
# Water Solutions

xylem
Let's Solve Water
OFFICIAL DISTRIBUTOR
Free Line group
CENTRAL ASIA

WEDECO
a xylem brand


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# WEDECO

## A Xylem brand

We have accepted the challenge of the 21st century. With the WEDECO brand for UV disinfection and Ozone oxidation, we own the advanced technologies for chemical-free and environmentally friendly treatment of drinking water, wastewater and process water, as well as further industrial treatment processes.

# Responsibility

The broad outline of our business is to realize the best possible solution for mankind and the environment, as well as the most economical solution for our clients. Our hightech water treatment systems ensure that:

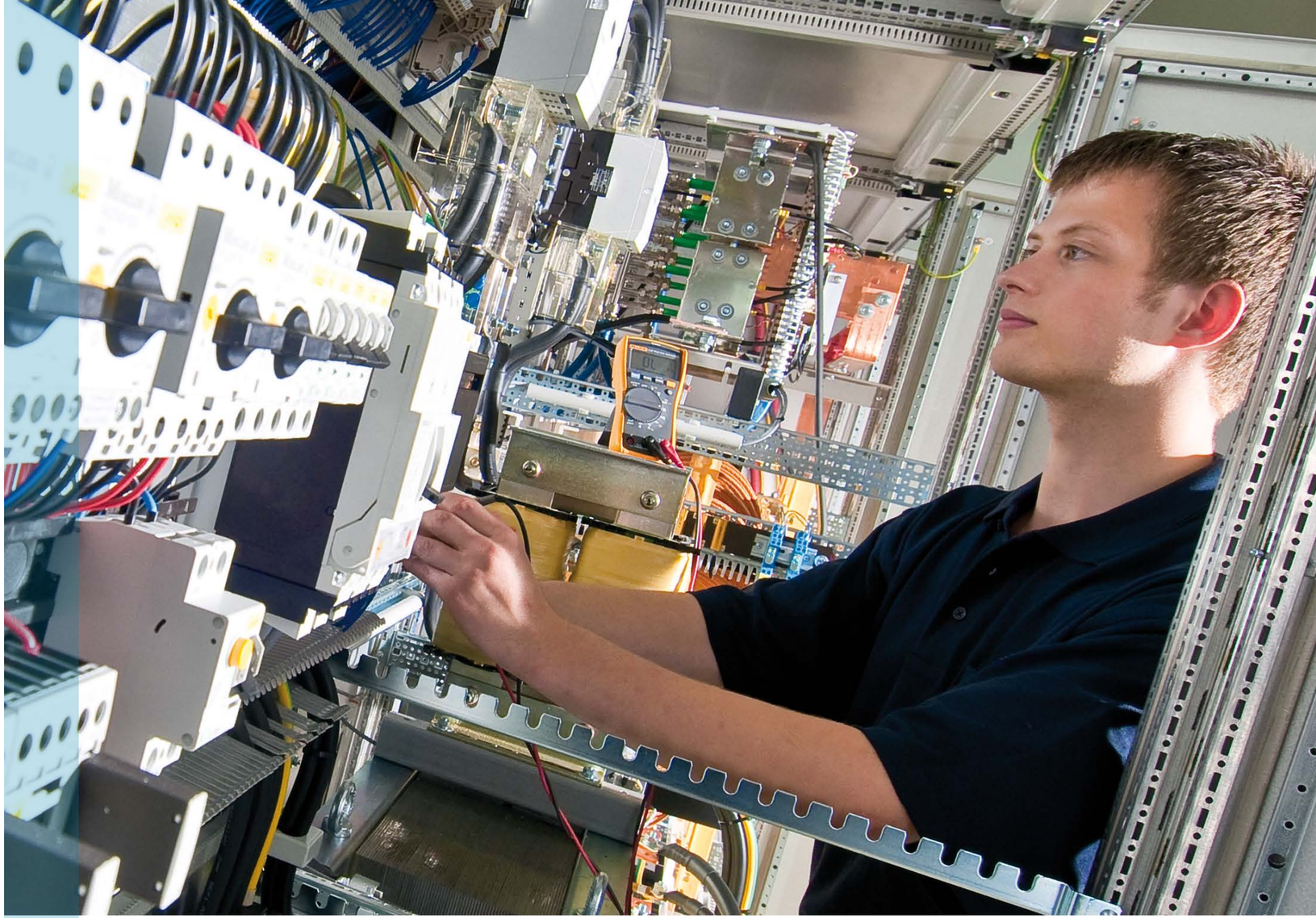
» Water can be recycled and reused
» Water for human use does not cause illness
» Water treatment does not impose a burden on the environment

