

ULTRAAQUA PRODUCT LINE

UV DISINFECTION EFFICIENT AND CHEMICAL-FREE WATER TREATMENT



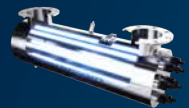
ULTRAAQUA
UV DISINFECTION SYSTEMS

WE PROTECT YOUR MOST VALUABLE RESOURCE

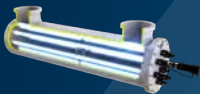
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UV SYSTEM SELECTION

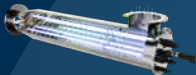
CLOSED VESSEL LOW-PRESSURE UV SYSTEMS



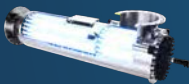
MONORAY™ SERIES6



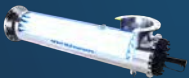
NON-CORROSIVE PP/PEHD SERIES 8



SSV DRINKING WATER SERIES 10



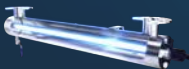
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COMPANY HISTORY

ULTRAAQUA IS AN INTERNATIONAL MANUFACTURER OF ADVANCED UV WATER DISINFECTION SYSTEMS FOR A WIDE RANGE OF WATER TREATMENT APPLICATIONS.

The company was founded in 1996 by two Danish scientists, with the mission of solving the increasing global water safety challenges, by combining extensive research, innovation, and technology. Today, more than 10.000 UV disinfection systems have been supplied worldwide, to help create a more sustainable world.

ULTRAAQUA operates through a carefully selected partner network, with activity in more than 120 countries. The partner network has been key to the success of ULTRAAQUA, making it possible to deliver cutting-edge UV disinfection systems across the globe.

Continuous research and innovation activities have made it possible to maintain the position of delivering cutting-edge solutions to clients with diverse requirements in different applications.

ULTRAAQUA
UV DISINFECTION SYSTEMS

TECHNOLOGY OVERVIEW & VALIDATIONS

THE UV SYSTEMS FROM ULTRAAQUA HAS UNDERGONE EXTENSIVE TESTING AND PASSED THE WORLD'S MOST RIGOROUS TESTS FOR VALIDATION AND APPROVAL BY RECOGNIZED LEADING CERTIFICATE PROVIDERS.

This means that reliable and thoroughly tested solutions are guaranteed.

ÖNORM M 5873-1

The SSV Drinking Water Series has been validated by the internationally recognized Austrian standard – **ÖNORM M 5873-1**. This allows the SSV series to offer ultimate security for drinking water disinfection.



The **DVGW certification** assures that critical technical requirements are met regarding hygiene, safety, and general functionality. DVGW is an unbiased technical-scientific association based in Germany, specialized in gas and water industries.

AMS

The **AMS (Analog Mixed Signal) verification** ensures that the electronic components are compliant with the latest industry-standard, allowing smooth and quick signal transmission among the electrical components used in data tracking and storage.



The **ETV-EU verification** is a third-party validation of new innovative environmental technologies, ensuring product credibility for the buyer.

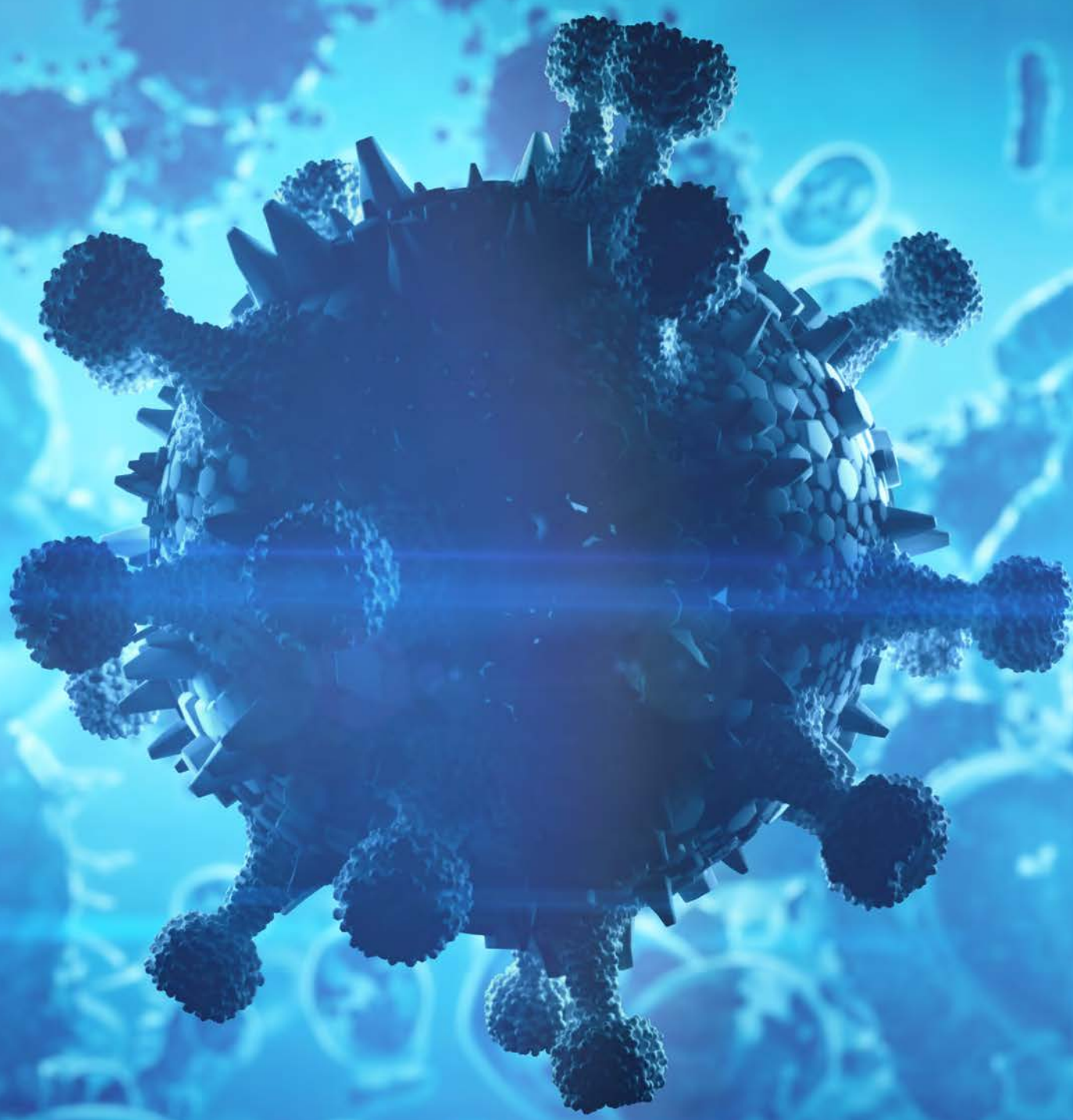


The **NIPH (Norwegian Institute of Public Health) type approval** ensures that all UV disinfection units meets the requirements for UV dosage. The approval means that ULTRAAQUA is able to distribute selected UV systems in Norway and The Faroe Islands.



The **Norwegian Veterinary Institute (NVI)** is the national leading center of expertise in biosecurity for fish and land animals. The ULTRABARRIER™ series has been officially approved by the NVI for intake water disinfection in the Norwegian aquaculture industry.

ULTRAAQUA
UV DISINFECTION SYSTEMS



CORE BENEFITS OF UV

UV TECHNOLOGY IS A GLOBALLY ACCEPTED SOLUTION FOR WATER DISINFECTION, EFFECTIVELY INACTIVATING BACTERIA, VIRUSES, AND PROTOZOA.

The demand for cost-efficient solutions to provide clean water are at an all-time high and will only increase in the future. UV disinfection solves this complex challenge, being able to meet the strictest requirements regarding bacteria and virus protection.

Due to recent developments, UV disinfection is now an effective alternative in a wide range of water qualities and applications. Improved technological and design configurations has made UV a viable OPEX and CAPEX solution for disinfection processes as well as in more advanced applications such as AOP processes.

Choosing UV as the disinfection method ensures optimal CAPEX and OPEX compared to its alternatives, making UV the best solution for a wide range of installations.

ULTRAAQUA UV disinfection systems are easy to install, maintain and thoroughly cost-optimized. The third-party approvals for performance and quality ensures complete peace of mind, employing the best available solution for complete biosecurity.

