



TEKNO SISTEMI
di PAOLO MUMOLO
Viale Petrarca 167 LIVORNO

H₂Ogenius

What's this?

It is a revolutionary device that **solves the problem of limescale deposits in your system** and eliminates the need to install softeners or to use specific products.

H₂O Genius is able to work leaving the chemical and organoleptic composition of the water in your aqueduct completely unaltered. It only needs to be connected to your water system, as once installed it does not need any maintenance once it is installed to your water system.

H₂O Genius technology, contrary to what is offered by competing magnetizing or electromagnetic products, operates perfectly even with water that works at high temperatures (100 °). Therefore it is suitable for any civil water system and for small and medium-sized businesses.

It also guarantees an **antibacterial treatment**.



CHEAP

ECOLOGICAL

NO INTERNAL FILTERS

NO WATER WASTE

NO MAINTENANCE



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Implant problems

WATER CONTAMINANTS AND RELATED PROBLEMS:

A common civil water system is always subject to a series of problems that depend on the quality of the water supplied and of the water networks through which it is distributed. In any case, water in nature is never pure. In the water there are always (obviously in varying percentages from case to case) substances of different types that can be floating, dispersed or dissolved: clay, silica, limestone, algae, fats, metals, microorganisms, debris, gas etc.

These contaminants can cause **technical complications** to the system but also to **health problems** when the water is microbiologically contaminated.

TECHNICAL COMPLICATIONS:

The most encountered problems in a water system are the **formation of limestone** and **corrosion**: the incrustation is formed due to the precipitation of carbonates (mainly calcium and magnesium), with significant reduction of the pipe sections. This phenomenon is all the more intense the higher the temperature of the water in the circuit, which is the reason why the incrustation tends to appear more on the surfaces of the components where the heat exchange takes place (boilers, exchangers, coils, etc.); the very low thermal conductivity of the limestone causes it to act as an insulator.

The most immediate consequence is a very **strong growth of the energy spent** and therefore of the **management costs of a circuit**.



A single millimeter (**1mm**) of limescale in pipes carrying hot water can increase energy consumption by **10-15%**



Implant problems

HEALTH PROBLEMS:

The water in our networks contains, among other elements, calcium and magnesium carbonate, the quantity of which is indicated by the "hardness" of the water, a parameter that defines how many milligrams of calcium carbonate are dissolved in a liter of water : $1^\circ f = 10 \text{ mg} / \text{l} = 10 \text{ ppm}$.

Wherever water is used, the limestone that forms on the contact surfaces, in addition to causing the problems described above, it also creates sanitary problems: In fact, the risk of **bacterial proliferation** increases greatly in an encrusted pipe.

The microporosity of the incrustations constitutes a natural habitat for the colonies of different bacteria families which, since they are well anchored to the substrate, are difficult to "attack".

All waters contain a certain amount of microorganisms such as bacteria, algae, fungi. They constitute the microflora of water, a completely natural phenomenon. But when human activities introduce discharges and organic wastewater into the water basins, a polluting microflora is created in which real dangers can lurk, such as: **Shigella**, **protozoa**, **Pseudomonas** and **Cholera**.