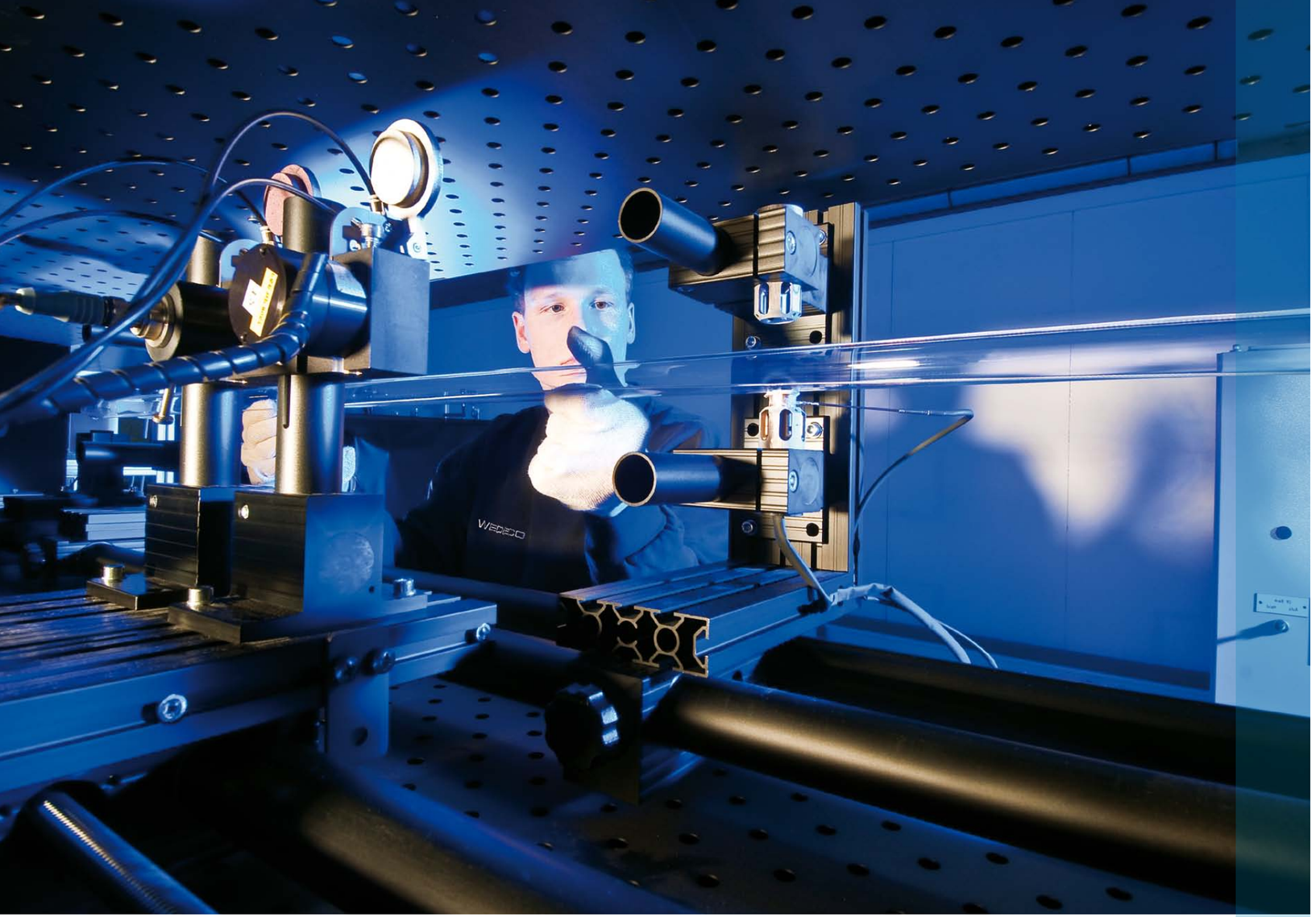
We constantly invest a large portion of our energy in the development of hightech components, systems and equipment, as well as in the study of new areas of application for UV and Ozone. In doing so, we have always given special attention to the increase in energy efficiency of our WEDECO products.

# WEDECO - Hightech made by Xylem

WEDECO systems for UV disinfection and Ozone oxidation are among the best and most progressive systems in the area of water purification. It is not just the many years of experience and the mechanical skills of highly qualified specialists that are behind this success. We also plan, develop, and accurately engineer your solution. In doing so, the same production and quality standards always apply, from the smallest to the largest of installations.

Whether you require small UV devices for private use, standard systems, systems mounted on frames, containerized systems or planned large-scale installations for industrial or municipal applications: all WEDECO UV and Ozone systems and their core components are developed, produced and finally tested in the German Xylem facilities in Herford and Essen.





# Passionate Researchers

We have continuously advanced the development of UV disinfection and Ozone oxidation through fundamental research. In doing so, we have become a pioneer in our field. Thanks to our innovations it is also possible to use these technologies in a sustainable manner today, for example for the disinfection of drinking water or in paper bleaching - in a more economically efficient way than ever before.

In close collaboration with research institutions and renowned companies as well as through direct co-operation with customers, new possibilities of applications have been developed and tried-and-tested techniques have been improved. For this purpose we provide modern, stationary laboratory equipment as well as mobile test systems.

