The background of the entire page is composed of intricate, overlapping blue wavy lines that create a sense of fluid motion and depth. These lines are most prominent in the upper and lower portions of the page, framing the central text area.

# UV systems for the disinfection of water



**MONTAGNA**

ULTRAVIOLET SYSTEMS

Made in Italy

# UV DISINFECTION SPECIALISTS

The history of this company begins in 1960 when Federico Montagna, the company founder, introduced for the first in Italy the use of ultraviolet light to disinfect water, even though at that time the advantages of this technology were still little known.

Today the Company, with headquarters in the south of Milan (Italy), is a point of reference in the ultraviolet disinfection sector, a leadership position gained over more than 60 years of activity, working every day with commitment and dedication, supporting and investing continuously in Research & Development, with the objective of offering a constantly improving products and services to a growing clientele.

Profound knowledge of UV technology together with experience consolidated over decades, with more than 11.000 plants installed, allows the development of products, serving costumers all over the world.

Since 1960

*F. Montagna*  
POZZI per ACQUA



MONTAGNA



MONTAGNA  
ULTRAVIOLET SYSTEMS

# Montagna designs, produces, installs and assists you after the sale

## Consulting and design

Our Technical Department, composed of engineers with solid experience in the area of Ultraviolet disinfection, offers a consulting service oriented toward individualized solutions better adapted to each client's specific disinfection needs. Feasibility studies, design, research of the most suitable material for specific applications, special productions, non-standard dimensions, ad hoc configurations and designs for existing structures are only a few of the services offered by our Technical Department.

## Production and assembly

All of our systems are produced and tested in our facilities, to guarantee constant quality control of the product. Particular attention is paid to assembly of the electrical control panels that are the systems' essential "brains" and point of command.



Made in Italy

## Installation and after-sales service

Our highly qualified staff of technicians handles the installation, start-up and training of the people who will operate our systems. Our Assistance Service, certified UNI EN ISO 9001:2008, is always available for our clients, with a service designed to respond to any type of management demand: from rapid supply of spare parts to maintenance interval planning.



# Ultraviolet, a conscious choice

UV-C ray technology contains some distinctive features:

## ECOLOGIC

Ultraviolet rays do not alter the physical-chemical composition of water and its organoleptic characteristics (smell and taste). UV treatment does not add chemical substances thereby preventing the formation of by-products that could be harmful and/or unpleasant.









## ECONOMIC

UV sterilizers have a more contained cost of application, compared with all other solutions available on the market. Consider that, indicatively, consumption of just one KW can disinfect 90,000 litres of water per hour.

## SAFE

When the UV rays are emitted on a wavelength of 254 nm and with the right dosage, they strike the nucleus of any microorganism that could be present in the water (bacteria, viruses, fungi, algae, yeasts, mould, etc.) and wipe them out. What's more, there is no risk of overdose.

# Customized, effective and efficient solutions

|   |                  |  Agriculture |  AOP |  Aquaculture |  Drinking water |  Food |  Industry |  Spa and pools |  Wastewater |
|---|------------------|---|---|---|--|--|---|---|--|
| UNO<br>FORMA-S/E<br>SYSTEM<br>KOMBI<br>FLUX-D<br>FLUX-O | CLOSED<br>VESSEL |   |   |   | ●  | ●  | ●   | ●   |  |
|   |                  | ●   |   | ●   | ●  | ●  | ●   | ●   | ●  |
|   |                  |   | ●   |   |  | ●  | ●   |   |  |
|   | OPEN<br>CHANNEL  | ●   |   | ●   |  |  | ●   |   | ●  |
|   |                  | ●   |   | ●   |  |  | ●   |   | ●  |

FIELDS OF APPLICATION

## Agriculture

The spread of intensive farming methods (e.g. hydroponic) and the need to reuse water for irrigation have seen UV come to the aid of farmers to ensure a water supply free of pathogenic microorganisms.

## AOP

UV technology can also be used in advanced oxidation processes (AOP) and for the decomposition of organic waste (TOC). This process is particularly effective when water must be reused or when fluids are highly contaminated.

## Aquaculture

Water treatment with UV rays is one of the most effective ways to prevent the spread of pathologies to the fish in aquariums or breeding tanks, guaranteeing the elimination of pathogenic agents like bacteria, viruses, protozoa, mould and algae.

## Drinking water

The use of ultraviolet rays to disinfect potable water is a safe and reliable solution suitable for aqueducts and public or private entities charged with managing water.

## Food

Beer brewers, cheese makers, beverage producers and meat processors use UV effectively in order to ensure high standards of hygiene and higher levels of quality, while extending the shelf life of their products.

