



aquaculture
water treatment
solutions

aquaculture catalogue

2023



triogen[®]

contents

01

overview

Group	1
Technologies	2
Applications	4

02

ozone product ranges

triogen® PPO ₃	11
triogen® TOGC range	12
triogen® compact range	14

03

UV product ranges

BIO-UV IAM	17
BIO-UV IBP+	18
BIO-UV Integra	19
triogen® SMP	20
BIO-UV MPL SD	21
BIO-UV TTPE	22

group overview

Over thirty years ago, aquaculture was identified as a possible solution to the decline in fisheries stocks worldwide. With the global population growing and the demand for animal protein increasing, the environmental impact and sustainability of fisheries and aquaculture, fish welfare, biosecurity and food quality have been at the centre of this industry.

This is when BIO-UV Group was founded, with a goal to elevate water quality providing cutting edge chemical-free technologies to professionals. A specialist in designing and distributing UV water treatment disinfection systems, BIO-UV Group has developed a complete offer for the aquaculture market, to ensure water disinfection and sanitation.

In 2019 and 2021, the group made two acquisitions to enhance its product portfolio: the UK-based triogen®, a water disinfection specialist with more than 35 years' experience in ozone, UV, and advanced oxidation processes (AOP), as well as the AKERON brand, a French leader in salt electrolysis in the French residential pool market.

Customer-focused and working in close collaboration with its partners' network, BIO-UV Group focuses on supporting the fisheries and aquaculture's contribution to global food security, and a sustainable ocean economy while ensuring fish stock health and minimising overall environmental impact. From hatchery to RAS, intake water or effluent water to wellboats, and purification station or food processing, our systems cover it all to protect the production from contamination!

BIO-UV Group in a nutshell

€51.3m

turnover (2022)

160+

employees

+55%

as international sales

Our other areas of expertise



ballast water for
ships



residential &
commercial pools



industrial
process water



wastewater / REUSE



domestic and municipal
drinking water



aquariums



water features

Our brands



triogen®

IOCI Electrodes

BIO SEA

technologies

overview

ozone

Ozone (O₃) is extensively used in the aquaculture industry for water clarification, pathogen control, and oxygenation. It's a highly active form of oxygen (O₂), more effective than many commercially available chemical treatments at both disinfection and for water quality improvements. Ozone is a natural but very powerful oxidising biocide, which is also able to oxidise and remove nearly all organic and inorganic compounds and support optimal functioning of the biofilters and the wider water treatment system, improving the efficiency of up and downstream technologies and contributing to water reuse and energy saving potential.

Ozone has the unique property of breaking down spontaneously into its original form, Oxygen, so it supports increased dissolved Oxygen levels, simulating natural waters in healthy ecosystems, for optimum fish health and yield. It also acts as a flocculant and general water conditioner, to produce crystal clear water with no smell or taste (a benefit that is transferred to the quality of the final product on the customer's plate!)

As nature's most powerful oxidant, ozone is a simple and effective way to break down contaminants in a number of aquaculture applications, including Hatcheries, niche and small-scale fish farming applications, larger, Recirculating Aquaculture Systems (RAS), wellboats, and in the treatment of influent and effluent water, as well as in food processing applications and CIP, critical to the journey from 'egg to plate'.

UV certification

NVI (Norwegian Veterinary Institute): The Norwegian Veterinary Institute (NVI) is a biomedical institute delivering research-based knowledge and contingency support in the fields of animal health, fish health and food...



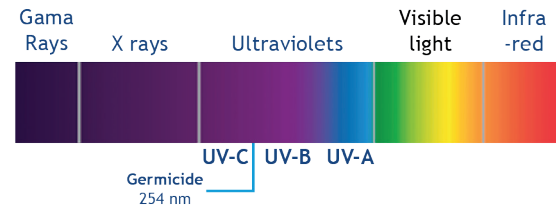
Veterinærinstituttet
Norwegian Veterinary Institute

UV

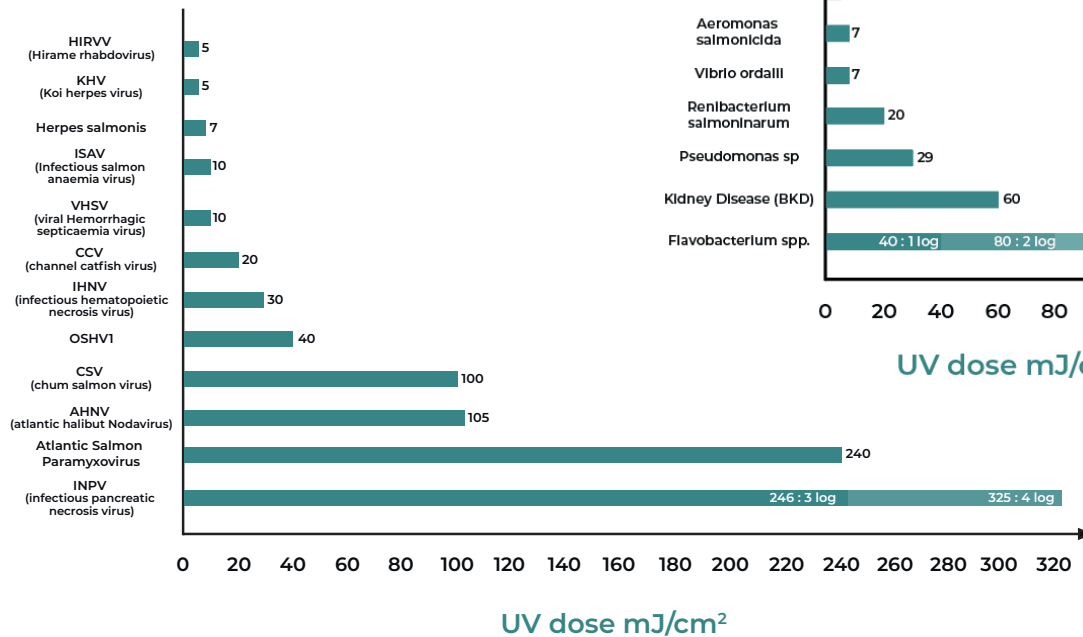
UV is extensively used in the aquaculture industry for water disinfection and to destroy ozone residuals. Using the same germicidal rays as the sun, except it is much stronger, UV-C offers a reliable, cost effective, eco-friendly alternative to chemicals. This natural phenomenon is reproduced inside the BIO-UV Group reactors using powerful UV lamps.