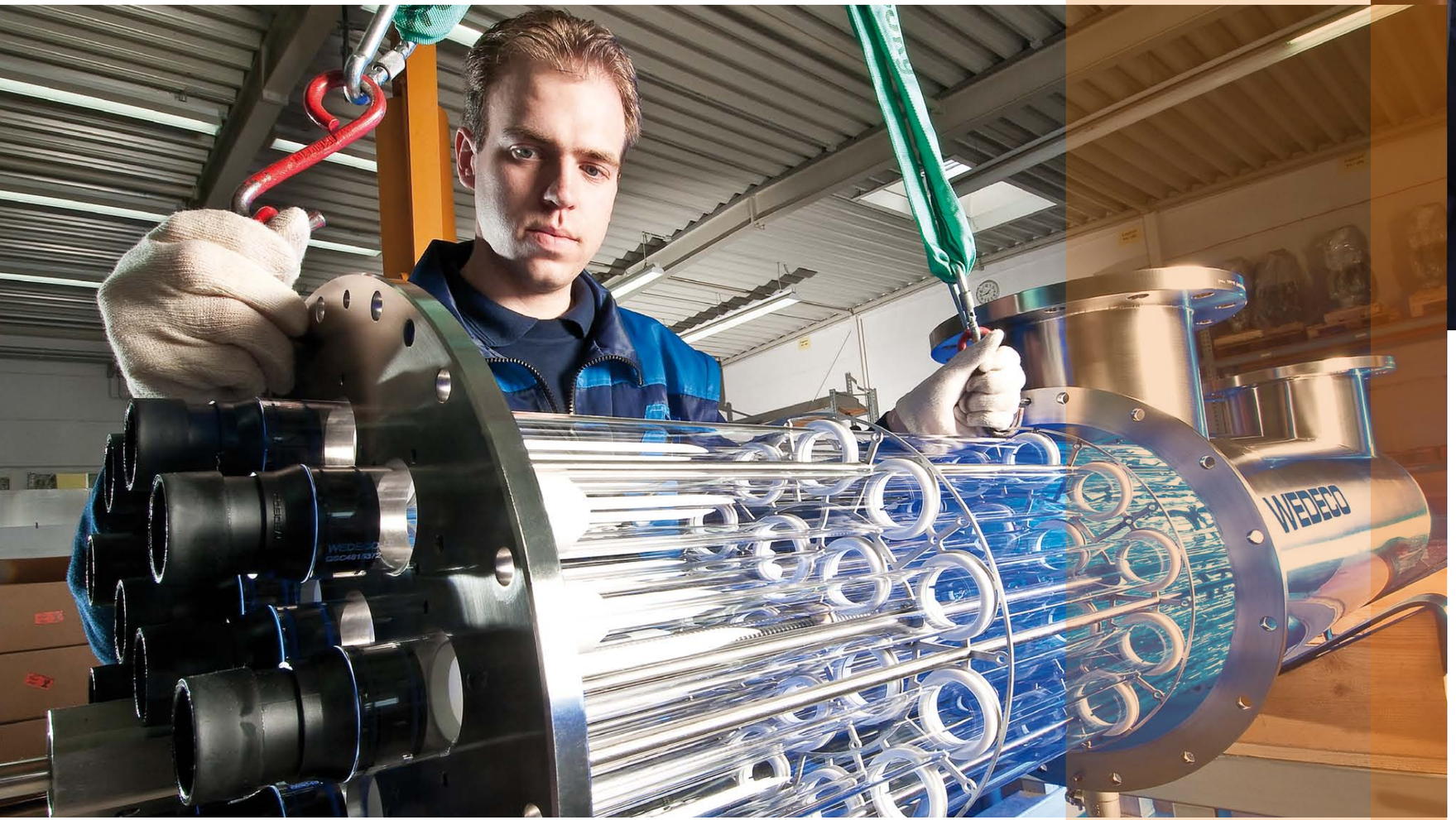
You can continue to expect well-engineered equipment and innovations from Xylem in the future. You are encouraged to fuel our passion for discovering new things by discussing your ideas with us.

# The WEDECO Asset: Our Employees

More than 12000 highly qualified employees at Xylem, 300 of them working at the production location in Herford, Germany, see to it that WEDECO systems belong to the best systems for water treatment in the world.

We consistently rely on well-trained and experienced specialists in every production step. Many of our employees - whether mechanics, fitters or electrical engineers - have already worked for over 20 years in our company. Highly qualified engineers and scientists, trained in the fields of chemistry, physics, micro-biology, process engineering, electronics and environmental engineering, contribute with their unparalleled expertise.







# WEDECO Quality

Whether you need to eliminate microorganisms in wastewater, disinfect public drinking water or treat process water for industrial purposes, the equipment used must function reliably and faultlessly. Therefore, we at Xylem attach particularly high importance to the quality of our WEDECO products and services. This starts with the selection of appropriate materials and goes through the entire development and production process, right up to certification in accordance with international standards.

# High-quality Materials for Lasting Use

Special rules apply in our company concerning the selection of appropriate materials: We only use materials and components which meet the requirements of the market and which are certified by supervisory authorities such as the DVGW (German Technical and Scientific Association for Gas and Water) if necessary. We also set high standards: Not only do the materials we use have to tolerate lasting contact with water and other highly corrosive media, they also require special material composition for intensive UV light or highly-reactive ozone treatment. We ensure our quality requirement by manufacturing as many components as possible ourselves. As such, Xylem is one of the few manufacturers of UV equipment with its own UV lamp production.

