

UV-GUARD™

PLC Controller



UVG X3-160, UVG X3-245

X-Series™

Commercial and industrial
UV disinfection for:

- Liquids with low UV transmittance (UVT)
- High UV dose requirements
- Large flows

The UVG X-Series is an efficient industrial UV disinfection system able to achieve industry recommended and project specific UV dose rates at flows of up to 500 m³/hr and beyond.

Expertly designed for:

- Wastewater
- Drinking water
- Process water
- Sugar syrups (liquid sugar)
- Ultra-pure water
- Hot water and Warm water
- Dam water, Rain water and Storm water



The UVG X-Series has been accredited by the WaterMark certification scheme, a requirement documented within The Plumbing and Drainage Code Australia. This provides its own quality assurance, guaranteeing quality of materials and manufacturing processes whilst validating the system safe for use.

Systems individually specified by qualified engineers based on project and customer requirements using complex UV dose programs. UV Transmittance (UVT) testing provided within UV-Guard's laboratory to ensure that the correct UV system is specified, reducing the risk of under or over engineering solutions.

The X-Series is a compact, efficient and flexible UV disinfection system.

Save space

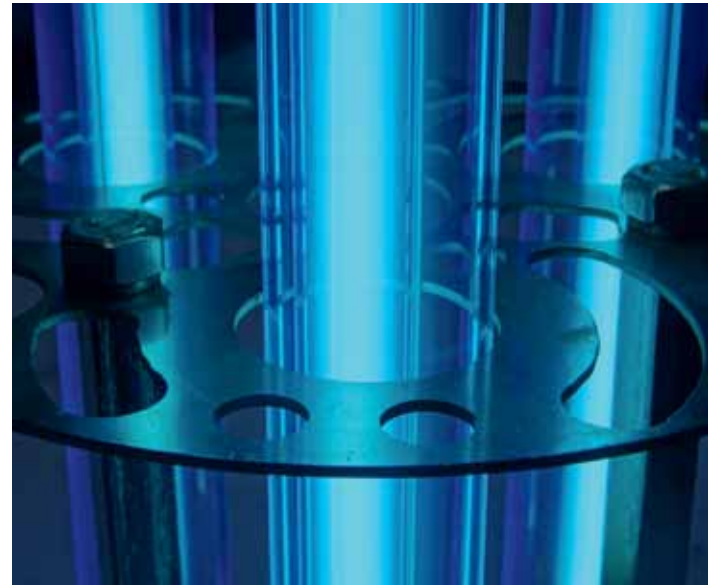
Multiple lamped systems allow for liquids with low UV Transmittance to be disinfected through thin film channels created within the reactor. This means that disinfection of total flow can be achieved through a single reactor, reducing footprint requirements and plumbing infrastructure costs

Reduce maintenance expenditure

Key to the X-Series design is the combination of UVG LongerLife low pressure high output amalgam UV lamps with thermally stable Electronic Ballasts precisely configured to maximize efficiency and performance. UVG LongerLife UV lamps have an operating life of up to 16,000 hours, maintaining a UVC output of 90% or greater at the end of lamp life, outlasting standard UVC lamps by up to 77% with improved performance.

Maximize flexibility

The extensive range of single and multiple lamped systems with an array of options means that there is a system to meet a comprehensive range of applications. Inlet and outlet connections are customizable to suit project, customer and application requirements.



Standard Features

- WaterMark certified 316 grade stainless steel reactors
- UVG LongerLife UV Lamps – 16,000 hours operational life
- PLC Controller – Thermally stable, IP54-65 rated with lamp on/off LEDs, lamp fail alarm and digital lamp life timer

Options

- Inlet and outlet connections customizable to suit
- UV intensity monitoring – sensors calibrated to DVGW and ÖNORM validation codes
- Quartz tube automatic wiping systems
- Remote system control and monitoring
- Reactor temperature management – ensuring maximum UV output from lamps
- PLC customized to be integrated into other treatment system controls and measuring devices
- Skid mounted controller and reactor

UV-Guard PLC Controller

UV-Guard's PLC controller provides operators with a user-friendly instrument to check system status, calibrate UV sensors, confirm UV intensity being achieved, perform automatic quartz cleaning, define system parameters and undertake fault diagnostics. Proprietary software intelligently links all features of the system to self-manage functions. The system is fully integrate-able with remote enable and control connections for supervisory management system connection and can provide alarm, status and real-time UV intensity outputs for remote monitoring. It can be integrated into other treatment system controls and measuring devices and the PLC ensures electronic ballasts are thermally stable, optimizing service life and performance.



UV Sensors

UV intensity monitoring is provided and displayed on the PLC controller as either % UV_i, W/m² or mW/cm². UV-Guard uses sensors that have been pre calibrated according to Austrian validation codes DVGW and ÖNORM. Accurate and precise UV sensors are essential to confirm that system performance and incoming water quality are monitored, ensuring that UV dose targets are constantly achieved.



Model	X1-160	X2-160	X3-160	X4-160	X1-245	X2-245	X3-245	X4-245	X1-440	X2-440	X3-440	X4-440	X5-440	X6-440	
Standard	WaterMark Level 1														
Flow Rate* (m ³ /hr)	22	37	54	71	28	48	71	93	48	72	110	172	274	318	
UV lamps and intensity Monitoring System															
Power Per Lamp (W)	185				240				450						
Number of Lamps	1	2	3	4	1	2	3	4	1	2	3	4	5	6	
Lamp Certification	3rd Party on UV-C Output and lamp life														
UV Intensity Monitoring	Optional – DVGW and ÖNORM														
UV Reactor															
Protection Class	IP65														
Material	316 grade Stainless Steel														
Flange Size (") standard	3	3	4	4	3	3	4	4	4	4	4	6	8	8	
Length (mm)	1220							1420							
Operating Pressure (Bar/PSI) max	10/145														
Automatic Quartz Wiper	Optional – Motor driven														
PLC Controller															
Common Outputs	System status, lamp status, UV intensity measurement, system alarms														
Bus Communication	Yes														
Protection Class	IP65	IP54													
Power Requirements	240V, 10A Standard GPO											240V, 15A, Standard GPO	240V, 20A Standard GPO		

*Flow rates calculated using complex UV dose software packages and are based on a UV transmittance (UVT) of 85% and an achieved UV dose of 40mJ/cm² at the end of lamp life.

