ULTRABARRIER™ SERIES

UV DISINFECTION • EFFICIENT AND CHEMICAL-FREE WATER TREATMENT

ULTRAQUA

UV DISINFECTION SYSTEMS

WE PROTECT YOUR MOST VALUABLE RESOURCE

ULTRABARRIER™ SERIES

THE ULTRABARRIER™ SERIES IS DEVELOPED SPECIFICALLY FOR DISINFECTING INTAKE WATER IN THE AQUACULTURE INDUSTRY, AVAILABLE IN BOTH STAINLESS STEEL (SS) AND POLYPROPYLENE (PP).

THE ULTRABARRIER™ ACTS AS A DISINFECTION FIREWALL, ENSURING THAT NO HARMFUL MICROORGANISMS ENTER THE PRODUCTION.

KEY HIGHLIGHTS

- Developed specifically for aquaculture intake and recirculation water disinfection
- Approved by the Norwegian Veterinary Institute (NVI) for biosecurity compliance
- Optimized for maximum UV dose uniformity and hydraulic stability
- Simplified maintenance and installation for minimal downtime
- Guaranteed 16 000-hour ULTRATHERM lamp lifetime
- Automated ULTRAWIPER™ quartz cleaning with tailored brush heads
- Extended 5 years warranty available (T&C's apply)

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.

ULTRAQUA

OPTIMIZED FOR MAXIMUM EFFICIENCY

The CFD optimized lamp positioning makes the ULTRABARRIER™ able to offer maximum hydraulic efficiency with minimum head loss, eliminating any chance of 'dark areas' with untreated microorganisms.

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.

