

SSV DRINKING WATER SERIES

UV DISINFECTION • EFFICIENT AND CHEMICAL-FREE WATER TREATMENT



ULTRAAQUA
UV DISINFECTION SYSTEMS

WE PROTECT YOUR MOST VALUABLE RESOURCE

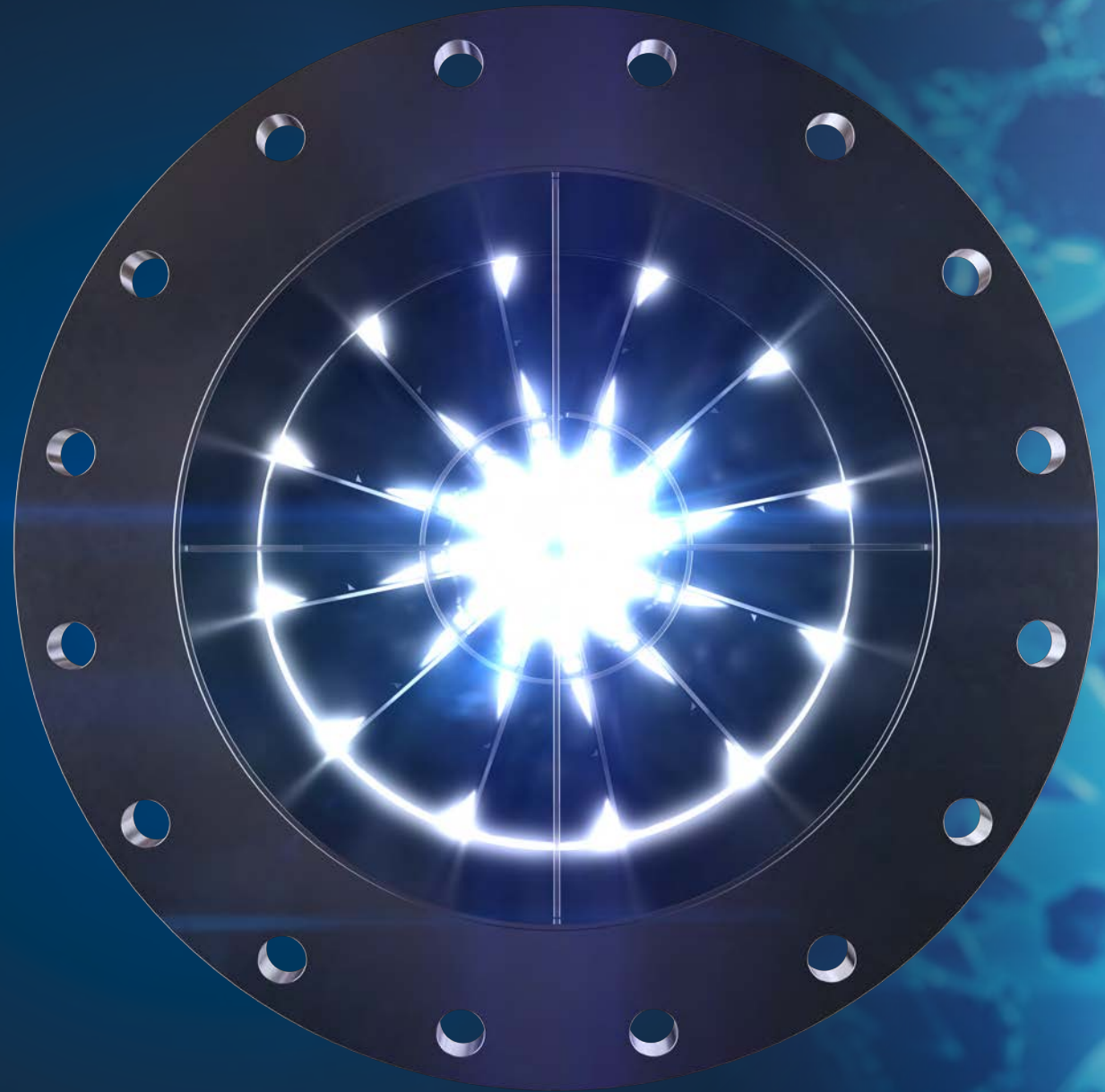
