

WEDECO QUADRON™

RELIABLE UV DISINFECTION FROM EVERY ANGLE

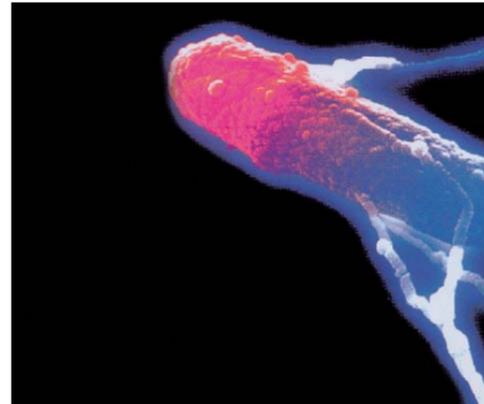
WEDECO
a xylem brand

WEDECO QUADRON™

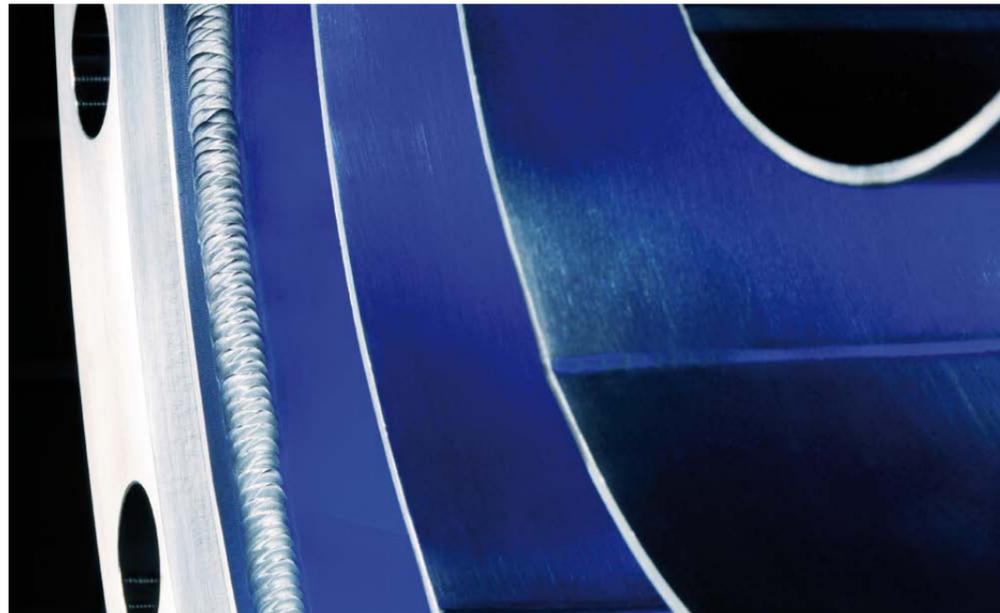
The WEDECO Quadron™ system is the ideal solution whenever the space available for installing a UV disinfection system is at a premium. With a reactor length of just 1,200 millimeters (47.24") and a maximum flowrate of 4,100 m³/h (26 MGD), this UV system offers tremendous flexibility and capability for water treatment plants large and small.

The unique shape, in conjunction with the patented OptiCone™ flow diverter at the inlet, guarantees excellent flow conditions at every installation situation. Even with a close coupled 90 degree bend, the OptiCone™ still ensures even flow distribution without turbulence or cavitation.

Fitted with variable power medium pressure UV lamps, the Quadron™ system is designed for high performance in order to ensure successful disinfection and is ready for every eventuality. The chemical-free cleaning system and one sensor-per lamp monitoring system ensure that correct UV dose is always applied.



The deactivation of bacteria, viruses and parasites with the help of ultraviolet (UV) light is a tried-and-tested environmentally friendly disinfection method. The ultraviolet light changes the hereditary information (DNA) of the germs and thereby prevents further cell division. More than 99.99% of all pathogens can thus be rendered harmless in a matter of seconds.

