

ULTRATRON MEDIUM-PRESSURE SERIES

UV DISINFECTION • EFFICIENT AND CHEMICAL-FREE WATER TREATMENT



ULTRAQUA
UV DISINFECTION SYSTEMS

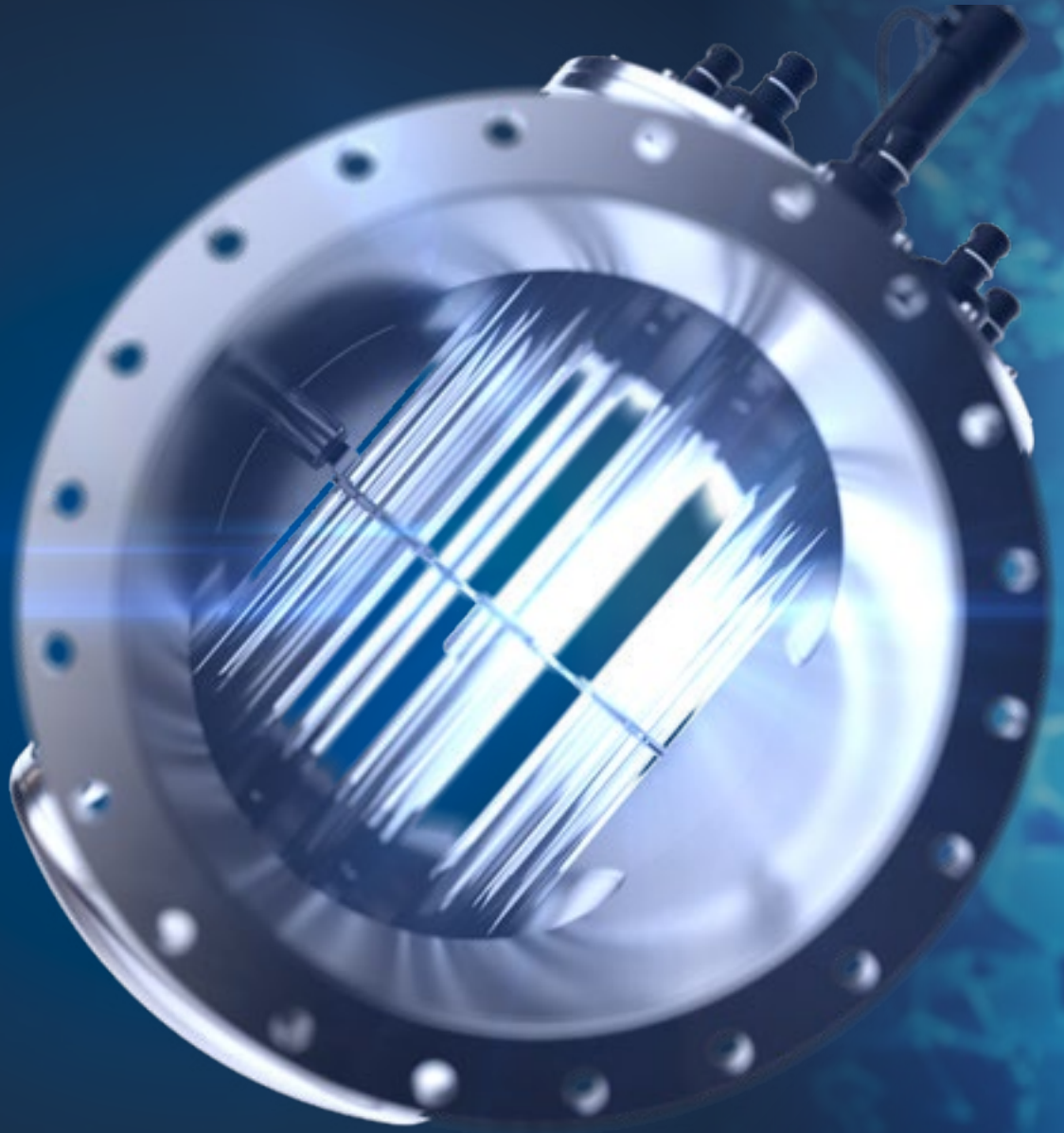
WE PROTECT YOUR MOST VALUABLE RESOURCE

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

- Guaranteed 9,000-hour lamp lifetime. 14,000-hour expected lamp lifetime under normal operation
- Optimized for maximum efficiency
- 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
- An extended 5 year guaranteed warranty



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 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.

Utilizing the ULTRATRON series for your processes ensures complete peace of mind, being third-party approved and validated for performance and quality.

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HIGH GRADE 316L STAINLESS STEEL

The internal reflection of the electropolished system provides efficiency improvements of up to 30% at high UVT's, making the ULTRATRON™ an ideal product range for advanced photocatalytic applications as well as for general disinfection.

MULTIPLE FLANGE OPTIONS

The ULTRATRON™ series is available in multiple flange sizes to accommodate custom requirements concerning installation and flow rates, making it ideal for retrofitting on almost any scale.

