

# AQUACULTURE

THE WORLD'S BEST BIOSECURITY IN AQUACULTURE

**ULTRAAQUA**  
UV DISINFECTION SYSTEMS

[WWW.ULTRAAQUA.COM](http://WWW.ULTRAAQUA.COM)

EFFECTIVE DISEASE CONTROL - UV SYSTEMS FOR  
VARIOUS APPLICATIONS IN AQUACULTURE SECTOR

CONTACT ULTRAAQUA • +45 7023 1020 • [ULTRAAQUA@ULTRAAQUA.COM](mailto:ULTRAAQUA@ULTRAAQUA.COM) • [WWW.ULTRAAQUA.COM](http://WWW.ULTRAAQUA.COM)





**ULTRABARRIER™**  
FOR ULTIMATE BIOSECURITY  
AGAINST DISEASES IN  
AQUACULTURE

[WWW.ULTRAQUA.COM](http://WWW.ULTRAQUA.COM)

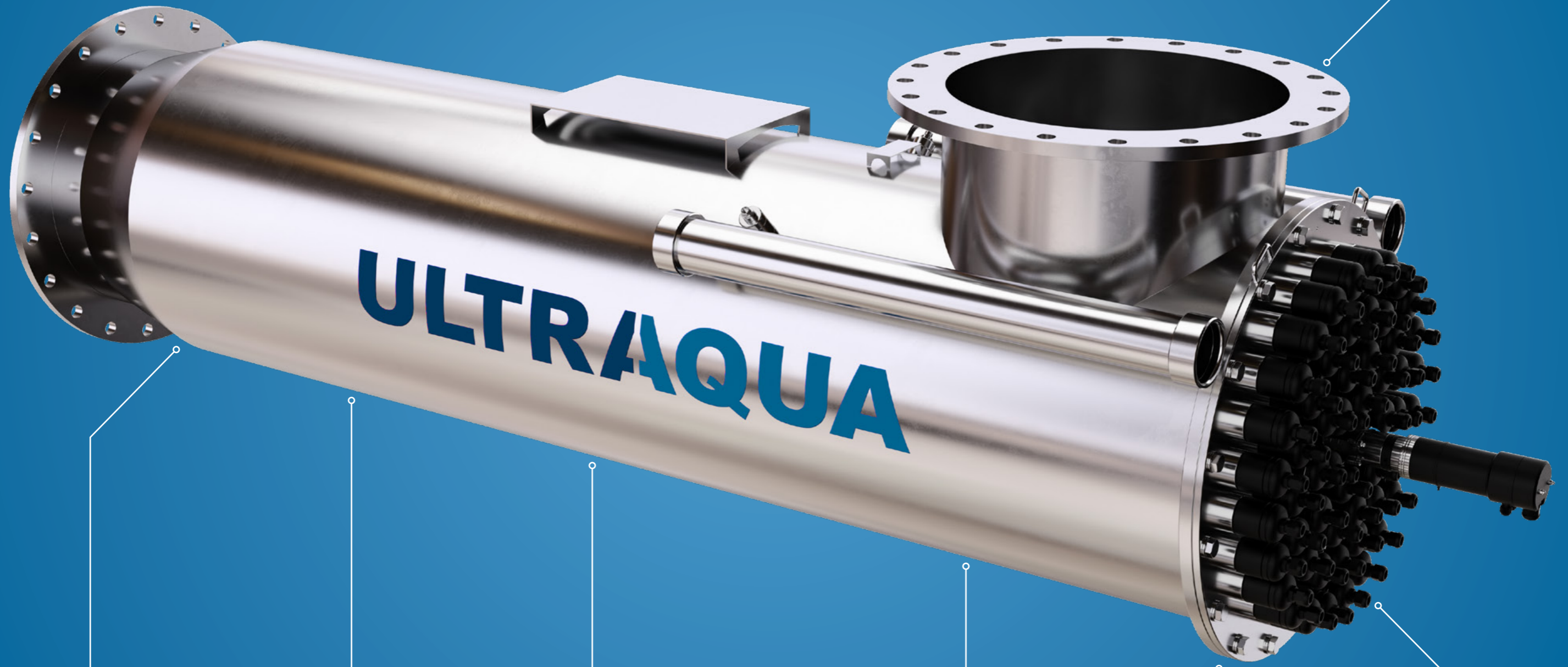
**ULTRAQUA**  
UV DISINFECTION SYSTEMS



# ULTRABARRIER™

## ULTIMATE INTAKE WATER BIOSECURITY

The control cabinets are always made from non-corrosive materials with passive or active cooling in order to protect the electronics in the cabinet from humidity and dust



