TOC VUV SERIES

UV DISINFECTION • EFFICIENT AND CHEMICAL-FREE WATER TREATMENT

ULTRAAQUA

ULTRAAQUA
UV DISINFECTION SYSTEMS

WE PROTECT YOUR MOST VALUABLE RESOURCE

TOC VUV 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.

THIS MAKES IT MARKET-LEADING IN PROVIDING DISINFECTED WATER FOR APPLICATIONS SUCH AS PHARMACEUTICAL, FOOD & BEVERAGE, AND PROCESS WASTEWATER, WHERE EVEN THE SMALLEST OF CONTAMINANTS CAN HAVE A MAJOR NEGATIVE IMPACT.

KEY HIGHLIGHTS

- Guaranteed 12.000-hour ULTRATOX™ lamp lifetime
- Optimized for maximum efficiency
- Easy maintenance and installation
- Complete control with ULTRATOUCH™ control cabinets
- Excellent level of customization
- Extended 5 years warranty available - subject to terms & conditions

MARKET LEADING ENERGY EFFICIENCY

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 have made UV a viable OPEX and CAPEX solution for disinfection processes as well as in more advanced applications such as Advanced Oxidation Processes (AOP).

Choosing UV as the disinfection method ensures optimal CAPEX and OPEX conditions 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

COMPLETE CONTROL WITH ULTRATOUCH™ CONTROL CABINETS

The market leading ULTRATOUCH™ PLC is the very latest in control and touch-screen HMI technology. Full data logging provides complete control to the operator, on site or remotely.
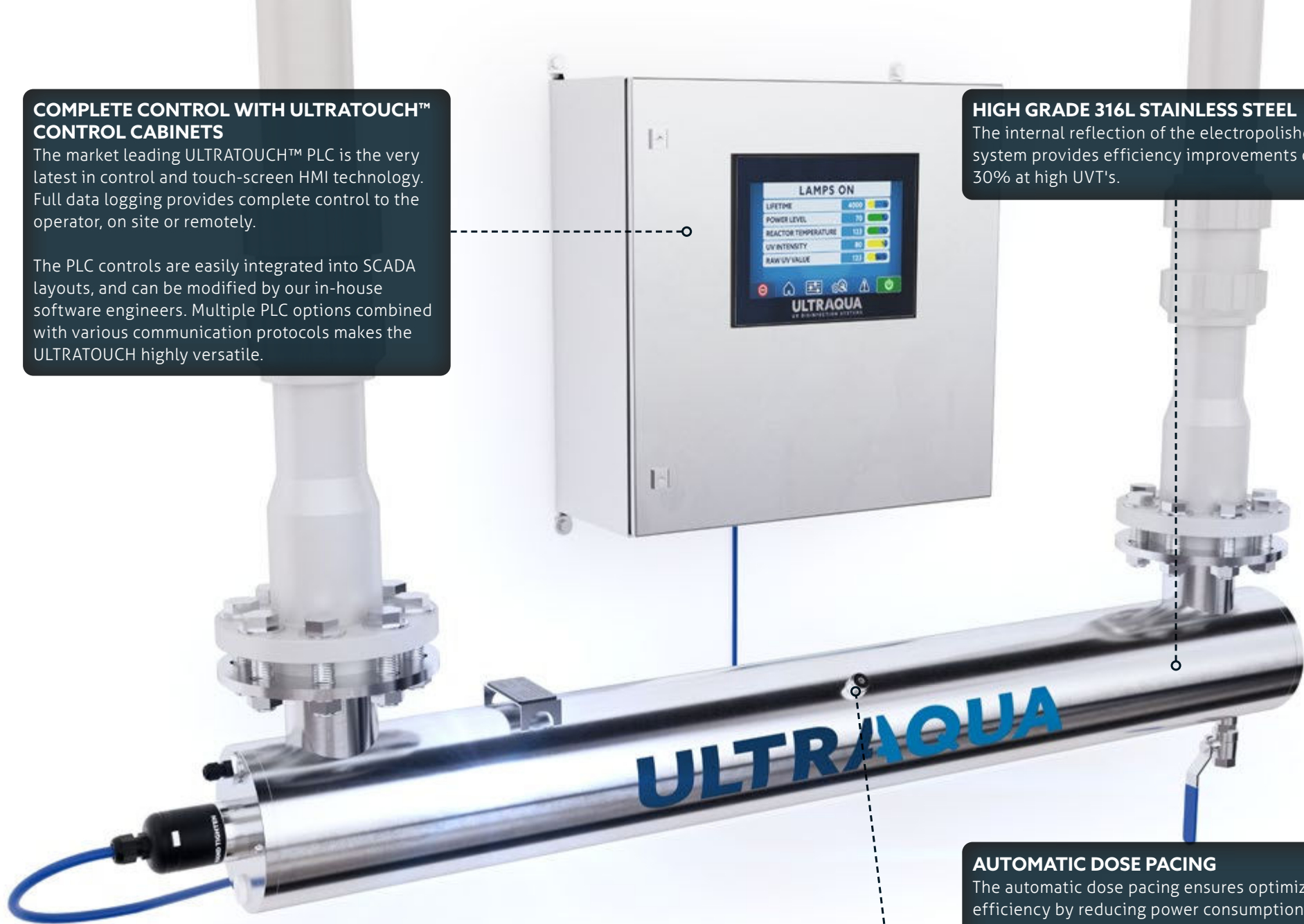
The PLC controls are easily integrated into SCADA layouts, and can be modified by our in-house software engineers. Multiple PLC options combined with various communication protocols makes the ULTRATOUCH highly versatile.

