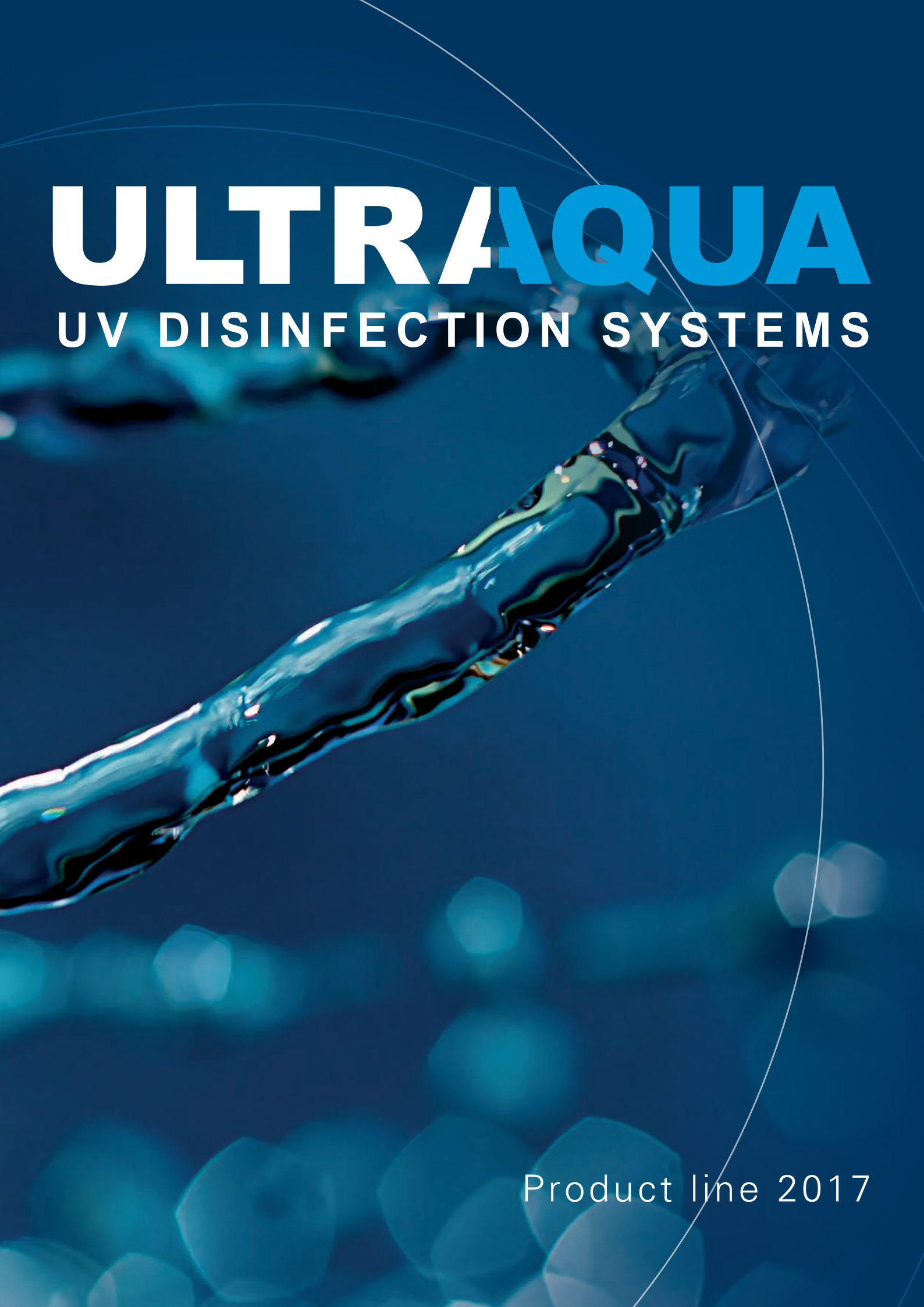
ULTRAAQUA

UV DISINFECTION SYSTEMS



Product line 2017

PRODUCT SELECTION

CLOSED SYSTEMS

OPEN SYSTEMS

STAINLESS STEEL
GENERAL APPLICATIONS

POLYPROPYLENE
CORROSIVE ENVIRONMENTS

ULTRAAAQUA UV SYSTEMS

Ultraaqua is a well-established manufacturer of high-quality UV systems for all standard applications. Company growth has been strong and Ultraaqua products are now in operation all over the world. Ultraaqua's design team employs dedicated engineers with research careers of the highest academic level and many years of experience in design and operation of water treatment facilities.

This is your guarantee for:
State-of-the-art UV systems optimized for efficient and trouble-free operation
Timely and qualified technical support by experienced engineers

Keep it simple
Our "keep it simple" design philosophy is based on a principle to reduce complexity and to increase reliability

Simple and robust design for high reliability in harsh environments
UV lamps and associated components of high industry standard to ensure high efficiency and long lifetime
Hydraulically optimized reactors for lowest possible head loss
PLC driven control systems with user-friendly menu driven operator interfaces

Proof of reliability
Ultraaqua's UV systems have passed various tests for validation and approval by among others Önorm, DVGW, AMS and IMO.

GLOBAL NETWORK

Ultraaqua has distributors worldwide. They are carefully selected among market leaders in order to guarantee qualified support, innovative solutions and reliability.

Please contact us with information on the type of application and geographic location and we will refer you to the nearest distributor.

Our product line has been improved and expanded over the past few years. One entirely new product line has recently been added - Ultra Low UVT unit (ULU) for fluids with very low UVT. ULU systems are optimized for use in food and pharma applications. Furthermore we have upgraded the MPUV systems. Disinfection and chloramine destruction efficiency has been further improved, manly due to new advanced lamp driving technology. It is great to see that our UV systems are competitive in the preferred markets, and we are confident that all the new initiatives will lead to many new and exciting projects with new business partners in the future.

We are proud to present our product line 2017.

Jens Skjølstrup,
CEO, ULTRAAQUA

ULTRAAQUA UV SYSTEMS

The main component in a UV system is the UV lamp. This is why we have spent thusands for hours developing and optimizing our lamps to yelds the best results posible.
Ultraaqua's Ultratherm Longlife lamps are:

- **ROBUST**
- **ENERGY-EFFICIENT**
- **POWERFUL**
- **LONG-LASTING**

It is not enough to have a high-quality UV lamp; it is also necessary for the lamp to be efficient in all normal working temperatures. Our Ultratherm lamps have a special filling that extends their optimum temperature range of 5 ^{0}C to 40 ^{0}C.

Our Ultratherm lamp drivers are sophisticated electronic high-frequency units customized to run the Ultratherm lamps. The lamp drivers are constantly receiving feedback from the lamps and are dynamically adapting to ensure optimum performance under changing operating temperatures.

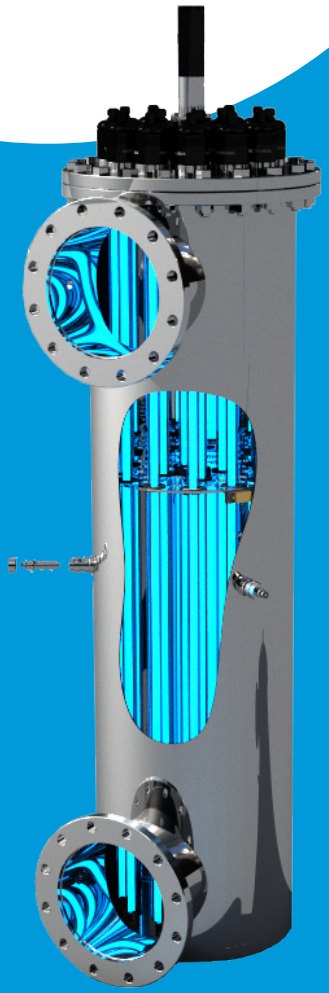
Easy control and access to relevant information about system status are equally important. The current status of an Ultraaqua UV system can be established by a quick glimpse of the front panel. The unit's touchscreen will reveal all other relevant system parameters. Our systems can also be connected to a SCADA control system if desired.