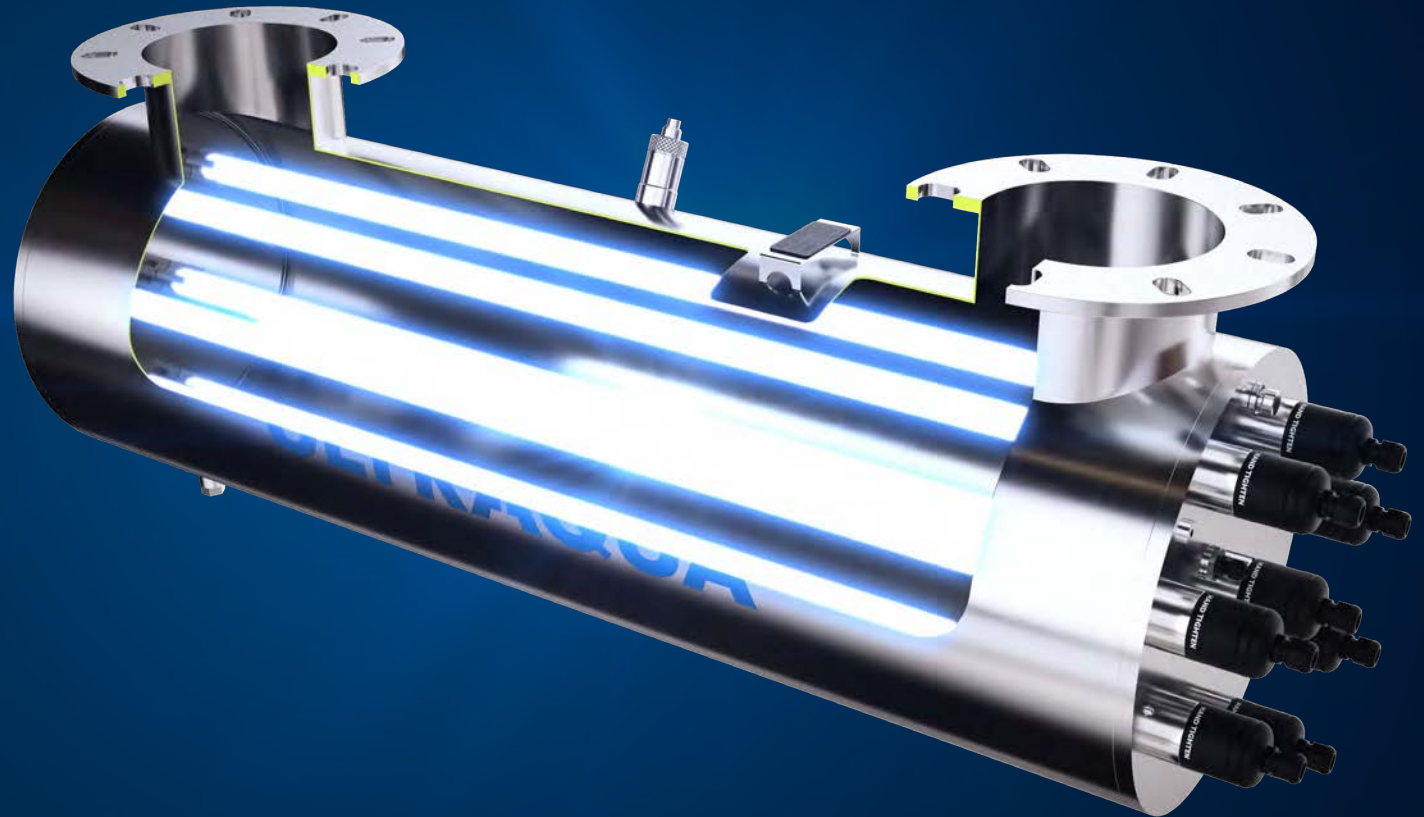
ULTRAAQUA
UV DISINFECTION SYSTEMS

MONORAY™ SERIES

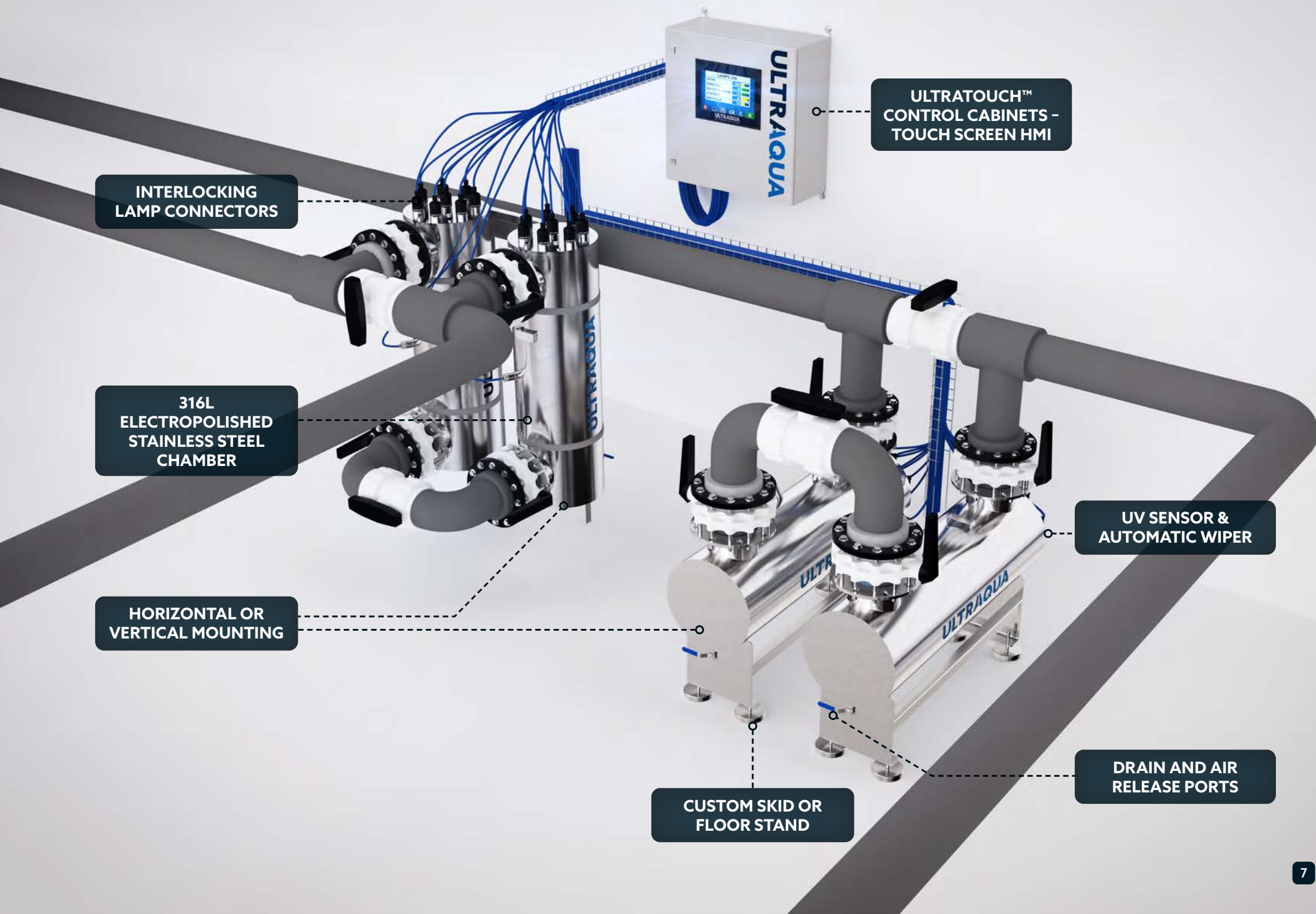
THE MONORAY SERIES OFFERS RELIABLE AND EFFICIENT UV DISINFECTION FOR A WIDE RANGE OF INDUSTRIAL AND MUNICIPAL WATER APPLICATIONS.

KEY HIGHLIGHTS

- ⚡ ULTRATHERM™ lamp Lifetime 16,000-hours
- ⚡ Optimized for maximum efficiency
- ⚡ Easy maintenance and installation
- ⚡ Easily integrated in complex environments
- ⚡ Complete control with ULTRATOUCH™ control cabinets
- ⚡ Automated ULTRAWIPER™ quartz cleaning with tailored brush heads



MARKET LEADING ENERGY EFFICIENCY



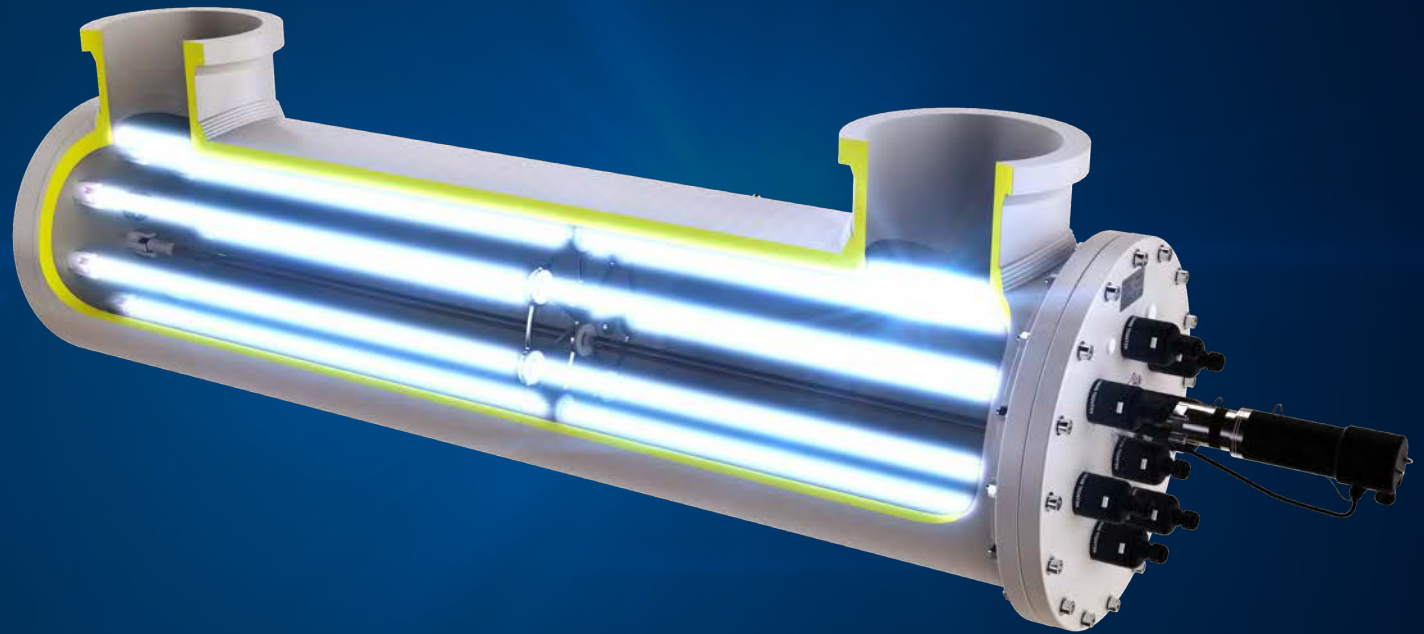
NON-CORROSIVE PP/PEHD SERIES

THE PP/PEHD SERIES IS DEVELOPED SPECIFICALLY FOR HARSH CORROSIVE ENVIRONMENTS.

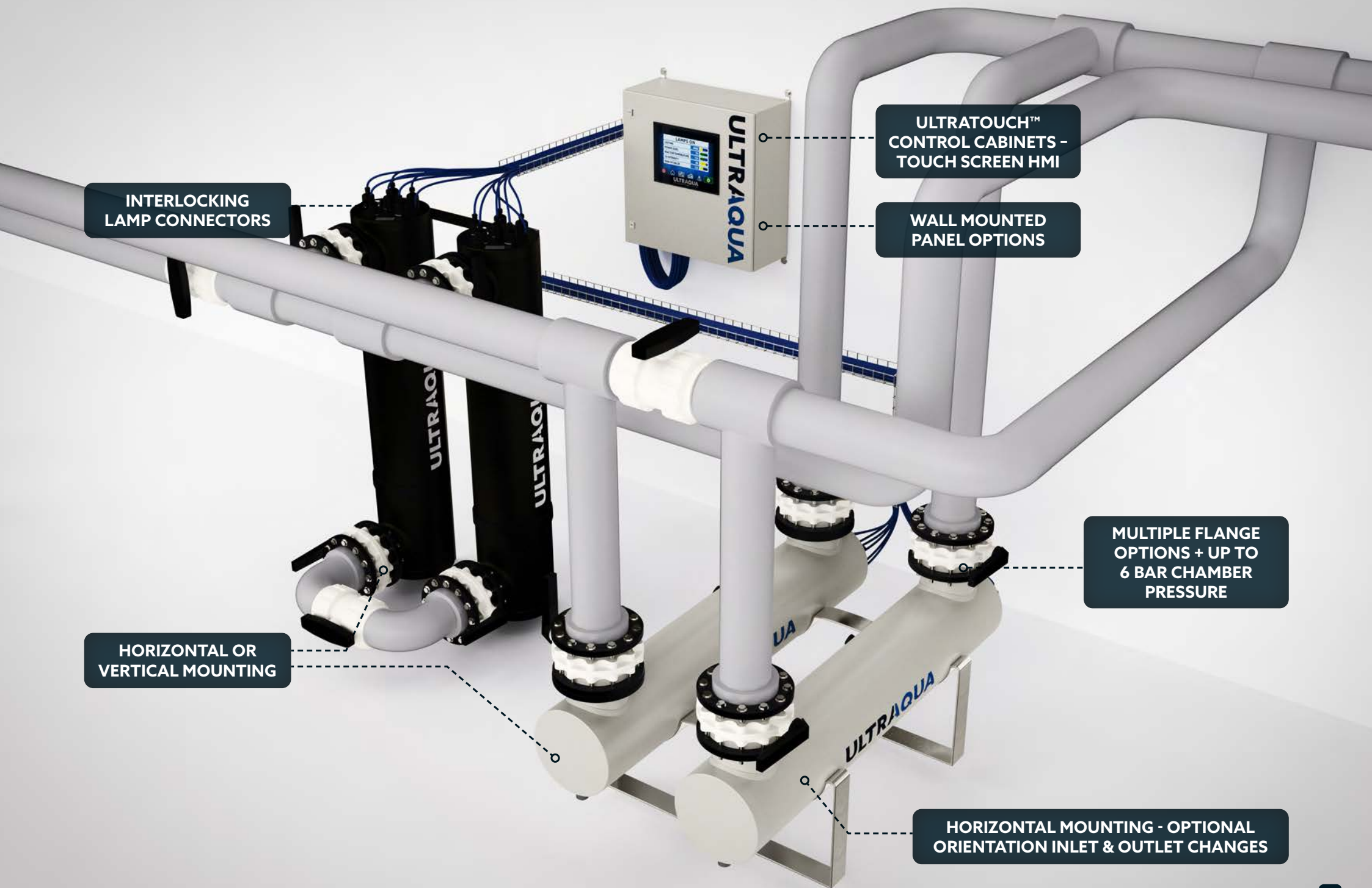
THE MATERIAL ENSURES OPERATIONAL EXCELLENCE ACROSS SEVERAL APPLICATIONS, DUE TO ITS EXCEPTIONAL DURABILITY, TEMPERATURE RESISTANCE AND PRESSURE RESISTANCE, BEING ABLE TO WITHSTAND THE MOST CORROSIVE ENVIRONMENTS AROUND THE GLOBE.

