

Bi'wet[®]

Wet Anaerobic Digestion System



Standard Solutions to Maximize the Value of Your Organic Waste



- Low Footprint
- Plug & Play Installation
- High-Quality Industrial Manufacturing
- Automated with Remote Monitoring and Control
- Compliance with European Regulations and Standards

The Bi'wet® process

Bi'wet® is based on the principle of anaerobic digestion of organic waste in a continuous stirred-tank reactor (CSTR). This process is specifically designed to treat organic substrates with a dry matter content of less than 12%. In addition to producing biogas, a renewable and cost-effective energy source, it also generates a high-quality digestate.

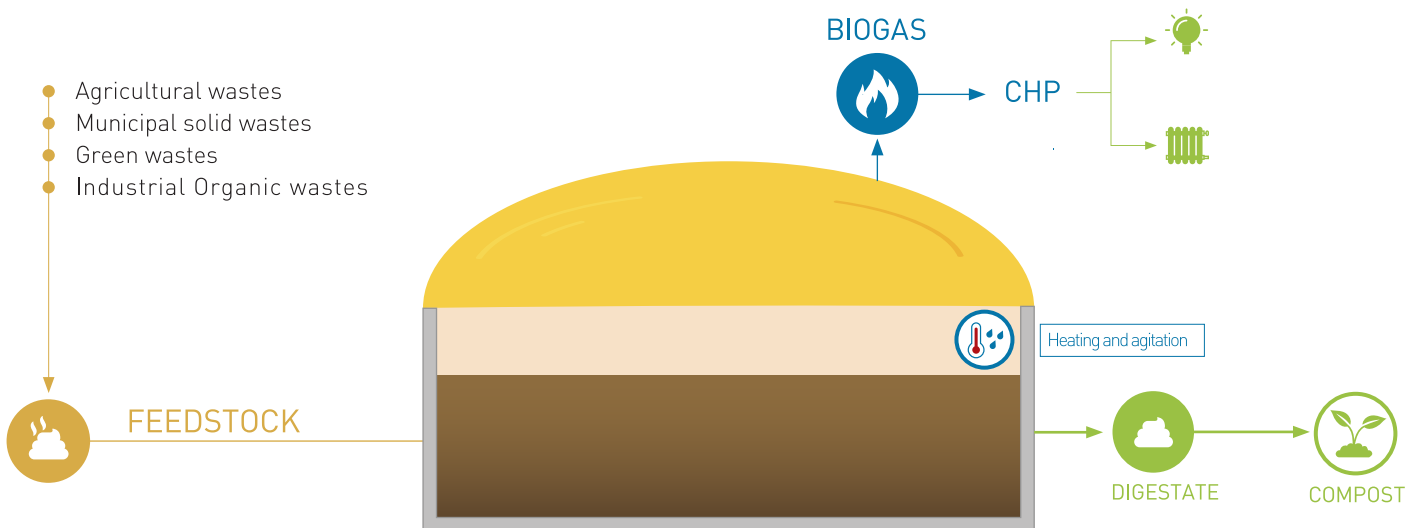
This digestate is less odorous and more readily assimilated than raw livestock manure, making it an excellent organic fertilizer.

Operating Principle of Bi'wet®

Organic feedstock is regularly fed into the digester from a dedicated storage pit. By maintaining controlled agitation and heating to mesophilic or thermophilic temperatures, the anaerobic digestion process is initiated and sustained, resulting in the production of biogas. This biogas is subsequently captured and stored in a double-membrane gasholder.

The biogas is treated and directed to a Combined Heat and Power (CHP), which is packaged based on a MAN® engine, to simultaneously produce electricity and thermal energy.

At the end of the retention time, the digestate is evacuated from the digester to a recovery pit.