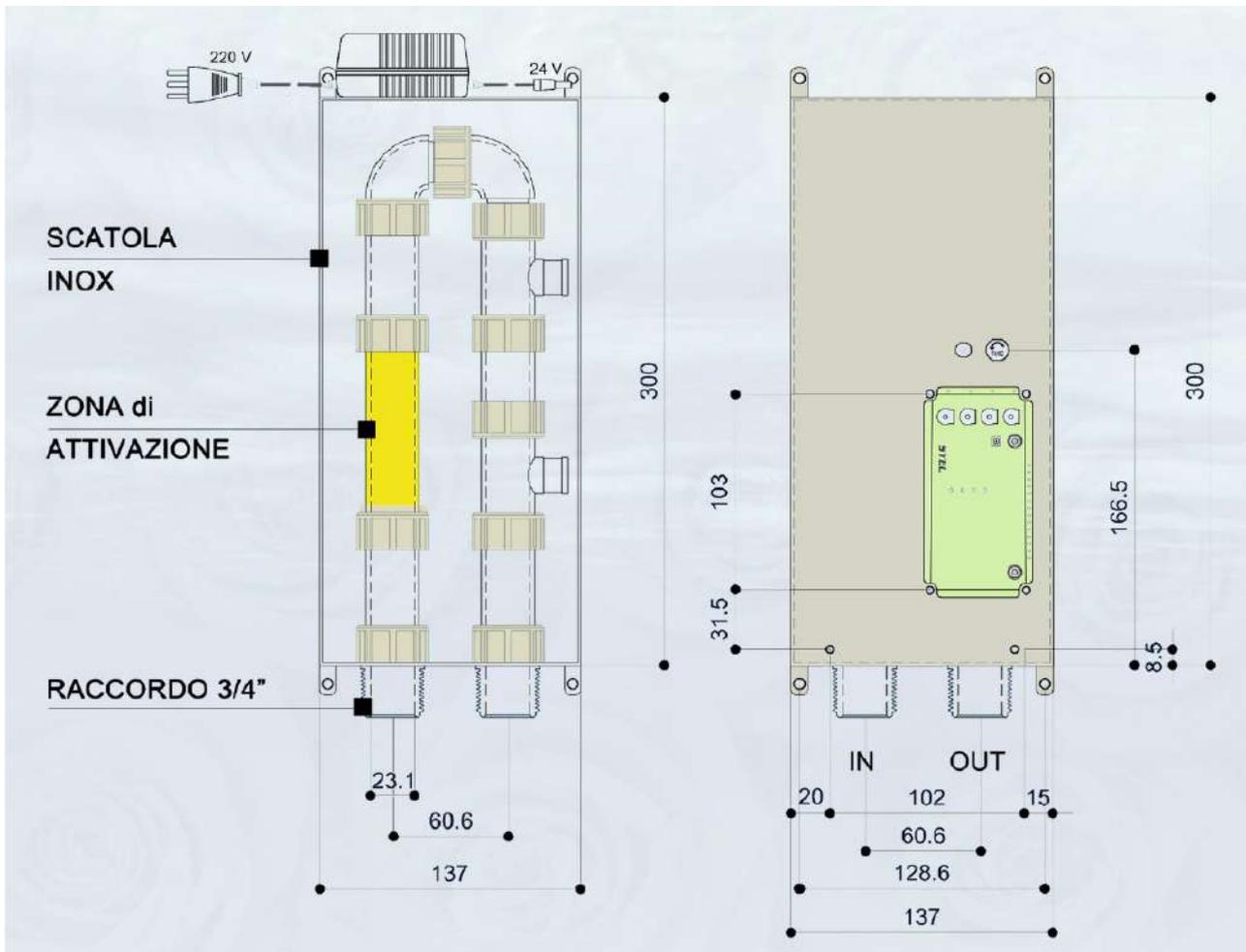
Each of these organisms has to be treated specifically.

H₂O Genius is equipped with an **anti-bacterial action** on a vast spectrum of organisms; an unplanned but experimentally evident "side effect".

Another great advantage of a very simple device.



Technical data



Case in 316 satin stainless steel

Inlet connections (3/4)" male

Outlet connections (3/4)" male

Pressure loss: 0.2 bar

Power: 2.5W

Power supply: 24 V DC

Overload protection: YES

Control Panel: electronic

n ° 4 fixing plates f-5 mm

Power supply: 220V AC / 24V DC
class 2

Compliance: EN 61000-3-2.3

Approval: CE

Electromagnetic compatibility: Dir.
2004 108 EEC

CE n 1935 82004

N.B.
Install a hydraulic bypass during
assembly.

Why H₂O Genius?

- 1) Because it is very **easy to install**.
- 2) Because **it does not require any maintenance** on the equipment: in the event that H₂O Genius (but this is a topic to be verified specifically on each system) is paired to filters, maintenance will only concern the latter (cartridge change).
- 3) Because it permanently **eliminates any limescale deposits**.
- 4) Because **it works even at high temperatures**, something that no other competitor's equipment can do
- 5) Because, after a certain period of installation, the cleaning process of the pre-existing limestone begins: the pipes of the existing system get rid of the limestone with all the resulting advantages
- 6) Because the **quality of the water benefits**: a new sensation is clearly felt on the skin: those who wash themselves with water activated with H₂O Genius find it an evident phenomenon.
- 7) Because the absence of consumables and various components (such as salts, electronic control units for resin management) means that **once installed the owner can forget that they have installed it**: no replacements are foreseen. With extreme savings in energy and money, recharge and backwash cycles.
- 8) Because **the investment is amortized over 1-4 years** (depending on the system).
- 9) Because H₂O Genius is **guaranteed for 5 years**.
- 10) Because it is totally **green friendly**.