At 254 nanometres, the optimum wavelength to inactivate microorganisms (viruses, bacteria, algae, yeasts, moulds, etc.), UV-C penetrates the core of the DNA and disrupts cellular metabolism until the cells are completely inactivated. Even some chlorine-resistant microorganisms are eradicated (including *Legionella*, *Cryptosporidium*, etc.) and can no longer reproduce.

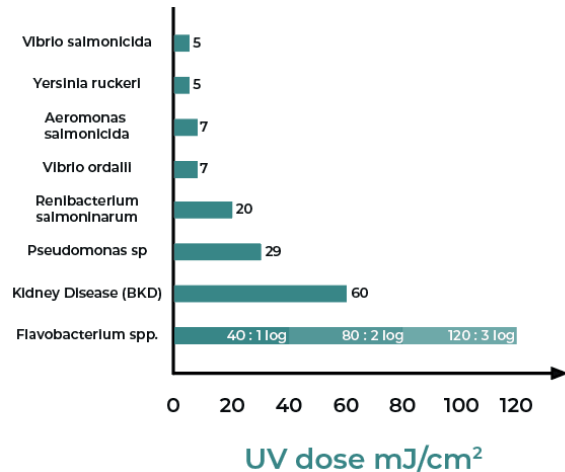
The physio-chemical characteristics of the water are unaltered (taste, smell, pH, etc.). No disinfection by-products are generated by UV treatment. It is safe to human or animal health. It can treat a wide range of water qualities from 50 to 100% UV transmittance, be it in fresh water, brackish water and sea water. BIO-UV Group reactors are designed to meet the most specific needs according to temperature and water quality as well as bacteriological loads.



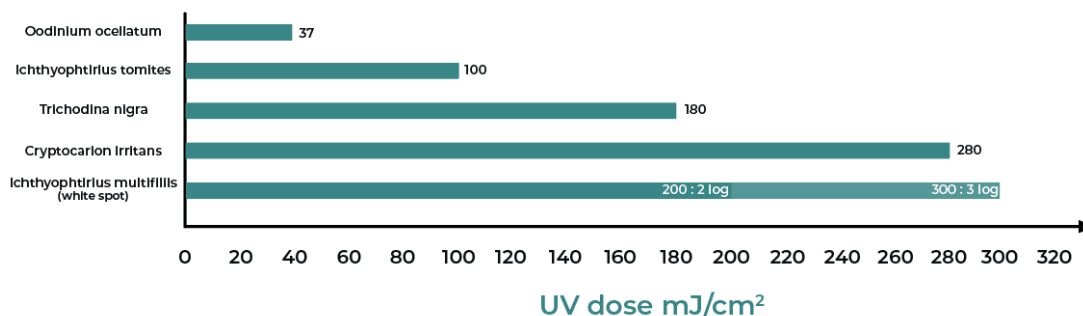
Eradicated Virus



Eradicated Bacteria



Eradicated Protozoa



applications

overview

Hatchery / RAS

Water quality has a great impact on the aquaculture industry. Water control and treatment is essential to insure the health and growth of fish, mollusc or crustacean present in the hatcheries and RAS. In hatcheries, water quality and cleanliness is of critical importance. Animals at the start of their lifecycle are particularly sensitive and susceptible to disease outbreaks. In recirculating aquaculture systems (RAS) nutrients in the water can lead in increasing the water pollution, therefore altering the water chemistry, causing serious health hazards for the fish. A deterioration in water quality increases the risk of bacteria and viruses proliferation, responsible for diseases.

In order to minimise the loss caused by these harmful micro-organisms and to improve the living conditions of the fish, it is important to effectively treat the water.

Ozone and UV disinfection by BIO-UV Group ensures optimal water quality for the development of fish and increases their survival rate.

Wellboat

Wellboats are used to transport smolt to sea, to bring fish from aquaculture sites. Wellboats are an important link in the aquaculture chain, and the issues at stake are bio-security, sanitary and environmental protection. Everything is at stake in the loading and discharge of the ship's water.

The sea is a source of various types of pollution that can affect the health of fish. Disinfection of tanks and pipes between fish loads is equally important. The water being discharged can be rich in pathogens and pollutants which can contaminate the natural environment.

BIO-UV Group's role is to ensure the disinfection of the water at the inlet and outlet with its ozone and UV systems.

Depuration

Many countries have strict quality criteria to ensure shellfish will be safe for human consumption. Shellfish need to be held for a minimum of 48 hours in a recirculating system for purification prior to being sent to market.

BIO-UV Group offers water treatment solutions specially developed for the disinfection of seawater. Micro-organisms are inactivated and shellfish are preserved.

Intake and effluent water treatment

The proper operation of hatcheries depends on the availability of a continuous source of clean water, and proper treatment of their effluents before discharging to the surrounding environment. Water treatment systems for hatcheries must be designed to provide consistent water quality year-round, despite wide seasonal variations. The objective is also to minimize the discharge of potential pathogens and reduce the total bacterial load.

BIO-UV Group's ozone and UV water treatment systems are specially designed to improve water quality. This ensures that the water is clean of all micro-organisms, both at the inlet and at the outlet.

applications

overview

Food industry

In order to meet the sanitary standards for the food industry, water remains one of the first elements to be addressed. Poorly treated water can lead to poor quality of the final product or negatively impact its shelf life. In the context of food processing, fish are sensitive foodstuffs and professionals must be very vigilant.

By using ozone and UV in industrial processing, micro-organisms such as viruses and bacteria are eradicated. These systems can also be used for dechlorination, washing and rinsing of equipments or CIP.

