



Thermal Hydrolysis Solutions

Optimizing Digestion Performance to Maximize Energy Cost Savings

WATER TECHNOLOGIES

More than 40 years of expertise in Biosolids Treatment

Veolia Water Technologies develops reliable and innovative solutions aimed at providing our clients with the best available biosolids treatment processes. Among these is thermal hydrolysis for improving digester performance, meeting Class A requirements and decreasing the volume of biosolids produced.

Veolia developed Bio Thelys™ and EXELYS™, two innovative solutions that combine thermal hydrolysis with anaerobic digestion. With multiple configurations, Veolia provides a customized thermal hydrolysis process meeting each plant's needs. Bio Thelys™ and EXELYS™ systems provide the benefits of thermal hydrolysis, producing a Class A end product, reducing the amount of biosolids and maximizing biogas production.



Thermal Hydrolysis: The Principle

Thermal hydrolysis has been proven to be the most effective anaerobic digestion enhancement pretreatment available.

Thermal hydrolysis breaks down a fraction of the organic matter and results in a biosolid form that is more biologically available, increasing biogas production and solids destruction in the anaerobic digester. Thermal hydrolysis also destroys any pathogenic germs, meeting Class A requirements.



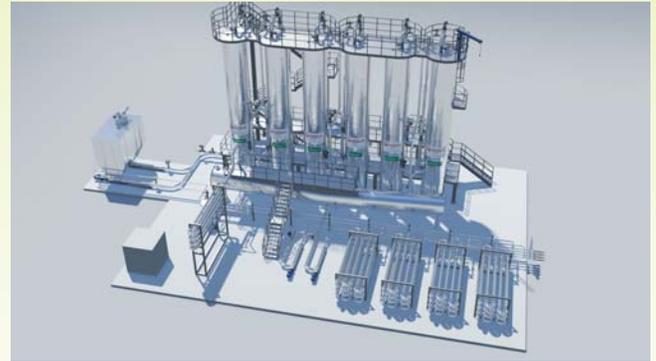
Operation

Steam at 375°F is mixed with dehydrated biosolids in a reactor. This heated biosolids is kept in the reactor for approximately 30 minutes under set temperature and pressure conditions (130 PSI and 329°F).

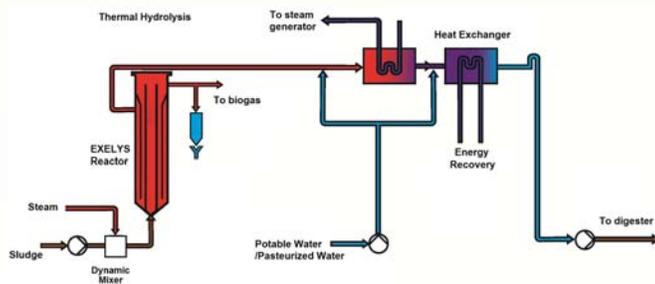


Bio Thelys™: Batch Thermal Hydrolysis

Bio Thelys™ is a batch thermal hydrolysis system. This process is based on the use of reaction vessels that holds biosolids at a constant temperature for the time required for Class A. Upon completion, the vessels are drained and the biosolids are cooled and sent to digestion. Each unit operates as a batch reactor but the use of a thermalized biosolids buffer tank enables the hydrolysed biosolids feed to the digesters to be continuous.



EXELYS™: Continuous Thermal Hydrolysis



EXELYS™ is a continuous thermal hydrolysis system. Each treatment train uses one reactor with progressive cavity pumps that hold the biosolids at the required pressure and temperature for thermal hydrolysis for the required amount of time in order to meet Class A requirements.

Combination of Thermal Hydrolysis and Anaerobic Digestion

- Increase the digestion capacity of an existing installation, maximizing existing infrastructure
- Reduce the amount of biosolids produced, offering disposal costs savings
- Meets Class A requirements, providing a marketable end product
- Reduce the digestion volume of a new installation by up to 50%, decreasing capital costs
- Increase biogas production, meeting sustainable initiatives

The Veolia Advantage

- Custom designs
- Variable configurations
- Worldwide experience
- Understanding of full biosolids treatment plant

