Duron UV Disinfection System

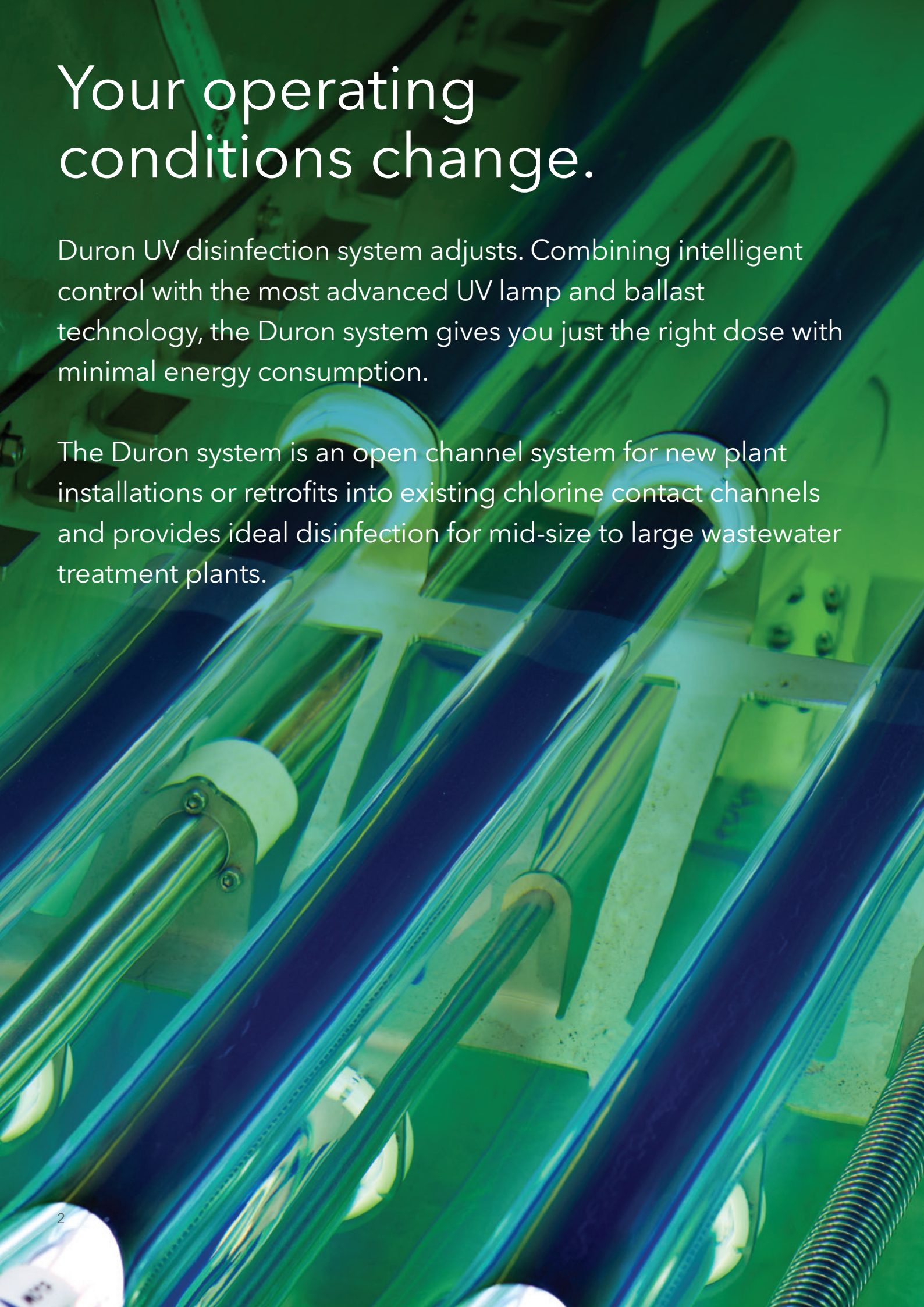
YOU ADJUST TO CHANGING CONDITIONS
IT'S TIME YOUR UV SYSTEM DOES TOO

WEDECO
a xylem brand

Your operating conditions change.