- **ULTRATHERM UV LAMPS ARE THE WORLD'S MOST EFFICIENT**
- **SPECIAL LONG-LIFE INTERNAL COATING ENSURES 16,000 H GUARANTEED LIFETIME**
- **ULTRATHERM LAMP DRIVERS ARE SPECIALLY DESIGNED FOR OUR ULTRATHERM UV LAMPS TO ENSURE OPTIMUM PERFORMANCE**
- **KEY COMPONENTS MANUFACTURED IN THE EU BY MARKET LEADING MANUFACTURERS**
- **SYSTEM OPTIMIZED FOR A WIDE RANGE OF WATER TEMPERATURES**

DID YOU KNOW?

The single largest expenditure during the lifetime of a UV system is power costs.

Therefore Ultraaqua has put a tremendous effort into the design and development of the worlds most efficient UV lamps and lamp driver combination.
You can save up to 22% in operation cost compared to standard LPHO amalgam lamps. We guarantee up to 16.000h lamp lifetime as the only UV manufacturer in the world.



LOW-PRESSURE HIGH-OUTPUT UV LAMPS

MARKET LEADING LIFETIME: 16.000H

- Lamp replacement and quartz sleeve inspections can be done in two simple steps without the need of any tools
- Only quartz tube seal is changed regularly - all other components have very long lifetimes

350 SERIES

Ultratherm 350 longlife XLC low-pressure high output amalgam UV lamp

- Guaranteed lifetime 16,000 h
- Radiation flux 125 W at 254 nm (efficiency 36%)

220 SERIES

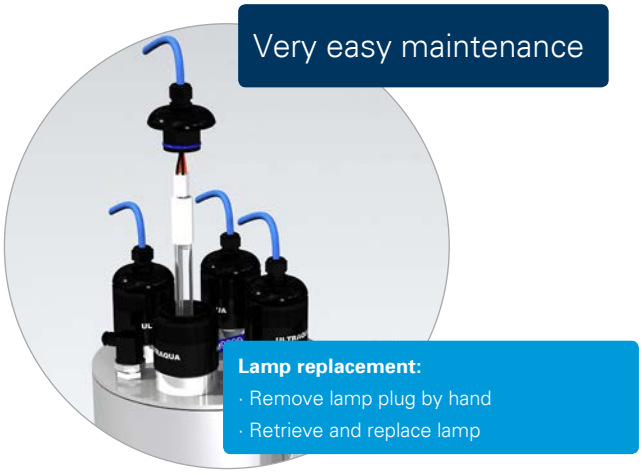
Ultratherm 220 longlife XLC low-pressure high output amalgam UV lamp

- Guaranteed lifetime 16,000 h
- Radiation flux 77 W at 254 nm (efficiency 35%)

75 SERIES

Ultratherm 75 longlife XLC low-pressure high output amalgam UV lamp

- Guaranteed lifetime 9,000 h
- Radiation flux 77 W at 254 nm (efficiency 35%)



CONTROL CABINETS

Ultraaqua control units are built to be durable and easy to operate. The design is based on feedback from numerous customers over time and reflects a "what you need to know when you need to know it" philosophy. Behind the simple appearance, our advanced PLC control system is constantly monitoring and adjusting the electrical parameters of each individual lamp to ensure their optimal performance.

- Touchscreens with intuitive menus
- Rigid corrosion-resistant Glass Fiber Reinforced Plastic (GFRP) or stainless steel construction
- High-quality digital lamp drivers with dynamic lamp control for optimum lamp performance
- Advanced cabinets for all low-pressure UV systems
- Installation voltage range for multi- lamp systems from 180v to 306v
- Remote control
- SCADA via modbus

STANDARD CONTROL CABINET

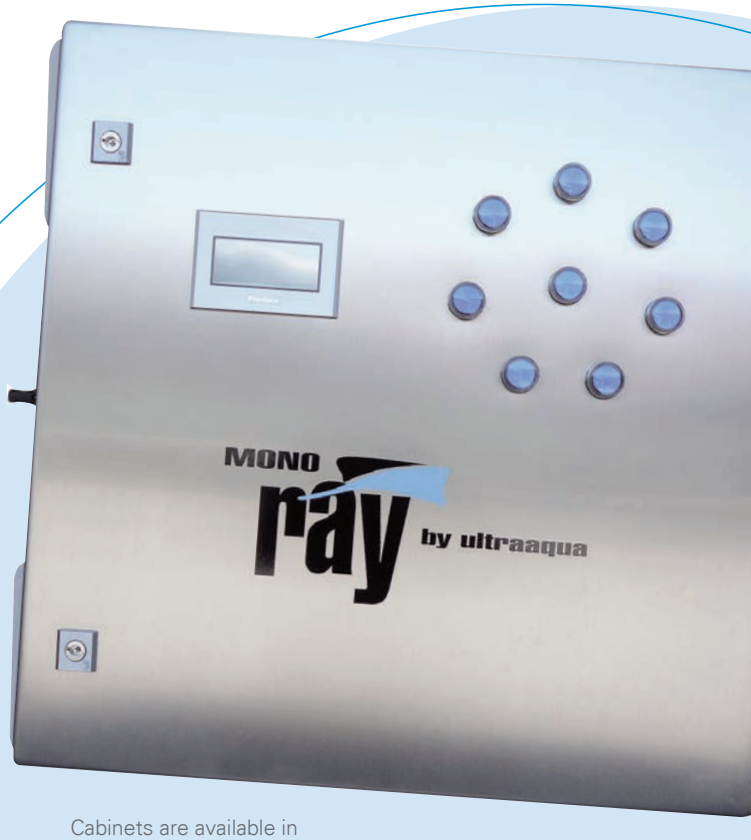
Cabinet for SS, PP, and Channel series

- 3.5" multicolor touchscreen
- Individual lamp status indicators
- Manual dimming of lamps
- Remote or manual control
- System state outputs
- Lamp performance and lifetime monitoring
- Cabinet and reactor overheat protection
- Up to IP 66
- Operating temperature up to 50°C
- CE approved

OPTIONS

Cabinet for ACN and VAL series - optional for other series

- Önorm approved UV sensor
- Intelligent fully automatic cleaning system
- 6-12" touchscreen
- Automatic lamp dimming (power save mode)
- Flow control/pacing
- Performance and event log
- Individual lamp ON/OFF switching
- SCADA via Modbus
- UL approved cabinets



Cabinets are available in
GFRP - Stainless steel - Mild steel.

ONE LAMP SYSTEMS

MR1-75 SS
· 1½" BSP
· Max flow 8 m³/h
· AISI 316l Electropolished

MR1-220 SS
· DN80
· Max flow 37 m³/h
· AISI 316l Electropolished

MR1-350 SS
· DN100
· Max flow 58 m³/h
· AISI 316l Electropolished

MR1-440 SS
· DN100
· Max flow 65 m³/h
· AISI 316l Electropolished

MR1-75 PP - L config
· 1½" BSP
· Max flow 5 m³/h
· Polypropylene

MR1-220 PP
· DN80
· Max flow 35 m³/h
· Polypropylene

MR1-350 PP
· DN100
· Max flow 53 m³/h
· Polypropylene

MR1-440 PP
· DN100
· Max flow 62 m³/h
· Polypropylene

ONE LAMP SYSTEMS - FLOW UP TO 65M³/H

Ideal choice for small flows in industrial applications.

- Ideal for smaller flows
- Compact design
- High value
- Easy setup
- Glass fiber reinforced plastic (GFRP) cabinet
- Plug and Play

To combat harsh and corrosive environments the 220, 350 and 440 one lamps systems are produced with glass fiber reinforced plastic (GFRP) control cabinets. These cabinets are air and water tight up to IP 66, ensuring a dry and safe environment for the electric components.

