

# COMPACT SYSTEM FOR DOMESTIC WASTEWATER TREATMENT

**P** PATENTED TECHNOLOGY



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## ABSTRACT

The Institute of Water and Environmental Sciences at the University of Alicante has developed a compact system for sanitizing wastewater from neighbourhood associations, residential areas, estates, hotels, golf courses, recreational areas, or sports grounds for reuse in irrigation, ornamental fountains, heating-refrigeration systems, refilling of cisterns, for washing cars etc.

The system is characterized by its ease of installation and maintenance, and is fully automated. It does not generate bad odours, it saves energy and is cost-effective, and can supply treated wastewater for up to 500 people.

Companies interested in acquiring the system for commercial development are sought for collaboration.

## TECHNOLOGY ADVANTAGES AND INNOVATIVE ASPECTS

### ADVANTAGES:

- It is possible to reuse wastewater originating from neighbourhoods, residential areas, estates, hotels, golf courses, in irrigation, ornamental fountains, heating-refrigeration systems, refilling of cisterns, for washing cars, etc.
- The wastewater sanitization is done "in situ", avoiding having to pump the water to a wastewater treatment plant.
- The water obtained is of an excellent quality.
- If the treated wastewater is utilized for irrigating green spaces, it provides a distinct nutritive advantage over drinking water in that the treated wastewater contains dissolved organic and nitrogenous matter that is essential to plant growth, but in quantities that are small enough so as not to pose a risk to human beings.
- Reusing wastewater saves energy and is cost-effective.
- Using sanitized wastewater for purposes that do not require drinking water preserves freshwater resources, which is beneficial to the environment.
- A single unit can supply enough water for up to 500 people. In addition, the size of the system is such that it can be transported on all types of roads.
- The system can operate within a range of purification, depending on what the sanitized water will ultimately be used for.
- The tank is designed to be buried below ground, which saves space, minimizes odours, and makes less of a visual impact.
- It has a valve which is connected directly to the sewer system for draining when appropriate, and should it become necessary, for rapid and secure drainage.

### INNOVATIVE ASPECTS:

- The system is compact (not modular), easy to install and maintain, and fully automated.
- It is designed to be buried below ground, which not only reduces its visual impact, but also the occasional generation of bad odours.
- It relies on the force of gravity for permeation, which saves energy and is cost-effective.

- It operates within a range of purification, which allows the quality of the treated water to be adjusted according to its final use.
  - It is designed to prevent biological hazard risks in case of leaks or breakage.
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#### MARKET APPLICATIONS

The compact system for the treatment of wastewater is primarily destined for use by neighbourhoods, estates, hotels, golf courses, sports centres, to reuse the treated water in the irrigation of gardens and green spaces, in ornamental fountains, heating-refrigeration systems, refilling of cisterns, for washing cars etc.

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#### COLLABORATION SOUGHT

Companies interested in acquiring the system for commercial development are sought for collaboration.

Use of different forms of technology transfer is possible: patent licence agreement, assignment of use agreement, manufacture or commercialization to third party companies, etc.

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