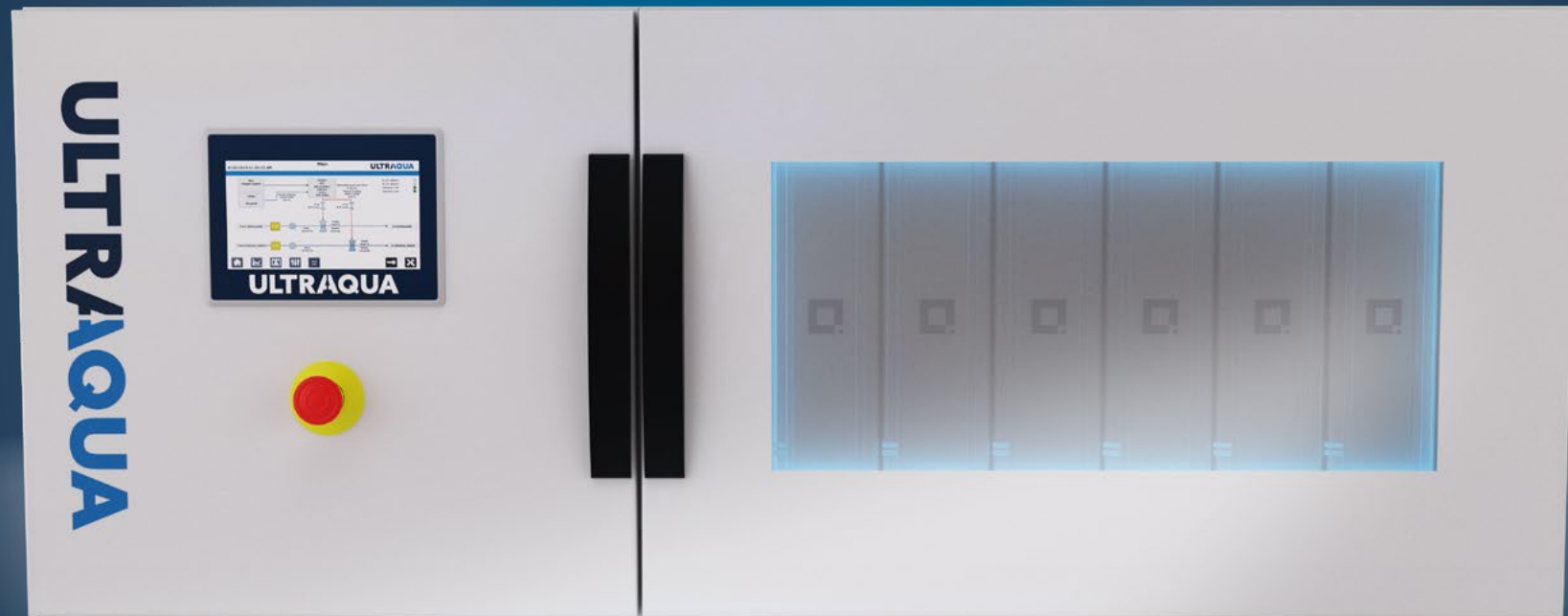


# ULTRAQUBE GFRP SERIES (1-5)

OZONE OXIDATION • EFFICIENT AND CHEMICAL-FREE WATER TREATMENT



**ULTRAQUA**  
OZONE SYSTEMS

WE PROTECT YOUR MOST VALUABLE RESOURCE

## ULTRAQUBE GFRP SERIES

### OPTIMIZED OZONE TECHNOLOGY

**THE ULTRAQUBE™ IS THE ONLY OZONE SYSTEM IN THE WORLD THAT IS SPECIFICALLY ENGINEERED FOR THE AQUACULTURE INDUSTRY.**

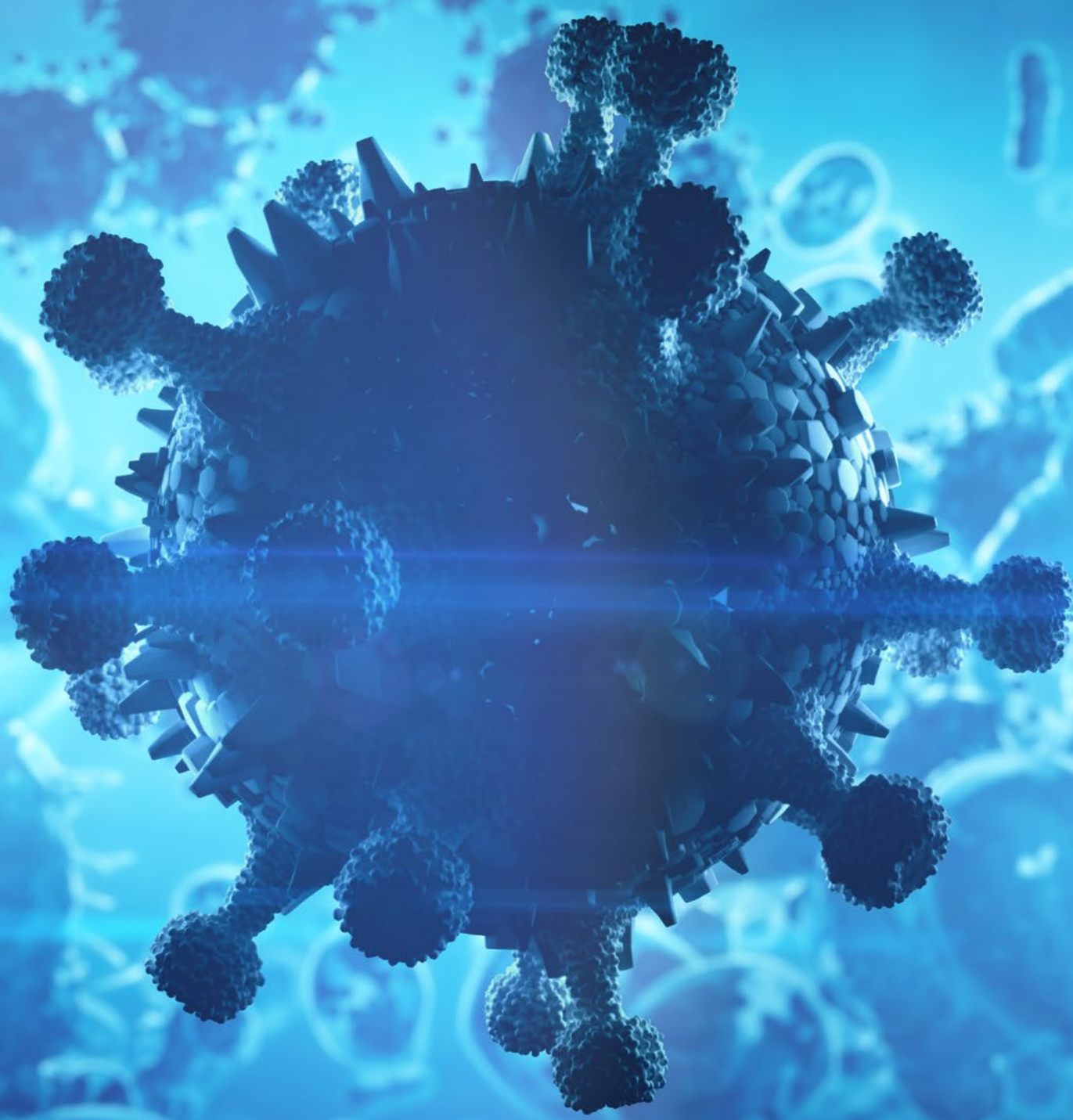
**IT FEATURES ENERGY-EFFICIENT HIGH-CONCENTRATION OZONE TECHNOLOGY, DESIGNED AS A SCALABLE CONCEPT THAT FITS CUSTOMIZATION OVER TIME TO SUIT THE EXACT REQUIREMENTS.**

### KEY HIGHLIGHTS

- The only ozone generator specifically engineered for the Aquaculture industry
- Scalable concept for trouble-free customization of ozone demand
- 9-20 wt% ozone concentration
- Complete ozone system with value added products
- Non-corrosive plastic GFRP enclosure IP65
- Robust and compact unit for easy integration in complex environments
- Safe, sustainable, and chemical-free technology

# MARKET LEADING ENERGY EFFICIENCY





## CORE BENEFITS OF OZONE

**OZONE TECHNOLOGY IS A GLOBALLY RECOGNIZED SOLUTION FOR WATER DISINFECTION, EFFECTIVELY OXIDIZING A WIDE RANGE OF CONTAMINANTS, INCLUDING BACTERIA, VIRUSES, AS WELL AS ORGANIC AND INORGANIC SUBSTANCES.**

The need for economical and effective solutions to provide clean water is at an all-time high and continuously increasing. Ozone treatment addresses this complex issue, meeting the most stringent requirements for bacteria and virus protection, as well as improving the overall quality of water.

