UV SMP Series

The Medium Pressure (SMP) UV system emits an UV-C irradiation between 200 and 600 nm; these waves length cause 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.
Moreover thanks to this multispectrum wavelength of medium pressure lamps the UV unit has the ability to break chemical bonds, and have a good reduction of unwanted chemicals in water. This "**photolysis process"** has a lot of application in swimming pools (**reduction of combined chlorine**) and process water (**de-chlorination, de-ozonation, TOC reduction**)
The 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. UV-C systems are composed by:

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

Main Application:

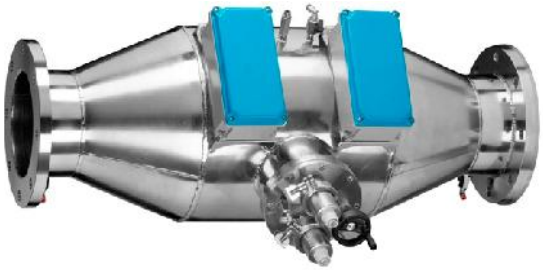
Water Disinfection for:

- Swimming pools
- Industrial process water
- Food & Beverage industry
- Municipal water
- Waste water
- Offshore
- Horticulture

Technical description:

Flow rates:	from 25 to 1200 m^3/h (depending on UV – C transmittance value)
UV dose after 7000 hr:	600 J/m2 for XL version
	800 J/m2 for DS version
Power:	from 600 W to 14.000 W
Connections:	Flange type (not in the model SMP 6)
Lamps:	Medium pressure UV lamps (lifespan: 6.000 - 8.000 hr)
Sensor:	UV-C selective sensor
Max Pressure:	10 bars
Temperature range:	0 – 50 °C (ask for higher temperature)
UV reactor material:	Stainless steel 316L
Control Panel material:	Painted steel – RAL 7035

Stainless steel reactor:



The UV reactor is totally in stainless steel 316L internally/externally polished; the stainless steel of its chemical/physical characteristics is particularly suitable for the treatment of primary waters, and being polished also in the internal part it is completely without porosity that could favour the keeping of spores.
The special UV reactor configuration guarantees a correct contact time, water speed decrease when it arrives in the “special radiation area” and then returns at original speed at the outlet flange
To make the maintenance and inspection operations easier the chamber is openable at the lamp side.

Configuration:	In line (not on SMP 6)
Mounting:	vertical or horizontal configuration
Connections:	flanges PN 10 (UNI EN 1092 -1)
UV sensor holder:	Stainless steel 316L
UV sensor:	selective sensor (option: DWGV or Ö-Norm Sensor)
Seals:	Silicone and Viton
Cleaning system:	**Manual cleaning – standard** (automatic cleaning – optional)

Control Panel:

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

- 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
- Alamr 220 V NA/NC outlet
- Remote on/off
- Alarm Free contact outlet
- Max cable length: to be defined (SITA control panel can be installed far away from UV reactor)
- 4-20 mA outlet (optional)
- UV intensity: W/m^2 or %
- Pre alarm UV intesity
- 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, shuttoff 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)

Manual cleaning system (standard)

SITA manual cleaning system is standard on all the models

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

Automatic cleaning system RA (optional)

SITA automatic cleaning system is available on all the models (not on model SMP 6)

It consist in a rack with special teflon wyper that cleans the quartz sleeve going up and down.

This movement is given by a programmable **SITA UV cube monitor** that moves a motor shaft placed on the UV reactor. Time and days of the cleaning can be easily set on site.

Chemical cleaning system (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)

Lamp power regulation (optional)

The SMP Medium Pressure UV systems can have a lamp power regulation in order to have an optimized energy consumption. SITA SMP unit need a 4/20 mA input from an external instrument in order to change automatically the lamp power following these parameters:

- flow rate (external flow meter needed)
- UV dose (external flow meter needed)
- Combined chlorine level (combine chlorine measurement instrument needed)

This solution is useful to increase lamp's lifespan and decrease the energy consumption.

	lamps		Flow	in/out
3075000020	1 x 600W	SMP 6 DS	25 m3/hr	2.5"
3075005724	1 x 1000W	SMP 10 DS	40m3/hr	DN 80
3075005725	1 x 2000W	SMP 20 DS	90m3/hr	DN 100
3075005726	1 x 2500W	SMP 25 DS	130m3/hr	DN 150
3075005727	1 x 3500W	SMP 35 DS	250m3/hr	DN 200
3075005728	2 x 2500W	SMP 50 DS	350m3/hr	DN 200
3075005729	2 x 3500W	SMP 70 DS	500m3/hr	DN 250
3075005730	3 x 3500W	SMP 105 DS	750m3/hr	DN 300
3075005731	4 x 3500W	SMP 140 DS	1200m3/hr	DN 400

Self cleaning options available