



## ANAEROBIC DIGESTION TECHNOLOGIES CONTAINERIZED PLUG-AND-PLAY DIGESTER

### Containerized Plug-and-Play Plug-Flow Digester

The containerized plug-flow digester is the small, plug-and-play anaerobic digester option that provides maximum feedstock flexibility for limited throughput applications. The containerized solution, BiogasTiger®, is a standardized, pre-fabricated system that is available as singular digester modules up to a full, turn-key solution.



#### System Description

The BiogasTiger® system is a plug-flow digester with paddle stirrers, providing the constant, homogeneous, and gentle mixing of substrates and microbes. The robust design can even process high solids for feedstock flexibility.

#### Modularity & Pre-assembly

Due to the modular design, all components are standardized and industrially prefabricated, quality checked, and can quickly be installed and commissioned.

#### Easy Start-Up

The earthwork and civil work requirements are minimized by the prefabricated design. Its compact footprint makes the BiogasTiger® an ideal anaerobic digestion solution for small farms.

#### Flexible Integration

The BiogasTiger® is globally available as a complete turnkey system or as a modular system to meet your project needs. In addition, the modularity offers ease of future expansions and repowering of existing plants, as well as expanding the substrate spectrum with challenging materials.

### A Strategic Partnership

FWE GmbH was founded in 2016 as a spin-off of the Fickert & Winterling Group and specializes in project development for renewable energies. FWE GmbH has developed projects in both Europe and South America. The German based company became aligned with

Eisenmann as one of its strategic technology partners in 2019. Together, Eisenmann and FWE GmbH meet their customer's renewable energy and organics diversion goals in all parts of the world.



## ANAEROBIC DIGESTION TECHNOLOGIES WASTE TO ENERGY

### Arzberg / Germany Dairy Manure and Corn Silage

#### The Research Project

The beautiful landscape of the Fichtelgebirge in Arzberg-Bergnersreuth (Bavaria) provided the idyllic setting of a research project for the development, design, manufacture, research, and optimization of a modular compact biogas plant. A project carried out with the participation of specially selected regional companies to strengthen rural areas and contribute to the maintenance and creation of jobs in the region.



Technical Data Arzberg Plant	
Feedstocks	Dairy Manure, Corn Silage
Throughput	~ 1,700 tons/year
Digester Capacity	2 x 25,000 gal (95 m <sup>3</sup> )
Nominal Biogas Flow	25 SCFM (40 Nm <sup>3</sup> /hr)
Biogas Yield	310,000 Nm <sup>3</sup> /year



### Benefits of Biogas Production

Biogas is an attractive renewable energy which has become a critical part of alternative energy plans for both industry leaders and legislative bodies. It directly replaces fossil fuels and can do so (1) as a baseload energy source, unlike solar or wind which is intermittent, and (2) with distributed generation, which lowers the overall cost of energy and raises reliability. Recycling organic wastes such as manure, food waste, and green waste by sending it to an anaerobic digester generates environmental, economic, and agronomic benefits.

#### Environmental Benefits

Anaerobic digestion and subsequent waste treatment reduce the impact on (1) air pollution by capturing greenhouse gases like methane and dramatically reducing odor, and (2) water pollution by stabilizing nutrients while reducing the volume of land-applied material by concentrating nutrients.

#### Economic Benefits

Energy offtake opportunities such as power purchase agreements or carbon credits programs create revenue streams where previously there were costs to treat waste. These projects can also create jobs and improve infrastructure in rural areas.

#### Agronomic Benefits

Anaerobic digestion can provide reductions in pathogen level in land-applied waste. Digestion is an efficient process allowing for faster recovery and recycling of NPK, which can increase crop yield.