MORE THAN 30 YEARS EXPERIENCE IN UV, OZONE AND AOP







Ozone production from g O₃/h to tens of $kg O_3/h$



AOP

Combi ozone/UV-2.ID, LifeOX®-M from m³/h to tens of thousands m³/h of treated water by AOP

LifeOX® AIR-C up to tens of thousands Nm³/h of treated air



Combi OZONE/UV - 2.ID



LifeOX®-M



LifeOX® Air-C

(AOP = Advanced Oxidation Processes)

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UV, OZONE AND AOP	



FIRST MEDIUM PRESSURE UV FOR THE PRICE OF LOW PRESSURE UV-C

VERIFIED by German norm DIN 19643 as the only reliable UV technology for pools

- New UV standard for swimming pools and spa
- Water disinfection
- Destruction of harmful Tri-chloramines
- Prevents swimmers from allergy and asthma, skin and eye irritation
- Pool without the typical chlorine smell
- · Building without corrosion

All in one compact LifeUVM® system





LIFEOX® M

DET MEST KOMPAKTE OZON OG MEDIUM UV SYSTEM (AOP SYSTEM)

Fordeler med LifeOX® M system

- Teknologi: Advanced Oxidation Process (AOP)
- Den beste desinfeksjon som er tilgjengelig
- · Den mest kraftfulle oksidering av vann
- Kompakt System Betydelig lavere plassbehov

APPLICATION:

Svømmebasseng

Versjon: 10 m³/h, 40 m³/h og 90 m³/h Flere enheter kan kobles sammen

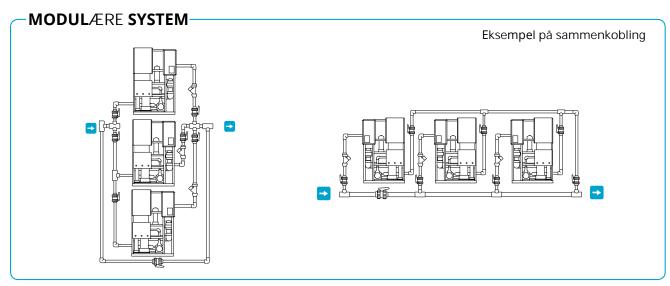
Drik**k**evann

Versjon: 10 m³/h, 40 m³/h og 90 m³/h Flere enheter kan kobles sammen

Spillvann

Versjon: 5 m³/h, 13 m³/h og 25 m³/h Flere enheter kan kobles sammen



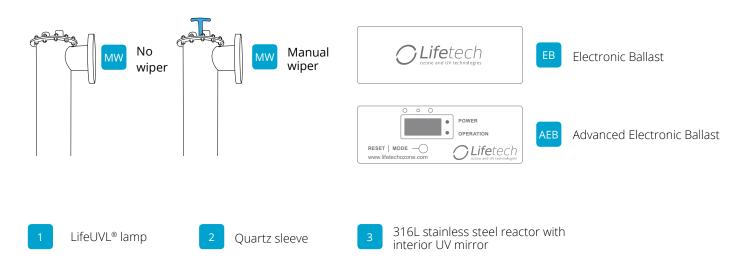


*mer informasjon på side 51

CHOOSING THE RIGHT TYPE OF LAMP:



EXPLANATION:

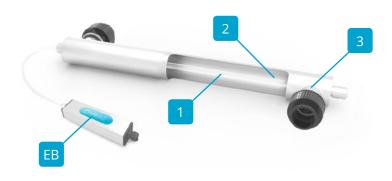


Drinking water UV dose 40 mJ/cm² @ T10=95% Waster water UV dose – UV dose 35 mJ/cm² @ T10=65% Public pools and spa – UV dose 60 mJ/cm² Private and semi-public pools and spa – UV dose 30 mJ/cm²

LIFEUVL® (ONE LAMP)

13 000 hours

Expected lamp lifetime



Electronic Ballast

Manual wiper

EB AEB

LifeUVL® lamp

Quartz sleeve

1

316L stainless steel reactor with interior UV mirror

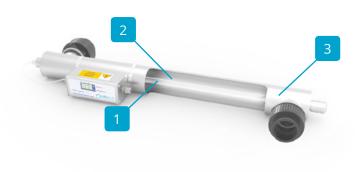
	conection	Drinking w. m³/hr	Pool flow m³/hr	Pool size m³	Waste w. m³/hr	Total lamp power (W) /phase
LifeUVL0148-NW-EB	2"	1.99	24	48	1.8	48 / I
LifeUVL0187-NW-EB	2"	3.60	29	87	3.3	87 / I

Displayed PVC flanges are included in the supply of the LifeUVM.

LIFEUVL® (ONE LAMP)

13 000 hours Expected lamp lifetime





Advanced Electronic Ballast Manual wiper



LifeUVL® lamp Quartz sleeve



316L stainless steel reactor with interior UV mirror

	conection	Drinking w. m³/hr	Pool flow m³/hr	Pool size m³	Waste w. m³/hr	Total lamp power (W) /phase
LifeUVL0148-NW-AEB	2"	1.99	24	48	1.8	48 / I
LifeUVL0187-NW-AEB	2"	3.60	29	87	3.3	87 / I

Displayed PVC flanges are included in the supply of the LifeUVL.

LIFEUVL® (MULTI LAMPS)

13 000 hours

Expected lamp lifetime





Advanced Electronic Ballast

Manual wiper



LifeUVL® lamp

Quartz sleeve



3

316L stainless steel reactor with interior UV mirror

*one lamp / one ballast

	fladge DN	Drinking w. m³/hr	Pool flow m³/hr	Pool size m³	Waste w. m³/hr	Total lamp power (W) /phase
LifeUVL0287-NW-AEB		9.68	33	100	5.5	174 / I
LifeUVL0387-NW-AEB		14.33	52	240	7.1	261 / I
LifeUVL0487-NW-AEB		18.60	64	320	8.7	348 / [

LIFEUVL® WIPER (MULTI LAMPS)

13 000 hours
Expected lamp lifetime





Advanced Electronic Ballast

Manual wiper



LifeUVL® lamp



316L stainless steel reactor with interior UV mirror

Quartz sleeve

2

*one lamp / one ballast

	flange DN	Drinking w. m³/hr	Pool flow m³/hr	Pool size m³	Waste w. m³/hr	Total lamp power (W) /phase
LifeUVL0287-MW-AEB		9.68	33	100	5.5	174 / I
LifeUVL0387-MW-AEB		14.33	52	240	7.1	261 / I
LifeUVL0487-MW-AEB		18.60	64	320	8.7	348 / 1



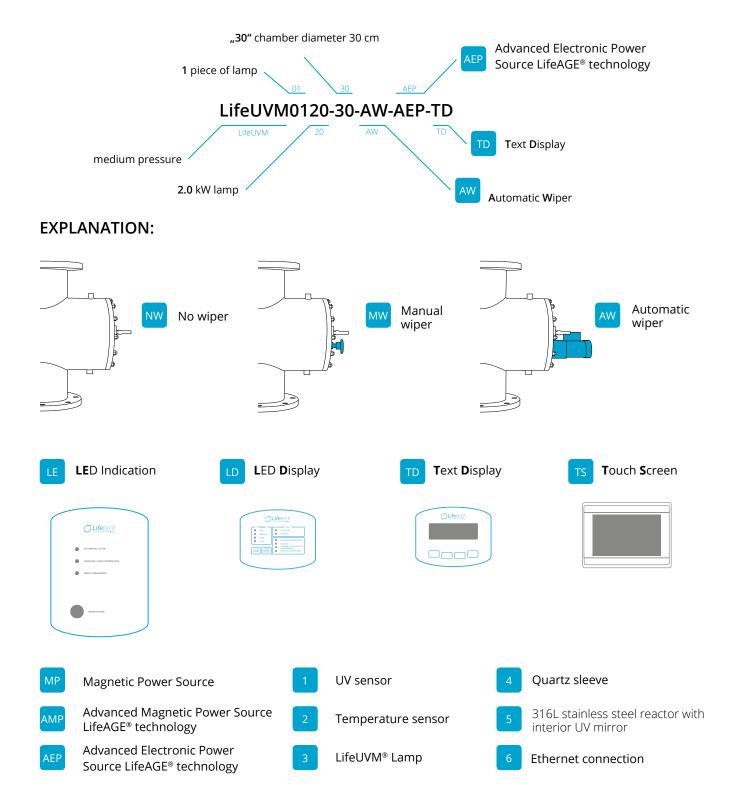
OVERVIEW OF STANDARD LIFEUVM® MODELS

Model	TINY	CLEVER	CHARM	ECO	EXCELLENT	RUBY
Expected lifetime of LifeUVM® lamps is up to:	4 000	6 000	6 000	12 000	18 000	18 000
LifeAGE® technology		✓	✓		✓	✓
Drinking water max.flow m³/h	9	33	33	130	1 250	1 250
Waste water max.flow m³/h	2.5	9	9	33	313	313
Public pools and spa max. flow m³/h	7.5	27	27	104	1 000	1 000
Private and semi-public pools and spa max. flow (m³/h)/volume (m³)	15/70	54/250	54/250	-	-	
Magnetic Power Source	MP					
Advanced Magnetic Power				AMP		
Advanced Electronic Power Source		AEP	AEP		AEP	AEP
Manual wiper		MW		MW	MW	MW
Automatic wiper			AW	AW	AW	AW
UV sensor					1	1
Temperature sensor			2	2	2	2
LifeUVM® Lamp	3	3	3	3	3	3
Quartz sleeve	4	4	4	4	4	4
316L Stainless Steel reactor with interior UV mirror	5	5	5	5	5	5
Ethernet connection						6