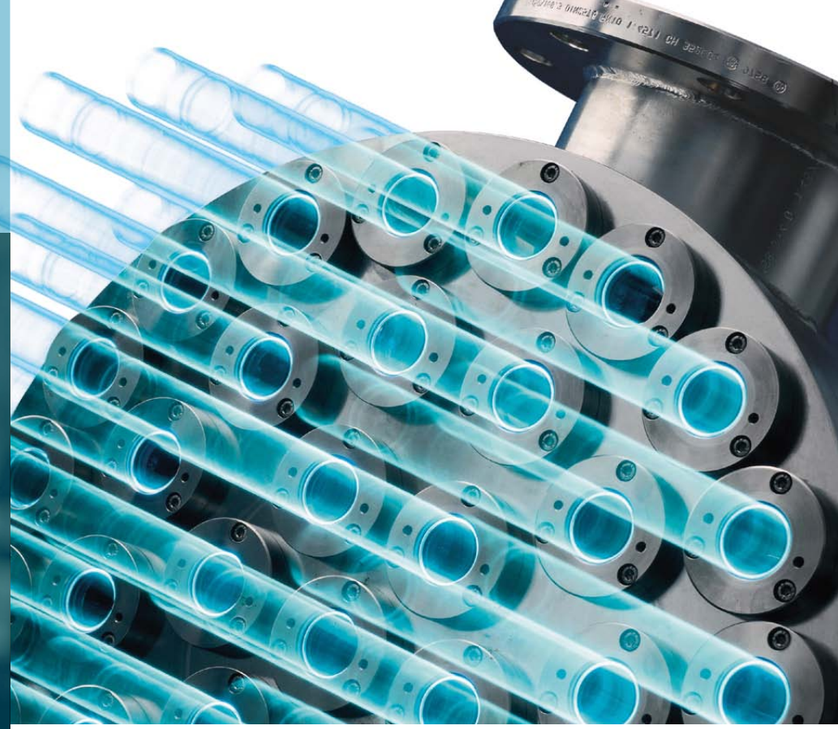
## Quality is relived each day

Beyond material quality, we rely on consistently high-quality standards in all divisions of the company. Our active quality management system is geared towards internationally applicable standards and now meets the current standard DIN EN ISO 9001. Moreover, product quality and manufacturing operations are constantly monitored and optimized in continuous “kaizen” improvement processes. Established quality controls give us and you the security of knowing that WEDECO UV and Ozone systems will always operate reliably.

# Certifications Create Confidence

In order to objectively support our quality statements, WEDECO equipment is certified according to the highest standards whenever required, such as the American UL standard for electronic components or the European pressure equipment directive (97/23/EC). In regard to water disinfection with UV light, we have even defined strict standards together with the German certification body in Bonn, which today meet with the highest recognition worldwide as DVGW certification (German Technical and Scientific Association for Gas and Water).

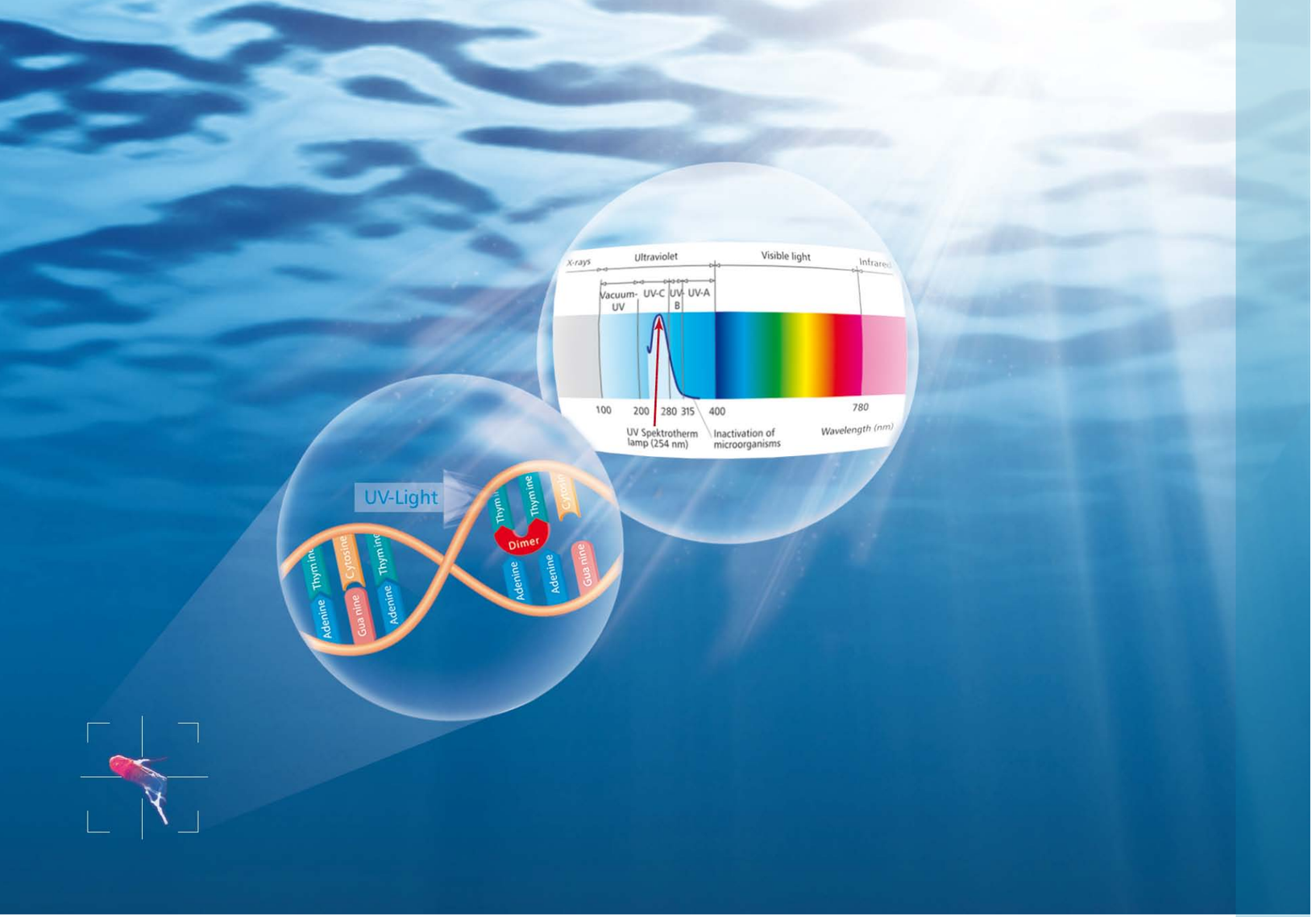
The general rule is: If meeting a regulatory requirement is required for permissible operation, there is always a WEDECO system which meets or exceeds that requirement, rest assured.



# UV Technology

## Disinfection with ultraviolet light

The use of chlorine, chlorine dioxide, hypochlorite and other chemical substances to disinfect liquids can result in effects which are detrimental to health and the environment. UV technology is the better alternative to chlorine disinfection. The intensively researched and technologically mature disinfection method with ultraviolet light is adapted from the natural action of sunlight.



