSC D06	SwiftSC D12	SwiftSC D18	SwiftSC D30
Variables					
UV Transmittance Range in % (1cm)	70-98	70-98	70-98	70-98	70-98
Maximum Operating Pressure (bar/PSI)	10/150	10/150	10/150	10/150	10/150
Operating Water Temperature	1°C to 40°C	1°C to 40°C	1°C to 40°C	1°C to 40°C	1°C to 40°C
UV Chamber					
Number of Lamps	3	6	12	18	30
Lamp Type	Amalgam	Amalgam	Amalgam	Amalgam	Amalgam
Lamp Pressure Type	High-Output Low Pressure	High-Output Low Pressure	High-Output Low Pressure	High-Output Low Pressure	High-Output Low Pressure
Power per Lamp (W)	240	240	240	240	240
Approximate Lamp Life (hrs)	12000	12000	12000	12000	12000
Approximate Power Consumption (kW)	1.04	1.80	3.32	4.83	7.87
Ballast Power Level	Electronic Variable Output (60%-100%)	Electronic Variable Output (60%-100%)	Electronic Variable Output (60%-100%)	Electronic Variable Output (60%-100%)	Electronic Variable Output (60%-100%)
SCADA Communication Protocol	Modbus TCP/IP, EtherNet/IP & Profinet	Modbus TCP/IP, EtherNet/IP & Profinet	Modbus TCP/IP, EtherNet/IP & Profinet	Modbus TCP/IP, EtherNet/IP & Profinet	Modbus TCP/IP, EtherNet/IP & Profinet
HMI	4" Colour Touchscreen	4" Colour Touchscreen	4" Colour Touchscreen	4" Colour Touchscreen	4" Colour Touchscreen
Wiping System Available	Optional: Manual or Automatic	Optional: Manual or Automatic	Optional: Manual or Automatic	Optional: Manual or Automatic	Optional: Manual or Automatic
OptiView UVT Monitor	Optional	Optional	Optional	Optional	Optional
Remote Monitoring	✔	✔	✔	✔	✔
Chamber Material	316L Stainless Steel	316L Stainless Steel	316L Stainless Steel	316L Stainless Steel	316L Stainless Steel
System Monitor/Control Centre	Included	Included	Included	Included	Included
Framing	Optional	Optional	Optional	Optional	Optional
Location	Indoor	Indoor	Indoor	Indoor	Indoor
Reactor Dimensions					
Flange sizes (DN/ANSI)mm/inch	150/6	200/8	300/12	400/16	500/20
Approximate Dimension Length mm	1730	1700	1730	1730	1780
Approximate Dimension Width mm	200	300	400	500	600
Approximate Dimension Height mm	381	508	660	795	995
Requirement for servicing Lamps	1780	1780	1780	1780	1780
Footprint (Length plus Requirement for servicing)	3510	3510	3480	3510	3560
Certification/Validation					
DVGW Certification	✔	✔	✔	✔	✔
USEPA Validated	✔	✔	✔	✔	✔

TrojanUV Lamp Validation
(For low pressure high output lamps)

For drinking water, the use of genuine manufactured lamps is mandatory. It is essential to ensure that TrojanUV lamps are used to meet compliance according to Australia and New Zealand drinking water standards. In waste-water applications, the use of genuine lamps is highly recommended as it maintains warranty and operational safety.

The reasons for using original equipment manufacturer (OEM) lamps may seem obvious but if you have any doubt, the following will explain why non-genuine lamps are unlikely to deliver the performance expected especially over the life of the lamps. At best you may be wasting energy and running costs, and it is quite likely you could well be compromising your resource consent as the lamps age in service.

