



# HELKON®

## ***HELKON WATER & HELKON CALOR IONIZERS***

***Eco-friendly***

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***Water Treatment and Energy Saving Systems***

***for***

***Greenhouses, Commercial and Industrial Applications***

***HELKON FLUID TREATMENT SYSTEMS®***

since 1946

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# HELKON WATER® Ionizers



## *For the Physical Treatment of Irrigation Water, Spraying e Nebulization*

The chemical-physical characteristics of the water to be used, determines the good functioning of the equipment.

### **HELKON WATER Ionizer**

- modifies and reduces the dimension of the salt crystals and carbonates
- Modifies the ion charge from positive to negative
- Increases the pH
- Reduces the molecular cohesion of the water



Furthermore, the treated water flowing through the pipes, equipment and tanks, modifies all of the salt crystals and carbonates eliminating in this way, all of the pre-existing incrustations and preventing the formation of new ones.

In drip-feed systems, the main problem is the clogging of the nozzles.

Maintenance intervention has to be continuous with ongoing maintenance and parts replacement costs.

For spraying and nebulization, water nozzles get worn due to the abrasion produced by the salt crystals and carbonates present in the water.

**HELKON WATER ionizers** eliminate all of the calcium deposits in equipment and prevents the formation of new deposits, nozzles of drip-feed equipment do not get clogged, spraying and nebulization equipment will have a longer life, and due to the reduced molecular cohesion of the water, the water drops will be much smaller permitting a better distribution of the water.

The formation of condensation on greenhouse vaults and walls favors the formation of bacterial colonies for developing microorganisms present

- in the water, whether deriving from the water well or aqueduct;
- in the greenhouse environment, developed in the growth medium and/or in the hot air heating unit;
- deriving from the surrounding environment.

Water treated with **HELKON WATER ionizers** have bacteriostatic and bactericidal characteristics: bacterial colonies (causes of pathologies) do not form.

Not to be forgotten, are the damages caused by the smoke of combustibles generated by the use of mobile heat generators functioning with fossil fuel; in this case, water nebulized with **HELKON WATER ionizers** favors the abatement of particulate matter and other pollutants.

Many pathologies have been eliminated by treating water with **HELKON WATER ionizers**.



# HELKON WATER<sup>®</sup>

## Ionizers

### *For the Physical Treatment of Water in Heating Circuits*

The maintenance problems of water heating circuits impose an economic burden on companies, directly and indirectly, in the primary and secondary circuits where these are present.

The cleaning of equipment in general (machines, distribution lines, heat exchangers, radiators) require maintenance and pickling products which, are acidic, have to be discharged as special toxic wastes.

The aggressiveness of the products “necessarily utilized” with pH 3.5 (market average value), besides the danger for the operator, corrodes equipment favoring the deterioration of the equipment with unpredictable costs and time.

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The use of treated water with **HELKON WATER ionizers** in the primary and secondary circuits permit to:

- eliminate all existing deposits and prevent the formation of new calcium deposits
- eliminate all microorganisms present in the filling water of the equipment
- sensibly improve the thermal exchange, due to the reduction of the molecular cohesion of the water, reducing in this way the consumption of the combustible.
- reduce the consumption of the combustible, due to above mentioned points
- increases the life-span of the equipment
- reduce equipment shut downs due to scheduled and unpredictable technical maintenance



# HELKON *TECHNOLOGY*

## *for SOLAR and PHOTOVOLTAIC PANELS COOLING SYSTEM*

*is an eco-friendly solution for the physical treatment of WATER*

*...for the cooling and cleaning of photovoltaic panels.  
...for the recirculation fluid and the cleaning of solar panels.  
...for the recirculation fluid of the geothermal probe and water plant.*

With **HELKON WATER** ionizers the following is obtained:

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- Complete cleaning of the water plant with the elimination of all existing incrustations and prevention of new formations;
- Elimination of the corrosive calcium deposits on the panels and prevention of new formations;
- Elimination of micro-organisms and prevention of the development of the same by the bacteriostatic and bactericidal effect;
- Greater velocity of the thermal transmission due to the reduction of molecular cohesion of the ionized water and improvement of plant efficiency;
- Heat exchangers always perfectly clean;
- No aggressive corrosion to the plant due to the increase of the pH;
- Better cleaning with reduction of detergents;
- Reduction of waste water discharge costs and respecting the environment;
- Elimination of the electrostatic charges maintaining the panels transparent and consequently better efficiency;
- Reduction of energy consumption and cleaning time.