GENERAL SPECIFICATIONS - ONE LAMP UNITS

MR1-75 SS/PP	MR1-75SS	MR1-75PP
Max flow m³/h	8	5
Power	0.08 kW	0.08 kW
Inlet/outlet	1½" BSP	1½" BSP

Control cabinet	Compact SS	GFRP - 75
Dimensions LWH	20x15x25 cm	30x20x15 cm
Coated steel	✓	
Fiberglass reinforced plastic		✓

GFRP - 75 Series

Steel - 75 Series
Steel - 220 Series

MR1-220 SS/PP	MR1-220SS	MR1-220PP
Max flow m³/h	37	35
Power	0.25 kW	0.25 kW
Inlet/outlet	DN80 / ANSI 3"	DN80 / ANSI 3"

Control cabinet	Compact SS	GFRP - 220
Dimensions LWH	20x15x25 cm	40x30x21 cm
Coated steel	✓	
Fiberglass reinforced plastic		✓

GFRP - 220 series

MR1-350 SS/PP	MR1-350SS	MR1-350PP
Max flow m³/h	58	53
Power	0.4 kW	0.4 kW
Inlet/outlet	DN100 / ANSI 4"	DN100 / ANSI 4"

Control cabinet		GFRP - 350/440
Dimensions LWH		60x40x21 cm
Advanced interface		✓
Fiberglass reinforced plastic		✓

MR1-440 SS/PP	MR1-440SS	MR1-440PP
Max flow m³/h	65	62
Power	0.5 kW	0.5 kW
Inlet/outlet	DN100 / ANSI 4"	DN100 / ANSI 4"

Control cabinet		GFRP - 350/440
Dimensions LWH		60x40x21 cm
Advanced interface		✓
Fiberglass reinforced plastic		✓

Flange size can be customized

GFRP - 350/440 series

MULTI LAMP SERIES

The closed multi lamp reactor series is built from high-grade AISI 316L steel and are suitable for most water disinfection applications. UV sensor and automatic mechanical cleaning systems are available. The four series and the Önorm MR16-350 SS cover a large variety of flows and doses.

- Corrosion-resistant electropolished stainless steel AISI 316l construction
- Simple installation, operation and maintenance
- Improved energy efficiency for clear water due to internal reflection of UV light
- Operating pressure up to 10 bar
- No tools needed for regular maintenance
- Available with standard or advanced controls

INTERNAL ELECTROPOLISHING ADDS UP TO 30% PERFORMANCE AND INCREASES CORROSION RESISTANCE

FULLY AUTOMATIC CLEANING SYSTEM

Available for 220W and 350W series. Automatic cleaning system does not obstruct access to UV lamps and quartz sleeves.

MR 220 SS Series
· High-energy efficiency
· Long lamp lifetime
· Compact design
Shown: MR4-220SS

MR 220 SS T-Line Series
· High-power density
· High level of security
· T-Line configuration
· Pipe "cutout" design
Shown: MR4-220SS

MR 350 SS Series
· High-energy efficiency
· Long lamp lifetime
Shown: MR4-350SS

MR 350 SS L-Line Series
· High-energy efficiency
· Long lamp lifetime
Shown: MR4-350SS

Our unique **220 SS T-Line Series** concept insures better mixing, evens out dose distribution and secures a high minimum dose. The positions of inlet and outlet makes it easy to build into existing pipe system.

MR4-220SS & MR6-220SS

Easy access to lamps and inspection - no tools needed

Internal digital temperature sensor

DIN or ANSI flanges

Optional digital Önorm UV sensor

Corrosion-resistant electropolished AISI 316L construction

GENERAL SPECIFICATIONS

220 SS SERIES	MR3-220SS	MR4-220SS	MR6-220SS	MR8-220SS	MR12-220SS	MR16-220SS
Max flow m³/h	110	150	225	340	490	620
Power	0.75kw	1.0 kW	1.5 kW	2.0 kW	3.0 kW	4.0 kW
Inlet/outlet	DN125 / ANSI 4"	DN150 / ANSI 6"	DN200 / ANSI 8"	DN200 / ANSI 8"	DN250 / ANSI 10"	DN250 / ANSI 10"

220 SS T-LINE SERIES	MR4-220SS T	MR8-220SS T	MR12-220SS T	MR18-220SS T	MR24-220SS T	MR36-220SS T
Max flow m³/h	150	300	450	675	900	1350
Power	1.0 kW	2.0 kW	3.0 kW	4.5 kW	6.0 kW	9.0 kW
Inlet/outlet	DN150 / ANSI 6"	DN200 / ANSI 8"	DN300 / ANSI 12"	DN300 / ANSI 12"	DN400 / ANSI 16"	DN500 / ANSI 20"

350 SS SERIES		MR4-350SS	MR6-350SS	MR8-350SS	MR12-350SS	MR16-350SS
Max flow m³/h		240	360	540	780	950
Power		1.5 kW	2.2 kW	3.0 kW	4.5 kW	6.0 kW
Inlet/outlet		DN150 / ANSI 6"	DN200 / ANSI 8"	DN250 / ANSI 10"	DN300 / ANSI 12"	DN300 / ANSI 12"

350 SS L-LINE SERIES		MR4-350SS L	MR6-350SS L	MR8-350SS L	MR12-350SS L	MR16-350SS L
Max flow m³/h		240	360	540	780	950
Power		1.5 kW	2.2 kW	3.0 kW	4.5 kW	6.0 kW
Inlet/outlet		DN150 / ANSI 6"	DN200 / ANSI 8"	DN250 / ANSI 10"	DN300 / ANSI 12"	DN300 / ANSI 12"

Flange size can be customized

ULTRAAQUA case's

RAS FISH FARM, SWITZERLAND
Large channel systems for Krüger RAS2020 design

PEPSI PLANT, MIDDLE EAST
Disinfection of water used for Pepsi production.

TOC - THAILAND
Disinfection of water used for PCB production

AVIATION INDUSTRY - NETHERLANDS
PP UV systems for disinfection of corrosive aviation fluids.

DRINKING WATER - DENMARK
Disinfection of drinking water - Önorm validated

ALLAS SEAS POOL - FINLAND
Uv system for treating open pool sea water.

NATIONAL TEST CENTER, KOREA
System used for sea water disinfection

HARBOR, DALIAN, CHINA
UV systems for various water use.

BALLAST WATER TREATMENT
US Coast Guard AMS/IMO approved system including customized UV units

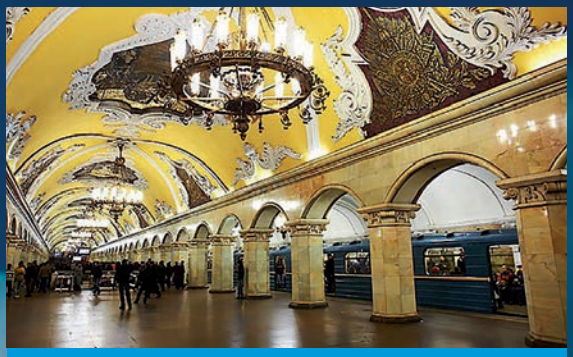
DRINKING WATER - FINLAND
Disinfection of drinking water - Önorm validated

ULU UNIT - ESTONIA
Disinfection of ultra low UVT liquids in food processing. Replacing pasteurisation process.

ORYX GAS TO LIQUID - QATAR
UV systems for cooling water, reuse for irrigation

WASTEWATER, CROATIA
Channel system for wastewater disinfection

LARGE SCALE AQUACULTURE, USA
Large closed reactors for RAS fish farm.



MOSCOW METRO, RUSSIA
Channel system for rainwater disinfection

WORLD EXPO, CHINA
Pool water dechloramination and disinfection

MULTI LAMP CORROSIVE ENVIRONMENTS

The closed multi lamp reactor series in polypropylene (PP) offer high-quality at a reasonable price and they are extremely versatile due to their corrosion-resistant construction. The product range covers a large variety of flows and doses.