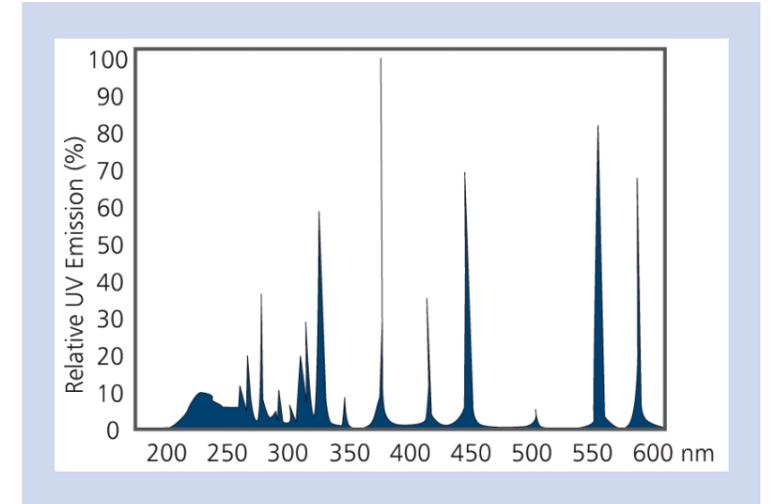


Better Safe than Sorry

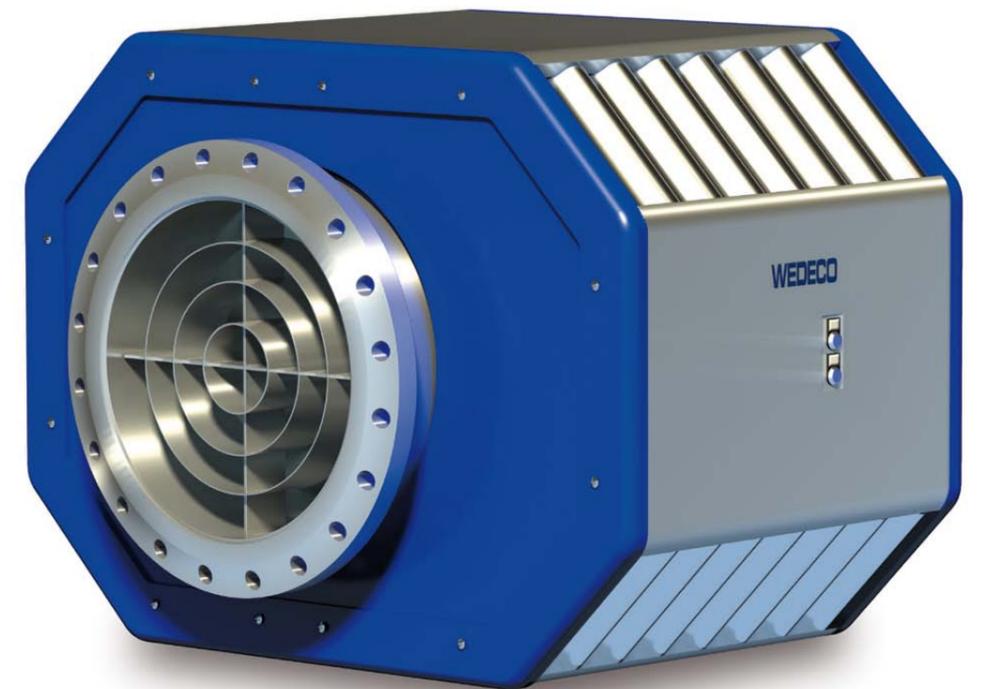
The safest choice in the medium pressure range

During the validation of the WEDECO Quadron™ system in accordance with the US Environmental Protection Agency's UV Disinfection Guidance Manual (UVDGM), not only different quartz sleeves materials have been tested but also other influencing factors, such as the spectral absorption of the water (between 200 and 320 nm). This is more advanced than other medium pressure system validations where performance related to the wavelength between 200 and 240 nm were not appropriately addressed.

As a result of the extensive validation testing conducted for the Quadron™ unit, it is now possible to safely design and operate a medium pressure drinking water system with appropriate consideration of all influencing parameters, including those present at the 200 to 240 nm wavelengths.



Thanks to its compact dimensions, high UV performance and optimized flow conditions, the WEDECO Quadron system is the ideal alternative to chlorination systems or outdated UV systems.



Efficient Disinfection, Through Superior Design



From the bend to the straight

The patented OptiCone™ flow diverter is the result of intensive development work using complex Computational Fluid Dynamics (CFD) simulations. Using its three guide pipes, the diverter channels the flow into the optimum distribution across the lamps. Even with 90 degree feeds, the OptiCone™ still achieves even flow distribution without turbulence or cavitation.

Field bus reduces installation effort

A compact junction box is used to gather all sensor signals and field bus technology is used to transfer these to the control cabinet. This considerably reduces the wiring work required locally and makes the installation less susceptible to electrical interference signals.