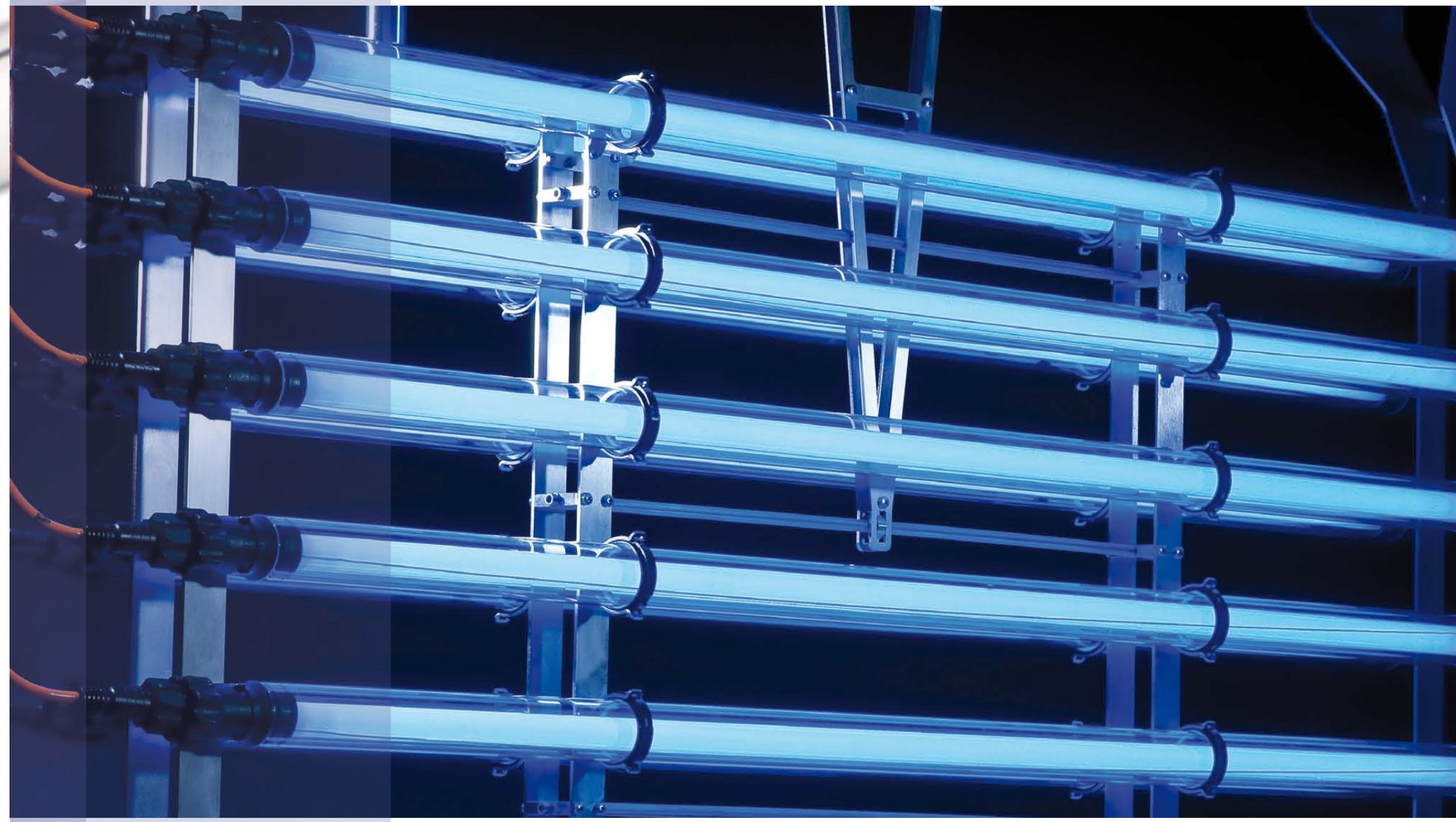

# How UV Disinfection Works

Ultraviolet light is energy-rich light with a wavelength of 200 - 400 nanometres (nm). UV light is very versatile and can be used for disinfecting water, destroying harmful microorganisms in other liquids, on surfaces, and in the air. The intensive UV-C radiation, most strongly in the wavelength range of 254 nm, reaches the microorganisms and impacts directly on their DNA.
By changing the DNA the cell division of the microorganism is interrupted - it can no longer reproduce itself and thus loses its pathogenic effect. With UV technology it is possible to destroy more than 99.99 % of all pathogens within seconds, without the addition of chemicals, without harmful side effects, inexpensively, highly efficiently and absolutely reliably.

WEDECO UV systems are suited for the disinfection of drinking water, process water, wastewater, salt water, ultrapure water and other translucent fluids, such as sugar syrup.


# WEDECO UV Lamp Technology

We at Xylem recognized the potential of UV disinfection and the associated lamp technology early on. Ever since, we have dedicated a large portion of our research to further development. The core of our work, which started more than 30 years ago, is the continual improvement of the performance and economic efficiency of our UV technology. The result has been a high-performance low-pressure UV lamp which sets benchmarks.

