SSV DRINKING WATER SERIES

UV DISINFECTION • EFFICIENT AND CHEMICAL-FREE WATER TREATMENT

ULTRAQUA

UV DISINFECTION SYSTEMS

WE PROTECT YOUR MOST VALUABLE RESOURCE

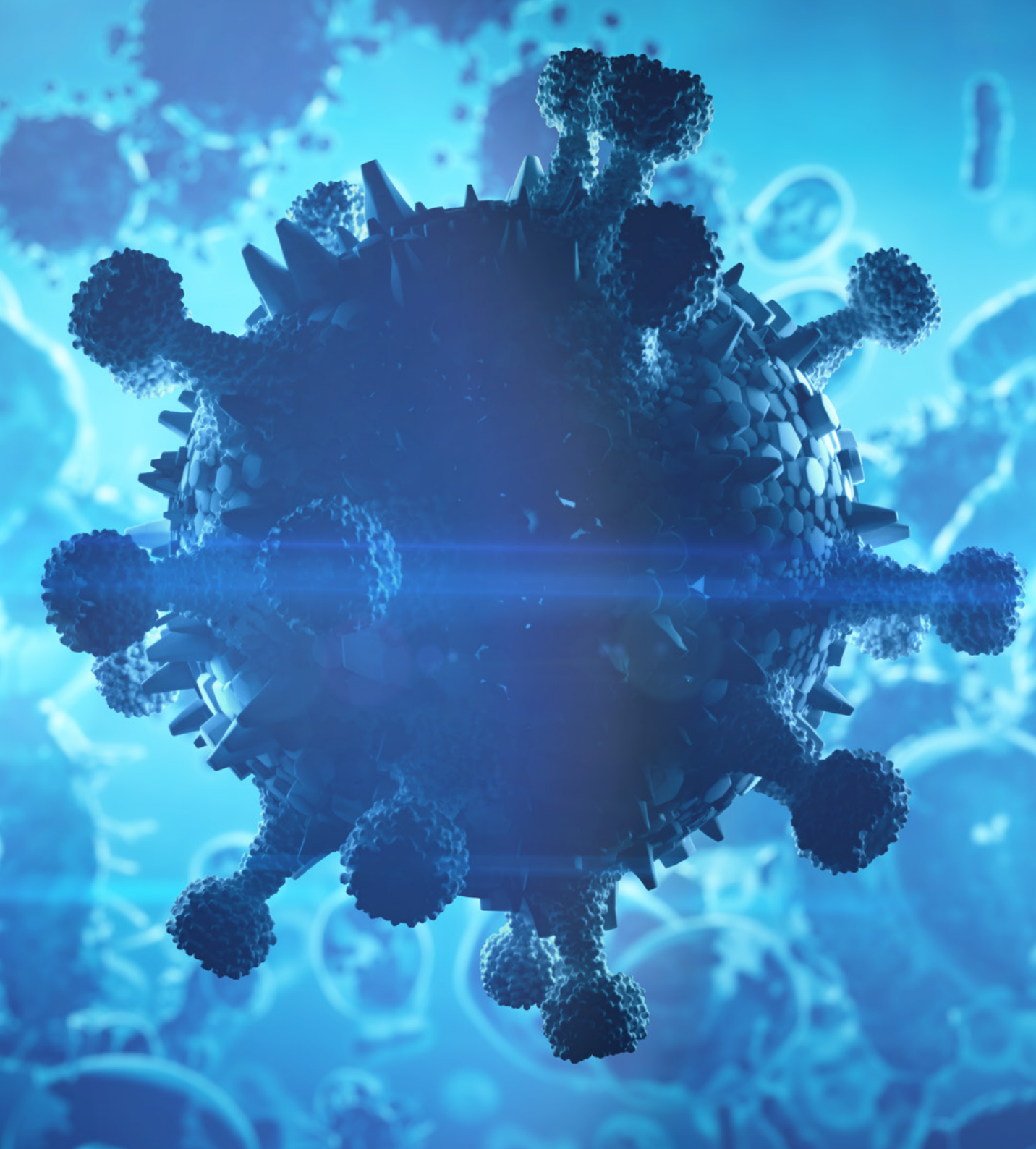
SSV DRINKING WATER UV SYSTEM SERIES

THE SSV DRINKING WATER UV SYSTEM PRODUCT RANGE FEATURES THE WORLDS MOST ADVANCED AND EFFICIENT UV DISINFECTION TECHNOLOGY.