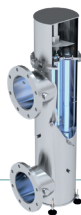
product overview

aquaculture

IBP+ HO
Fresh Water
80 m³/h



IAM
Fresh Water
2,000 m³/h



TTPE HO
Salt Water
55 m³/h



TTPE AM TS
Salt Water
2,000 m³/h



Low Pressure UV

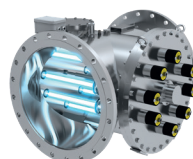
MPL SD
Salt Water
500 m³/h



SMP
Salt Water
1,400 m³/h



Integra
Salt Water
8,000 m³/h



Medium Pressure UV

Compact range
10 g/h



TOGC range
55 g/h

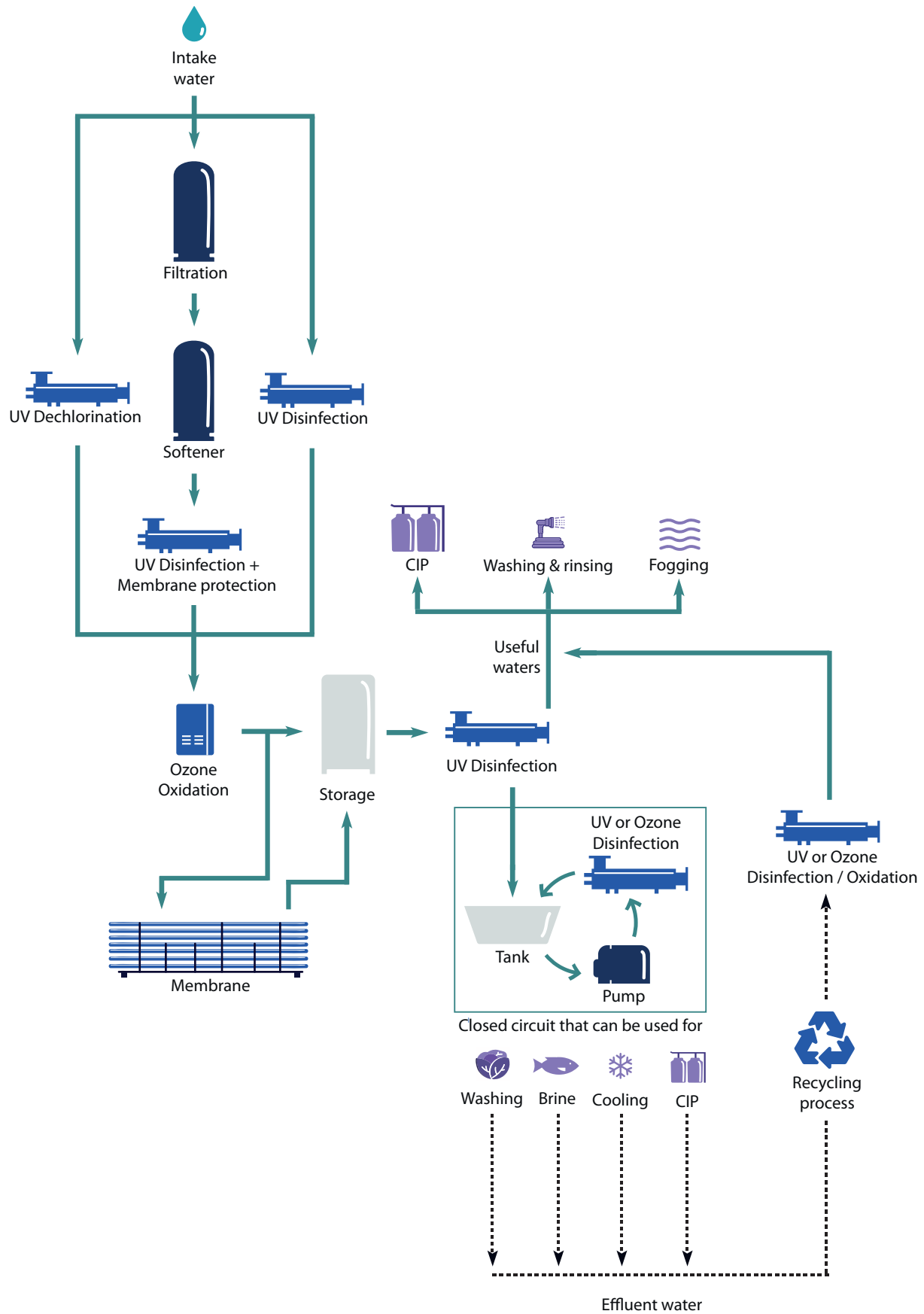


PPO₃
300 g/h



triogen® Ozone





Food Industry



Ozone product ranges



PPO₃
TOGC range
Compact range

01

triogen® PPO₃

triogen®

The triogen® PPO₃ range is the newest generation of positive pressure Ozone generators from BIO-UV Group, capable of up to 300 g/h Ozone production per generator. The generators incorporate the triogen® PPO₃ Ozone production modules, state-of-the-art communications and connectivity, together with advanced safety and operational features. The Ozone generators are available in two different control configurations, alongside a range of sized and specified ancillaries as well as a complete turn-key system including feedgas and Ozone injection.

benefits +



- Energy efficient production of Ozone at high concentration
- Simple to install, operate and maintain
- Highly modular system with advanced safety features
- Cutting edge ozone yield and concentration matrix
- Power trending and OPEX calculator
- HMI touchscreen and remote control
- Cost effective, reliable and robust



2 years guarantee

MODEL	triogen® PPO ₃ - 1	triogen® PPO ₃ - 2	triogen® PPO ₃ - 4	triogen® PPO ₃ Flex - 2
Ozone output - Oxygen (g/hr)	60	120	240	120
Ozone output - Dry air (g/hr)	25	50	100	-
Power supply	230V (±10V) 1ph 50Hz			
Ozone generator dimensions (L x H x W)	340 x 994 x 808 mm			664 x 1847 x 816 mm
Ozone generator weight (kg)	80	100	150	200
Item code	2510000764	2510000765	2510000790	2510000789

triogen® TOGC range

triogen®

The triogen® TOGC range is suitable for applications requiring up to 55 g/h Ozone output per generator. All systems include integrated Oxygen concentrators, plus a range of injectors and booster pumps suitable for a range of applications and dose rates. Also available in complete turn-key systems including Ozone injection, such as O₃Flex-10 and the XIS range.



benefits +

- Ease of installation and operation
- Cost effective
- Variable, easily adjustable Ozone output
- Robust and reliable performance