- Rigid, corrosion-resistant construction for very harsh environments
- Temperature sensor in titanium housing
- Simple installation, operation and maintenance
- Available with standard or advanced control cabinets
- Optional UV monitoring with digital UV Önorm approved sensors
- Available with DIN or ANSI flanges
- No tools needed for scheduled maintenance

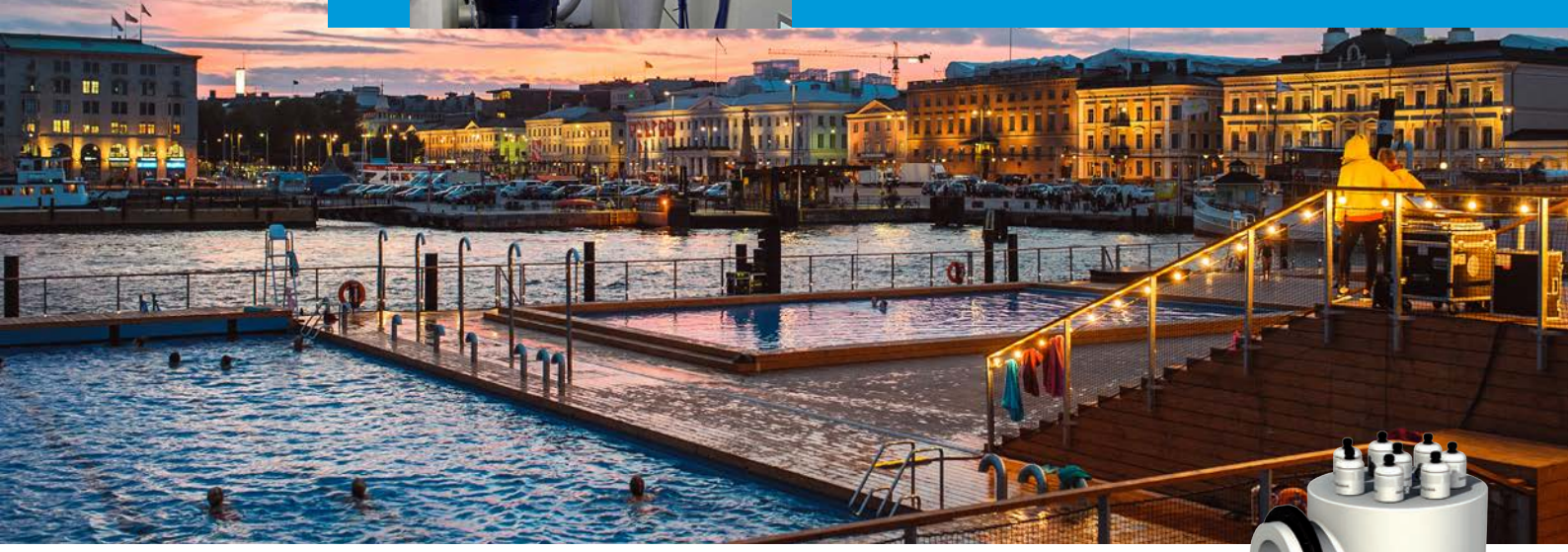
CONTROL CABINET OPTIMIZED FOR CORROSIVE ENVIRONMENTS.

The two series are based on our Ultratherm 220W and 350W lamps.
Both lamps have 16,000h guaranteed lifetime.

Rigid construction made from DIN 8061/62 industrial grade polypropylene

ALLAS SEA POOL - FINLAND

Here they use Ultraaqua PP systems to treat the 100m ³/h of sea water used for the pools. This results in a safe swimming experience for the visiting guests, as all the water is free from foreign pathogens.



220W PP Series family portrait

- Internal digital temperature sensor mounted in titanium housing
- DIN or ANSI flanges
- Optional digital Önorm certified UV sensor

GENERAL SPECIFICATIONS

220 PP SERIES	MR3-220PP	MR4-220PP	MR6-220PP	MR8-220PP	MR12-220PP	MR16-220PP
Max flow m³/h	100	130	180	300	400	440
Power	0.75k W	1.0k W	1.5 kW	2.0 kW	3.0 kW	4.0 kW
Inlet/outlet	DN125 / ANSI 4"	DN150 / ANSI 6"	DN150 / ANSI 6"	DN200 / ANSI 8"	DN250 / ANSI 10"	DN250 / ANSI 10"

350 PP SERIES		MR4-350PP	MR6-350PP	MR8-350PP	MR12-350PP	MR16-350PP
Max flow m³/h		210	290	480	640	704
Power		1.5 kW	2.2 kW	3.0 kW	4.5 kW	6.0 kW
Inlet/outlet		DN150 / ANSI 6"	DN200 / ANSI 8"	DN250 / ANSI 10"	DN300 / ANSI 12"	DN300 / ANSI 12"

Flanges can be customized

ULTRA LOW UVT - ULU
FLUIDS FROM 5 - 50% UVT

MonoRay Ultra Low UVT - ULU

Ultraaqua's ULU unit have been developed for those special applications where the transmittance of the fluid is very low, such as wine, beer or juice. In these applications regular UV systems are not effective, even if the traditional designed UV system is 100x time bigger. For low UVT fluids you should only use a dedicated designed UV system such as the Ultraaqua ULU UV systems. Contact an Ultraaqua specialist to find the right solution for your application.

Applications

- Juice
- Ice tea
- Brewing
- Isotonic concentrates
- Salt brines
- Wine
- Rose water
- Horticulture
- Cooling water

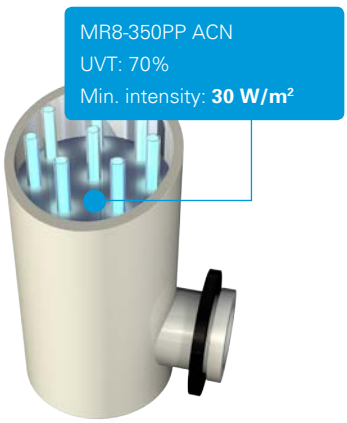
ACN SERIES
FOR LOW UVT FLUIDS
FROM 40 - 70% UVT

The ACN Series are parallel to the standard 220 and 350 stainless steel and polypropylene models. The 350 ACN Series has been designed for high turbidity water applications. A more compact design reduces the distance between lamps and eliminates “dark areas” resulting from low UVT. The series meets the high demands for aquaculture intake water defined by the Norwegian Veterinary Institute.

- Designed for applications varying or poor water qualities
- Suitable for high-risk applications such as hospitals, biotech and ultrapure water applications
- 350 PP and SS series approved for treatment of intake water for aquaculture by the Norwegian Veterinary Institute
- Available with the same features and options as the standard 220 and 350 series

MonoRay standard

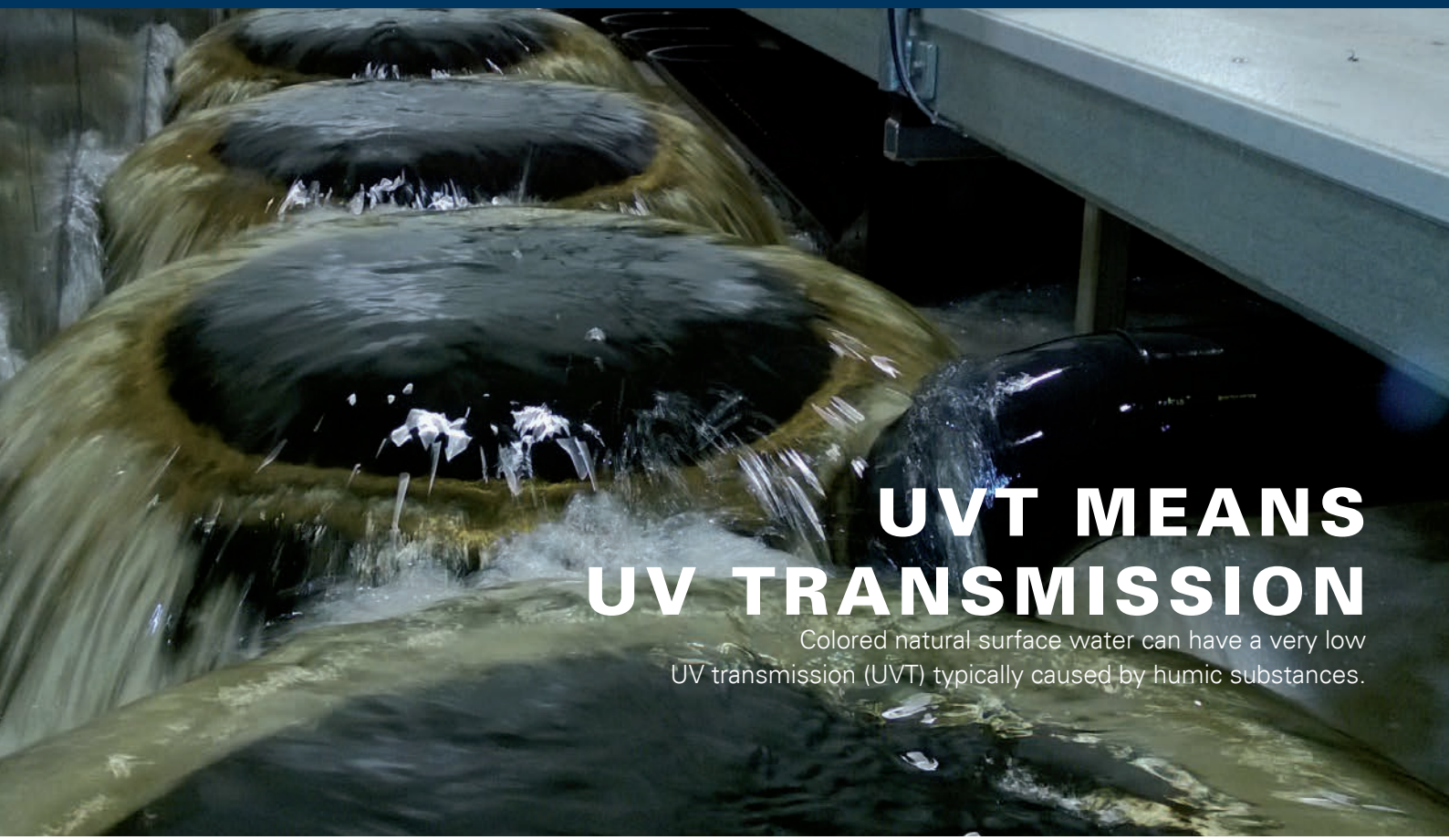
At low water UV transmittance the standard design develops dark areas with very low UV intensity. This allows some particles to pass through the UV without receiving a proper dose - even if the average dose is high.



