



Digestate Treatment

Brochure



Colloide

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A Zero Waste Solution

Digestate enhancement and treatment technologies have become more important due to the increase in the number and capacity of AD plants and industrial processes. Due to growing environmental and regulatory concerns, there is a need to **manage nutrients** such as nitrogen, phosphorous and potassium in the digestate and how these are spread onto land. There is also growing importance on **odour control** and how this material is stored, especially during closed periods for land spreading.

Colloide Engineering Systems have developed a digestate treatment system that not only targets **effective management of ammonia** emissions but by recovering valuable resources also enables a **zero-waste solution**.

The recovered resources are products of **agricultural value** and present an opportunity to achieve a zero pollution digestate management system.



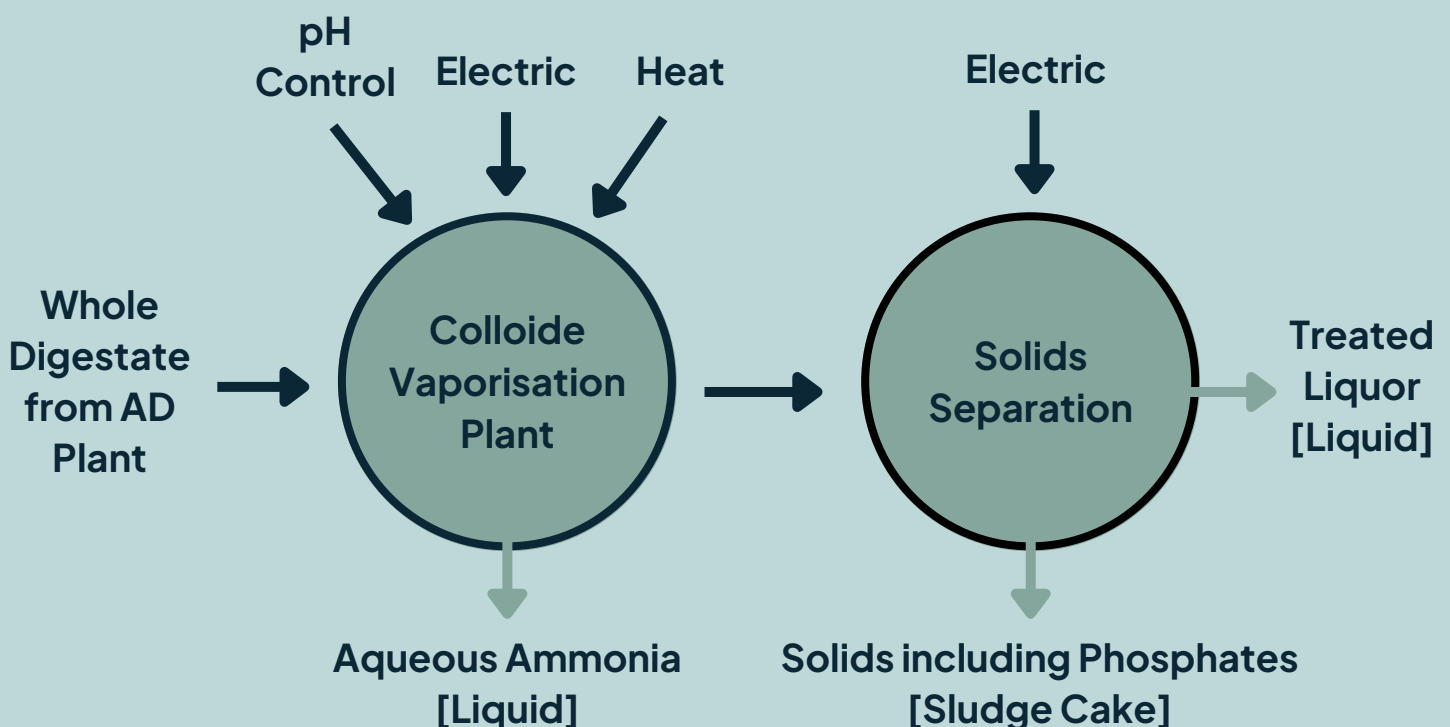
The Process

The digestate treatment system, designed by Colloide Engineering Systems, is of unique design and is built around the ultra efficient **Selective Vaporisation System**.

