Lystek
Nothing wasted.
Everything to gain.

Lystek THP® Technical Specifications

About the Technology

Lystek THP®, a low-temperature Thermal-Chemical Hydrolysis Process, is a sustainable solution to biosolids and organics management with full-cycle resource recovery.

Lystek THP transforms raw or digested residuals into a Class A quality biosolids fertilizer and multi-use hydrolyzed product. This technology provides operational flexibility with multiple product uses, including LysteGro® Class A biosolids fertilizer, LysteMize® digester enhancement process, and LysteCarb® alternative carbon source.

Operating inputs are low pressure steam, high speed shearing, and alkali, all applied simultaneously in an enclosed Reactor.

One System. Multiple Benefits:

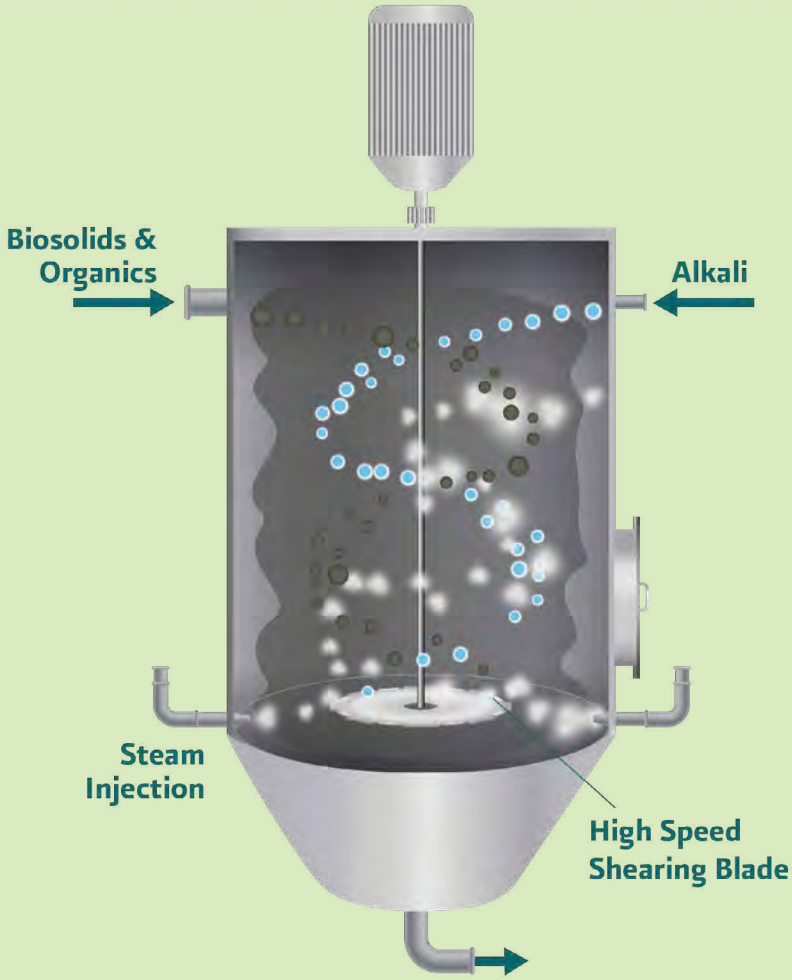
Lystek THP has a small footprint, is cost effective, efficient, and reliable.

Modular design makes it scalable and easy to deploy (or retrofit). The system is fully automated and simple to operate and maintain.

Additional advantages include:

- Produces a marketable, high-solids liquid Class A quality fertilizer
- Optimizes anaerobic digesters; increasing biogas production for green energy while decreasing residual volumes through improved volatile solids reduction (VSR)
- Produces a safe, cost-effective alternative source of carbon for biological nutrient removal (BNR) systems
- Significantly reduces liquid biosolids volumes
- Augment to existing plants - does not disrupt existing processes
- Autonomous operations
- Simple and efficient to install, operate, and maintain
- Comprehensive, worry-free LysteGro product management services

Lystek THP® Reactor



LysteGro® - Class A biofertilizer

LysteMize® - Anaerobic digester optimization

LysteCarb® - Alternative carbon source

Module[i] Sizing

Module size	LY3	LY6	LY10
Processing rate (dry tons per hour)	0.3	0.6	1.0
Typical processing footprint[ii] (ft^2)	800	1,250	1,600

Key Operating Parameters[iii]

Electrical consumption	60 kw-h per dry ton
Heat requirement[iv]	1,100,000 BTU per dry ton
45% liquid alkali solution[v]	190 - 230 lb per dry ton
Operating temperature	167°F / 75°C
Solids content - processed product	13 - 16%
Viscosity - processed product	5,000 – 10,000 cP

Valuable End Products and Processes

LysteGro® biofertilizer	Pathogen free, nutrient-rich, Class A quality fertilizer
LysteMize® digester optimization	Increase biogas production and volatile solids reduction
LysteCarb® alternative carbon source	Eliminate use of costly chemicals (i.e. methanol, glycerol) used for BNR

[i] Module includes the THP Reactor and associated process equipment.

[ii] Minimum space required for processing equipment only (Module, alkali storage, boiler). Product storage and ancillary system requirements will vary by site conditions.

[iii] Operating parameters are estimates only and will vary according to site conditions, feed stock characteristics, and intended use of hydrolysed product.

[iv] Dependent upon biosolids feed temperature into the Reactor. Heat requirements estimated based upon an average feed temperature of 60°F.

[v] Typically potassium hydroxide (KOH).

T. 226.444.0186
TF. 888.501.6508
E. info@lystek.com
lystek.com