

ULTRAAQUA · AQUACULTURE UV DISINFECTION

ULTRABARRIER™ Series

UV disinfection for aquaculture intake and recirculation water. Available in stainless steel (SS) and non-corrosive polypropylene (PP) reactors.



Overview

The ULTRABARRIER™ series is designed to stop pathogens at the point where water enters a farm. Installed on intake and recirculation lines, it treats the full flow with UV-C light before the water reaches tanks, hatcheries or smolt units, without adding chemicals or changing water chemistry.

Ozone UV Solutions supplies ULTRABARRIER™ systems as an authorised ULTRAAQUA reseller and supports them locally: from sizing and installation through commissioning, servicing, lamps and spare parts.

Key features

- Approved by the Norwegian Veterinary Institute (NVI) for aquaculture intake water disinfection
- Two reactor materials: electropolished SS316L, or UV-stabilised polypropylene for saline and corrosive water
- ULTRATHERM low-pressure high-output amalgam lamps, 350 W, with a rated life of 16,000 hours
- Two ÖNORM M5873-certified UV intensity sensors and automatic dose pacing (50–100% power)
- Automatic ULTRAWIPER™ quartz sleeve cleaning and single-ended access for maintenance without special tools
- Siemens PLC with 7" touchscreen, data logging and Modbus TCP/IP or PROFINET for SCADA integration

Design and operation

Hydraulics and dose

Lamp positions are optimised by CFD modelling for an even UV dose across the chamber and low head loss. Dose pacing adjusts lamp power to the flow and water quality, so the target dose is held while energy use stays low.

Lamps and cleaning

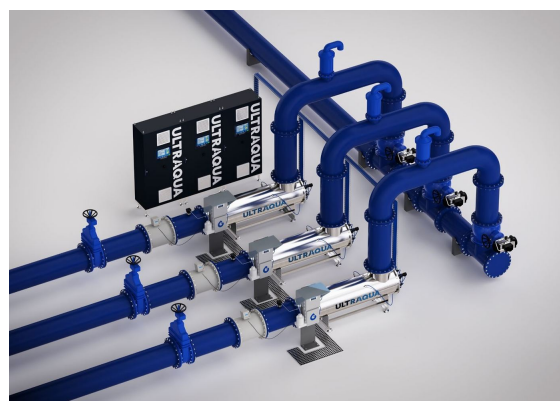
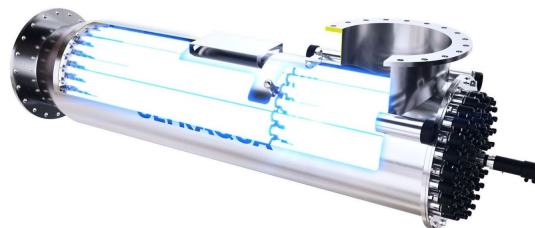
ULTRATHERM amalgam lamps keep a stable output over their rated life of 16,000 hours. The automatic ULTRAWIPER™ keeps the quartz sleeves and UV sensors clean, which keeps the dose reading reliable in fouling-prone farm water.

Controls

Each system comes with a control cabinet with a Siemens PLC (Allen-Bradley optional), 7" ULTRATOUCH HMI, alarm, event and data logs (UV dose, UV intensity, flow) and 4–20 mA signals for flow, dose and intensity, with optional UVT input.

Maintenance

Single-ended access and interlocking lamp connectors make lamp and sleeve changes quick and safe. Reactors install horizontally or vertically.



Typical applications

- Intake water disinfection for land-based fish farms, hatcheries and smolt facilities
- Recirculating aquaculture systems (RAS)
- Salmon and other finfish, shrimp and prawn farming, including warm and saline water (PP reactors)

Supplied and supported by Ozone UV Solutions

System selection and UV dose sizing · Installation and commissioning · PLC/SCADA integration · Planned servicing and lamp changes · Spare parts and consumables · 24/7 technical support line **+61 422 081 913**

Model selection

The right model depends on flow rate, UV transmittance (UVT) of the water and the dose required for the target pathogens. Send us these figures and we will confirm the model and configuration.