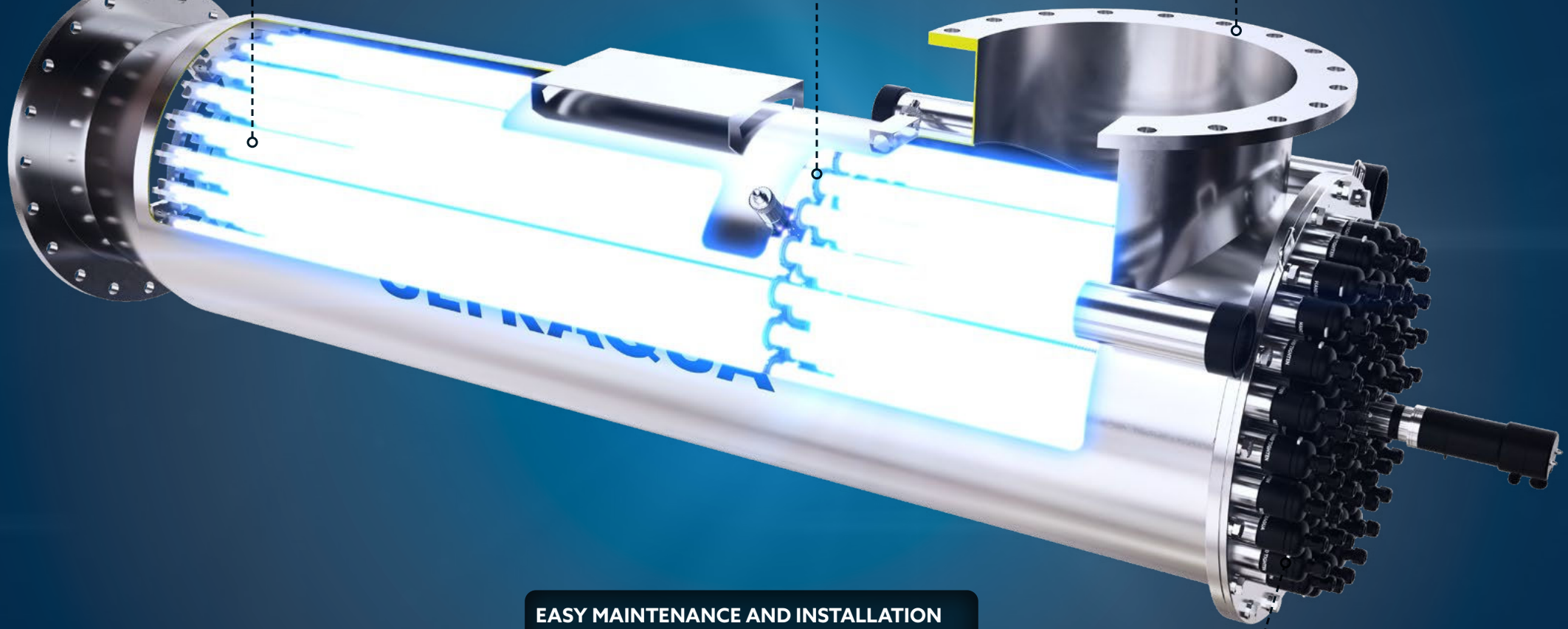
AUTOMATIC DOSE PACING

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.

EXCEPTIONAL LAMP LIFETIME
The integrated ULTRATHERM lamps offer the very latest low pressure Amalgam UV lamp technology, being optimized for energy efficiency and robustness. The substantial 16 000 hours of