



# DISINFECTION SYSTEM EQUIPMENT FOR THE TREATMENT OF DRINKING WATER **MIOLED**



Installation, Operation and Maintenance Manual



# CONTENTS

|   |    |
|---|----|
| 1. Introduction.....  | 2  |
| 2. General Principles and Safety Instructions .....   | 2  |
| 3. Instructions for installation and commissioning of the system .....                            | 4  |
| 3.1 Installation under the sink 3/8" flexible connections (male delivery and female return):..... | 5  |
| 3.2 Installation in systems with 8 mm pipes:.....   | 7  |
| 4. MIOLED exploded view (spare parts).....  | 7  |
| 5. Technical Datasheet (operative conditions) .....   | 8  |
| 6. Maintenance .....  | 9  |
| 7. Warranty Conditions .....  | 10 |
| 8. EC Declaration of Conformity .....   | 11 |

WrekinWater

# 1. Introduction

This manual applies to the below model:

**MIOLED**

**The UV systems were made by S.I.T.A. s.r.l.**

*Warning: This equipment requires regular maintenance to ensure the requirements of the drinking water treated and the maintenance of the improvements as stated by the manufacturer.*

These operating instructions contain important information for the operation and maintenance of the equipment.

Please ensure that these operating instructions are carefully read by all relevant persons before putting into operation, to ensure the safe use of the UV system. The operating instructions are an integral part of the equipment supply.

Before putting into operation, all the conditions necessary for safe operation of the equipment must be fulfilled.

The installation, commissioning and maintenance of the equipment should only be carried out by qualified personnel.

The equipment should only be operated by authorized personnel who have been trained accordingly.

No modifications should be made to the equipment without consulting maker, as this could affect the safe operation of the unit. Maker shall not be held responsible for damage resulting from unapproved modifications.



#### **INSTRUCTION:**

*The operating instructions are to be kept where they will be accessible for operating and maintenance personnel.*

## 2. General Principles and Safety Instructions

### **Information about UV irradiation:**

MIOLED has been planned specially for destroying harmful bacteria and viruses present in your water.

Their working is based on a physical principle which is a warranty of security: the output of ultra-violet irradiation. The UV light given out by special mercury vapours lamps (UV-C rays  $\lambda = 254\text{nm}$ ) is highly germicidal because it interacts with DNA and RNA, at a molecular level.

The deep bio-structural disorder caused by such irradiation interferes with the development and the ability of reproduction of every kind of micro-organism, making it harmless.

Generally it is better to mount a pre-filter before the UV sterilizer, in this way the impurities of every nature and consistence are kept.

This system comes to be necessary if we want to have a high degree of sterilization, infact the non-filtration and removal of suspended particles in the water has, as a consequence, a decrease of the sterilizer's efficiency.

If the water to be treated contains sulphydric acid or more than 0.3 p.p.m. of iron or filtrable solids, once passed through the sterilizer, it leaves a residual sediment on the quartz sleeve, which, therefore, must be periodically cleaned (the frequency depends on the quantity and quality of water treated).

### **General directions:**

According to the European rules EN 60204-1 (safety of the set-up off the electrical equipment-general rules) the low tension electrical instruments (rule 2014/35/CE) must be connected to a current-tap provided with grounding.

### **Electrical Safety Instructions:**



The lightning flash and arrowhead symbol is to alert the user to the presence of un-insulated "DANGEROUS VOLTAGE" within the enclosure. The equipment may only be opened if main supply is isolated. The main supply must not be restored as long as the equipment is open. This applies to both the electrical panel and the UV reactor vessel.

**WARNING:** Working on live equipment is forbidden.

**UV Light Danger:**



The light of ultra-violet lamps can cause serious burns to unprotected skin and eyes, therefore it is recommended not to connect it to the current tap without having before ensured the UV lamp in its housing and inserted the PVC cover.

**Pressure Danger:**

The UV chamber could be under water pressure. Max working pressure is 10 bar. UV chamber must be installed in accordance with our installation and commissioning instructions and used in accordance with operating and maintenance instructions.

