



COW SYSTEM  
Powered by EntSORGA

# COW SEMI-DRY

A REACTOR FOR ANAEROBIC DIGESTION

Powered by EntSORGA and Zenviro Tech



THE **COW SEMI-DRY SYSTEM** IS ONE OF THE MOST INNOVATIVE GREEN TECHNOLOGIES FOR THE RECOVERY OF **BIOGAS FROM ORGANIC WASTE** ON THE MARKET. THE **COW SEMI-DRY SYSTEM** USES THE **ZENVIRO TECH DIGESTION METHOD**, A PATENT THAT HAS BEEN COMMERCIALIZED EXCLUSIVELY IN ITALY BY ENTSORGA.

INTEGRATED WITH **COMPOSTING**, ANAEROBIC DIGESTION REPRESENTS ONE OF **THE MOST SUSTAINABLE AND EFFICIENT** SOLUTIONS ON THE MARKET, BOTH IN TERMS OF ENERGY SAVING AND ENVIRONMENTAL IMPACT.

**ENTSORGA**  
GREEN TECHNOLOGY REVOLUTION





AMONG THE ALTERNATIVES PROPOSED BY ENTSORGA FOR THE ANAEROBIC TREATMENT OF ORGANIC WASTE, THE **COW SEMI-DRY** SYSTEM IS PRESENTLY ONE OF THE MOST INNOVATIVE AND PROMISING METHODS ON THE MARKET. THE **BIOGAS** OBTAINED FROM THE FERMENTATION PROCESS CAN BE USED TO RECOVER **ENERGY** THROUGH COMBINED HEAT OR POWER (CHP) AND/OR UPGRADED TO **BIOMETHANE** TO BE INJECTED INTO THE GAS GRID OR USED AS A VEHICLE FUEL.

## CHARACTERISTICS

The **anaerobic digestion feed** provided by **Eisenmann** is based on a horizontal “**plug-flow**” type digester (piston flow), managed in a semi-dry process: the organic waste is placed inside a **reinforced concrete digester** (1) where the natural biological fermentation is maintained in the **absence of oxygen**.

A special system of horizontal shaking facilitates the micro organism activity thus maintaining the matter in a condition of perfect mixture and a **wall heating system** maintains an optimal temperature (about 40°C).

All the main process parameters are monitored and managed by an **automized control system** (2).

Two products are obtained from the fermentation; **biogas**, a natural gas composed mainly of methane and carbon dioxide, and, after about 20/30 days, a residual digestate, suitable for **composting** and use as a fertilizer of excellent quality for agriculture.

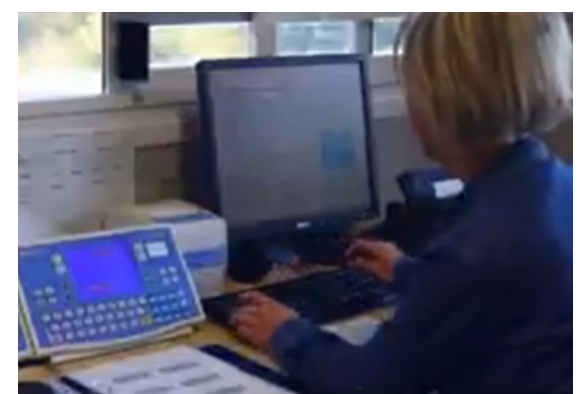
## ADVANTAGES

- **maximum environmental compatibility:** no smells or dust are released into the environment. The anaerobic digestion takes place inside closed digesters, with no external emissions.
- **reduced running and manpower costs:** the complete automatization of the plant limits access to waste treatment areas, protecting the health and guaranteeing the safety of the operators.
- **low consumption:** thanks to the automatization of the processes carried out by the automatic control system.
- **maximum flexibility:** modular and adaptable, the system easily adapts to the most diverse treatment requirements.

(1) DIGERSTORS



(2) AUTOMATIC CONTROL SYSTEM



## APPLICATION FIELDS

The **COW** system, proposed by Entsorga in the two versions **semi-wet and dry**, is a method of **ANAEROBIC TREATMENT** used to extract **biogas** from the organic fraction of waste and sludge. Together with the technologies for **COMPOSTING**, it allows for the maximum valorization of matter and energy recovery from waste.



COMPOSTING SOLUTIONS



ANAEROBIC DIGESTION



BIODRYING AND PRODUCTION OF SRF



BIOSTABILIZATION

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