KEY HIGHLIGHTS

- ⚡ ULTRATHERM™ lamp Lifetime 16,000-hours
- ⚡ Optimized for maximum efficiency
- ⚡ Easy maintenance and installation
- ⚡ Complete control with ULTRATOUCH™ control cabinets
- ⚡ Automated ULTRAWIPER™ quartz cleaning with tailored brush heads



MARKET LEADING ENERGY EFFICIENCY

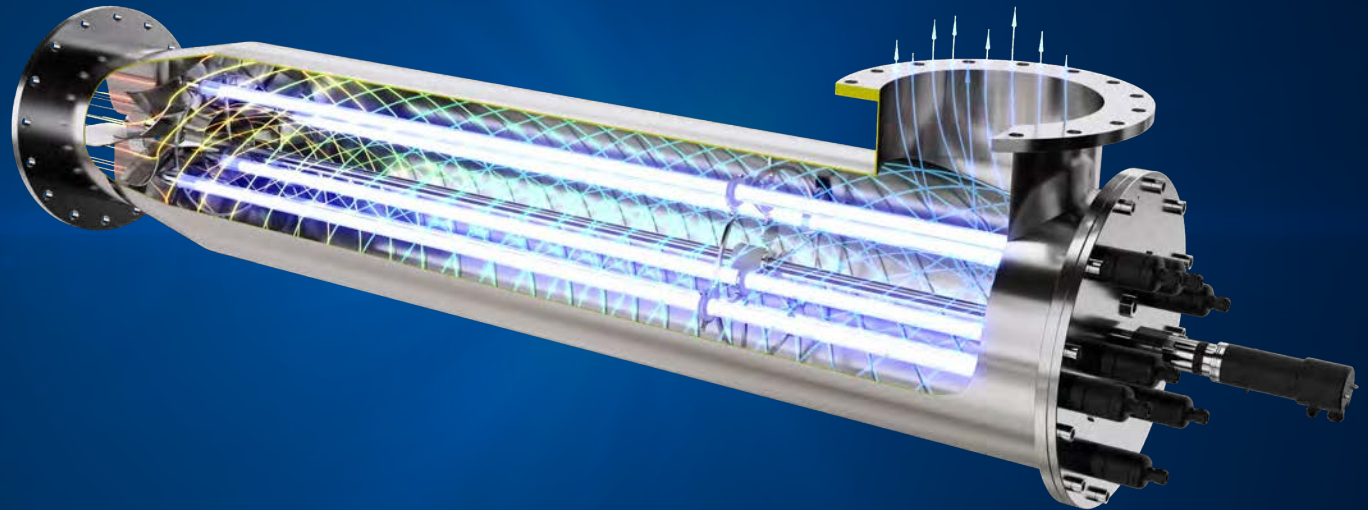


SSV DRINKING WATER SERIES

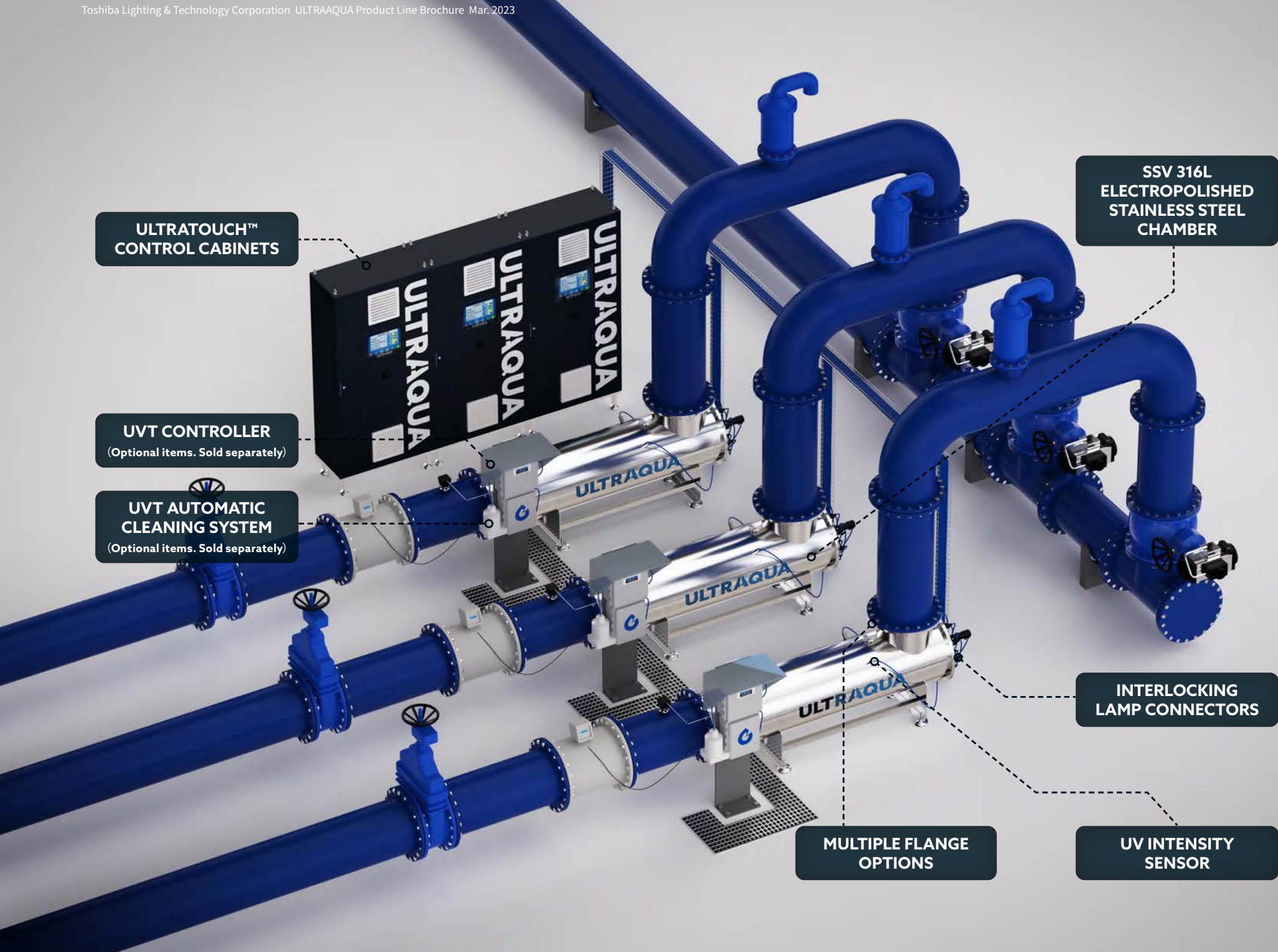
THE SERIES OFFERS DISINFECTION PERFORMANCES CAPABLE OF MORE THAN 4 LOG WITH FLOW CAPACITIES RANGING FROM 1 M³/HR TO OVER 4000 M³/HR.

KEY HIGHLIGHTS

- ULTRATHERM™ lamp Lifetime 16,000-hours
- Complete control with ULTRATOUCH™ control cabinets
- The world's most efficient ÖNORM validated UV disinfection system
- SWIRLFLOW™ technology enabling an optimized 90% hydraulic efficiency at all water qualities.
- Automated ULTRAWIPER™ quartz cleaning with tailored brush heads
- Easy maintenance and installation



MARKET LEADING ENERGY EFFICIENCY



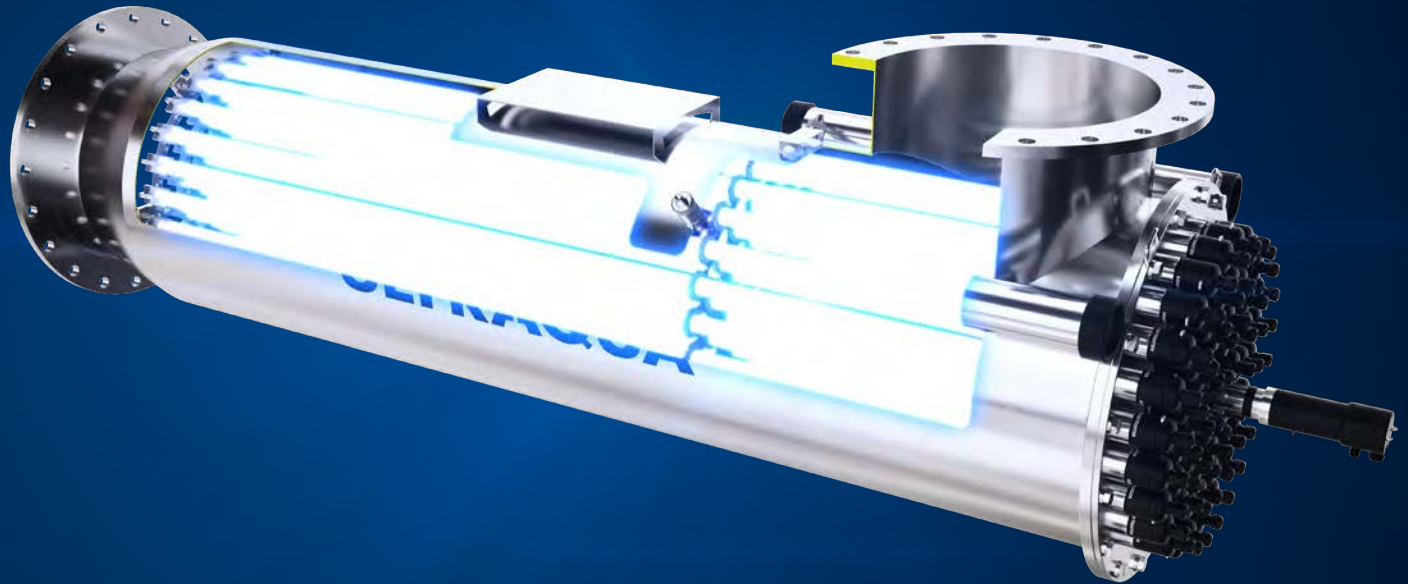
ULTRABARRIER™ SERIES

THE ULTRABARRIER SERIES IS DEVELOPED SPECIFICALLY FOR EXCELLENT INTAKE WATER UV DISINFECTION IN THE AQUACULTURE INDUSTRY.