Unique shape for minimum headloss and increased hydraulics performance

High-grade electropolished stainless steel (SS316L) or polypropylene (PP) for humid or corrosive environments

ULTRATouch™ PLC controller via MODBUS™ with parameters for each individual lamp for easy data collection and management

2 ÖNORM validated UV sensors for double dose control

Automatic ULTRAWiper™ wiping system working during regular operation

Compact lamp arrangement for maximum exposure of light and elimination of "dark areas" in poor water qualities

## EVERY FISH COUNTS

ULTRAAQUA UV systems have been chosen to ensure biosecurity of millions of salmon, sturgeons, eels, turbot, sea bass produced in aquaculture systems worldwide. There our UV systems help increase FCR (Feed Conversion Ratio), and drastically reduce the use of antibiotics for more reliable production.

Diseases such as Infectious Salmon Anaemia (ISA), Infectious Pancreatic Necrosis (IPN) and Amoebic gill disease (AGD) are being prevented with the use of ULTRAAQUA UV systems. This has given the fish farmers the security and reassurance that their fish are not infected, thereby protecting well being not only of their production, but also the end consumer.

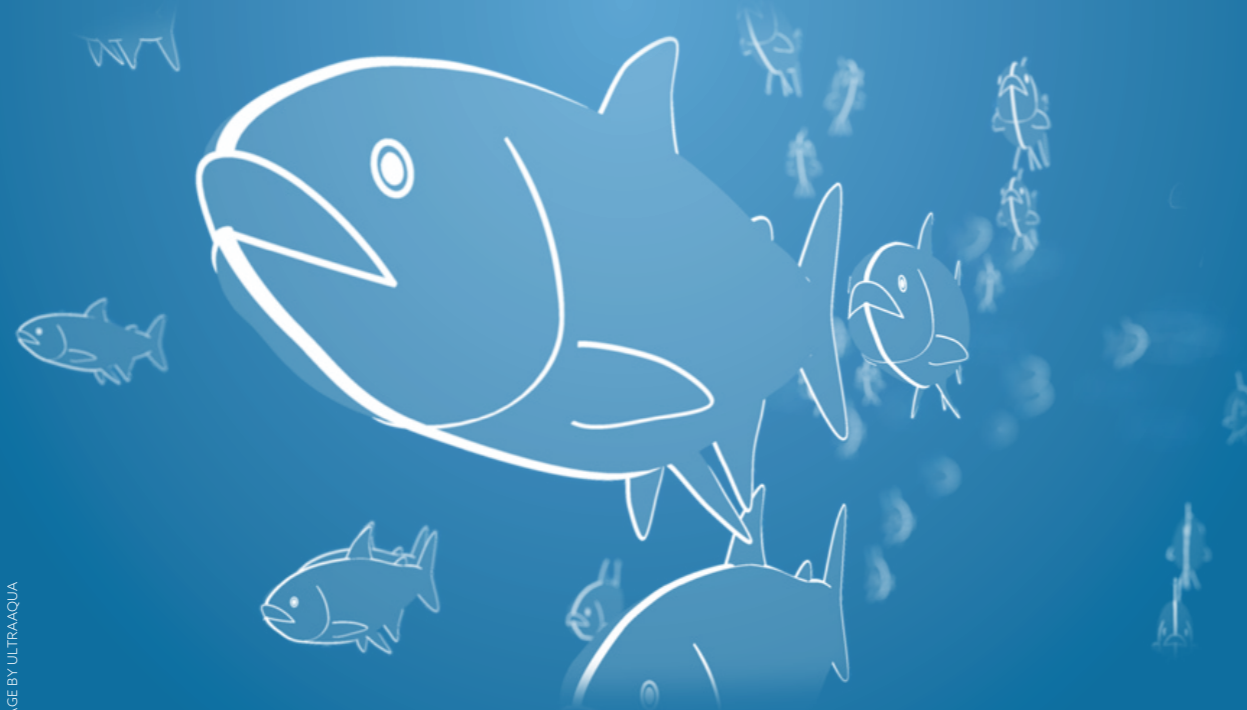


IMAGE BY ULTRAAQUA



CERMAQ

MQWI



Cooke



## 5 000 AQUACULTURE UV SYSTEMS WORLDWIDE

ULTRAAQUA UV systems continuously disinfect more than 1 000 000 m<sup>3</sup>/h of water in aquaculture systems worldwide, where millions of salmon, sturgeons, eels, turbot, sea bass etc. are kept contaminants and disease free.

We are aware that fish farms can be a hostile environment for any equipment. Choosing the appropriate technology and high-quality materials is crucial in order to ensure smooth operations and longevity of the systems. With ULTRAAQUA UV our customers can be certain to get one of the most thoroughly tested and reliable UV systems for aquaculture in today's market.