other models on request

Drinking water UV dose 40 mJ/cm² @ T10=95% Waster water UV dose – UV dose 35 mJ/cm² @ T10=65% Public pools and spa – UV dose 60 mJ/cm² Private and semi-public pools and spa – UV dose 30 mJ/cm²

CHOOSING THE RIGHT TYPE OF LAMP:



THE TECHNOLOGY

We developed **unique LifeAGE® technology** exploiting advanced electronic power (AEP). Which in synergy with our profound knowledge of UV technology allows you to **enjoy the lowest operating costs available** today.

WIPER OF QUARTZ SLEEVES

It is necessary to periodically clean the surface of quartz sleeves. There are 3 options:

- Clean them manually (no wiper so you need to put the quartz sleeve out and clean it with a piece of cloth and your hand)
- Manual wiper (recommended for: private pools and jacuzzies)
- Automatic wiper (recommended for: public pools and jacuzzies, drinking and waste water plants)

	Magnetic power	LifeAGE® technology
EXPECTED UV LAMP LIFETIME:	4 000 – 12 000 hours	6 000 – 18 000 hours
OPERATING COSTS:	Higher operating costs	Lowest operating costs available today – savings estimation 30% (compared to magnetic power)
		User & environmentally friendly

RETURN ON INVESTMENT

8 to 16 months



savings of fresh water & heating



enhanced atmosphere, no chlorine smell



eventually suitable for babies and people with asthma

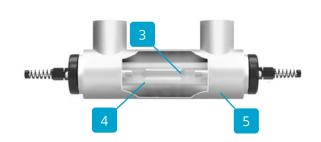


happier customers and new customers

PROFIPURE UV - LIFEUVM® - MP - LE







LED Indication

Magnetic Power

No wiper



UV sensor

4 Quartz sleeve

Temperature sensor

5 316L stainless steel reactor with interior UV mirror

LifeUVM® lamp

3 Ethernet connection

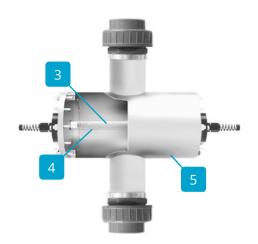
Public pools, jacuzzis and industrial water treatment	Connection	Drinking w. flow m³/h	Pool w. flow m³/h	Waste w. flow flow m³/h	Total lamp power (kW) /phase
LifeUVM0103-07-NW-MP	2"	5.6	4.7	1.5	0.25 / 1

Private pools and jacuzzis	Connection	Pool w. flow m³/h	Pool capacity m ³	Total Lamp Power (kW) /phase
LifeUVM0103-07-NW-MP	2"	11	44	0.25 / 1

TINY - LIFEUVM® - MP - LE

4 000 hours
Expected lamp lifetime

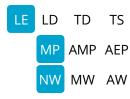




LED Indication

Magnetic Power

No wiper



UV sensor

4 Quartz sleeve

Temperature sensor

5 316L stainless steel reactor with interior UV mirror

LifeUVM® lamp

3 Ethernet connection

Public pools, jacuzzis and industrial water treatment	Connection	Drinking w. flow m³/h	Pool w. flow m³/h	Waste w. flow flow m³/h	Total lamp power (kW) /phase
LifeUVM0104-07-NW-MP-LE	2"	9	7.5	2.5	0.4 / I
LifeUVM0104-13-NW-MP-LE	2"	11	9	3	0.4 / I
LifeUVM0104-25-NW-MP-LE	3"	33	27	9	0.4 / I

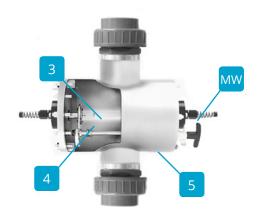
Private pools and jacuzzis	Connection	Pool w. flow m³/h	Pool capacity m³	Total Lamp Power (kW) /phase
LifeUVM0104-07-NW-MP-LE	2"	15	70	0.4 / I
LifeUVM0104-13-NW-MP-LE	2"	18	90	0.4 / I
LifeUVM0104-25-NW-MP-LE	3"	38	250	0.4 / I

Displayed PVC flanges are included in the supply of LifeUVM Tiny.

CLEVER - LIFEUVM® - AEP - LE

6 000 hours
Expected lamp lifetime





LED indication
Advanced Electronic Power
Source LifeAGE® technology
Manual wiper



UV sensor

Temperature sensor

LifeUVM® lamp



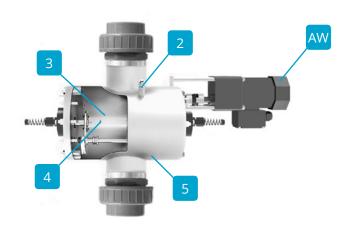
Public pools, jacuzzis and industrial water treatment	Connection	Drinking w. flow m³/h	Pool w. flow m³/h	Waste w. flow m³/h	Total lamp power (kW) /phase
LifeUVM0104-13-MW-AEP-LE	2"	11	9	3	0.4 / I
LifeUVM0104-25-MW-AEP-LE	3"	33	27	9	0.4 / I
Private pools and jacuzzis	Connection		Pool w. flow m³/h	Pool capacity m³	Total lamp power (kW) /phase
LifeUVM0104-13-MW-AEP-LE	2"		18	90	0.4 / I
LifeUVM0104-25-MW-AEP-LE	3"		38	250	0.4 / I

Displayed PVC flanges are included in the supply of LifeUVM Clever.

CHARM - LIFEUVM® - AEP - LD

6 000 hours
Expected lamp lifetime





LED Display

Advanced Electronic Power Source LifeAGE® technology

Automatic wiper

LE LD TD TS

MP AMP AEP

UV sensor

*

4 Quartz sleeve

Temperature sensor

2 5

316L stainless steel reactor with interior UV mirror

LifeUVM® lamp

3 8

Ethernet connection

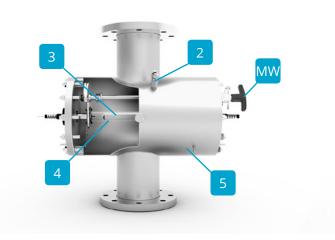
Public pools, jacuzzis and industrial water treatment	Connection	Drinking w. flow m³/h	Pool w. flow m³/h	Waste w. flow m³/h	Total lamp power (kW) /phase	
LifeUVM0104-13-AW-AEP-LD	2"	11	9	3	0.4 / I	
LifeUVM0104-25-AW-AEP-LD	3"	33	27	9	0.4/1	
LifeUVM0106-25-AW-AEP-LD	3"	40	33	11	0.6 / I	
Private pools and jacuzzis	Connection		Pool w. flow m³/h	Pool capacity m³	Total Lamp Power (kW) /phase	
LifeUVM0104-13-AW-AEP-LD	2"		18	90	0.4 / I	
1:5 10 0 40 40 4 0 5 AVA A 5 D 1 D	3"		38	250	0.4/1	
LifeUVM0104-25-AW-AEP-LD	9					

Displayed PVC flanges are included in the supply of LifeUVM Charm.