2 years guarantee

triogen® TOGC

MODEL	triogen® TOGC 8X	triogen® TOGC 13X	triogen® TOGC 45X	triogen® TOGC 55X
Ozone output (g/hr)	8	13	45	55
Oxygen flow rate (L/min)	5	5	5	8
Power supply	230V (±10V) 1ph 50Hz or 115V (±10V) 1ph 50-60Hz		230V (±10V) 1ph 50-60Hz	
Ozone generator dimensions (L x H x W)	600 x 1050 x 250 mm		650 x 1060 x 310 mm	
Ozone generator weight (kg)	48	50	107	107
Item code	2520000689	2520003592	2520000684	2520003696

triogen® TOGC XIS

MODEL	triogen® TOGC 8XIS	triogen® TOGC 13XIS	triogen® TOGC 45XIS	triogen® TOGC 55XIS
Ozone output (g/hr)	8	13	45	55
Oxygen flow rate (L/min)	5	5	5	8
Power supply	230V (±10V) 1ph 50Hz or 115V (±10V) 1ph 50-60Hz		230V (±10V) 1ph 50-60Hz	
Ozone generator dimensions (L x H x W)	600 x 1675 x 450 mm		650 x 1675 x 500 mm	
Ozone generator weight (kg)	83	85	128	128
Item code	2510000090	2510000086	2510000161	2510000682



triogen® O₃ Flex

MODEL	triogen® O ₃ Flex - 10
Ozone output (g/hr)	10
Power supply	230V (±10V) 1ph 50Hz
Ozone generator dimensions (L x H x W)	340 x 808 x 994
Ozone generator weight (kg)	80
Item code	2510000736



triogen® compact range

triogen®

The triogen® compact range is suitable for water treatment in small aquaculture applications. The range consists of corona discharge Ozone generators capable of up to 10 g/h Ozone output per generator, plus a range of injectors and booster pumps suitable for smaller applications and lower dose rates.

benefits +

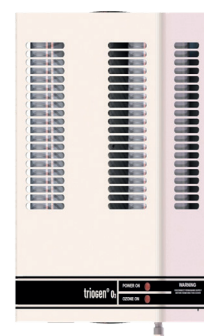
- Ease of installation and operation
- Cost effective and reliable performance
- Variable, easily adjustable Ozone output
- Small footprint
- Very robust



2 years guarantee

triogen® O₃ S series

MODEL	triogen® O ₃ S2	triogen® O ₃ S4	triogen® O ₃ S8
Ozone output (g/hr)	1 – 2	2 – 4	4 – 8
Air flow rate (L/min)	10	10	20
Power supply	230V (±10V) 1ph 50Hz or 110V 1ph 60Hz (option)		
Ozone generator dimensions (L x H x W)	155 x 440 x 110		
Ozone generator weight (kg)	4.4		
Air dehumidifier dimensions (L x H x W)	305 x 440 x 110		
Air dehumidifier weight (kg)	10		
Item code	250000895	2520001418	2520001420



triogen® TOGC2

MODEL	triogen® TOGC2
Ozone output (g/hr)	10
Air flow rate (L/min)	5
Power supply	230V (±10V) 1ph 50Hz
Ozone generator dimensions (L x H x W)	330 x 280 x 150
Ozone generator weight (kg)	6
Item code	2520000030





UV product ranges

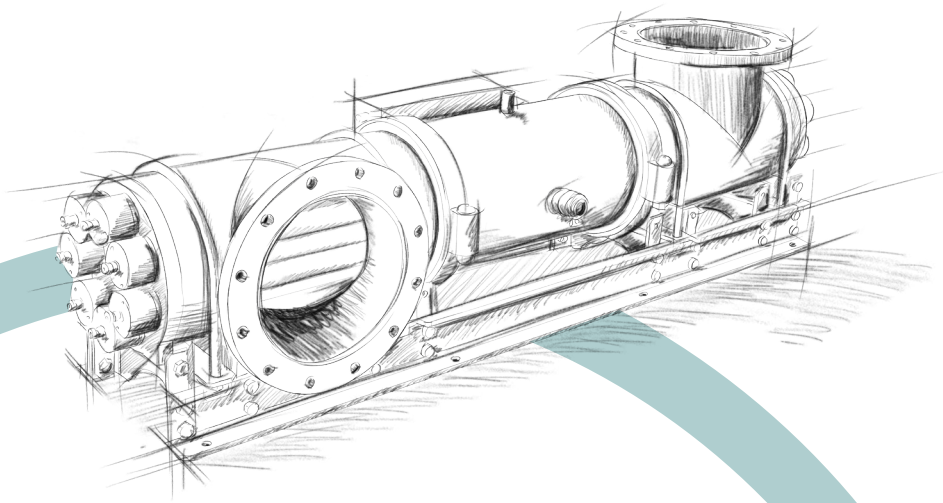


IAM
IBP+
Integra
SMP
MPL SD
TTPE

02

UV Absolute series

Sustainable yet powerful water disinfection for fresh and sea water



- + marine certified components
- + efficient effluent treatment
- + compact unit with a low height requirement
- + protect intake water with low UVT and high UV dose requirement

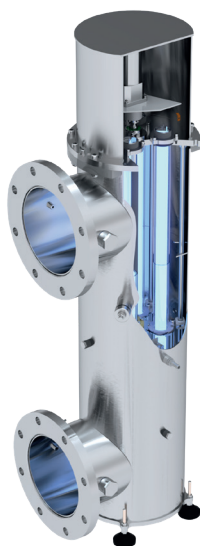
Coming soon

UV IAM TS



The BIO-UV IAM TS range has been designed to treat a high quality fresh water (70-98 % UVT) for a maximum flow rate of 2,000 m³/h. Its stainless steel reactor and low pressure amalgam lamps allow it to operate in cold, temperate or tropical application up to 60° C. The UV dose emitted can reach 300 mJ/cm².

benefits +



- UV control sensor meeting ÖNORM standard ensuring continuous proper operation of UV reactor
- Touchscreen display of the UV intensity, remote management by 4-20 mA output and modbus communication
- Customization of reactors according to installation, operation and maintenance constraints (flange diameter, inlet/outlet positioning, vertical/horizontal reactor,...)
- Single-bulb lamps and patented sealing system for easy maintenance
- Low energy consumption
- Long lamp life: 13,000 to 16,000 hours



2 years guarantee

MODEL	Maximum flow rate* (m ³ /hr)	Performance in millijoules per cm ² at recommended actual flow rates [#]	UV lamps: number x power consumption	Inlet/Outlet Diameter	Reactor length (mm)	Item code
IAM 2273 TS	115	30	2 x 300 W	DN150	1241	PIAM015060UT-001
IAM 4273 TS	230		4 x 300 W	DN200	1241	PIAM015061UT-001
IAM 6273 TS	315		6 x 300 W	DN200	1241	PIAM015062UT-001
IAM 4273 TS	415		4 x 400 W	DN250	1755	PIAM015063UT-001
IAM 6273 TS	630		6 x 400 W	DN250	1755	PIAM015064UT-001
IAM 8323 TS	900		8 x 400 W	DN300	1764	PIAM015065UT-001
IAM 6355 TS	1230		6 x 800 W	DN350	1764	PIAM015066UT-001
IAM 8406 TS	1700		8 x 800 W	DN400	1769	PIAM015067UT-001

* For different flow rates, contact us.