Consistent performance across the entire length

The WEDECO Multiray™ high performance medium pressure UV lamps span the entire radiation chamber, irradiating the complete water column. This ensures even disinfection right into the last corner. Each Multiray™ lamp is monitored by its own US EPA-compliant UV sensor. A chemical-free cleaning system cleans the quartz sleeves and the windows of the sensors automatically, thereby guaranteeing a consistent high level of disinfection.



Maintenance made easy

All fittings are easy to access and are arranged along one side to simplify regular maintenance. In addition to UV lamps, it is also possible to replace the sensors quickly and easily without having to empty the radiation chamber. A service hatch enables work to be carried out inside the system. The wiper rings can be changed with ease without requiring tools.

Square design reduces pressure loss

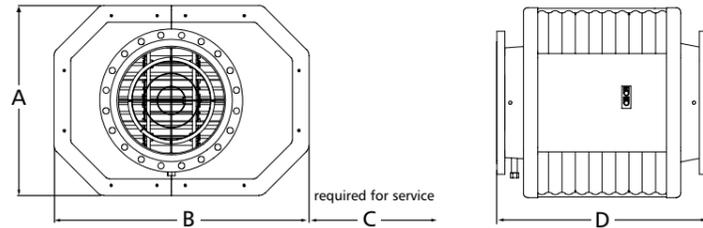
Unlike other medium pressure systems, the square design means that there are no dead zones in the flow. This means that there is very little head loss and no need for additional pumps either up- or downstream. Combined with the OptiCone™ the design results in optimal flow distribution.



The electronic ballast is optimized to the UV lamps to create a particularly high level of operational safety and long lamp life.

The output is continuously adjustable from 30-100%, allowing the automatic dose controller of the Quadron™ system to always operate at maximum efficiency. Thus, increasing the UV systems lamp life and minimizing power consumption.

Optimal Dimensions for Safe Disinfection



System	
Max. flow capacity	4,100 m ³ /h (26 MGD)
Standards	CE, UL
Certificates & Validations	US EPA (UVDGM)
UV Reactor	
Material	SS 316L, pickled
Flange connections	DN 600 PN 10/ ANSI 24"
Dimensions approx.	A 1078 mm (42") B 1448 mm (57") C 1200 mm (47,24") D 1200 mm (47,24")
Volume approx.	400 l (105,67 gal)
Total weight, dry approx.	800 kg
Operating pressure, max.	10 bar (145 psi)
Mounting	horizontally or vertically
Reactor case	optional
Flow diverter	yes
Automatic wiping system	yes
UV Lamps	
Type	WEDECO Multiray™
Quantity	5
Dose pacing (PLC controlled)	30-100%
Calibrated UV Monitoring System	
UV sensor	Germicidal acc. to US EPA requirements
Standard output signal	0/4 - 20 mA
UV Sensor Quantity	5
Electrical Cabinet	
Type	Painted sheet steel enclosure, stand-alone
Weight approx.	750 kg
Power supply	400-480 V / 50 - 60 Hz (TN-net)
Dimensions approx.	1800 x 2100 x 600 mm
Mains terminals	3ph, PE

Engineering & Expertise



Know-how in treatment technology

You can rely on the know-how of our engineers and technicians to help you choose the right system for your needs. All recommendations for the design of your system are based on many years of experience, complex calculation methods, and take account of local validation and certification standards.

TotalCare Service

Our global network of local service centers and partners offer comprehensive service to support secure, efficient and reliable operation. Our first priority is to support you and to maintain your systems for the duration of their service life. This is reflected in our solutions, which include proactive maintenance activities, thereby increasing the reliability of your system and optimizing its energy consumption.

Our broad knowledge and unrivalled expertise in the field of disinfection along with our full range of highly-developed UV systems make WEDECO a reliable partner for the application of UV technology in the treatment of drinking water.

Original WEDECO spare parts feature high quality standards and guarantee you excellent disinfection performance for your systems. The manufacturer, system and process guarantees remain in place, while conformity with regional standards and directives is assured.



Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots
- 2) A leading global water technology company

We're 12,000 people unified in a common purpose: creating innovative solutions to meet our world's water needs. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. We move, treat, analyze, and return water to the environment, and we help people use water efficiently, in their homes, buildings, factories and farms. In more than 150 countries, we have strong, longstanding relationships with customers who know us for our powerful combination of leading product brands and applications expertise, backed by a legacy of innovation.

For more information on how Xylem can help you, go to xylem.com.



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