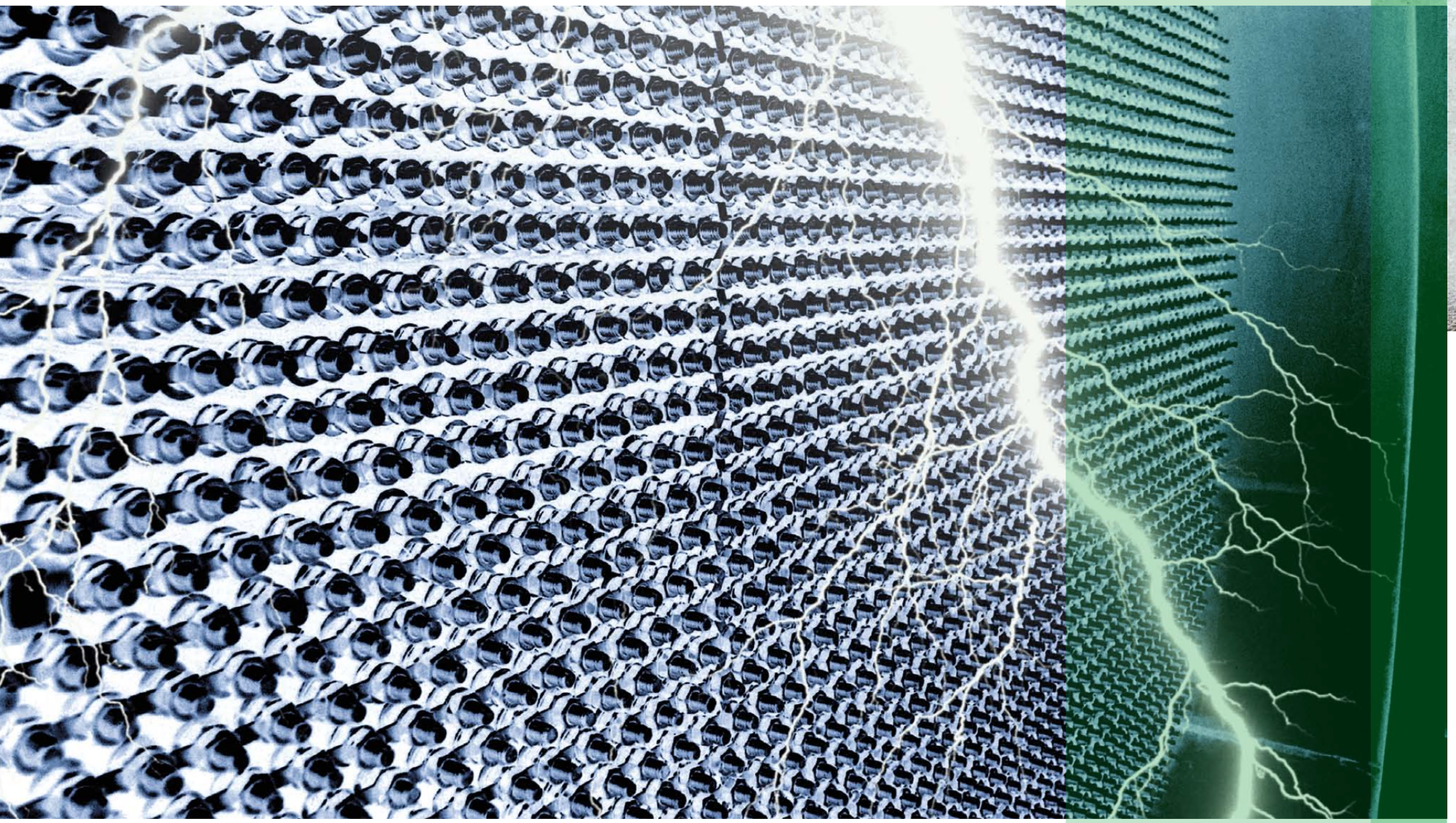


# Long-life & Energy Efficiency

The special characteristics of the WEDECO UV lamp are its special doping and the unique long-life coating. Because of these futures, a constantly high UV light yield is achieved with a substantially extended lamp service life at the same time. In addition, by using this technology it is not necessary to apply liquid mercury inside the lamp.

WEDECO UV lamps cannot be surpassed economic efficiency. In relation to expenditure of energy, the High-Intensity/Low-Pressure Technology provides a light yield three times higher than comparable UV lamps of widely used Medium Pressure Technology.