[#] The performance of these devices was calculated at the lamp end-of-life and with 95% transmittance.

UV IBP HO+



The BIO-UV IBP HO+ range has been designed to treat a high quality fresh water (70-98 % UVT) for a maximum flow rate of 55 m³/h. Its stainless steel reactor and low pressure high output lamps allow it to operate in cold, temperate or tropical water up to 35° C. The UV dose emitted can reach 150 mJ/cm².

benefits +



- Compact reactors for easy installation
- Use of single bulb lamps, patented sealing system and vertical or horizontal design for easy maintenance
- Optional UV sensor and monitor offering LED alarm and dry contacts for reporting
- Customization of the connection possible: DN flanges, clamp, SMS
- Low energy consumption



2 years guarantee

MODEL	Maximum flow rate* (m ³ /hr)	Performance in millijoules per cm ² at recommended actual flow rates [#]	UV lamps: number x power consumption	Inlet/Outlet Diameter (mm)	Reactor length (mm)	Item code
IBP 30 HO+	8	40	1 x 87 W	1" 1/2	1071	PIBP006466
IBP 2150 HO+	16		2 x 87 W	2"	1083	PIBP006380
IBP 3150 HO+	27		3 x 87 W	2"	1083	PIBP006381
IBP 4205 HO+	46		4 x 87 W	2" 1/2	1096	PIBP006382
IBP 5205 HO+	63		5 x 87 W	2" 1/2	1096	PIBP006383

* For different flow rates, contact us.

[#] The performance of these devices was calculated at the lamp end-of-life and with 95% transmittance.

UV Integra

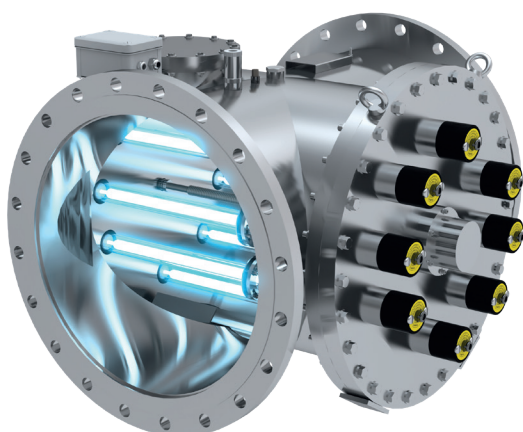
BIO-UV

The BIO-UV Integra range has been designed to treat a high quality sea water (85-98 % UVT) for a maximum flow rate of 8,000 m³/h. Its electropolished stainless steel reactor and medium pressure lamps allow it to operate in cold, temperate or tropical application. The UV dose emitted can reach 150 mJ/cm².



Veterinærinstituttet
Norwegian Veterinary Institute

benefits +



- Suitable for land and sea-based facilities
- Improves algae control
- Savings in water, energy and chemical consumption
- Low capital expenditure (CAPEX) and installation costs with minimal service and plant room space required
- Suitable for indoor and outdoor applications
- Highly resistant to corrosion attack
- UV sensor



2 years guarantee

MODEL	Maximum flow rate* (m ³ /hr)	Performance in millijoules per cm ² at recommended actual flow rates*	UV lamps: number x power consumption	Inlet/Outlet Diameter (mm)	Reactor length (mm)	Item code
Integra 125	75	25	1 x 1.8 kW	DN125	510	PINT016878UTNA-001
Integra 150	180		2 x 2.5 kW	DN250	645	PINT017291UTNA-001
Integra 250	300		4 x 2.5 kW	DN300	734	PINT017293UTNA-001
Integra 300	615		4 x 3.7 kW	DN300	800	PINT016879UTNA-001
Integra 500	1,330		6 x 3.0 kW	DN500	870	PINT016880UTNA-001
Integra 1000	2,300		6 x 6.0 kW	DN500	870	PINT017294UTNA-001
Integra 1500	3,230		8 x 6.0 kW	DN600	1031	PINT016881UTNA-001
Integra 2000	3,900		8 x 7.0 kW	DN700	1151	PINT016882UTNA-001
Integra 3000	5,100		8 x 8.8 kW	DN900	1371	PINT016883UTNA-001
Integra 4000	6,600		12 x 8.8 kW	DN700	1361	PINT016884UTNA-001

* For different flow rates, contact us.

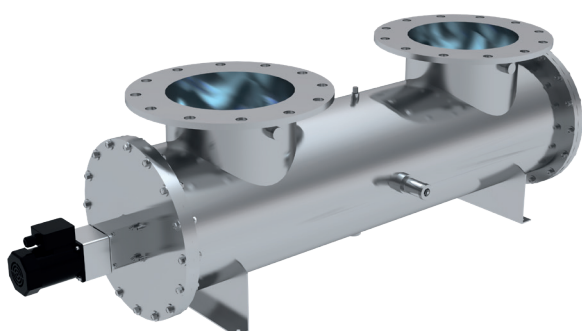
The performance of these devices was calculated at the lamp end-of-life and with 93% transmittance.

triogen[®] SMP

triogen[®]

The triogen[®] SMP range has been designed to treat a medium quality sea water (50-98 % UVT) for a maximum flow rate of 1,400 m³/h. Its electropolished stainless steel reactor and medium pressure lamps allow it to operate in cold, temperate or tropical application up to 100° C. The UV dose emitted can reach 300 mJ/cm².

benefits +



- Safely control background levels of general bacteria
- Significant improvement in water clarity and air quality
- Simple control logic / easy to operate
- Helps to inhibit the growth of algae
- Savings in water, energy and chemical consumption
- Low capital and installation costs, with minimal service and plant room space required
- Low service requirements
- UV sensor