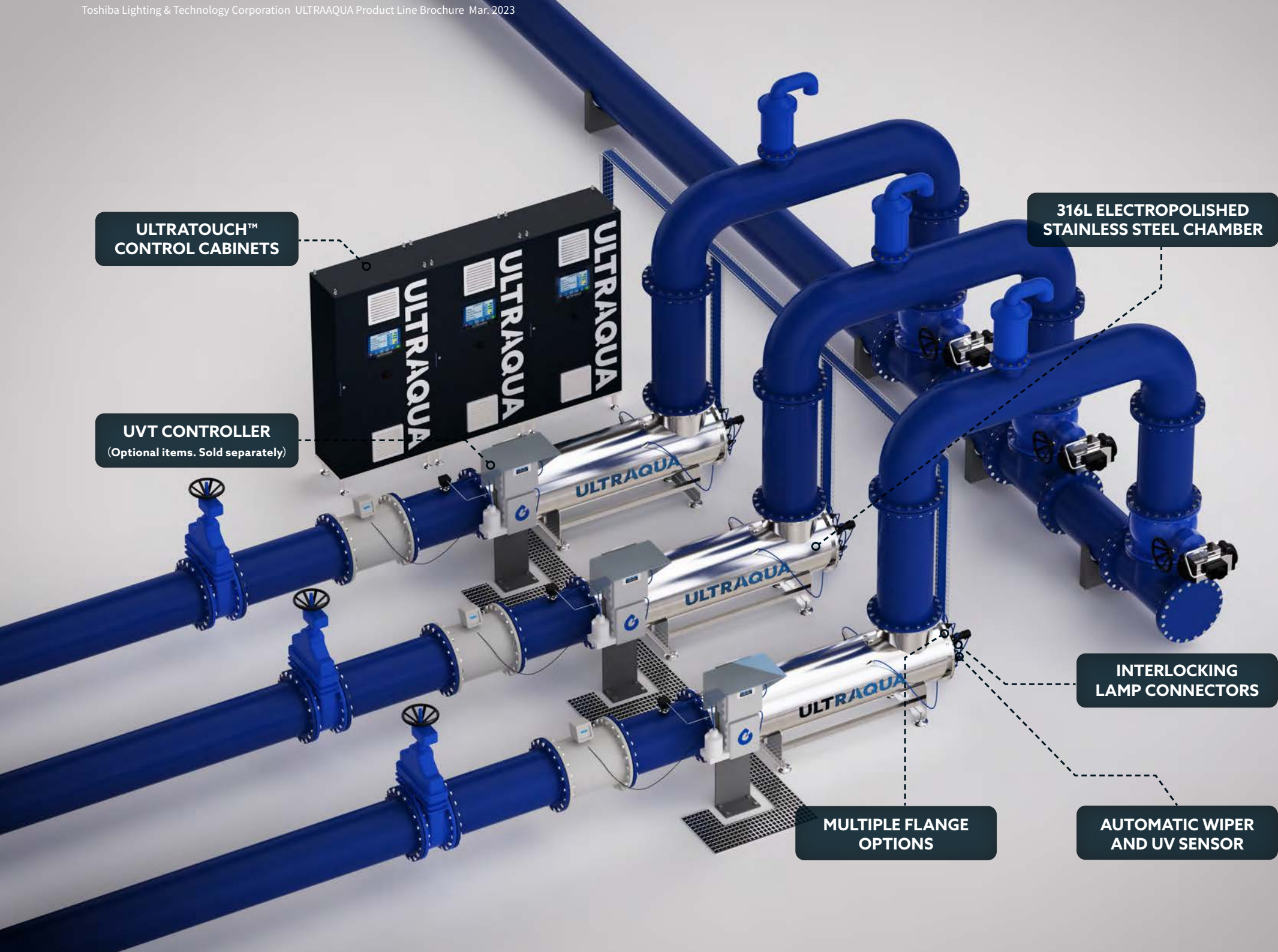
BEING AVAILABLE IN BOTH STAINLESS STEEL (SS) AND POLYPROPYLENE (PP), THE ULTRABARRIER ENSURES DISINFECTION EXCELLENCE ACROSS SEVERAL APPLICATIONS, TO AVOID ANY HARMFUL MICROORGANISMS ENTERING THE PRODUCTION.

KEY HIGHLIGHTS

- ⚙️ Approved by the Norwegian Veterinary Institute (NVI)
- ⚙️ Optimal design for high disinfection performance.
- ⚙️ Easy maintenance and installation
- ⚙️ ULTRATHERM™ lamp Lifetime 16,000-hours
- ⚙️ Complete control with ULTRATOUCH™ control cabinets
- ⚙️ Automated ULTRAWIPER™ quartz cleaning with tailored brush heads



MARKET LEADING ENERGY EFFICIENCY



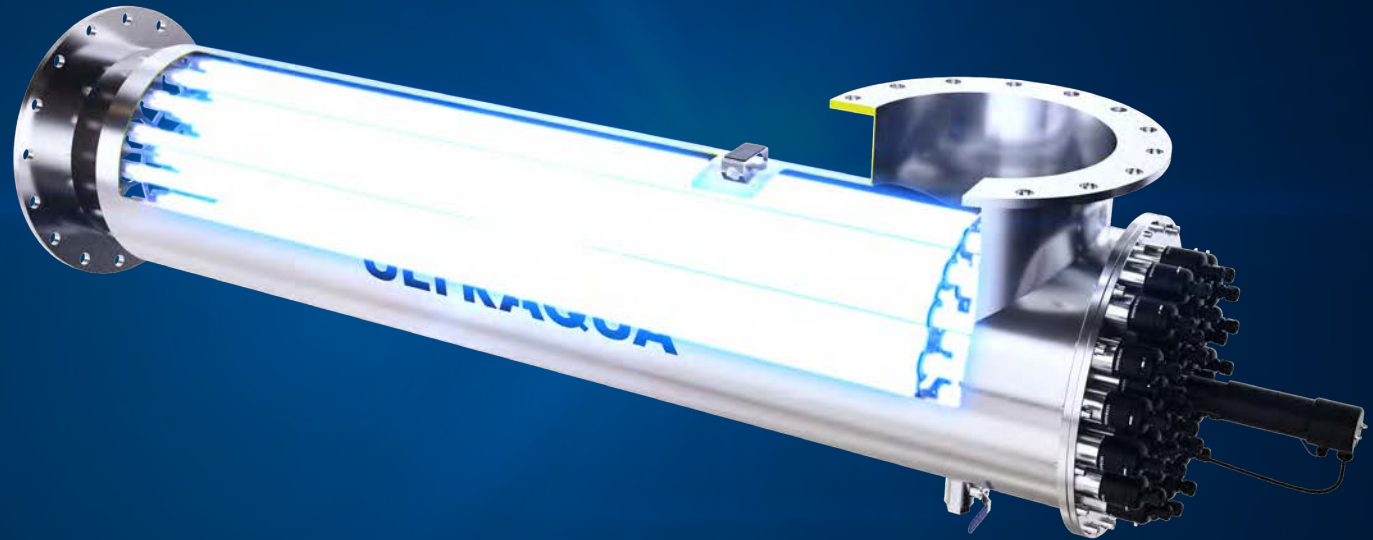
LUVT LOW UVT SERIES

THE LUVT SYSTEM SERIES PROVIDES EXCELLENT UV DISINFECTION FOR APPLICATIONS IN LOW UVT ENVIRONMENTS.

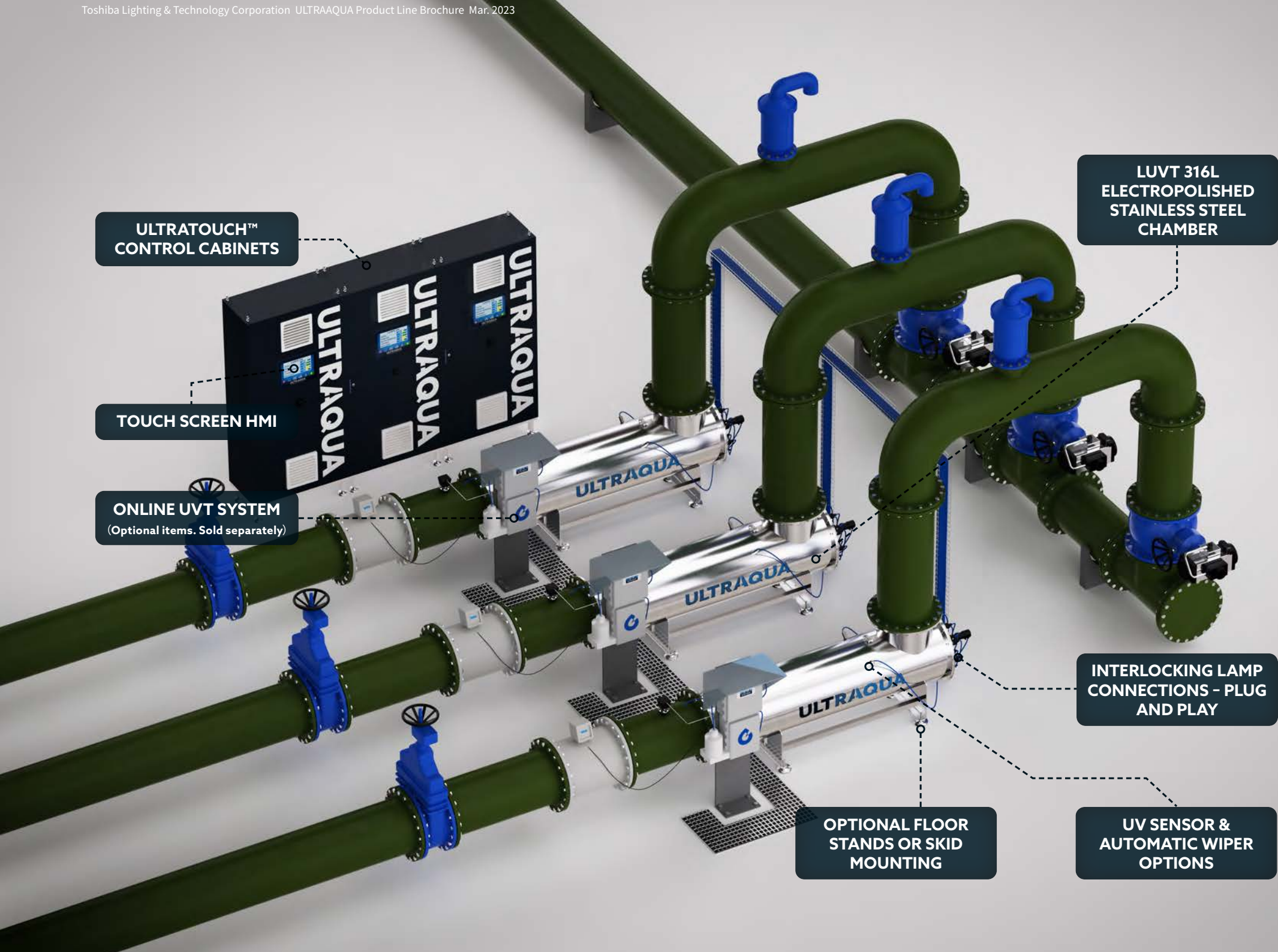
THE INNOVATIVE LUVTSWIRL TECHNOLOGY MAKES THE LUVT SERIES ABLE TO PROLONG UV EXPOSURE TIME FOR PASSING PATHOGENS, ELIMINATING ANY CHANCE OF 'DARK AREAS' WITH UNTREATED MICROORGANISMS, WHILE MAINTAINING LOW ENERGY REQUIREMENTS. THIS MAKES THE LUVT SERIES THRIVE IN WASTEWATER ENVIRONMENTS.

KEY HIGHLIGHTS

- ULTRATHERM™ lamp Lifetime 16,000-hours
- Optimal design for high disinfection performance.
- Easy maintenance and installation
- Easily integrated in complex environments
- Complete control with ULTRATOUCH™ control cabinets
- Automated ULTRAWIPER™ quartz cleaning with tailored brush heads



MARKET LEADING ENERGY EFFICIENCY



ULTRATOUCH™
CONTROL CABINETS

TOUCH SCREEN HMI

ONLINE UVT SYSTEM
(Optional items. Sold separately)

LUVT 316L
ELECTROPOLISHED
STAINLESS STEEL
CHAMBER

INTERLOCKING LAMP
CONNECTIONS - PLUG
AND PLAY

OPTIONAL FLOOR
STANDS OR SKID
MOUNTING

UV SENSOR &
AUTOMATIC WIPER
OPTIONS

SALMON HATCHERY, SCOTLAND

Annual production of 12 million smolts.



ALGAE RESEARCH FACILITY, NEW ZEALAND

Intake water disinfection for RAS*.



SMOLT FACILITY, ICELAND

Annual production of 1.600 tons of salmon fry.



AQUARIUM, BAHRAIN

700 cubic metres of saltwater continuously disinfected.



WORLD'S LARGEST EEL FARM, CHINA

158 systems for 15.000 annual tons of eel production.



RAS* FACILITY IN BELSVIK, NORWAY

One of the world's largest RAS* facilities for salmon.