ECO - LIFEUVM® - AMP - LD

12 000 hours Expected lamp lifetime





LED Display Advanced Magnetic Power Source LifeAGE® technology

Manual wiper

LE LD

MP

TD

TS

AMP **AEP**

NW MW ΑW UV sensor

Quartz sleeve

Temperature sensor

316L stainless steel reactor with interior UV mirror

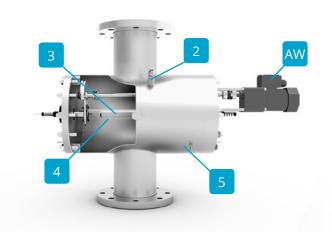
LifeUVM® lamp Ethernet connection

	Flange DN	Drinking w. flow m³/h	Pool w. flow m³/h	Waste w. flow m³/h	Total lamp power (kW) /phase
LifeUVM0110-13-MW-AMP-LD	80	27	22	7	1.0 / I
LifeUVM0120-13-MW-AMP-LD	80	37	30	9	2.0 / 11
LifeUVM0110-25-MW-AMP-LD	125	45	36	11	1.0 / I
LifeUVM0120-25-MW-AMP-LD	125	90	72	23	2.0 / 11
LifeUVM0120-30-MW-AMP-LD	125	120	104	33	2.0 / II

ECO - LIFEUVM® - AMP - LD

12 000 hours Expected lamp lifetime





LED Display Advanced Magnetic Power Source LifeAGE® technology Automatic wiper

LE LD TD TS **AMP** MP AEP UV sensor

Quartz sleeve

NW

LifeUVM® lamp

Temperature sensor

316L stainless steel reactor with interior UV mirror Ethernet connection

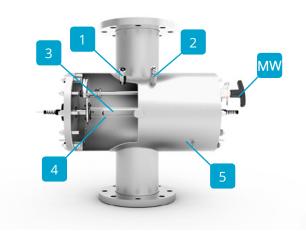
Drinking w. Total lamp Pool w. Waste w. flow power (kW) flow flow Flange DŇ m³/h m³/h m³/h /phase LifeUVM0110-13-AW-AMP-LD 27 22 7 1.0 / 1 80 LifeUVM0120-13-AW-AMP-LD 30 9 80 37 2.0 / II LifeUVM0110-25-AW-AMP-LD 1.0 / I 125 45 36 11 LifeUVM0120-25-AW-AMP-LD 125 90 72 23 2.0 / II LifeUVM0120-30-AW-AMP-LD 125 120 104 2.0 / II 33

EXCELLENT - LIFEUVM® - AEP - TD

18 000 hours

Expected lamp lifetime





Text Display

Advanced Electronic Power
Source LifeAGE® technology

Manual wiper

LE LD TD TS

MP AMP AEP

NW MW AW

UV sensor

1 4

Quartz sleeve

Temperature sensor

2 5

316L stainless steel reactor with interior UV mirror

LifeUVM® lamp



Ethernet connection

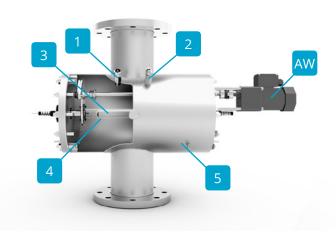
	Flange DN	Drinking w. flow m³/h	Pool w. flow m³/h	Waste w. flow m³/h	Total lamp power (kW) /phase
LifeUVM0110-13-MW-AEP-TD	80	27	22	7	1.0 / I
LifeUVM0110-25-MW-AEP-TD	125	45	36	11	1.0 / I
LifeUVM0120-25-MW-AEP-TD	125	90	72	23	2.0 / 1
LifeUVM0120-30-MW-AEP-TD	125	120	104	33	2.0 / 1
LifeUVM0130-30-MW-AEP-TD	150	190	152	48	3.0 / I
LifeUVM0130-40-MW-AEP-TD	200	320	256	80	3.0 / I
LifeUVM0220-40-MW-AEP-TD	250	370	296	93	4.0 / 111
LifeUVM0230-40-MW-AEP-TD	250	450	360	113	6.0 / III
LifeUVM0330-40-MW-AEP-TD	250	580	480	150	9.0 / III

EXCELLENT - LIFEUVM® - AEP - TD

18 000 hours

Expected lamp lifetime





Text Display Advanced Electronic Power Source LifeAGE® technology

Automatic wiper

LE LD

TS

AEP

MP AMP NW MW UV sensor

Quartz sleeve

Temperature sensor

316L stainless steel reactor with interior UV mirror

LifeUVM® lamp Ethernet connection

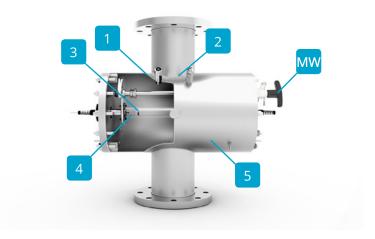
	Flange DN	Drinking w. flow m³/h	Pool w. flow m³/h	Waste w. flow m³/h	Total lamp power (kW) /phase
LifeUVM0110-13-AW-AEP-TD	80	27	22	7	1.0 / I
LifeUVM0110-25-AW-AEP-TD	125	45	36	11	1.0 / I
LifeUVM0120-25-AW-AEP-TD	125	90	72	23	2.0 / I
LifeUVM0120-30-AW-AEP-TD	125	120	104	33	2.0 / I
LifeUVM0130-30-AW-AEP-TD	150	190	152	48	3.0 / I
LifeUVM0130-40-AW-AEP-TD	200	320	256	80	3.0 / I
LifeUVM0220-40-AW-AEP-TD	250	370	296	93	4.0 / 111
LifeUVM0230-40-AW-AEP-TD	250	450	360	113	6.0 / III
LifeUVM0330-40-AW-AEP-TD	250	580	480	150	9.0 / III
LifeUVM0430-45-AW-AEP-TD	300	800	640	200	12.0 / III
LifeUVM0430-50-AW-AEP-TD	350	900	720	225	12.0 / III
LifeUVM0530-50-AW-AEP-TD	400	1 100	880	275	15.0 / III
LifeUVM0630-50-AW-AEP-TD	400	1 250	1 000	313	18.0 / III

RUBY - LIFEUVM® - AEP - TS

18 000 hours

Expected lamp lifetime





Touch screen Advanced Electronic Power Source LifeAGE® technology

Manual wiper

LE LD TD TS

MP AMP AEP

NW

AMP AEP Temperature sensor

AW

UV sensor 1 4 Quartz sleeve

erature sensor 2 5 316L stainless steel reactor with interior UV mirror

LifeUVM® lamp 3 6 Ethernet connection

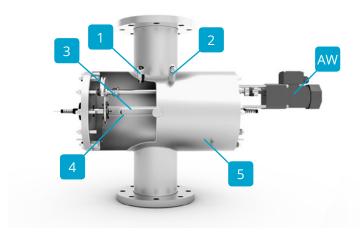
	Flange DN	Drinking w. flow m³/h	Pool w. flow m³/h	Waste w. flow m³/h	Total lamp power (kW) /phase
LifeUVM0110-13-MW-AEP-TS	80	27	22	7	1.0 / I
LifeUVM0110-25-MW-AEP-TS	125	45	36	11	1.0 / I
LifeUVM0120-25-MW-AEP-TS	125	90	72	23	2.0 / I
LifeUVM0120-30-MW-AEP-TS	125	120	104	33	2.0 / I
LifeUVM0130-30-MW-AEP-TS	150	190	152	48	3.0 / I
LifeUVM0130-40-MW-AEP-TS	200	320	256	80	3.0 / I
LifeUVM0220-40-MW-AEP-TS	250	370	296	93	4.0 / 111
LifeUVM0230-40-MW-AEP-TS	250	450	360	113	6.0 / III
LifeUVM0330-40-MW-AEP-TS	250	580	480	150	9.0 / III

RUBY - LIFEUVM® - AEP - TS

18 000 hours

Expected lamp lifetime





Touch screen Advanced Electronic Power Source LifeAGE® technologie Automatic wiper

LE LD TD

MP AMP

NW MW

UV sensor

Temperature sensor

Quartz sleeve 316L stainless steel reactor

LifeUVM® lamp

with interior UV mirror Ethernet connection

Total lamp Drinking w. Pool w. Waste w. Flange flow flow power (kW) flow DŇ m³/h m³/h m³/h /phase LifeUVM0110-13-AW-AEP-TS 7 80 27 22 1.0 / I LifeUVM0110-25-AW-AEP-TS 125 45 36 11 1.0 / I LifeUVM0120-25-AW-AEP-TS 125 90 72 23 2.0 / 1 LifeUVM0120-30-AW-AEP-TS 125 120 104 33 2.0 / 1 LifeUVM0130-30-AW-AEP-TS 150 190 3.0 / 1 152 48 LifeUVM0130-40-AW-AEP-TS 200 320 256 80 3.0 / 1 LifeUVM0220-40-AW-AEP-TS 250 370 296 93 4.0 / III LifeUVM0230-40-AW-AEP-TS 250 450 360 113 6.0 / III LifeUVM0330-40-AW-AEP-TS 250 9.0 / III 580 480 150 LifeUVM0430-45-AW-AEP-TS 300 800 200 640 12.0 / III LifeUVM0430-50-AW-AEP-TS 350 900 720 225 12.0 / III LifeUVM0530-50-AW-AEP-TS 400 1 100 880 275 15.0 / III LIfeUVM0630-50-AW-AEP-TS 400 1 250 1 000 313 18.0 / III







EXCLUSIVE 2.ID AND 4.ID

Progressive, solid, elegant. For those who choose tradition of constant innovation.

