



Demonstrating integrated innovative technologies for an optimal and safe closed water cycle in Mediterranean tourist facilities www.demeaumed.eu



ELECTROCHEMICAL OZONATION

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Description

The Electrochemical Ozonation technology uses electrodes coated with boron doped diamond which produce an oxygen-ozone mixture with higher ozone concentration than can be achieved with conventional gas discharge ozone generators.

The ozone is produced in the wastewater and therefore directly and perfectly dissolved in it. Less apparatus is involved when compared with conventional ozone generators.

Applicability

- Future: Polishing treatment for small to medium scale installations in view of achieving drinking water quality of the treated water.
- Future: Removal of emergent and priority pollutants, even at trace levels, and disinfection of water.
- Today: Removal of organic substances from ultra-pure water and treatment of recalcitrant or toxic industrial effluents.

Results from demEAUmed demonstration

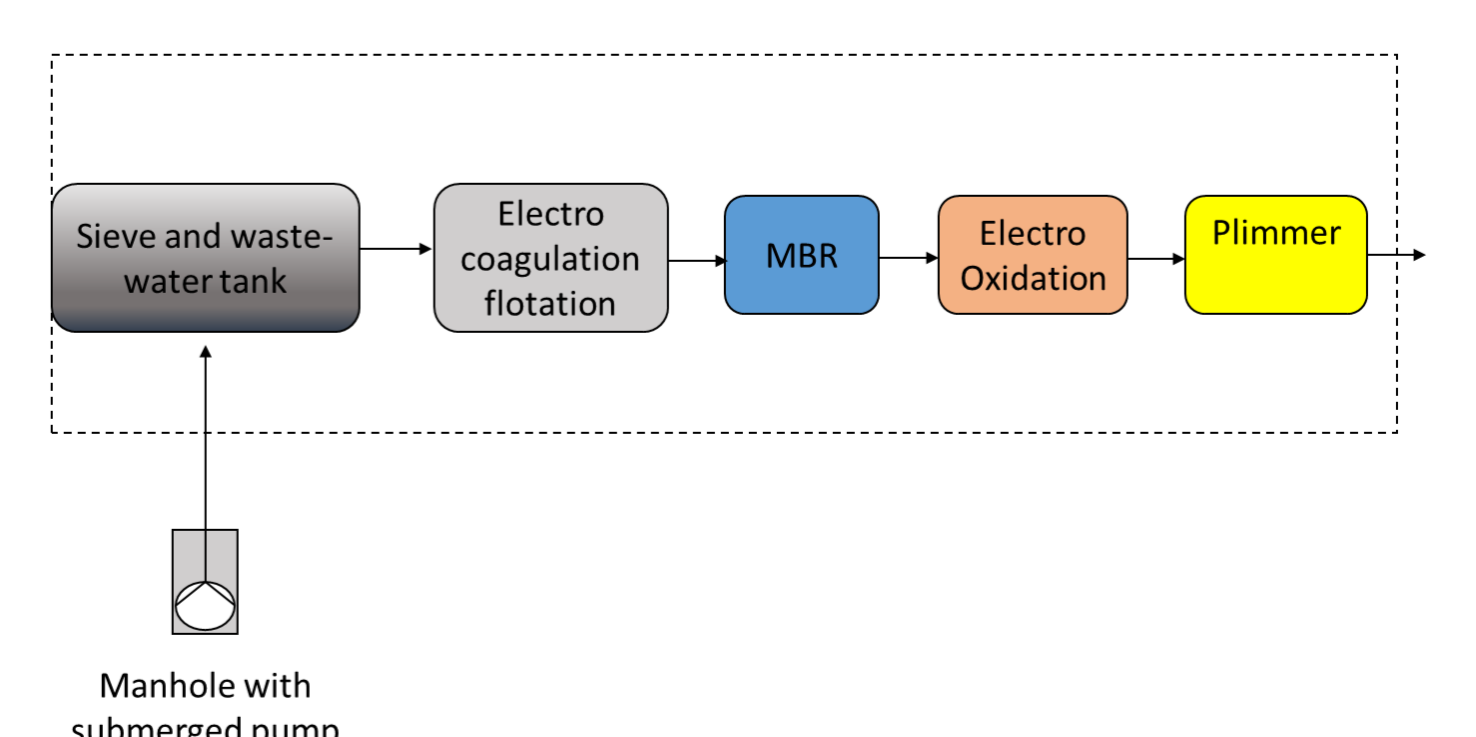
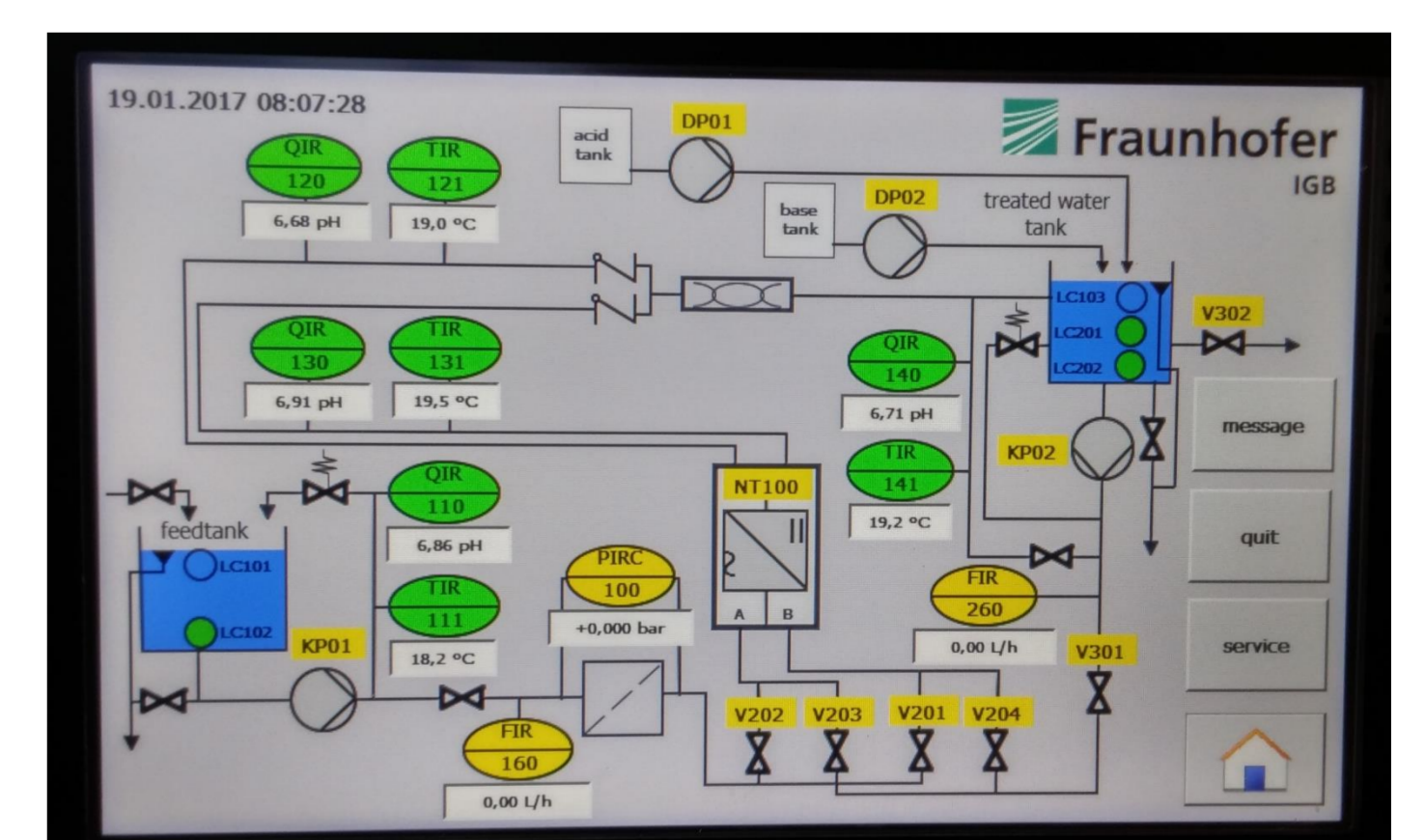
- In pre-treated domestic wastewater the system oxidizes > 90% of trace organic pollutants with an electrical energy input of less than 1 kWh/m³.

Advantages

- No oxygen feed needed
- Automatic operation
- Full remote operation
- Chemical free process – no need to add hydrogen peroxide, ozone or catalysts
- Adjustable treatment capacity
- Adjustable treatment intensity (saving energy)
- Disinfection of the treated water as a side-effect
- Independent of UV-absorbance of the feed water

Additional value

- Low running costs
- Chemical free process



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