SHRIMP FARM, AUSTRIA

RAS* water disinfection.



SHRIMP FARM, VIETNAM

PP systems for one of the world's largest shrimp farms.



RAS* FACILITY IN VERMONT, USA

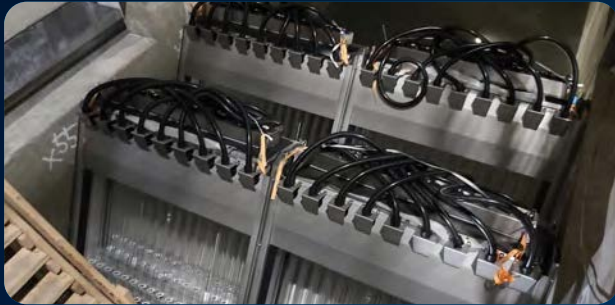
Large closed vessel UV systems for RAS* facility.



※RAS : Recirculating Aquaculture System

MUNICIPAL WASTEWATER, FINLAND

Underground process wastewater of 400.000 residents.



WASTEWATER DISINFECTION, THAILAND

Wastewater disinfection in the Songkhla region.



FOOD & BEVERAGE, DENMARK

Recycled process water in vegetable production.



FOOD & BEVERAGE, CUBA

UV disinfection of 20% UVT liquid.



DRINKING WATER, NORWAY

Pumping capacity of 900.000 liters per hour.



WELLBOAT, GRIP ARCTIC

Fish carrier in South America.



DRINKING WATER, DENMARK

Drinking water disinfection in Hedensted.



RAINWATER DISINFECTION, IRELAND

Disinfected rainwater used for cooling of AHU's.



DRINKING WATER, CHINA

Drinking water facility in Yulin.



ULTRALOW ULU SERIES

THE ULTRALOW UVT SERIES IS DEVELOPED SPECIFICALLY FOR APPLICATIONS WITH EXTREMELY LOW UV TRANSMISSION (UVT) FROM 2%.

THE SMALL DISTANCE BETWEEN THE REACTOR WALLS AND THE QUARTZ SLEEVE ENSURES AN EVENLY DISTRIBUTED UV LIGHT EXPOSURE FOR HYDRAULIC OPTIMIZATION. THIS MAKES THE ULU UV SERIES EXCELLENT FOR DISINFECTION OF FLUIDS SUCH AS LIQUID SUGAR, WINE, AND SALT BRINES.

KEY HIGHLIGHTS

- ❧ ULTRATHERM™ lamp Lifetime 16,000-hours
- ❧ Optimal design for high disinfection performance.
- ❧ Easy maintenance and installation
- ❧ Easily integrated in complex environments
- ❧ Complete control with ULTRATOUCH™ control cabinets
- ❧ Automated ULTRAWIPER™ quartz cleaning with tailored brush heads



MARKET LEADING ENERGY EFFICIENCY



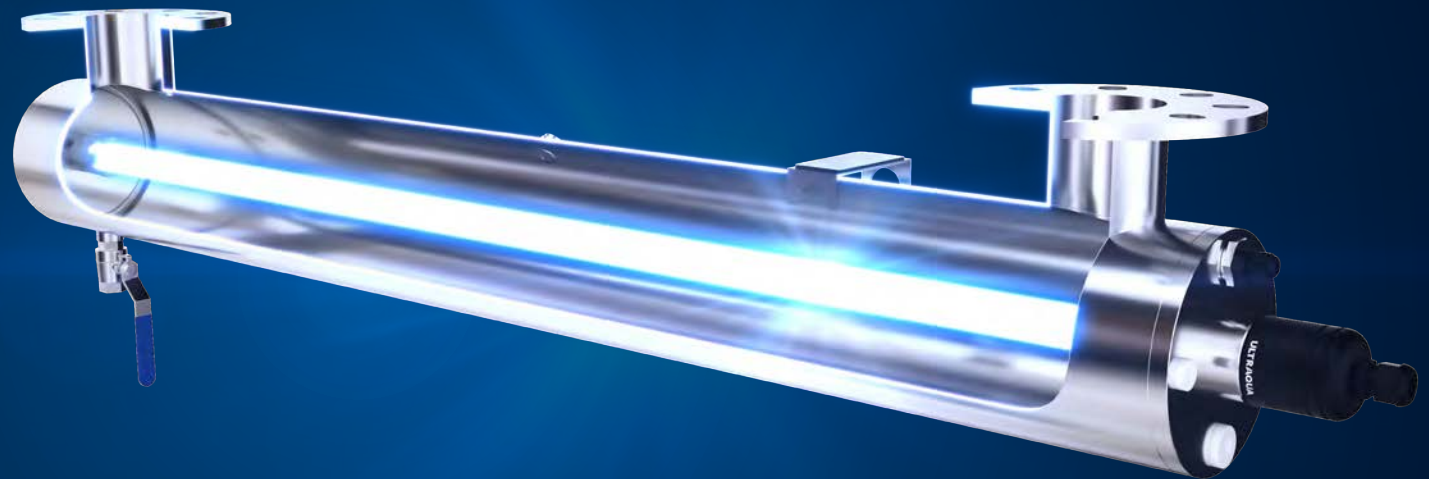
TOC VUV SYSTEM SERIES

THE VACUUM UV (VUV) SERIES IS DEVELOPED SPECIFICALLY FOR TOC REDUCTION EXCELLENCE.

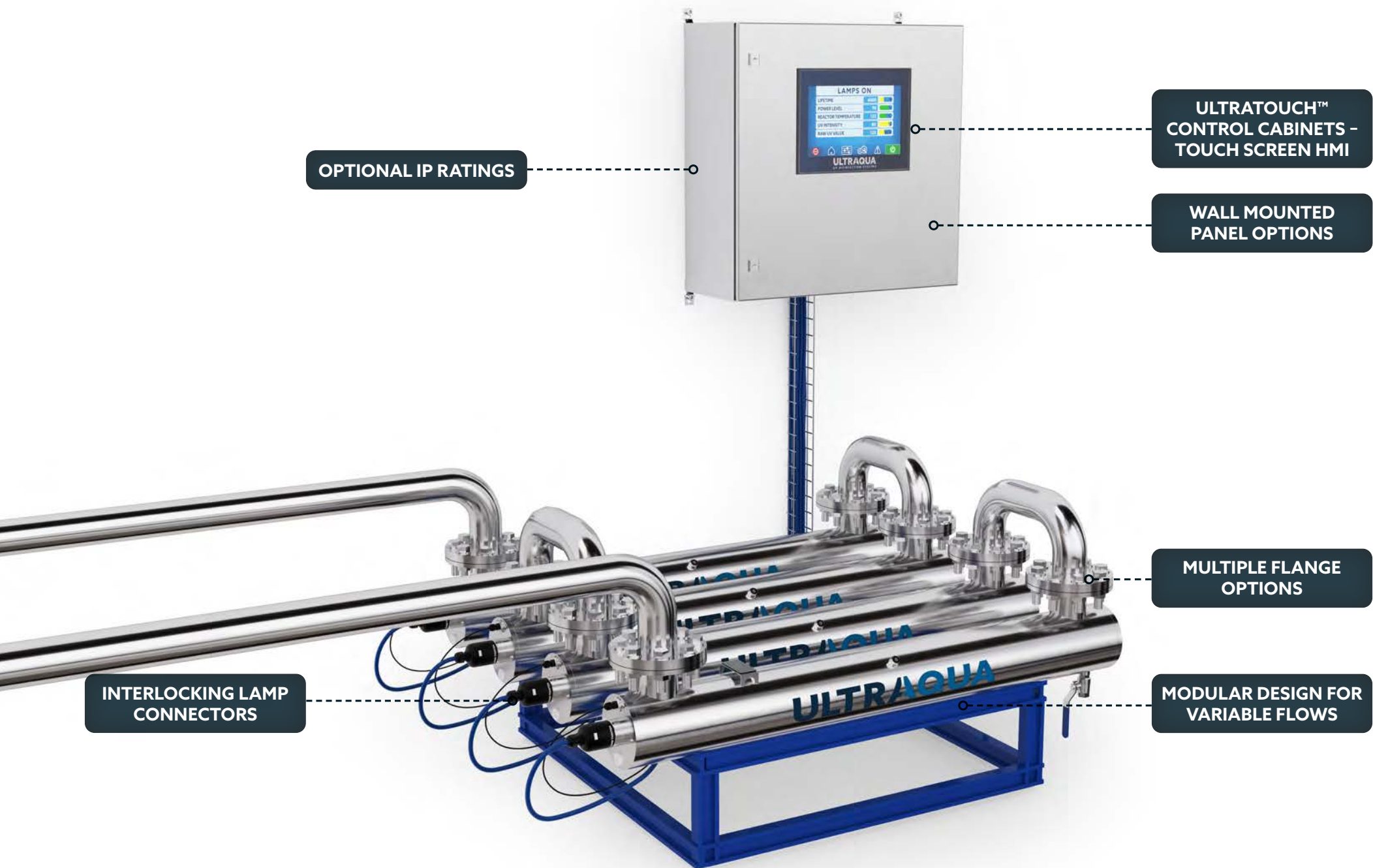
THE VUV TOC REACTORS ARE OPTIMIZED THROUGH A COMPREHENSIVE CFD MODELING APPROACH, RESULTING IN EXCELLENT ENERGY EFFICIENCY.

KEY HIGHLIGHTS

- ❖ ULTRATOX™ lamp Lifetime 12,000-hours
- ❖ Optimal design for high disinfection performance.
- ❖ Easy maintenance and installation
- ❖ Complete control with ULTRATOUCH™ control cabinets
- ❖ Excellent level of customization



MARKET LEADING ENERGY EFFICIENCY



MULTIRAY MEDIUM PRESSURE SERIES

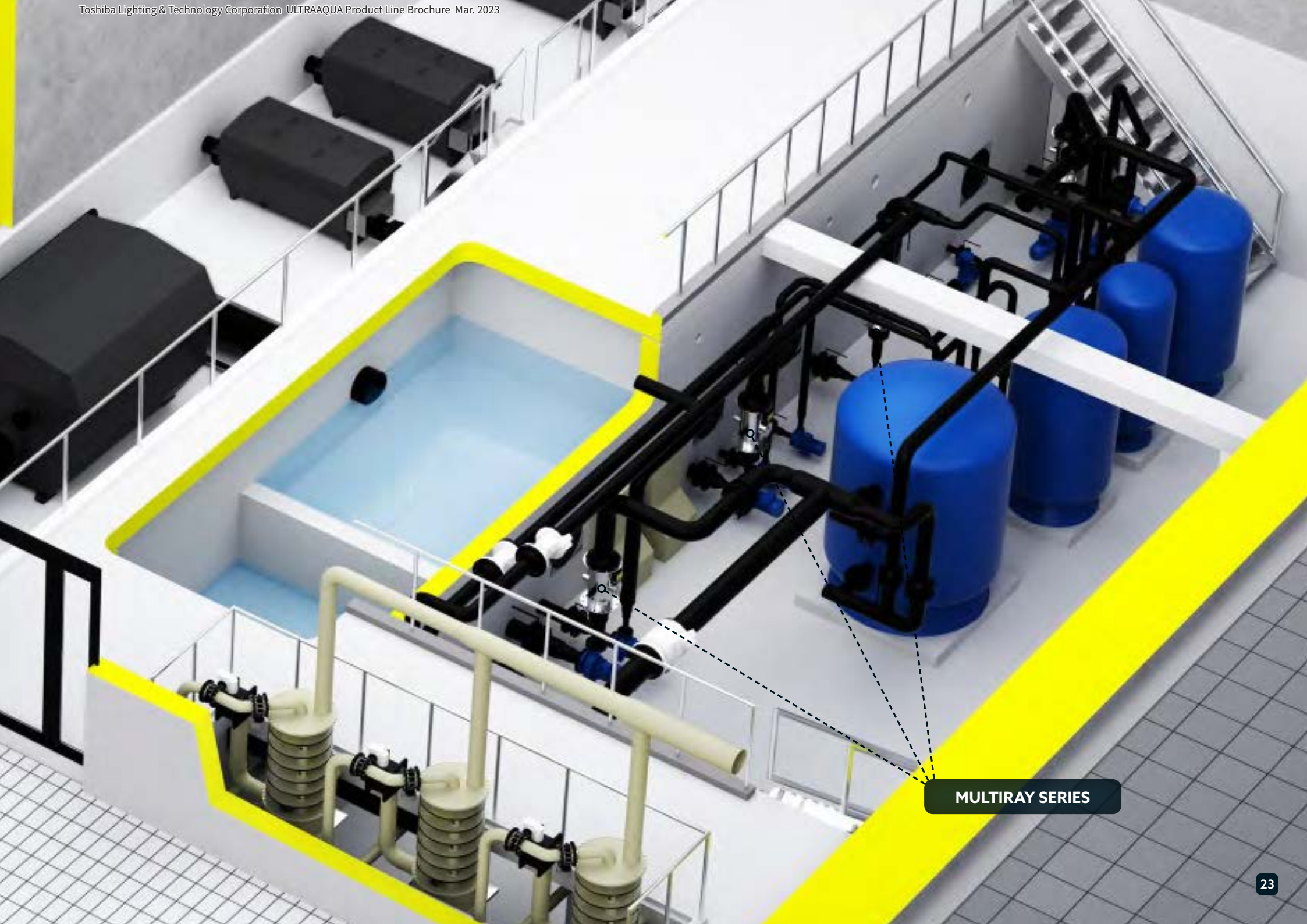
THE MULTIRAY SERIES IS DEVELOPED FOR EXCELLENT DISINFECTION AND CHLORAMINE REDUCTION IN SWIMMING POOLS, BEING OPTIMIZED FOR THE LOWEST POSSIBLE OPERATING COSTS.