With **HELKON FIL** filters the following is obtained:

Filtered or **microfiltered** water down to 1 micron with the elimination of all suspended solids, micro-algae and microscopic fungus



## HELKON CALOR<sup>®</sup> Ionizers



### *For the Physical Treatment of the Combustible for Heating*

The heating of greenhouses with fossil fuels, diesel fuel, natural gas, LPG (Liquefied Petroleum Gas) imposes a significant cost burden and unfortunately contributes to the pollution by the smoke derived from the combustion.

The **HELKON CALOR ionizers**, specifically designed and manufactured according to the type of combustible, permit adequate combustible savings, and at the same time, sensibly reducing the pollution generated from smoke of the combustible.

The thermal plant and smoke exhaust systems are also less stressed.

Benefits of **HELKON CALOR ionizers**:

- economic savings;
- respects and improves the environment;
- reduction of maintenance costs
- reduction of the consumption of the combustibles
- improves the combustion
- cleans burners and smoke exhaust systems





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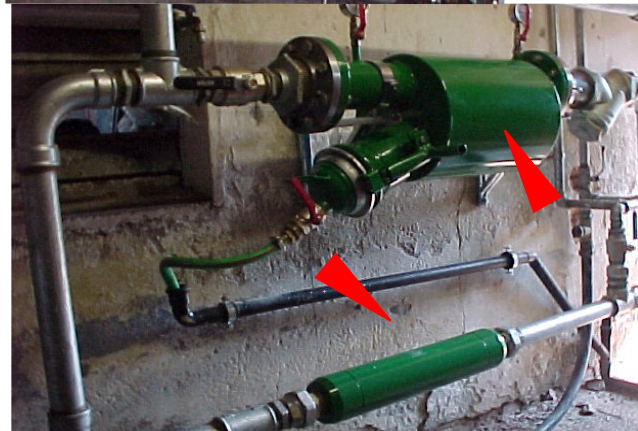
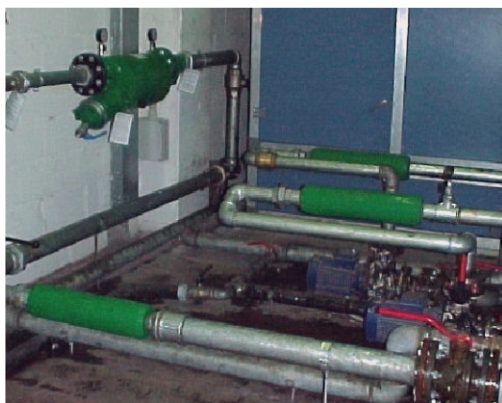
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# HELKON WATER® Ionizers & Filters

*....in agriculture and gardening applications*



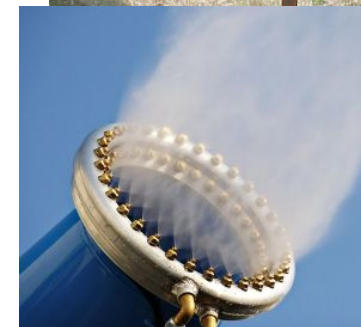
HELKON®

conforms with hygiene, sanitary  
and ecological regulations

With **HELKON WATER®** and **HELKON FIL®**  
the following is obtained:

elimination of all existing incrustations in pipes and equipment; prevention of new incrustations; prevention of algae and microscopic fungus; reduction of bacterial load; prevention of nozzle clog-up; optimisation of drip feed irrigator; optimisation of nebulization systems; elimination of limestone deposits on roots; greener, thicker and healthier lawns; reduction of water acidity; reduction of consumption of fertilizers and other chemical products; reduction of operating costs

***reduction of operating and maintenance costs, increased production,  
reduction of pollution & important energy savings***