The TrojanUV lamps have undergone rigorous testing and have third party verified output to the end of their lamp life. output of 98% to the end of their lamp life (EOLL). TrojanUV's high-output amalgam lamps are energy-efficient and save operating costs due to reduced electrical consumption. The amalgam lamps maintain high output during the entire lamp life. The validated performance provides assurance of reliable dose delivery. You can be confident that the TrojanUV lamp validation meets your drinking water standards and resource consent requirements.
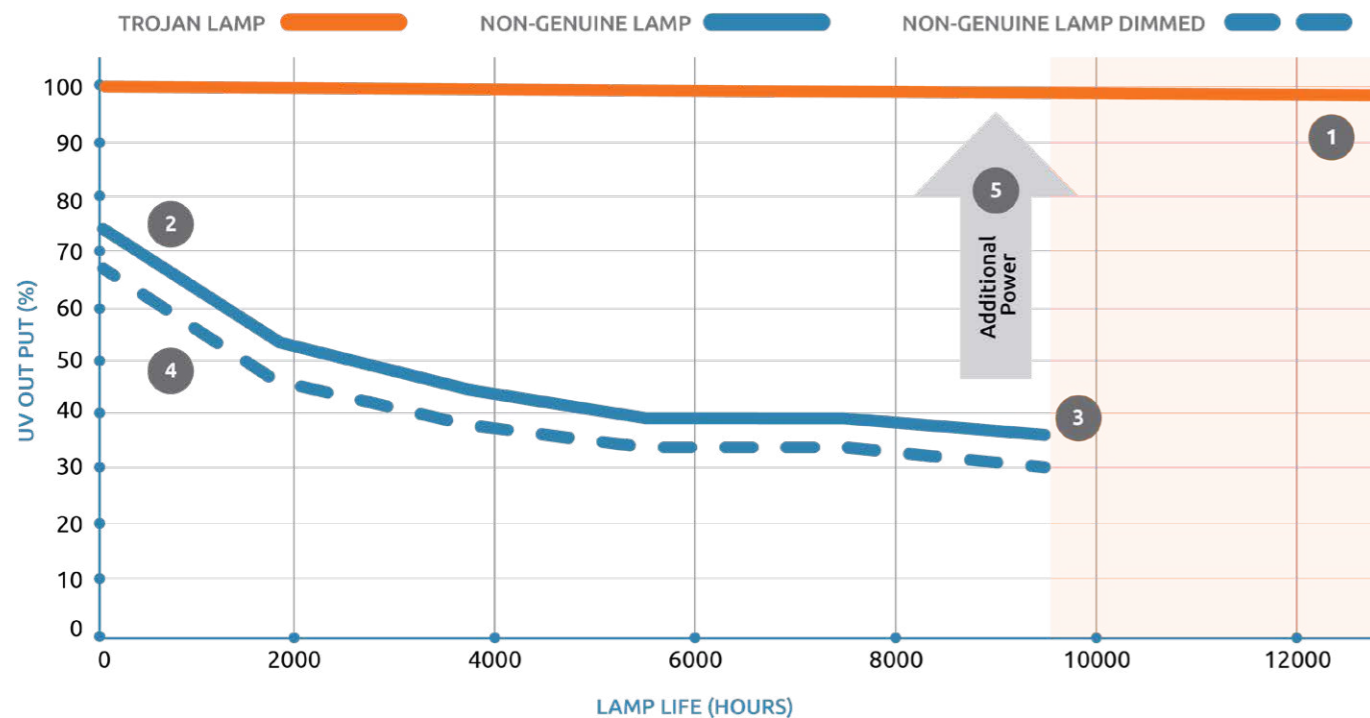

Crystal Pool, Riwaka River, Tasman, New Zealand

Chart Legend

1. Your TrojanUV system is designed for a high EOLL
2. Even when non-genuine lamps continue to turn on after 1 year, the UV output is so low, disinfection is severely at risk
3. UV output measured while lamps are dimmed reveals further inefficiencies in non-genuine lamps
4. Additional power is needed to try to deliver the required UV does using non-genuine lamps

What are Environmental Contaminants?

The primary source of taste and odour problems in New Zealand and Australian drinking water are algae and bacteria which are more common during the summer months. Taste and odour-causing compounds include geosmin and 2-methylisoborneol (MIB). Algal toxins such as microcystin are often found in waters experiencing taste and odour issues and must be removed before delivery to consumers.

A growing concern in or near heavily populated areas worldwide are active pharmaceutical ingredients (API's) which can be detected in ambient water and source water. This is of concern where water re-use is considered. While high levels of API's in drinking water may not have been a problem in the past, the potential for contamination levels rising is on the 'watch list' for water suppliers worldwide.

The Solution: UV Advanced Oxidation

The UV Advanced Oxidation Process (UV AOP) is a photochemical reaction, that involves the irradiation of hydrogen peroxide with UV light. This creates strongly oxidising hydroxyl radicals that oxidise the contaminant, breaking the bonds between the molecules, and reducing potentially harmful chemical to its safe, elemental components. With TrojanUV AOP it is possible to predict precise reductions of contaminants of concern.

Industry-defining UV AOP systems have been installed at treatment plants from California to Australasia to treat a wide array of contaminants, including nitrosamines (especially NDMA) 1,4-dioxane, pesticides, taste-and-odour-causing compounds, and algal toxins.

Talk to your FILTEC sales representative to see how we can help provide your plant with an engineered solution designed with a robust UV advanced oxidation system specific for your unique treatment needs, guaranteed to meet your contaminant removal requirements in your drinking water.

TrojanUV Consumables

FILTEC can offer full-service support and carries comprehensive TrojanUV spare parts in its Auckland, Wellington, Christchurch, Dunedin and Melbourne warehouses. From lamps, sleeves and lamp drivers to 0-rings, washers and springs, FILTEC carries all critical parts to ensure you stay online and compliant. If you require TrojanUV parts please email **info@filtec.co.nz** for New Zealand or **info@filtecinternational. com.au** for Australia.

FILTEC Service Commitment

Purchasing from FILTEC means you are backed by a world class serviced team who can ensure the installed equipment and plant continue to run at their optimal performance. FILTEC has Trojan Certified Service Technicians across Australasia. If you require after sales support or service please email us at **uvservice@ filtec.co.nz** for New Zealand or **info@ filtecinternational.com.au** for Australia.

TrojanUVSwift™

The TrojanUVSwift provides a flexible platform that allows for upgrades to meet new or more stringent requirements, such as changes in flow rate, regulatory requirements, disinfection redundancy demands, or changes in intake water quality. The system is designed to treat flow rates from 950 to 6300 m³/hr.