The system is compact with a small footprint and highly innovative with both low energy and low chemical consumption.

Separated liquor or unseparated liquor and solids can be treated by this process to selectively remove ammonia. The system uses a single step process to remove the ammonia and only a small amount of water. Consequently, the large energy consumption associated with the evaporation of bulk water is avoided.

A system that offers a flexible process that can be tailored to meet specific requirements.





Key Outputs & Benefits

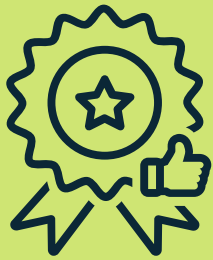


- Removal of ammonia from unseparated digestate (both solids and liquids) of up to 95%.
- Enhanced solids removal from liquor.
- Enhanced removal of phosphate from liquor up to 95%.
- Efficient system – low energy and low chemical consumption.
- The treated digestate can be land spread at a much higher density, therefore requiring a much smaller Land Bank for the AD Operator.
- The products from the treatment process are valuable resources that are easier to manage and can be used in other processes e.g. pure nitrogen organic fertilizer, soil conditioner, compost, land regeneration, solid fuel and building material.
- The concentrated ammonia solution and solid fraction, ammonia free, dry cake are both suitable for industrial/ commercial use.
- The prevention of further damage to sensitive habitats due to recovering of condensates (reduction of ammonia emissions).
- Possible reductions in transportation and storage costs by improved digestate processing.

Environmentally Considerate Sustainable Process



Colloides digestate treatment solution allows AD plants to manage their digestate both safely and economically. This in turn allows the AD Industry to develop and greatly benefits the wider society through heat decarbonisation.



A major benefit of Colloides system is that AD Operators can land spread the digestate at a much higher concentration than untreated material and therefore a smaller land area can be used.



Quality, sustainability and the environment are important to Colloide, so we work closely with agronomists, a network of trusted spreading contractors, as well as with Research Institutions.



Our Experience

We have a wealth of experience in providing both innovative solutions and upgrading existing systems. Our Digestate Treatment System is compliant with government regulations and codes of good practice.



Our Capabilities Meet Your Needs

We understand each project is unique with bespoke requirements. That is why for 20 years our capabilities have expanded to enable the delivery of a wide range of options.

Capabilities

Supply chain

We have sourced suppliers and developed a reliable relationship, with suppliers based across the UK and Ireland. Our supply chain is accredited to high Quality, Health and Safety and Environmental standards.

We have the capability to deliver your requirements anywhere across the UK, Ireland, Scotland, and Wales.

Location

Availability

We have the capacity to engineer equipment on a short lead time, due to our ability to design and build off-site.

We have the ability to tailor our digestate treatment plant to suit our customers needs. This includes advanced treatment of the digestate where full recycling of the digestate is required.

Flexibility & adaptability

Our Product Range



Activated Sludge
Treatment



Anaerobic
Digestion



Biomass Heating
and Heat Pumps



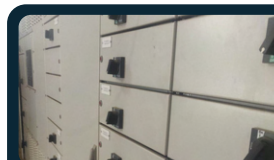
Chemical
Dosing



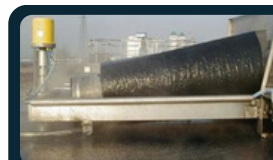
Bridge Scraper
Systems



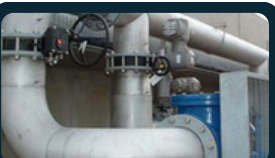
Clarifier
Systems



Control
Systems



DAF



Deep Bed
Sand Filters



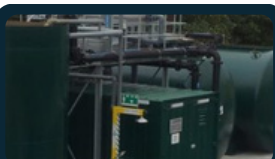
District Heating &
Energy Centres



Dynamic Sand
Filters



MBBR



MBR



Membrane
Filtration



Multi Cell Media
Filtration



Pressure
Filters



Pumping
Stations



SBR



Tekleen
Filters



Rapid Gravity
Filters



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