Technology offer

Hydrodynamic cavitation wastewater treatment

Field of use
Green chemistry and Wastewater treatment

Current state of technology
Pilot scale prototype

Intellectual property
Patent application number: P50434LU00

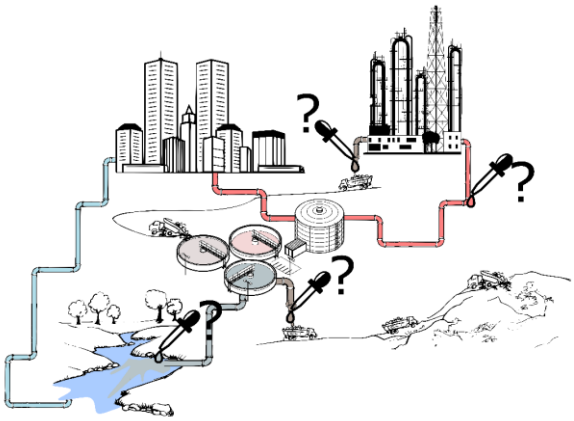
Developed by
University of Ljubljana, Faculty of Mechanical engineering

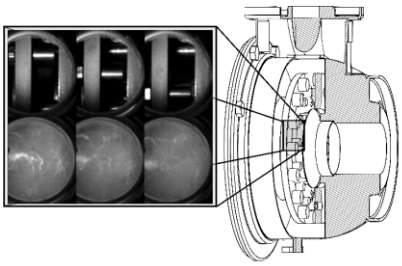
Reference
UL01P031LU

Contact
Knowledge Transfer Office

Urša Jerše
Phone: +386 1 241 85 28
E-mail: ipr@uni-lj.si

ppz.uni-lj.si





Background

A serious environmental threat facing humanity is the rapid growth of waste. These include wastewater and its micropollutants (personal care products, medicines, pesticides, surfactants, heavy metals, chlorinated organic solvents and polyaromatic hydrocarbons), hazardous viruses, microorganisms and difficult-to-degrade microplastics. The disadvantages of conventional wastewater treatment processes are the high energy consumption and the use of chemical agents, and they are associated with high costs and environmental risks.

Description of the invention

Our invention is an alternative technological solution: a new and efficient combination of hydrodynamic cavitation, photochemical and photocatalytic processes. It is a combination of green oxidation processes that do not require the addition of external oxidants, and thus do not contribute to the formation of secondary pollutants in the treated sample.

Main Advantages

- Green oxidation process
- Wide variety of applications (municipal sewage, industrial water, waste activated sludge...)
- Scalable and modular device that can operate as a stand-alone unit or integrated into an existing process

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