**ATTENTION:** Ensure that system is depressurized before attempting any service or repair.

**Indications for the disposal:**

We remind that, according to what is fixed by D.L. 4 May 2014, N°27 "Accomplishment of directive 2011/65/CE, concerning the reduction of dangerous substances in electric and electronic equipment" both mercury vapours lamps and electrical panels, when no more used, must be considered as special waste, and in the same way disposed of.

To do that, it is possible to address to specialized centers for the recovery of dangerous materials, or to contact directly our technical department.



INFORMATION TO USERS pursuant to art. 14 of the 2012/19 / EU DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 on waste electrical and electronic equipment (WEEE)

The crossed bin symbol on the appliance or on its packaging indicates that the product at the end of its useful life must be collected separately and not disposed of together with other mixed urban waste.

Please contact your municipality, or local authority, for all information regarding the separate collection systems available in the area. The retailer is obliged to collect the old equipment free of charge when buying new equipment of an equivalent type, for the purpose of starting the correct recycling / disposal.

Appropriate separate collection for the subsequent start-up of the disused equipment for recycling, treatment and environmentally compatible disposal helps to avoid possible negative effects on the environment and on health and favors the re-use and / or recycling of the materials it is composed of the equipment.







### 3. Instructions for installation and commissioning of the system

#### General premise

The installation of the debacterization systems of the “LED” series must be carried out by specialized personnel strictly following the instructions stated below.

The fittings supplied with the MIOLED are suitable for connection under the sink with 3/8” pipes.

**MIOLED** includes the following parts:

|  |  |
|--|--|
| <br>2X  | <br>1X  |
| <br>2X  | <br>1X  |
| <br>1X | <br>1X |

WrekinWater

### 3.1 Installation under the sink 3/8" flexible connections (male delivery and female return):

Warnings: Check that MIOLED is disconnected from the mains, that the raw water valve is closed and that the tap is open.

- ✓ Install MIOLED on the wall with the fisher supplied:



- Stop the flow of water to the tap.

- Disconnect the 3/8" male union of the delivery hose. Connect it to the female fitting supplied. Connect the 8 mm plastic tube to the fitting.

- Connect the 3/8" female fitting of the delivery hose to the male fitting supplied.



- Connect the IN and OUT of MIOLED respecting the inlet and outlet described by the arrows on the label (below example with a flexible 3/8 "female tap):

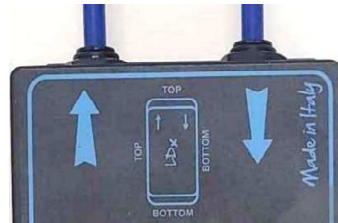
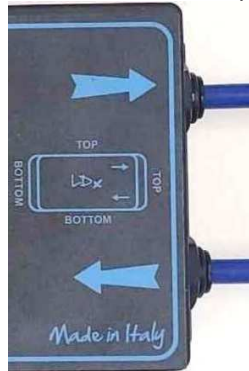


- Open the inlet water supply and check that there are no water leaks in any part of the system.
- Connect MIOLED to the electricity.
- Check that the sterilized water comes out and the LED is on the STATUS LED window (the LED lights up only when water flows).
- Let the disinfected water flow out for at least 10 minutes before using it, in order to purge any impurities, present in the system.

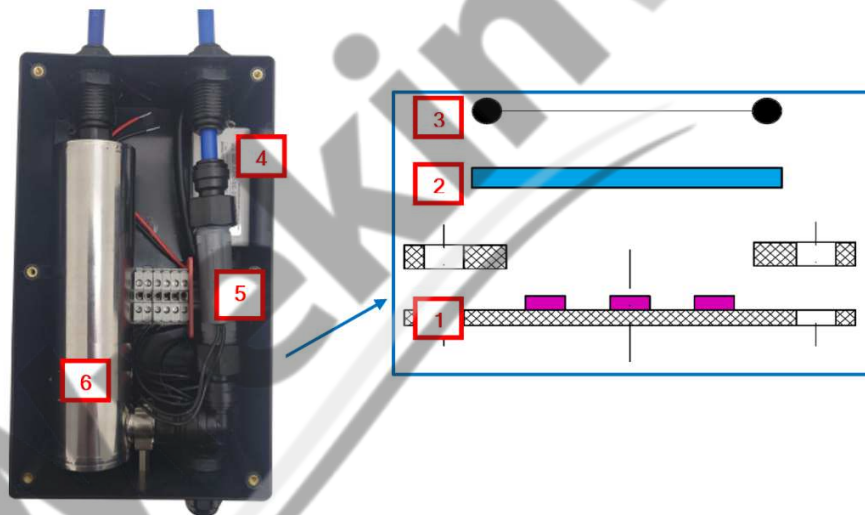
NOTE: It is recommended to install a water filter directly before the UV sterilizer in order to remove any suspended particles present in the water to be treated, which could limit the disinfection effectiveness.