lamp lifetime offers market leading lamp efficiency in UV-C output density.

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.

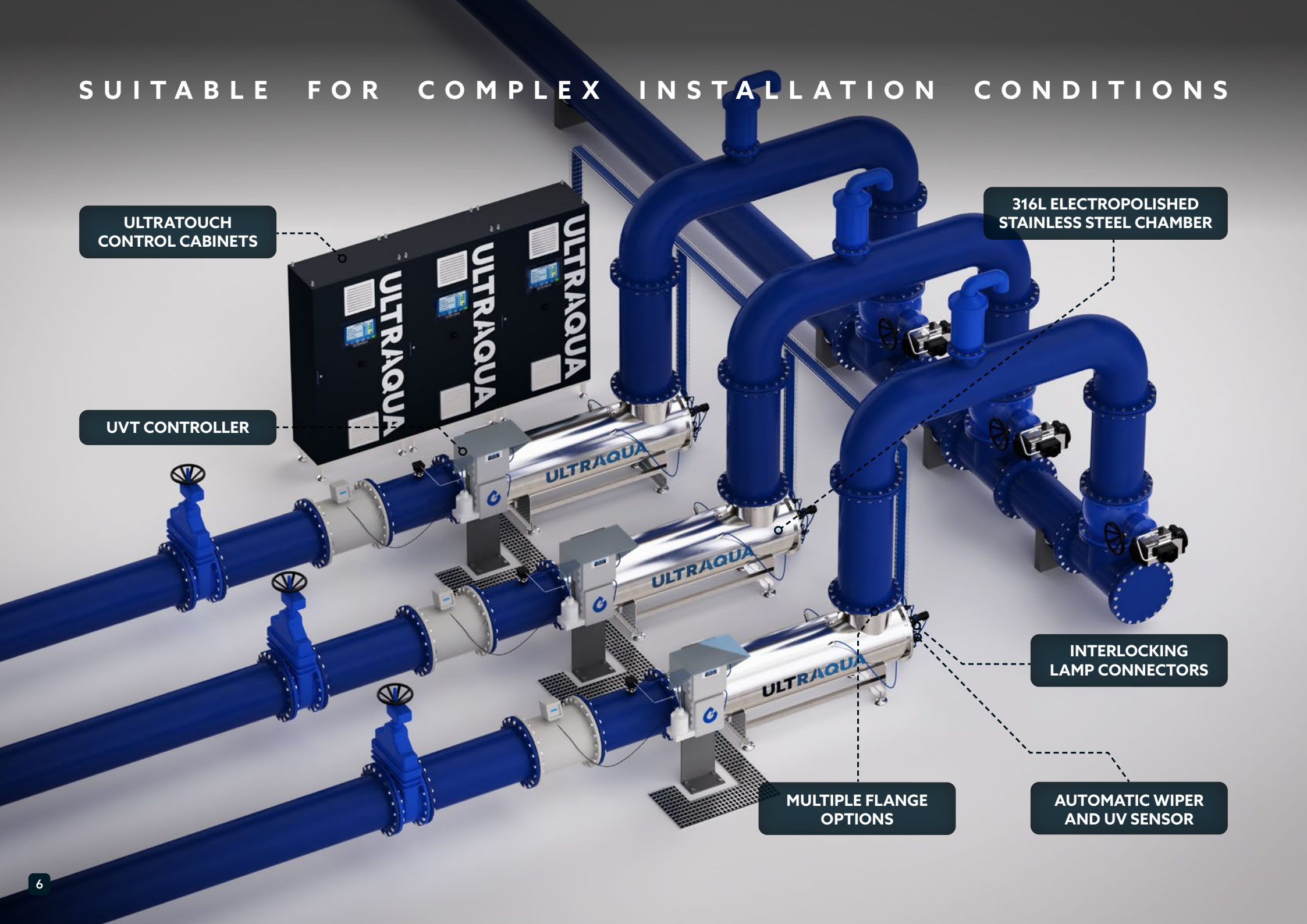
MULTIPLE FLANGE OPTIONS
The ULTRABARRIER™ series is available in multiple flange sizes to accommodate custom requirements for installation and flow rates.

