

ULTRAAQUA · LOW-FLOW UV DISINFECTION FOR CORROSIVE WATER

LOW FLOWRATE PP Series

Compact UV systems with one to four lamps and non-corrosive polypropylene reactors, for low flows of saline and corrosive water.



Overview

The LOW FLOWRATE PP series brings the non-corrosive polypropylene reactor to small systems. With one to four 75 W lamps and reactors weighing between 3 and 8 kg, it suits low-flow lines in aquaculture, aquariums and process water where a stainless-steel reactor would corrode. Designed for low flows, typically 1–30 m³/h; final sizing confirmed on request.

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

Key features

- UV-stabilised polypropylene reactor for saline and corrosive water [PEHD]
- One to four ULTRATHERM 75 W low-pressure high-output amalgam lamps with a rated life of 9,000 hours
- Compact reactors from 3 to 8 kg with 1½" or 3" BSP connections, design pressure 6 bar
- Two controller levels: STD with status LEDs and hour counter, or ADV with UV intensity sensor and LCD
- 50–100% variable lamp power and Modbus RTU on ADV units
- Optional automatic ULTRAWIPER™ quartz sleeve cleaning (not available on MR1-75PP STD)

Design and operation

Reactor

The machined polypropylene reactor is rated 6 bar, with higher ratings on request, and IP65 / NEMA 4X. Lamp positions are CFD-optimised. Units install horizontally or vertically, free-standing or on an optional horizontal SS316 stand.

Lamps and cleaning

Each reactor holds one to four 75 W ULTRATHERM amalgam lamps with a rated life of 9,000 hours. The optional ULTRAWIPER™ cleans the quartz sleeves automatically with PTFE/steel fibre rings and an electric drive.

Controls

STD units use a simple controller with status LEDs and an hour counter. ADV units add a microprocessor with 4-line LCD, a non-corrosive PTFE UV intensity sensor with pre-alarm and alarm, 50–100% variable power, a 4–20 mA flow input and UV irradiance output, Modbus RTU and remote control wiring.

Maintenance

Single-ended service and interlocking lamp connectors keep lamp and sleeve changes quick and safe.



Typical applications

- Recirculating aquaculture systems (RAS), shrimp and prawn farming
- Aquariums and zoo life-support systems
- Horticulture, and food and beverage applications

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 controller type.

Models (75 W lamps) – each available as STD or ADV

Model	UV lamps (75 W)	Connection	Power	Reactor dry weight	Reactor volume	Vent / drain ports	Control cabinet STD (H×W×D mm · weight)	Control cabinet ADV (H×W×D mm · weight)
MR1-75PP	1	1½" BSP	0.08 kW	3 kg	5 L	None	300×200×150 · 6 kg	600×400×210 · 10 kg
MR2-75PP	2	3" BSP	0.16 kW	5 kg	13 L	½"	400×300×210 · 10 kg	600×400×210 · 10 kg
MR3-75PP	3	3" BSP	0.24 kW	6 kg	15 L	½"	600×400×210 · 14 kg	600×400×210 · 12 kg
MR4-75PP	4	3" BSP	0.32 kW	8 kg	17 L	½"	600×400×210 · 16 kg	600×400×210 · 12 kg

STD and ADV controllers compared

Feature	STD	ADV
UV intensity monitoring	–	Non-corrosive PTFE sensor, UV intensity on display, pre-alarm and alarm
Lamp power	Fixed	Variable 50–100%
Control logic / display	Status LED indicators and hour counter	Microprocessor with 4-line LCD and system state indication
Communication	–	Modbus RTU
Analogue I/O (4–20 mA)	–	Flow input, UV irradiance output
External wiring	–	Remote ON/OFF, safety ON/OFF, system status, alarm
Logging	–	Alarms

Options are shown in [square brackets].

Common specifications

UV LAMPS & MONITORING	
Lamp type	ULTRATHERM low-pressure high-output (LPHO) amalgam, 75 W
Rated lamp life	9,000 hours
UV monitoring	ADV: UV intensity sensor, non-corrosive PTFE
Approvals	CE [UL / cUL]
UV CHAMBER	
Chamber material	Non-corrosive UV-stabilised polypropylene (PP) [PEHD], machined finish
Connections	1½" BSP (MR1-75PP) · 3" BSP (MR2 to MR4-75PP) · pressure class PN10 (ANSI Class 150)
Design pressure	6 bar (higher ratings on request)
Quartz sleeves	High-purity fused quartz, transmittance > 92%
Cleaning	[ULTRAWIPER™ automatic mechanical wiper with PTFE/steel fibre rings (electric drive)] – not available on MR1-75PP STD
Access / installation	Single-ended service · horizontal or vertical installation · free-standing [horizontal SS316 stand] · IP65 / NEMA 4X
Temperature probe	PTC sensor
CONTROL CABINET	
Cabinet	Polycarbonate [SS304 / SS316] · wall-mounted, ambient 0–40 °C · IP65 · passive cooling [fan / AC / heat exchanger]
Power supply	1 × 200–240 VAC ±10% +N+PE 50/60 Hz
Cable length	4 m standard [up to 30 m]

Request sizing or a quote

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

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Specifications subject to change without notice.