The TrojanUVSwift is proof of Trojan's commitment to providing water confidence. Available in multiple flange sizes, it is well suited to drinking water disinfection projects – new and retrofit applications – for a wide range of flow rates. Many TrojanUVSwift models can be upgraded to treat the compounds responsible for seasonal taste and odour events (e.g. MIB and geosmin) and other chemical contaminants.

The TrojanUVSwift is ideally suited for post filtration applications. The TrojanUVSwift requires a minimal number of lamps to treat a given flow and is serviceable from one side for easy maintenance. The compact footprint also enables the integration of the TrojanUVSwift into restrictive pipe galleries – reducing installation costs and eliminating the need for larger buildings or additions.

A dual-action sleeve cleaning system reduces maintenance costs. The ActiClean™ system uses mechanical wiping and a food grade cleaning gel to automatically remove fouling while the system is disinfecting – eliminating the expense of taking the system off-line for manual cleaning.

The TrojanUVSwift's flexibility, cost-effectiveness, small footprint, and optional advanced ActiClean mechanical sleeve cleaning system make it a logical choice.

TrojanUVSwift

The TrojanUVSwift offers proven performance against waterborne pathogens including viruses, bacteria and protozoa. Our advanced systems meet disinfection targets with unsurpassed reliability with no known disinfection by-products.

Brand			TrojanUV	TrojanUV	TrojanUV
Model No			Swift 12	Swift 24	Swift 30
Variables					
UV Transmittance Range in % (1cm)			70-98	70-98	70-98
Maximum Operating Pressure (bar/PSI)			10/150	10/150	10/150
Operating Water Temperature			1°C to 40°C	1°C to 40°C	1°C to 40°C
UV Chamber					
Number of Lamps			Max 4	Max 8	Max 16
Lamp Type			Amalgam	Amalgam	Amalgam
Lamp Pressure Type			High-Output Medium Pressure	High-Output Medium Pressure	High-Output Medium Pressure
Power per Lamp (W)			2.96kW (2960W)	9.14kW (9140W)	11.7kW (11700W)
Approximate Lamp Life (hrs)			9000	9000	9000
Approximate Power Consumption (kW)			Lamp count dependent		
Ballast Power Level			Electronic Variable Output (30%-100%)	Electronic Variable Output (30%-100%)	Electronic Variable Output (30%-100%)
SCADA Communication Protocol			Modbus TCP/IP, EtherNet/IP & Profinet	Modbus TCP/IP, EtherNet/IP & Profinet	Modbus TCP/IP, EtherNet/IP & Profinet
HMI			7" Colour Touchscreen	7" Colour Touchscreen	7" Colour Touchscreen
Wiping System Available			Optional: Automatic	Optional: Automatic	Optional: Automatic
OptiView UVT Monitor			Optional	Optional	Optional
Remote Monitoring			✔	✔	✔
Chamber Material			316L Stainless Steel	316L Stainless Steel	316L Stainless Steel
System Monitor/Control Centre			Included	Included	Included
Framing			Optional	Optional	Optional
Location			Indoor	Indoor	Indoor
Reactor Dimensions					
Flange sizes (DN/ANSI)mm/inch			300/12	600/24	800/30
Approximate Dimension Length mm			914	1372	1574
Approximate Dimension Width mm			533	889	1346
Approximate Dimension Height mm			483	1016	1220
Requirement for servicing Lamps			381	610	1219
Footprint (Length plus Requirement for servicing)			1295	1982	2793
Certification/Validation					
DVGW Certification					
USEPA Validated			✔	✔	✔

Wastewater

Recognised as a safer, more cost-effective, and environmentally responsible alternative, UV has become the preferred choice for wastewater disinfection.
It provides broad-spectrum protection against a wide range of pathogens, including bacteria, viruses and chlorine-resistant protozoa (such as Cryptosporidium and Giardia).

TrojanUV Wastewater Disinfection Systems

TrojanUV has a full suite of UV disinfection systems that can treat a wide range of flow rates and applications for wastewater treatment. Their UV disinfection systems have been successfully installed to treat primary effluent, combined sewer overflow, secondary effluent, and tertiary reuse effluent. The TrojanUV Wastewater Disinfection range is available in open channel and closed-vessel options.

TrojanUV3000™PTP

Highly Flexible Installation Configurations

The Trojan 3000PTP is pre-engineered for cost-effective integration with piping or channels

Benefits:

- Designed to meet disinfection 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 highly flexible transition boxes (Figure 1)

- Optional turn boxes minimise 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 (Figure 3)
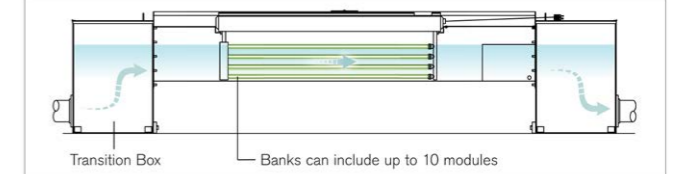

Figure 1: Banks in Series – Side View

Transition Box   Banks can include up to 10 modules

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

Turn box allows banks in series to be configured in a very small footprint

The TrojanUV3000PTP (Packaged Treatment Plant) is Trojan's smallest wastewater system in terms of flow handing. It is ideally suited to treat flows up to 473 m³/h.

