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. Two entirely new product lines have been added - one for high turbidity water and one for drinking water applications approved according to Önorm and DVGW. We are confident that this will lead to many new and exciting projects with new business partners in the future.

We are proud to present our product line 2015.

Jens Skjølstrup,
CEO, ULTRAAQUA

ULTRAAAQUA UV SYSTEMS

If a UV system trusted to remove dangerous microorganisms is not working even for a short period of time it can have severe consequenses. **Ultraaqua UV systems are much more than UV lamps in a reactor and a power supply because they are:**

- **ROBUST**
- **RELIABLE**
- **ENERGY-EFFICIENT**
- **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 °C to 40 °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.

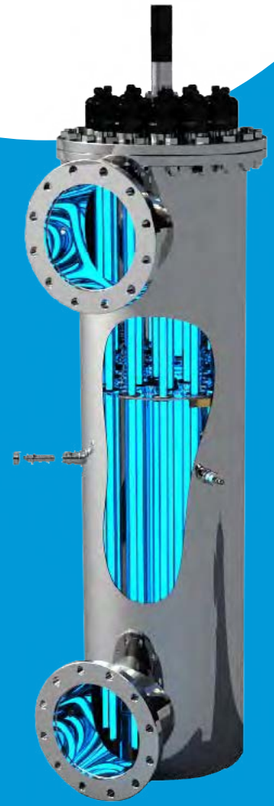
- **ULTRATHERM UV LAMPS ARE THE WORLD'S MOST EFFICIENT**
- **SPECIAL LONG-LIFE INTERNAL COATING ENSURES 16,000 H GUARANTEED LIFETIME**
- **ULTRATHERM LAMP DRIVERS ARE SPECIALLY DESIGNED FOR OUR ULTRATHERM UV LAMPS TO ENSURE OPTIMUM PERFORMANCE**
- **KEY COMPONENTS MANUFACTURED IN THE EU BY MARKET LEADING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

Ultraaqua offers system design and support by UV specialists to ensure the most efficient solution for your specific application.



LOW-PRESSURE HIGH-OUTPUT UV LAMPS

- Lamp replacement and quartz sleeve inspections are done in two simple steps without the need of tools
- Only lamps and quartz tube seals are 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%)

Very easy maintenance

Lamp replacement:
· Remove lamp plug by hand
· Retrieve and replace lamp

Quartz sleeve inspection:
· Remove quartz nut by hand
· Retrieve washer, O-ring and quartz sleeve

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 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

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 STAINLESS STEEL AND OTHER MATERIALS.

ONE LAMP SYSTEMS

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

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

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

MR1-440 SS
·· DN100
· Max flow 68 m³/h
· ANSI 316l Electropolished

MR1-75 PP
· 1½" BSP
· Max flow 8 m³/h
· Polypropylene

MR1-220 PP
· DN80
· Max flow 37 m³/h
· Polypropylene

MR1-350 PP
· DN100
· Max flow 58 m³/h
· Polypropylene

MR1-440 PP
· DN100
· Max flow 68 m³/h
· Polypropylene

ONE LAMP SYSTEMS - FLOW UP TO 68M³/H

Ideal choice for small flows in industrial applications.

- Ideal for smaller flows
- Compact design
- High value
- Easy setup
- Carbon fiber reinforced plastic (CFRP) cabinet

To combat harsh and corrosive environments the 220, 350 and 440 one lamps systems are produced with carbon fiber reinforced plastic (CFRP) 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	10	8
Power	0.08 kW	0.08 kW
Inlet/outlet	1½" BSP	1½" BSP

Control cabinet	Compact SS	
Dimensions LWH	20x15x25 cm	
Steel	X	
High Corrosion Resistance		

MR1-220 SS/PP	MR1-220SS	MR1-220PP
Max flow m³/h	38	35
Power	0.25 kW	0.25 kW
Inlet/outlet	DN80 / ANSI 3"	DN80 / ANSI 3"

Control cabinet	Compact SS	CFRP - 220
Dimensions LWH	20x15x25 cm	30x20x40 cm
Steel	X	
High Corrosion Resistance		X

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		CFRP - 350/440
Dimensions LWH		35x30x50 cm
Advanced interface		X
High Corrosion Resistance		X

MR1-440 SS/PP	MR1-440SS	MR1-440PP
Max flow m³/h	68	62
Power	0.5 kW	0.5 kW
Inlet/outlet	DN100 / ANSI 4"	DN100 / ANSI 4"

Control cabinet		CFRP - 350/440
Dimensions LWH		35x30x50 cm
Advanced interface		X
High Corrosion Resistance		X

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

Compact SS

CFRP - 220 series

CFRP - 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 three 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
Shown: MR4-220SS

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

MR 350 SS L-Line Series
· High-energy efficiency
· Long lamp lifetime
· Best overall economy
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"

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

MULTI LAMP CORROSIVE ENVIRONMENTS

The PP closed multi lamp reactor series 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
- 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

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

ARDO-FRIGODAN

Uses Ultraaqua PP systems to treat recycled process water in their production of high-quality frozen vegetables. UV is part of their HAACP strategy to maintain a high food safety standard.