MonoRay ACN

By reducing reactor diameter lamps are moved closer together and closer to the wall of the reactor. Dark areas are reduced and the guaranteed minimum dose received by any organism is dramatically increased without significant effect on average dose compared to a standard system.

Available in PP and SS



UVT MEANS UV TRANSMISSION

Colored natural surface water can have a very low UV transmission (UVT) typically caused by humic substances.

GENERAL SPECIFICATIONS - LOW UVT SYSTEMS

220 PP ACN SERIES	MR1-220PP	MR4-220PP	MR6-220PP	MR8-220PP	MR12-220PP	MR16-220PP
Max flow m³/h	20	60	105	140	240	275
Power	0.25 kW	1.0 kW	1.5 kW	2.0 kW	3.0 kW	4.0 kW
Inlet/outlet	DN100 / ANSI 4"	DN100 / ANSI 4"	DN150 / ANSI 6"	DN150 / ANSI 6"	DN200 / ANSI 8"	DN250 / ANSI 10"

220 SS ACN SERIES	MR1-220SS	MR4-220SS	MR6-220SS	MR8-220SS	MR12-220SS	MR16-220SS
Max flow m³/h	24	75	125	176	320	345
Power	0.25 kW	1.0 kW	1.5 kW	2.0 kW	3.0 kW	4.0 kW
Inlet/outlet	DN100 / ANSI 4"	DN100 / ANSI 4"	DN150 / ANSI 6"	DN150 / ANSI 6"	DN200 / ANSI 8"	DN250 / ANSI 10"

350 PP ACN SERIES	MR1-350PP	MR4-350PP	MR6-350PP	MR8-350PP	MR12-350PP	MR16-350PP
Max flow m³/h	30	90	165	230	380	440
Power	0.4 kW	1.5 kW	2.2 kW	3.0 kW	4.5 kW	6.0 kW
Inlet/outlet	DN100 / ANSI 4"	DN100 / ANSI 4"	DN150 / ANSI 6"	DN150 / ANSI 6"	DN200 / ANSI 8"	DN250 / ANSI 10"

350 SS ACN SERIES	MR1-350SS	MR4-350SS	MR6-350SS	MR8-350SS	MR12-350SS	MR16-350SS
Max flow m³/h	36	115	205	280	475	550
Power	0.4 kW	1.5 kW	2.2 kW	3.0 kW	4.5 kW	6.0 kW
Inlet/outlet	DN100 / ANSI 4"	DN100 / ANSI 4"	DN150 / ANSI 6"	DN150 / ANSI 6"	DN200 / ANSI 8"	DN250 / ANSI 10"

Flange size can be customized

MR8-350SS L ACN

SS VAL SERIES
ÖNORM / DVGW

The stainless steel validated series are advanced systems typically used for drinking water applications. They have an advanced UV sensor system, automatic quartz sleeve and sensor window cleaning, automatic dose monitoring and automatic dimming of lamps depending on measured UV irradiance.

- Corrosion-resistant electropolished stainless steel AISI 316l construction
- High-energy efficiency for clear water due to internal reflection of UV light
- Systems based on Ultratherm 350 longlife UV lamp
- Continuous lamp performance / lifetime monitoring
- Several inputs and outputs for system status and control
- Event and performance log
- Flow control/pacing
- Automatic cleaning system
- Single or double sensor system according to DVGW/Önorm standard
- Automatic lamp dimming
- Operating pressure up to 10 bar
- FDA/EC 1935 approved components
- 16.000 h Lifetime

MR16-350 SS VAL

Has been validated according to Önorm M5873-1 and DVGW Worksheet W 294-2. System is optimized for drinking water applications. Flow range 250-500 m³/h. Shown is a recent installation in Denmark.

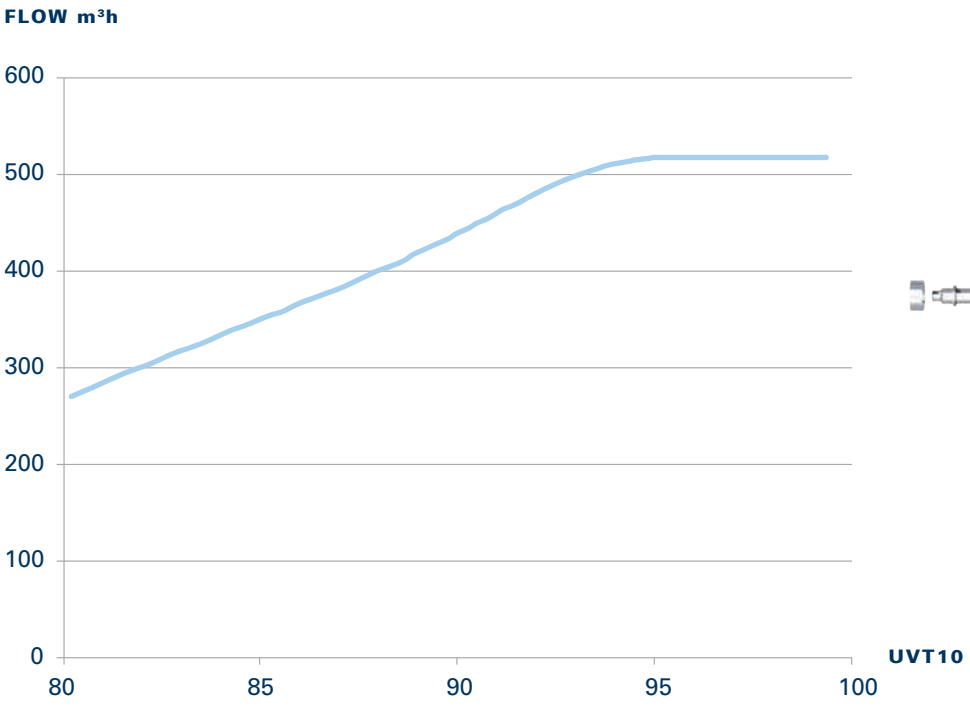
16.000H LAMP LIFETIME

MR16-350 SS VAL

- Certified for drinking water according to ÖNORM M5873-1:2001-03 Procedure B
- Verified by thorough biodosemetric testing
- Double UV sensor system
- Automatic mechanical cleaning system
- Touchscreen interface
- Advanced software

Our compact automatic cleaning system does not obstruct access to the lamps and quartz sleeves.

