MICROBUBBLES

Perlemax Ltd

DESCRIPTION:

By using fluidic oscillation micro-bubbles can be generated which significantly improve gas transfer to liquids.

APPLICABILITY AND PRE-REQUISITES:

In waste water aeration oxygen can be dissolved at a much higher rate than conventional means. This has been measured at a 40% improvement. 1% of the total electricity consumption in any industrialized country is used in this process hence the cost savings and reduction in carbon footprint have the potential to be considerable.

In Anaerobic Digestion 100% increase in methane has been measured giving greater stability of sludge by dosing with CO_2 using fluidic oscillators.

ADVANTAGES AND DISADVANTAGES:

The technology is a retrofit to existing wastewater technologies.

OPERATION AND MAINTENANCE:

The technology consumes no additional power as it works on the airflow used in a process. There is no need for a control system as performance will be measured through SCADA systems.

COSTS:

Costs will vary between the size of plant but payback has been measured at under 3 years.

REFERENCES:

Currently being incorporated and evaluated at Aquafin's Aarteslaar test facility and later at IVL's research facility in Stockholm under the R3 Water project.

DN100 Oscillator in operation at a facility in the Republic of Ireland.

CONTACT

Graeme Hitchen
graeme@perlemax.com
+44 774 017 3743

The research leading to these results has received funding from the European Union Seventh Framework Programme (*FP7/2007-2013*) under *grant agreement* n° 619093.