HIGH GRADE 316L STAINLESS STEEL

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

AUTOMATIC DOSE PACING

The automatic dose pacing ensures optimized efficiency by reducing power consumption while ensuring a stable dose under operation. The ability to control the power increments ensures that issues related to overdosing and temperature issues are well mitigated.

LAMPS ON
LIFETIME 4000
POWER LEVEL 70
REACTOR TEMPERATURE 133
UV INTENSITY 80
RAW UV VALUE 127

ULTRAQUA
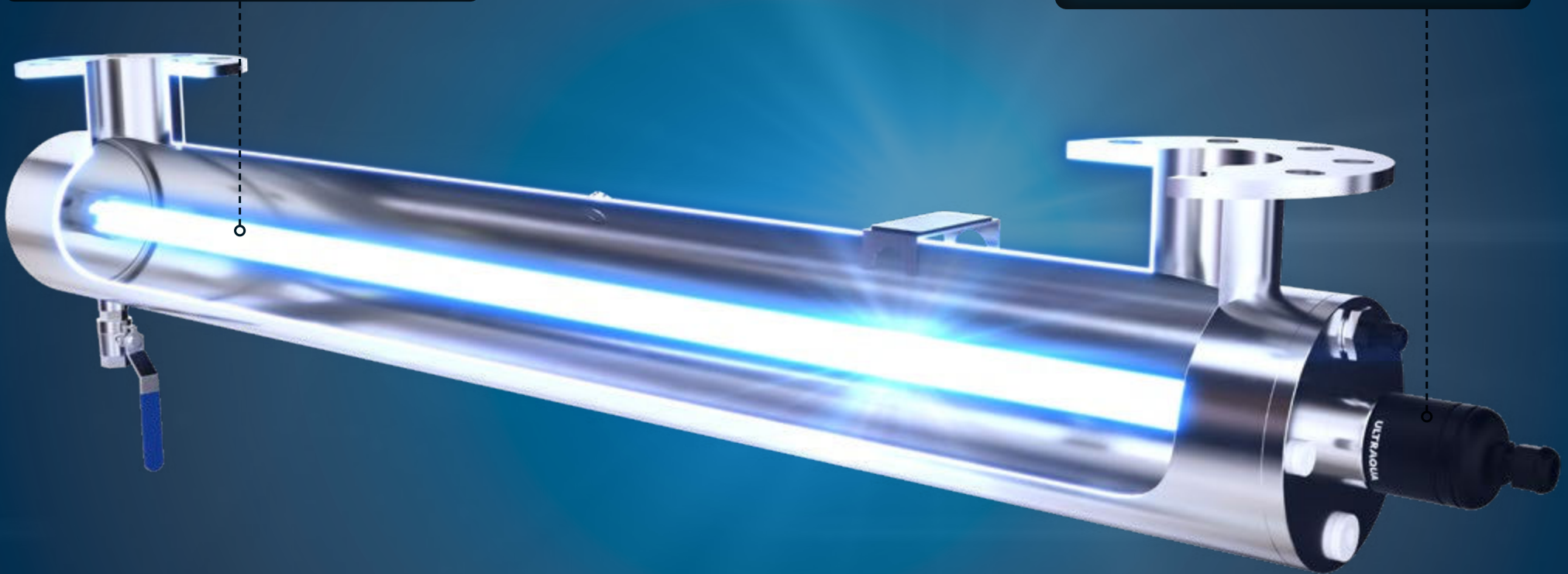UV DISINFECTION SYSTEMS