MR16-350SS VAL OPERATION RANGE



MR16-350 SS VAL relation between UVT and maximum flows has been established through biodosemetric testing. In practice the UV irradiance sensor values are used to ensure that water clarity does not drop below the allowed minimum level for a given flow.

3 PCS MR48-350SS Auto

LARGE SCALE

CLOSED VESSEL UV SYSTEM

8 PCS MR56-350SS Auto

MR50-350SS Channel Auto

VERTICAL INSTALLATION

WASTEWATER
CHANNEL SYSTEMS

MR32-220SS Channel Tilted

ANGLED INSTALLATION

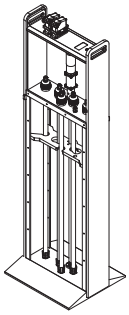
CHANNEL AND RESERVOIR SERIES

The stainless steel and polypropylene channel series offers a very low head loss solution for open channel systems.
Channel system series are commonly used for municipal wastewater treatment and large aquaculture systems.
Both reactor and electronics are based on modular systems and can be expanded to treat any flow.

- Modular frame and control system
- Polypropylene or electropolished stainless steel AISI 316l construction
- Simple installation, operation and maintenance
- Vertically installed lamps - all lamps accessible during operation - no submerged electrical components
- No tools needed for maintenance - equipment can be handled and installed without lifting devices
- Continuous lamp performance / lifetime monitoring
- Optional level switch and UV sensor
- Available with standard or advanced control
- High level of customization
- Will fit any channel dimension

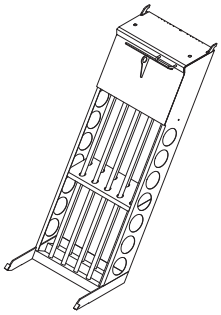
SYSTEM EXAMPLES

All systems are available in PP and SS.
All systems can be fitted with UV sensor and automatic cleaning.



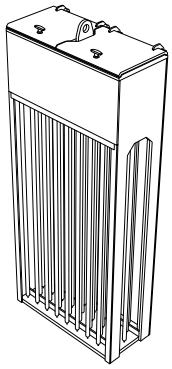
MR4-220PP Channel Auto
Shown:
MonoRay 4-220PP Channel
Polypropylene
With automatic cleaning

Plastic construction for corrosive environments.



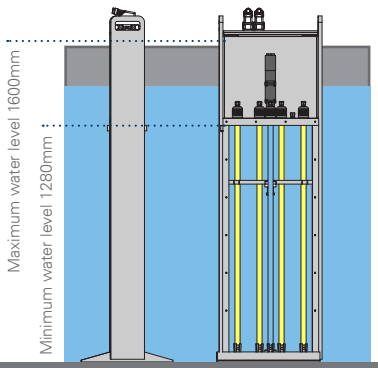
MR10-220SS Channel Tilted
Shown:
MonoRay 10-220SS Channel
Stainless Steel
Tilted design

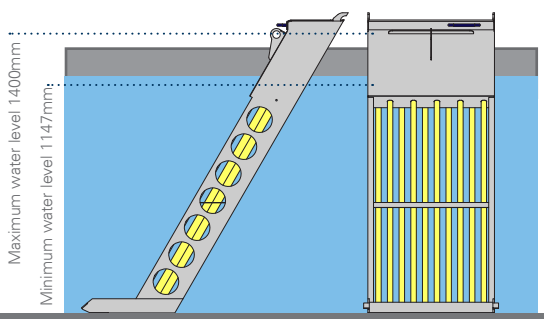
Tilted for low water leves

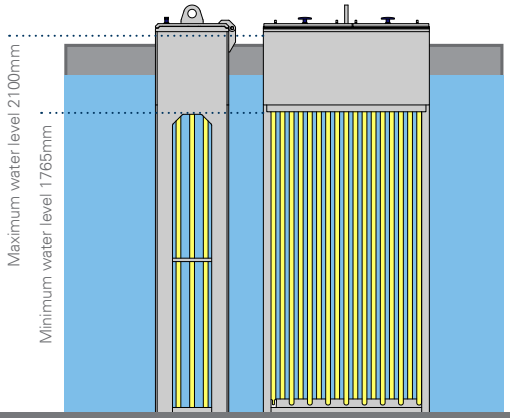


MR42-350PP Channel
Shown:
MonoRay 42-350PP Channel
Polypropylene
Large flows

Plastic construction for corrosive environments.







Simple to operate top cover for easy access to sealed compartment - no tools necessary

Water level switch can be mounted under the compartment

System based on standard Ultraaqua components

Asymmetric design to ensure even dose distribution when combined by staggering consecutive frames

CONTACT ULTRAAQUA'S ENGINEERING TEAM

GENERAL SPECIFICATIONS VERTICALLY INSTALLED STANDARD LAMP BANKS

220 SS/PP C SERIES	MR4-220SS C MR4-220PP C	MR6-220SS C MR6-220PP C	MR8-220SS C MR8-220PP C	MR10-220SS C MR10-220PP C	MR12-220SS C MR12-220PP C
Max flow/frame in m^3/h	175	260	350	435	525
Power	1.0 kW	1.5 kW	2.0 kW	2.5 kW	3.0 kW
SS channel width	594 mm +/-8	834 mm +/-8	1074 mm +/-8	1314 mm +/-8	1554 mm +/-8
PP channel width	586 mm +/-8	826 mm +/-8	1066 mm +/-8	1306 mm +/-8	1546 mm +/-8
Min. water level SS/PP	1280 mm	1280 mm	1280 mm	1280 mm	1280 mm
Max water level SS/PP	1600 mm	1600 mm	1600 mm	1600 mm	1600 mm

350 SS/PP C SERIES	MR4-350SS C MR4-350PP C	MR6-350SS C MR6-350PP C	MR8-350SS C MR8-350PP C	MR10-350SS C MR10-350PP C	MR12-350SS C MR12-350PP C
Max flow/frame in m^3/h	280	420	560	700	840
Power	1.5 kW	2.2 kW	3.0 kW	3.7 kW	4.5 kW
SS channel width	594 mm +/-8	834 mm +/-8	1074 mm +/-8	1314 mm +/-8	1554 mm +/-8
PP channel width	586 mm +/-8	826 mm +/-8	1066 mm +/-8	1306 mm +/-8	1546 mm +/-8
Min. water level SS/PP	1780 mm	1780 mm	1780 mm	1780 mm	1780 mm
Max water level SS/PP	2100 mm	2100 mm	2100 mm	2100 mm	2100 mm

SS/PP CHANNEL SERIES
VERTICAL INSTALLATION

BENEFITS OF VERTICAL INSTALLATION

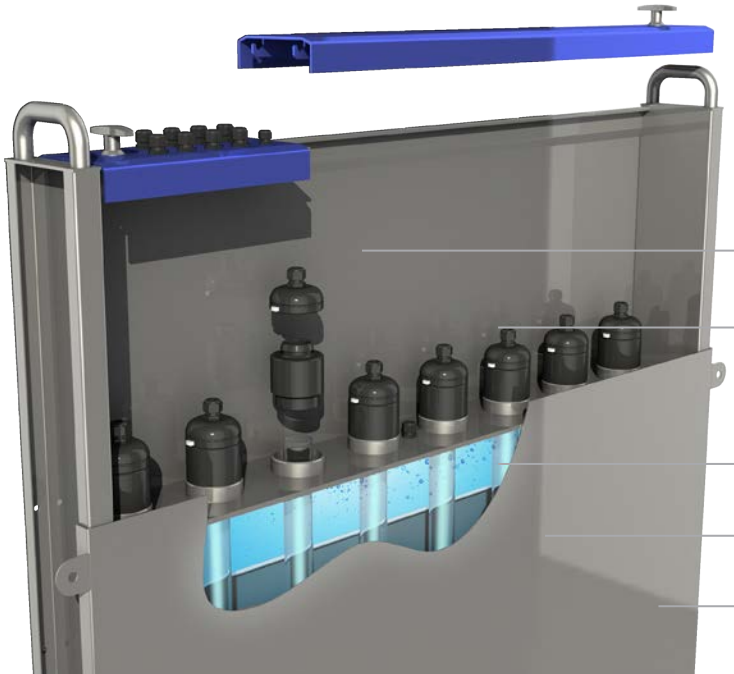
The SS/PP channel series is versatile and will fit into a variety of channel/reservoir depths and widths. Because of their lightweight construction both PP and SS channels can be installed and moved into the service position very easily.