## 52,5 KW RAS IN THE SWISS ALPS

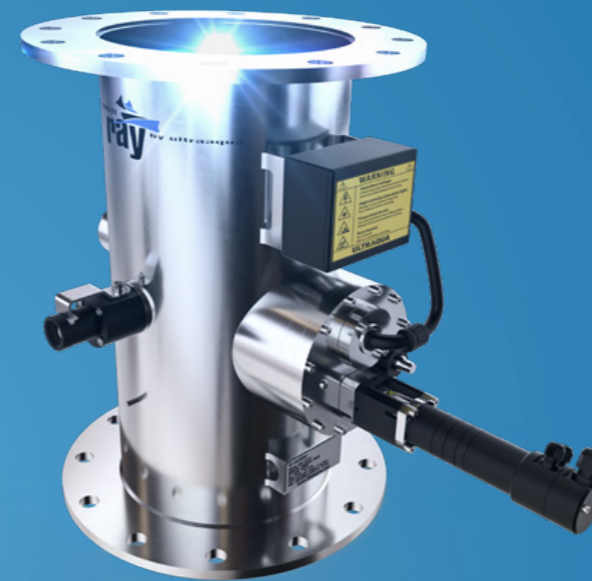
Three MR50-350SS Channel units were picked for ultimate biosecurity in a large RAS facility in Switzerland. The three units have a combined disinfection volume of over 3000 m<sup>3</sup>/h supplying various species of fish.

A low-pressure lamp system was deliberately chosen because of its high 254nm UV light output, delivering the best power to disinfection conversion. The high efficiency also ensures the lowest possible operating cost, resulting in a large annual cost saving for the fish farm.

**3 x MR50-350SS Channel  
Installed in Switzerland in a  
large RAS to ensure  
biosecurity for multiple  
species of fish.**

# EFFECTIVE DISINFECTION GUARANTEED

## ULTRAAQUA MULTIRAY™ MEDIUM PRESSURE TECHNOLOGY



### MULTIRAY™ MEDIUM PRESSURE SYSTEMS

ULTRAAQUA UV MultiRay™ Medium Pressure systems provide effective disinfection in all applications. The big advantage of MultiRay™ MP UV-lamps is the extreme UVC energy density. This makes it possible to build compact reactors even for very high water flow rates. MultiRay™ MP technology design makes it perfect for smaller spaces, such as wellboats. Furthermore, due to energy density the system is also cost-efficient when operating hours are limited.

### ADVANCED OXIDATION (AOP)

ULTRAAQUA UV has years of experience with advanced oxidation processes (AOP). Constituents in water (pesticides, pharmaceuticals, geosmin, etc.) can be degraded by direct photolysis or in a process in which chemical oxidation by H<sub>2</sub>O<sub>2</sub> or ozone is being boosted by simultaneous hydroxyl radical formation. Contact ULTRAAQUA UV engineers for more information on AOP applications.