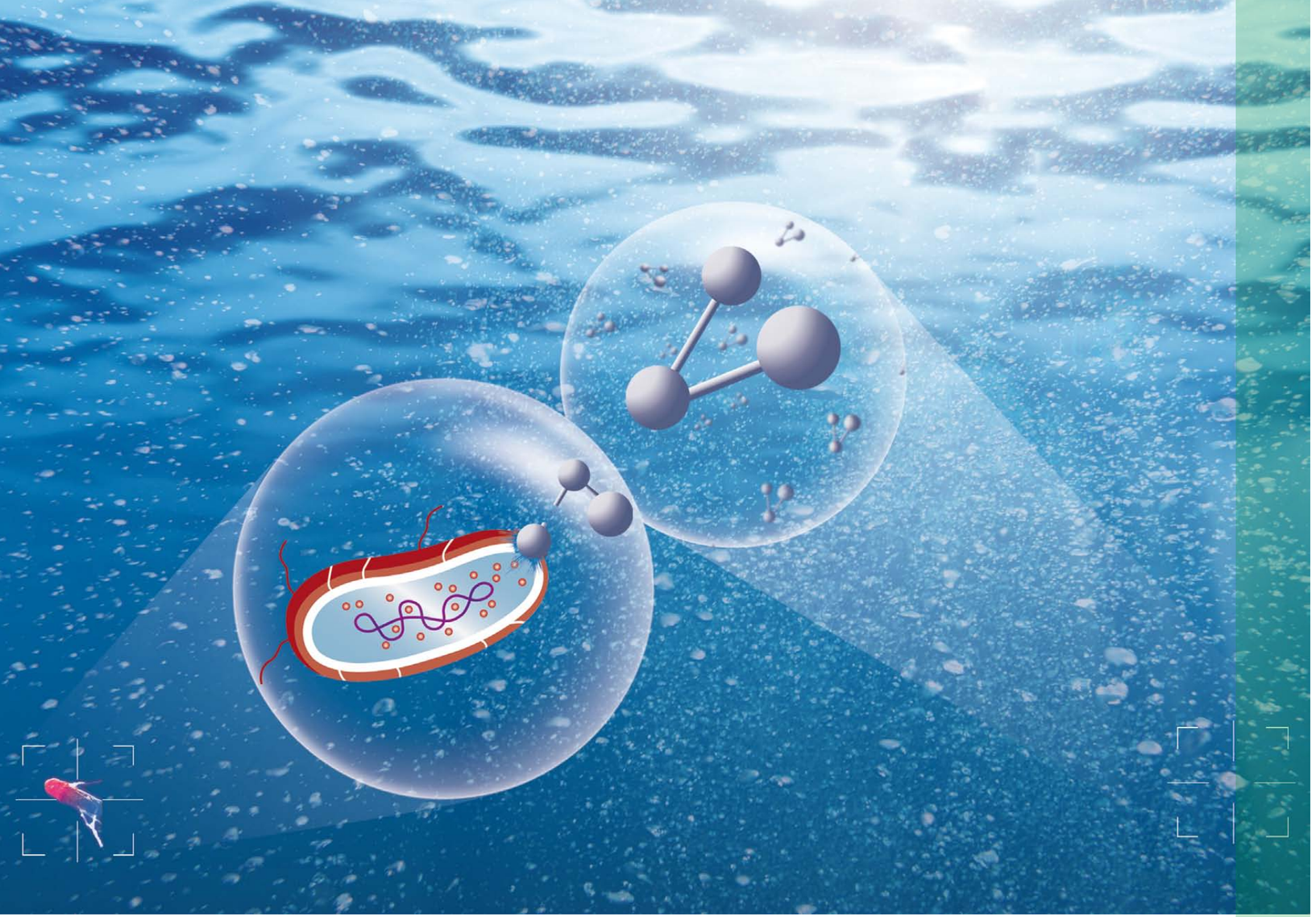
A higher light yield also means a lower heat generation at the same time. Thanks to this, WEDECO UV lamps become less susceptible to varying water temperatures. Even the formation of deposits on the quartz sleeves as well as lamp aging is considerably lower than with alternative UV lamp technologies.



# Ozone Technology

Ozone is one of the strongest industrially producible oxidizing agents, and is commonly used for the treatment of water in municipal and industrial applications. The special advantage of Ozone is the environmentally friendly way in which it works. Harmful substances, colors, odors and microorganisms are destroyed directly by oxidation, without the formation of harmful chlorinated by-products.

We at Xylem use this characteristic of Ozone with specially developed technology in a variety of applications. Apart from the treatment of drinking water and wastewater, our equipment is used in bleaching processes, such as paper bleaching as well as in other industrial oxidation processes.



# Hightech for the Environment

Ozone ($O_3$) consists of three oxygen atoms. Under normal near-earth conditions its molecular structure is unstable and thus the gas becomes very reactive. The Ozone molecule reacts quickly with a number of organic and inorganic compounds, either through directly acting on the Ozone molecule or indirectly through hydroxyl radicals that are created. Ozone is usually consumed completely by this oxidation process and decays back into oxygen. Any remaining Ozone in the off-gas is converted back to oxygen ($O_2$) by a residual Ozone destructor.

We developed a compact technology for maximum Ozone generation with exceptionally low operating costs: WEDECO Effizon® evo. By utilizing this technology, the production of large amounts of Ozone also becomes extremely economical and absolutely safe for both the environment and the operating personnel. The WEDECO Effizon® evo technology guarantees the highest performance and uncompromising reliability at the lowest total cost.

# Effizon® evo Technology

The Effizon® evo electrode makes reliability possible like no other system. These patented electrodes create Ozone according to the principle of silent electrical discharge from oxygen or air. A high voltage is applied between an grounded high-grade steel pipe and an electrode fixed in it. The electrode and the grounded tube are separated by a dielectric, which creates two discharge gaps for the gas flow: both on the inside and the outside of the dielectric. Some of the oxygen molecules in the feed gas break down in the electric field and immediately attach themselves to free oxygen molecules, forming Ozone.

# More Than Just Equipment Construction

Our project engineers know what needs to be done. If necessary, all important steps are planned, drawn, calculated and measured in advance from the idea up to the installation onsite. Interdisciplinary teams develop the projects together according to the focus. Although we specialize in water treatment, we also offer extensive experience in diverse applications, such as Ozone oxidation in paper bleaching, in sewage sludge disintegration or for surface treatment. In addition to a high-level of training, many years experience in international project management is our secret to success.