KEY HIGHLIGHTS

- Guaranteed 16.000-hour ULTRATHERM™ lamp lifetime
- Optimized for maximum efficiency
- Easy maintenance and installation
- Complete control with ULTRATOUCH™ control cabinets
- Automated ULTRAWIPER™ quartz cleaning with tailored brush heads
- The world's most efficient ÖNORM validated UV disinfection system
- SWIRLFLOW™ technology enabling an optimized 90% hydraulic efficiency at all water qualities.
- An extended 5 year guaranteed warranty

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 disinfection solves this safety challenge, being able to meet the strictest requirements regarding bacteria and virus protection.

Heavily chlorinated drinking water has proven to lead to several health complications such as respiratory diseases. While chlorine has proven to be ineffective against Cryptosporidium and Giardia, UV is able to inactivate these pathogens easily with very low doses. This means that UV treatment is capable of inactivating all bacteria, viruses, molds, and spores that may be present in the drinking water.

Operational efficiency is one of the core drivers within the drinking water market. Many facilities and organizations now invest on new assets that yields 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 ensures complete peace of mind, employing the best available solution for complete biosecurity.

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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.

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.

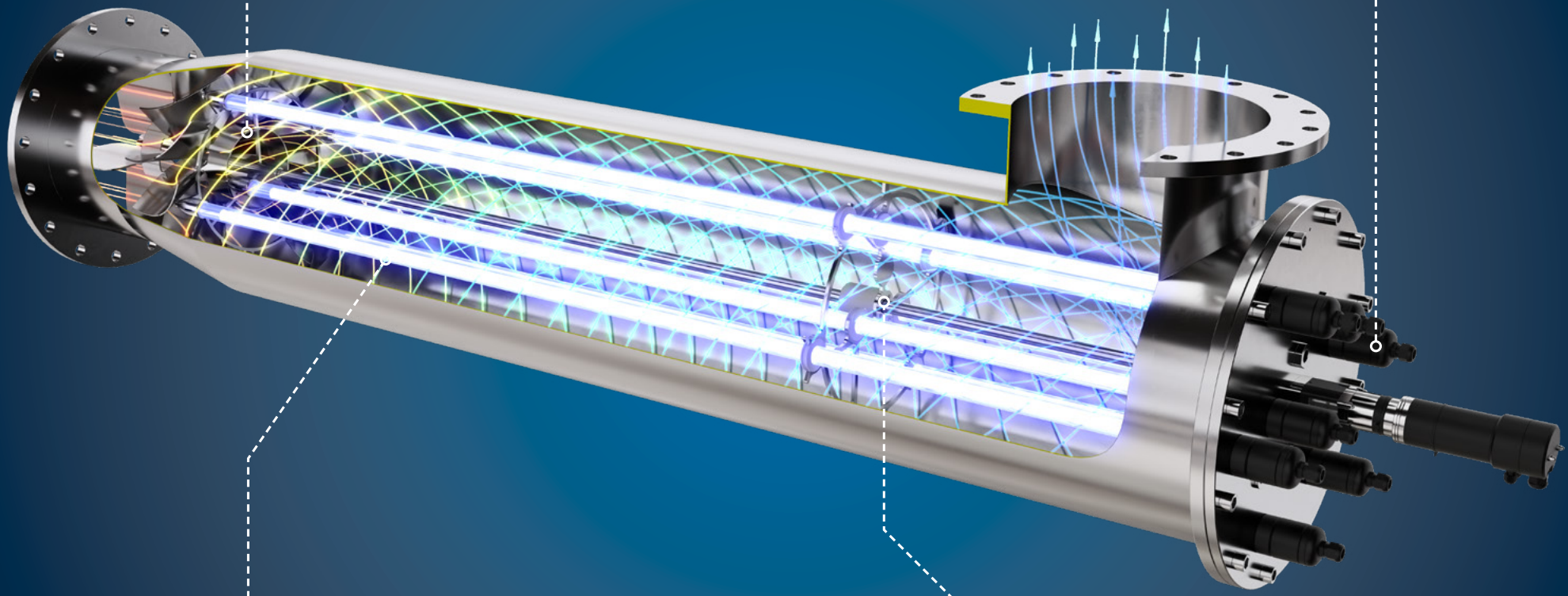
MULTIPLE FLANGE OPTIONS
The SSV series is available in multiple flange sizes to accommodate custom requirements concerning installation and flow rates.

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 30%. 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 patent-pending 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.