The TrojanUV3000PTP is a cost-effective, off-the-shelf solution for UV disinfection of small wastewater plants. It is an example of simple, robust and operator-friendly UV systems used for the disinfection of wastewater.

The TrojanUV3000PTP is pre-engineered for quick, inexpensive installation with pipe runs using prefabricated, flanged stainless steel channels, or into existing chlorine contact tanks and effluent channels.

Using TrojanUV's proven, modular design and robust components, including low-pressure lamps, these systems are straightforward to operate and require minimal operator involvement. This flexible system has demonstrated effective and reliable performance around the world.

Figure 3: Banks in Series – Overhead View

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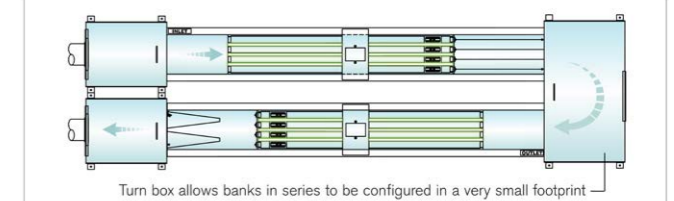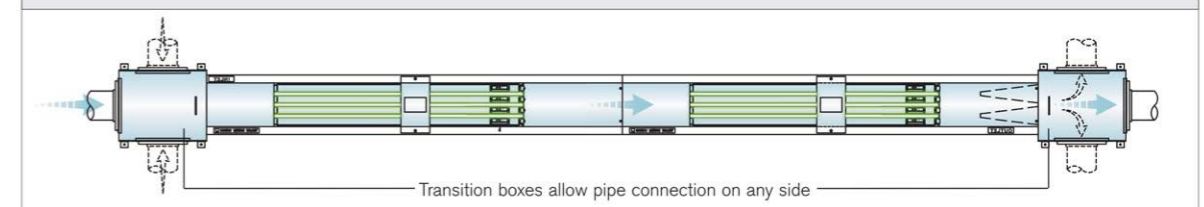
Pre-engineered for simple, effective, low-cost wastewater disinfection. The optional 304 stainless steel channels feature a UV module support rack, and can be installed as a freestanding unit. Turn boxes and transition boxes allow systems to be incorporated with maximum flexibility and minimal footprint.

TrojanUV3000™B

The TrojanUV3000B is designed for small wastewater treatment plants that require a simple in-channel disinfection solution. With a maximum of 160 lamps it can treat flows up to 904 m³/hr.

The TrojanUV3000B is available with a controller that enables flow pacing to maximise operating efficiency and extend lamp life. The system turns UV lamp banks on and off automatically to ensure the required dose is met using the fewest lamps and least electricity. These simple, robust, and operator-friendly systems have demonstrated their effective, reliable performance in over 1,000 installations around the world.

Flow Pacing Reduces O&M Costs

TrojanUV3000B system controller offers flow-pacing for increased operating efficiency.

Benefits:

- The System Control Centre (SCC) provides monitoring and control of all UV functions

- The SCC provides digital display of bank status, lamp hours, and UV intensity (mW/cm²)

- The SCC allows the system to be flow paced – meaning the UV lamps of individual banks are turned on and off automatically in response to variations in flow rate (based on a flow meter signal)

- Flow pacing maximises operating efficiency by matching UV output to disinfection requirements, and reducing electrical consumption during periods of low flow by turning lamps off (Figures 1 & 2)

- Flow pacing also increases the operating life of UV lamps, thereby reducing the frequency, expense and labour required for lamp replacement

The optional Touch Smart controller provides more sophisticated controls over the basic controller adding the ability to control up to two channels with three banks in each, SCADA communications, data logging, redundant bank logic and remote on/off signal in addition to the standard basic controller features.

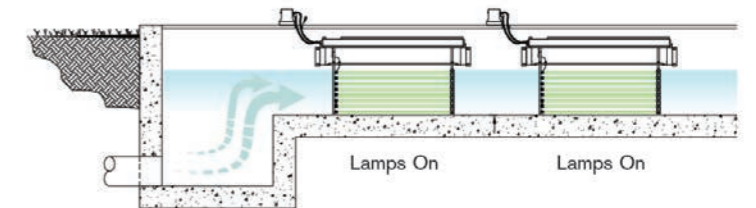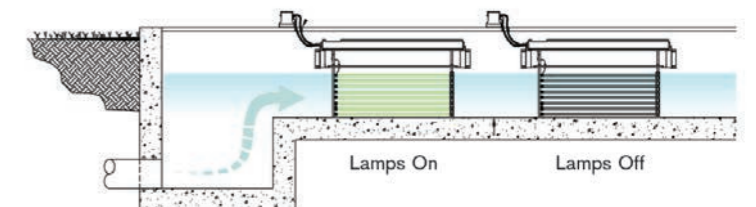Figure 1: Operation During Periods of High Flow

Lamps On   Lamps On

Figure 2: Operation During Periods of Low Flow

Lamps On   Lamps Off

TrojanUV3000Plus™

TrojanUV3000Plus is designed for medium to large wastewater treatment plants. With TrojanUV wastewater systems, the peak treatable flow is not limited by volume and in consultation with our customer we can size a UV to meet all customer requirements.