Ozone technology provides an effective solution across various water qualities and applications, being one of the strongest oxidizing agents available for water treatment. The broad disinfection spectrum makes ozone extremely efficient against a wide range of microorganisms to provide a high level of biosecurity.

With the proper installation conditions, ozone disinfection leaves no chemical residue, as it decomposes back into oxygen. This makes facilities worldwide able to reduce their dependency on chemical treatment, leading to both environmental benefits and potential cost savings.

ULTRAQUA ozone disinfection systems offers market-leading ozone efficiency while being thoroughly cost-optimized. The tailored design allows for comprehensive scalability and modularity, allowing flexibility to adjust for additional demand.

# ULTRAQUA

### ROBUST INNOVATIVE DESIGN

The selection of high quality components ensures robustness and durability that lets the ULTRAQUBE endure the test of time.



### SAMPLE PORT

Easy integration with connection of an external gas analyser, allowing to adjust the gas flow on concentration.



### COMPACT DESIGN

The ULTRAQUBE features a compact innovative reactor design that allows easy integration in complex environments.

### AUTOMATED ACCURATE DOSING

The dosing is automatically controlled by Redox or flow values.



### OPTIMIZED OZONE EFFICIENCY

The ULTRAQUBE™ features energy-efficient high-concentration ozone technology, with each integrated inverter producing 88 grams of ozone per hour.

### SCALABLE AND FLEXIBLE

The integrated inverter produces 88 grams of ozone per hour. If the demand increases, additional modules can be integrated to meet the 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 tailor the individual ozone system to accommodate specific requirements.

As ozone systems consist of several components which each contributes to the effectiveness and efficiency of the system, the needs for customization can vary from gas distribution management to cooling modules. This makes the ULTRAAQUA design department function as a consulting agency, working towards an optimized customized solution.

The possibilities below are available for all customized ozone systems.

### **CUSTOMIZED PRODUCTS & SERVICES:**

- Custom Ozone systems for advanced applications
- Physical testing
- Onsite validation testing
- Advanced Ozone disinfection support

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 Ozone and UV disinfection, supplying customers with the best available solutions.