2 years guarantee

MODEL	Maximum flow rate* (m ³ /hr)	Performance in millijoules per cm ² at recommended actual flow rates [#]	UV lamps: number x power consumption	Inlet/Outlet Diameter (mm)	Reactor length (mm)	Item code
SMP-100-75	20.6	40	1 x 1.5 kW	DN65	2795	2510000423
SMP-150-100	35		1 x 1.5 kW	DN100	2795	2510000620
SMP-150-100	69		1 x 3 kW	DN100	3080	2510000621
SMP-250-150	107		1 x 3 kW	DN150	4150	2510000626
SMP-200-150	160		2 x 3 kW	DN150	3080	2510000630
SMP-250-200	214		1 x 6 kW	DN200	4150	2510000627
SMP-250-200	286		3 x 3 kW	DN200	4150	2510000640
SMP-300-250	430		2 x 6 kW	DN250	4150	2510000636
SMP-400-350	748		3 x 6 kW	DN350	4150	2510000643

* For different flow rates, contact us.

[#] The performance of these devices was calculated at the lamp end-of-life and with 90% transmittance.

UV MPL SD



The BIO-UV MPL SD range has been designed to treat a very high quality sea water (90-98 % UVT) for a maximum flow rate of 500 m³/h. Its Super Duplex reactor improves corrosion resistance and medium pressure lamps allow it to operate in cold, temperate or tropical water. The UV dose emitted can reach 150 mJ/cm².

benefits +



- High flow processing with inline hydraulic connection without pressure drop
- Lamp power regulation over its lifetime
- High frequency electronic ballast
- Optimal footprint
- UV sensor with automatic management and continuous measurement of UV efficiency
- Temperature sensor in control cabinet and reactor (optional), flow controller



2 years guarantee

MODEL	Maximum flow rate* (m ³ /hr)	Performance in millijoules per cm ² at recommended actual flow rates*	UV lamps: number x power consumption	Inlet/Outlet Diameter (mm)	Reactor length (mm)	Item code
MPL 030-270 SD	15	30	1 x 270 W	DN80	326	PMPX015180D-001
MPL 030-400 SD	30		1 x 400 W	DN100	396	PMPX014999D-001
MPL 030-600 SD	45		1 x 600 W	DN100	396	PMPX015000D-001
MPL 030-1000 SD	75		1 x 1 kW	DN100	396	PMPX015001TD-001
MPL 030-1800 SD	115		1 x 1.8 kW	DN125	405	PMPX015002TD-001
MPL 140 SD	190		1 x 1.8 kW	DN150	600	PMPX010088
MPL 220 SD	280		1 x 3 kW	DN200	600	PMPX010089
MPL 300 SD	365		1 x 3 kW	DN250	600	PMPX010090
MPL 500 SD	525		1 x 5 kW	DN350	800	PMPX010091

* For different flow rates, contact us.

The performance of these devices was calculated at the lamp end-of-life and with 93% transmittance.

UV TTPE AM TS



The BIO-UV TTPE AM TS range has been designed to treat a high quality sea water (70-98 % UVT) for flow rates up to 2,000 m³/h. Its HDPE (High Density Polyethylene) reactor with its high strength-to-density ratio, is extremely corrosion-resistant. Its low pressure amalgam lamps allow it to operate in cold, temperate or tropical application up to 60° C. The UV dose emitted can reach 300 mJ/cm².



Veterinærinstituttet
Norwegian Veterinary Institute

benefits +



- Very long lamp life (13,000 to 16,000 hours depending on the number of ignitions)
- Touchscreen display of the UV intensity, remote management by 4-20 mA output and modbus communication
- Dedicated electronic ballasts guaranteeing maximum UV lamp efficiency and integrated control
- Low energy consumption
- Lamp operation control by individualized indicator light
- Non-significant load losses
- Input/output connection with rotating flanges
- Drain plug
- Maintenance: lamp change and quartz sheath cleaning very quick and easy.



2 years guarantee

MODEL	Maximum flow rate* (m ³ /hr)	Performance in millijoules per cm ² at recommended actual flow rates*	UV lamps: number x power consumption	Inlet/Outlet PE flanges	Reactor length (mm)	Item code
PE2315 AM	90	30	2 x 300 W	D200	1330	PPEH015041UT-001
PE4315 AM	170		4 x 300 W	D200	1330	PPEH015044UT-001
PE6315 AM	240		6 x 300 W	D200	1330	PPEH015045UT-001
PE4315 AM	365		4 x 400 W	D250	1919	PPEH015038UT-001
PE6315 AM	570		6 x 400 W	D315	1919	PPEH015039UT-001
PE 8355 AM	790		8 x 400 W	D355	1919	PPEH015040UT-001
PE6355 AM	1,090		6 x 800 W	D355	1932	PPEH015023UT-001
PE8400 AM	1,470		8 x 800 W	D400	1932	PPEH014936UT-001
PE10450 AM	1,690		10 x 800 W	D450	1932	PPEH015462UT-001
PE12500 AM	2,320		12 x 800 W	D500	1932	PPEH015108UT-001

* For different flow rates, contact us.

* The performance of these devices was calculated at the lamp end-of-life and with 93% transmittance.

UV TTPE HO



The BIO-UV TTPE HO range has been designed to treat a high quality sea water (70-98 % UVT) for flow rates up to 55 m³/h. Its HDPE (High Density Polyethylene) reactor with its high strength-to-density ratio, is extremely corrosion-resistant. Its low pressure high output lamps allow it to operate in cold, temperate or tropical application up to 35° C. The UV dose emitted can reach 150 mJ/cm².

benefits +



- Adapted HDPE reactors with optimized performance with UV-C lamps from the latest High Intensity (HO) technologies.
- Very long lamp life (12,000 to 13,000 hours depending on the number of ignitions)
- Dedicated electronic ballasts guaranteeing maximum UV lamp efficiency and integrated control
- Compact reactor for easy installation
- Lamp operation control by individualized indicator light
- Non-significant load losses
- Input/output connection with rotating flanges
- Drain plug
- Maintenance: lamp change and quartz sheath cleaning very quick and easy.