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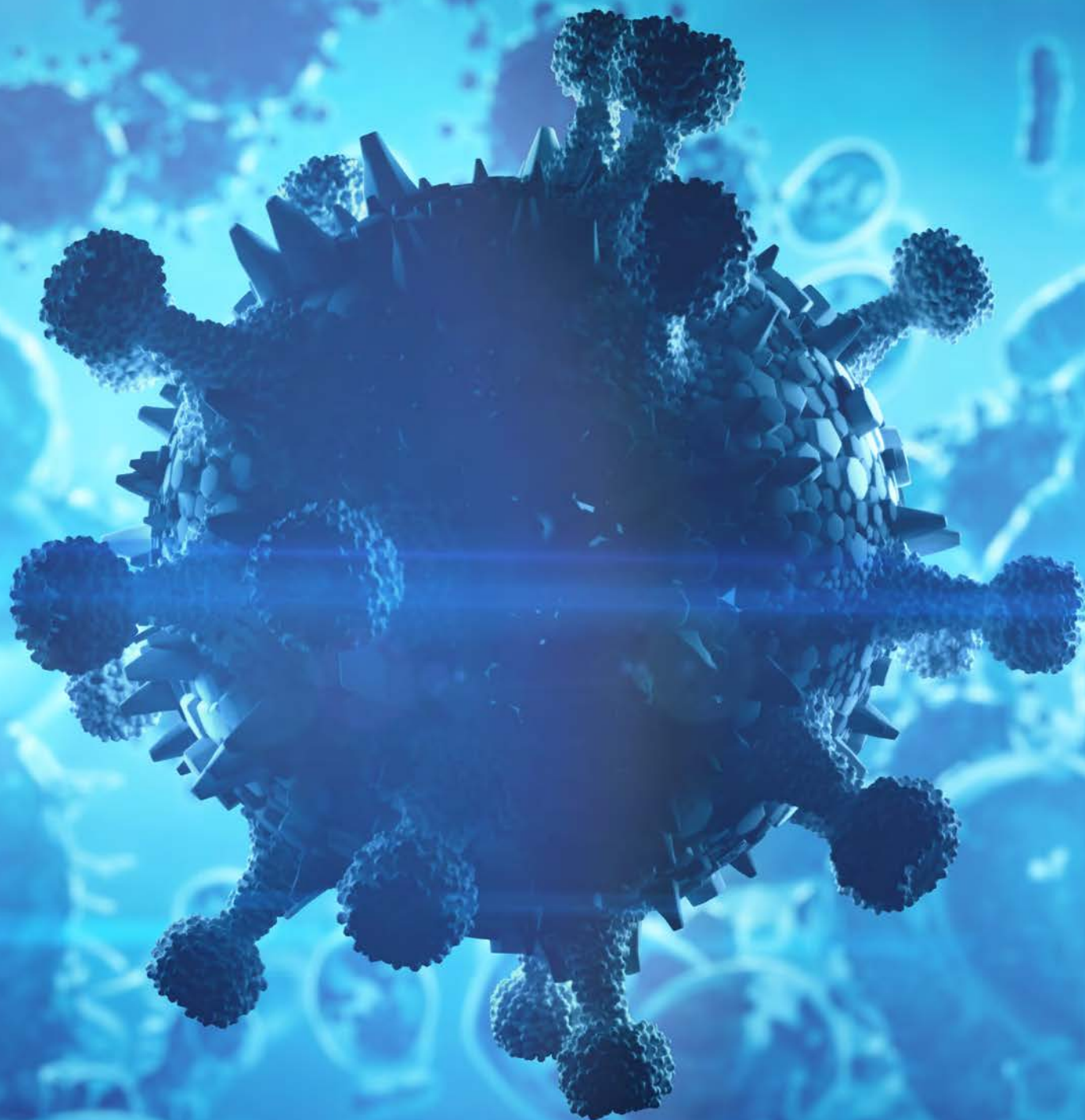
THE SERIES OFFERS DISINFECTION PERFORMANCES CAPABLE OF MORE THAN 4 LOG WITH FLOW CAPACITIES RANGING FROM 1 M³/HR TO OVER 4000 M³/HR.