# ULTRAAQUA

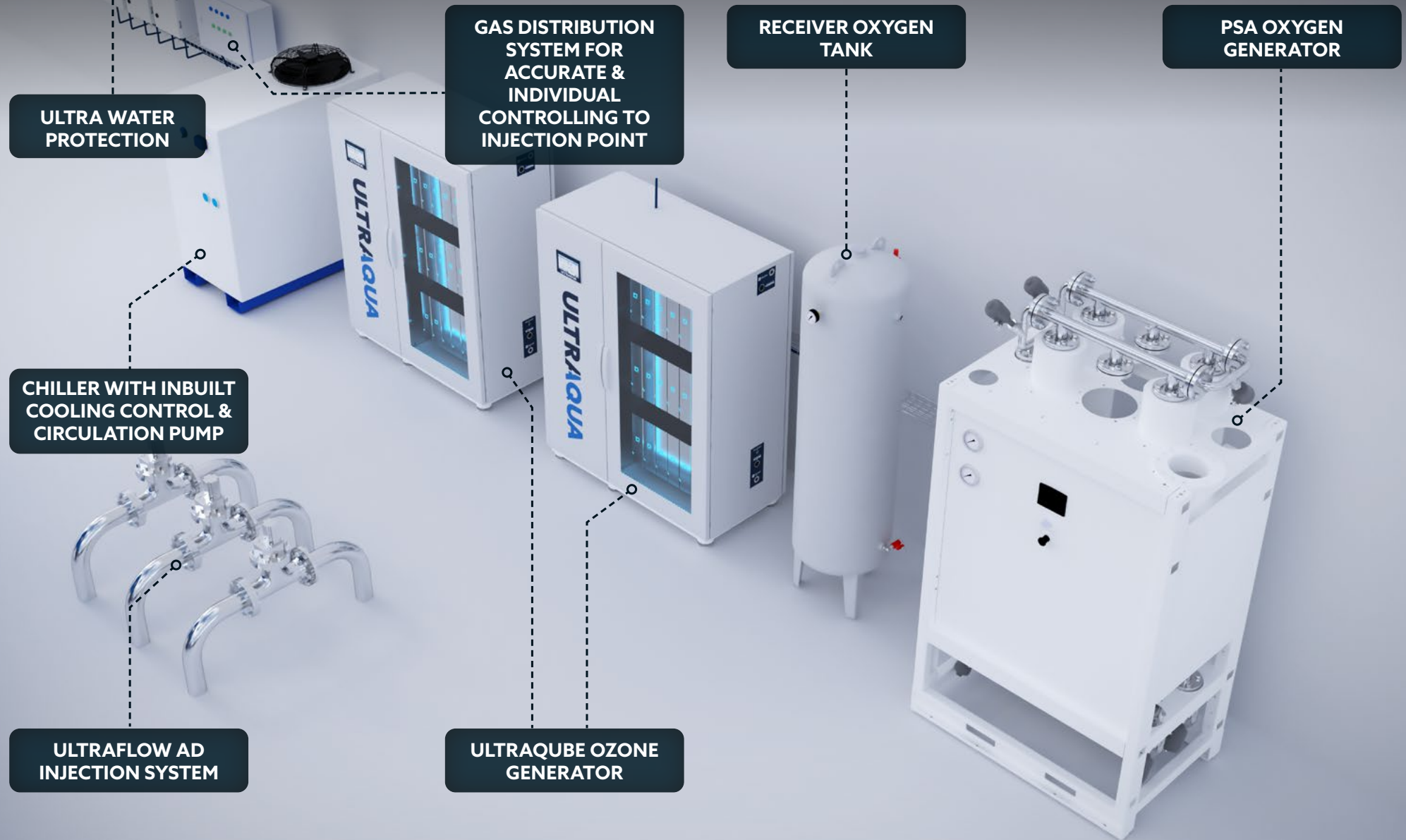




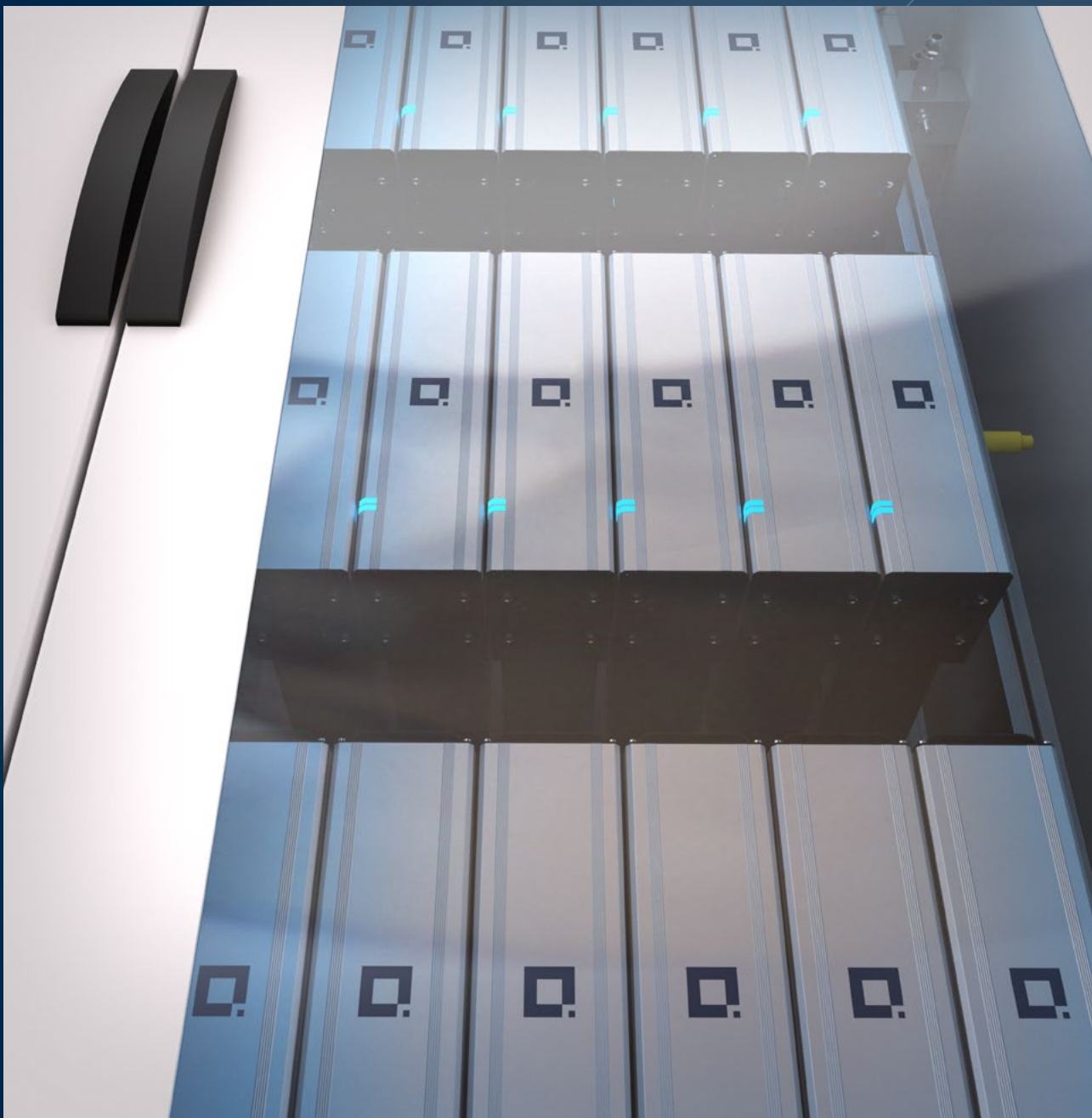
# INSTALLATION CASE



# OZONE INSTALLATION EXAMPLE







## SCALABILITY & MODULARITY

The ULTRAQUBE is scalable with an integrated inverter that produces 88 grams of ozone per hour.

If the demand increases, additional modules can be integrated to meet the requirements.

- 230 / 400 VAC
- Cooling water up to 30°C
- Beijer/Siemens Control System 7" HMI

Frame Size 2 (6 modules) - (18 modules)

Frame Size 3 (12 modules) - (36 modules)

Frame Size 4 (24 modules) - (48 modules)

- 36 reactors = 3,2 kg O<sub>3</sub>/hour
- 48 reactors = 4,2 kg O<sub>3</sub>/hour

PERFORMANCE / CONC.	ULTRAQUBE-1 GFRP	ULTRAQUBE-2 GFRP	ULTRAQUBE-3 GFRP	ULTRAQUBE-4 GFRP	ULTRAQUBE-5 GFRP
140 g/Nm <sup>3</sup> 10% wt/wt	88 g/hr (4.66 lbs/day)	176 g/hr (9.31 lbs/day)	264 g/hr (13.97 lbs/day)	352 g/hr (18.62 lbs/day)	440 g/hr (23.28 lbs/day)
200 g/Nm <sup>3</sup> 14% wt/wt	74 g/hr (3.92 lbs/day)	150 g/hr (7.94 lbs/day)	224 g/hr (11.85 lbs/day)	300 g/hr (15.87 lbs/day)	376 g/hr (19.89 lbs/day)