## ULTRAAQUA LOW PRESSURE TECHNOLOGY



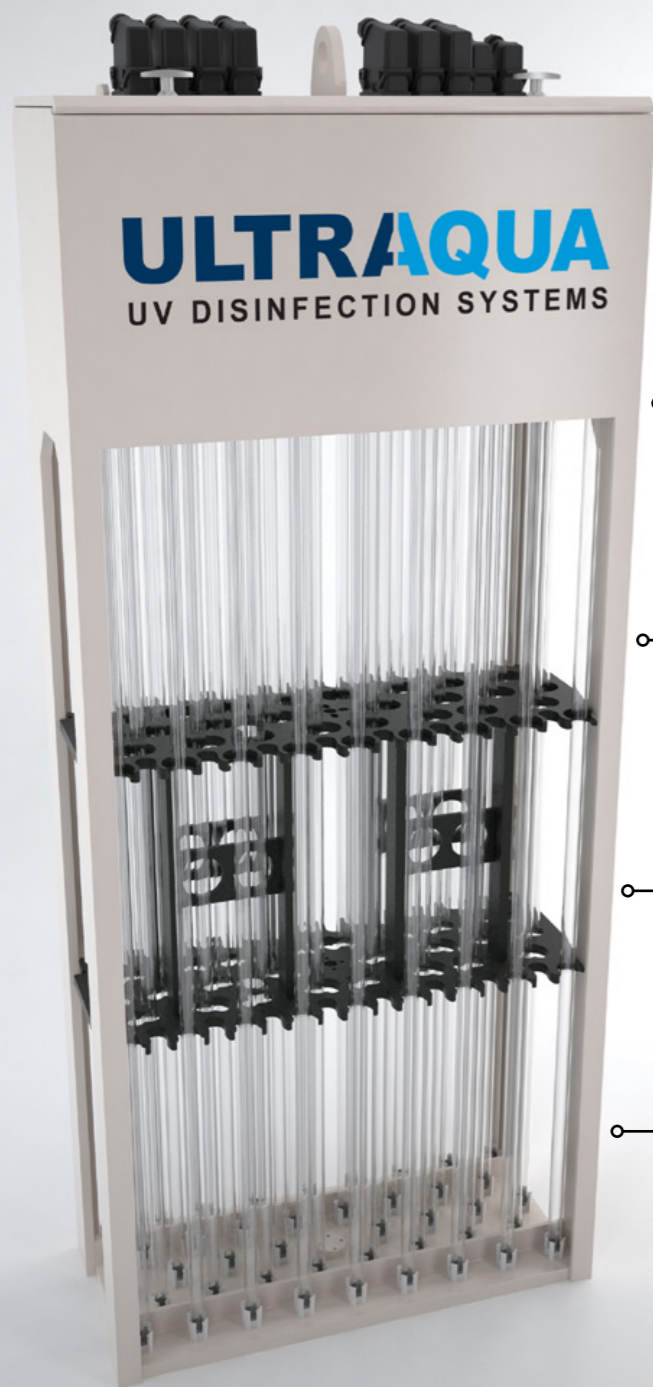
### LOW OPERATING COSTS

ULTRAAQUA UV low-pressure UV-technology disinfection systems are designed with for maximum performance for the lowest possible operating costs. Key factors are unmatched lamp lifetime of 16 000 hours and the highest possible energy conversion ratios. Robust design and perfectly matched lamp drivers also ensure stable and faultless performance. This philosophy has made ULTRAAQUA UV world leading UV-manufacturer within large scale industrial fish farming.

### POWERFUL STERILIZATION

More than 5000 large scale UV-systems have been sold to RAS globally. This has only been possible because every installed system continuously proves their efficacy through significantly reduced fish mortality and improved growth rates on all of these production sites. It should also be noted that ULTRAAQUA UV systems hold various performance certificates approvals (ÖNORM, German DVGW, IMO, US coast guard, Norwegian Veterinary Institute).