The system is well-suited to wastewater disinfection with varying flow rates and influents, installed throughout Australasia.

The TrojanUV3000Plus features TrojanUV's patented ActiClean automatic chemical/mechanical

sleeve wiping system that further reduces operation and maintenance. Long-lasting amalgam lamps and variable-output lamp drivers optimise UV output to meet wastewater conditions and to maximise system efficiency – reducing operating costs by as much as 30% per year.

Open-Channel Architecture Designed for Outdoor Installation

Cost-effective to install and expand

Benefits:

- Compact, open-channel design allows cost-effective installation in existing effluent channels and chlorine contact chambers

- System can be installed outdoors to reduce capital costs – no building, shelter or HVAC is required

- Gravity-fed design eliminates costs of pressurised vessels, piping and pumps

- Scalable architecture allows precise sizing – reduces capital and O&M costs associated with oversizing

- Modular design is readily expandable to meet new regulatory or capacity requirements

- Thorough design approach ensures that effluent quality, upstream treatment processes, and O&M needs are addressed in system configurations

- Horizontal lamp mounting delivers optimal hydraulic performance. This arrangement induces turbulence and dispersion, maximising wastewater exposure to UV output

The TrojanUV3000Plus system delivers flexibility and cost savings through its simple installation in existing channels and chlorine contact chambers. The system can be situated outdoors with no additional building, shelter or cooling requirements.

TrojanUVSigna™

The TrojanUVSigna is the ideal solution for treatment plants in need of revolutionary UV technology. The system can be installed in an existing chlorine contact tank without major modifications to the channel depth or width. With TrojanUV wastewater systems, the peak treatable flow is not limited by volume and in consultation with our customer we can size a UV to meet all customer requirements.

TrojanUVSigna banks are available in two-row, four-row and six-row lamp configurations thus accommodating various disinfection limits.

TrojanUVSigna incorporates innovations, including TrojanUV Solo Lamp Technology, to reduce the total cost of ownership and drastically simplify operation and maintenance. The energy-efficient, 1000-Watt TrojanUV Solo lamp (15,000 hours guaranteed) has high UV output and high electrical efficiency. Power consumption is approximately 1/3 that of medium-pressure lamps.

The TrojanUVSigna system is designed with ease of installation in mind. Accurate water level control can be achieved with a simple serpentine weir across a broad range of flows. Thus reducing installation costs and reducing the extent of periodic maintenance. Please contact your local FILTEC representative to discuss your system design characteristics, and for more information.

Flexible Installation and Easy Retrofitting

Cost-effective installation in existing effluent channels

Benefits:

- Designed to fit into an existing chlorine contact chamber, thus reducing civil 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

- Modular design reduces channel depth and length requirements

The TrojanUVSigna can be installed in 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 walls with tight tolerances or stepped floors.

Easy Operation and Simplified Maintenance

The TrojanUVSigna is designed to make the operator's job easier

Benefits:

- Reduced number of lamps means less time and money spent changing, maintaining and replacing them

- The Hydraulic lifting device with push button activation gives safe one-person operation for bank inspection, cleaning, lamp changes and sleeve removal. It also removes the need for cranes and channel entry

- Safety interlocks prevent operators from accidentally removing an energised 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

- The Power Distribution Centre has multiple doors, giving operators the ability to safely isolate and perform lamp/ballast changeouts on one bank without having to shut down or de-energise others

TrojanUV3000PTP, TrojanUV3000B, TrojanUV3000PLUS, TrojanUVSigna

TrojanUV has a range of open channel systems that cater from small communities to large applications.

15000	TrojanUV	TrojanUV	TrojanUV	TrojanUV
Model No	**3000 PTP**	**3000 B**	**3000 Plus**	**Signa**
UV System				
System Type	Open Channel	Open Channel	Open Channel	Open Channel
Lamp Configuration	Horizontal parallel to flow	Horizontal parallel to flow	Horizontal parallel to flow	Staggered inclined array
Module Configuration	2 or 4 lamps per module	4, 6, 8 lamps per module	4, 6, 8 lamps per module	2, 4, 6 rows per bank
Bank Configuration	Up to 10 modules per bank	Up to 20 modules per bank	Up to 32 modules per bank	From 8 - 96 lamps per bank
Lamp Type	Amalgam	Amalgam	Amalgam	Amalgam
Lamp Pressure Type	Low pressure high output	Low pressure high output	Low pressure high output	Low pressure high output
Power per Lamp (W)	120	240	250	1000
Approximate Lamp Life (hrs)	12000	12000	12000	15000
Ballast Power Level	Electronic Non Variable	Electronic Non Variable	Electronic Variable Output (60%-100%)	Electronic Variable Output (30%-100%)
SCADA Communication Protocol	Modbus TCP/IP, EtherNet/IP & Profinet	Modbus TCP/IP, EtherNet/IP & Profinet	Modbus TCP/IP, EtherNet/IP & Profinet	Modbus TCP/IP, EtherNet/IP & Profinet
HMI	4" Colour Touchscreen	4" Colour Touchscreen	Contact FILTEC	Contact FILTEC
Wiper Cleaning System	Manual	Manual	Automatic ActiClean Chemical/mechanical	Automatic ActiClean Chemical/mechanical
Level Control Device Options	Fixed Weir	ALC gate or fixed weir	ALC gate, fixed weir or motorised weir gate	Fixed weir or motorised weir gate
Water Level Sensor	1 electrode low water level sensor per channel	1 electrode low water level sensor per channel	1 electrode low water level sensor per channel	High & Low water level sensors available
System Monitor/Control Centre	N/A	Microcontroller	Microcontroller or PLC	PLC
Remote Monitoring	✔	✔	✔	✔
Location	Indoor or Outdoor	Indoor or Outdoor	Indoor or Outdoor	Indoor or Outdoor
Dimensions				
Approximate Dimension Length mm	1730			
Approximate Dimension Width mm	57	Each system is designed to meet disinfection and hydraulic requirements		
Approximate Dimension Height mm	512			
Certification/Validation				
DVGW Certification	✔	✔	✔	✔
USEPA Validated	✔	✔	✔	✔