250 g/Nm <sup>3</sup> 17,5% wt/wt	52 g/hr (2,75 lbs/day)	106 g/hr (5.61 lbs/day)	160 g/hr (8.47 lbs/day)	214 g/hr (11.32 lbs/day)	268 g/hr (14.18 lbs/day)
300 g/Nm <sup>3</sup> 20% wt/wt	40 g/hr (2.12 lbs/day)	82 g/hr (4.34 lbs/day)	124 g/hr (6.56 lbs/day)	166 g/hr (8.78 lbs/day)	208 g/hr (11.01 lbs/day)

Working Conditions: At 12°C cooling water, 98% oxygen purity, 100% power

CABINET SPECIFICATIONS					
Weight	56 kg / 122 lbs	64 kg / 141 lbs	73 kg / 160 lbs	81 kg / 179 lbs	90 kg / 197 lbs
Length	420 mm / 16.5 in				
Width	1250 mm / 49.2 in				
Height	500 mm / 19.7 in				
Ingress Protection	IP65 / NEMA 4X				
Temperature	5-40° C				
Humidity	< 95% Non-Condensing				
Noise Level	< 53dB				
Cabinet Material	Glass Fiber Reinforced Plastic (GFRP)				

ELECTRICAL SPECIFICATIONS					
Power (100%)	7.5 kW	1.5 kW	2.25 kW	3.0 kW	3.75 kW
Energy Consumption	<8.5 kW per kg O <sub>3</sub> / 3,63 kW/lbs*				
Power Supply	3x 400V + N + PE, AC 50 / 60 Hz				
Power Factor	0.95				
Control Range	20-100%				
Circuit Breaker Type - Power Supply	Use C-Characteristic Fuses on the Incoming Power Supply				
SCADA Communication	MODBUS TCP				

\* At an ozone gas concentration of 140 g/Nm<sup>3</sup> and cooling water temperature at 12°C.