## Industry

The use of ultraviolet light is widespread throughout industry, for the disinfection of feed water, as well as for its reuse and for the treatment of wastewater. Other applications are de-chlorination, ozone removal or disinfection of process fluids like emulsified oil.

## Spa and pools

Efficient and effective disinfection of pool water is essential for public as well as private swimming pools in order to preserve the health of users and the hygiene of use. UV is a chemical-free solution that ensures a better level of wellbeing for bathers, as well as for poolside operators.

## Wastewater

The use of UV is widespread as an alternative to chemical disinfection for the elimination of the bacterial load carried by wastewater.

# UNO

The **UNO** system line is a single or multiple lamped closed reactor series built from highgrade stainless steel, suitable for most of the water disinfection applications dedicated to the treatment of high transmittance fluids for small to medium flow rates and characterized by ease of installation and maintenance with a very low energy consumption.



## Main Applications

Drinking Water – Food And Beverage - Industry - Pools And Thermals



Drinking water



Food



Industry



Spa and pools

| Model UNO Line                     |   |
|------------------------------------|---|
| Flow Rate (m <sup>3</sup> /h)      | 1 ÷ 60                                    |
| Lamp Type                          | LPHO                                      |
| Number of Lamps                    | 1 ÷ 6                                     |
| Lamp Guaranteed Life               | 9.000 working hours*                      |
| Reactor Material                   | AISI 304 – AISI 316L – DUPLEX – PP – PEAD |
| Hydraulic connections              | 1" – 4"                                   |
| Standard Operating Pressure        | Up to 7 bar                               |
| Input/Output for remote connection | Available                                 |
| Supply Voltage                     | 230V (1f+N+T) / 50 - 60Hz                 |
| Ballast                            | Electronic / Ferromagnetic                |
| UV Sensor                          | Available                                 |

\* No formula Pro-rata



Flow Rate treatment: 20 mc/h

# FORMA-S/E

**FORMA-S** and **FORMA-E** are lines of products dedicated to the treatment of drinking water, wastewater, clear water and other industrial process fluids.

The construction in cylindrical chambers make these lines the most energy efficient solution for the treatment of particularly large volumes of water with a few lamps.

It is a highly customizable product line both in construction materials and in design configurations and can be custom built for the needs of each customer and to comply with the most stringent disinfection requirements and standards.



## Main Applications

Agriculture - Aquaculture - Drinking Water - Food And Beverage - Industry - Pools And Thermals - Wastewater



| Model FORMA-S/E Line                   |   |
|--|---|
| Flow Rate (m <sup>3</sup> /h)          | 5 ÷ 2.500   |
| Lamp Type                              | LPHO / Amalgam  |
| Number of Lamps                        | 2 ÷ 24  |
| Lamp Guaranteed Life                   | 9.000 ÷ 16.000 working hours*   |
| Reactor Material                       | AISI 304 - AISI 316L - DUPLEX - PP - PEAD                                     |
| Hydraulic connections                  | DN50 - DN500  |
| Standard Operating Pressure            | Up to 8 bar   |
| PLC Input/Output for remote connection | Available   |
| Supply Voltage                         | 230V ÷ 400V (3f+N+T) / 50 - 60Hz  |
| Cleaning System                        | Manual / Automatic  |
| UV Sensor                              | Available   |
| UV-Dose                                | Available. A control system to modulate the power according to the flow rate. |

\* No formula Pro-rata



Flow Rate treatment: 200 mc/h each

# KOMBI

The **KOMBI** system line is a modular closed reactor series built from high-grade AISI 316L stainless steel. This particular system line is composed by a series of UV lamps staggered with constant angle with respect to the flow direction. The monoblocs assembly creates a mesh of lamps forcing the water to flow with ideal mixing conditions for the disinfection. Different reactors sizes and powers, the use of low pressure high output (LPHO) or Amalgam lamps and the modular design together with the inline installation, makes KOMBI the most energy efficient solution for the treatment of drinking water for human consumption at high flow rates.



