

ULTRAAQUA · OPEN CHANNEL UV DISINFECTION FOR WASTEWATER

OPEN CHANNEL HORIZONTAL 700 Series

Modular open channel UV systems with horizontal lamp banks for municipal and industrial wastewater.



Overview

The HORIZONTAL 700 series disinfects wastewater in open, gravity-fed channels without chemicals. The lamps run horizontally in a CFD-optimised cross-line arrangement, which gives a uniform flow through the lamp banks, low head loss and an even UV dose across a wide range of operating conditions.

The modular lamp banks can be fitted to virtually any channel width and depth, so the series suits new plants as well as retrofits into existing treatment infrastructure. Its disinfection performance has been validated to USEPA standards, with bioassay testing carried out in general accordance with NWRI and the UV Disinfection Guidance Manual (UVDGM).

Ozone UV Solutions supplies HORIZONTAL 700 systems as an authorised ULTRAAQUA reseller and supports them locally: from sizing and installation through commissioning, servicing, lamps and spare parts.

Key features

- Validated to USEPA standards; bioassay testing in general accordance with NWRI and UVDGM
- Horizontal, CFD-optimised cross-line lamp arrangement for low head loss and an even dose
- ULTRATHERM low-pressure high-output amalgam lamps with a rated life of 16,000 hours
- Modular lamp banks for virtually any channel dimension, new build or retrofit
- Integrated baffle plate holds the upstream water level across variations of up to 25 cm (10 in)
- Automatic ULTRAWIPER™ sleeve cleaning, ÖNORM M 5873-1 certified UV sensor and automatic dose pacing

Design and operation

Hydraulics and dose

The horizontal lamp layout keeps the flow uniform and the head loss low. The certified UV sensor continuously checks lamp output and water transmittance, so automatic dose pacing can adjust lamp power while holding a stable dose and avoiding overdosing.

Water level control

An integrated baffle plate stabilises the upstream water level across fluctuations of up to 25 cm (10 in) without affecting disinfection performance.

Lamps and cleaning

ULTRATHERM amalgam lamps have a rated life of 16,000 hours. The automatic ULTRAWIPER™ keeps the quartz sleeves clean and prevents heavy fouling, so disinfection stays stable.

Maintenance

Each lamp bank has a safe top compartment, which makes routine work straightforward, especially on large plants with many lamp banks.



Typical applications

- Municipal wastewater disinfection
- Industrial wastewater disinfection
- Stormwater overflow (CSO) treatment

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**

System characteristics

Open channel systems are configured for each channel. Send us the channel width and depth, the design flow, the water level range, UV transmittance if known, and the required dose or discharge limit. We will configure the lamp banks and quote supply, installation and ongoing service.

UV LAMPS & MONITORING	
Lamp type	ULTRATHERM low-pressure high-output (LPHO) amalgam
Rated lamp life	16,000 hours
Lamp arrangement	Horizontal, CFD-optimised cross-line arrangement
UV monitoring	UV intensity sensor, ÖNORM M 5873-1 certified, PTFE
Dose control	Automatic dose pacing (standard)
Validation	USEPA; bioassay testing in general accordance with NWRI and UVDGM
LAMP BANKS AND CHANNEL	
Configuration	Modular lamp banks, customised to the channel dimensions
Material	Passivated and pickled 316L, or Super Duplex
Hydraulics	Open channel, gravity flow
Flow range	5–24,000 m ³ /h
UV transmittance	20–100%
Water level control	Integrated baffle plate, level variation up to 25 cm (10 in)
Cleaning	ULTRAWIPER™ automatic quartz sleeve wiping
Options	Water level sensors, weir gates and penstocks
CONTROL CABINET	
Control logic / HMI	ULTRATOUCH PLC with touchscreen HMI and full data logging; UV dose, UVT, flow and power level shown on the HMI
Communication	Profibus, PROFINET, Modbus TCP/IP
Enclosure	Painted steel, SS304, SS316L or GFRP · IP54 or IP65 (NEMA 3/4X)
Lamp drivers	Electronic, variable output
Power supply	1 × 230 V or 3 × 400 V +N+PE ±10%, 47–63 Hz [other voltages]

Options are shown in [square brackets].

Request sizing or a quote

Send us the channel dimensions, design flow, water level range, UV transmittance if known, and the required dose or discharge limit. We will configure the system and quote supply, installation and ongoing service.

+61 422 081 913 · jonathan.andry@ozoneuv.com.au · ozoneuv.com.au

Specifications subject to change without notice.