## OPEN CHANNEL UV SYSTEM FOR RAS

- Corrosion resistant polypropylene (PP) for harsh saltwater environment
- Corrosion resistant internal materials suitable for warm saline waters
- Possibility for adjustable inclined solution for shallow water
- ULTRAWiper™ automatic wiper system and ULTRATouch™ controller for effortless maintenance

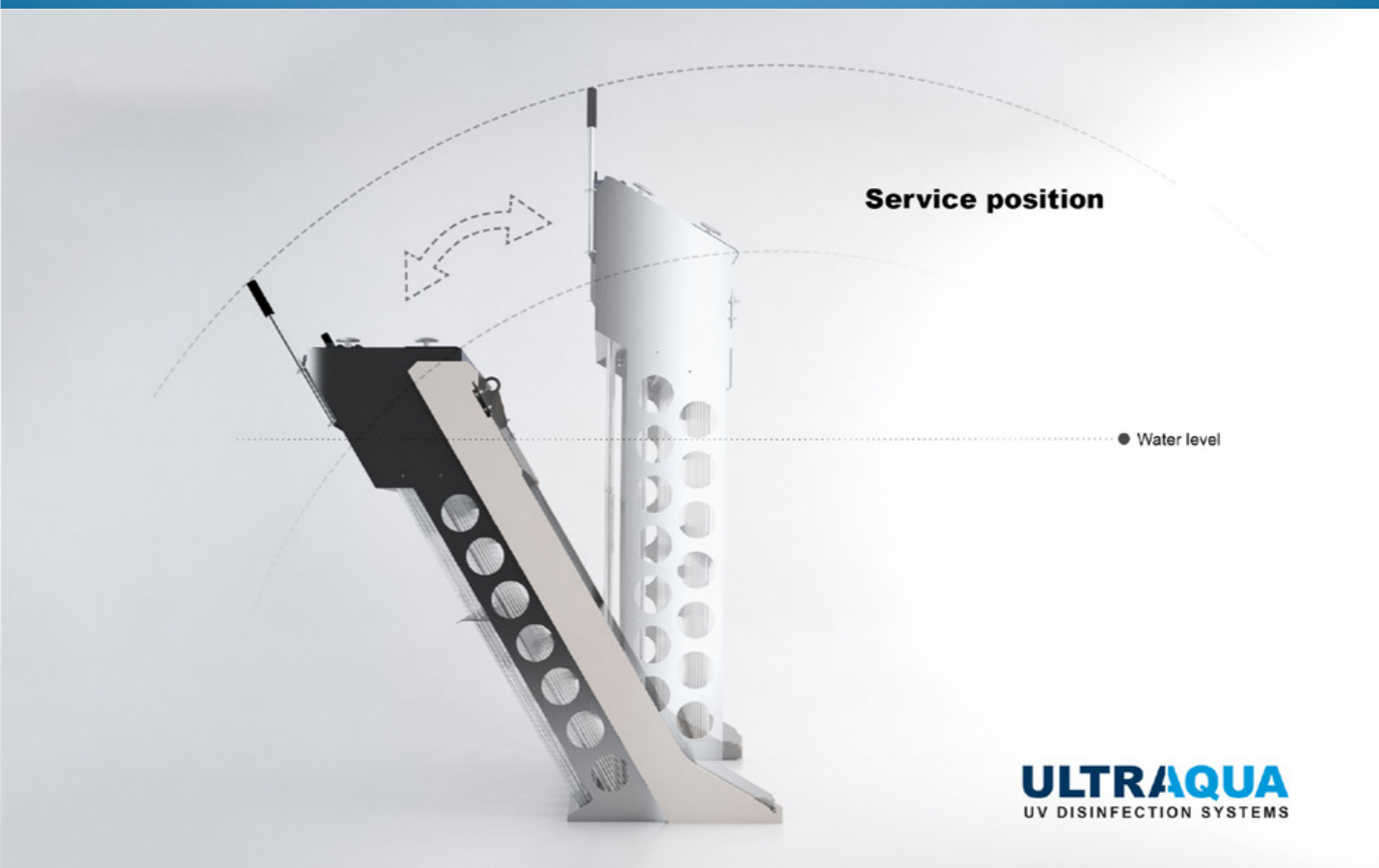
MR42-350 PP Channel  
Model features include:

- Validated UV sensor
- Dose control
- Auto wiping system
- Modular design

## SOLUTION ORIENTED UV DESIGN

ULTRAAQUA UV introduces polypropylene (PP) Open Channel units. The Open Channel units are based on a compact footprint and a functional design that equals no other. The greatest feature of the system is the PP material allowing it to function efficiently even in the most saline environment, such as seawater. Open Channels' extremely small footprint and compact design make them ideal for onshore seawater farming or RAS. This also results in more space for fish production and better overall hygiene.

Most of the UV systems are possible for customization for retrofitting. With well developed technology we can promise our customers the most optimized solution with reduced lamp number and the highest efficiency.

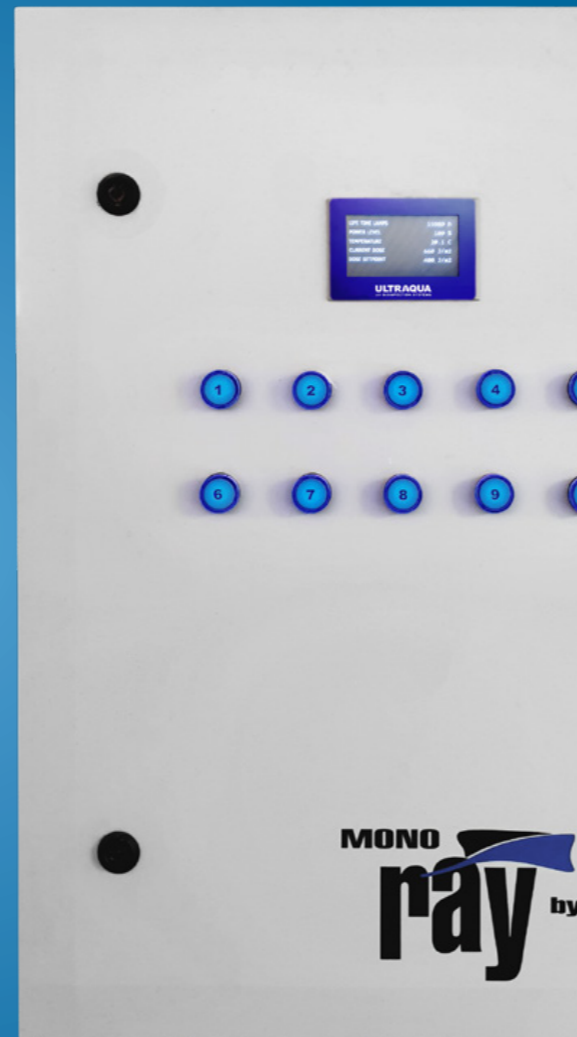


**ULTRAAQUA**  
UV DISINFECTION SYSTEMS

MR32-220SS Channel  
Inclined functionality for low water levels

## ULTRATOUCH™ CONTROLLER DATA MANAGEMENT MADE EASY

ULTRAtouch™ controllers are built to be durable and easy to operate. The design is based on feedback from numerous customers over time and reflects a "what you need to know when you need to know it" philosophy. Behind the ULTRAtouch™ multicolor touchscreen, an advanced PLC control system is constantly monitoring and adjusting the electrical parameters of each individual lamp. This ensures their optimal performance based on data coming from the two UV sensors. PLC's event and performance log are saving the information for further analysis. The UV system can be controlled remotely via MODBUS™, simply by just bringing the Ethernet cable in.