OZONE IS THE SOLUTION, EXCLUSIVE IS THE WAY



Ozone is hundreds of times more powerful than chemical treatments.



Ozone is even effective against chlorine resistant organisms, algae, bacteria and viruses.



= Crystal clear natural water, free from toxicity

Chloramines are toxic: nt + pool water = chlorine + ammonia (urea, sweat

= Chloramines

Chloramines **+ Ozone** = Crystal clear natural water, free from toxicity

- > Ozone prevents from chloramines
- > Ozone destroys chloramines

Ozone is making your water crystal clear, odor free and safe again.

THE NEW 6TH+ GENERATION

Human kind has gone a long way from the first usage of ozone for water treatment in 1893 in the Netherlands. After this breakthrough moment more than 12 decades ago, we can now present you the 6th+ evolved generation of ozone units called IDEP. Based on our experience we can now optimize this Exclusive water treatment according to your needs easily.

TURN-KEY SOLUTION

Is your single source for design, production and delivery of advanced water treatment technolo-gies.

ABOUT THE .IDEP - SYSTEM

Intelligent Design is where the advantages of ozone treatment meet with a practical engineering mind. EP is Economical Plastic version of ID ozone system.

EP is a complex technology designed for water care of indoor and outdoor pools, jacuzzis and spa and also for drinking water purification in an economy package. All components are on one single platform (including a booster pump and an Integrated air dryer – which is always necessary for optimal performance).

NO NEED OF ADDITIONAL INVESTMENTS

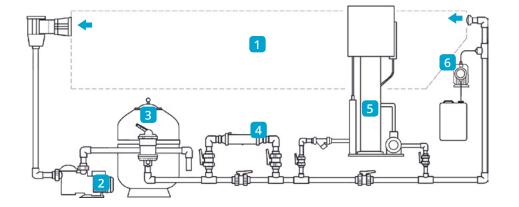
It is made to be compatible with all of the present technology schemes you may use. It is installed in a slip stream. Pre-prepared for the montage waiting just for you to plug it in.

SAFETY

After the job is done, ozone is dissolved back into pure oxygen. In any case - our Intelligent Design - Exclusive ozone production system operates under full vacuum. Because we want to make sure, due to the user safety, it cannot leak out.



Model	Ozone output	Pool s	size (m³)	Power	Dimensions	Weight
	(gO ₃ /h)	Private pool	Public pool	(kW)	(mm)	(kg)
Exclusive 2.ID	2.0	up to 200	up to 100	0.9	550x490x1 350	55
Exclusive 4.ID	4.0	up to 400	up to 200	1.0	550x490x1 350	57



- 1 POOL
- 2 CIRCULATION PUMP
- 3 FILTER
- 4 HEAT EXCHANGER
- 5 OZONIZING UNIT EXCLUSIVE
- 6 pH ADJUSTMENT





Progressive, solid, elegant. For those who choose tradition of constant innovation.

OZONE IS THE SOLUTION, EXCLUSIVE IS THE WAY



Ozone is hundreds of times more powerful than chemical treatments.



Ozone is even effective against chlorine resistant organisms, algae, bacteria and viruses.



= Crystal clear natural water, free from toxicity

Chloramines are toxic:

Chiorine water treatment + pool water = chiorine + ammonia (urea, sweat)

= Chloramines

Chloramines + Ozone

= Crystal clear natural water, free from toxicity

- > Ozone prevents from chloramines
- > Ozone destroys chloramines

Ozone is making your water crystal clear, odor free and safe again.

THE NEW 6TH+ GENERATION

Human kind has gone a long way from the first usage of ozone for water treatment in 1893 in the Netherlands. After this breakthrough moment more than 12 decades ago, we can now present you the 6th+ evolved generation of ozone units called IDEP. Based on our experience we can now optimize this Exclusive water treatment according to your needs easily.

TURN-KEY SOLUTION

Is your single source for design, production and delivery of advanced water treatment technologies.

ABOUT THE .IDEP - SYSTEM

Intelligent Design is where the advantages of ozone treatment meet with a practical engineering mind. EP is Economical Plastic version of ID ozone system.

EP is a complex technology designed for water care of indoor and outdoor pools, jacuzzis and spa and also for drinking water purification in an economy package. All components are on one single platform (including a booster pump and an Integrated air dryer – which is always necessary for optimal performance).

NO NEED OF ADDITIONAL INVESTMENTS

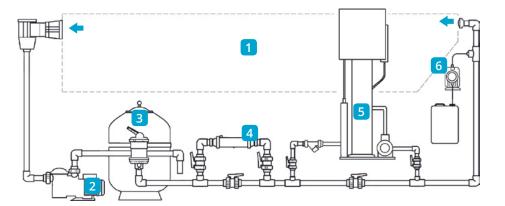
It is made to be compatible with all of the present technology schemes you may use. It is installed in a slip stream. Pre-prepared for the montage waiting just for you to plug it in.

SAFETY

After the job is done, ozone is dissolved back into pure oxygen. In any case - our Intelligent Design - Exclusive ozone production system operates under full vacuum. Because we want to make sure, due to the user safety, it cannot leak out.



Model	Ozone output	Pool size (m³)		Power	Dimensions	Weight
	(gO ₃ /h)	Private pool	Public pool	(kW)	(mm)	(kg)
Exclusive 2.EP	2.0	up to 200	up to 100	0.9	550x490x1 350	55
Exclusive 4.EP	4.0	up to 400	up to 200	1.0	550x490x1 350	57



- 1 POOL
- 2 CIRCULATION PUMP
- 3 FILTER
- 4 HEAT EXCHANGER
- 5 OZONIZING UNIT EXCLUSIVE
- 6 ph adjustment





OZAST® - COMPACT OZONE GENERATORS

Compact and Reliable Ozone Generator OZAST Oxygen or Dry Air Fed

Proven for many years in industrial use. Ozone Advanced Technology is now available in small and medium size ozone generators.

Disinfection - Removal of Contaminants - Decolouration - Deodorization - Advanced Oxidation Processes

APPLICATION

DRINKING WATER – disinfection, removal of iron, manganese, sulphides, nitrites, COD, pesticides and other pollutants, deodorization, taste enhancement

BOTTLED WATER, BEWERAGES – water treatment, rinsing of bottles, shelf live prolongation

PROCESS WATER – disinfection, deodorization, decolouration, COD reduction, reduction of contaminants, water recycling, CIP processes

WASTE WATER – disinfection, reduction of colour and turbidity, deodorization, COD and AOX reduction, removal of contaminants as, e.g. phenols, pesticides, detergents, poly cyclic hydrocarbons, chlorinated hydrocarbons incl. PCDD/F (dioxins/furans), cyanides, sulphides, petrochemical contaminants etc.

POOL WATER – disinfection, reduction of organic pollutants incl. chloramines and trihalomethanes BALLAST WATER – biocide treatment GROUNDWATER – remediation, removal of pollutants

COOLING TOWERS – biocide treatment, removal of Legionella, algae and biofilms

AQUACULTURE – disinfection, reduction of dissolved organics, water quality improvement

AOP - Advanced Oxidation Process

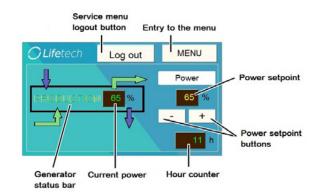
High oxidation potential of ozone can be greatly enhanced by its combination with UV treatment or hydrogen peroxide dosing, i.e. by an approach known as Advanced Oxidation or Ultraviolet Oxidation. Uses both processes and supplies its own LifeOX® technology based on optimized synergic action of ozone and UV radiation.