KEY HIGHLIGHTS

- Electropolished stainless steel 316L material providing excellent resistance against chlorides
- Medium-pressure ULTRATHERM™ lamp
Lifetime 9,000-hours
- Easy maintenance and installation
- Sensor removeable during operation for service
- Tool free lamp service
- Single ended lamp for easy service
- PLC-based controller for easy integration



MARKET LEADING ENERGY EFFICIENCY



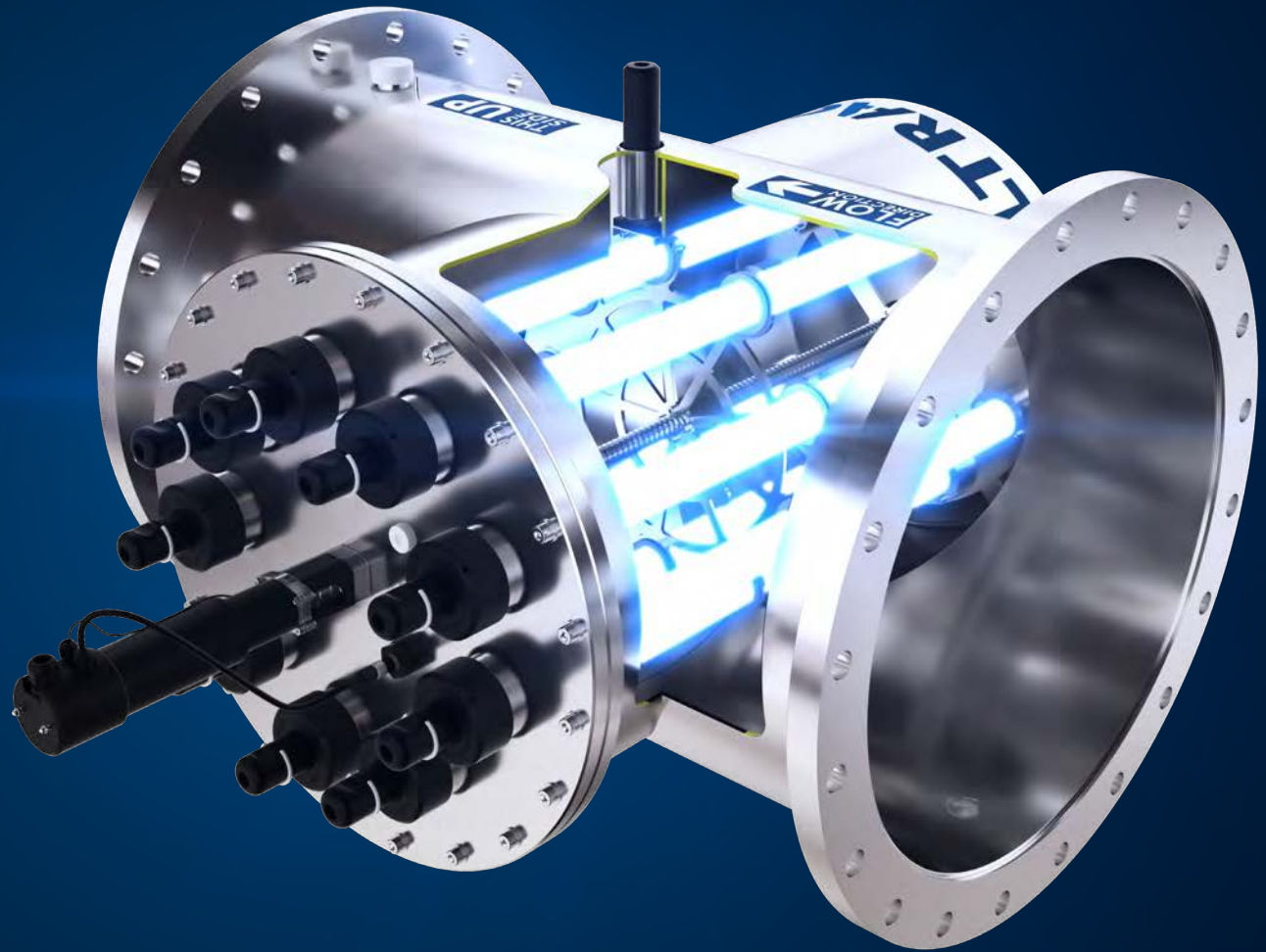
MULTIRAY SERIES

ULTRATRON MEDIUM-PRESSURE SERIES

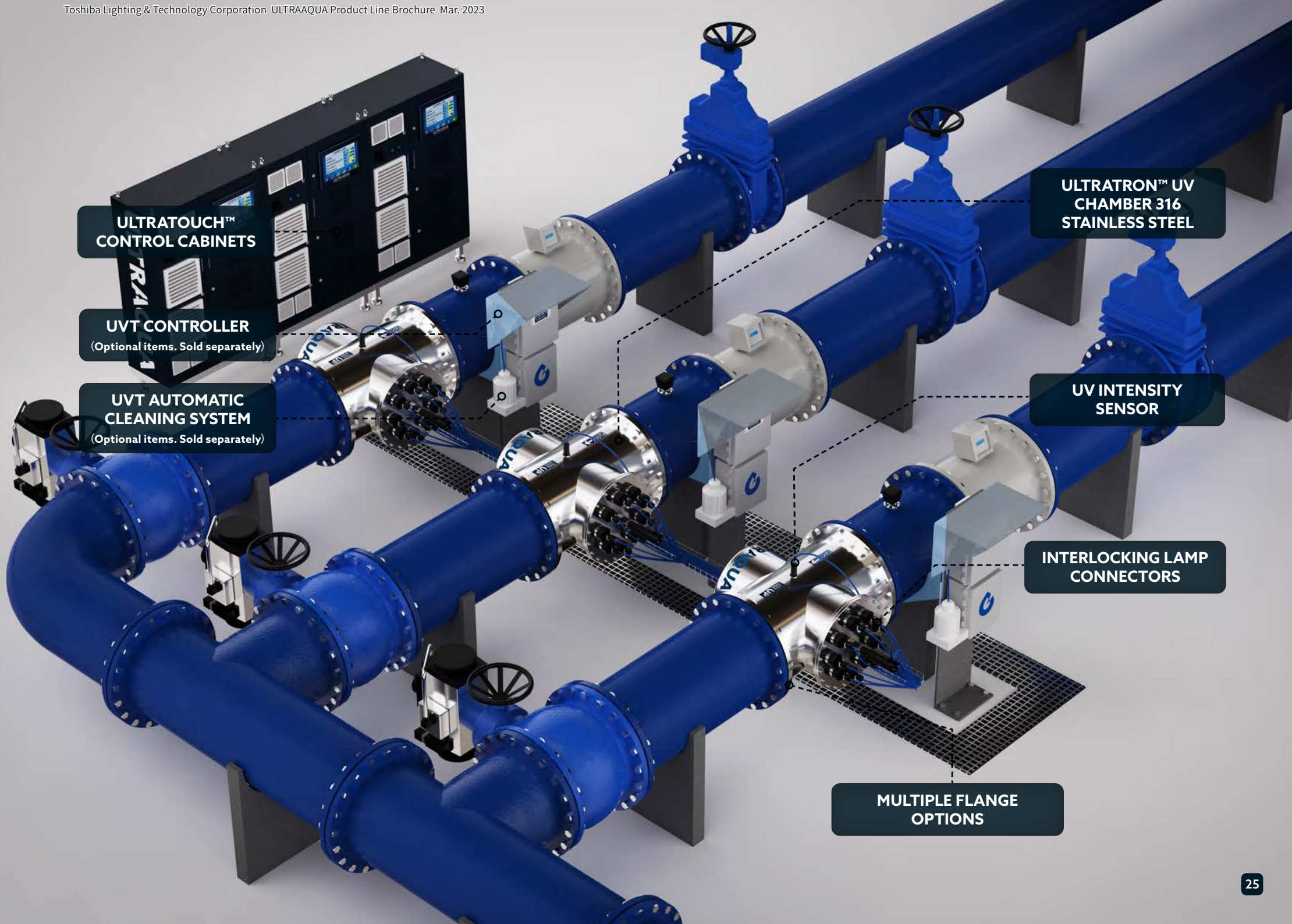
THE ULTRATRON SERIES PRODUCT RANGE FEATURES THE WORLDS MOST ADVANCED AND EFFICIENT UV DISINFECTION TECHNOLOGY, OPTIMIZED FOR HIGH FLOW APPLICATIONS WHERE A SMALL FOOTPRINT IS ESSENTIAL AND HIGH-POWER DENSITIES ARE REQUIRED.

