

ULTRAAQUA · OPEN CHANNEL UV DISINFECTION FOR AQUACULTURE AND CORROSIVE WATER

OPEN CHANNEL (PP) Series

Non-corrosive polypropylene lamp modules for open channels in aquaculture, saline and other corrosive water.



Overview

The OPEN CHANNEL (PP) series brings open channel UV disinfection to saline and corrosive water. Its lamp modules are made from UV-stabilised polypropylene, which resists temperature changes, chemicals and salts. This makes the series a strong fit for intensive aquaculture, including recirculating (RAS) and flow-through systems where species are reared in salt water.

The module frame is available in a wide choice of widths and depths to suit virtually any channel. Routine maintenance is carried out from a dry top compartment, without lifting the module out of the water.

Ozone UV Solutions supplies OPEN CHANNEL (PP) systems as an authorised ULTRAAQUA reseller and supports them locally: from sizing and installation through commissioning, servicing, lamps and spare parts.

Key features

- Non-corrosive UV-stabilised polypropylene modules for saline and corrosive water
- ULTRATHERM low-pressure high-output amalgam lamps, 220 W or 350 W, with a rated life of 16,000 hours
- Modules from 4 to 48 lamps, with channel widths from 550 to 1,390 mm
- Dry top compartment for maintenance without removing the module from the water
- PTFE UV intensity sensor, ULTRADOSE dose pacing (50–100%) and flood protection switch
- PLC with 7" ULTRATOUCH touchscreen; optional automatic ULTRAWIPER™ sleeve cleaning

Design and operation

Lamp layout and dose

The CFD-optimised cross-line lamp arrangement gives full pathogen exposure with low energy demand. ULTRADOSE pacing reduces lamp power while holding a stable dose.

Module construction

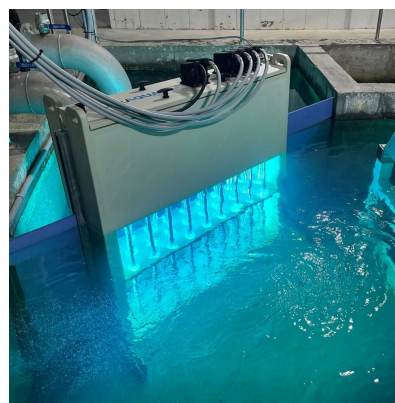
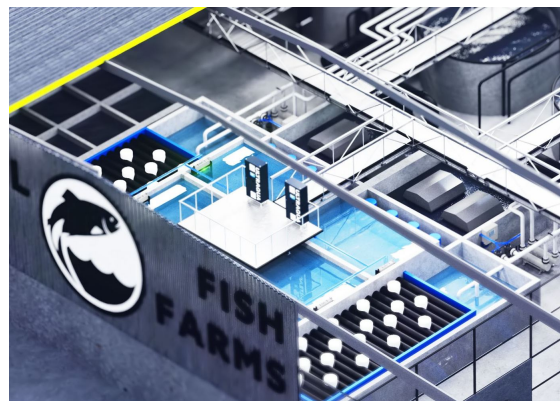
Machined polypropylene modules stand free in PP mounting rails and can be installed vertically or inclined. Each module has IP55 protection and a flood protection switch.

Lamps and cleaning

ULTRATHERM amalgam lamps have a rated life of 16,000 hours. The optional ULTRAWIPER™ keeps the quartz sleeves and UV sensor clean and prevents heavy fouling.

Controls

PLC with 7" ULTRATOUCH HMI, alarm, event and data logs, Modbus TCP/IP or PROFINET and 4–20 mA signals for flow, dose and intensity, with optional UVT input. Wall-mounted GFRP cabinets on most sizes.



Typical applications

- Recirculating aquaculture systems (RAS) and flow-through farms, including saline water
- Shrimp and prawn farming
- Municipal wastewater disinfection

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 the channel dimensions, flow rate, UV transmittance (UVT) and the dose required for the target pathogens. Send us these figures and we will confirm the model and configuration.

220 W lamp models – water level 1,230 to 1,600 mm

Model	UV lamps	Channel width (mm)	Channel depth (mm)	Module weight	Power	Control cabinet (H×W×D mm)	Power supply
MR4-220PP C	4	550 ± 8	185 ± 5	35 kg	1.0 kW	800×600×300	1 × 230 VAC
MR6-220PP C	6	790 ± 8	185 ± 5	45 kg	1.4 kW	750×1000×320	1 × 230 VAC
MR8-220PP C	8	1030 ± 8	185 ± 5	50 kg	1.9 kW	1000×1000×320	1 × 230 VAC
MR12-220PP C	12	850 ± 8	205 ± 5	85 kg	2.9 kW	1250×1250×420	1 × 230 VAC