TECHNICAL FEATURES

- Frequency: 50/60 Hz
- Voltage OZAST® 50 and OZAST® 100: 1 x 230 VAC
- Voltage OZAST® 200-750: 3 x 400 VAC
- Feed gas inlet pressure: 3 to 8 bar g
- Cooling water pressure: 2 to 6 bar g
- Cooling water inlet temperature: 20°C
- Design altitude: < 1 000 m.a.s.l.
- PLC Allen Bradley
- Option: Modbus, lightning protection

air humidity up to 65% RH, no condensation; temperature from +5°C to +40°C

Equipped with user friendly touch screen control



MATERIALS

In contact with ozone:

stainless steel ANSI 316L, Teflon, PVDF, Viton

In contact with cooling water:

stainless steel ANSI 304/316L, brass, polyethylene

Enclosure: powder coated mild steel

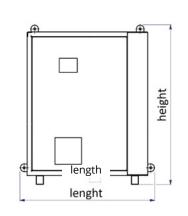


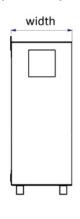
SPECIFICATIONS

OZAST® MODEL	ΟX		AIR FED					
	Ozone	Oxygen	Outlet	Ozone	Air	Outlet	Cooling	Power
	Production	Flow	Pressure	Production	Flow	Pressure	Water	Consumption
	(g/h) - 10 wt%	(Nm³/h)	(barg)	(g/h) - 3 wt%	(Nm³/h)	(barg)	(m³/h)	(kW)
OZAST® 50	50	0.35	< 1	35	0.9	< 2	0.1	0.7
OZAST® 100	100	0.7	< 1	70	1.8	< 2	0.2	1.3
OZAST® 200	200	1.4	< 1	140	3.6	< 2	0.4	2.6
OZAST® 300	300	2.1	< 1	210	5.4	< 2	0.6	3.9
OZAST® 500	500	3.5	< 1	350	9.0	< 2	1	6.5
OZAST® 750	750	5.2	< 1	525	13.5	< 2	1.5	9.8

Optimal concentration range is between 6 wt% and 12 wt% when fed with oxygen and 3 wt% to 5 wt% when fed with dry air

OZAST® Model	L x H x W (mm)	Weight (kg)
OZAST® 50	860 x 1 000 x 400	115
OZAST® 100	860 x 1 000 x 400	121
OZAST® 200	960 x 1 000 x 400	145
OZAST® 300	1 000 x 1 900 x 400) 175
OZAST® 500	1 000 x 1 900 x 500	200
OZAST® 750	1 200 x 1 900 x 700	250









Disinfection - Removal of contaminants Oxidation - Advanced oxidation - Decoloration - Deodorization

APPLICATION

OZAST®

DRINKING WATER - disinfection, removal of iron, manganese, sulphides, nitrites, COD, pesticides and other pollutants, deodorization, enhancement

BOTTLED WATER, BEWERAGES – water treatment, rinsing of bottles, shelf live prolongation

PROCESS WATER – disinfection, deodorization, decolouration, COD reduction, reduction of contaminants, water recycling, CIP processes

WASTE WATER - disinfection, reduction of colour and

turbidity, deodorization, COD and AOX reduction, removal of contaminants as, e.g. phenols, pesticides, detergents, poly cyclic hydrocarbons, chlorinated hydrocarbons incl. PCDD/F (dioxins/ furans), cyanides, sulphides, petrochemical contaminants etc.

POOL WATER - disinfection, reduction of organic pollutants incl. chloramines and trihalomethanes **BALLAST WATER** – biocide treatment **GROUNDWATER** – remediation, removal of pollutants

OZAST® Highlights

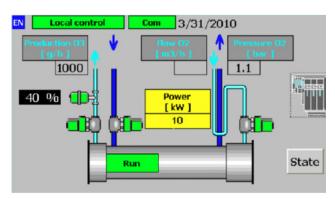
- Robust industrial quality for reliability and long service life
- Low specific energy consumption and high ozone concentration due to the LIFETECH's Advanced Discharge Elements and state of the art IGBT power supply units
- Wide range of ozone production from 0.5 kgO₃/h
- Continuous control of ozone production
- PLC with user friendly interface and optional Ethernet bus
- Low maintenance and service personnel requirements

Advanced Oxidation

High oxidation potential of ozone can be greatly enhanced by its combination with UV treatment or hydrogen peroxide dosing, i.e. by an approach known as Advanced Oxidation or Ultraviolet Oxidation. Uses both processes and supplies its own LifeOX® technology based on optimized synergic action of ozone and UV radiation.

Tailored Solutions

Has more than thirty years experience in ozone technology design and in turn-key delivery of ozone plants. Is your single source for design, production, and turn-key delivery of complete ozone plant technology



7-inch touch screen

Material

In contact with ozone: ANSI 316L, PTFE, PVDF, Viton In contact with water: ANSI 304/316L, brass, PE Enclosure: powder coated mild steel

Features

Feed gas pressure:

3 to 8 bar

Cooling water pressure / temperature:

2 to 6 bar / +12°C to +20°C (54°F to 68°F)

Power requirements:

3x400V/50Hz+N+PE or 480V/60Hz/3ph + neutral

Ambient conditions:

RH<65%, +5°C to +40°C



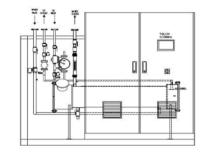
OZAST® MODEL	OXYGEN FED				AIR FED				
	Ozone Pr	oduction	Oxygei	n Flow	Outlet	Ozone	Air	Outlet	Cooling
	10wt%	6wt%	10wt%	6wt%	Pressure	Production	Flow	Pressure	Water
	(kgO	₃/h)	(Nm³/h)		(barg)	(g/h) - 3 wt%	(Nm³/h)	(barg)	(m³/h)
OZAST® 01k	0.8	0.1	5.5	11	- 0.7	0.5	13	- 1.5	1.0
OZAST® 02k	1.3	1.7	9	20	- 0.7	0.7	18	- 1.5	1.9
OZAST® 03k	2.0	2.6	14	29	- 0.7	1.1	28	- 1.5	2.8
OZAST® 04k	2.6	3.3	18	39	- 0.7	1.5	39	- 1.5	3.7
OZAST® 05k	4.0	5.0	27	58	- 0.7	2.2	57	- 1.5	5.6
OZAST® 10k	8.1	10.0	56	119	- 0.7	4.5	116	- 1.5	11.5

Remote Controls and Alarms

- Supply ON/OFF
- Enable REMOTE

RESET

- Production STOP
- Gas valves open
- Collective ALARM

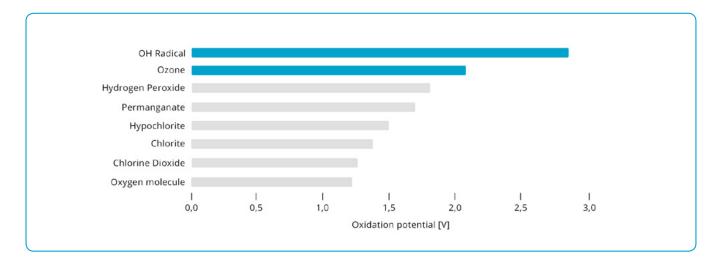




ADVANCED OXIDATION PROCESS (AOP)

The Advanced Oxidation Process (AOP) is the best available water treatment technology now. AOP uses OH-radicals with a considerably higher oxidation potential compared to other oxidants for water treatment.

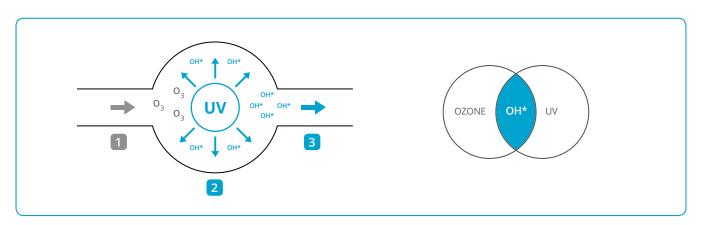
When dissolved ozone (1) is irradiated by UV radiation in a UV reactor (2), then OH- radicals are created. Lifetime of OH-radicals is extremely short, the entire treatment process takes place inside of the UV reactor, treated water (3) is without OH-radicals.



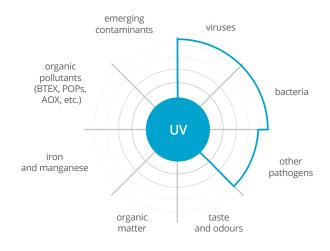
OH-radicals have higher oxidation potential than hydrogen peroxide or ozone. The higher the oxidation potential, the better the disinfection and purification.