2 years guarantee

MODEL	Maximum flow rate* (m ³ /hr)	Performance in millijoules per cm ² at recommended actual flow rates [#]	UV lamps: number x power consumption	Inlet/Outlet PE	Reactor length (mm)	Item code
PE330 HO	2	30	1 x 33 W	D32	472	PPEH009459
PE870 HO	7		1 x 87 W	D50	1001	PPEH005494
PE2160 HO	14		2 x 87 W	D75	1066	PPEH003059
PE3160 HO	20		3 x 87 W	D75	1066	PPEH002964
PE4250 HO	42		4 x 87 W	D140	1066	PPEH002816
PE5250 HO	52		5 x 87 W	D140	1066	PPEH003001
PE6250 HO	62		6 x 87 W	D140	1066	PPEH002818

* For different flow rates, contact us.

[#] The performance of these devices was calculated at the lamp end-of-life and with 93% transmittance.

Terms and Conditions of Sale

These General Terms and Conditions of Sale are systematically sent or given to each buyer. Placing an order implies full and unreserved acceptance by the buyer of these conditions. No particular condition, in particular of purchase, can, except written and formal acceptance of the seller, prevail against the present Terms of Sales.

1. Order taking

The seller is only bound by orders taken by his sales personnel or employees after receiving written confirmation signed by the buyer. Acceptance may also result from the shipping the goods. The order is considered to be specific to the buyer and cannot be transferred without the seller's agreement.

2. Delivery: goods

The seller reserves the right to make any modification he judges fit to his products at any time, with no obligation to modify products in pending orders. He reserves the right to modify the models defined in his brochures and catalogues without prior warning.

3. Delivery: delivery time

- Deliveries are only made according to availability, and in the order that the orders arrive. The seller is permitted to make complete or incomplete deliveries.
 - Delivery times are indicated as precisely as possible, but depend on availability of supply.
 - Late deliveries cannot give rise to damages and interests, nor to suspension or cancellation of pending orders. The seller will inform the buyer of any late delivery.
 - The seller will be discharged from his obligation to deliver in the event of the intervention of Force Majeure, such as war, riots, fire, flooding, strike, accidents, impossibility of supply, etc.
- No obligation or damages and interests may be charged to the seller.
- In all cases, delivery within the delay can only take place if the buyer is up to date in his obligations towards the seller, whatever the cause.

4. Delivery - Risks

The products travel at the risks and perils of the addressee, who must, in the case of damaged or missing goods, make all necessary declarations, and confirm his reservations to the carrier by registered letter with receipt notification within three days of receiving the goods.

5. Reception

Without prejudice to the precautions to be taken with respect to the carrier, claims concerning patent defects, or the non-compliance of the product delivered with the product ordered or with the shipping order, must be made in writing within three days of the reception of the product.

The buyer must provide all proof concerning the reality of the defects or anomalies noted. He must make the necessary arrangements to allow the seller to observe these defects and to provide a remedy for them.

He shall refrain from intervening himself, or demanding the intervention of a third party to this effect. For products sold or Packed, the weights and measures on departure are taken to be the quantities delivered.

6. Return - Conditions

All returns of products must result from formal agreement between the seller and the buyer.

Any product returned without this agreement will be held at the disposal of the buyer and will not give rise to the establishment of a credit note.

The charges and risks of return are always at the buyer's expense.

7. Return - Consequences

All returns by customers of items considered to be new must be performed within two weeks of reception. All returns accepted by the seller will give rise to the establishment of a credit note for the buyer, after qualitative and quantitative checking of the products returned.

In the case of a patent defect or non compliance of the products delivered, duly recognized by the seller under the conditions provided in article 5, the buyer may obtain the free replacement, or the reimbursement of the products, at the seller's discretion, to the exclusion of any compensation or damages and interests.

8. Warranty - Scope

Products are guaranteed against all mechanical, electronic or electrical faults, for a period indicated according to each product at the time of the order. This warranty starts from the date of delivery, in compliance with the warranty certificate included with the products, and becomes void in the event that payments owed are not made.

Interventions made under the terms of the warranty will not have the effect of extending the warranty period.

The presentation of the warranty certificate is strictly compulsory for any warranty claims.

In the terms of this warranty, the only obligation due to the seller will be the free replacement or repair of the product or the component recognized to be faulty by the seller's services.

The current warranty therefore includes parts and labour, to the exclusion of any travelling expenses and delivery charges, which remain at the buyer's expense.

Any product destined to benefit from the warranty must first be submitted to the seller's after-sales department, whose agreement is essential before any replacement can be considered.

9. Warranty - Exclusions

Faults and damage caused by normal wear, external accident, incorrect assembly, faulty maintenance, abnormal use, non-compliant storage, failure to observe the expiry date, intervention of a third party or a modification to the product not approved or specified by the seller, are excluded from the guarantee.

The probes on pH controllers do not benefit from any contractual warranty.

In addition, the warranty will not apply for any patent defects that the buyer must claim under the terms of article 5.

All travelling expenses due to an excluded cause will always be at the buyer's expense.

All interventions taking place outside warranty will be invoiced: - parts, labour and travelling expenses according to the tariff applicable at the time of the order.

10. Prices

Products are supplied at the price applicable at the time that the order is made.

Prices are understood to be net, ex-factory, including Packaging except for special packaging, which is subject to an additional charge.

The VAT applied will be at the rate applicable on the day of the event generating the tax.

11. Payment - Conditions

11.1 Invoices are payable to the seller's head office. Conditions of payment are as follows:

- Payment 30 days from the end of the month by signed and accepted bill of exchange or direct bill of exchange or bank cheque drawn for the full amount, without discount;
- All first orders placed by new clients are considered to be payable in cash on delivery, net without discount, by bank cheque.

11.2 If the financial position of the buyer deteriorates, or if the seller should come to have legitimate reasons to fear that the buyer would not be able to meet the agreed deadline for payments, it is specifically agreed that the seller reserves the right to modify the conditions of payment and to deliver goods only in exchange for immediate and complete payment of the pending order and all preceding orders. Any terms of payment granted to the buyer do not provide him with any rights, but are solely on a short-term basis and liable to be revoked, in compliance with the terms of this article.

12. Late payment or default

In the event of late payment, the seller may suspend all pending orders, without prejudice to any other course of action.

All amounts remaining unpaid at the agreed payment deadline will automatically give rise to the payment of interest on overdue payment at the statutory rate of interest plus 5 percentage points, without any prior formal notice demand, notwithstanding article 1153 of the French Code Civil. This interest is calculated from the date of the payment deadline until the payment date.