FEED GAS SPECIFICATIONS					
Feed Gas Amount	0.65 m <sup>3</sup> /hr (23 ft <sup>3</sup> /hr)	1.3 m <sup>3</sup> /hr (46 ft <sup>3</sup> /hr)	1.95 m <sup>3</sup> /hr (69 ft <sup>3</sup> /hr)	2.6 m <sup>3</sup> /hr (92 ft <sup>3</sup> /hr)	3.25 m <sup>3</sup> /hr (115 ft <sup>3</sup> /hr)
Max Gas Pressure at Inlet	3 bar(g) / 43,5 psi(g)				
Oxygen Purity	>92%				
Oxygen Dew Point	<-40°C / <-40°F				
Oxygen Connector	¾ Internal Threaded BSP				

COOLING SPECIFICATIONS					
Min. Cooling Water Flow	0.12 m <sup>3</sup> /hr (4.24 ft <sup>3</sup> /hr)	0.24 m <sup>3</sup> /hr (8.48 ft <sup>3</sup> /hr)	0.36 m <sup>3</sup> /hr (12.71 ft <sup>3</sup> /hr)	0.48 m <sup>3</sup> /hr (16.95 ft <sup>3</sup> /hr)	0.6 m <sup>3</sup> /hr (21.19 ft <sup>3</sup> /hr)
Cooling Demand	0.7 kW	1.4 kW	2.1 kW	2.8 kW	3.5 kW
Cooling Water Temp. Range	2-30°C / 36 - 86°F				
Max Cooling Water Pressure	6 bar(g) / 87 psi(g)				
Cooling Water Connection	½" Internal Threaded BSP				
Cooling Agent Composition	30% Ethylene Glycol and 70% Water				
Water Hardness	< 10° dH / < 9,5 gpg				
Water Quality	Drinking Water (98/83/EC), Closed Loop System				
Target Temp. Ozone Generator	12°C / 54°F				

Specifications are subject to change without notice. version: 24.0



PERFORMANCE / CONC.	ULTRAQUBE-6 GFRP	ULTRAQUBE-7 GFRP	ULTRAQUBE-8 GFRP	ULTRAQUBE-9 GFRP	ULTRAQUBE-10 GFRP	ULTRAQUBE-11 GFRP
140 g/Nm <sup>3</sup> 10% wt/wt	528 g/hr (27.94 lbs/day)	616 g/hr (32.59 lbs/day)	704 g/hr (37.25 lbs/day)	792 g/hr (41.91 lbs/day)	880 g/hr (46.56 lbs/day)	968 g/hr (51.22 lbs/day)
200 g/Nm <sup>3</sup> 14% wt/wt	450 g/hr (23.81 lbs/day)	526 g/hr (27.83 lbs/day)	602 g/hr (31.85 lbs/day)	676 g/hr (35.77 lbs/day)	752 g/hr (39.79 lbs/day)	828 g/hr (43.81 lbs/day)
250 g/Nm <sup>3</sup> 17.5% wt/wt	322 g/hr (17.04 lbs/day)	376 g/hr (19.89 lbs/day)	430 g/hr (22.75 lbs/day)	484 g/hr (25.61 lbs/day)	538 g/hr (28.47 lbs/day)	592 g/hr (31.32 lbs/day)
300 g/Nm <sup>3</sup> 20% wt/wt	250 g/hr (13.23 lbs/day)	292 g/hr (15.45 lbs/day)	334 g/hr (17.67 lbs/day)	376 g/hr (19.89 lbs/day)	418 g/hr (22.12 lbs/day)	460 g/hr (24.34 lbs/day)

Working Conditions: At 12°C cooling water, 98% oxygen purity, 100% power

CABINET SPECIFICATIONS						
Weight	228 kg / 503 lbs	244 kg / 537 lbs	252 kg / 556 lbs	261 kg / 574 lbs	269 kg / 593 lbs	278 kg / 612 lbs
Length	620 mm / 24.4 in					
Width	1250 mm / 49.2 in					
Height	1500 mm / 59.1 in					
Ingress Protection	IP65 / NEMA 4X					
Temperature	5-40° C					
Humidity	< 95% Non-Condensing					
Noise Level	< 53dB					
Cabinet Material	Glass Fiber Reinforced Plastic (GFRP)					