Principle of operation

H₂O Genius is a decisive step forward in water treatment for the purpose of eliminating problems related to the presence of limestone.

It acts thanks to an intense **energization** that is transmitted to the water by a very strong electrostatic emission.

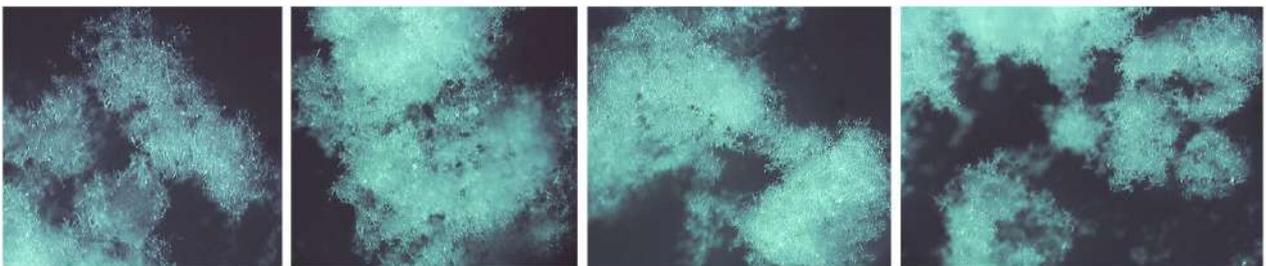
In a language that is not strictly scientific we define this phase as "water activation".

The chemical and organoleptic composition of the water remains in fact completely unaltered. The activation changes the effects of the presence of limescale in the water:

Stop the formation of incrustations starting from the installation of H₂O Genius. Progressive **reduction of existing incrustations**.

From a purely scientific point of view, there are conflicting opinions on the chemical-physical reasons that explain the effects of H₂O Genius on limestone present in water. While waiting for the scientists to find a shared explanation of the mechanisms that justify these effects, what we want to emphasize is the **effectiveness of the treatment**: effectiveness demonstrated by the experimental results and by the many installations that have been operating for some time both on civil plants and on production activities, also quite important.

Here are some electron microscope photographs showing the presence of aragonite crystals after the water has been activated with H₂O Genius:



The needle-like conformation, perfectly evident, means that these limestone structures are easily dragged away by the flow of water itself.



Models

 A small, rectangular stainless steel device with two large grey connectors on the front panel, labeled 'IN' and 'OUT'. A power cord is plugged into the back.	<p>H2OG0.75: H2O GENIUS device 3/4 " IN / OUT connections 200x300x150 24VDC 12W</p> <p>H2OG1.00: H2O GENIUS device with IN / OUT 1 " 400x400x150 24VDC 24W</p> <p>H2OG1.25: H2O GENIUS device 1 "1/4" IN / OUT connections 400x400x150 24VDC 35W</p>
 A larger rectangular stainless steel device with two large grey connectors on the front panel, labeled 'IN' and 'OUT'. A power cord is plugged into the back.	<p>H2OG1.50: H2O GENIUS device, IN / OUT 1'1 / 2 connections 400x600x150 24VDC 60W</p> <p>H2OG2.00: H2O GENIUS device with IN / OUT 2 " 600x600x300 24VDC 70W</p> <p>H2OG2.25: H2O GENIUS device, IN / OUT 2'1 / 2 connections 600x600x300 24VDC 100W</p>
 A rectangular stainless steel device with three large grey connectors on the front panel, labeled 'IN', 'AWF', and 'OUT'. A power cord is plugged into the back.	<p>H2OG2.25: H2O GENIUS TRIO device 1/2 " IN / OUT connections 200x300x150 24VDC 12W</p> <p>H2OG2.25: H2O GENIUS TRIO device with IN / OUT 1 " 400x400x150 24VDC 24W</p>

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