Best of both worlds
TrojanUV Solo Lamp

It is no longer necessary for municipalities installing UV technology to make a choice between energy efficiency and a small footprint. The revolutionary TrojanUV Solo Lamp combines the best features of both low pressure and medium pressure lamps. This enables high electrical efficiency and reduced lamp count. The Solo Lamp is available in either 500 or 1000 Watts, depending on the application.

The TrojanUVTelos, TrojanUVSigna and TrojanFlex200 use the Solo Lamp, a powerful, high-efficiency lamp paired with the advanced, energy-efficient Solo Lamp Driver.

SOLO LAMP
TECHNOLOGY
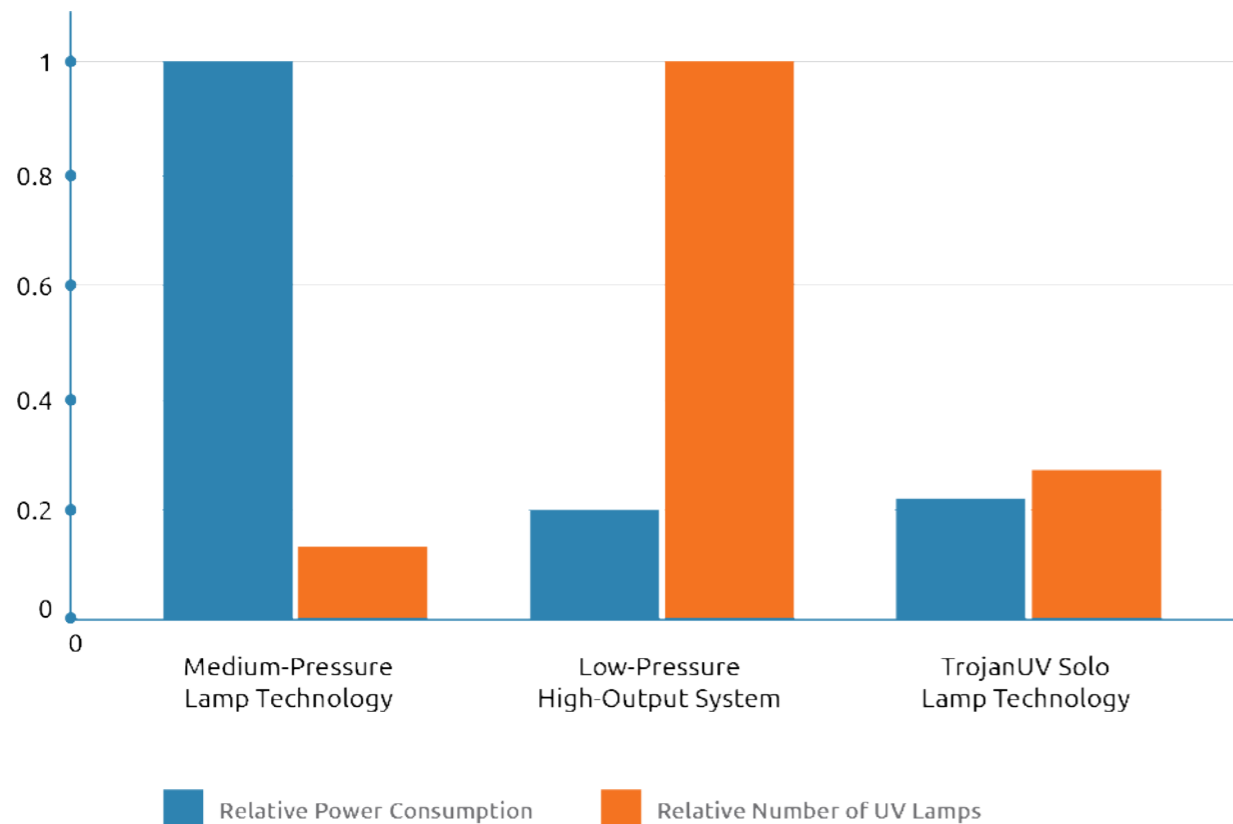
TrojanUV Solo Lamp systems combine the benefits of other lamp technologies – the low lamp count of medium-pressure systems with the high electrical efficiency of low-pressure high-output (LPHO) systems. Combined with long lamp life (15,000 hours guaranteed), the result is a compact, cost-effective installation that is easy and quick to maintain.