### 3.2 Installation in systems with 8 mm pipes:

Connect the IN and OUT of MIOLED respecting the input and output described on the label:



### 4. MIOLED exploded view (spare parts)



| Item | Code    | Description      |
|------|---------|------------------|
| 1    | LD5.000 | LED Disk + CABLE |
| 2    | LD1QRZ  | MIOLED WINDOW    |
| 3    | LD1OR   | ORING OF SEAL    |
| 4    | LD1BLST | IGNITOR LD1      |
| 5    | LDA277  | 3/8 "FLOW SWITCH |
| 6    | LD1R    | LED REACTOR      |



## 5. Technical Datasheet (operative conditions)



MIOLED



MIOLED AL2 (coming soon)

| GENERAL INFORMATION     |   |
|-------------------------|---|
| Max. Flow               | 2.5 l/m   |
| UVC transmittance       | 99%- 1 cm   |
| Water temperature range | 5-50° C   |
| Total consumption       | 8.5 W   |
| Lifespan                | 5000 hr   |
| IN-OUT Fittings         | Rapid connection 8mm<br>Including: (1pc adapter 3/8" M, 1pc adapter 3/8" F) |
| Mounting                | Vertical / horizontal   |
| Integrated Flow Switch  | Yes   |
| Max. working pressure   | 6 bars g  |

| SITALED LD inside     |                     |
|-----------------------|---------------------|
| Material              | Stainless steel 304 |
| Protection class      | IP 54               |
| Replaceable Led Board | Yes                 |



| UV BOX                    | MIOLED   | MIOLED AL2 (coming soon)  |
|---------------------------|--|---------------------------|
| Material                  | Black Polypropylene  |                           |
| Dimensions                | 210 x 105 x 65   | 215 x 215 x 90 mm         |
| Protection class          | IP54   |                           |
| Ambient temperature range | 5 – 45 °C  |                           |
| Power supply              | 180-264 Vac - 50/60 Hz<br>on request:<br>115V – 50/60 Hz<br>8-36 Vdc | 8-36 Vdc                  |
| Power supply cable        | 1 m  | 1 m                       |
| Feed plug                 | Schuko (standard), UK, AUS/NZ, or<br>passing wires                   | Passing wire              |
| Monitor display           | Status LED   | Digital SITA              |
| Days meter                | NA   | Yes for total system life |
| Resettable days meter     | NA   | Yes for led life control  |
| Audio alarm               | NA   | With silence options      |

## 6. Maintenance

Maintenance must only be carried out by personnel who have been trained and authorized for this work by the owner and / or user.

The owner and / or user must be sure that maintenance personnel are familiar with the safety measures and regulations, and that they comply with them; in addition, he must have read and understood the operating instructions.

Only original spare parts from the supplier should be used.

These are the recommended intervention intervals for spare parts:

**LED disk (code LD5.000): MIOLED** turns on only when the water passes, optimizing the life of the LEDs themselves. Replace the led disk every 3000 hr of operation (8 years if it works on average 1 hr / day, 4 years if it works 2 hr / day .....)

**Sealing O-ring (code LD1OR):** recommended annual check. Replacement at the first sign of abrasion.

**MIOLED window:** A clean MIOLED window increases the effectiveness of disinfection. The frequency of cleaning depends on the quality of the treated water, check annually.