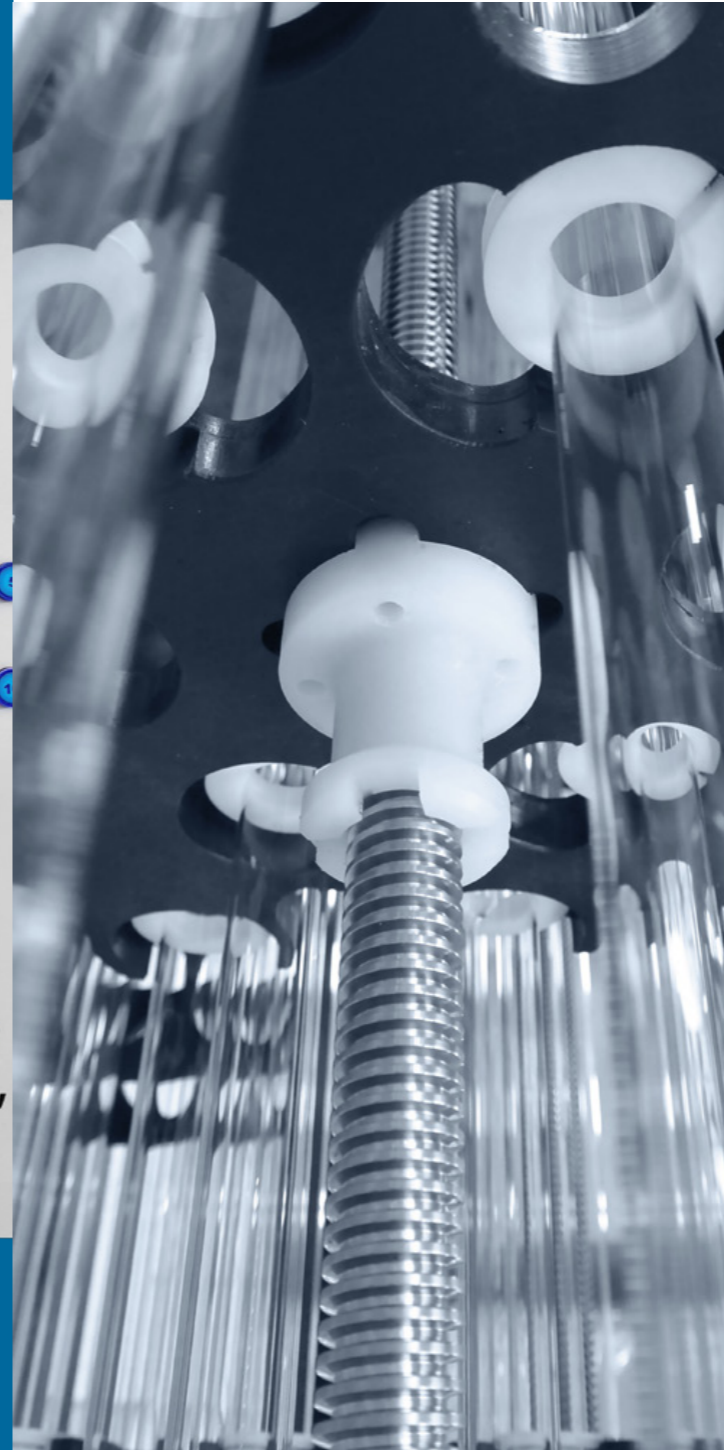


Automatic wiper system.  
Corrosion resistant materials.

## ULTRAWIPER™ MINIMIZE MAINTENANCE DOWNTIME

ULTRAAQUA's fully automatic wiper system is designed to last even in a saltwater environment. A compact design allows full access to lamps and quartz while changing the wiper rings and can be done in a few minutes without tools.

The cleaning interval can be adjusted to suit the aquaculture application and extend the lifetime of components. From innovative placement within the reactor to on-going monitoring features, the solution is completely safe and reliable.





# ENVIRONMENTAL TECHNOLOGY VERIFICATION & NVI CERTIFICATION



### EU ENVIRONMENTAL TECHNOLOGY VERIFICATION

ETV is an environmental technology performance validation. It is done by qualified third parties and is based on data generated through testing, established protocols and specific requirements.



### APPROVED BY THE NORWEGIAN VETERINARY INSTITUTE

ULTRAAQUA's UV systems are approved by NVI for wastewater and intake water disinfection in aquaculture sector and fish processing plants.



