Cleargreen™

biological treatment of effluents with high concentrations of ammonia

urban wastewater

eliminate nitrogen caused by anaerobic digestion of sludge

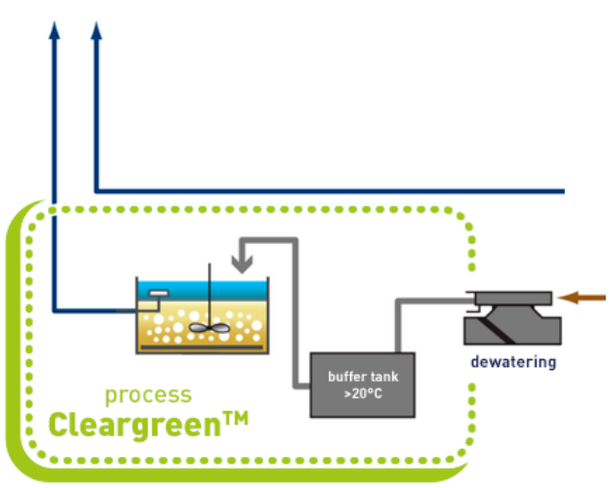
performance and savings

economic and effective treatment of returns with loads of ammonia

innovation

deammonification allows the treatment of concentrated ammonia caused by anaerobic digestion of sludge at the head of the station – limiting the impact of digestion on the water treatment line

Cleargreen™ (for Cyclic Low Energy Ammonia Removal) augments anaerobic treatment of sludge (biological, primary, co-digestion) to remove the nitrogen overload.



key figure

60%

less air needed compared to classic activated sludge treatment

suez

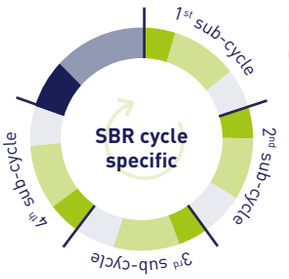
Cleargreen™ technology . . .

Cleargreen™ is designed to work within a biological sequencing batch reactor (SBR) such as Cyclor™, a SUEZ reactor that allows the successive completion of all treatment phases in the same tank.

Feed, aeration and deammonification phases are divided into sub-cycles and adapt in duration and intensity according to the characteristics of the effluent to be treated. The deammonification process uses bacteria known as Anammox, naturally present in environment. Cleargreen™ does not require the addition of a biomass to function.

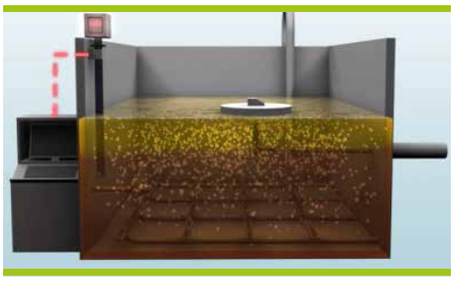
A specific treatment after anaerobic sludge digestion: with Cleargreen™, the flow of nitrates does not return to the head of the water treatment line, but is treated in an effective manner.

The reactor is equipped with captors, continually monitoring the system to limit human intervention.



Cleargreen™
Cyclic **L**ow **E**nergy **A**mmonium **R**emoval

- feeding
- aeration
- anoxia
- settling
- discharge



. . . what it can do for you

flexibility of use

- process adapts depending on the quality of effluent to be treated
- automation of process controls
- robust adaptability to variations in load and effluent composition
- process that is very beneficial for plant rehabilitations

performance

- new solution for treating return flows from digestion
- spontaneous installation of the biomass
- internally patented process

environment

- no reactive agents needed
- contributes to the preservation of energy resources
- automatic regulation of air supply = control of consumption

SUEZ treatment infrastructure

innovation.mailin@degremont.com

www.degremont.com

among our references

Richmond, USA
14-month prototype

Creil-Montataire, France
17-month prototype

Ourense, Spain
capacity: 300,000 PE

P-ER-009-EN-1603

Conception & Realisation: O. Barbier (SUEZ) - Photos credits: SUEZ