KEY HIGHLIGHTS

- Medium-pressure ULTRATHERM™ lamp
Lifetime 9,000-hours
- Optimal design for high disinfection performance.
- Easy maintenance and installation, single sided access with no special tools required
- Easily integrated in complex environments, able for installation vertically and horizontally
- Complete control with ULTRATOUCH™ control cabinets
- Automated ULTRAWIPER™ quartz cleaning with tailored brush heads



MARKET LEADING ENERGY EFFICIENCY



**ULTRATOUCH™
CONTROL CABINETS**

UVT CONTROLLER
(Optional items. Sold separately)

**UVT AUTOMATIC
CLEANING SYSTEM**
(Optional items. Sold separately)

**ULTRATRON™ UV
CHAMBER 316
STAINLESS STEEL**

**UV INTENSITY
SENSOR**

**INTERLOCKING LAMP
CONNECTORS**

**MULTIPLE FLANGE
OPTIONS**

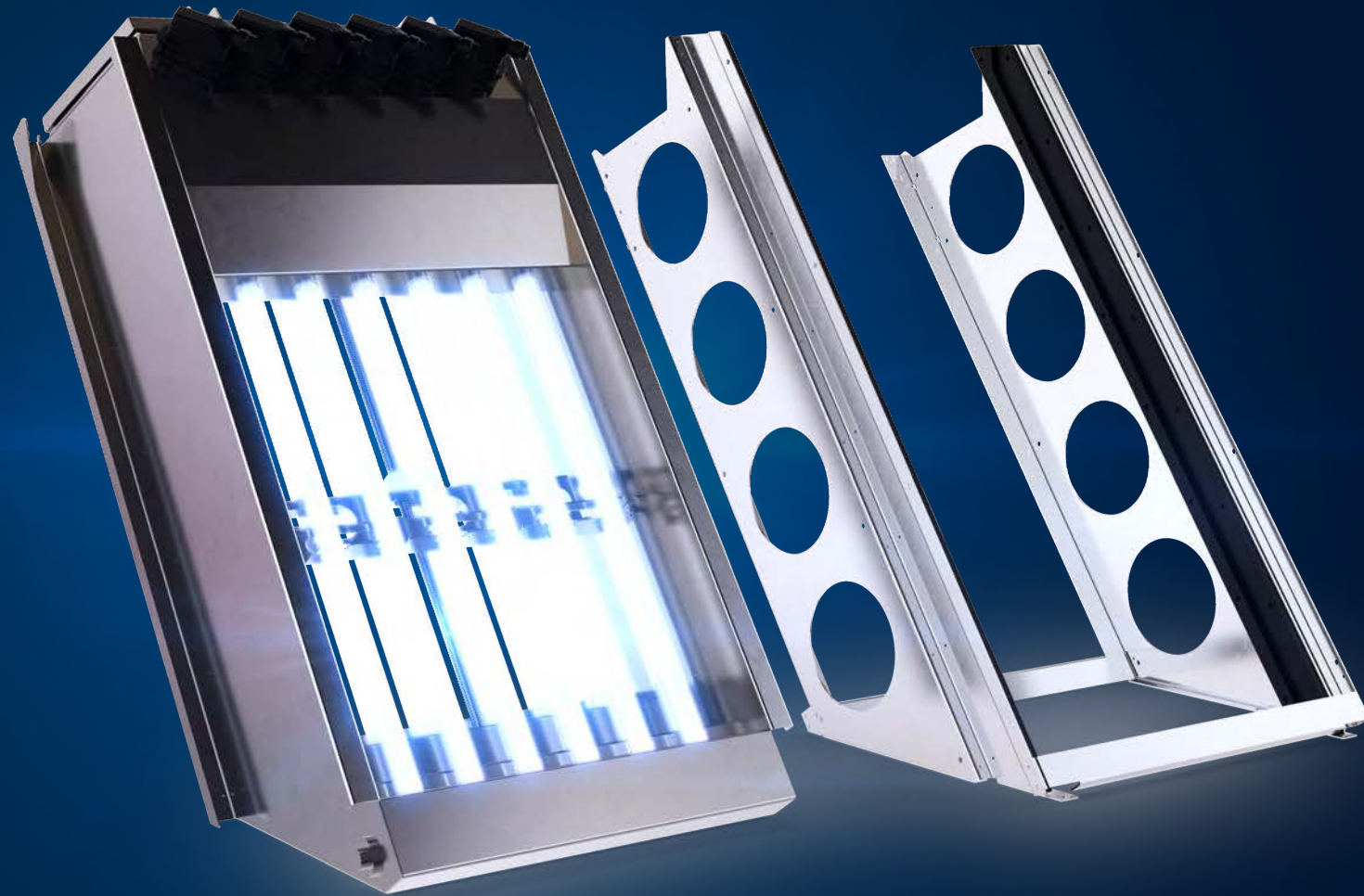
OPEN CHANNEL (SS) SERIES

THE OPEN CHANNEL SERIES OFFERS SAFE, CHEMICAL-FREE DISINFECTION FOR A WIDE RANGE OF APPLICATIONS, AVAILABLE IN BOTH STAINLESS STEEL (SS) AND POLYPROPYLENE (PP).

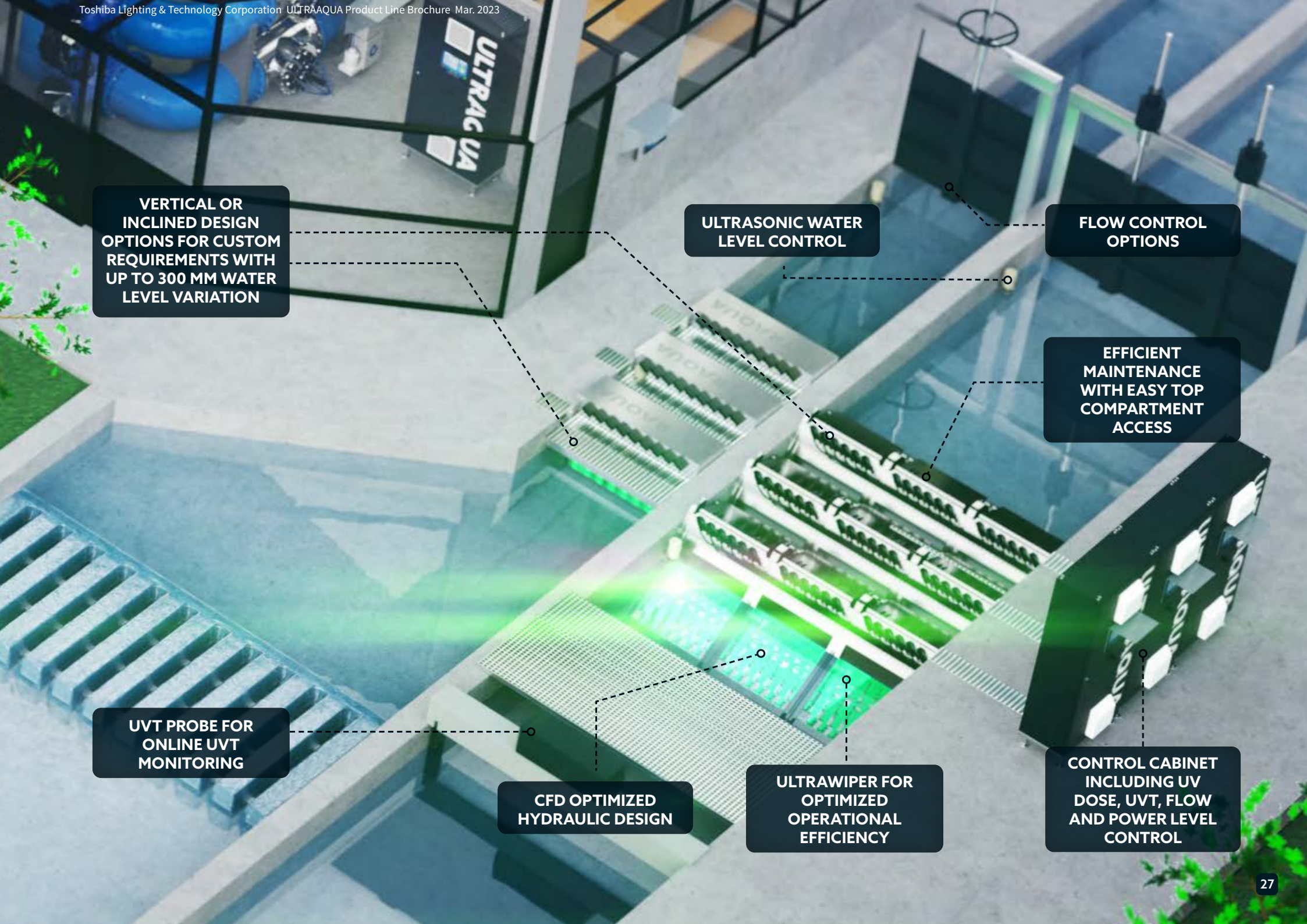
THE SYSTEMS CAN BE CUSTOMIZED TO FIT INTO VIRTUALLY ANY CHANNEL DIMENSION, IN VERTICAL OR INCLINED DESIGN.

KEY HIGHLIGHTS

- ❖ ULTRATHERM™ lamp Lifetime 16,000-hours
- ❖ Optimal design for high disinfection performance.
- ❖ Easy maintenance and installation
- ❖ Easily integrated in complex environments
- ❖ Complete control with ULTRATOUCH™ control cabinets
- ❖ Automated ULTRAWIPER™ quartz cleaning with tailored brush heads



MARKET LEADING ENERGY EFFICIENCY



**VERTICAL OR
INCLINED DESIGN
OPTIONS FOR CUSTOM
REQUIREMENTS WITH
UP TO 300 MM WATER
LEVEL VARIATION**

**ULTRASONIC WATER
LEVEL CONTROL**

**FLOW CONTROL
OPTIONS**

**EFFICIENT
MAINTENANCE
WITH EASY TOP
COMPARTMENT
ACCESS**

**UVT PROBE FOR
ONLINE UVT
MONITORING**

**CFD OPTIMIZED
HYDRAULIC DESIGN**

**ULTRAWIPER FOR
OPTIMIZED
OPERATIONAL
EFFICIENCY**

**CONTROL CABINET
INCLUDING UV
DOSE, UVT, FLOW
AND POWER LEVEL
CONTROL**

OPEN CHANNEL (PP) SERIES

THE OPEN CHANNEL UV DISINFECTION SYSTEMS OFFERS SAFE, CHEMICAL-FREE DISINFECTION FOR A WIDE RANGE OF APPLICATIONS, AVAILABLE IN BOTH STAINLESS STEEL (SS) AND POLYPROPYLENE (PP).

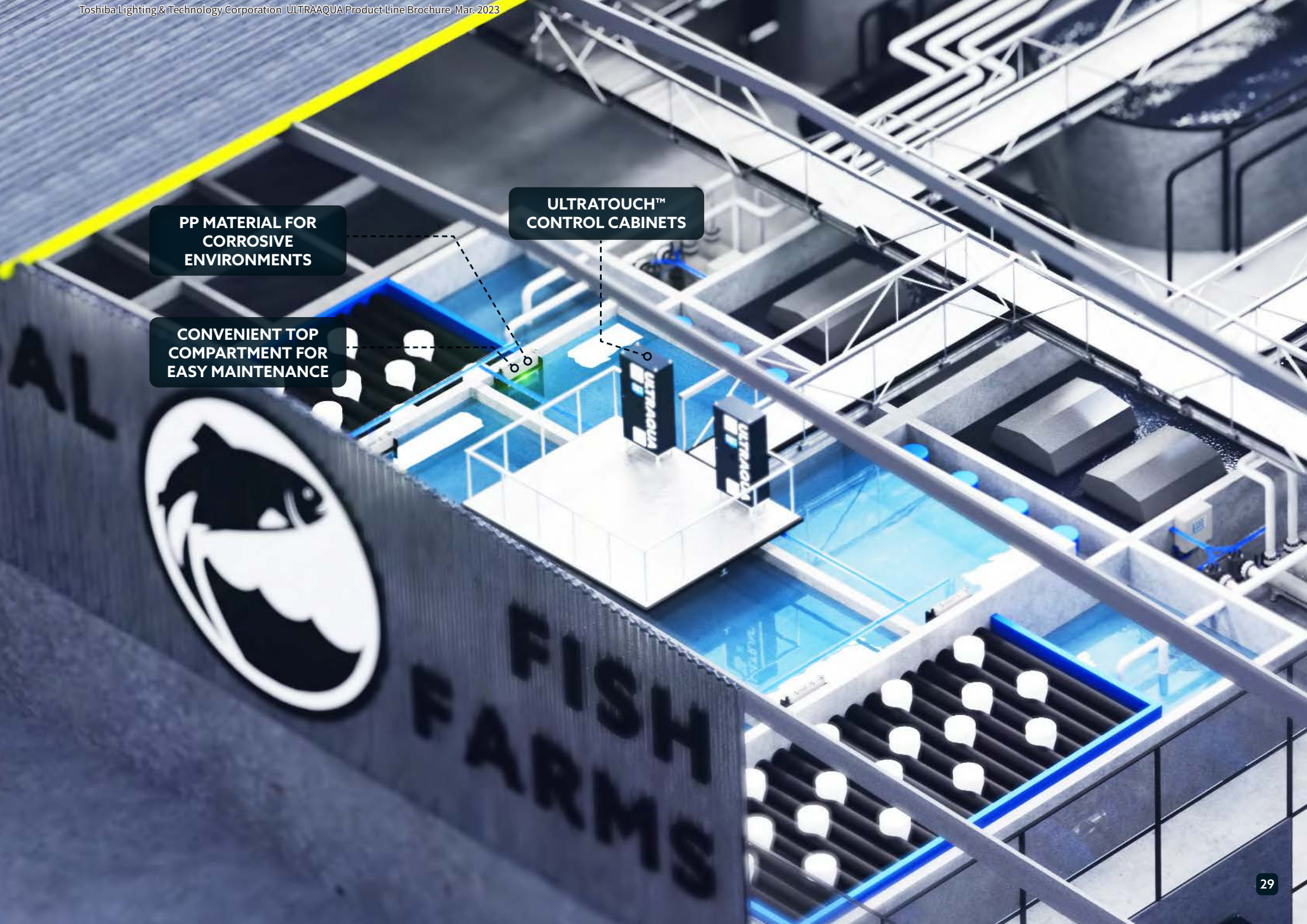
THE SYSTEMS CAN BE CUSTOMIZED TO FIT INTO VIRTUALLY ANY CHANNEL DIMENSION.