Bi'nergy® offers various standard configurations for Bi'wet®, with power outputs ranging from 18 to 300 kWe (other power options are available upon request)

Range	Electrical Power (kWe)	Feedstock Quantity (t/y)	Digester volume (m3)	Range	Electrical Power (kWe)	Feedstock Quantity (t/y)	Digester volume (m3)
Bi'wet 18	18	2000 - 3000	160	Bi'wet 100	100	8600 - 9300	750
Bi'wet 40	42	3000 - 4300	320	Bi'wet 125	125	9300 - 12000	900
Bi'wet 50	50	4300 - 5000	380	Bi'wet 160	160	12000 - 14500	1100
Bi'wet 64	64	5000 - 6200	500	Bi'wet 180	180	14500 - 16000	1300
Bi'wet 75	76	6200 - 7300	600	Bi'wet 200	200	16000 - 18000	1500
Bi'wet 90	90	7300 - 8600	680	Bi'wet 300	308	18000 - 25000	2000

Standard Bi'wet® Solution:

Flexible system with one digester and one technical container.



Starting from 2000 t/y
Digester capacity

160 m³
Volume of
the Smallest Digester

Starting from 600 m²
Minimum footprint for
the Smallest Installation

4 – 6 Weeks
Retention Time

- 1 Digester
- 2 Gas Holder
- 3 Pumping skid

- 4 Condensate Pot
- 5 Activated Carbon Filter
- 6 Technical Container

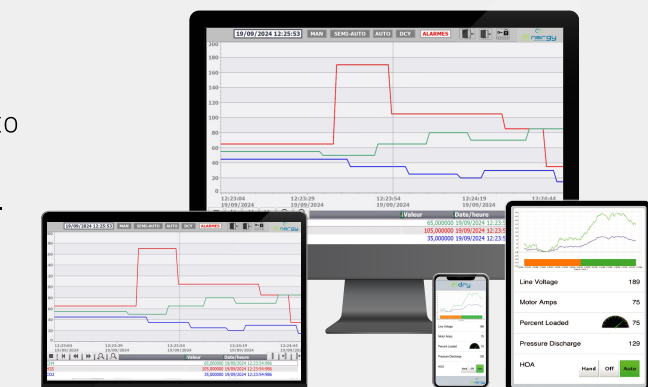
- 7 Biogas Flare

Bi'wet® : High-Performance Process and Technology

- ✓ **High Quality:**
Carefully selected materials ensure a durable and efficient construction.
- ✓ **Thermal Insulation:**
Integrated throughout all components for maximum efficiency.
- ✓ **Practical Design:**
Digesters engineered to simplify operator tasks.
- ✓ **Compact Configuration:**
Minimized piping networks for a more efficient layout.
- ✓ **Advanced Instrumentation:**
Continuous process monitoring ensures a safe and reliable operation.
- ✓ **Complete Documentation:**
Comprehensive tracking of operational and maintenance activities.

Automation and Control

Bi'wet® is equipped with a **Siemens** PLC-based control and automation system to ensure automated operation of the AD unit, providing both local and remote supervision. This setup enables real-time management, remote diagnostics, and performance optimization, through a PC, tablet, or smartphone.



Bi'wet[®] : A standard configuration

The standard Bi'wet[®] configuration features a modular, corrosion-resistant Glass-Reinforced Plastic (GRP) digester that's easy to install, along with an agitation system with both substrate and biogas recirculation. Heating is provided by a corrugated stainless-steel coil, and the setup also includes a double-membrane gas holder and biogas treatment units.

For safety and reliability, the system is equipped with a safety valve, rupture discs, a foam sensor, and a flare for disposing of excess or substandard gas.



Plug & Play

Designed for easy transport and quick on-site installation.

Automated

A PLC system provides automatic control and remote monitoring, optimizing performance and reducing manual interventions.



Standardized

Designed and manufactured on an industrial scale by Bi'nergy[®].

High-Performance

Designed to minimize interventions and maintenance, thereby significantly reducing operating costs.

Why Bi'wet[®]

- **Reduced Investment :** Standard high-quality solutions at competitive prices.
- **Lower Operating Costs :** Remote assistance requiring minimal interventions.
- **Start-up:** A dedicated team of experts ensures a swift start-up and flawless commissioning of the system.
- **Optimized Maintenance Service:** Remote assistance and a readily available stock of standard parts to ensure top-quality support.



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