Spektron e UV series

SHINING NEW LIGHT ON DRINKING WATER DISINFECTION

WEDECO
a xylem brand

Let's disinfect drinking water, no matter what.

The WEDECO Spektron series shines new light on the environmentally friendly process of using UV disinfection for drinking water. Featuring highly efficient ECORAY® UV lamp technology and advanced flow distribution, the Spektron series suits modern drinking water treatment plants, regardless of local pipe conditions, energy costs or local legal requirements.

The Spektron range covers a wide array of applications from domestic water supply and industrial uses to large municipal water plants with a capacity of more than 10 MGD per unit. Equipped with a chemical-free wiping system, Spektron reactors can handle water qualities as low as 70% UV transmittance (UVT).

The product range meets the requirements of recognized regulations for safe and environmentally friendly water disinfection: they are certified according to Austrian ÖNORM, German DVGW directives, and are validated according to US EPA´s UV Disinfection Guidance Manual (UVDGM).

Superior UV monitoring & control devices enable variable power output (dose pacing), resulting in excellent performance while minimizing energy consumption under all operating conditions.

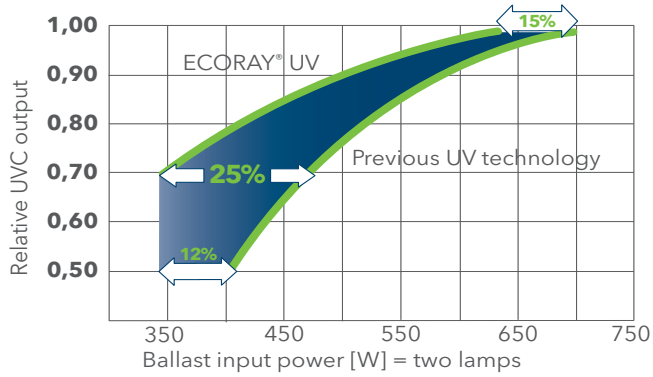
Advantages at a glance

- Environmentally friendly disinfection without the risk of harmful by-product formation (such as THM's in chlorination)
- Compliance to established standards (DVGW, ÖNORM, UVDGM) by extensive biodosimetric testing assures safe disinfection
- Minimized energy consumption through the use of the latest ECORAY® UV lamp technology and variable power control
- Reduced maintenance required due to automatic wipers for high fouling / scaling water
- Excellent performance monitoring by latest sensor technology and sophisticated control system
- Optimized hydraulics due to its unique CrossMix or OptiCone™ flow diverter
- Multiple flange and mounting options available for easy installation

The Spektron units are equipped with the latest ECORAY UV lamp and ballast technology. The monochromatic UV lamps emit UV light at a wavelength of 254nm, which is highly effective for the inactivation of pathogens.

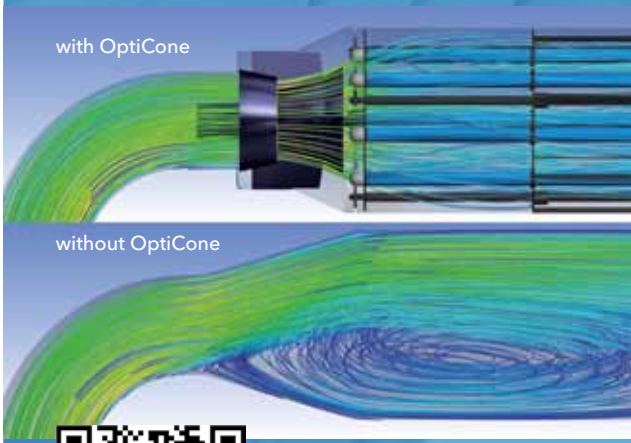
Used in combination with the variable power option, the lamps feature excellent energy efficiency under all operating conditions. Particularly in dim mode, they realize average savings up to 20 percent of the energy and use up to 80 percent less mercury than the previous lamp generation. With respect to sustainability, the UV lamp's associated power savings translate to an atmospheric reduction of up to 1,100 lbs. of CO_2 per lamp over the lamp's life cycle.

In addition, ECORAY UV lamps provide long-lasting, trouble free operation due to excellent, validated aging properties and improved overall robustness.



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 targeted germs and bacteria, thereby preventing further cell division. More than 99.99% of all pathogens can thus be rendered harmless in a matter of seconds.

WEDECO's forward-looking flow distribution concept is the result of intensive development work using complex Computational Fluid Dynamics (CFD) simulations. The patent pending OptiCone™ flow diverter channels large flows into the optimum distribution across the lamps, regardless of the inlet piping conditions.