AOPs have proved to be the most efficient solution for the removal of those toxic and persistent compounds such as: carbamazepine, ibuprofene, hormones, geosmin, mib (2-methylisoborneol), 1.4 dioxane, mtbe (methyl tertiary-butyl ether), ndma (n-nitroso-dimethylamine), atrazine, diuron, diclofenac,...

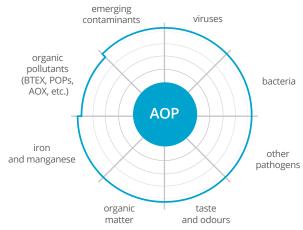
Traditional use of ozone or UV technology alone cannot guarantee complete removal of water micropollutants. The AOP process is ideal for their removal.



COMPARISON OF MATTERS AND POLLUTANTS REMOVAL BY TECHNOLOGY







SMALL CHANGE,
BIG DIFFERENCE



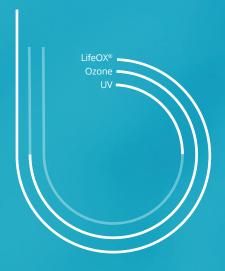


COMBI OZONE/UV 2.EP AND 4.EP

Your choice of compact, solid and well-engineered product.

LIFEOX® INSIDE

We enhanced the high oxidation potential of ozone and UV radiation beyond its limits. By making them work together synergically we can now experience the completely new perspective of futuristic water treatment. Unique technology.







Turn-Key solution

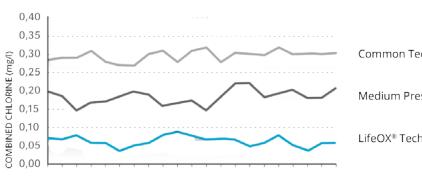
Is your single source for design, production and delivery of advanced water treatment technology.

HIGHLIGHTS

- Easy installation
- Compact design

- Intelligent design
- Precisely adjusted UV system
- Unique continuous output regulation from 10% to 100%
- Highly effective corona discharge ozone generator with integrated air dryer

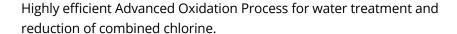
Safety and efficiency of the technology proven in the market during 15 years



Common Technolog

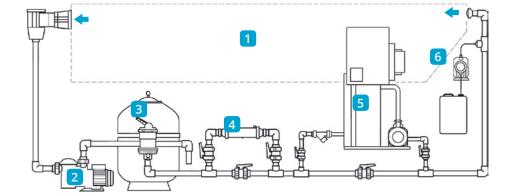
Medium Pressure U\

LifeOX® Technology





Model	Ozone output	Pool size (m³)		Power	Dimensions	Weight
Model	(gO ₃ /h)	Private pool	Public pool	(kW)	(mm)	(kg)
Combi Ozone/UV 2.EP	2.0	up to 200	up to 100	1	550x490x1 080	59
Combi Ozone/UV 4.EP	4.0	up to 400	up to 200	1.1	550x490x1 080	60



- 1 POOL
- 2 CIRCULATION PUMP
- 3 FILTER
- 4 HEAT EXCHANGER
- 5 COMBI OZONE/UV-IDEP
- 6 pH ADJUSTMENT

ALSO PRODUCES:

- Advanced Oxidation Technology for all types of swimming pools: private or Olympic.
- Water flow per AOP unit: up to 1 250 m³/h.



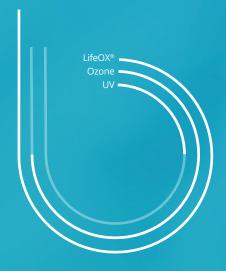


COMBI OZONE/UV 2.ID AND 4.ID

Your choice of compact, solid and well-engineered product.

LIFEOX® INSIDE

We enhanced the high oxidation potential of ozone and UV radiation beyond its limits. By making them work together synergically we can now experience the completely new perspective of futuristic water treatment. Unique technology.







Turn-Key solution

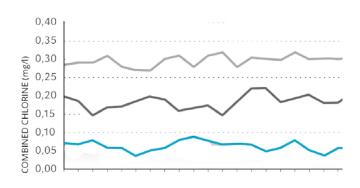
Is your single source for design, production and delivery of advanced water treatment technology.

HIGHLIGHTS

- Easy installation
- Compact design
- Made of solid 316L stainless steel time proven quality

- Precisely adjusted UV system
- Unique continuous output regulation from 10% to 100%
- Highly effective corona discharge ozone generator with integrated air dryer

Safety and efficiency of the technology proven in the market during 15 years



Common Technology

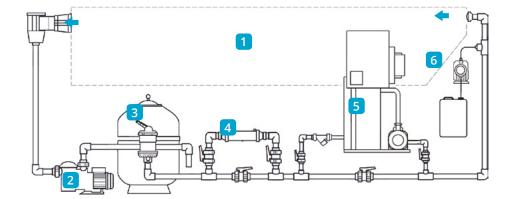
Medium Pressure UV

LifeOX® Technology



Highly efficient Advanced Oxidation Process for water treatment and reduction of combined chlorine.

Model	Ozone output	Pool size (m³)		Power	Dimensions	Weight
Model	(gO ₃ /h)	Private pool	Public pool	(kW)	(mm)	(kg)
Combi Ozone/UV 2.ID	2.0	up to 200	up to 100	1	550x490x1 080	53
Combi Ozone/UV 4.ID	4.0	up to 400	up to 200	1.1	550x490x1 080	55



- 1 POOL
- 2 CIRCULATION PUMP
- 3 FILTER
- 4 HEAT EXCHANGER
- 5 COMBI OZONE/UV-ID
- 6 pH ADJUSTMENT

ALSO PRODUCES:

- Advanced Oxidation Technology for all types of swimming pools: private or Olympic.
- Water flow per AOP unit: up to 1 250 m³/h.







The Most Compact Ozone and Medium UV AOP System

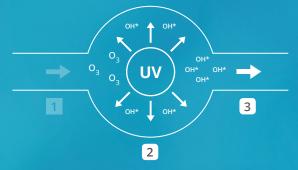
NEW DESIGN OF WATER PLANT DISINFECTION AND OXIDATION STAGE

The **A**dvanced **O**xidation **P**rocess (AOP) is the best available water treatment technology now. AOP uses OH-radicals with a considerably higher oxidation potential compared to other oxidants for water treatment. When dissolved ozone (1) is

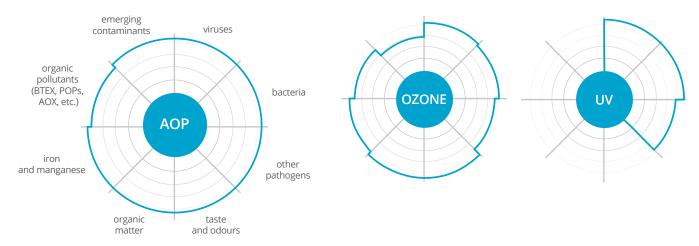
irradiated by UV radiation in a UV reactor (2), then OH- radicals are created. Lifetime of OH-radicals is extremely short, the entire treatment process takes place insde of the UV reactor, Treated water (3) is without OH-radicals.



AOPs have proved to be the most efficient solution for the removal of those toxic and persistent compounds such as: carbamazepine, ibuprofene, hormones, geosmin, mib (2-methylisoborneol), 1.4

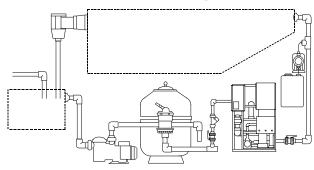


dioxane, mtbe (methyl tertiary-butyl ether), ndma (n-nitroso-dimethylamine), atrazine, diuron, diclofenac,...



Traditional use of ozone or UV technology alone cannot guarantee complete removal of water micropollutants. The AOP process is ideal for removing them.

