UV IT Series

UV system emit an UV-C irradiation with λ=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.

IT Series is O-NORM 5873-1 validated. All the units has been biodosimetric tested and full fit the EPA requirements contained in Ultraviolet Disinfection Guidance Manual.

The. IT series UV systems are composed by:

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

Certification:

CE, NVHI, WRAS*, ONORM 5873-1

Main Application:

Water Disinfection for:

- Drinking water

Technical description:

Flow rates:	from 1 to 400 m^3/h (depending on UV-C transmittance value)
UV-C dose after 14000 hr:	400 J/m^2
UV transmittance range:	from 78%- 1 cm to 98% - 1 cm (depending on models)
Power:	from 80 W to 2400 W
Connections:	threaded or Flange type UNI EN 1092-1 (depending on the model)
Lamps:	High efficiency low pressure lamps – 80W
	High efficiency low pressure amalgam lamps – 200 and 400W
Lamps lifespan:	from 9.000 to 14.000 hrs (depending on the model)
Sensor:	selective UV-C validated ONORM M5873-1
Measuring window:	stainless steel 316L validated ONORM M5873-1
Max Pressure:	10 bars
Temperature range:	0 – 50 °C (ask for higher temperature)
UV reactor material:	Stainless steel 316L
Control Panel material:	thermoplastic or Painted steel – RAL 7035

* Only models UV4 – 10 – 40 -80 -120 IT

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; moreover, being glass polished, the germicidal action of the lamps is increased.

Configuration:	L shape
Mounting:	preferably horizontal or vertical
Connections:	threaded or flanges PN 10 (UNI EN 1092 -1)
Measurement window :	Stainless steel 316L
UV sensor:	selective sensor O-Norm approved
Seals:	Silicone and Viton
Internal mixing plates:	present in all the UV reactors
Automatic cleaning system:	mechanical cleaning system (standard from UV 200 IT)

Flow rates

UV Model	Flow rate*	Connection
UV 4 IT	3,7 m^3/h	1”
UV 10 IT	13,9 m^3/h	2”
UV 40 IT	42,4 m^3/h	DN 100
UV 80 IT	72,24 m^3/h	DN 100
UV 120 RA IT**	127,0 m^3/h	DN 150
UV 200 RA IT**	200,85 m^3/h	DN 200
UV 400 RA IT**	322,71 m^3/h	DN 250

* Flow rate @ 98% -1 cm – UV dose: 400 J/m^2 for UV 4- 10 – 40 IT

Flow rate @ 96% -1 cm – UV dose: 400 J/m^2 for UV 80 - 120 – 200 – 400 IT

* * Automatic wiper

Control Panels:

UV 4 IT

UV 10 IT

STARTING FROM UV 40 IT

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 *(UV 40 IT, UV 80 IT, UV 120 IT, UV 200 IT, UV 400 IT)*
- Polypropylene control box (*UV 4 IT*)
- Protection class: IP 54

- Status messages (5 languages: Italian, English, Spanish, Portuguese, German) *(UV 40 IT ON, UV 80 IT, UV 120 IT, UV 200 IT, UV 400 IT)*
- Microprocessor control
- Total hour meter
- Resettable hour meter
- Control of each lamp
- Electrical panel temperature control
- ON/OFF timer *(UV 40 IT, UV 80 IT, UV 120 IT, UV 200 IT, UV 400 IT)*
- Alarm 220 V NA/NC outlet
- Remote on/off
- Alarm Free contact outlet
- 4-20 mA outlet
- UV intensity: W/m^2
- Pre alarm UV intesity
- Control of temperature & UV irradiation
- Shut off for flooding *UV 40 IT, UV 80 IT, UV 120 IT, UV 200 IT, UV 400 IT)*
- 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) *(UV 40 IT, UV 80 IT, UV 120 IT, UV 200 IT, UV 400 IT)*
- Datalog of the flow rate (optional) *(UV 40 IT, UV 80 IT, UV 120 IT, UV 200 IT, UV 400 IT)*
- Datalog of UV irradiance and panel & UV chamber temperature (optional) *(UV 40 IT, UV 80 IT, UV 120 IT, UV 200 IT, UV 400 IT)*
- GSM box for remote monitoring and control with mobile phone *(UV 10 IT , UV 40 IT, UV 80 IT, UV 120 IT, UV 200 IT, UV 400 IT)*
- Temperature Range: 0-45°C

IT series	UV 4 IT	UV 10 IT	UV 40 IT	UV 80 IT	UV 120 IT	UV 200 IT	UV 400 IT
Max. flow rate (m^3\h)	3,72	13,98	42,40	72,24	127,15	200,85	322,70
No. of lamps	1	1	6	2	3	4	6
IN-OUT connections (PN10)	1"M	2"M	DN 100	DN 100	DN 150	DN 200	DN 250
Electrical absorption (W ± 2%)	44	222	533	888	1333	1800	2700
Electrical Panel dimensions (mm)	240x190x95	300x400x200	400x500x250		400x750x250	400x750x250	600x800x300
Automatic wyper	-	-	-		X	X	X