

UV system emit an UV-C irradiation with  $\lambda=254$  nm; this wave length causes an alteration of some chemical links present among nucleotids so that the information contained and conveyed by DNA of every organism present in the water change.

These alterations lead to the cellular death and so to the bacteriological elimination.

This disinfection system has a physical working principle and not chemical. Nothing is added to, not taken away from water; in this way there is no formation of undesired by-products even in case of overexposure, in the full respect of environment. The time of interaction water-radiation is of few second; the disinfection directly takes place only during the passage of water. For this it is necessary to install the UV-C system after any other treatment

The PE series UV-C systems are composed by:

- **HDPE reactor** that contains the special germicidal lamps
- Control panel, made in compliance with the *CE standard*

### **Main Application:**

Water Disinfection for:

- Fish farming
- Sea water application
- Aquariums and Swimming pools

### **Certification:**

CE and NVHI

### **Technical description:**

Flow rates:	from 3 to 980 m <sup>3</sup> /h (depending on UV –C transmittance value)
UV-C dose after 9000 hr:	400 J/m <sup>2</sup>
Power:	from 40 W to 5300 W
Connections:	threated and flange type
Lamps:	High efficiency low pressure lamps (up to UV PE 60) – 9.000 hrs High efficiency low pressure amalgam lamps (from UV PE 110) – 14.000 hrs
Sensor:	UV-C selective sensor (only on Plus models up to UV PE 60 and standard starting from UV PE 110)
Max Pressure:	6 bars
Temperature range:	0 – 35 °C
UV reactor material:	<b>HDPE - High Density Polyethylene</b>
Control Panel material:	Plastic material – up to UV PE 15 Painted steel RAL 7035 – from UV PE 22

## HDPE - High Density Polyethylene Reactor:

From UV PE 110 to UV PE 980



From UV PE 3 to UV PE 60



The UV reactor is made in HDPE - high density polyethylene material. This is the best material for corrosive liquids and sea water, in fact HDPE is UV-stabilised. Thanks to special welding procedures the UV chamber can be used up to a max pressure of 6 bars. The reactors have a horizontal or vertical position depending on the model.

Configuration:	Z shape (up to UV PE 60) U shape (starting from UV PE 110)
Mounting:	vertical (up to UV PE 60) horizontal (starting from UV PE 110)
Connections:	Female threaded (up to UV PE 15) Flanges PN 6 (UNI EN 1092 -1) - (starting from UV PE 22)
UV sensor holder :	Teflon
UV sensor:	<b>Teflon selective sensor</b>
Seals:	Silicone and Viton

## Control Panels:

The electrical control panel supplied is ready for the installation (complete of all the necessary cables)

**From UV PE 3 to UV PE 15**



**From UV PE 22 to UV PE45**



**From UV PE 60 to UV PE 980**



### Up to UV PE 60

- Polypropylene control box (UV PE 3 to UV PE 15)
- Steel painted control panel box (RAL 7035) (from PE 22 to PE 60)
- Protection class: IP 54
- Status messages
- Microprocessor control
- Total hour meter
- Resettable hour meter (only on Plus version)
- Control of each lamp
- Alarm 220 V NA/NC outlet
- Alarm Free contact outlet
- Remote on/off (optional)
- 4-20 mA outlet (optional)
- UV intensity: % (only on Plus version)
- Control of temperature - irradiation (pre set alarm threshold) (only on Plus version)
- GSM box for remote monitoring and control with mobile phone PE22- PE 60 (optional)
- Temperature Range: (0-40°C)

#### From UV PE 60 to UV PE 980

- Steel painted control panel box (RAL 7035) with 2 doors, main switch, cooling fans and UV cube monitor
- Protection class: IP 54
- Status messages ( 5 languages: Italian, English, Spanish, Portuguese, German)
- Microprocessor control
- Total hour meter
- Resettable hour meter
- Control of each lamp
- Electrical panel temperature control
- ON/OFF timer
- Alarm 220 V NA/NC outlet
- Remote on/off
- Alarm Free contact outlet
- 4-20 mA outlet (optional)
- UV intensity:  $W/m^2$  or %
- Pre alarm UV intensity
- Shutdown for high temperature in the UV chamber and in the electrical panel
- Control of temperature - irradiation (pre set alarm threshold)
- Shut off for flooding
- Provision for connection with external flow: online flow visualisation, shut off in case of no flow, possible shut off for low flow, possible shut off for high flow (optional)
- Datalog of the flow rate (optional)
- Datalog of irradiance and panel and chamber temperature (optional)
- GSM box for remote monitoring and control with mobile phone (optional)
- Temperature Range: (0-45°C)

#### **Chemical cleaning system RA (optional)**

SITA chemical cleaning system is available on all the models and can be used together the automatic RA system. It consist in a special tank (depending from UV reactor volume) with pump motor on the top connect to the UV reactor. In this way the chemical product (depends from Pollution) will clean not only the quartzes but the whole reactor.

This cleaning system is recommended on all the UV of this Series and will integrate the automatic wiping (if present)

### **Manual cleaning system RM (optional)**

SITA manual cleaning system is available on all the models.

It consist in a rack with special teflon oring that cleans the quartz sleeve going up and down. The cleaning operation can be done by the operator during the normal function of the system

Not available on PE 3-5-8 and 15

2502000030	PE 3	3.5 m3/hr	1.5"
2502000032	PE5	5 m3/hr	1.5"
2502000034	PE 8	8 m3/hr	2.5"
2502000036	PE 15	15 m3/hr	2.5"
2502000038	PE 22	22 m3/hr	DN 65
2502000040	PE 35	35 m3/hr	DN 80
2502000042	PE 45	45 m3/hr	DN 100
2502000044	PE 60	60 m3/hr	DN 100
2502000046	PE 110	110 m3/hr	DN 150