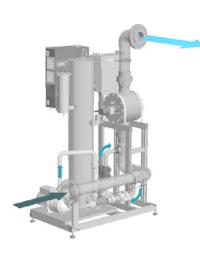
Standard Ozone Disinfection Stage





Advantages of the LifeOX® M system

- The highest disinfection and the most powerful oxidation of treated water
- Significantly less space required in comparision to Standard Ozone Disinfection Stage
- Extremely short time to install Plug-In



Standard model	Poll	Waste	Dimensions	Weight
Staridard model	water flow	water flow	(mm)	(kg)
LifeOX® M10	up to 10 m ³ /h	up to 5 m³/h	985x847x1 202	100kg
LifeOX® M40	up to 40 m ³ /h	up to 13 m³/h	1 110x857x1 472	140kg
LifeOX® M90	up to 90 m³/h	up to 25 m ³ /h	1 434x1 048x1 516	200kg

Multiples thanks to the modular system

New Compact Disinfection and Oxidation Stage







The Most Compact Ozone and Medium UV AOP System

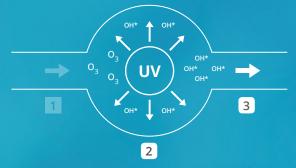
NEW DESIGN OF WATER PLANT DISINFECTION AND OXIDATION STAGE

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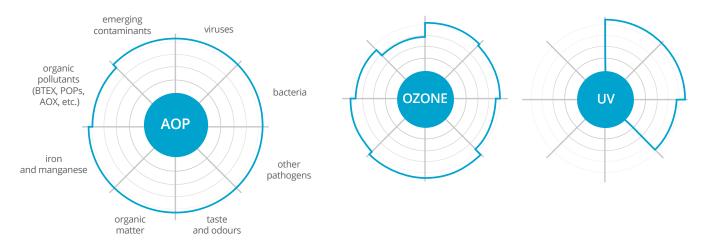
irradiated by UV radiation in a UV reactor (2), then OH- radicals are created. Lifetime of OH-radicals is extremely short, the entire treatment process takes place insde of the UV reactor, Treated water (3) is without OH-radicals.



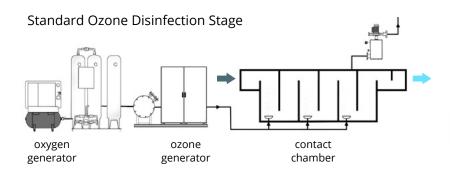
AOPs have proved to be the most efficient solution for the removal of those toxic and persistent compounds such as: carbamazepine, ibuprofene, hormones, geosmin, mib (2-methylisoborneol), 1.4



dioxane, mtbe (methyl tertiary-butyl ether), ndma (n-nitroso-dimethylamine), atrazine, diuron, diclofenac,...



Traditional use of ozone or UV technology alone cannot guarantee complete removal of water micropollutants. The AOP process is ideal for removing them.





Advantages of the LifeOX® M system

- The highest disinfection and the most powerful oxidation of treated water
- Significantly less space required in comparision to Standard Ozone Disinfection Stage
- Extremely short time to install Plug-In



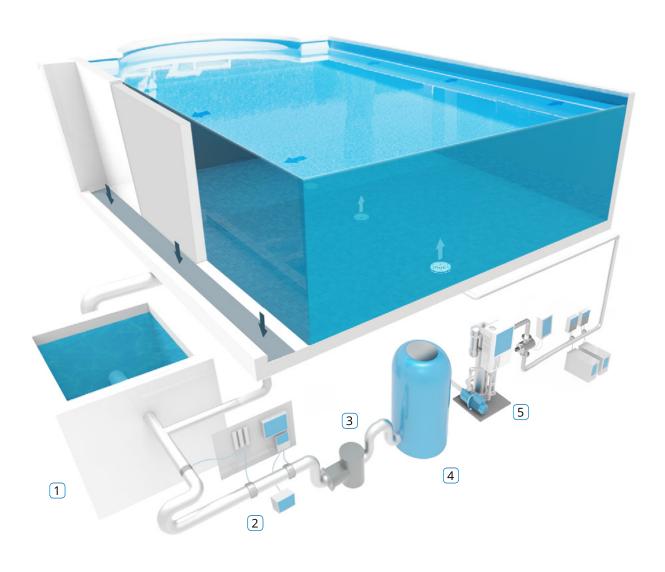
Standard model	drinking	Dimensions	Weight
	water flow	(mm)	(kg)
LifeOX® M10	up to 10 m³/h	985x847x1 202	100kg
LifeOX® M40	up to 40 m³/h	1 110x857x1 472	140kg
LifeOX® M90	up to 90 m³/h	1 434x1 048x1 516	200kg

LifeOX $^{\circ}$ M systems available up to drinking water flow 1 250 m 3 /h.

Multiples thanks to the modular system

New Compact Disinfection and Oxidation Stage

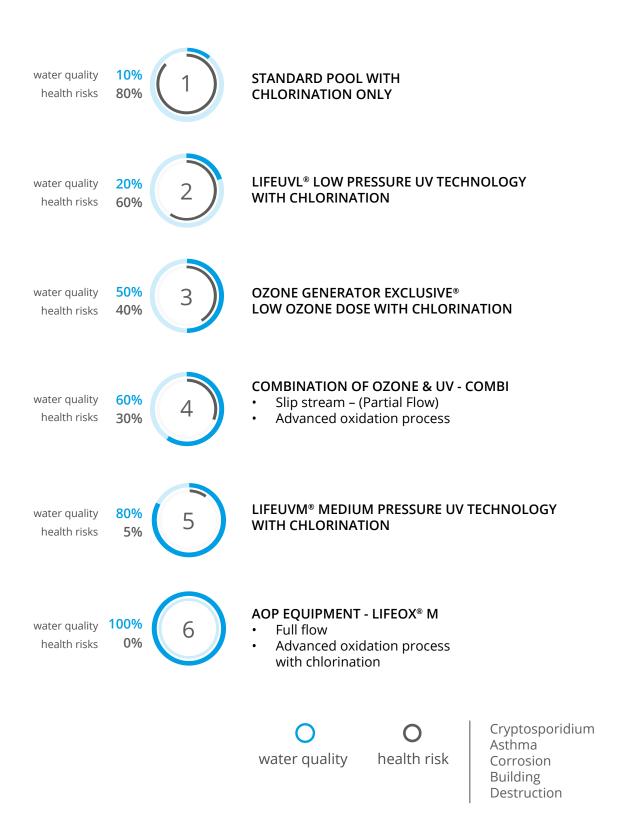
ADVANCED OXIDATION PROCESS LIFEOX® M



- 1 Accumulation
- 2 Flocculant
- 3 Filtration pump

- 4 Filter
- 5 LifeOX® Water Treatment

WATER QUALITY & HEALTH RISKS BY TECHNOLOGIES









LIFEOX® AIR - C

Your choice for compact, solid and well-engineered product.

PERFECTION YOU CANNOT EXPLAIN BY NUMBERS, YOU MUST BREATH IT



Intelligent Design



Innovation inspired by nature



More than 30 years of experience

FRESH, HEALTHY AND FREE OF UNPLEASANT ODORS



OZONE AND UV DISINFECTION AND ODOUR REDUCTION INDUSTRIAL USE

Robust and reliable UV photo-oxidation system for disinfection and odour reduction of problematic odours in waste treatment plants, sewage works, bio waste, sludge treatment and many others.

LIFEOX® Air-C reduces or in combination with active carbon filters fully removes sulphur compounds such as H2S and mercaptans, NH3, VOC (Volatile Organic Compounds), etc.

Model		Inlet/Outlet	Max. Air Flow
	wodei	diameter (mm)	(Nm³/h)
	LifeOX® Air-C0148	100	100
	LifeOX® Air-C0187	100	170
	LifeOX® Air-C0287	100	230
	LifeOX® Air-C0387	280	1500
	LifeOX® Air-C0487	315	2000
	LifeOX® Air-C0687	400	3000