More features.
Less compromises.

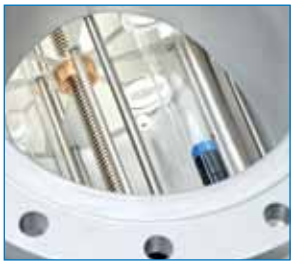
Leading sensor technology
The UV performance will be continuously monitored by an ÖNORM compliant UV sensor that fulfills reference sensor requirements. The sensor also contributes to the optional vario control mode which modulates UV lamp output to the actual level needed to meet the UV dose required.

Irradiation chamber
The ECORAY UV lamps are installed parallel to the flow in quartz glass tubes. The water runs past the quartz tubing and is irradiated by the UV light.

Multiple flange options make the systems a good fit for a wide range of flow rates and installation requirements.

Optimized hydraulics for every installation
Optimal disinfection results require uniform velocities throughout the reactor chamber. The Spektron's patented flow diverters ensure uniform velocities across a wide variety of piping conditions. The smaller Spektron units feature the CrossMix flow diverter, while the larger systems are equipped with the OptiCone diverter.

Ballast & control cabinet features variable UV output
The control cabinet houses the ECORAY ballast cards as well as a sophisticated control & monitoring system. The vario control enables the variable UV output of the lamps to be adjusted according to the actual water quality and flow. This option avoids over dosage and also reduces energy consumption and lamp wear out.
The ECORAY lamps are designed to operate most economically in dim mode. Customer interface signals allow for remote diagnostics and control.



Automatic wiping system
The optional motor driven, automatic wiping device keeps the sleeves clean and eliminates the need for regular manual cleaning. The wiping system is chemical free and thus eliminates the risk of chemical contamination of the drinking water in case of leakage.

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.

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

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 UV system and optimizing its energy consumption.

Multiple flange and mounting options allows an easy fit into local piping conditions. Since the first Spektron installation in 2006 (background picture), more than 2,000 units are currently in operation world-wide .

Technical Data

Features	30e	50e	90e	180e	250e	350e	650e	900e
System								
Max. Flow rate (MGD)*	0.31	0.64	0.96	1.4	2.5	2.6	7.9	11.4
UVT range in % (1 cm)	> 70							
Standards	CE, UL, cUL							
DVGW certification	Yes							
ÖNORM	Yes							
US EPA UVDGM 2006 validation	N/A				Yes			
UV lamps and monitoring system								
Type of UV lamps	ECORA Y® low pressure high output							
Power per lamp (W)	315		210	315				
Number of UV lamp	1	2	3	3	4	6	8	12
Lamp certification	3rd party on aging and UV-C output							
UV intensity monitoring	germicidal, ÖNOR M compliant, reference quality							
Dose pacing (variable power)	50 - 100 %							
Individual lamp monitoring	Yes							
UV vessel								
Flange connection options	DN 80 ANSI 3″	DN 100 ANSI 4″	DN 125 ANSI 5″	DN 150 ANSI 6″	DN 200 ANSI 12″	DN 250 ANSI 14″	DN 300 ANSI 18″	DN 400 ANSI 20″
Vessel dimensions (W x H x D in)	80.71 x 11.02 x 8.27	80.91 x 14.41 x 10.95	78.03 x 18.50 x 15.35	90.35 x 18.50 x 15.35	DN: 96.26 x 22.64 x 18.50 ANSI: 96.26 x 22.64 x 18.98	DN: 107.24 x 24.21 x 20.67 ANSI: 107.09 x 24.80 x 20.87	DN: 115.75 x 31.89 x 28.54 ANSI: 111.81 x 32.68 x 28.54	DN: 111.42 x 32.68 x 28.54 ANSI: 110.63 x 32.68 x 28.54
Automatic wiping system	Optional							
Flow diverter	N/A		CrossMix®		OptiCone™			
Protection class	NEMA 4X / IP 65							
Electrical cabinet								
Dimensions (W x H x D in)	23.62 x 23.62 x 17.72							
Protection class	IP 54 / cUL Type 12							
Power consumption (kW) approx.	0.55	0.95	1.25	1.55	1.80	2.60	4.00	5.5
Mains terminals	3L / N / PE V 400-480 / H 50-60							

* At 98% UVT, 40 mJ/cm²

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

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, long-standing 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 **www.xyleminc.com**

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Let's Solve Water

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