KEY HIGHLIGHTS

- ❖ ULTRATHERM™ lamp Lifetime 16,000-hours
- ❖ Complete control with ULTRATOUCH™ control cabinets
- ❖ Efficient ÖNORM validated UV disinfection system
- ❖ Patented SWIRLFLOW™ technology enabling optimized 90% hydraulic efficiency at all water qualities
- ❖ Automated ULTRAWIPER™ quartz cleaning with tailored brush heads
- ❖ Easy maintenance and installation



MARKET LEADING ENERGY EFFICIENCY



CORE BENEFITS OF UV

ENSURING PROPER DRINKING WATER IS A VITAL STEP TO PROTECT THE PUBLIC HEALTH FROM DANGEROUS MICROORGANISMS.

The demand for cost-efficient solutions to provide clean drinking water are at an all-time high and will only increase in the future. UV is able to inactivate Cryptosporidium and other chlorine-resistant pathogenic organisms present in drinking water.

Operational efficiency is one of the core drivers within the drinking water market. Many facilities and organizations now invest in new assets that yield a return on investment based on their operational savings. This has led to manufacturing having to detail their whole life costs over 20 years. 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 ensure complete peace of mind, employing the best available solution for complete biosecurity.

ULTRAAQUA
UV DISINFECTION SYSTEMS

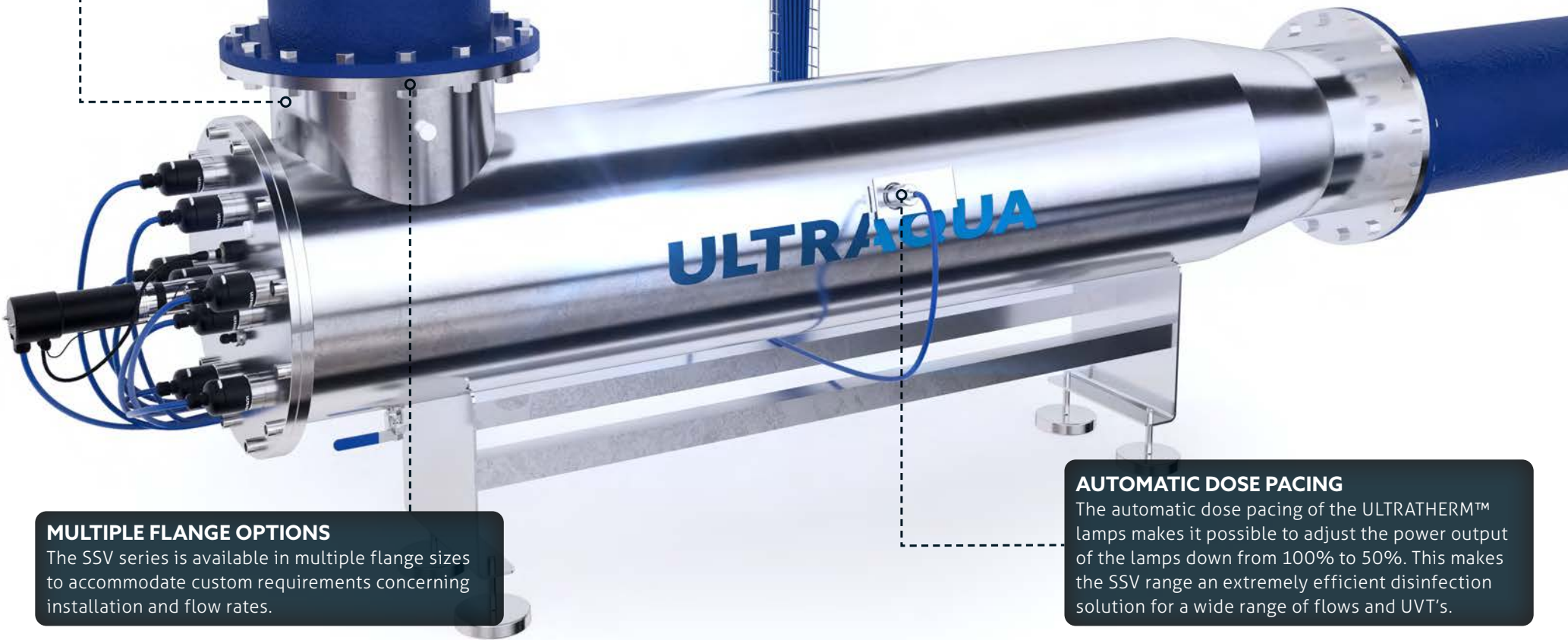
HIGH GRADE 316L STAINLESS STEEL

The internal reflection of the electropolished system provides efficiency improvements of up to 30% at high UVT's.

COMPLETE CONTROL WITH ULTRATOUCH™ CONTROL CABINETS

The market leading ULTRATOUCH™ PLC is the very latest in control and touch-screen HMI technology. With full data logging available, the ULTRATOUCH™ PLC provides complete control of the UV system to the operator, on site or remotely.