400

500

560

630

3500

5000

6500

8000

LifeOX® Air-C0787

LifeOX® Air-C1087

LifeOX® Air-C1387

LifeOX® Air-C1687

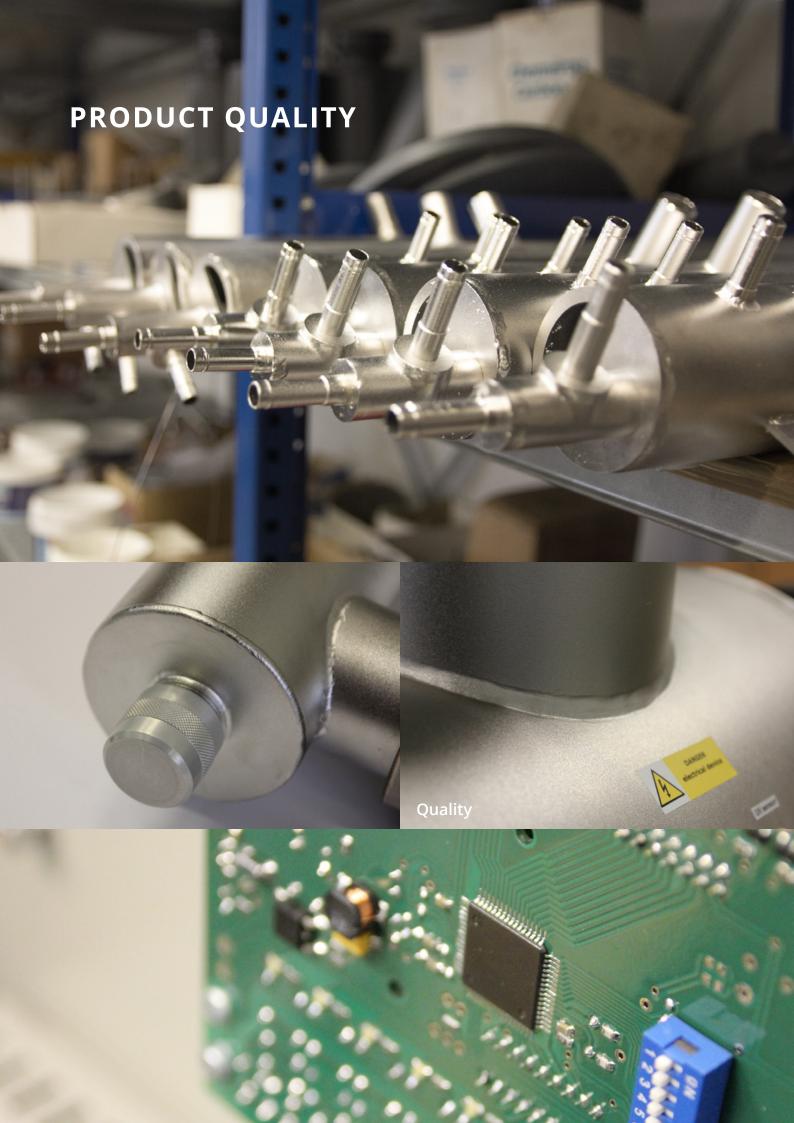
Produces entire line of LIFEOX® AIR-C systems from smallest one (treating air flow of a few Nm³/h and with power of only 10W) up to big industrial machines (treating air flow of 21 000 Nm³/h with power of only a few kW). Unique LifeAGE® technology minimises operating costs and prolongs the lifetime of UV lamps.

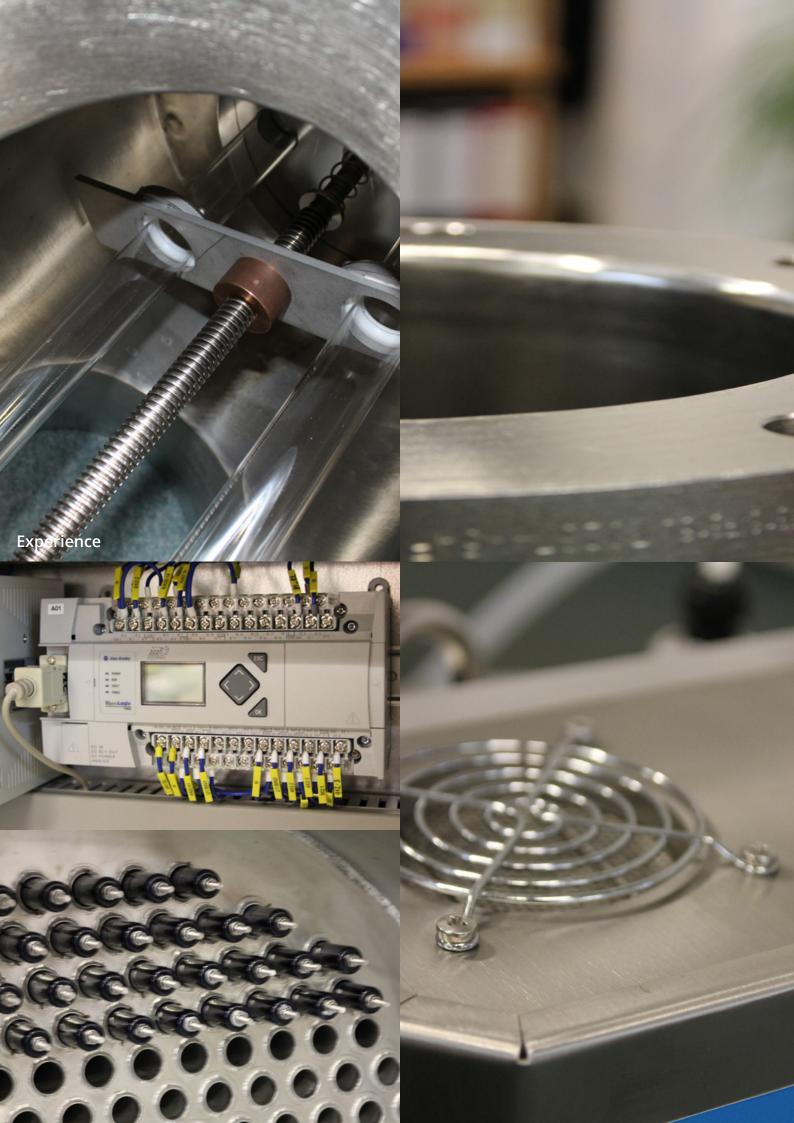






Air treatment plant – 7000 m³/h – Finland









MORE THAN 30 YEARS EXPERIENCE IN UV, OZONE AND AOP

REFERENCE SWIMMING POOLS AND JACUZZIS:

Grand Hotel Kempinski High Tatras *****, Štrbské Pleso Resort, Slovakia

Pool type: relaxation pool and whirlpool

Supply: LifeOX® technology



Wodny Świat, Zielona Góra City, Poland

Pool type: 7 various pools Total flow: 1 700 m³/hour

Supply: LifeUVM medium pressure UV systems, 7 pcs.



Baby Centre Šikulka, České Budějovice City, Czech Republic

Pool type: toddler swimming pool Supply: LifeOX® technology



Science Centre Cardiovascular Surgery Bakuleva, Russia

Pool type: Therapeutic pool equipped Supply: Combi Ozone/UV 4.0



Centre oceanography and marine biology ,'Moskvarium", Russia

Pool type: Special swimming pool for mammals equipped

Supply: LifeUVM 0120



Kraví Hora Sports & Recreation Centre, Brno City, Czech Republic

Pool Type: 25 m swimming pool, recreational pool, whirlpool

Capacity: total capacity 700 m³ Supply: LifeOX® technology



REFERENCE WASTE WATER

G. Modiano Ltd - Nejdek Wool Combing, the Czech Republic

- Ozone generator OZAST® with 3.3 kgO₃/h at 12 wt%, oxygen generator, contact chambers and a control unit
- Improvement of water quality used for wool washing
- Deodorization of the main, smell stream" above the contract



REFERENCE INDUSTRIAL AIR TREATMENT

Air Treatment Plant, Finland

- LifeOX® Air C1687
- 7 000 m³/h of treated air
- Used for odour removal



REFERENCE DRINKING WATER

Vodovody a Kanalizace Jizni Cechy, the Czech Republic

- 3 waste water plants in Studena, Tabor and Prachatice
- Equipped with ozone generators OZAST® 300, OZAST® 400 and OZAST® 500 as well as ozone mixing systems, vent ozone destructors and control systems

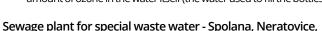
Veolia Water Bochnia, Poland

- 3 OZAST® 2000 ozone generators, each of 1.2 kgO₃/h at 12wt%, vent ozone destructors, and a control unit
- Veolia Water water treatment plant extension and modernization
- Ozone is used for pre-ozonation and main disinfection



Bottling Plant Application, Belgium

- Ozone generator OZAST® 100 with one OG-20 oxygen concentrator installed in a bottling plant
- Total water flow around 25 m³/h 1.5 PPM in 25 m³/h can be managed
- Two purposes: disinfection of the bottles and dosage of a small amount of ozone in the water itself (the water used to fill the bottles)



the Czech Republic

- Advanced Oxidation Process (AOP) for removal of dioxins and furans (PCDD/F), chlorophenols and other contaminants from the BCD process wastewater
- OZAST® ozone generator with output of 5 kgO₃/h at 10% w/w ozone concentration, two reaction tanks with mixing systems, a vent ozone destructor and a control system
- The world largest project for removal of PCDD/F was managed by BCD CZ a.s., a subsidiary of Thermal and Chemical Soil Remediation Ltd.
- Dioxins removal