ELECTRICAL SPECIFICATIONS						
Power (100%)	4.5 kW	5.25 kW	6.0 kW	6.75 kW	7.5 kW	8.25 kW
Energy Consumption	<8.5 kW per kg O <sup>3</sup> / 3,63 kW/lbs*					
Power Supply	3x 400V + N + PE, AC 50 / 60 Hz					
Power Factor	0.95					
Control Range	10-100%					
Circuit Breaker Type - Power Supply	Use C-Characteristic Fuses on the Incoming Power Supply					
SCADA Communication	MODBUS TCP					

\* At an ozone gas concentration of 140 g/Nm<sup>3</sup> and cooling water temperature at 12°C.

FEED GAS SPECIFICATIONS						
Feed Gas Amount	3.9 m <sup>3</sup> /hr (138 ft <sup>3</sup> /hr)	4.55 m <sup>3</sup> /hr (161 ft <sup>3</sup> /hr)	5.2 m <sup>3</sup> /hr (184 ft <sup>3</sup> /hr)	5.85 m <sup>3</sup> /hr (207 ft <sup>3</sup> /hr)	6.5 m <sup>3</sup> /hr (230 ft <sup>3</sup> /hr)	7.15 m <sup>3</sup> /hr (253 ft <sup>3</sup> /hr)
Max Gas Pressure at Inlet	3 bar(g) / 43,5 psi(g)					
Oxygen Purity	>92%					
Oxygen Dew Point	<-40°C / <-40°F					
Oxygen Connector	¾ Internal Threaded BSP					

COOLING SPECIFICATIONS						
Min. Cooling Water Flow	0.72 m <sup>3</sup> /hr (25.43 ft <sup>3</sup> /hr)	0.84 m <sup>3</sup> /hr (29.66 ft <sup>3</sup> /hr)	0.96 m <sup>3</sup> /hr (33.9 ft <sup>3</sup> /hr)	1.08 m <sup>3</sup> /hr (38.14 ft <sup>3</sup> /hr)	1.2 m <sup>3</sup> /hr (42.38 ft <sup>3</sup> /hr)	1.32 m <sup>3</sup> /hr (46.62 ft <sup>3</sup> /hr)
Cooling Demand	4.2 kW	4.9 kW	5.6 kW	6.3 kW	7.0 kW	7.7 kW
Cooling Water Temp. Range	2-30°C / 36 - 86°F					
Max Cooling Water Pressure	6 bar(g) / 87 psi(g)					
Cooling Water Connection	½" Internal Threaded BSP					
Cooling Agent Composition	30% Ethylene Glycol and 70% Water					
Water Hardness	< 10° dH / < 9,5 gpg					
Water Quality	Drinking Water (98/83/EC), Closed Loop System					
Target Temp. Ozone Generator	12°C / 54°F					

Specifications are subject to change without notice, version: 24.0

PERFORMANCE / CONC.	ULTRAQUBE-12 GFRP	ULTRAQUBE-13 GFRP	ULTRAQUBE-14 GFRP	ULTRAQUBE-15 GFRP	ULTRAQUBE-16 GFRP	ULTRAQUBE-17 GFRP	ULTRAQUBE-18 GFRP
140 g/Nm <sup>3</sup> 10% wt/wt	1056 g/hr (55.87 lbs/day)	1144 g/hr (60.53 lbs/day)	1232 g/hr (65.19 lbs/day)	1320 g/hr (69.84 lbs/day)	1408 g/hr (74.50 lbs/day)	1496 g/hr (79.15 lbs/day)	1584 g/hr (83.81 lbs/day)
200 g/Nm <sup>3</sup> 14% wt/wt	902 g/hr (47.73 lbs/day)	978 g/hr (51.75 lbs/day)	1054 g/hr (55.77 lbs/day)	1128 g/hr (59.68 lbs/day)	1204 g/hr (63.70 lbs/day)	1280 g/hr (67.72 lbs/day)	1354 g/hr (71.64 lbs/day)
250 g/Nm <sup>3</sup> 17.5% wt/wt	646 g/hr (34.18 lbs/day)	700 g/hr (37.04 lbs/day)	754 g/hr (39.89 lbs/day)	808 g/hr (42.75 lbs/day)	862 g/hr (45.61 lbs/day)	916 g/hr (48.47 lbs/day)	970 g/hr (51.32 lbs/day)
300 g/Nm <sup>3</sup> 20% wt/wt	502 g/hr (26.56 lbs/day)	544 g/hr (28.78 lbs/day)	586 g/hr (31.01 lbs/day)	628 g/hr (33.23 lbs/day)	670 g/hr (35.45 lbs/day)	712 g/hr (37.67 lbs/day)	754 g/hr (39.89 lbs/day)