The SSV series PLC controls are easily integrated into SCADA layouts, and can be modified by our in-house software engineers to match the most complex requirements.



MULTIPLE FLANGE OPTIONS

The SSV series is available in multiple flange sizes to accommodate custom requirements concerning installation and flow rates.

AUTOMATIC DOSE PACING

The automatic dose pacing of the ULTRATHERM™ lamps makes it possible to adjust the power output of the lamps down from 100% to 50%. This makes the SSV range an extremely efficient disinfection solution for a wide range of flows and UVT's.

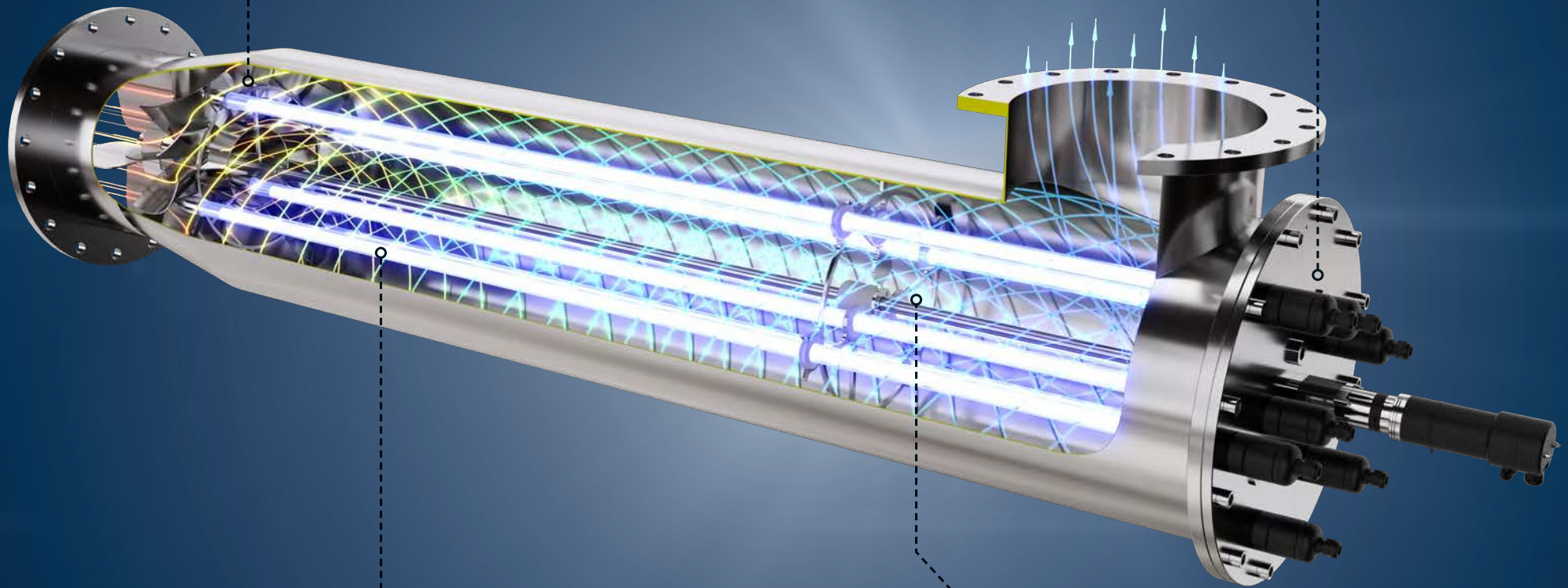
SWIRLFLOW FOR MAXIMUM EFFICIENCY

The unique patented SWIRLFLOW™ technology enables an optimized 90% hydraulic efficiency at all water qualities.

EASY MAINTENANCE AND INSTALLATION

With a design that allows for easy maintenance and single sided access, the system is easily installable and can be serviced using no special tools.

The unique interlocking electrical and mechanical lamp connectors make servicing of the system safe, quick, and fool proof.