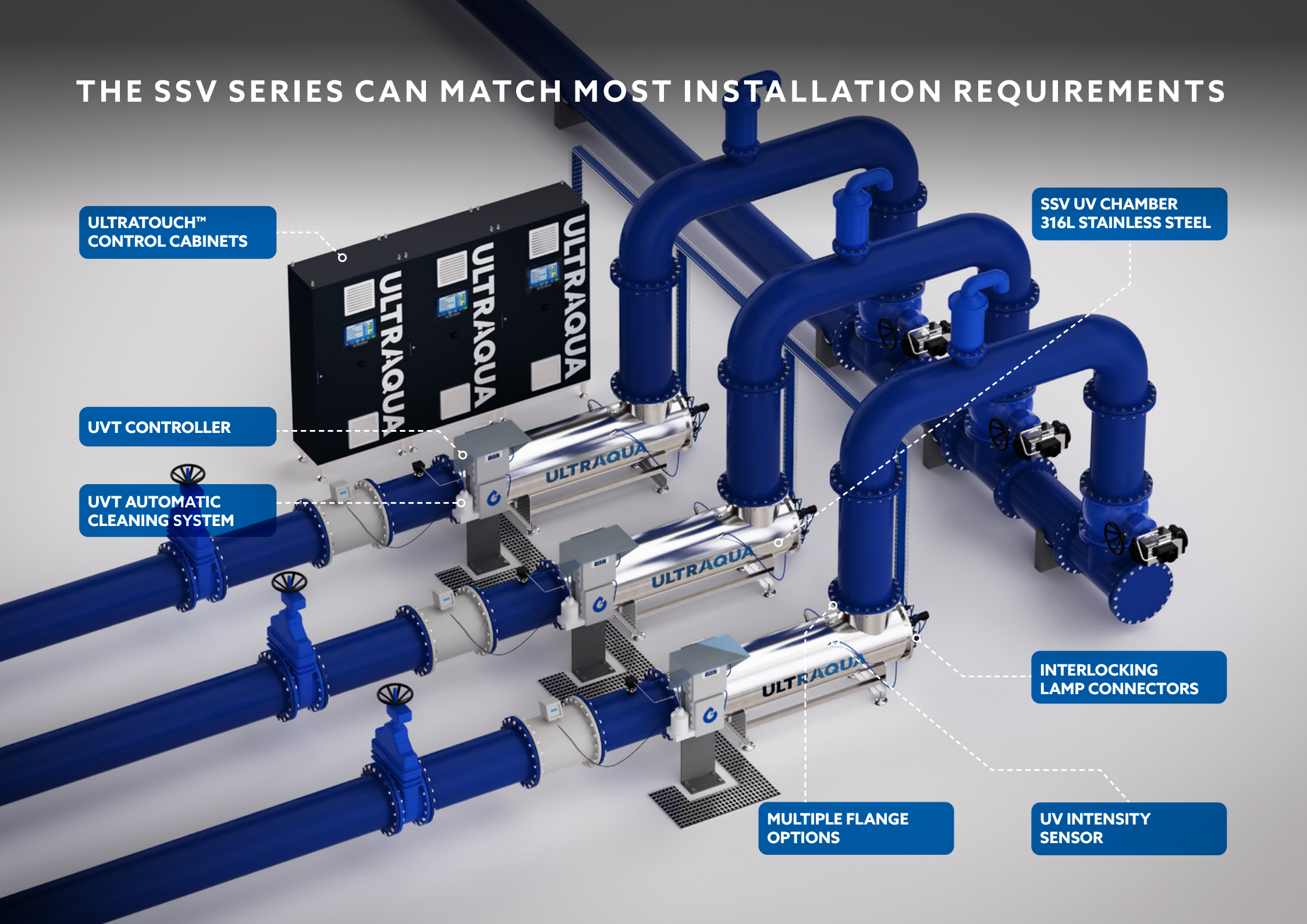
The unique interlocking electrical and mechanical lamp connectors make servicing of the system safe, quick, and fool proof.