Duron UV disinfection system adjusts. Combining intelligent control with the most advanced UV lamp and ballast technology, the Duron system gives you just the right dose with minimal energy consumption.

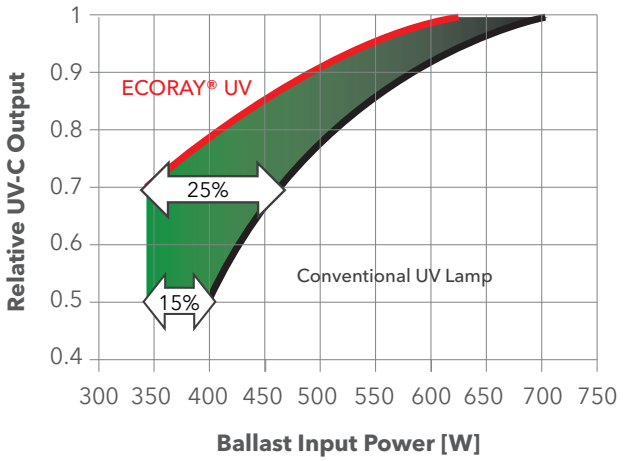
The Duron system is an open channel system for new plant installations or retrofits into existing chlorine contact channels and provides ideal disinfection for mid-size to large wastewater treatment plants.



Lowers your energy consumption by up to 20%

- **Intelligent control is the key.** The sensor-controlled OptiDose monitors your operating conditions in real time – flow, UV transmittance, and UV intensity. Then, with proven control logic, OptiDose adjusts the energy consumption to the minimum required to meet dosing requirements. You get the dose you need, using the minimum amount of energy. That saves you money.
- **Ecoray® lamp and ballast technology** gives higher relative UVC output than conventional low-pressure, amalgam UV lamps when operated in dimmed mode. By automatically dimming the lamps to match the dosage you need, you save energy from improved efficiency during the majority of operating conditions. The Ecoray 600 Watt (W) lamp also has higher energy efficiency than more powerful lamps, further reducing energy costs.
- **Optimized hydraulics ensures superior dosage distribution,** for more effective disinfection with reduced energy consumption.

UV-C Output in Dimmed Power Mode



Validated performance you can trust

- **Third party validations** for wastewater and water reuse applications provide assurance that you will meet your most demanding disinfection requirements. Duron systems have been tested and are validated to:

  The US EPA UV Disinfection Guidance Manual (UVDGM),

  The International Ultraviolet Association (IUVA) uniform protocol for wastewater UV validation applications, and

  The National Water Research Institute (NWRI) 2012 Guidelines for Drinking Water and Water Reuse - the first inclined open channel UV system to receive conditional approval from the California Department of Public Health (CDPH).

