

## UV

### VGE Pro UV INOX System

#### Reactors

##### INOX

The high quality 316L stainless steel reactor of the VGE Pro INOX series have been designed to perform. After the high quality welding process the units are leak tested. After this process they get a pickling and passivation treatment which drastically improves the corrosion resistance and lifetime of the unit. Another last treatment with glass pearls (shot peening) gives the units a nice, matt grey surface.

#### VGE Pro UV-C control units

Each VGE Pro UV-C disinfection system is equipped with a control cabinet. There are several control units which can be combined with a suitable VGE Pro unit and several other options like a temperature sensor and a flow switch.

#### UV-C & temperature sensor

VGE Pro UV-C units can be equipped with a UV-C & temperature sensor. These digital sensors can be delivered in teflon (only the UV-C sensor) or stainless steel. The VGE Pro control monitors are designed to work with these UV-C & temperature sensor

#### Advanced Oxidation Processes

Advanced Oxidation Processes (AOP): are chemical treatments to reduce organic and inorganic components from water via oxidation. AOP's use the oxidative power of the hydroxyl radical ( $\cdot\text{OH}$ ), which has the second best oxidation potential and is the strongest oxidiser that can be used in water. The process converts the contaminant materials to a large extent in stable compounds such as water, carbon dioxide and salts, i.e. they are mineralized. In general, when used in the correct way, AOP's can significantly reduce the COD and TOC levels in your water. In general it is advised to apply the AOP as final treatment step in a water treatment system so that all natural present scavengers of the hydroxyl radical are reduced as much as possible, especially bicarbonate ions ( $\text{HCO}_3$ )

#### Pro-UV-C control units

For the VGE Pro UV-C systems 4 different control units are available, knowing: Basic, control timer, control monitor and control monitor Plus. The Basic version is suited with an electronic ballast to drive the lamp(s). The control timer has additionally a LED display for showing the operational lamp hours. The control monitor has a colour display and an optional UV sensor can be connected for monitoring the treatment process. The most complete control panel is the control monitor Plus. A UV sensor, temperature sensor and a flowswitch can be connected and the control unit has alarm and warning functions built-in.

Note : Manufactured by Blue Lagoon, Netherlands



#### Smart Pin Technology

The VGE Pro UV-C disinfection systems are equipped with the unique Smart Pin Technology (SPT). This innovative system is a reliable way to integrate the UV-C lamp(s) in a safe, efficient and smart way in a reactor. The SPT makes it possible to replace the lamp safely, although the system is filled with water and pressurized.

#### Features

- Prevents the release of harmful UV-C radiation
- Changing the UV-C lamp with water in the system
- Resistant to corrosion
- Splash proof
- Visual inspection for operation of the lamp
- Clamping system for optimal seal function
- Lamp replacement without tools

#### VGE Pro INOX

Model	Reactor shape	Max. pressure [bar]	Connection	Capacity (1) [m <sup>3</sup> /h]	Quality water (2)		
					Good	Medium	Bad
400-54	Z	6	1"	18		✓	✓
40-76	L	6	3/4"	3	✓	✓	
75-76	L	6	3/4"	6			
140-76	U	6	1 1/2"	12	✓	✓	
200-76	U	6	2"	17	✓	✓	
75-114	U	6	2"	10	✓	✓	
140-114	U	6	2"	20	✓	✓	
200-154	U	6	DN80	38	✓		
420-168	U	6	3"	78	✓	✓	
400-204	U	6	DN100	92	✓		
600-219	U	6	DN125	140	✓		
975-306	L	6	DN250	306	✓		
1950-306	L	6	DN250	600	✓		

## UV

### UV-C TECH

In the Blue Lagoon UV-C, a UV-C radiation with a wavelength of 253.7 nm is generated, ensuring a lethal effect on bacteria (including Legionella bacteria). This lamp has been specially developed by Philips and is ideal for water temperatures up to 40 degrees Celsius. The Blue Lagoon UV-C will ensure that your pool or spa water is clean, fresh and clear in an efficient and environmentally friendly manner. The water is fed through the UV-C device via a pump. The UV-C radiation neutralises bacteria, viruses and other primitive organisms and stops them from multiplying. This UV system can reduce the use of chlorine and other chemicals by up to 80% !

### Technical Specification

	UVC TECH 16W	UVC TECH 40W	UVC TECH 75W	UVC TECH 130W
Type	15.000 / 16 W	40.000 / 40 W	75.000 / 75 W	150.000 / 130 W
Max Pool Capacity (L)	15.000 L	40.000 L	75.000 L	150.000 L
Rec. flow for 30 mJ/cm <sup>2</sup>	5 m <sup>3</sup> /h	11 m <sup>3</sup> /h	16 m <sup>3</sup> /h	22 m <sup>3</sup> /h
Max Operating Pressure	2 bar	2 bar	2 bar	2 bar
Diameter	72 mm	72 mm	72 mm	72 mm
Connections	In/Out: 50mm or 63 mm	In/Out: 50mm or 63 mm	In/Out: 50mm or 63 mm	In/Out: 50mm or 63 mm
Material	Stainless Steel 316	Stainless Steel 316	Stainless Steel 316	Stainless Steel 316
Electronic Ballast	230V AC 50/60Hz	230V AC 50/60Hz	230V AC 50/60Hz	230V AC 50/60Hz
Maximum Current	0.29 AMP	0.29 AMP	0.8 AMP	1,1 AMP
Power (Light)	16Watt	40Watt	75Watt	130Watt
Lamp Voltage	49V	94V	97V	70V
Lamp Current	0.39 A	0.43 A	0,80 A	2,10 A
UV-C 100h output	3.9 W	15 W	25 W	50 W
µW/cm <sup>2</sup> at 1 meter	39	144	230	468
Dimensions	L= 56cm	L= 100cm	L= 100cm	L= 100cm