OPTIMIZED FOR MAXIMUM EFFICIENCY

The compact reactor with its CFD optimized lamp positioning makes the ULTRATRON™ able to offer maximum hydraulic efficiency throughout the entire UVT range with minimum head loss, making the product ideal for retrofitting on site where pump capacity is key.

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.

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.

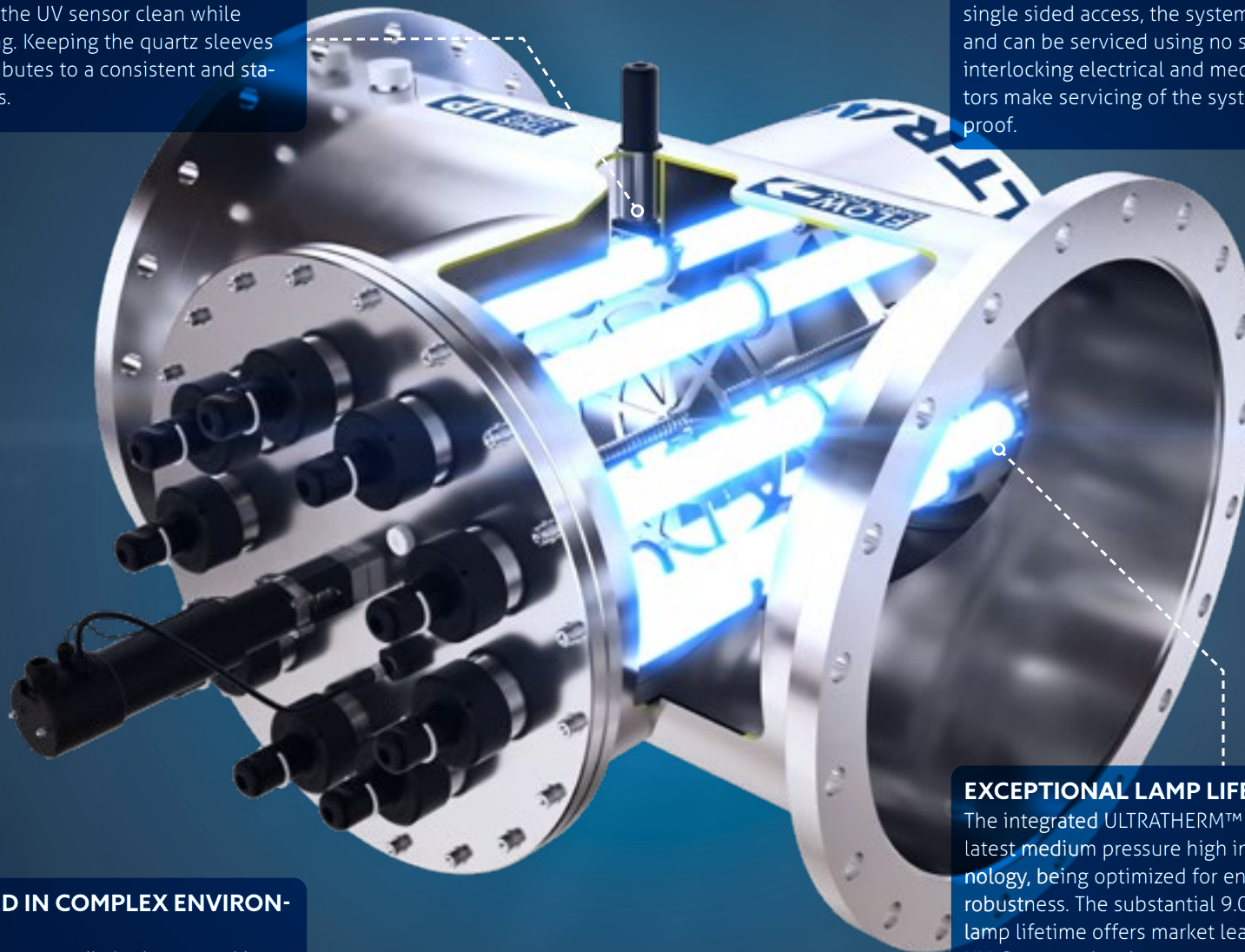
The PLC controls are easily integrated into SCADA layouts, and can be modified by our in-house software engineers. Multiple PLC options combined with various communication protocols makes the ULTRATOUCH™ highly versatile.

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.

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.



EASILY INTEGRATED IN COMPLEX ENVIRONMENTS

The ULTRATRON™ series can easily be integrated in the most complex environments, both vertically and horizontally. The flanged connection is suitable into existing infrastructure, which makes it ideal for retrofitting at almost any scale.

EXCEPTIONAL LAMP LIFETIME

The integrated ULTRATHERM™ lamps offer the very latest medium pressure high intensity UV lamp technology, being optimized for energy efficiency and robustness. The substantial 9,000 hours of guaranteed lamp lifetime offers market leading lamp efficiency in UV-C output density.

Additionally, the lamps include a stabilizing design to ensure that the system is protected against any residual vibrations or shocks.