Procedure for replacing the LED disk (5000 h max.)

1. Uninstall MIOLED from the mains and from the water mains (see assembly procedure).
2. Detach MIOLED from the wall and empty it of residual water.
3. Open the MIOLED bottom cover.
4. Unscrew the ring nuts of both bulkheads and push the LED reactor / flow switch KIT to be able to intervene on the base of the LED reactor where the LED disc is located:



1. Unscrew the small fixing screws of the LED disc.
2. Disconnect the LED disk wire from the terminals.
3. Connect the new LED disk to the terminals taking care to respect the colors of the wires.
4. Reassemble and hydraulically test.

### Procedure for cleaning the quartz LED window

1. Repeat steps 1 through 5 from the previous section
2. Remove the quartz and clean it by wiping it with a cloth soaked in a weakly acid solution (vinegar or lemon)
3. Reassemble

## 7. Warranty Conditions

### WARRANTY CONDITIONS

SITA works in compliance with ISO 9001-2015 quality procedures and subjects all equipment to accurate checks and tests.

**The SITA supplies and progressing are anyway guaranteed only in the limits of technical specifications and request and/or of the certificates and/or of the specific checks as agreed, for 24 months from the delivery date or 30 days from the purchase date, provided that eventual defects are stated as fixed by art. No. 1495 of the civil code.**

**The stainless-steel chamber is covered by warranty of 5 years only if used for compatible liquids and correctly installed.**

In no case the integral replacement of the product is foreseen and any responsibility of SITA is excluded for delays in the delivery of the goods to the customer, for claims of third parties towards the customer, for losses of goods, costs (installation, servicing and maintenance, transports, and so on) and damages of the customer due to the defect.

Moreover, the product repaired or tampered by non-authorized third parties, and the product on which an intervention has been made for defect of for convenience tests, is excluded from the warranty.

Repairs are normally carried out in SITA warehouse or in authorized after-sales service centres signalled by SITA.

**The warranty does not cover:**

1. Accidental breakages due to the transport.
2. Breakages due to the use of equipment not in compliance with what is indicated on the use and maintenance manual or to carelessness.
3. Breakages to the connection to a power grid fed with a tension different than the foreseen one ( $\pm 10\%$  of the nominal value as fixed by CEI rules)

**DO NOT TAMPER THE ADHESIVE LABELS OF IDENTIFICATION**

The adhesive label with the QC (Quality Control) number must be intact and readable; such number allows to enter the data bank of tests and to find the values obtained in the electrical test of the equipment.

The adhesive label with the S/N (Serial Number) number must be intact and readable; such number allows to enter the data bank of tests and to find the values obtained in the hydraulic test of the equipment.

In case of dispute the court of Genova will be competent.

## 8. EC Declaration of Conformity

Unit produced in the factory of:

**S.I.T.A.**  
**Italian Air and Water Treatment Company**

# EC DECLARATION OF CONFORMITY

The undersigned hereby declares, under full responsibility, that the unit:

## **UV DISINFECTION SYSTEM** **LED SERIES** **MOD. MIOLED**

IS ACCORDING TO  
the provisions of Community Directives and Regulations:

- 2014/35 / EU (low voltage directive)
- 2014/30 / UE (electromagnetic compatibility)
- 2015/863 / UE (RoHS3)
- 2012/19 / EU (WEEE)
- Standard CEI -EN 60204-1 (safety - electrical equipment of the machine)
- Standard CEI -EN 55022 (radio disturbance characteristics)
- Ministerial Decree 25/2012 (Technical provisions concerning equipment for the treatment of water intended for human consumption)
- Ministerial Decree 174/2004 (materials in contact with drinking water)
- Ministerial Decree 14 June 2017 (Implementation of Directive 2015/1787 / EU relating to the quality of water intended for human consumption)
- 2014/68 / EU (Article 4 paragraph 3) (PED)

The authenticity of the CE marking is subject to the credibility of the unit. If any change is not allowed, the use of the CE marking will be cancelled. It might arise in the event that our organization has not already assessed the related risks and a new EC Statement of Compliance has been released.