Working Conditions: At 12°C cooling water, 98% oxygen purity, 100% power

CABINET SPECIFICATIONS							
Weight	293 kg / 646 lbs	302 kg / 665 lbs	310 kg / 683 lbs	319 kg / 702 lbs	327 kg / 721 lbs	336 kg / 740 lbs	344 kg / 758 lbs
Length	620 mm / 24.4 in						
Width	1250 mm / 49.2 in						
Height	1500 mm / 59.1 in						
Ingress Protection	IP65 / NEMA 4X						
Temperature	5-40° C						
Humidity	< 95% Non-Condensing						
Noise Level	< 53dB						
Cabinet Material	Glass Fiber Reinforced Plastic (GFRP)						

ELECTRICAL SPECIFICATIONS							
Power (100%)	9.0 kW	9.75 kW	10.5 kW	11.25 kW	12.0 kW	12.75 kW	13.5 kW
Energy Consumption	<8.5 kW per kg O <sub>3</sub> / 3,63 kW/lbs*						
Power Supply	3x 400V + N + PE, AC 50 / 60 Hz						
Power Factor	0.95						
Control Range	10-100%						
Circuit Breaker Type - Power Supply	Use C-Characteristic Fuses on the Incoming Power Supply						
SCADA Communication	MODBUS TCP						

\* At an ozone gas concentration of 140 g/Nm<sup>3</sup> and cooling water temperature at 12°C.

FEED GAS SPECIFICATIONS							
Feed Gas Amount	7.8 m <sup>3</sup> /hr (276 ft <sup>3</sup> /hr)	8.45 m <sup>3</sup> /hr (299 ft <sup>3</sup> /hr)	9.1 m <sup>3</sup> /hr (322 ft <sup>3</sup> /hr)	9.75 m <sup>3</sup> /hr (345 ft <sup>3</sup> /hr)	10.4 m <sup>3</sup> /hr (368 ft <sup>3</sup> /hr)	11.05 m <sup>3</sup> /hr (391 ft <sup>3</sup> /hr)	11.7 m <sup>3</sup> /hr (414 ft <sup>3</sup> /hr)
Max Gas Pressure at Inlet	3 bar(g) / 43.5 psi(g)						
Oxygen Purity	>92%						
Oxygen Dew Point	<-40°C / <-40°F						
Oxygen Connector	¾" Internal Threaded BSP						

COOLING SPECIFICATIONS							
Min. Cooling Water Flow	1.44 m <sup>3</sup> /hr (50.85 ft <sup>3</sup> /hr)	1.56 m <sup>3</sup> /hr (55.09 ft <sup>3</sup> /hr)	1.68 m <sup>3</sup> /hr (59.33 ft <sup>3</sup> /hr)	1.8 m <sup>3</sup> /hr (63.57 ft <sup>3</sup> /hr)	1.92 m <sup>3</sup> /hr (67.8 ft <sup>3</sup> /hr)	2.04 m <sup>3</sup> /hr (72.04 ft <sup>3</sup> /hr)	2.16 m <sup>3</sup> /hr (76.28 ft <sup>3</sup> /hr)
Cooling Demand	8.4 kW	9.1 kW	9.8 kW	10.5 kW	11.2 kW	11.9 kW	12.6 kW
Cooling Water Temp. Range	2-30°C / 36 - 86°F						
Max Cooling Water Pressure	6 bar(g) / 87 psi(g)						
Cooling Water Connection	½" Internal Threaded BSP						
Cooling Agent Composition	30% Ethylene Glycol and 70% Water						
Water Hardness	< 10° dH / < 9.5 gpg						
Water Quality	Drinking Water (98/83/EC), Closed Loop System						
Target Temp. Ozone Generator	12°C / 54°F						





# ULTRAAQUA

## 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.



## COMPANY HISTORY

**ULTRAAQUA IS AN INTERNATIONAL MANUFACTURER OF ADVANCED UV AND OZONE WATER DISINFECTION SYSTEMS SOLUTIONS 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 disinfection systems have 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 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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# ULTRAAQUA