The amount of these penalties will be automatically imputed against any rebate, discount or reduction owed by the seller.

In the event of failure to pay, 48 hours after a formal notice demand has remained without effect, the sale will be automatically rescinded if the seller so wishes. The seller may then demand, by court order, the return of the product, without prejudice to any other claims for damages and interests.

The order concerned will be rescinded, as will all other preceding and unpaid orders, whether delivered or pending delivery, and whether payment is due or not.

In the event of payment by commercial bill, failure to return the bill will be considered as a refusal of acceptance, and considered to be a default of payment. In the same manner, when the payment is by instalments, failure to pay one of the instalments will lead to the entire amount owed becoming due immediately, without any prior formal notice demand.

In all the above cases, the amounts that may be due for other deliveries, or for any other reason, will immediately become due if the seller does not choose to rescind the corresponding orders. The buyer must reimburse all expenses caused by the legal recovery of the amounts owed, including the court officer's fees and an amount corresponding to 10 % of the unpaid invoices in damages.

Any invoice recovered by a legal process will be increased by a fixed compensation amount for unrecoverable expenses, which is fixed at 15 %.

It is explicitly agreed that interest is to be accrued as soon as it is owed for a full year. This interest will generate interest at the same rate.

Under no circumstances may payments be suspended, nor be subject to any form of compensation, without prior written agreement from the seller.

Any part payment made after the payment deadline will first be imputed against late payment interest, then against the oldest outstanding amounts due.

13. Transfer of risks

The transfer of risks concerning the products takes place as soon as they leave the seller's warehouses.

All handling, transport, customs and insurance operations are the buyer's responsibility, and are carried out at his expense and at his own risk.

In the event of dispatch by the seller, at the express demand of the buyer or otherwise, this dispatch is performed with carriage due, in the best conditions according to the seller's possibilities, but always under the entire responsibility of the buyer. The seller always intervenes, by express agreement, as the buyer's agent. Under no circumstances may the seller be held responsible for the carriage mode selected or the tariff charged by the carrier.

Goods always travel at the buyer's risk.

14. Reservation of ownership

The seller reserves the ownership of the goods delivered until their full payment by the buyer.

This right of ownership includes all improvements and additions that the buyer may have made to the goods delivered.

This right is extended to all goods delivered by the seller, in stock at the buyer's premises.

The buyer is held responsible for applying a distinct label indicating the seller's reservation of ownership to the goods covered by reservation of ownership.

Any damage to the goods must be immediately communicated to the seller.

The buyer must immediately inform the seller in the event of receivership or compulsory liquidation, judicial seizure or any other measures

taken by third parties concerning goods under reservation of ownership.

The buyer must also inform the seller of the exact locations where goods that have been delivered and not yet paid for are being stored.

The seller may claim goods for which he reserves the ownership by registered letter with confirmation of reception addressed to the buyer, charging the latter to return the goods to the seller's possession.

If the buyer does not comply with this injunction, the seller may appeal to the court of Montpellier to demand an order for the compulsory restitution of the goods for which he reserves the ownership with penalties.

15. Exceptional loan of equipment

The seller may very exceptionally decide to place equipment at the disposal of the buyer, in order to replace equipment that has been returned for repairs.

This loaned equipment must be returned to the seller as soon as the buyer recovers the equipment repaired.

The seller may also exceptionally place equipment for trials at the disposal of any buyer for a maximum period of one month, after which the equipment must be returned.

In all cases, the equipment loaned must be returned without any prior notice demand, within the deadlines indicated. All delivery charges are at the buyer's expense.

If these conditions are not met, the equipment will be invoiced to the buyer at the tariff applicable at the date of invoicing.

16. E-Commerce

Professional buyers who wish to sell BIO-UV products on their website must first obtain a written authorisation duly signed by the Management, validating both the image reproduction rights and observation of the retail prices.

If this clause is not observed, the seller shall require the buyer, by registered letter with acknowledgement of receipt, to remove all publications concerning his products from the aforementioned website. If the buyer does not comply with this demand, the seller may initiate proceedings in the Montpellier court to order removal.

17. Court of competent jurisdiction

In the event of any litigation or dispute concerning the terms or the execution of the order, only the Court of Montpellier is competent, unless the seller prefers to appeal to another competent court.

These courts will rule under French law, which incorporates the International Sale of Goods Convention.

This clause applies even in the event of a summary procedure, a collateral procedure or multiple claims against the defendant, whatever the mode and method of payment.

18. Cancellation

The buyer who cancels, of his own will, whole or part of an order or who differs its delivery, shall compensate the seller for all expenses incurred at the date of reception of the buyer information, without prejudice to eventual direct and indirect consequences which the seller shall bear following the buyer decision.

Terms and conditions are subject to change.

The unique identifier **FR218278_07VEKK** attesting to registration in the register of producers of the **DDS sector**, in application of article L541-10-13 of the Environmental Code, has been allocated by ADEME to the BIO-UV Group (SIRET 527 626 055 00026). This identifier attests to its compliance with its obligation to register with the register of producers of Specific Diffused Waste and to the completion of its declarations of placing on the market with ECO DDS

The unique identifier **FR025482_05PUJ3** attesting to the registration in the register of producers of the **EEE sector**, in application of article L541-10-13 of the Environmental Code, has been attributed by ADEME to the BIO-UV Group (SIRET 527 626 055 00026). This identifier attests to its compliance with its obligation to register with the Register of Producers of Electrical and Electronic Equipment and to the completion of its declarations of placing on the market with Ecosystem

The unique identifier **FR218278_01ALP** attesting to the registration in the register of producers of **household packaging**, in application of article L541-10-13 of the Environmental Code, has been attributed by ADEME to the BIO-UV Group (SIRET 527 626 055 00026). This identifier attests to its compliance with its obligation to register with the Register of Producers of household packaging and to the completion of its declarations of placing on the market with Citeo



www.bio-uv.com

Our local partner



BIO-UV Group - 850 Avenue Louis Médard 34400 Lunel, France - +33 4 99 13 39 11 - export@bio-uv.com
Triogen - 14 Langlands Pl - East Kilbride Glasgow G75 0YF, United Kingdom - +33 4 99 13 39 11 - info@triogen.com