- Installation solutions ensure no water bypasses the system
- Lamp frames can be raised individually by one or two persons into the locked service position
- Mounting systems can be custom designed
- No tools needed for regular maintenance
- Ultraaqua offers design and manufacture of custom-fit tanks for channel systems mounting
- Ultraaqua offers solutions with integrated microscreens
- Hygienic isolated maintenance compartment (see picture below)

MAINTENANCE

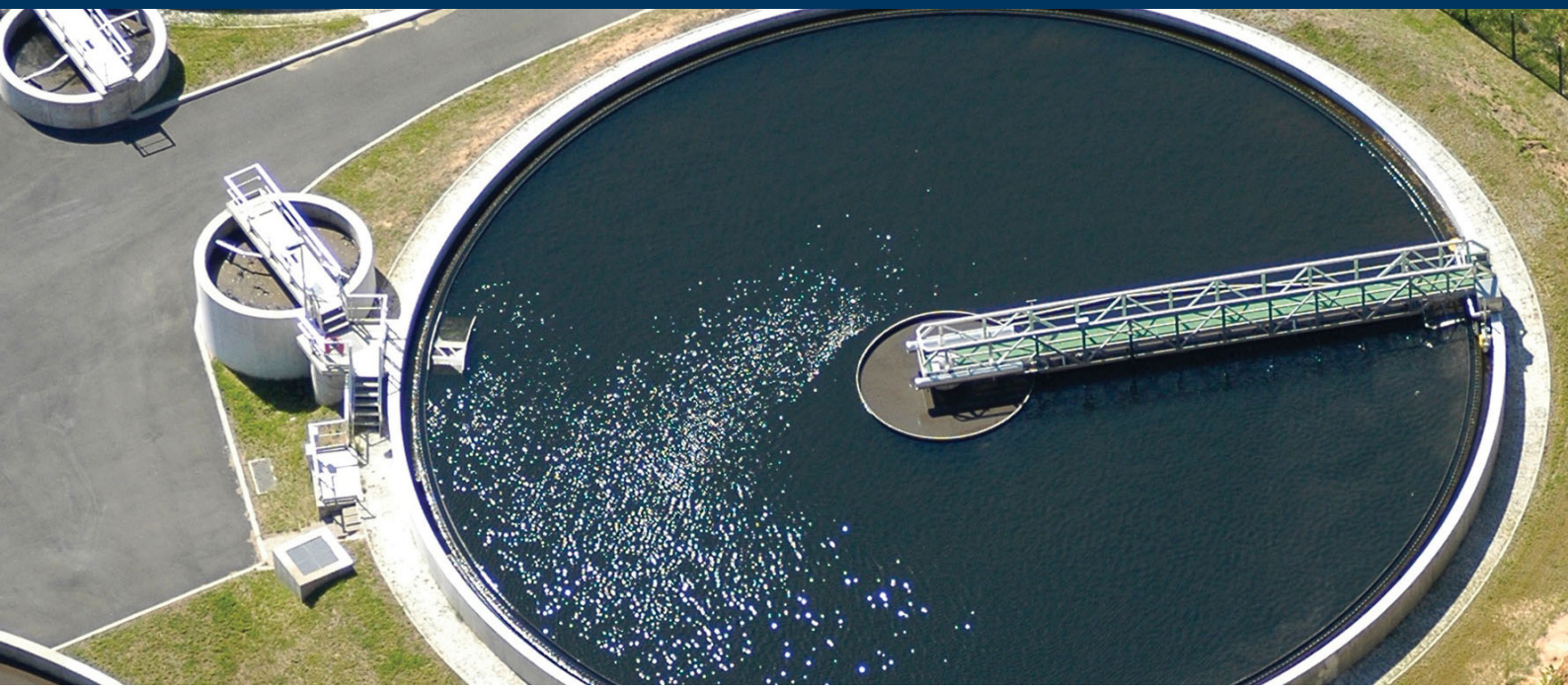
CLEAN, HYGIENIC & SAFE

All Ultraaqua's channel series have an isolated maintenance compartment. This ensures that the technician does not come in contact with the contaminated liquid under service and maintenance.



To retrieve lamps, remove the top cover and pull up the quartz nut plug by hand.

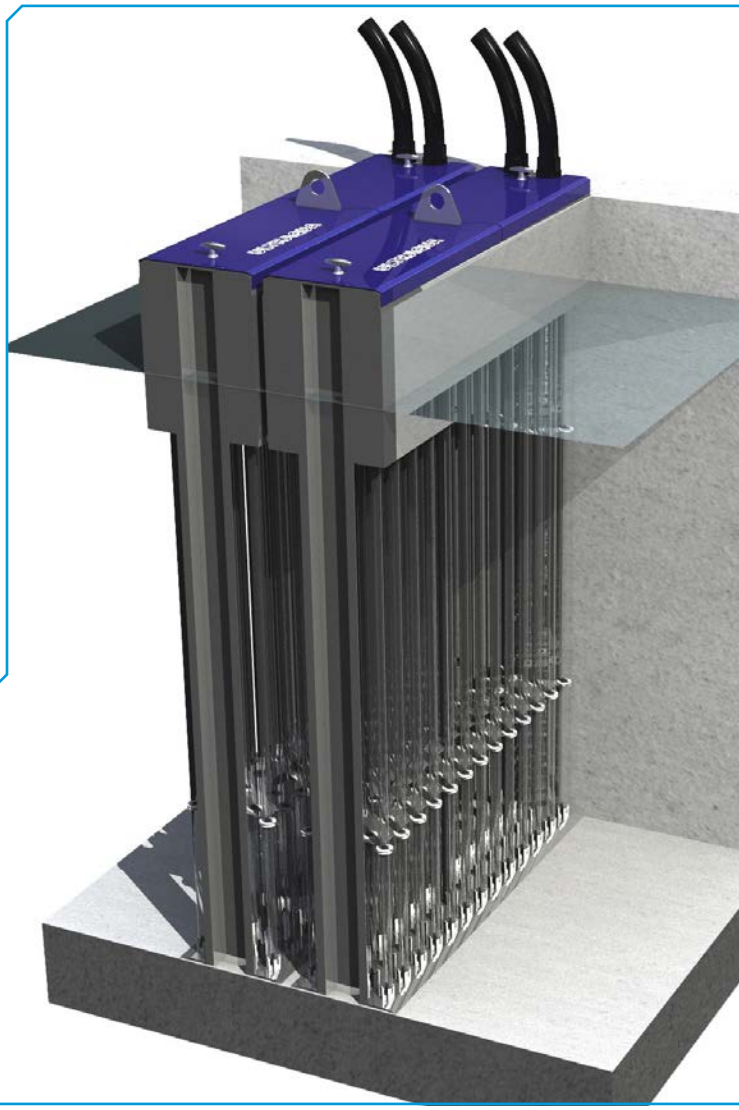
To retrieve quartz sleeves, raise the UV until the top compartment is above water level, then unscrew the quartz nut by hand.



WASTEWATER APPLICATIONS FROM 10 - 10.000m³/h

Ultraaqua's channel series are versatile and perfect for wastewater applications. Disinfecting wastewater can require very high UV doses depending on application an government legislations, this is why the UV system needs to pack a lot of power. With the scalability of the SS/PP channel series, matching the applications specific needs have never been easier.
The channel series also include an isolated and dry top compartment for tool free maintenance. This ensures no contact with the wastewater and creates a more hygienic and safe working environment.

- Scalability of the system insures "best-fit" solution
- Capable of disinfecting very high flow volumes
- Hygienic isolated maintenance compartment
- Very compact installation



MR50-350SS CHANNEL

The MR50-350SS channel model delivers 17.500 Watt on a 0.51m² footprint, and can disinfect 1.000 m³ regular wastewater per hour. This is a lot of power in a very little space, and with one central automatic cleaning system, maintenance have never been easier.

