EXPERTS IN ULTRAVIOLET DISINFECTION

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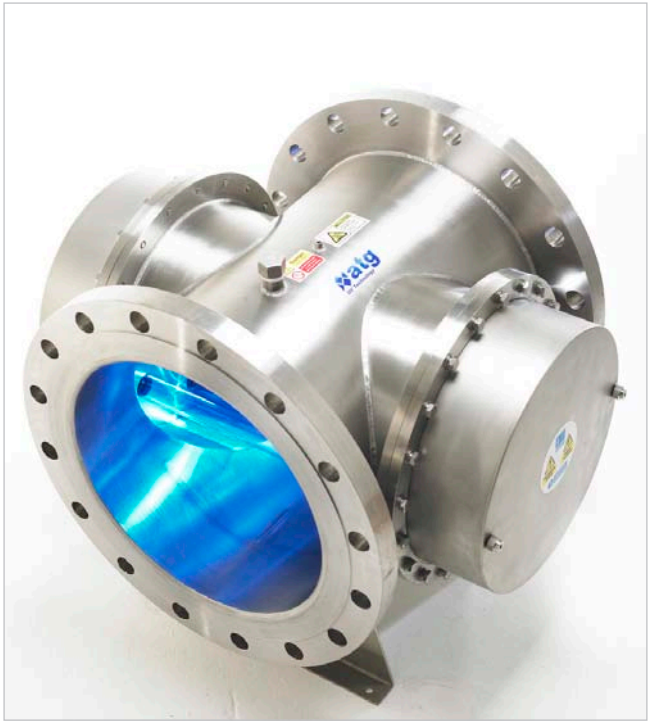
atg UV Technology

SX RANGE

MEDIUM PRESSURE UV SYSTEMS

SX RANGE - MEDIUM PRESSURE UV

US EPA UVDGM VALIDATION PROVIDES GUARANTEED PERFORMANCE FOR A VAST RANGE OF APPLICATIONS



THE IN-LINE SX CHAMBER DESIGN SIGNIFICANTLY REDUCES HEADLOSS & IMPROVES HYDRAULIC EFFICIENCY

IN-LINE MEDIUM PRESSURE UV SYSTEMS

DEFINING THE UV INDUSTRY WITH MARKET LEADING TECHNOLOGY SINCE 1981

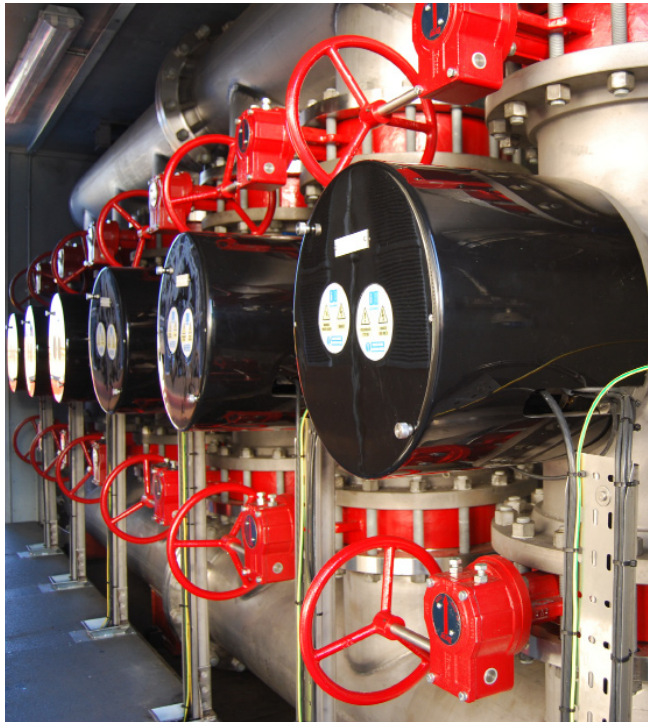
ULTRA COMPACT & VERSATILE MEDIUM PRESSURE UV DISINFECTION SYSTEMS FOR A VAST RANGE OF MUNICIPAL & INDUSTRIAL APPLICATIONS, TREATING 1 M^3/HR TO OVER 5,000 M^3/HR

The SX series provides the very latest in medium pressure UV lamp technology and flow efficient in-line chamber design. Offering increased treatment capacity and flexibility for the environmentally friendly process of UV disinfection, the SX series provides solutions for a range of applications, including drinking water, industrial process water, oil and gas and aquatics.