# Aftermarket & Service

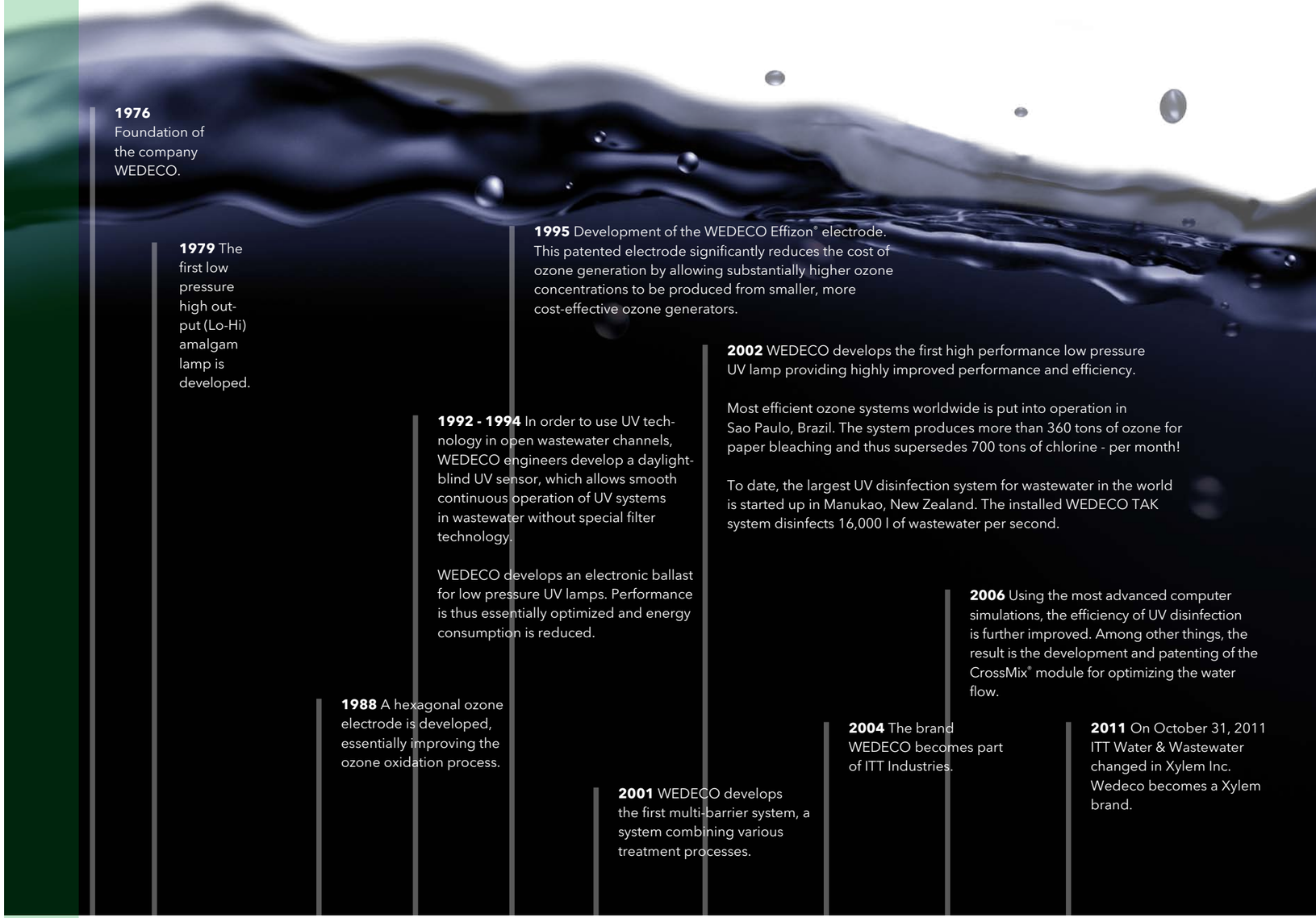
Around the WEDECO hardware you also acquire services that provides you with assistance from day one to ensure safe and efficient operation of your system. And you get this for the entire life of your system.

Wherever you are located, you can always count on the availability of WEDECO service. With a network of Xylem subsidiaries and contractors in more than 140 countries all over the world, the Xylem service and spare parts logistics makes certain your WEDECO system is running smoothly in no time at all.

# Milestones

The WEDECO success story began in 1975 with the formation of WEDECO Gesellschaft für Entkeimungsanlagen mbH and the establishment of the first small production facility in Herford, Germany. From the very beginning, the company's business policy was shaped by the vision of chemical-free and environmentally friendly water treatment.

Over the years, WEDECO has become a fixture within the world of environmentally friendly treatment of drinking water and wastewater with UV and Ozone technology. Milestones of the company's history are worldwide unique large-scale projects and inventions which made UV disinfection and Ozone oxidation an integral standard in the field of water treatment.



**1976**
Foundation of the company WEDECO.

**1979** The first low pressure high output (Lo-Hi) amalgam lamp is developed.

**1988** A hexagonal ozone electrode is developed, essentially improving the ozone oxidation process.

**1992 - 1994** In order to use UV technology in open wastewater channels, WEDECO engineers develop a daylight-blind UV sensor, which allows smooth continuous operation of UV systems in wastewater without special filter technology.

WEDECO develops an electronic ballast for low pressure UV lamps. Performance is thus essentially optimized and energy consumption is reduced.

**1995** Development of the WEDECO Effizon® electrode. This patented electrode significantly reduces the cost of ozone generation by allowing substantially higher ozone concentrations to be produced from smaller, more cost-effective ozone generators.

**2001** WEDECO develops the first multi-barrier system, a system combining various treatment processes.

**2002** WEDECO develops the first high performance low pressure UV lamp providing highly improved performance and efficiency.

Most efficient ozone systems worldwide is put into operation in Sao Paulo, Brazil. The system produces more than 360 tons of ozone for paper bleaching and thus supersedes 700 tons of chlorine - per month!

To date, the largest UV disinfection system for wastewater in the world is started up in Manukao, New Zealand. The installed WEDECO TAK system disinfects 16,000 l of wastewater per second.

**2004** The brand WEDECO becomes part of ITT Industries.

**2006** Using the most advanced computer simulations, the efficiency of UV disinfection is further improved. Among other things, the result is the development and patenting of the CrossMix® module for optimizing the water flow.

**2011** On October 31, 2011 ITT Water & Wastewater changed in Xylem Inc. Wedeco becomes a Xylem brand.

**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 xyleminc.com.

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