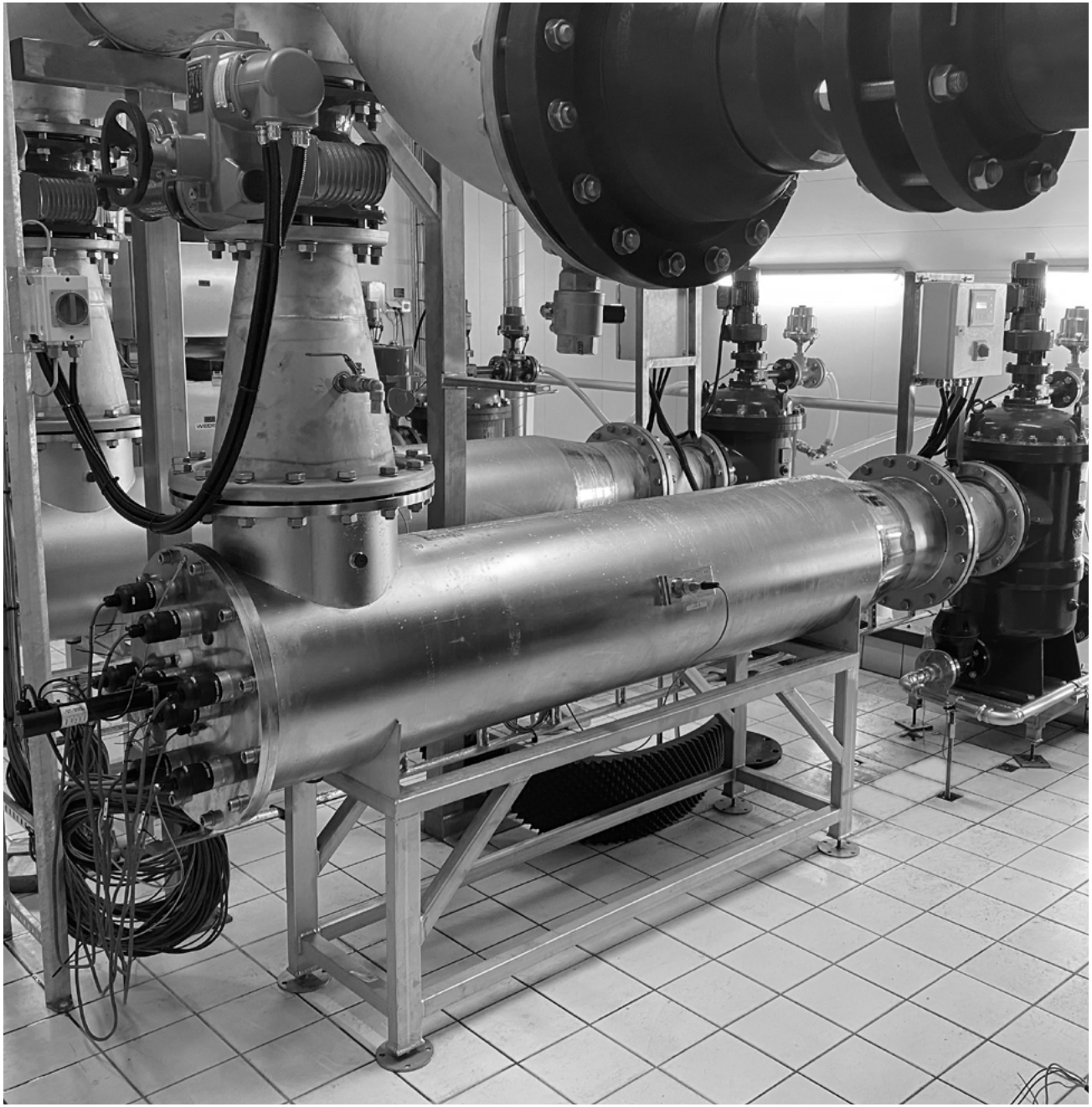


GUARANTEED 16.000-HOUR ULTRATHERM™ LAMP LIFETIME
The integrated ULTRATHERM™ lamps offers the very latest low pressure Amalgam UV lamp technology, being optimized for energy efficiency and robustness. The substantial 16.000 hours of lamp lifetime offers market leading lamp efficiency in UV-C output density.

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.

THE SSV SERIES CAN MATCH MOST INSTALLATION REQUIREMENTS





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

- Bespoke 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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SERVICE & SUPPORT

ULTRAAQUA IS A GLOBAL COMPANY WITH 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 is able to provide 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.

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

DVGW

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.

ETV

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.

FHI

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

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UV SYSTEM	MR1-220SSV	MR3-220SSV	MR4-220SSV	MR6-220SSV	MR6-350SSV	MR8-350SSV	MR12-350SSV
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
Guaranteed 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	Not available	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 (options SS316, painted steel, GFRP)					
Cabinet Sizes	400x600x210mm	800x800x300mm	800x800x300mm	800x800x300mm	800x800x300mm	1000x800x300mm	1000x800x300mm
Cable Length	4 meters (max. 30 meters)						
Installation	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 - system state indication	7" ULTRATOUCH™					
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	Yes						
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 Fuse 6A	230VAC +/- 10% +N+PE 50/60Hz fuse 6A	230VAC +/- 10% +N+PE 50/60Hz 10 AMP	230VAC +/- 10% +N+PE 50/60Hz 10 AMP	230VAC +/- 10% +N+PE 50/60Hz 10 AMP	3x400VAC +/- 10% +N+PE 50/60Hz 16 AMP	3x400VAC +/- 10% +N+PE 50/60Hz 16 AMP

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 has 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.

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