KEY HIGHLIGHTS

- ULTRATHERM™ lamp Lifetime 16,000-hours
- Optimal design for high disinfection performance.
- Easy maintenance and installation
- Easily integrated in complex environments
- Complete control with ULTRATOUCH™ control cabinets
- Automated ULTRAWIPER™ quartz cleaning with tailored brush heads



MARKET LEADING ENERGY EFFICIENCY



PP MATERIAL FOR
CORROSIVE
ENVIRONMENTS

ULTRATOUCH™
CONTROL CABINETS

CONVENIENT TOP
COMPARTMENT FOR
EASY MAINTENANCE

COMPLETE CONTROL WITH ULTRATOUCH™ CONTROL CABINETS

ULTRATOUCH™ PLC IS THE VERY LATEST
IN CONTROL AND TOUCH-SCREEN HMI
TECHNOLOGY.

THE AUTOMATIC DOSE PACING ENSURES
OPTIMIZED EFFICIENCY BY REDUCING POWER
CONSUMPTION WHILE ENSURING A STABLE
DOSE UNDER OPERATION.

KEY HIGHLIGHTS

- ⚙ Automatic dose pacing ensuring optimized power consumption and a stable operation dose
- ⚙ Full data logging for complete operator control
- ⚙ Comprehensive performance and event logs
- ⚙ Cabinet and reactor overheat protection
- ⚙ PLC controls easily integrated into SCADA layouts
- ⚙ Intuitive touch-screen HMI technology



MARKET LEADING ENERGY EFFICIENCY



Wallmount



Floor Standing

MUNICIPAL WASTEWATER, KOSOVO

New WWTP treating a flow rate of 760 m³/h.



AQUACULTURE RESEARCH FACILITY, KOREA

Intake water disinfection.



DRINKING WATER, DENMARK

Drinking water disinfection in Frederiksberg.



FOOD & BEVERAGE, DENMARK

Reuse of process water at Premier Is.



MUNICIPAL WASTEWATER, TAIWAN

Zero-discharge sewage water resources recycling center.



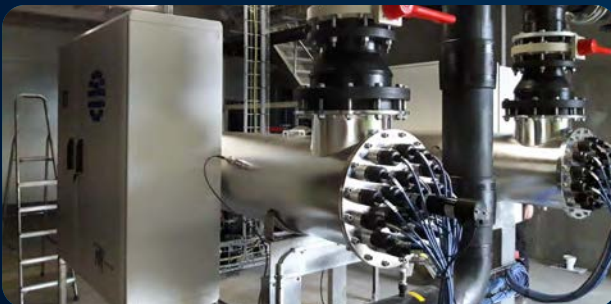
MUNICIPAL WASTEWATER, MEXICO

11 Open Channel systems for wastewater disinfection.



RAS* FACILITY, NORWAY

Large-scale land-based salmon farm in Fredrikstad.



SWIMMING POOL, CHINA

Swimming pool disinfection for the world expo in China.



SALMON RESEARCH FACILITY, NEW ZEALAND

PEHD UV systems for intake water disinfection.



*RAS : Recirculating Aquaculture System

CUSTOMIZED SOLUTIONS

ULTRAAQUA EMPLOYS AN ENTIRE DEPARTMENT OF ENGINEERS WHO ARE SPECIALIZED IN THE DESIGN AND CONSTRUCTION OF UV SYSTEMS.

Multiple years of experience within relevant applications makes it possible to adjust any standard UV system to accommodate specific requirements.

The customization requirements can vary from adjustments such as reactor shape or flange size, to adding new advanced features. This makes the ULTRAAQUA design department function as a consulting agency, working towards an optimized customized solution. This means that we can ensure on site validation to various standards, fitting your exact requirements.

The following possibilities are available for all customized UV units:

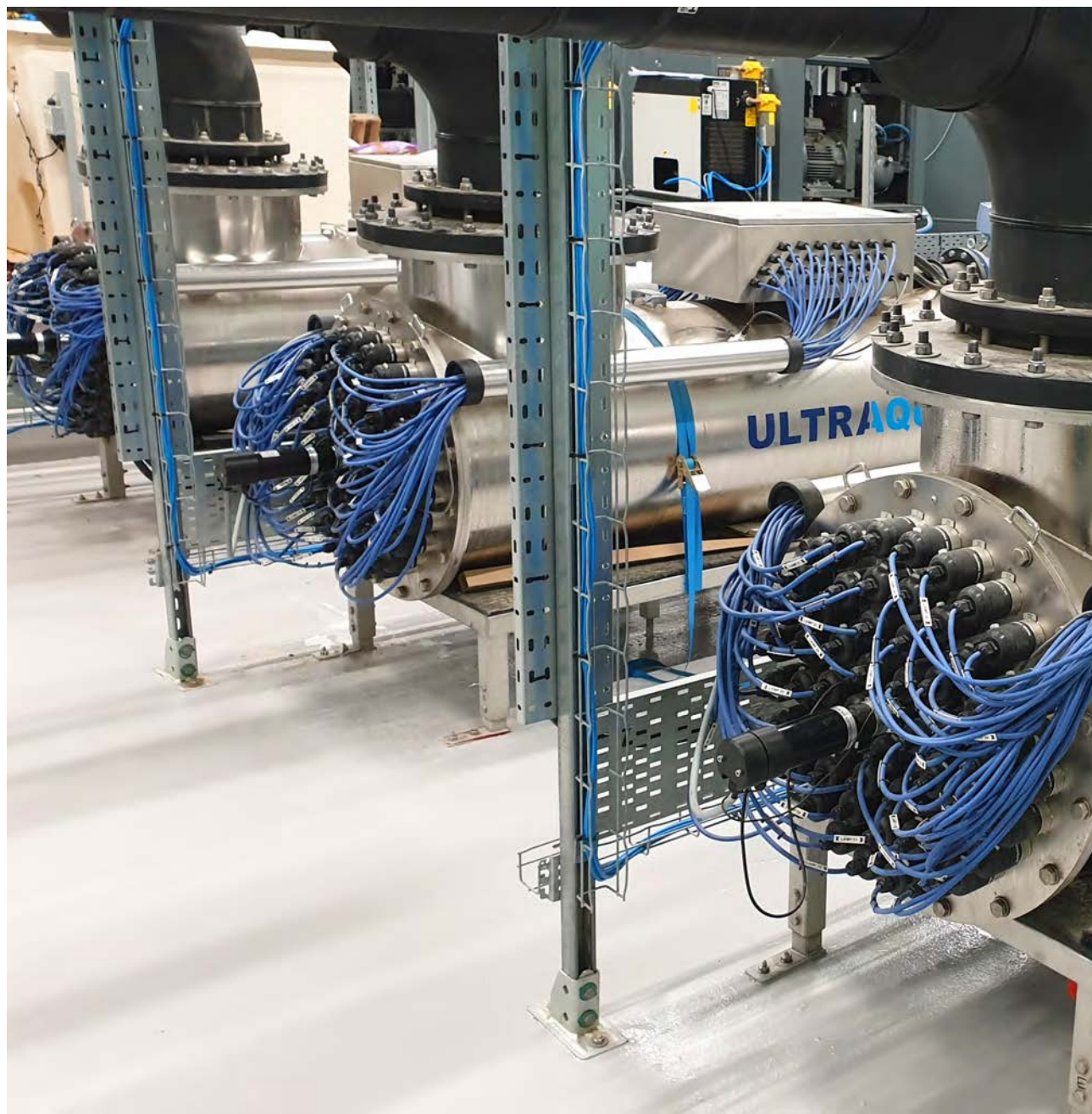
Customized services

- ⚙ Integrated CFD Analysis
- ⚙ Particle tracing modeling analysis
- ⚙ Determining fluence rate
- ⚙ Physical testing
- ⚙ Onsite validation testing
- ⚙ Advanced UV disinfection support

Customized products

- ⚙ Custom UV systems for advanced applications
- ⚙ Packaged plant equipment
 - ⚙ Including mobile treatment container
 - ⚙ Skid packages

Comprehensive technical knowledge makes the engineers able to assist with installation details such as weir design, water level control devices, and many other project-specific matters.



R&D CAPACITIES

SINCE 1996, THE R&D DEPARTMENT HAS BEEN THE BACKBONE OF ULTRAAQUA.

Employing the brightest industry specialists with great diversity for continuous innovation has been vital to the success of the company.

The ULTRAAQUA R&D department conducts, supports, and pioneers some of the latest developmental work within the water industry. These projects are often done in collaboration with specialists from municipalities, universities, top tier consultancies and international companies. The projects are primarily focused on developing unique and advanced chemical free disinfection solution for some of the worlds most complex water quality problems.

The comprehensive in-house testing area facilitates optimal conditions for research, development, and innovation. With the ability to run full scale pilot trials and a 40 ft research container to support local testing combined with cutting edge engineering, makes us confident that ULTRAAQUA is the right partner for your organization.

This ultimately allows ULTRAAQUA to position itself amongst the industry leaders within UV disinfection, supplying customers with the best available solutions.

ULTRAAQUA
UV DISINFECTION SYSTEMS



SERVICE & SUPPORT

ULTRAAQUA IS A GLOBAL COMPANY OFFERING WORLDWIDE SERVICE AND SUPPORT, WITH ITS HEAD OFFICE BASED IN DENMARK.

With operations in over 120 countries and an install base of 10.000 systems, ULTRAAQUA is able to offer extensive support regarding installation and maintenance with the extensive network of regional offices.

The technical support team in our head office provides 24-hour remote service upon agreement, ensuring complete protection to avoid potential emergencies.

At ULTRAAQUA, we wish to provide a complete product experience for our customers, from the very start of determining requirements to the ongoing operational maintenance. This means that our responsibility does not stop after the UV system reaches its destination. By establishing a close collaboration with all clients, a streamlined process is effectively ensured throughout all post installation activities.

Our support services include, but are not limited to:

- 🔧 General technical support
- 🔧 Spare part ordering and shipping services
- 🔧 Commissioning
- 🔧 On-site training
- 🔧 On-site technical support

If needed, qualified engineers are available for on-site training and technical support, being able to assist in setting up the entire system. Extensive information and technical knowledge is always provided, to ensure maximum performance and system reliability.

- It may not be disinfected depends on water quality.
- The performance, values, etc. described in this brochure are typical values and may vary depending on operating conditions.
- The appearance and specifications are subject to change for improvement.
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