TrojanUVFit™

The TrojanUVFit offers an effective and energy-efficient closed-vessel UV solution in wastewater and reuse/recycled water treatment.

Depending on site and design conditions, wastewater treatment plants producing filtered effluent sometimes prefer a disinfection solution using closed-vessel or pressurised UV chambers.

The TrojanUVFit is available in multiple configurations to treat a wide range of flow rates. The streamlined hydraulic profile of closed vessel systems disinfects filtered effluent without breaking head in the treatment process.

Compact Chamber for Installation Flexibility

The efficient, cost-saving design enables retrofit or new construction with the TrojanUVFit.

Benefits:

- Compact footprint simplifies installation and minimises 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.

TrojanUVFit

The TrojanUVFit offers an effective and energy-efficient closed-vessel UV solution. This compact system is available in multiple configurations to treat a wide range of flow rates. The TrojanUVFit can be utilised in either wastewater or reuse/recycled water plants.

Brand	TrojanUV	TrojanUV	TrojanUV	TrojanUV	TrojanUV	TrojanUV
Model No	FIT 04AL20	FIT 08AL20	FIT 18AL40	FIT 32AL50	FIT 72AL75	FIT D72AL75
UV System						
Number of Lamps	4	8	18	32	72	144
Lamp Type	Amalgam	Amalgam	Amalgam	Amalgam	Amalgam	Amalgam
Lamp Pressure Type	Low pressure high output	Low pressure high output	Low pressure high output	Low pressure high output	Low pressure high output	Low pressure high output
Power per Lamp (W)	240	240	240	240	240	240
Approximate Lamp Life (hrs)	12000	12000	12000	12000	12000	12000
Approximate Power Consumption (kW)	1.10	2.10	4.80	8.40	21.00	40.00
Ballast Power Level	60-100%	60-100%	60-100%	60-100%	60-100%	60-100%
SCADA Communication Protocol	Modbus TCP/IP, EtherNet/IP & Profinet	Modbus TCP/IP, EtherNet/IP & Profinet	Modbus TCP/IP, EtherNet/IP & Profinet	Modbus TCP/IP, EtherNet/IP & Profinet	Modbus TCP/IP, EtherNet/IP & Profinet	Modbus TCP/IP, EtherNet/IP & Profinet
HMI	4" Colour Touchscreen	4" Colour Touchscreen	4" Colour Touchscreen	4" Colour Touchscreen	4" Colour Touchscreen	4" Colour Touchscreen
Wiping System Available	On line mechanical	On line mechanical	On line mechanical	On line mechanical	On line mechanical	On line mechanical
OptiView UVT Monitor	Optional	Optional	Optional	Optional	Optional	Optional
Remote Monitoring	✔	✔	✔	✔	✔	✔
Chamber Material	Type 316L Stainless Steel	Type 316L Stainless Steel	Type 316L Stainless Steel	Type 316L Stainless Steel	Type 316L Stainless Steel	Type 316L Stainless Steel
System Monitor/Control Centre	Mild Painted steel or 304 or 316SS	Mild Painted steel or 304 or 316SS	Mild Painted steel or 304 or 316SS	Mild Painted steel or 304 or 316SS	Mild Painted steel or 304 or 316SS	Mild Painted steel or 304 or 316SS
Framing	Optional	Optional	Optional	Optional	Optional	Optional
Location	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
Reactor Dimensions						
Flange sizes (DN/ANSI) mm/inch	150/6	150/6	250/10	300/12	500/20	500/20
Approximate Dimension Length mm	2032	2032	2083	2286	2286	3860
Approximate Dimension Width mm	356	356	660	743	1045	1372
Approximate Dimension Height mm	375	375	660	870	1364	1444
Requirement for servicing lamps	1778	1778	1778	2286	1702	1702
Footprint (Length + Requirements for servicing)	3810	3810	3861	4572	3988	5562
Certification/Validation						
NWRI Validation	✔	✔	✔	✔	✔	✔
USEPA Validation	✔	✔	✔	✔	✔	✔

Fountain in Carlton Gardens, Melbourne, Australia

Reuse & Recycle Water

The advanced treatment and reuse of wastewater is becoming increasingly common as municipalities address high water demands and shrinking supplies. Australia, Europe and the USA are just some of the areas around the world being affected by drought and the need to balance increasing population growth, dry climates and heavy irrigation/agricultural demands with water demands.

TrojanUV Reuse Disinfection Systems

TrojanUV is a leading provider of UV disinfection and Advanced Oxidation solutions that have been installed in reuse applications around the world. The treated effluents are being reused for recreational and agricultural irrigation to reduce discharge to already-stressed waterways. In some applications like indirect potable reuse, Trojan provides UV-oxidation systems for chemical contaminant treatment along with high-level disinfection.

TrojanUVPhox™

The TrojanUVPhox (UV-photolysis and UV-oxidation) solution is a ground-breaking, pressurised ultraviolet (UV) light chamber that utilises TrojanUV's high-output, monochromatic amalgam UV lamps.

TrojanUVPhox was designed to maximise efficiency - using 50%-90% less energy than other similarly sized UV chambers. Through the extensive use of computational fluid dynamics models and other computer simulation tools, it has been optically and hydraulically optimised to provide extremely efficient and cost-effective UV treatment.