### ÖNORM VALIDATED AND TESTED BY MORE

Several ULTRAAQUA UV systems have obtained ÖNORM national Austrian standard. Other validations include DVGW, AMS and IMO.

# EXCELLENT CUSTOMER SERVICE



### WORKING TOGETHER FOR A BETTER WORLD

In ULTRAAQUA UV we understand that our customers are a huge part of our success and development. That is why every day we do our best to give excellent customer service and care that includes from on-site maintenance training to answering any questions within 24-hour period.

# RECOMMENDED UV SYSTEMS FOR AQUACULTURE

ULTRAAQUA delivers UV systems for both small and large fish farms. Our products range from 75w single lamp systems suitable for smaller hatching pools, to large 30kW multi-lamp systems for RAS.

## STAINLESS STEEL FOR PIPE INSTALLATION

220 SS Series	MR1-220SS	MR4-220SS	MR8-220SS	MR16-220SS	MR32-220SS	MRXX-220SS
Max flow in m³/h	37	230	500	1000	2000	10.000 - ∞
Power	0.20 kW	1.0 kW	1.9 kW	3.8 kW	7.6 kW	∞ kW

350 SS Series	MR1-350SS	MR4-350SS	MR8-350SS	MR16-350SS	MR32-350SS	MRXX-350SS
Max flow in m³/h	60	390	870	1740	3480	10.000 - ∞
Power	0.4 kW	1.5 kW	3.0 kW	6.0 kW	12.0 kW	∞ kW



MR1-220SS



MR4-220SS T-Line

## POLYPROPYLENE FOR PIPE INSTALLATION

SEAWATER OPTIMIZED

220 PP Series	MR1-220PP	MR4-220PP	MR8-220PP	MR16-220PP	MR32-220PP	MRXX-220PP
Max flow in m³/h	34	155	310	620	1240	10.000 - ∞
Power	0.20 kW	1.0 kW	1.9 kW	3.8 kW	7.6 kW	∞ kW

350 PP Series	MR1-350PP	MR4-350PP	MR8-350PP	MR16-350PP	MR32-350PP	MRXX-350PP
Max flow in m³/h	55	365	830	1660	3320	10.000 - ∞
Power	0.4 kW	1.5 kW	3.0 kW	6.0 kW	12.0 kW	∞ kW



MR1-75PP



MR8-220PP w Auto-clean

## STAINLESS STEEL FOR CHANNEL INSTALLATION

220 SS C Series	MR4-220SS C	MR6-220SS C	MR8-220SS C	MR16-220SS C	MR32-220SS C	MRXX-220SS C
Max flow in m³/h	175	260	350	700	1400	10.000 - ∞
Power	1.0 kW	1.5 kW	2.0 kW	4.0 kW	8.0 kW	2.0 kW

350 SS C Series	MR4-350SS C	MR6-350SS C	MR8-350SS C	MR16-350SS C	MR32-350SS C	MRXX-350SS C
Max flow in m³/h	280	420	560	1120	2240	10.000 - ∞
Power	1.5 kW	2.2 kW	3.0 kW	6.0 kW	12.0 kW	∞ kW



MR18-350SS C w. Auto-Clean



MR34-350SS C w. Auto-Clean

## POLYPROPYLENE FOR CHANNEL INSTALLATION

SEAWATER OPTIMIZED

220 PP C Series	MR4-220PP C	MR6-220PP C	MR8-220PP C	MR16-220PP C	MR32-220PP C	MRXX-220PP C
Max flow in m³/h	175	260	350	700	1400	10.000 - ∞
Power	1.0 kW	1.5 kW	2.0 kW	4.0 kW	8.0 kW	∞ kW

350 PP C Series	MR4-350PP C	MR6-350PP C	MR8-350PP C	MR16-350PP C	MR32-350PP C	MRXX-350PP C
Max flow in m³/h	280	420	560	1120	2240	10.000 - ∞
Power	1.5 kW	2.2 kW	3.0 kW	6.0 kW	12.0 kW	∞ kW



MR4-220PP C



MR42-350PP C w. Auto-Clean