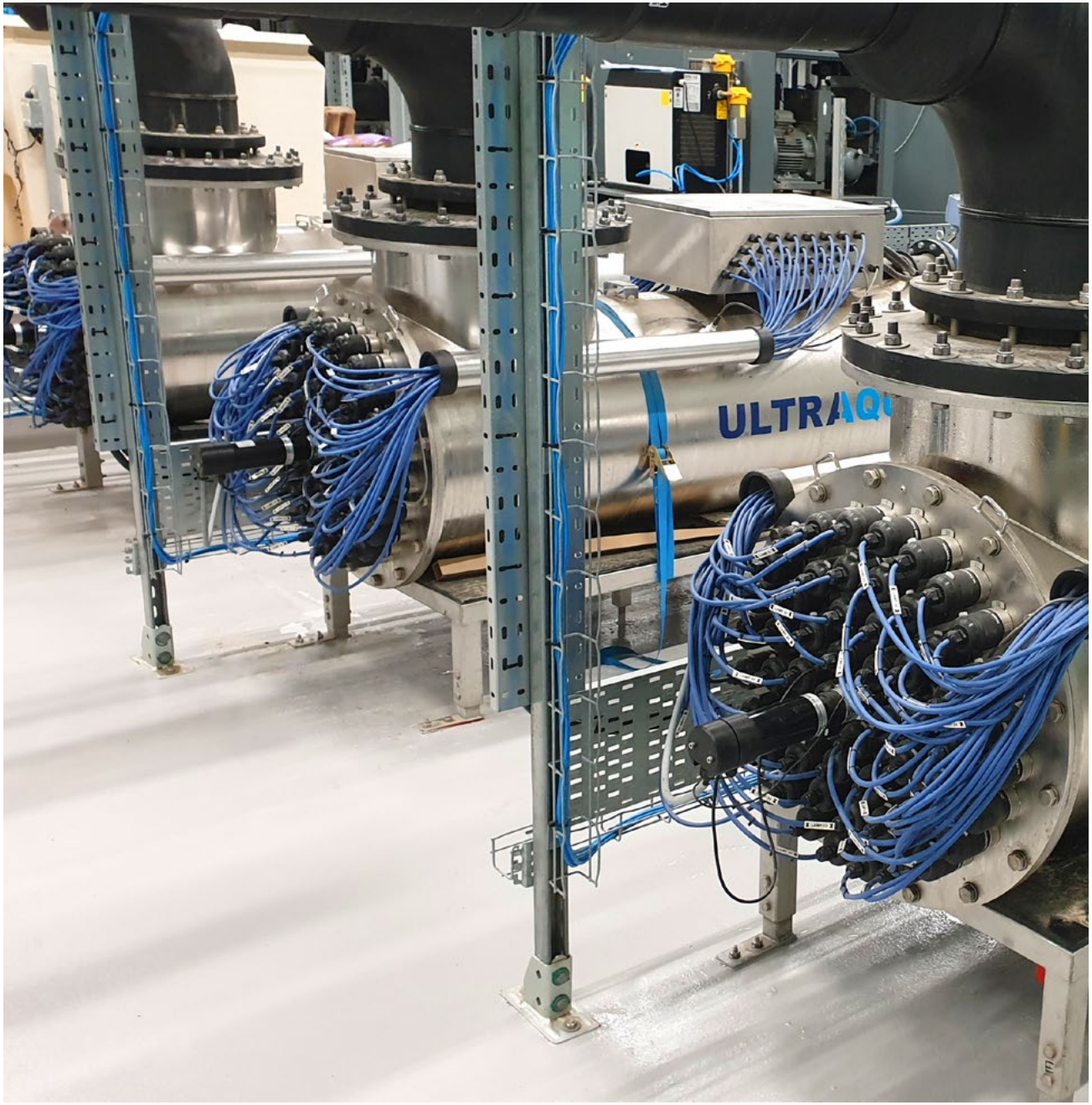


EASY MAINTENANCE AND INSTALLATION
With a design that allows for easy maintenance and single sided access, the system is easily installable and can be serviced using no special tools.

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

SUITABLE FOR COMPLEX INSTALLATION CONDITIONS





CUSTOMIZED SOLUTIONS

ULTRAAQUA UTILIZES AN ENTIRE DEPARTMENT OF ENGINEERS SPECIALIZED IN THE DESIGN AND CONSTRUCTION OF UV SYSTEMS.

Numerous years of experience in various applications enable the adjustment of any standard UV system to accommodate specific requirements.

The customization requirements can vary from adjustments such as reactor shape or flange size to various advanced features.

This enables us to ensure on-site validation to various standards, fitting your exact requirements.

For all customizations, the services and solutions include, but are not limited to:

- Integrated CFD Analysis
- Particle tracing modeling analysis
- Determining fluence rate
- Physical testing
- On-site validation testing
- Solutions for advanced applications
- Packaged plant equipment
- Mobile treatment containers
- Skid packages

Additionally, our engineers are able to assist with installation details such as weir design, water level control devices, and many other project-specific matters.

SERVICE & SUPPORT

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

With over 10 000 systems installed in over 120 countries, ULTRAAQUA offers extensive support regarding installation and maintenance through a wide-ranging network of regional offices.

The technical support team at our head office provides 24-hour remote service upon agreement to reduce the risk of emergencies.

At ULTRAAQUA, it is our goal to provide a complete product experience for our customers, from specifying requirements to ongoing operational maintenance. This naturally means that our responsibility does not stop after the UV system reaches its destination.

By maintaining close collaboration with all clients, a trouble-free process is ensured throughout all post-installation activities.

The 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 necessary, qualified engineers are available for on-site training and technical support, able to assist in setting up the complete solution. To ensure maximum system performance and reliability, extensive information and technical knowledge are always provided.