- 35.000 watt per square meter footprint
- Can disinfect up to 1.000 m³/h of municipal wastewater
- Centralised automatic cleaning system

MULTIRAY SERIES
MEDIUM-PRESSURE SYSTEMS

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

- Electropolished stainless steel AISI 316L construction
- Simple installation, operation and maintenance
- Energy saving by lamp dimming based on sensor value or timer
- Insignificant head loss
- PLC control module with touchscreen
- Manual cleaning mechanism
- Automatic cleaning system optional
- Operating pressure up to 10 bar

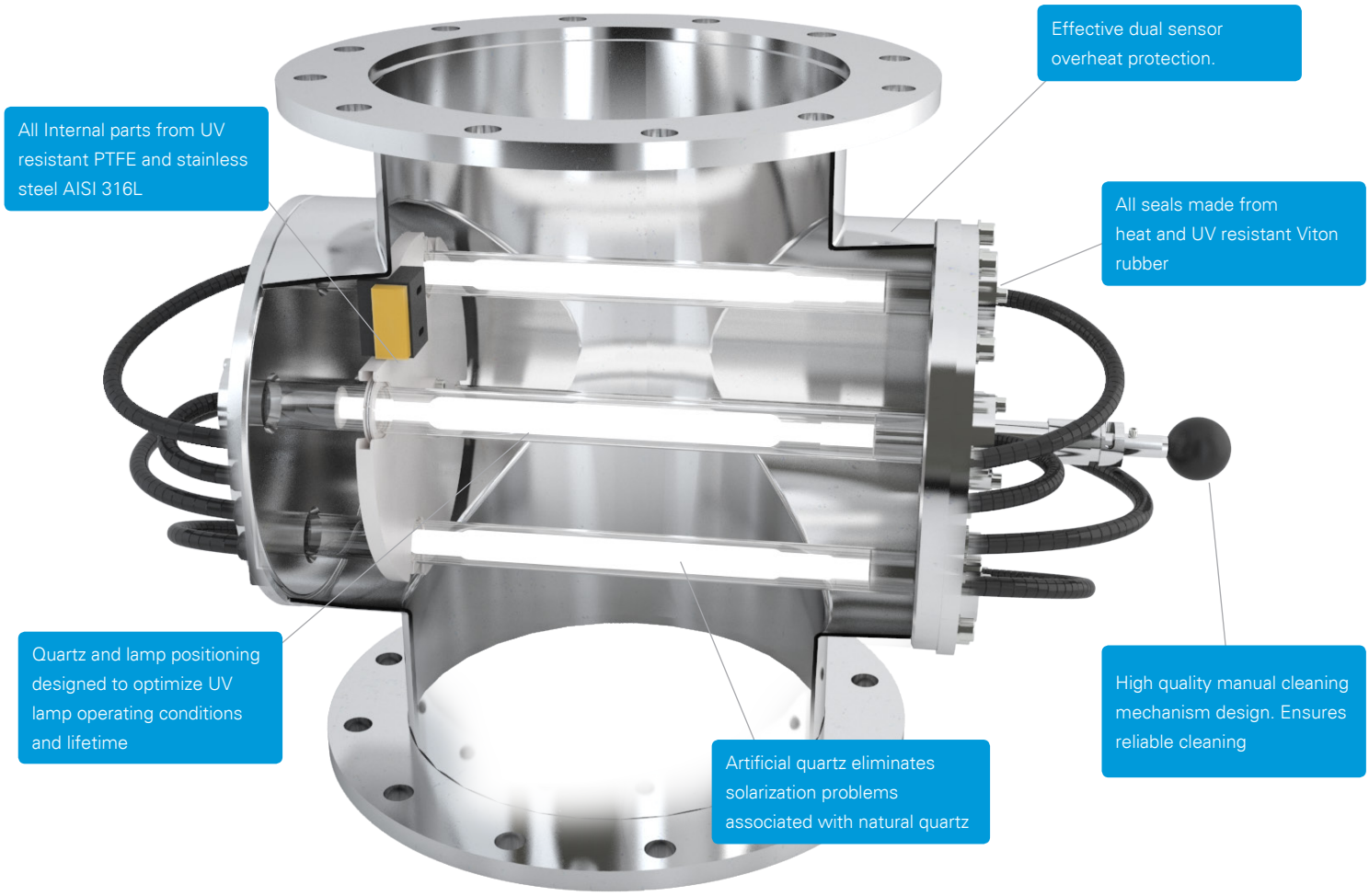
HYLLIE WATER PARK, MALMÖ, SWEDEN

7 systems of MultiRay MP 3000-12000 effectively remove chloramines and microorganisms in Sweden's largest swimming pool and wellness center.

ULTRATHERM MEDIUM-PRESSURE LAMPS

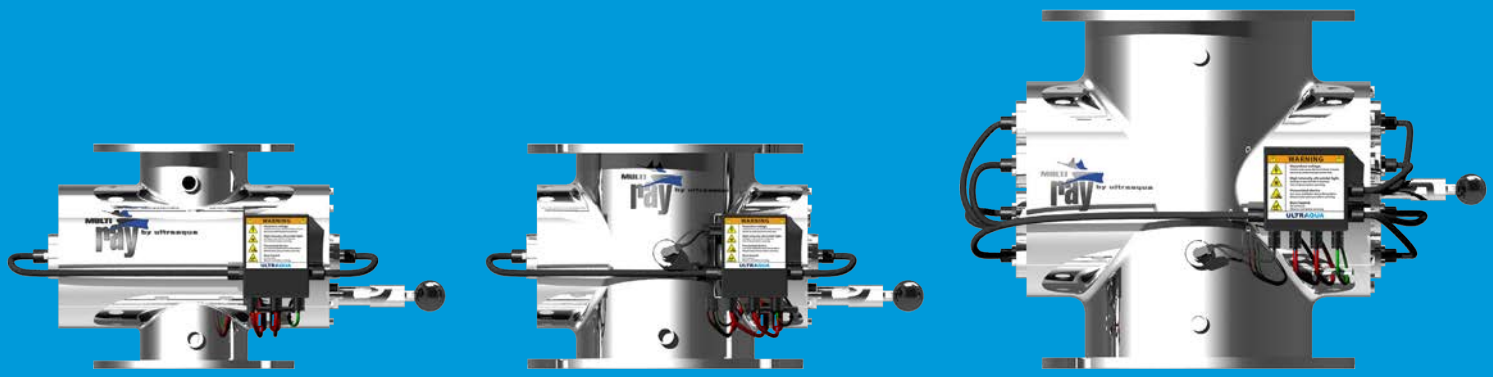
Ultratherm 1kW, 2kW and 3kW medium-pressure UV lamp

- Lifetime 8,000 hours
- Highest efficiency
- Developed for high radiation output at wavelengths 200-240 nm to maximize photo oxidation performance



STANDARD SYSTEMS TO 12KW

Bigger systems upon request



GENERAL SPICIFICATIONS

	Max flow for disinfection	Max. chloramine reduction flow	Lamp type	Max power consumption	Connection flange PN10 / corresponding plastic pipe	UV Reactor dimension H W D
MP1000	90 m³/h	70 m³/h	Cr 1000	1.1 kW	DN 100 / D110 / ANSI 4"	255 x 550 x 350 mm
MP2000	175 m³/h	130 m³/h	Cr 2000	2.1 kW	DN 100 / D110 / ANSI 4"	255 x 550 x 350 mm
MP3000	270 m³/h	220 m³/h	Cr 3000	3.5 kW	DN 200 / D200 / ANSI 8"	420 x 780 x 460 mm
MP6000	520 m³/h	400 m³/h	2 x Cr 3000	6.8 kW	DN 300 / D315 / ANSI 12"	500 x 850 x 500 mm
MP9000	760 m³/h	600 m³/h	3 x Cr 3000	10.0 kW	DN 300 / D315 / ANSI 12"	500 x 850 x 500 mm
MP12000	1000 m³/h	800 m³/h	4 x Cr 3000	13.2 kW	DN 300 / D315 / ANSI 12"	500 x 850 x 500 mm

DIN flanges according to PN10 - ANSI flanges according to Class 150

ULTRAAQUA
UV DISINFECTION SYSTEMS

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