220W PP Series family portrait

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

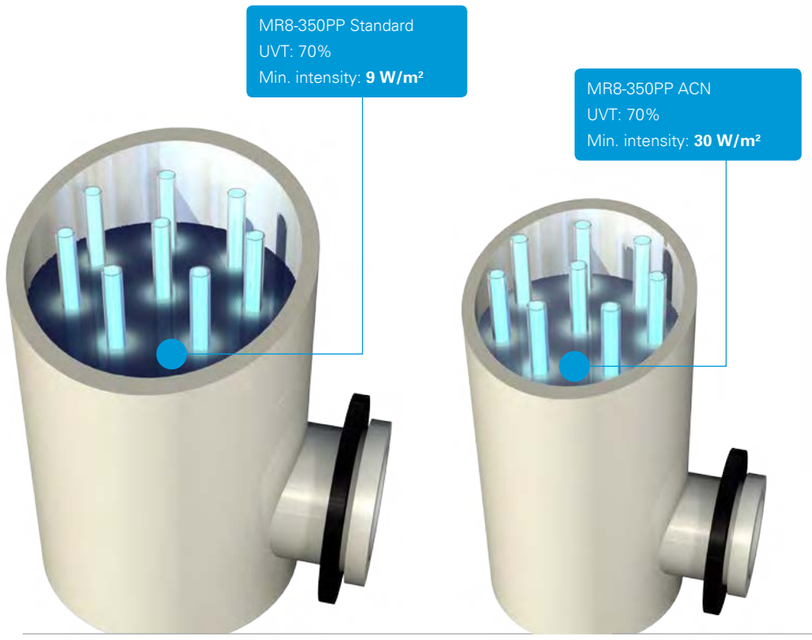
350 PP SERIES		MR4-350PP	MR6-350PP	MR8-350PP	MR12-350PP	MR16-350PP
Max flow m³/h		210	290	480	640	704
Power		1.5 kW	2.2 kW	3.0 kW	4.5 kW	6.0 kW
Inlet/outlet		DN150 / ANSI 6"	DN200 / ANSI 8"	DN250 / ANSI 10"	DN300 / ANSI 12"	DN300 / ANSI 12"

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

ACN SERIES
FOR LOW UVT FLUIDS

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 intake water for aquaculture 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



Available in PP and SS

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.

UV TRANSMISSION

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

GENERAL SPECIFICATIONS

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"

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

MR8-350SS ACN

SS VAL SERIES

The stainless steel validated series are advanced systems for high-risk 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 transmittance.

- 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

MR16-350 SS VAL

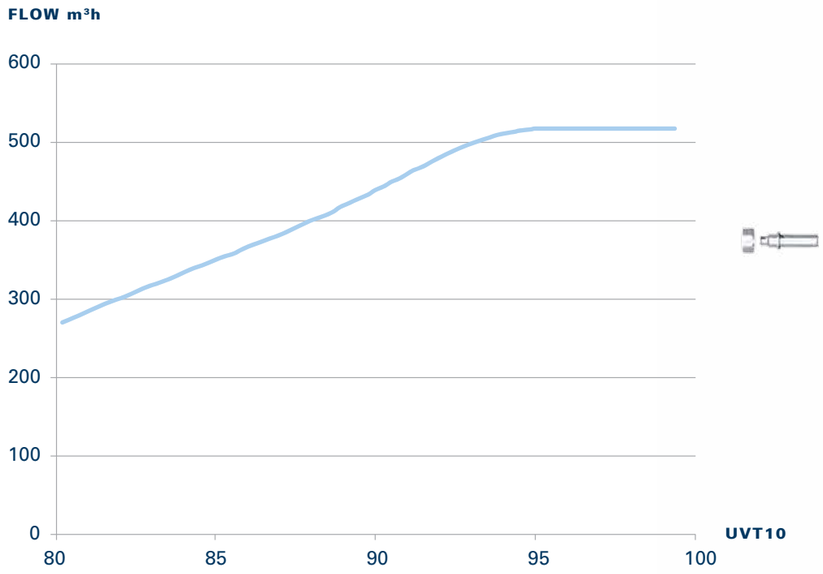
Has been validated according to Önorm M5873-1 and DVGW Worksheet W 294-2.
System is optimized for drinking water applications. Flow range 250-500 m³/h.
Shown is a recent installation in Norway

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
- Cabinet with 6" touchscreen
- 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 intensity sensor values are used to ensure that water clarity does not drop below the allowed minimum level for a given flow.