UV SYSTEM	MR1-350PP ULTRABARRIER	MR4-350PP ULTRABARRIER	MR6-350PP ULTRABARRIER	MR8-350PP ULTRABARRIER	MR12-350PP ULTRABARRIER	MR18-350PP ULTRABARRIER	MR28-350PP ULTRABARRIER
Product ID	22151	22154	22156	22158	22160	22164	22168
Approvals	Norwegian Veterinary Institute NVI, CE [UL/ cUL]						
UV LAMPS & MONITORING							
Total Lamps	1	4	6	8	12	18	28
ULTRATHERM LPHO Lamp	350 W						
Guaranteed Lamp Lifetime	16 000 Hours						
UV Monitoring	2x UV Intensity Sensor ÖNORM M5873 Certified Super Duplex						
Variable Power	ULTRADOSE Pacing 50-100%						
UV CHAMBER							
Connection Size	DN100 (ANSI4)	DN100 (ANSI4)	DN150 (ANSI6)	DN150 (ANSI6)	DN200 (ANSI8)	DN300 (ANSI12)	DN400 (ANSI16)
Design Pressure	8 bar (116 psi)	6 bar (87 psi)	5 bar (73 psi)	3 bar (44 psi)	2 bar (29 psi)	2 bar (29 psi)	2 bar (29 psi)
Connection Type	PN10 (ANSI Class 150)						
Chamber Material	Non-Corrosive UV-Stabilized Polypropylene [PEHD]						
Internal / External Finish	Machined						
Lamp/Wiper Access Single Ended	Yes						
Quartz Type	High Purity Fused Quartz Transmittance >95%						
Mounting	Free Standing [Horizontal SS316 Stand]						
ULTRAWIPER™ System	Automatic Mechanical with PTFE/Fiber Rings (Electrical)						
Temperature Probe	PT100						
Vent & Drain Ports	1" Drain Port						
Ingress Protection	IP65						
Installation	Horizontal / Vertical						
Minor Wetted Parts	FDA Approved PTFE, PVDF, VITON						
Reactor Dry Weight	23 kg (51 lb)	36 kg (79 lb)	46 kg (101 lb)	55 kg (121 lb)	74 kg (163 lb)	124 kg (273 lb)	171 kg (377 lb)
Reactor Volume	40 L (10.6 gal)	71 L (18.8 gal)	90 L (23.8 gal)	113 L (29.9 gal)	207 L (54.7 gal)	311 L (82.2 gal)	377 L (99.6 gal)
CONTROL CABINET							
Cabinet Material	GFRP [SS304/SS316]						
Cabinet Size (H×W×D) mm (in)	800×600×300 (31.5×23.6×11.8)	800×600×300 (31.5×23.6×11.8)	750×1000×320 (29.5×39.4×12.6)	750×1000×320 (29.5×39.4×12.6)	1000×1250×320 (39.4×49.2×12.6)	1250×1250×420 (49.2×49.2×16.5)	1000×1250×320 (39.4×49.2×12.6)
Installation & Ambient	Wallmount 0-35°C (32-95°F)	Wallmount 0-35°C (32-95°F)	Wallmount 0-35°C (32-95°F)	Wallmount 0-30 °C (32-86°F)	Wallmount 0-28 °C (32-82°F)	Wallmount 0-26°C (32-79°F)	Wallmount 0-40°C (32-104°F) Non-Condensing
Thermal Control	Passive Dissipation [Fan / AC / Heat Exchanger]						Fan with Filter [AC / Heat Exchanger]
Cable Length	4 Meters [Max. 30 Meters] (13 ft [Max. 98 ft])						
Control Logic	PLC Siemens [Allen Bradley]						
Interface/HMI	7" ULTRATOUCH						
SCADA Communication	MODBUS TCP / IP / PROFINET						
Analogue 4-20mA I/O	Flow Input/UV Dose Output/UV Intensity Output [UVT Input]						
Log	Alarm, Event & Data (UV Dose, UV Intensity & Flow)						
Ingress Protection	IP65						
Power Supply	1×230VAC +/- 10% +N+PE 50/60Hz			3×400VAC +/- 10% +N+PE 50/60Hz			
Power Consumption	0,4 kW	1,5 kW	2,3 kW	3,0 kW	4,5 kW	6,8 kW	10,5 kW
Cabinet Weight	29 kg (64 lb)	32 kg (71 lb)	57 kg (126 lb)	86 kg (190 lb)	92 kg (203 lb)	131 kg (289 lb)	146 kg (322 lb)