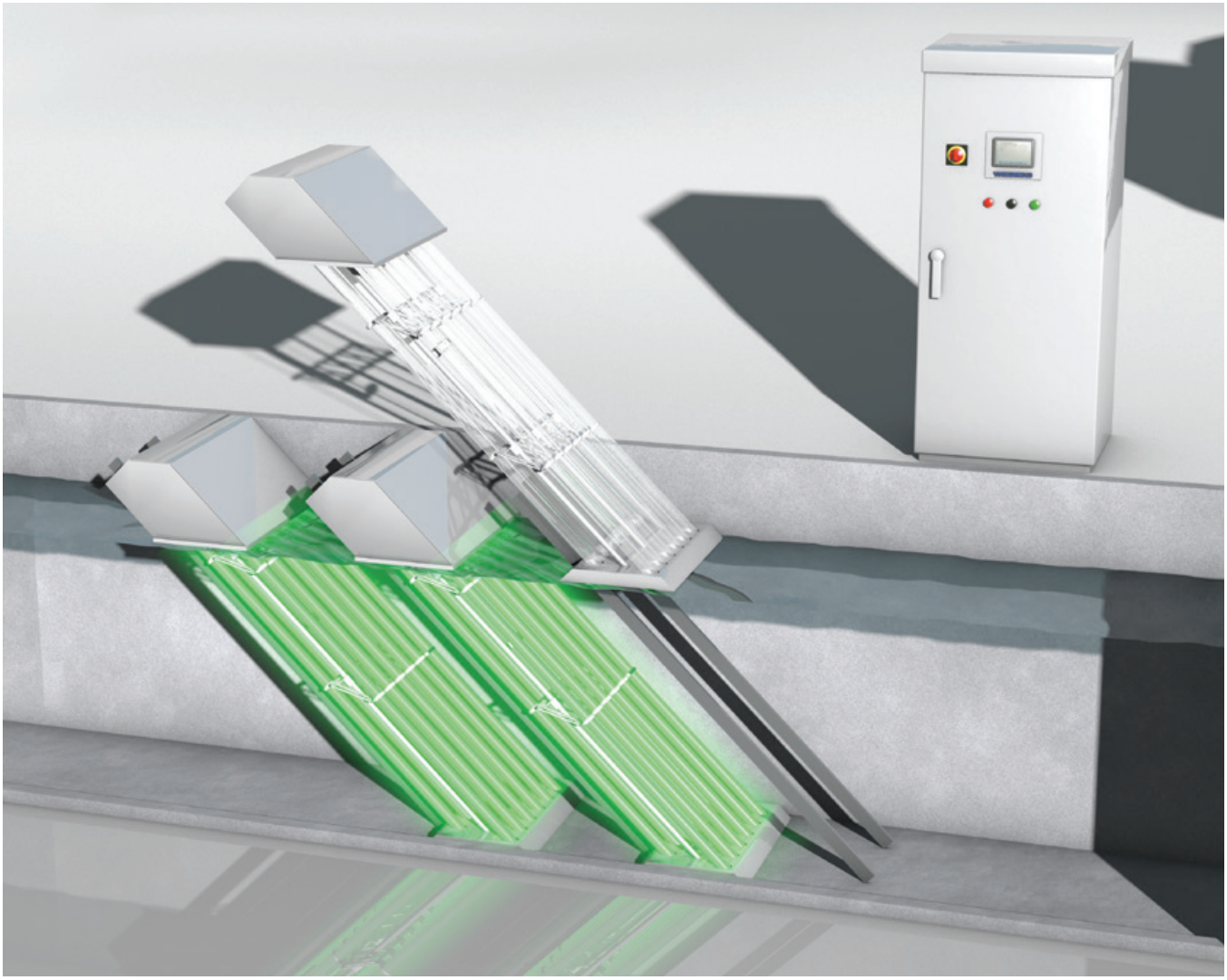
  The Duron UV system has also been approved by the Veterinary Institute in Norway - demonstrating compliance to aquaculture requirements.

- **Custom designed to meet your conditions.** The Duron UV system has been validated with multiple challenge organisms, at varying flows and a wide range of UV transmittances (UVT). The Duron UV system's validation envelope is one of the largest in the industry, ensuring the performance you need to meet your specific water quality, plant conditions and treatment objectives with no compromise.
- **Extensive validation saves in capital costs.** With our validated dose design, applying the D_L approach[1], Wedeco can fine tune the design to match your water quality, operating conditions and discharge requirements. This design approach ensures that your system design is not over or under sized. Optimizing for your specific site requirements gives you the smallest possible UV system without compromising performance – saving you capital costs now and operational costs for the life of your system.

[1] The D_L approach determines the dose required for each log reduction based on the site specific microbe's UV sensitivity.

Lower capital costs

- **Low lamp count plus ease of handling.** The Ecoray 600 Watt (W) lamps provide the exact dosage you need while limiting the total number of lamps. The low lamp count is balanced with the 4.6 feet (1.4 meter) lamp length that is easy for operators to handle.
- **Smaller footprint and shallower channels.** The Duron system's 45 degree inclined UV installation lowers building costs by reducing channel depth while maintaining a small footprint.
- **Module lifting requires no overhead crane.** Equipped with a unique compact sliding mechanism for automatic module lifting, the modules do not require a crane to be lifted out of the channel, resulting in more cost savings for you.
- **Flexible modular design tailors the system to meet your site conditions.** Variable bank sizes and outstanding flexibility in bank quantities make the Duron UV system the best choice to fit your requirements. Upgrade options allow you to design a system that you can easily adapt to accommodate either higher flow rates or new regulations in the future by adding additional UV banks. Wedeco can help you custom design your system for the exact number of lamps you need in the layout that works best for your plant.