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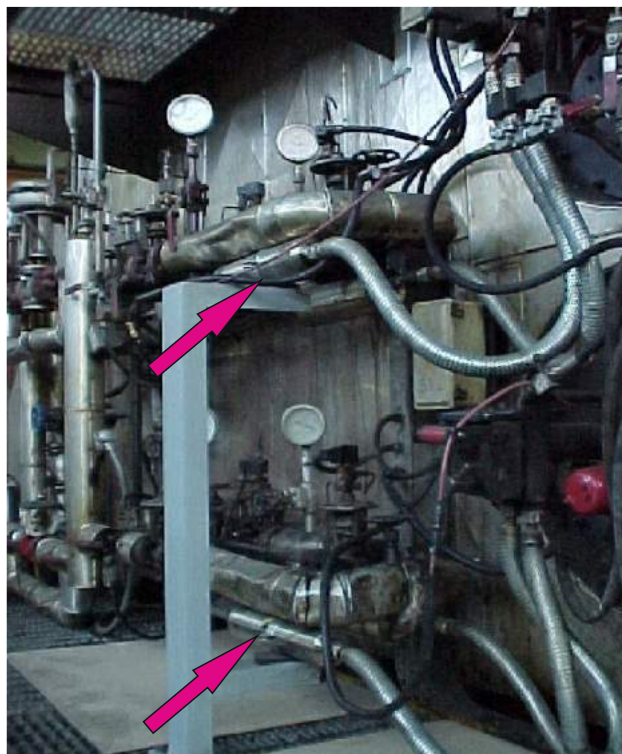
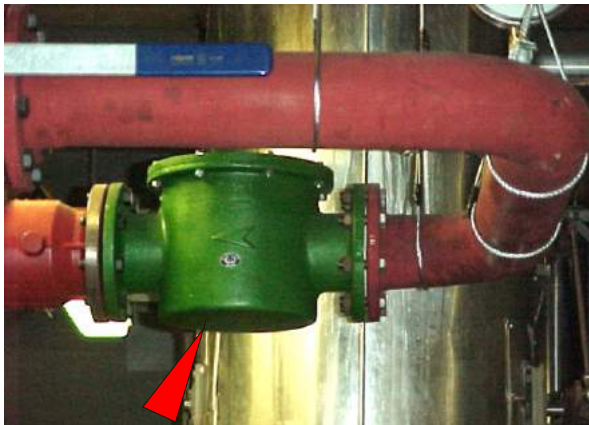
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## HELKON CALOR<sup>®</sup>

### Cogenerator Plant

Combustible: Methane

Power. 1100 kw/h



### Boiler

Combustible:

Low Sulfur Content  
power  
35.000.000 kcal/h



### Boiler

Combustible:  
Methane  
power  
3.000.000 kcal/h

**HELKON<sup>®</sup>**

conforms with  
hygiene, sanitary  
and ecological regulations





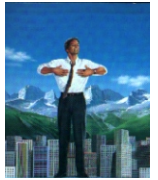
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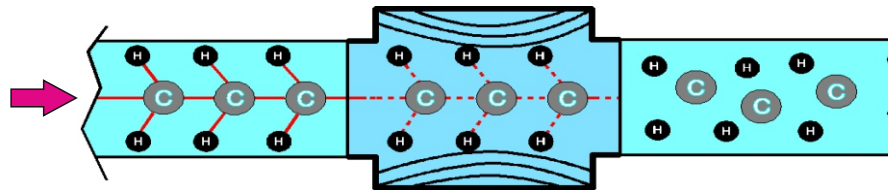
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# HELKON CALOR® *ionizers...*

...for thermal plant and fuel diesel and gas cogenerator

**Abates ecologically the formation  
of toxic gases with relevant advantages  
for power and consumptions**



## HELKON Calor®

generates a powerful magnetic field on the fuel via HELKON's unique proprietary technology.

When the fuel is under **HELKON Calor Magnetism®**, the hydrogen atoms existing in the hydrocarbons are charged so that their relation with oxygen is more effective in the mixing.



## Characteristics of HELKON Calor®

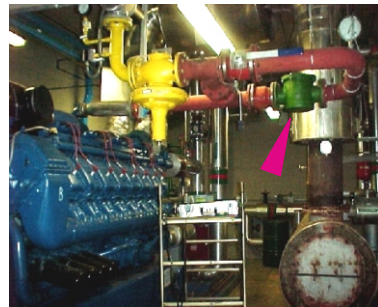
Relevant reduction of toxic gases  
(HC, CO,...)

Reduction of maintenance costs

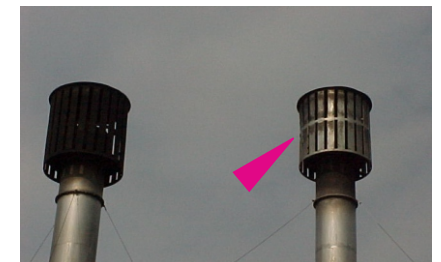
Power increase

Consumption reduction

Easy installation,  
removal and use for another  
thermal plant applications



**HELKON®**  
conforms with  
ecological regulations





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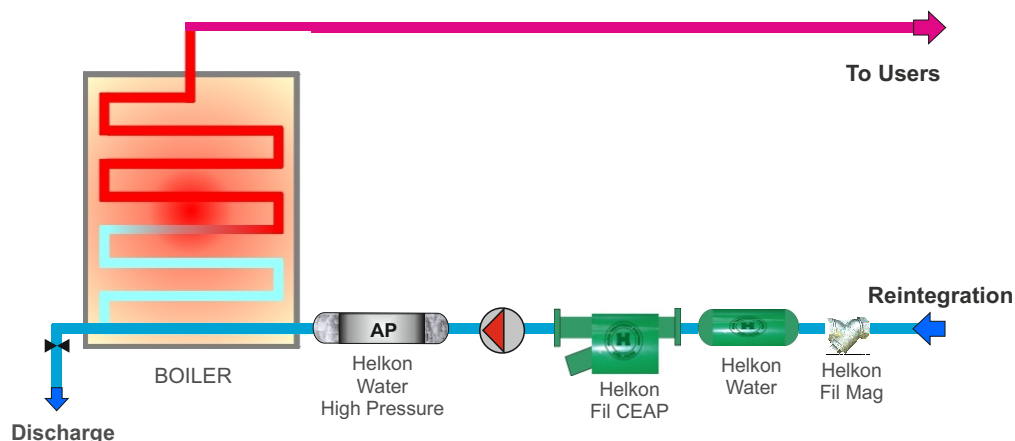
# with **HELKON®** ionizers and filters for water....