ULTRAQUA

EXCEPTIONAL LAMP LIFETIME

The integrated ULTRATOX™ lamps offer the very latest low pressure Amalgam UV lamp technology. The ULTRATHERM™ lamps are based on 20 years of experience and extensive research, aiming for optimized energy efficiency and robustness. This makes the lamps able to provide a substantial 12.000 hours of lamp lifetime.
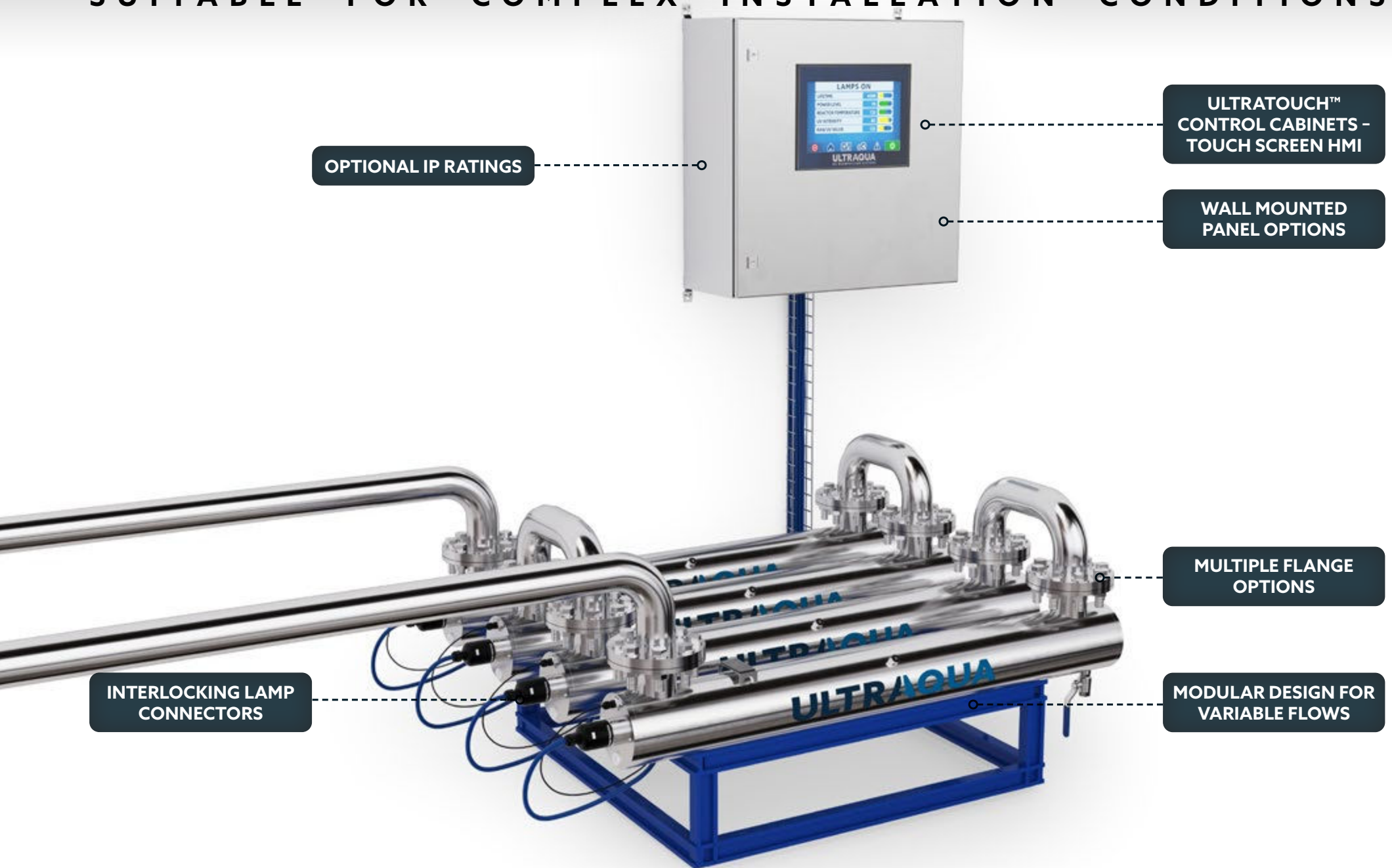
EASY MAINTENANCE AND INSTALLATION

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.

