

## SPECIFICATIONS

### ULTRAAQUA MultiRay medium-pressure Series



# ULTRAAQUA

The Ultraaqua MultiRay medium-pressure systems are designed and optimized for advanced photo oxidation processes as well for general disinfection. This includes chloramine reduction in swimming pools and various chemical compounds in industrial wastewater.

#### 8000 hours lamp lifetime

The MultiRay series take advantage of the UltraTherm UV-lamps, developed for high radiation output of wavelengths 200-240 nm to maximize photo oxidation performance, resulting a lamp lifetime of 8000 hours.

#### Additional features

- Titanium temperature sensor
- ÖNORM certified UV-intensity sensor (optional)
- Advanced automatic quartz sleeve cleaning system (optional)
- Real time dose control (optional)
- Double overheat protection



#### Reactor vessel

Reactor is made of electro-polished stainless steel AISI 316L. Reactors can be installed both vertically and horizontally. Service work including quartz sleeve and UV-lamp replacement is done without the need of any tools. Quartz sleeves can be cleaned in a few minutes. They are typically cleaned every 6-12 months.

#### Control cabinet

Cabinet is designed for installation in industrial environments. It has a 6" user-friendly menu driven touch display for easy access to settings and performance data. The system is PLC controlled which strongly enhances simplicity internally and provides full control and monitoring of performance. Lamp start and switch off can be remotely controlled as well as system state can be monitored remote. SCADA via MODBUS is optional.

#### Advanced power saving

The MultiRay medium pressure series is equipped with state of the art power saving features. Key components such as UV-lamp and lamp driver have market leading energy conversion rates. Control system offers various possibilities to adapt power level to actual need (dose pacing, time-of-day control, etc).

Specifications for	Ultraqua MultiRay medium-pressure UV Series					
Reactor	MP1000ST	MP2000	MP3000	MP6000	MP9000	MP12000
Reactor material	Stainless steel					
Reactor weight dry	22 kg	40 kg	40 kg	55 kg	57 kg	58 kg
Reactor weight wet	25 kg	60 kg	60 kg	83.5 kg	85 kg	86 kg
Reactor length	550 mm	627 mm	750 mm	850 mm	850 mm	850 mm
Max flow for water disinfection	90 m <sup>3</sup> /h	175 m <sup>3</sup> /h	270 m <sup>3</sup> /h	520 m <sup>3</sup> /h	760 m <sup>3</sup> /h	1000 m <sup>3</sup> /h
Max flow for chloramine red	50 m <sup>3</sup> /h	130 m <sup>3</sup> /h	180 m <sup>3</sup> /h	340 m <sup>3</sup> /h	500 m <sup>3</sup> /h	645 m <sup>3</sup> /h
Number of UV-lamps	1	1	1	2	3	4
Connections	DN100	DN150	DN200	DN300	DN300	DN300
Operating pressure max	4.0 bar	7.0 bar	10.0 bar	10.0 bar	10.0 bar	10.0 bar
Orientation of connections	Opposite side orientation, Inline					
Temperature control	pT100- titanium housing; 2x thermo-switches					
UV sensor (optional)	Önorm M5873 certified					
Quartz sleeve cleaning (optional)	Fully automatic spring loaded PTFE wiper, advanced servomotor					
Manufactured in	Denmark					
<b>Control cabinet</b>						
HMI	LED indicator	6" touch sensitive menu driven screen				
Controller type	Relay based	PLC				
Material	Powder coated steel					
Installation	Wall mount					
Cabinet dimension mm	500x400x200	600x600x300	600x600x300	800x800x300	800x800x300	800x1000x300
Cabinet weight	25 kg	45 kg	45 kg	55 kg	70 kg	80 kg
Power	1.1kW	2.1 kW	3.5 kW	6.8 kW	10.0 kW	13.2 kW
Max fuse	16.0 A		16.0 A	16.0 A	16.0 A	16.0 A
Power supply	3x400V+N+Pe +/-10%, 47-63 Hz					
Lamp cable length	5.0m (max length 10.0m)					
Lamp cable type	Silicon (DIN VDE 0295 /UL Style 4476)					
Thermal control	Fan (Opt. closed sealed cabinet)					
Operating temperature	0 °C to +40 °C					
Rel. humidity	20-95% non-condensing					
IP Class	54 (Option IP66)					
Approval	CE					
Manufactured in	Denmark					
<b>UV lamps</b>						
Lamp type	Ultra-Therm medium pressure lamps					
Lamp power pr. lamp	1000 W	2000W	3000W	3000W	3000W	3000W
UV efficiency	36%					
Lamp lifetime	8000H					
Wire coating	PTFE					
Manufactured in	Germany					
<b>Lamp drivers (ballasts)</b>						
No of drivers pr. system	1	1	1	2	3	4
Product	1000W / 3000W UltraAqua medium-pressure series					
Type	Electronic HF Modbus controlled					
Serial communication	Modbus Daisy chain RJ45 wiring					

Power Factor	>0.98
Efficiency	95% at nominal power
Continuous monitoring	Individual electrical lamp parameters
Protection	Ground fault, temperature, input voltage
On-board diagnosis	LED indicators
Manufactured in	Netherlands
<b>Control features</b>	
Lamp dimming	50-100% (UV-dose)
Lamp state indication	LEDs
Accessible information	Reactor temperature
	Lamp hours
	Individual lamp state
	Individual lamp driver state
	Individual lamp electrical data
	Individual lamp driver temperature
	Individual lamp driver input
	Remote control state
<b>Alarms</b>	Reactor temp. pre- and main
	Lamp state alarms
	Lamp driver state alarms
	UV intensity, UV-dose (optional)
	Cleaning system functionality (optional)
<b>Digital inputs</b>	Remote ON/OFF
<b>Digital outputs</b>	Main alarm
	Lamps ON signal
<b>SCADA</b>	MODBUS (optional)
PLEASE NOTE: Ultraaqua UV-systems can be customized to fit any requirement. This include both reactors and control units.	



*ÖNORM certified UV-sensor*



*Ultratherm 1kW, 2kW, 3kW medium-pressure lamps*

Both reactor and control cabinet can be customized to fit almost any requirements. Please contact ULTRAAQUA or any representative for more information.

### Manufacturer:

All Ultraaqua UV-systems are manufactured and factory acceptance tested by ULTRAAQUA A/S in Denmark using the stringiest quality measures.

### Warranty:

2 years from date of invoice.

**(SPECIFICATIONS ARE SUBJECT TO CHANGE)**