Polypropylene (PP) reactors – non-corrosive

Model	UV lamps (350 W)	Connection	Design pressure	Power	Reactor dry weight	Reactor volume
MR1-350PP	1	DN100 (ANSI 4)	8 bar	0.4 kW	23 kg	40 L
MR4-350PP	4	DN100 (ANSI 4)	6 bar	1.5 kW	36 kg	71 L
MR6-350PP	6	DN150 (ANSI 6)	5 bar	2.3 kW	46 kg	90 L
MR8-350PP	8	DN150 (ANSI 6)	3 bar	3.0 kW	55 kg	113 L
MR12-350PP	12	DN200 (ANSI 8)	2 bar	4.5 kW	74 kg	207 L
MR18-350PP	18	DN300 (ANSI 12)	2 bar	6.8 kW	124 kg	311 L
MR28-350PP	28	DN400 (ANSI 16)	2 bar	10.5 kW	171 kg	377 L

Stainless steel (SS) reactors – electropolished SS316L

Model	UV lamps (350 W)	Connection	Design pressure	Power	Reactor dry weight	Reactor volume
MR1-350SS	1	DN100 (ANSI 4)	10 bar [16 bar]	0.4 kW	40 kg	33 L
MR4-350SS	4	DN100 (ANSI 4)	10 bar [16 bar]	1.5 kW	64 kg	70 L
MR6-350SS	6	DN150 (ANSI 6)	10 bar [16 bar]	2.3 kW	68 kg	83 L
MR8-350SS	8	DN150 (ANSI 6)	10 bar [16 bar]	3.0 kW	96 kg	118 L
MR12-350SS	12	DN200 (ANSI 8)	10 bar [16 bar]	4.5 kW	124 kg	193 L
MR18-350SS	18	DN300 (ANSI 12)	10 bar [16 bar]	6.8 kW	141 kg	307 L
MR28-350SS	28	DN400 (ANSI 16)	10 bar [16 bar]	10.5 kW	238 kg	374 L
MR44-350SS	44	DN500 (ANSI 20)	6 bar [10 bar]	16.5 kW	335 kg	627 L
MR56-350SS	56	DN500 (ANSI 20)	6 bar [10 bar]	21.0 kW	412 kg	693 L

Options are shown in [square brackets]. Pressure ratings: PP reactors PN10 (ANSI Class 150); SS reactors EN 1092 Type 01A PN10 (ANSI Class 150), optional PN16 (ANSI Class 300).

Common specifications

UV LAMPS & MONITORING	
Lamp type	ULTRATHERM low-pressure high-output (LPHO) amalgam, 350 W
Rated lamp life	16,000 hours
UV monitoring	2 × UV intensity sensors, ÖNORM M5873 certified, Super Duplex housing
Power control	ULTRADOSE dose pacing, 50–100%
Approvals	Norwegian Veterinary Institute (NVI), CE [UL / cUL]
UV CHAMBER	
Chamber material	PP: UV-stabilised polypropylene [PEHD] · SS: SS316L / 1.4404 [Super Duplex], electropolished inside, glass-blasted outside
Quartz sleeves	High-purity fused quartz, transmittance > 95%
Cleaning	ULTRAWIPER™ automatic mechanical wiper with PTFE/fibre rings (electric drive)
Access / installation	Single-ended lamp and wiper access · horizontal or vertical installation · free-standing [SS316 stand]
Other	PT100 temperature probe · 1" drain port · IP65 · minor wetted parts FDA-approved PTFE, PVDF, Viton
CONTROL CABINET	
Control logic / HMI	Siemens PLC [Allen-Bradley] · 7" ULTRATOUCH touchscreen
Communication	Modbus TCP/IP, PROFINET
Analogue I/O (4–20 mA)	Flow input, UV dose output, UV intensity output [UVT input]
Logging	Alarms, events and data (UV dose, UV intensity, flow)
Cabinet	Polycarbonate or GFRP depending on size [SS304 / SS316]; MR44/MR56: floor-standing powder-coated steel
Power supply	1 × 230 VAC +N+PE 50/60 Hz (smaller models) · 3 × 400 VAC +N+PE 50/60 Hz (larger models)
Cable length	4 m standard [up to 30 m]

Request sizing or a quote

Send us your flow rate, water source (fresh or saline), UV transmittance if known, and the target pathogens or required dose. We will recommend the model and configuration and quote supply, installation and ongoing service.

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Specifications subject to change without notice.