Featuring both single lamp and multi-lamp configurations and using a range of medium pressure UV lamps, the specially designed in-line UV reactors provide optimum flow distribution and hydraulic performance. The SX range offers a state-of-the-art solution for a wide variety of water treatment applications, treating capacities of 1.0 m3/hr to more than 5,000 m3/hr in a single, high output, low footprint UV system.

The SX range is independently 3rd party validated and certified using biometric testing according to the USEPA UVDGM, and offers guaranteed performance for both UV doses 10 - 120 mJ/cm2 RED and 1 - 5 log reductions of Cryptosporidium.

THE ULTRA COMPACT IN-LINE CHAMBER DESIGN CAN BE INSTALLED VERTICALLY OR HORIZONTALLY, PROVIDING SUPERIOR FLEXIBILITY



MARKET LEADING DESIGN WITH STATE-OF-THE-ART TECHNOLOGY

Performance Advantages

- ✓ Independent 3rd party validated performance
- ✓ Chemical free, green disinfection solution
- ✓ 2 to 18 multi-lamp configurations
- ✓ 2.5 kW, 3.5 kW, 5.0 kW and 7.3 kW UV lamps
- ✓ High capacity treatment upto 5,000 m^3/hr
- ✓ 9,000 hour lamp life and 5 year quartz life
- ✓ Automatic power stepping 100% - 50% power
- ✓ Hydraulically optimised low headloss design
- ✓ High disinfection efficiency - 1 to 5 log

Operational Benefits

- ✓ Significantly reduced maintenance requirements
- ✓ Flange mounted slider bars for easy internal access
- ✓ Single sided maintenance / access
- ✓ Quick release enhanced safety 'Twistlok' Lamps
- ✓ Dry UV monitors and temperature probes
- ✓ Robust, chemical free automatic wiper system
- ✓ Lamp changes without removing wiper motor
- ✓ Wiper rings can be replaced without removing wiping carriage from chamber

Installation Advantages

- ✓ Ultra compact and easy to install
- ✓ Closed system design installs directly into pipe work
- ✓ Horizontal and vertical installation options
- ✓ Multiple flange size, type and mounting options
- ✓ Significantly reduced footprint requirement
- ✓ Upto 50 meter cable distance from LCP to UV chamber
- ✓ Can be installed directly against walls / structures
- ✓ Suitable for both new builds and retrofits
- ✓ Modbus / Profibus / ICSS / BMS integration available

UV System	SX-225-8	SX-425-10	SX-635-16	SX-850-20	SX-1873-30
Performance					
3rd party validation	USEPA Ultraviolet Disinfection Guidance Manual (UVDGM) 2006				
Validated UVT% window	>58%	>70%	>70%	>70%	>70%
Certification	NiPH / FHI Water Report 120 / CE Marked / UL Approved				
UV dose range	10 mJ/cm2 to 120 mJ/cm2 RED (Reduction Equivalent Dose)				
UV lamps and monitoring					
Lamp power	2.5 kW	2.5 kW	3.5 kW	5.0 kW	7.3 kW
Lamp number	2	4	6	8	18
Lamp life	9,000 hours				
Lamp design	TWISTLOK™ quick release, enhanced safety - medium pressure				
UV monitoring	Validated ÖNORM UV monitor - AT-900 (calibrated) - IP66 (each lamp monitored)				
Variable power	100% power to 50% power (variable automatic dose pacing)				
UV Chamber					
Connection size (mm)	DN200	DN250	DN400	DN500	DN800
Connection type	BS4504 PN10 RF Flange / BS4504 PN16 RF Flange				
Design pressure	10 Barg design (15 Barg test) / 16 Barg design (21 Barg test)				
Material construction	316L stainless steel				
Internal / external finish	0.8 µm Ra internal / 1.6 µm Ra external				
Lamp and wiper access	Single sided access				
Quartz type	High purity quartz thimble				
Mounting	Legs (optional)				
Wiper system	Automatic wiper system (optional)				
Temperature probe	AT-487 (PT-100) - IP66				
Vent & drain ports	Yes				
Ingress protection	IP66				
Installation	Vertical or horizontal				
Chamber options	0.4 µm Ra internal polish upgrade / electropolish upgrade / super duplex 25% chrome steel / connection types				
Technical					
Communication options	Ethernet / Modbus / Data Stream / ICSS Integration (other fieldbus options available)				
Lamp power supply	Choke	Choke	CWT	CWT	CWT
Power consumption	5,500 W	11,000 W	23,100 W	44,000 W	144,540 W
Mains power	400 V (380 V to 480 V options)				
Power phase + neutral	3 Phase + Neutral				
Frequency	50 Hz or 60 Hz				