### UV-C TIMER

#### Features

- Timer function that indicates the remaining lifetime of the lamp
- A built-in electronic ballast to ensure a smooth power supply
- Up to 35% more UV-C yield as a result of reflection by the Stainless Steel interior
- 316L stainless steel housing
- Easy to install and easy to maintain

#### Technical Specification

	TIMER UV-C 40W	TIMER UV-C 75W	TIMER UV-C 130W
Type	40.000/40W	75.000/75W	150.000/130W
Rec.flow for 30 mJ/cm <sup>2</sup>	11 m <sup>3</sup> /h	16 m <sup>3</sup> /h	22 m <sup>3</sup> /h
Max.pressure	2 bar	2 bar	2 bar
Max.flow	23 m <sup>3</sup> /h	23 m <sup>3</sup> /h	23 m <sup>3</sup> /h
Diameter unit Ø	70 mm	70 mm	70 mm
Length unit	100 cm	100 cm	100 cm
Diameter in-outlet Ø	63mm / 50mm / 1 1/2"	63mm / 50mm / 1 1/2"	63mm / 50mm / 1 1/2"
Stainless steel	316L	316L	316L
Electronic ballast	230V AC 50/60Hz	230V AC 50/60Hz	230V AC 50/60Hz
Maximum current	0,29A	0,57A	1,1A
Lamp power	40W	75W	130W
Lamp	Philips TUV 36T5 4P-SE(40Watt)	Philips TUV 36T5 HO 4P-SE(75Watt)	Philips TUV 130Watt 4P-SE Amalgam
Lifespan lamp	9.000 h	9.000 h	12.000 h
Timer	✓	✓	✓
Replace lamp alert	✓	✓	✓
Flow switch	-	-	✓



## UV

### UV-C IONIZER

#### Advantages

- Ensures fresh, clean and clear water
- Disinfects water efficiently and safely
- Protects your pool from germs
- Alleviates the formation of bacteria, algae and mould
- Reduces the need for chlorine and other chemicals
- More environmentally-friendly than traditional methods

#### Features

- Enables swimming without the use of chlorine
- Up to 80% disinfection by UV-C
- Up to 20% disinfection by copper electrolysis
- 316L stainless steel housing
- Yields up to 35% more UV-C as a result of reflection
- UV-C lamp and copper unit are typically sufficient for 2 swimming seasons
- Easy installation and maintenance
- The Blue Lagoon UV-C Ionizer is earthed



#### Technical Specification

	UVC COP ION 40W	UVC COP ION 75 W
Type	40.000 / 40 W	75.000 / 75 W
Recommended Flow	11m <sup>3</sup> /h	16m <sup>3</sup> /h
Performance At Recommended Flow	30 mJ/cm <sup>2</sup>	30 mJ/cm <sup>2</sup>
Max Flow Rate	23 m <sup>3</sup> /h	23 m <sup>3</sup> /h
Max Operating Pressure	2 bar	2 bar
Diameter	72mm	72mm
Dimensions	L = 100cm	L = 100cm
Connections	In/Out: 50mm or 63 mm	In/Out: 50mm or 63 mm
Material	Stainless Steel 316	Stainless Steel 316
Electronic Ballast	230V AC 50/60Hz	230V AC 50/60Hz
Maximum Current	0.29A	0.57
Power (Light)	40Watt	75Watt
Lamp Type	UV-C 40W	UV-C 75W
Ionizer Dosing	0.7ppm	0.7ppm
Replace Lamp Alert	Yes	Yes

### UV-C OZONATOR

#### Advantages

- Ensures fresh, clean and crystal clear water
- Less maintenance and more carefree use of your swimming pool
- Suntan lotion, cosmetics, urine and perspiration are broken down by ozone
- Bound chlorine is broken down by UV-C light
- Disinfects water efficiently and safely
- Protects your pool from germs
- Alleviates the formation of bacteria, algae and mould
- Can reduce the use of chlorine by up to 90% immediately after the installation
- UV Sterilization is user-friendly and safe
- More environmentally-friendly than traditional methods
- Cost-saving

#### Features

- Up to 35% more UV-C yield as a result of reflection
- 100% efficient and constant operation
- 316L stainless steel interior
- The Blue Lagoon Ozone UV-C is earthed
- Ozone UV-C lamp operates for 4,500 hours (± 2 swimming seasons)
- The device indicates when the lamp needs replacing
- Easy installation and maintenance



#### Technical Specification

	AOP COMPACT OZONE & UV-C 75W
Type	75.000/75W
Rec.flow for 30 mJ/cm <sup>2</sup>	18 m <sup>3</sup> /h
Max.pressure	2 bar
Max.flow	23 m <sup>3</sup> /h
Diameter unit Ø	70 mm
Length unit	100 cm
Diameter in-outlet Ø	63mm / 50mm / 1 1/2"
Stainless steel	PVC
Electronic ballast	230V AC 50/60Hz
Maximum current	0,57A
Lamp power	75W
Lamp	VGE T5 75W Ozone
Lifespan lamp	4.500 hours ozone-9.000 hours UV-C
Ozone	0,6 gr/h
Replace lamp alert	✓
Flow switch	✓