## Main Applications

Aquaculture - Drinking Water



Aquaculture



Drinking water

| Model KOMBI line                       |   |
|--|---|
| Flow Rate (m <sup>3</sup> /h)          | The system modularity allows for the treatment of practically unlimited flow rates. |
| Lamp Type                              | LPHO / Amalgam  |
| Number of Lamps                        | Variable  |
| Lamp Guaranteed Life                   | 16.000 working hours*   |
| Reactor Material                       | AISI 316L   |
| Hydraulic connections                  | DN50 – DN500  |
| PLC Input/Output for remote connection | Available   |
| Supply Voltage                         | 400V (3f+N+T) / 50 - 60Hz   |
| Cleaning System                        | Automatic   |
| UV Sensor                              | Available   |
| UV-Dose                                | Available. A control system to modulate the power according to the flow rate.       |



Flow Rate treatment: 1.100 mc/h each

\* No formula Pro-rata



# SYSTEM

The **SYSTEM** line is a single or multiple lamped closed reactor series. The most important distinction feature that makes SYSTEM line a “unique” product in the market is the available section for flowing fluid within the reactor, so called “thin-film”, on which the ultraviolet rays acts.

Such constructive characteristic, together with a series of inside deflectors welded on the internal reactor surface to drive the flow and force all the liquid molecules to pass several times through the thick maze of lamps, allows to treat all liquids with very low UV-C transmittance.



## Main Applications

AOP - Food And Beverage - Industry



AOP



Food



Industry

### Model SYSTEM Line

|   |   |
|---|---|
| <b>Flow Rate (m<sup>3</sup>/h)</b>            | 5 ÷ 2.500   |
| <b>Lamp Type</b>                              | LPHO  |
| <b>Number of Lamps</b>                        | 2 ÷ 42  |
| <b>Lamp Guaranteed Life</b>                   | 9.000 working hours*  |
| <b>Reactor Material</b>                       | AISI 304 – AISI 316L – DUPLEX – PP – PEAD                                     |
| <b>Hydraulic connections</b>                  | DN50 – DN500  |
| <b>Standard Operating Pressure</b>            | Up to 8 bar   |
| <b>PLC Input/Output for remote connection</b> | Available   |
| <b>Supply Voltage</b>                         | 230V ÷ 400V (3f+N+T) / 50 - 60Hz  |
| <b>Cleaning System</b>                        | Manual / Automatic  |
| <b>UV Sensor</b>                              | Available   |
| <b>UV-Dose</b>                                | Available. A control system to modulate the power according to the flow rate. |

\* No formula Pro-rata

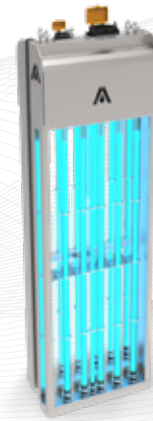


Flow Rate treatment: 50 mc/h each

# FLUX-D

**FLUX-D** is the new line of products conceived, designed and engineered to give continuity to the experience gained over the years in the municipal and / or industrial wastewater treatment. Engineered and built with oblique lamps array - to optimize the water distribution within the reaction zone surrounding the lamps - the module has a compact, robust and optimized design and it is equipped with last generation of low-pressure high output amalgam lamps.

**FLUX-D** system line with its variable angle concept is able to adapt to different operating conditions and it is possible to add modules if the flowrate increases, without changing the disinfection channel.