Guaranteed Performance As Standard

ADVANTAGES OF THE US EPA UVDGM VALIDATION SYSTEM

Using the test protocols developed by the US EPA Ultraviolet Disinfection Guidance Manual (Long Term 2 Enhanced Surface Water Treatment Rule), atg UV Technology systems are rigorously biometrically tested using live surrogate microorganisms (MS2). This provides guaranteed UV disinfection performance against Cryptosporidium, Adenovirus and other harmful waterborne microorganisms.

Unlike alternative validation protocols, such as DVGW or ONORM, which only test to a single UV dose set point of 40 mJ/cm2, the US EPA UVDGM validation method allows for the selection of multiple data points. The result is a highly flexible performance validation that allows for guaranteed UV doses between 10 mJ/cm2 RED and 120 mJ/cm2 RED. This is of particular importance when aiming for a log reduction of microorganisms, such as Cryptosporidium, Giardia, E-Coli and Adenovirus.

By adopting the US EPA UVDGM Validation, UV systems can be sized to provide the correct amount of UV intensity in direct relation to the specified UVT%. In the case of UVT% values higher than 90%T10, the power savings are typically 50% when compared to the DVWG and ÖNORM solutions, which can only offer 40 mJ/cm2. Table 1 is based upon the US EPA UVDGM log reduction tables for a 3 reduction of Cryptosporidium: 12 mJ/cm2 RED multiplied by the required RED Bias in relation to the UVT% value.

Table 1
Required UV mJ/cm2 RED Dose for 3 Log Reduction (99.9%) of Cryptosporidium

UVT%	US EPA UVDGM	DVGW	ONORM
95% UVT	16.56 RED	40 RED	40 RED
90% UVT	20.76 RED	40 RED	40 RED
85% UVT	24.12 RED	40 RED	40 RED
80% UVT	26.64 RED	40 RED	40 RED
75% UVT	28.32 RED	40 RED	40 RED
70% UVT	30.06 RED	40 RED	40 RED

USING ADVANCED CFD TO OPTIMISE LAMP POSITIONING OFFERS INCREASED TREATMENT CAPACITY WITH LESS POWER & FEWER LAMPS

THE UNIQUE DATA STREAM SERVICE TRANSMITS REAL TIME PERFORMANCE DATA TO ANY WEB ENABLED DEVICE, SUCH AS SMART PHONES & LAPTOPS

MARKET LEADING DESIGN WITH STATE-OF-THE-ART UV TECHNOLOGY

Computational Fluid Dynamics

Through extensive CFD analysis and field testing, the SX chamber design matches hydraulic flow profiles with UV lamp intensity fields inside the reactor, optimising the high intenity zones with flow paths to improve performance. This advanced analysis tool has allowed for significant improvements in efficency, typically increasing treatment capacities by upto 30% whilst using less power and fewer UV lamps.

Data Stream Service

The atg UV technology Data-Stream service is the first of its kind in the UV industry, allowing operators to monitor the performance of their UV system anywhere in the world, at any time. Using a simple Wi-fi connection, the Data-Stream service transmits operational performance data in real time (updating every 30 seconds) directly from the plant room to any web enabled device. (Includes: smart phones, I-Pads, laptop's & PC's).

5 Year Warranty

atg UV Technology is passionate about providing a first class after sales service and customer care experience. As the market leader for UV systems, atg UV Technology was the first UV manufacturer in the world to offer an exclusive 5 year warranty for standard UV systems. The 5 year warranty is a demonstration of our commitment to our customers, and an indication of the high level of quality and reliability in all of our products.

LISTENING TO & WORKING WITH OUR CUSTOMERS FOR OVER 30 YEARS

CONTACT US TODAY

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