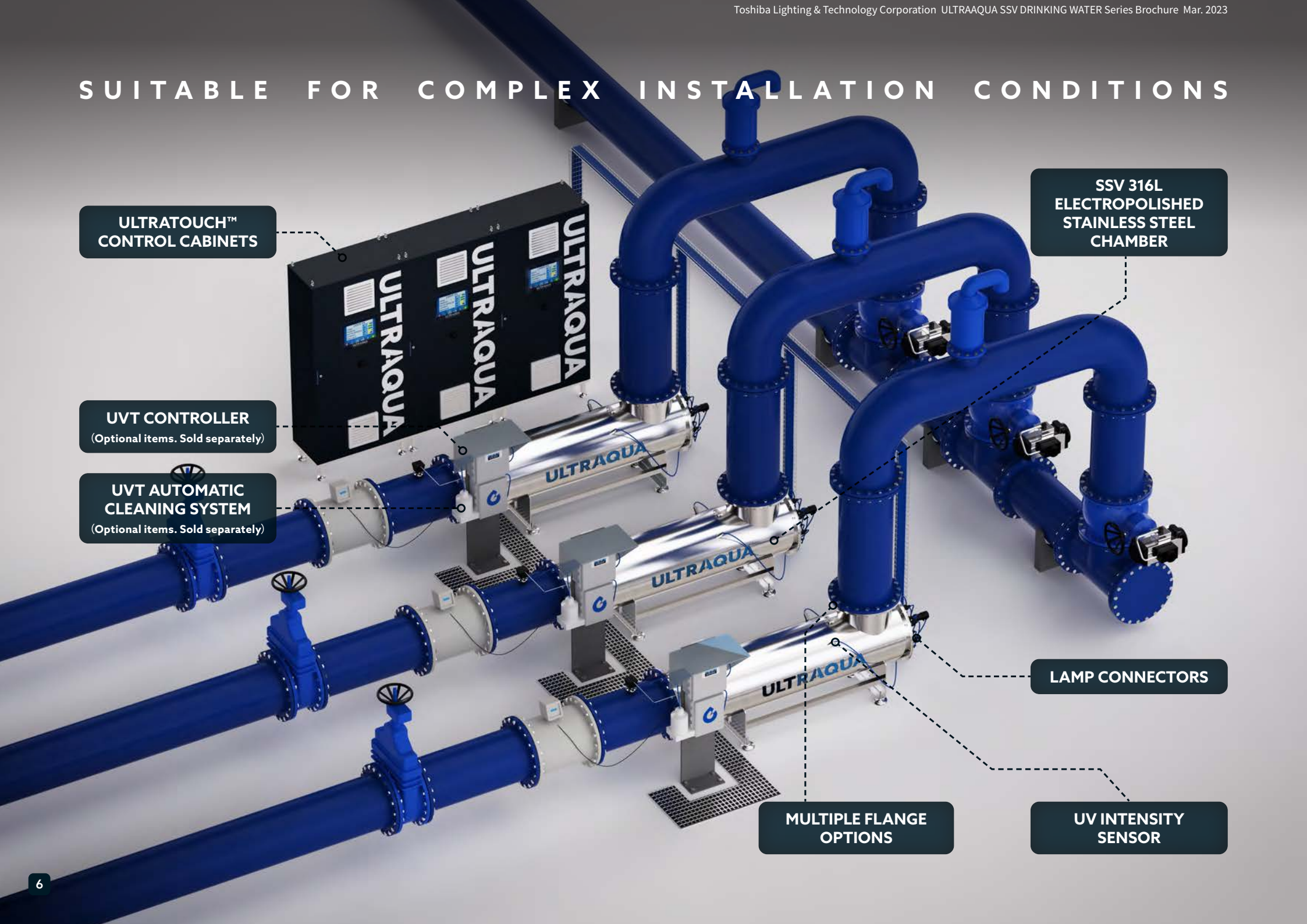
LAMP LIFETIME 16,000hours

The integrated ULTRATHERM™ lamps offer the very latest low pressure Amalgam UV lamp technology, being optimized for energy efficiency and robustness.

AUTOMATED ULTRAWIPER™ QUARTZ CLEANING WITH TAILORED BRUSH HEADS

The automatic sleeve wiping mechanism keeps both the quartz sleeves and the UV sensor clean while preventing harsh fouling. Keeping the quartz sleeves clean at all times contributes to a consistent and stable disinfection process.

SUITABLE FOR COMPLEX INSTALLATION CONDITIONS



**ULTRATOUCH™
CONTROL CABINETS**

UVT CONTROLLER
(Optional items. Sold separately)

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

**SSV 316L
ELECTROPOLISHED
STAINLESS STEEL
CHAMBER**

LAMP CONNECTORS

**MULTIPLE FLANGE
OPTIONS**

**UV INTENSITY
SENSOR**



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



ULTRAAQUA

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 its wide-ranging network of regional offices.

The technical support team in our head office provides 24-hour remote service upon agreement, ensuring that potential emergencies are avoided.