THE ULTRATRON SERIES MATCHES MOST INSTALLATION REQUIREMENTS

ULTRATOUCH™
CONTROL CABINETS

UVT CONTROLLER

UVT AUTOMATIC
CLEANING SYSTEM

ULTRATRON™ UV
CHAMBER 316 STAIN-
LESS STEEL

UV INTENSITY
SENSOR

INTERLOCKING LAMP
CONNECTORS

MULTIPLE FLANGE OPTIONS



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 alter and adjust any standard UV system to accommodate the 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.

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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
- ⚙ 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.

UV SYSTEM	MP2-4000SS	MP3-4000SS	MP4-4000SS	MP4-6000SS	MP6-6000SS	MP8-6000SS	MP6-8000SS
Approvals	CE (option UL/ Marine DNV)						
UV LAMPS & MONITORING							
Lamp Number	2	3	4	4	6	8	6
ULTRATHERM™ MPH Lamp	4000W	4000W	4000W	6000W	6000W	6000W	8000W
Guaranteed Lamp Lifetime	9 000 hours						
UV Monitoring	UV Intensity sensor ÖNORM M5873 certified SS316L						
Variable Power	ULTRADOSE™ pacing 20-100%						
UV CHAMBER							
Connection Size	DN300	DN300	DN300	DN450	DN450	DN450	DN600
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	Automatic mechanical with PTFE/fiber rings (electrical)						
Temperature Probe	2x PT100						
Vent & Drain Ports	1" Both sides						
Ingress Protection	IP65						
Installation	Horizontal/vertical						
Minor Wetted Parts	FDA approved PTFE, PVDF, VITON						
CONTROL CABINET							
Cabinet Material	GFRP		Powder painted steel (option 316L)				
Cabinet Sizes	1000x750x300mm	1000x750x300mm	1200x600x500mm	1200x600x500mm	1600x600x500mm	1600x600x500mm	1600x600x500mm
Cable Length	4 meters (max. 30 meters)						
Installation & Ambient	Wallmount 0-40 °C non-condensing		Floor standing 0-40 °C non-condensing				
Thermal Control	Fan (option AC/Heat exchanger)						
Control Logic	PLC Siemens (option, Allen Bradley)						
Interface/HMI	7" ULTRATOUGH™						
SCADA Communication	MODBUS TCP/IP/PROFINET						
Analogue 4-20mA I/O	Flow input/UV dose output (option UVT input)						
Ingress Protection	IP54 (option IP65/NEMA4X)						
Event Log	UV dose, UV intensity, Flow						
Power Consumption	8,2 kW	12,2 kW	16,2 kW	24,2 kW	36,2 kW	48.2 kW	36,2 kW
Power Supply	3x400VAC +/- 10% +N+PE 50/60Hz						

Specifications are subject to change without notice. Version: 22.1

UV SYSTEM	MP8-8000SS	MP9-8000SS	MP6-12000SS	MP8-12000SS	MP10-12000SS	MP12-12000SS
Approvals	CE (option UL/ Marine DNV)					
UV LAMPS & MONITORING						
Lamp Number	8	9	6	8	10	12
ULTRATHERM™ MPHI Lamp	8000W		12000W			
Guaranteed Lamp Lifetime	9 000 hours					
UV Monitoring	UV Intensity sensor ÖNORM M5873 certified SS316L					
Variable Power	ULTRADOSE™ pacing 20-100%					
UV CHAMBER						
Connection Size	DN600		DN800 (option DN1200)			
Connection Type	EN-1092 type 01A PN10 (option PN16)		EN-1092 type 01A PN6 (option PN10)			
Design Pressure	10 bar (option 16 bar)		6 bar (option 10 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)		Integrated stand (optional)			
ULTRAWIPER™ System	Automatic mechanical with PTFE/fiber rings (electrical)					
Temperature Probe	2x PT100					
Vent & Drain Ports	1" Both Sides					
Ingress Protection	IP65					
Installation	Horizontal/vertical					
Minor Wetted Parts	FDA approved PTFE, PVDF, VITON					
CONTROL CABINET						
Cabinet Material	Powder painted steel (option 316L)					
Cabinet Sizes	1800x1000x500mm	1800x1000x500mm	1600x600x500mm	1800x1000x500mm	1800x1000x500mm	1800x1000x500mm
Cable Length	4 meters (max. 30 meters)					
Installation & Ambient	Floor standing 0-40 °C non-condensing					
Thermal Control	Fan (option AC/Heat exchanger)					
Control Logic	PLC Siemens (option, Allen Bradley)					
Interface/HMI	7" ULTRATOUGH™					
SCADA Communication	MODBUS TCP/IP/PROFINET					
Analogue 4-20mA I/O	Flow input/UV dose output (option UVT input)					
Ingress Protection	IP54 (option IP65/NEMA4X)					
Event Log	UV dose, UV intensity, Flow					
Power Consumption	64,2 kW	72,2 kW	72,2 kW	96,2 kW	120,2 kW	144,8 kW
Power Supply	3x400VAC +/- 10% +N+PE 50/60Hz					

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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 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.

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.

The validity, experience, and trustworthiness are proven through our wide range of acquired certificates, patents, and trademarks.

ULTRAAQUA
UV DISINFECTION SYSTEMS



TECHNOLOGY OVERVIEW & VALIDATIONS



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



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 **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.