[Options are marked with square brackets] - Specifications are subject to change without notice. **Version: 26.1**

UV SYSTEM	MR1-350SS ULTRABARRIER	MR4-350SS ULTRABARRIER	MR6-350SS ULTRABARRIER	MR8-350SS ULTRABARRIER	MR12-350SS ULTRABARRIER	MR18-350SS ULTRABARRIER	MR28-350SS ULTRABARRIER
Product ID	21150	21154	21156	21158	21160	21164	21168
Approvals	Norwegian Veterinary Institute NVI, CE [UL/ cUL]						
UV LAMPS & MONITORING							
Total Lamps	1	4	6	8	12	18	28
ULTRATHERM LPHO Lamp	350 W						
Guaranteed Lamp Lifetime	16 000 Hours						
UV Monitoring	2x UV Intensity Sensor ÖNORM M5873 Certified Super Duplex						
Variable Power	ULTRADOSE Pacing 50-100%						
UV CHAMBER							
Connection Size	DN100 (ANSI4)	DN100 (ANSI4)	DN150 (ANSI6)	DN150 (ANSI6)	DN200 (ANSI8)	DN300 (ANSI12)	DN400 (ANSI16)
Design Pressure	10 bar (145 psi) [16 bar (232 psi)]						
Connection Type	EN-1092 Type 01A PN10 (ANSI Class 150) [PN16 (ANSI Class 300)]						
Chamber Material	SS316L / 1.4404 [Super Duplex]						
Internal / External Finish	Electropolished / Glass Blasted						
Lamp/Wiper Access Single Ended	Yes						
Quartz Type	High Purity Fused Quartz Transmittance >95%						
Mounting	Free Standing [Horizontal SS316 Stand]						
ULTRAWIPER™ System	Automatic Mechanical with PTFE/Fiber Rings (Electrical)						
Temperature Probe	PT100						
Vent & Drain Ports	1" Drain Port						
Ingress Protection	IP65						
Installation	Horizontal / Vertical						
Minor Wetted Parts	FDA Approved PTFE, PVDF, VITON						
Reactor Dry Weight	40 kg (88 lb)	64 kg (141 lb)	68 kg (150 lb)	96 kg (212 lb)	124 kg (273 lb)	141 kg (311 lb)	238 kg (525 lb)
Reactor Volume	33 L (8.7 gal)	70 L (18.5 gal)	83 L (21.9 gal)	118 L (31.2 gal)	193 L (51.0 gal)	307 L (81.1 gal)	374 L (98.8 gal)
CONTROL CABINET							
Cabinet Material	GFRP [SS304/SS316]						
Cabinet Size (H×W×D) mm (in)	800×600×300 (31.5×23.6×11.8)	800×600×300 (31.5×23.6×11.8)	750×1000×320 (29.5×39.4×12.6)	1000×1250×320 (39.4×49.2×12.6)	1000×1250×320 (39.4×49.2×12.6)	1250×1250×420 (49.2×49.2×16.5)	1250×1250×420 (49.2×49.2×16.5)
Installation & Ambient	Wallmount 0-35°C (32-95°F)	Wallmount 0-35°C (32-95°F)	Wallmount 0-35°C (32-95°F)	Wallmount 0-30 °C (32-86°F)	Wallmount 0-40°C (32-104°F)	Wallmount 0-40°C (32-104°F)	Wallmount0-40°C(32-104°F)Non-Condensing
Thermal Control	Passive Dissipation [Fan / AC / Heat Exchanger]				Fan with Filter [AC / Heat Exchanger]		
Cable Length	4 Meters [Max. 30 Meters] (13 ft [Max. 98 ft])						
Control Logic	PLC Siemens [Allen Bradley]						
Interface/HMI	7" ULTRATOUCH						
SCADA Communication	MODBUS TCP / IP / PROFINET						
Analogue 4-20mA I/O	Flow Input/UV Dose Output/UV Intensity Output [UVT Input]						
Log	Alarm, Event & Data (UV Dose, UV Intensity & Flow)						
Ingress Protection	IP65					IP54	
Power Supply	1×230VAC +/- 10% +N+PE 50/60Hz			3×400VAC +/- 10% +N+PE 50/60Hz			
Power Consumption	0,4 kW	1,5 kW	2,3 kW	3,0 kW	4,5 kW	6,8 kW	10,5 kW
Cabinet Weight	29 kg (64 lb)	32 kg (71 lb)	57 kg (126 lb)	86 kg (190 lb)	92 kg (203 lb)	131 kg (289 lb)	146 kg (322 lb)