At ULTRAAQUA, we wish to provide a complete product experience for our customers, from the very start of determining requirements to 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.



TECHNOLOGY OVERVIEW & VALIDATIONS

THE UV SYSTEMS OF 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

| UV SYSTEM | MR1-220SSV | MR3-220SSV | MR4-220SSV | MR6-220SSV | MR6-350SSV | MR8-350SSV | MR12-350SSV |
|------------|-------------------------------|------------|------------|------------|------------|------------|-------------|
| Product ID | 21111 | 21113 | 21114 | 21116 | 21122 | 21124 | 21128 |
| Approvals | ÖNORM M5873-1, CE (Option UL) | | | | | | |

| UV LAMPS & MONITORING | | | | | | | |
|-----------------------|--|------|------|------|------|------|------|
| Lamp Number | 1 | 3 | 4 | 6 | 6 | 8 | 12 |
| ULTRATHERM™ LPHO Lamp | 220W | 220W | 220W | 220W | 350W | 350W | 350W |
| Lamp Lifetime | 16 000 Hours | | | | | | |
| UV Monitoring | UV Intensity Sensor ÖNORM M5873 Certified SS316L | | | | | | |
| Variable Power | ULTRADOSE™ pacing 50-100% | | | | | | |

| UV CHAMBER | | | | | | | |
|--------------------------------|---|---|-------|-------|-------|-------|-------|
| Connection Size | DN100 | DN100 | DN150 | DN250 | DN300 | DN350 | DN400 |
| Connection Type | EN-1092 Type 01A PN10 (Option PN16) | | | | | | |
| Design Pressure | 10 Bar (Option 16 Bar) | | | | | | |
| Chamber Material | SS316L / 1.4404 (Option Super Duplex) | | | | | | |
| Internal & External Finish | Electropolished Inside/Out | | | | | | |
| Lamp/Wiper Access Single Ended | Yes | | | | | | |
| Quartz Type | High Purity Fused Quartz Transmittance >95% | | | | | | |
| Mounting | Free Standing (Option Horizontal SS316 Stand) | | | | | | |
| ULTRAWIPER™ System | N/A | Automatic Mechanical with PTFE/Fiber Rings (Electrical) | | | | | |
| Temperature Probe | PT100 | | | | | | |
| Vent & Drain Ports | 1" (Sampling Ports 1/4") | | | | | | |
| Ingress Protection | IP65 | | | | | | |
| Installation | Horizontal / Vertical | | | | | | |
| Minor Wetted Parts | FDA approved PTFE, PVDF, VITON | | | | | | |

| CONTROL CABINET | | | | | | | |
|-----------------------------|--|--|---------------|---------------|---------------|----------------|--------------------------------|
| Cabinet Material | GFRP (Option SS304/SS316) | SS304 (Option SS316, Painted Steel, GFRP) | | | | | |
| Cabinet Sizes (H x W x D) | 400x600x210mm | 800x800x300mm | 800x800x300mm | 800x800x300mm | 800x800x300mm | 1000x800x300mm | 1000x800x300mm |
| Cable Length | 4 Meters (Max. 30 Meters) | | | | | | |
| Installation & Ambient | Wallmount 0-40 °C | Wallmount 0-40 °C Non-Condensing | | | | | |
| Thermal Control | Passive dissipation (Option AC/Heat exchanger) | Fan with Filter (Option AC / Heat Exchanger) | | | | | |
| Control Logic | Microprocessor | PLC Siemens (Option Allen Bradley) | | | | | |
| Interface/HMI | 4 Line LCD with System State Indication | 7" ULTRATOUGH™ | | | | | |
| SCADA Communication | MODBUS RTU | MODBUS TCP / IP / PROFINET | | | | | |
| Analogue 4-20mA I/O | Flow Input/UV Irradiance Output | Flow Input/UV Dose Output (Option UVT Input) | | | | | |
| Ingress Protection | IP65 | IP54 (Option IP65/NEMA4X) | | | | | |
| Event Log | Alarms | UV Dose, UV Intensity, Flow | | | | | |
| Power Consumption | 0,2 kW | 0,7 kW | 1,0 kW | 1,4 kW | 2,3 kW | 3,0 kW | 4,5 kW |
| Power Supply | 230VAC +/- 10% +N+PE 50/60Hz | | | | | | 3x400VAC +/- 10% +N+PE 50/60Hz |

Specifications are subject to change without notice. Version: 22.0

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 has 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.



- 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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