

Summary

20 micron micro-bubbles of pure CO₂ in methanogenesis

100% increase in methane production

Aid to mixing alleviating the need for mechanical methods.

Anaerobic Digestion

Anaerobic Digestion is a natural process where plant and animal materials (biomass) are broken down by microorganisms in the absence of oxygen

The AD process begins when biomass is put inside a sealed tank or digester.

1. Naturally occurring micro-organisms digest the biomass, which releases a methane rich biogas that can be used to generate renewable heat and power; this helps cut fossil fuel use and reduce greenhouse gas emissions.
2. The remaining material digestate is rich in nutrients, so it can be used as a fertiliser.

The Anaerobic Digestion processes uses CO₂ are a key nutrient in its last phase called methanogenesis. Perlemax's micro-bubble system uses bubbles down to 20 microns of pure CO₂ to accelerate the process that produces methane.

As the reaction is in equilibrium removal of the produced methane by the same micro-bubbles shifts the reaction to the right. This enhances completion of the reaction so producing significantly more methane than conventional systems.