Easy maintenance

- **Change lamps fast and easy – without removing the module.** Saves operator time and gets the module back in service quicker.
- **Duron cleans sleeves automatically, with a chemical free wiper system.** Keeping the quartz sleeves clean maintains peak efficiencies, and reduces maintenance – all without adding chemicals. Wipers consist of specifically designed PTFE wiper rings, proven effective in thousands of installations and independent 3rd party tests. In effluents with particularly high fouling potential, Duron systems can alternatively be equipped with stainless steel wiper rings. Got seriously tough water? The Duron UV system is up to the challenge.
- **Lift modules with the touch of a button.** Some maintenance - such as wiper ring or sensor replacement - requires lifting the module. The unique automatic mechanism will lift an individual module, while other banks of modules remain in service. Operator access is quick and easy, requiring no crane or additional floor space. You get continuous treatment even during maintenance. For seasonal operations, modules can be lifted out of the channel and left in the raised position – saving you storage space.
- **Access electrical components and connections easily.** All components are out of the water for quick access. Ballast cards are separated from UV lamp modules for easy maintenance and operational stability. Cabinets are rated for indoor or outdoor service, giving you added flexibility in constructing or retrofitting your plant.

Safer for your employees, your community, and the environment

- **UV disinfection eliminates the dangers of chlorine and sulfur dioxide storage.** By eliminating gaseous chlorine for disinfection and sulfur dioxide required for dechlorination, you make your treatment plant and the surrounding community safe from accidental leaks.
- **UV inactivates up to 99.99% of pathogens - without formation of harmful disinfection byproducts produced by chlorine.** UV disinfection has been proven effective against all pathogens, including bacteria (e.g. fecal coliform, e. coli, and enterococci), viruses (e.g. poliovirus), and parasites (e.g. Cryptosporidium and Giardia).
- **UV adds no harmful chemicals to the water.** Chlorination and dechlorination add harmful chemicals that reduce the reuse options of the water and damage the environment. UV eliminates the need for these chemicals.
- **Reduced mercury content.** Ecoray 600 Watt (W) lamps have up to 80% less mercury than other lamps, reducing the life cycle environmental impact. Wedeco also recycles old lamps from customers at no charge.
- **Duron UV systems keep operators safe.** Safety switches automatically de-energize UV modules prior to lamp replacement or lifting of the module, protecting operators from UV light exposure.
- **Separation of electrical components gives you additional safety.** The electrical components of the Duron UV system, including the ballast cards, are housed in separate cabinets, away from the lamps and the water – keeping your operators safe.

The Duron UV system draws together the superior experience and knowledge of Xylem.

Xylem pioneered UV disinfection for wastewater. With over 30 years of experience, and thousands of disinfection solutions worldwide, we have the experience to solve your toughest disinfection problems. We have brought together the best of our experience, including the Ecoray 600 Watt (W) high efficiency lamp, to the Duron system.

With unparalleled control, energy conservation, reliability and ease of operation, the Duron UV system can be custom designed and sized to fit your exact needs. Whether your application is wastewater disinfection following primary, secondary or tertiary treatment, combined sewer overflow treatment, or a water reuse treatment need, Wedeco can help you determine the exact system to meet your requirements.

Ongoing support with Xylem TotalCare

With Xylem's TotalCare, you receive ongoing support, trouble-shooting, and optimization for years of worry free operation. From phone support to full remote data collection, reporting and alarming, we are committed to your success.

Duron UV system promise

Energy conservation, capital cost savings, and the lowest life cycle costs combined with uncompromising performance and ease of operation – that is the Duron UV system promise.

You adjust to changing conditions. Now your UV system can too.

Call us and let us show you how.

Xylem |'zīləm|

1) The tissue in plants that brings water upward from the roots;
2) a leading global water technology company.

We're a global team 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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xylem
Let's Solve Water

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