SUITABLE FOR COMPLEX INSTALLATION CONDITIONS

ULTRATOUCH™ CONTROL CABINETS – TOUCH SCREEN HMI

OPTIONAL IP RATINGS

WALL MOUNTED PANEL OPTIONS

MULTIPLE FLANGE OPTIONS

INTERLOCKING LAMP CONNECTORS

MODULAR DESIGN FOR VARIABLE FLOWS

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

UV SYSTEM	MR1-220SS VUV STD	MR1-220SS VUV ADV	MR3-220SS VUV	MR4-220SS VUV
Product ID	21602	21602	21605	21607
Approvals	CE (Option UL/ cUL)			

UV LAMPS & MONITORING				
Lamp Number	1	1	3	4
ULTRATOX™ TOC Lamp	220W			
Guaranteed Lamp Lifetime	12 000 Hours			
UV Monitoring	N/A	UV Intensity Sensor ÖNORM M5873 Certified SS316L		
Variable Power	N/A	50-100%		

UV CHAMBER				
Connection Size	DN80		DN150	
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	Synthetic High Purity Fused Quartz			
Mounting	Free Standing (Option Horizontal Duplex Stand)			
ULTRAWIPER™ System	N/A	(Option Automatic Mechanical With PTFE/Fiber Rings (Electrical))		
Temperature Probe	1x PT100			
Vent & Drain Ports	½"			
Ingress Protection	IP68			
Installation	Horizontal / Vertical			
Minor Wetted Parts	FDA approved PTFE, PVDF, VITON			

CONTROL CABINET				
Cabinet Material	GFRP (Option SS304/SS316)			
Cabinet Sizes (H x W x D)	400x300x210mm	400x600x210mm	800x600x300mm	800x600x300mm
Cable Length	4 Meters (Max. 20 Meters)			
Installation & Ambient	Wallmount 0-40 °C	Wallmount 0-40 °C Non-Condensing		
Ingress Protection	IP65		IP54 (Option IP65/NEMA4X)	
Thermal Control	Passive Dissipation (Option Fan / AC / Heat Exchanger)		Fan with Filter (Option AC / Heat Exchanger)	
Control Logic	N/A	Microprocessor	PLC	
Interface/HMI	Status LED Indicators & Hour Counter	4 Line LCD with System State Indication	7" ULTRATOUCH™	
External Wiring	N/A	Remote ON/OFF, Safety ON/OFF, System Status, Alarm		
Power Consumption	0,2 kW	0,2 kW	0,7 kW	1,0 kW
Power Supply	230VAC +/- 10% +N+PE 50/60Hz			

ADV. CONTROLLER FEATURES				
SCADA Communication	N/A	MODBUS RTU	MODBUS TCP/IP (Option PROFINET)	
Analogue 4-20mA I/O	N/A	Flow Input/UV Irradiance Output	Flow Input/UV Dose Output (Option UVT Input)	
ULTRADOSE™	N/A		Automatic UV Dose Pacing 50-100%	
Event Log	N/A	Alarms	UV Dose, UV Intensity, Flow	
UV Dose	N/A	On Display, UV Intensity	On HMI, Actual UV Dose & Target UV Dose	
UV Dose Alarm	N/A	UV Intensity Pre-Alarm & Alarm	Pre-Alarm & Alarm	

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
- Advanced 24-hour support upon agreement
- 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.

Specifications are subject to change without notice. version: 23.1

UV SYSTEM	MR1-350SS VUV STD	MR1-350SS VUV ADV	MR4-350SS VUV	MR6-350SS VUV	MR8-350SS VUV	MR12-350SS VUV	MR18-350SS VUV
Product ID	25082	25082	25083	25084	25085	25086	25087
Approvals				CE (Option UL/ cUL)			

UV LAMPS & MONITORING							
Lamp Number	1	1	4	6	8	12	18
ULTRATOX™ TOC Lamp				350W			
Guaranteed Lamp Lifetime				12 000 Hours			
UV Monitoring	N/A			UV Intensity Sensor ÖNORM M5873 Certified (Option Non-Corrosive PTFE)			
Variable Power	N/A			50-100%			

UV CHAMBER							
Connection Size	DN100	DN100	DN150	DN200	DN250	DN250	DN300
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				Synthetic High Purity Fused Quartz			
Mounting				Free Standing (Option Horizontal SS316 Stand)			
ULTRAWIPER™ System	N/A			(Option Automatic Mechanical With PTFE/Fiber Rings (Electrical))			
Temperature Probe				PT100			
Vent & Drain Ports				½"		1"	
Ingress Protection				IP68			
Installation				Horizontal / Vertical			
Minor Wetted Parts				FDA approved PTFE, PVDF, VITON			