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UV SYSTEM	MR44-350SS ULTRABARRIER	MR56-350SS ULTRABARRIER
Product ID	21172	21176
Approvals	Norwegian Veterinary Institute NVI, CE [UL/ cUL]	
UV LAMPS & MONITORING		
Total Lamps	44	56
ULTRATHERM LPHO Lamp	350 W	
Guaranteed Lamp Lifetime	16 000 Hours	
UV Monitoring	2x UV Intensity Sensor ÖNORM M5873 Certified Super Duplex	
Variable Power	ULTRADOSE Pacing 50-100%	
UV CHAMBER		
Connection Size	DN500 (ANSI20)	
Design Pressure	6 bar (87 psi) [10 bar (145 psi)]	
Connection Type	EN-1092 Type 01A PN10 (ANSI Class 150) [PN16 (ANSI Class 300)]	
Chamber Material	SS316L / 1.4404 [Super Duplex]	
Internal / External Finish	Electropolished / Glass Blasted	
Lamp/Wiper Access Single Ended	Yes	
Quartz Type	High Purity Fused Quartz Transmittance >95%	
Mounting	Free Standing [Horizontal SS316 Stand]	
ULTRAWIPER™ System	Automatic Mechanical with PTFE/Fiber Rings (Electrical)	
Temperature Probe	PT100	
Vent & Drain Ports	1" Drain Port	
Ingress Protection	IP65	
Installation	Horizontal / Vertical	
Minor Wetted Parts	FDA Approved PTFE, PVDF, VITON	
Reactor Dry Weight	335 kg (739 lb)	412 kg (908 lb)
Reactor Volume	627 L (165.6 gal)	693 L (183.1 gal)
CONTROL CABINET		
Cabinet Material	Powder Coated Steel [SS304 / 316L]	
Cabinet Size (H×W×D) mm (in)	2200×1000×500 (86.6×39.4×19.7)	
Installation & Ambient	Floor Standing 0-40°C (32–104°F) Non-Condensing	
Thermal Control	Fan with Filter [AC / Heat Exchanger]	
Cable Length	4 Meters [Max. 30 Meters] (13 ft [Max. 98 ft])	
Control Logic	PLC Siemens [Allen Bradley]	
Interface/HMI	7" ULTRATOUCH	
SCADA Communication	MODBUS TCP / IP / PROFINET	
Analogue 4-20mA I/O	Flow Input/UV Dose Output/UV Intensity Output [UVT Input]	
Log	Alarm, Event & Data (UV Dose, UV Intensity & Flow)	
Ingress Protection	IP54 [IP65]	
Power Supply	3×400VAC +/- 10% +N+PE 50/60Hz	
Power Consumption	16,5 kW	21,0 kW
Cabinet Weight	305 kg (672 lb)	315 kg (694 lb)

[Options are marked with square brackets] - Specifications are subject to change without notice. **Version: 26.1**

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.

VALIDATION OVERVIEW

The ISO 9001 certification ensures that all processes are documented and controlled to maintain and continuously improve the quality of our products and services.

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.

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

WANT TO LEARN MORE?

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