

# DIGESTHANE®

## Sludge reduction and energy production process

**DIGESTHANE®** is a process for sludge reduction and energy conversion that optimizes the performance of conventional anaerobic digestion.



Using the biomass from treatment to generate energy enables a wastewater treatment plant to reduce its energy dependency

Current water treatment processes produce a biological sludge that is relatively stabilized by prolonged aeration, and therefore not well suited to rapid fermentation. Ultrasound improves the biodegradability of the sludge by creating cell lysis. The anaerobic digestion process is enhanced and accelerated by ultrasonic pretreatment of the sludge - in the SONOFLUX® reactor - based on the principle of sonolysis.

This considerably accelerates the initial sludge hydrolysis stage, which determines the overall digestion results.

The result is a digester :

- higher performance (more biogas and less digested sludge);
- more efficient (reduced residence time);
- easier to operate (stable operation);

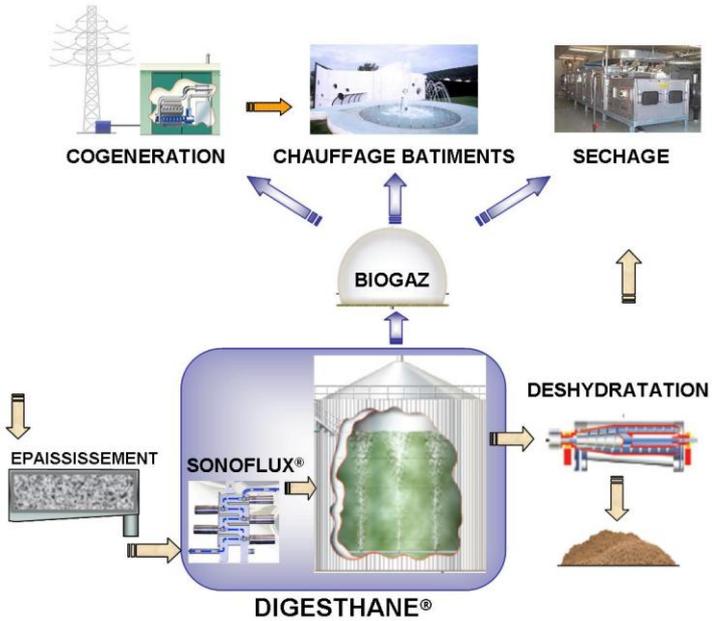
### FIELDS OF APPLICATION

- Digestion of biological sludge by prolonged aeration without primary settling
- Mixed sludge digestion: primary and low biological load
- Biogas recovery for drying and/or energy production - cogeneration
- Stabilization of sludge produced by the plant

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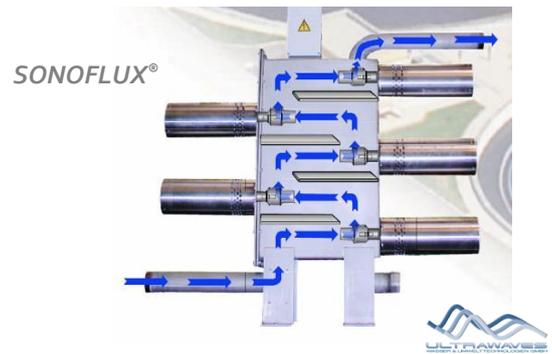
## AN ENERGY RECOVERY TECHNOLOGY ADAPTABLE TO EXISTING PLANTS

Very common in Europe, anaerobic digestion is becoming less economically viable for biological sludge from prolonged aeration. **DIGESTHANE®** enables this energy recovery technology to be used again, even in existing plants not designed for it.



### CHARACTERISTICS

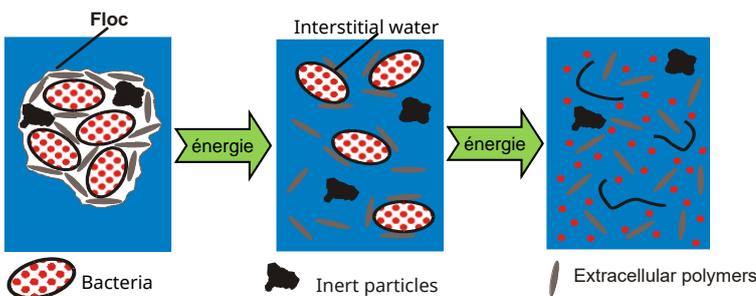
- SONOFLUX® reactors coupled in parallel or in series.
- Insulated, heated and agitated bioreactor for anaerobic digestion or methanization
- Biogas storage



Sludge sonolysis is based on the mechanical disintegration of the cells contained in the biological sludge. Intra- and extra-cellular material is released and transferred to the soluble phase, making it easier for the bacteria to assimilate.

Advances in cogeneration technologies (engines, micro-turbines and biogas engines, micro-turbines and biogas turbines) enable the energy energy produced

### Sludge disintegration



### REFERENCES

Numerous references for ultrasonic coupled with anaerobic digestion to improve to improve performance or capacities.