CONTROL CABINET							
Cabinet Material				GFRP (Option SS304/SS316)			
Cabinet Sizes (H x W x D)	400x600x210mm	400x600x210mm	800x600x300mm	800x600x300mm	750x1000x320mm	750x1000x320mm	1000x1250x320mm
Cable Length				4 Meters (Max. 30 Meters)			
Installation & Ambient	Wallmount 0-40 °C			Wallmount 0-40 °C Non-Condensing			
Ingress Protection	IP65			IP54 (Option IP65/NEMA4X)			
Thermal Control	Passive Dissipation (Option Fan / AC / Heat Exchanger)			Fan with Filter (Option AC / Heat Exchanger)			
Control Logic	N/A	Microprocessor		PLC			
Interface/HMI	Status LED Indicators & Hour Counter	4 Line LCD with System State Indication		7" ULTRATOUCH™			
External Wiring	N/A			Remote ON/OFF, Safety ON/OFF, System Status, Alarm			
Power Consumption	0,4 kW	0,4 kW	1,5 kW	2,3 kW	3,0 kW	4,5 kW	6,8 kW
Power Supply	230VAC +/- 10% +N+PE 50/60Hz			3x400VAC +/- 10% +N+PE 50/60Hz			

ADV. CONTROLLER FEATURES							
SCADA Communication	N/A	MODBUS RTU		MODBUS TCP/IP (Option PROFINET)			
Analogue 4-20mA I/O	N/A	Flow Input/UV Irradiance Output		Flow Input/UV Dose Output (Option UVT Input)			
ULTRADOSE™	N/A			Automatic UV Dose Pacing 50-100%			
Event Log	N/A	Alarms		UV Dose, UV Intensity, Flow			
UV Dose	N/A	On Display, UV Intensity		On HMI, Actual UV Dose & Target UV Dose			
UV Dose Alarm	N/A	UV Intensity Pre-Alarm & Alarm		Pre-Alarm & Alarm			

UV SYSTEM	MR28-350SS VUV
Product ID	25088
Approvals	CE (Option UL/ cUL)

UV LAMPS & MONITORING	
Lamp Number	28
ULTRATOX™ TOC Lamp	350W
Guaranteed Lamp Lifetime	12 000 Hours
UV Monitoring	UV Intensity Sensor ÖNORM M5873 Certified (Option Non-Corrosive PTFE)
Variable Power	50-100%

UV CHAMBER	
Connection Size	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	Synthetic High Purity Fused Quartz
Mounting	Free Standing (Option Horizontal SS316 Stand)
ULTRAWIPER™ System	(Option Automatic Mechanical With PTFE/Fiber Rings (Electrical))
Temperature Probe	PT100
Vent & Drain Ports	1"
Ingress Protection	IP68
Installation	Horizontal / Vertical
Minor Wetted Parts	FDA approved PTFE, PVDF, VITON

CONTROL CABINET	
Cabinet Material	GFRP (Option SS304/SS316)
Cabinet Sizes (H x W x D)	1000x1250x320mm
Cable Length	4 Meters (Max. 30 Meters)
Installation & Ambient	Wallmount 0-40 °C Non-Condensing
Ingress Protection	IP54 (Option IP65/NEMA4X)
Thermal Control	Fan with Filter (Option AC / Heat Exchanger)
Control Logic	PLC
Interface/HMI	7" ULTRATOUCH™
External Wiring	Remote ON/OFF, Safety ON/OFF, System Status, Alarm
Power Consumption	10,5 kW
Power Supply	3x400VAC +/- 10% N+PE 50/60Hz

ADV. CONTROLLER FEATURES	
SCADA Communication	MODBUS TCP/IP (Option PROFINET)
Analogue 4-20mA I/O	Flow Input/UV Dose Output (Option UVT Input)
ULTRADOSE™	Automatic UV Dose Pacing 50-100%
Event Log	UV Dose, UV Intensity, Flow
UV Dose	On HMI, Actual UV Dose & Target UV Dose
UV Dose Alarm	Pre-Alarm & Alarm

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CONTROL CABINET VARIANTS

ONE LAMP STANDARD

ONE LAMP ADVANCED

MULTI LAMP

MULTI LAMP

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, 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.

Global experience combined with advanced knowledge of dealing with varying customer requirements, ensures an optimal solution to accommodate every client. Combined with a dedicated support experience, a streamlined operational process is guaranteed.

WANT TO LEARN MORE?

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📱 (+45) 70 23 10 20

✉ sales@ultraaqua.com

VALIDATION OVERVIEW

⌖FHI

The **NIPH (Norwegian Institute of Public Health) type approval** ensures that all UV disinfection units meets the requirements for UV dosage.

DVGW

The **DVGW certification** assures that critical technical requirements are met regarding hygiene, safety, and general functionality.

AMS

The **AMS (Analog Mixed Signal) verification** ensures that the electronic components are compliant with the latest industry-standard.

⊙ETV

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

ULTRAAQUA
UV DISINFECTION SYSTEMS