## ....in thermal plant applications

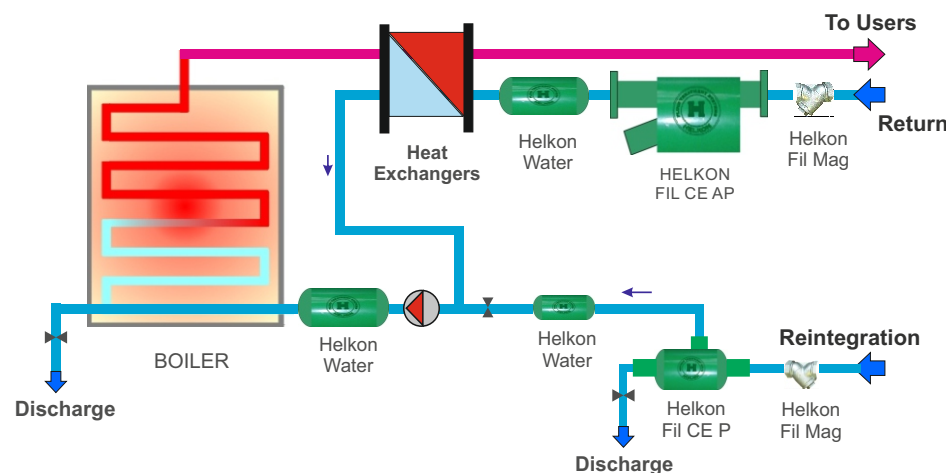
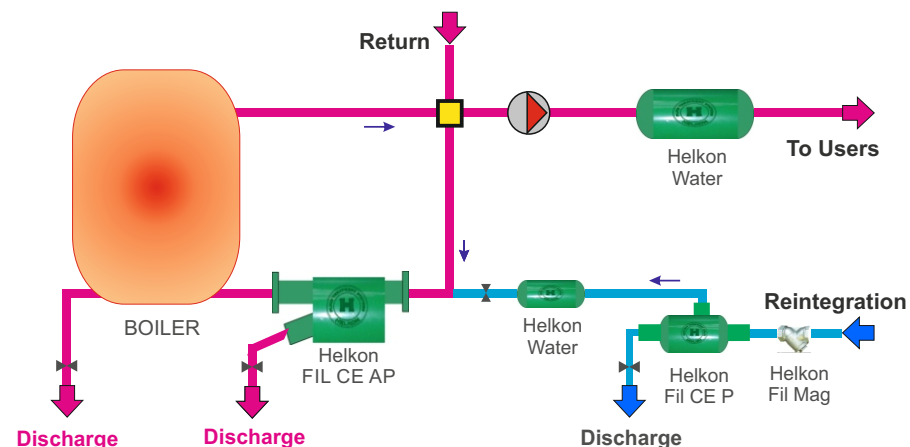
With **HELKON WATER®** and **HELKON FIL®** the following is obtained:

- Elimination of all existing incrustations.
- Prevention of formation of limestone deposits, other salts and carbonates on walls, pipes and exchangers.
- Prevention of formation of algae, fungus and bacteria.
- Elimination of softening.
- Total elimination of chemical products.
- Better thermal exchange and consequent reduction of energy costs.
- Elimination of water discharge costs.
- Reduction of consumptions.

**HELKON®**  
conforms with  
hygiene, sanitary  
and ecological regulations



*reduction of operating and maintenance costs,  
increased production, reduction of pollution,  
important energy savings*





**HELKON products<sup>®</sup>**

*conform with  
hygiene, sanitary and ecological regulations*

## ***About Us***

**HELKON Fluid Treatment Systems** (a division of **SRI sas – Industrial Services and Representations, Milano - Italy**) is specialized in designing, manufacturing and supplying, under the proprietary HELKON brand, high quality eco-friendly fluid treatment systems for a broad range of applications. Supplies standard and custom made fluid ionization and filtration systems for the Agriculture, Horticulture, Industrial, Commercial, and other sectors which use water and other fluids.

*For more informations contact:*

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