350 W lamp models – water level 1,730 to 2,100 mm

Model	UV lamps	Channel width (mm)	Channel depth (mm)	Module weight	Power	Control cabinet (H×W×D mm)	Power supply
MR4-350PP C	4	550 ± 8	185 ± 5	45 kg	1.5 kW	750×1000×320	1 × 230 VAC
MR6-350PP C	6	790 ± 8	185 ± 5	55 kg	2.3 kW	1000×1000×320	1 × 230 VAC
MR8-350PP C	8	1030 ± 8	185 ± 5	65 kg	3.0 kW	1000×1000×320	3 × 400 VAC
MR12-350PP C	12	850 ± 8	205 ± 5	75 kg	4.5 kW	1000×1250×320	3 × 400 VAC
MR16-350PP C	16	1090 ± 8	205 ± 5	90 kg	6.0 kW	1250×1250×420	3 × 400 VAC
MR20-350PP C	20	1330 ± 8	205 ± 5	105 kg	7.5 kW	1250×1250×420	3 × 400 VAC
MR24-350PP C	24	1090 ± 8	309 ± 5	130 kg	9.0 kW	1250×1250×420	3 × 400 VAC
MR28-350PP C	28	1270 ± 8	309 ± 5	145 kg	10.5 kW	1250×1250×420	3 × 400 VAC
MR32-350PP C	32	1390 ± 8	309 ± 5	155 kg	12.0 kW	1250×1250×420	3 × 400 VAC
MR36-350PP C	36	1210 ± 8	440 ± 5	185 kg	13.5 kW	2000×1000×500 (floor)	3 × 400 VAC
MR40-350PP C	40	1330 ± 8	440 ± 5	200 kg	15.0 kW	2000×1000×500 (floor)	3 × 400 VAC
MR44-350PP C	44	1210 ± 8	540 ± 5	225 kg	16.5 kW	2000×1000×500 (floor)	3 × 400 VAC
MR48-350PP C	48	1270 ± 8	540 ± 5	235 kg	18.0 kW	2000×1000×500 (floor)	3 × 400 VAC

Channel width ± 8 mm, channel depth ± 5 mm. Control cabinets are wall-mounted, except the floor-standing units marked (floor). Options are shown in [square brackets].

Common specifications

UV LAMPS & MONITORING	
Lamp type	ULTRATHERM low-pressure high-output (LPHO) amalgam, 220 W or 350 W
Rated lamp life	16,000 hours
UV monitoring	220 W models: UV intensity sensor, non-corrosive PTFE · 350 W models: UV intensity sensor, PTFE, 360°
Power control	ULTRADOSE automatic dose pacing, 50–100%
Approvals	CE [UL / cUL]
UV MODULE	
Module material	Non-corrosive UV-stabilised polypropylene, machined finish
Quartz sleeves	High-purity fused quartz, transmittance > 95%
Cleaning	[ULTRAWIPER™ automatic mechanical wiper with PTFE/fibre rings (electric drive)]
Mounting / installation	Free-standing in PP mounting rails · vertical or inclined · single-ended lamp and wiper access
Protection	IP55 · flood protection switch · PT100 temperature probe
Other	Minor wetted parts FDA-approved PTFE, PVDF, Viton
CONTROL CABINET	
Control logic / HMI	PLC · 7" ULTRATOUCH touchscreen
Communication	Modbus TCP/IP, PROFINET [I-Device]
Analogue I/O (4–20 mA)	Flow input, UV dose output, UV intensity output [UVT input]
Logging and alarms	Alarms, events and data (UV dose, UV intensity, flow) · actual and target UV dose on HMI · UV dose pre-alarm and alarm
External wiring	Remote ON/OFF, safety ON/OFF, system status, alarm
Cabinet	220 W: GFRP [SS304 / SS316] · 350 W up to MR32: non-corrosive GFRP · MR36-350PP C and above: powder-painted steel [316L], floor-standing
Protection and cooling	Wall-mounted cabinets: IP65, passive cooling [fan / AC / heat exchanger]; heat exchanger on MR24 to MR32-350PP C · floor-standing cabinets: IP54 [IP65], fan with filter [AC / heat exchanger]
Ambient temperature	Wall-mounted cabinets: rated range depends on size, from 0–20 °C to 0–38 °C · floor-standing cabinets: 0–40 °C, non-condensing
Power supply	1 × 230 VAC ±10% +N+PE 50/60 Hz or 3 × 400 VAC ±10% +N+PE 50/60 Hz (see model table)
Cable length	7 m standard [up to 20 m on 220 W models, up to 30 m on 350 W models]

Request sizing or a quote

Send us the channel dimensions, 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.