

ULTRAAQUA · SWIMMING POOL UV DISINFECTION

MULTIRAY Series

Medium-pressure UV systems for high-capacity pool disinfection and combined chlorine removal.



Overview

The MULTIRAY series is designed for larger pools that need high treatment capacity. Pool-optimised medium-pressure lamps break down organic chloramines continuously by photolysis, which lowers combined chlorine, improves air quality and protects swimmers against Cryptosporidium and Giardia.

Large flanged connections and a CFD-optimised reactor keep head loss low and minimise the need for extra pumping. The PLC can dim the lamps according to combined chlorine readings, timers or the UV sensor, and can hold a minimum UV dose during opening hours.

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

Key features

- Developed for high-capacity pool disinfection and combined chlorine removal
- ULTRATHERM medium-pressure high-intensity lamps, 1,000 W to 3,500 W, with a rated life of 9,000 hours
- CFD-optimised, electropolished SS316L reactor with low head loss
- Automatic ULTRAWIPER™ sleeve cleaning [manual wiper]
- Pool-specialised UV sensor with valve, removable for cleaning during operation
- Siemens PLC with 7" ULTRATOUCH touchscreen, ULTRADOSE pacing 50–100% and remote monitoring

Design and operation

Hydraulics and dose

The compact reactor with CFD-optimised lamp positions gives high hydraulic efficiency across the UV transmittance range with minimal head loss. ULTRADOSE pacing adjusts lamp power between 50% and 100%.

Lamps and cleaning

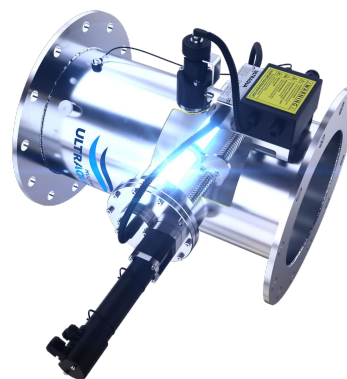
ULTRATHERM medium-pressure lamps have a rated life of 9,000 hours and run on electronic ballasts that optimise power use and allow a lamp function alarm. The automatic wiper keeps the quartz sleeves clean; a temperature sensor protects the system against overheating.

Controls

Siemens PLC with 7" ULTRATOUCH HMI, Modbus TCP/IP, remote monitoring and dimming, ON signal, flow input, UV dose and alarm outputs, and logs that include combined chlorine.

Maintenance

Single-sided access and interlocking lamp connectors make servicing safe and quick with no special tools. The sensor valve allows the sensor to be cleaned or replaced while the system runs.



Typical applications

- High-capacity swimming pools: disinfection and combined chlorine (chloramine) reduction
- Protection of pool water against Cryptosporidium and Giardia

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 circulation flow, UV transmittance (UVT) of the pool water and the required dose. Send us these figures and we will confirm the model and configuration.

MULTIRAY models

Model	UV lamps	Lamp power	Connection	Reactor dry weight	Reactor volume	Power	Cabinet (H×W×D mm)
MULTIRAY MP1-1000	1	1,000 W	DN150 (ANSI 6) / D160	17 kg	10 L	1.1 kW	600×600×300
MULTIRAY MP1-2000	1	2,000 W	DN200 (ANSI 8) / D200	23 kg	18 L	2.2 kW	600×600×300
MULTIRAY MP1-3500	1	3,500 W	DN250 (ANSI 10) / D250	28 kg	26 L	3.6 kW	600×600×300
MULTIRAY MP2-3500	2	3,500 W	DN300 (ANSI 12) / D315	42 kg	58 L	7.2 kW	800×800×300
MULTIRAY MP3-3500	3	3,500 W	DN300 (ANSI 12) / D315	44 kg	58 L	10.7 kW	1000×1000×300
MULTIRAY MP4-3500	4	3,500 W	DN300 (ANSI 12) / D315	46 kg	58 L	14.2 kW	1000×1000×300

Flow capacity by model

Model	Max. flow at 3 m/s	Flow at 60 mJ/cm ² , 95% UVT	Flow at 60 mJ/cm ² , 98% UVT
MULTIRAY MP1-1000	190 m ³ /h	63 m ³ /h	82 m ³ /h
MULTIRAY MP1-2000	300 m ³ /h	143 m ³ /h	200 m ³ /h
MULTIRAY MP1-3500	480 m ³ /h	275 m ³ /h	400 m ³ /h
MULTIRAY MP2-3500	800 m ³ /h	650 m ³ /h	1,000 m ³ /h *
MULTIRAY MP3-3500	800 m ³ /h	950 m ³ /h *	1,450 m ³ /h *
MULTIRAY MP4-3500	800 m ³ /h	1,250 m ³ /h *	1,900 m ³ /h *

Flows at 60 mJ/cm² are for 3-log Cryptosporidium reduction and combined chlorine breakdown; 60 mJ/cm² at 95% UVT is the European design basis for pools. * Exceeds the recommended capacity at 3 m/s. Connections: DN flange / matching plastic pipe size (D). Options are shown in [square brackets].

Common specifications

UV LAMPS & MONITORING	
Lamp type	ULTRATHERM medium-pressure high-intensity (MPHI), electronic ballast
Rated lamp life	9,000 hours
UV monitoring	Pool-specialised UV intensity sensor with valve
Power control	ULTRADOSE automatic pacing, 50–100%
Approvals	CE [UL]
UV CHAMBER	
Chamber material	SS316L / 1.4404, electropolished inside and out
Connection type	EN 1092 Type 01A PN10 (ANSI Class 150)
Design pressure	10 bar
Quartz sleeves	High-purity fused quartz, transmittance > 95%
Cleaning	ULTRAWIPER™ automatic mechanical wiper with PTFE/fibre rings (electric) [manual wiper]
Installation	In-line, horizontal or vertical · single-sided access
Other	Temperature probe · IP65 · prepared for ½" vent/drain valve (valve not included) · minor wetted parts FDA-approved PTFE, PVDF, Viton
CONTROL CABINET	
Control logic / HMI	Siemens PLC · 7" ULTRATOUCH touchscreen
Communication	Modbus TCP/IP · remote monitoring
Digital / analogue I/O	ON signal · flow input (4–20 mA) · UV dose output · alarm output
Logging	Alarms, events and data (UV dose, UV intensity, flow, combined chlorine)
Cabinet	Powder-painted steel · wall-mounted, ambient 0–40 °C, non-condensing · IP54 [IP65] · fan cooled
Power supply	3 × 400 VAC ±10% +N+PE 50/60 Hz
Cable length	10 m standard [up to 30 m]

Request sizing or a quote

Send us your pool volume and circulation flow, UV transmittance if known, and your combined chlorine targets. We will recommend the model and configuration and quote supply, installation and ongoing service.

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Specifications subject to change without notice.