The chambers are modular and vertically stackable which allows for system expansion without increasing footprint. They were designed using computational fluid dynamics modelling and other advanced computer simulation tools to ensure optimum lamp spacing, uniform flow field, and significant efficiency advantages.

TrojanUVFlex™

The chamber has been designed for delivery of high UV doses in an extremely compact footprint (40% to 50% that of other high efficiency UV-oxidation systems)

The TrojanUVFlex was designed for ease of maintenance and validated across a range of flows and UVTs, making it suitable for water, wastewater and reuse applications. Whether you are targeting an emerging contaminant of concern or require disinfection to very high levels (currently validated up to 4 logs of virus, protozoa and bacteria), or both. There is Flex reactor for almost all large scale applications.

Offering the latest advancements in system controls to optimise performance, operating costs and regulatory reporting, the TrojanUVFlex performs both UV disinfection and UV-oxidation.

The TrojanUVFlex provides municipalities with the most energy-efficient delivery of high UV doses in an extremely compact footprint.

Powerful, yet highly energy-efficient 1000-Watt Solo Lamps (15,000 hours guaranteed) lead to a low lamp count which, in turn, provides other benefits such as fewer associated components (e.g. lamp drivers and sleeves), reduced maintenance and high reliability.

Compact, Modular UV Chamber

The TrojanUVFlex offers a significantly reduced footprint and installation cost

- Lamp array optimised for highest UV dose delivery in the smallest footprint
- Lamps are perpendicular to flow reducing overall train length
- Flexible UV chamber can be installed horizontally or vertically
- Modular lamp sections enable expandability, redundancy and lowest power consumption
- Low headloss design reduces or eliminates pumping
- Overall footprint reduced by 40-50% vs. other high-efficiency UV-oxidation systems

TrojanUVPhox, TrojanUVFlex, TrojanUVFit

Notes

Brand	TrojanUV	TrojanUV	TrojanUV
Model No	Phox	Flex	Fit*
UV System			
Maximum Operating Pressure (bar/PSI)	6.5/85	10/150	Refer Pg 34 for all FIT details
Number of Lamps	12-144	48-384	Refer Pg 34 for all FIT details
Lamp Type	Amalgam	Amalgam	Amalgam
Lamp Pressure Type	Low pressure high output	Low pressure high output	Low pressure high output
Power per Lamp (W)	250	1000	250
Approximate Lamp Life (hrs)	12000	15000	12000
Valid End of Lamp Life	98%	86%	98%
Ballast Power Level	Electronic Variable Output (60%-100%)	Electronic Variable Output (30%-100%)	Electronic Variable Output (60%-100%)
SCADA Communication Protocol	Modbus TCP/IP, EtherNet/IP & Profinet	Modbus TCP/IP, EtherNet/IP & Profinet	Modbus TCP/IP, EtherNet/IP & Profinet
HMI	4" Colour Touchscreen	4" Colour Touchscreen	4" Colour Touchscreen
Wiping Cleaning System	Automatic	Optional: Automatic	Automatic
Chamber Material	316L Stainless Steel	2205 duplex Stainless Steel	316L Stainless Steel
System Monitor/Control Centre	Mild Painted steel or 304/316 Stainless Steel	Mild Painted steel or 304/316 Stainless Steel	Mild Painted steel or 304/316 Stainless Steel
Remote Monitoring	✔	✔	✔
Location	Indoor or Outdoor		Indoor
Dimensions			
Flange sizes (DN/ANSI) mm/inch	100/4 - 500/20	600/24-1200/48	Refer Pg 34 for all FIT details
Approximate Dimension Length mm			Refer Pg 34 for all FIT details
Approximate Dimension Width mm	Depends on number of lamps		Refer Pg 34 for all FIT details
Approximate Dimension Height mm			Refer Pg 34 for all FIT details
Certification/Validation			
NWRI Validation		✔	✔
USEPA Validated		✔	✔

*Please refer to page 34 for more details.

TROJAN'S Lifetime Disinfection Guarantee

When purchasing a TrojanUV disinfection system, TrojanUV provides a LIFE-TIME GUARANTEE that your system will meet the specified level of disinfection – enabling you to confidently meet your drinking water standards and resource consent requirements.

In order to maintain Trojan's UV life time guarantee, the following conditions must be met:

- Your TrojanUV system must be operated within the original design parameters for flow rates and influent water quality.

- Your TrojanUV system must be operated and maintained in accordance with procedures outlined in your Operation & Maintenance manual, including recommended regular maintenance.

- Only Genuine TrojanUV replacement parts are used.

- Field service is performed in accordance with, and as outlined in the operations and maintenance manual.

By purchasing and maintaining your TrojanUV reactor with Genuine Trojan parts you will also have access to:

- TrojanUV's Lifetime Disinfection Guarantee

- Peripheral component warranties

Trojan Certified Service Technicians have completed an extensive training program, giving them the required technical, equipment and software knowledge to diagnose any on-site issues. Work performed on your system must be guided by our Operations & Maintenance manual, Technical Assistance Centre, or be performed by a Trojan-Certified Service Technician.

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