## Main Applications

Agriculture - Aquaculture - Industry - Wastewater



Agriculture



Aquaculture



Industry

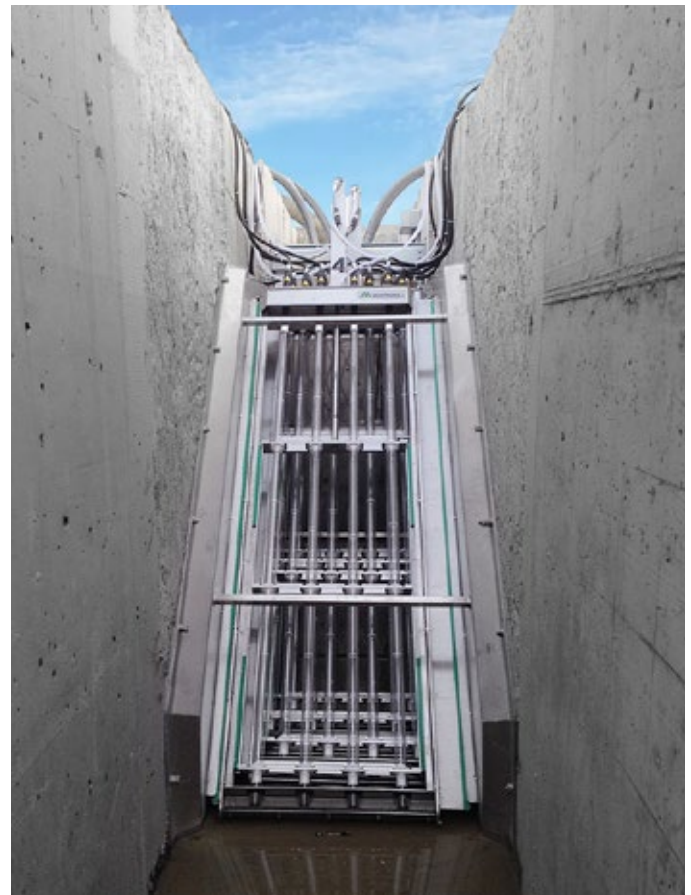


Wastewater

## Model FLUX-D Line

|                                      |   |
|--------------------------------------|---|
| <b>Flow Rate (m<sup>3</sup>/h)</b>   | The system modularity allows for the treatment of practically unlimited flow rates. |
| <b>Lamp Type</b>                     | Amalgam   |
| <b>Number of Lamps</b>               | 12  |
| <b>Lamp Guaranteed Life</b>          | 16.000 working hours*   |
| <b>Module Material</b>               | AISI 316L   |
| <b>Water level regulation device</b> | Fixed weir or automatic penstock  |
| <b>Supply Voltage</b>                | 400V (3f+N+T) / 50 - 60Hz   |
| <b>UV Sensor</b>                     | Available   |
| <b>UV-Dose</b>                       | Available. A control system to modulate the power according to the flow rate.       |

\* No formula Pro-rata

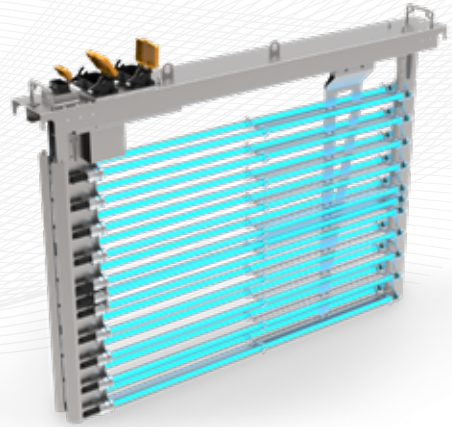


**Flow Rate treatment:** 800 mc/h

# FLUX-O

The **FLUX-O** system line is a modular product conceptually designed to treat gravity flow in open channels and mainly applied for municipal and/or industrial wastewaters. Engineered and built with horizontal lamps array in a compact, robust and optimized design and equipped with last generation of low-pressure high output amalgam lamps, cabinet construction materials with diverse control modes and ample range of customized options.

**FLUX-O** system line incorporates “all in one” innovative features to represent the ideal solution suitable for targeting specific site requirements in waste water disinfection projects.



## Main Applications

Agriculture - Aquaculture - Industry - Wastewater



Agriculture



Aquaculture



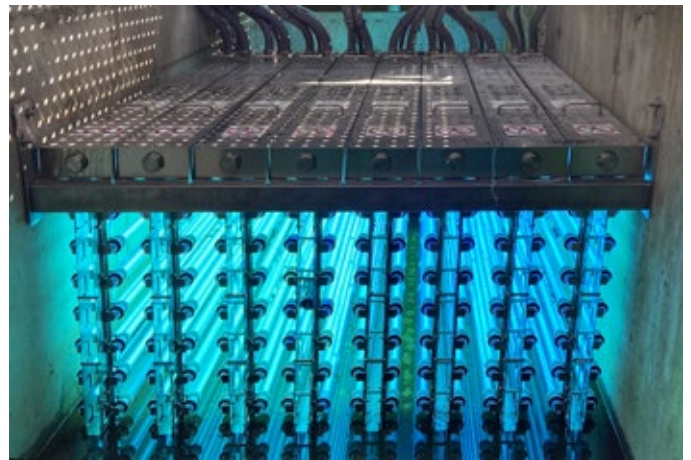
Industry



Wastewater

## Model FLUX-O Line

|                                      |   |
|--------------------------------------|---|
| <b>Flow Rate (m<sup>3</sup>/h)</b>   | The system modularity allows for the treatment of practically unlimited flow rates. |
| <b>Lamp Type</b>                     | Amalgam   |
| <b>Number of Lamps</b>               | 4-20  |
| <b>Lamp Guaranteed Life</b>          | 16.000 working hours*   |
| <b>Module Material</b>               | AISI 316L   |
| <b>Water level regulation device</b> | Fixed weir or automatic penstock  |
| <b>Supply Voltage</b>                | 230 - 400V (1-3f+N+T) / 50 - 60Hz   |
| <b>UV Sensor</b>                     | Available   |
| <b>UV-Dose</b>                       | Available. A control system to modulate the power according to the flow rate.       |



**Flow Rate treatment:** 3.500 mc/h

\* No formula Pro-rata





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Made in Italy  
since 1960

