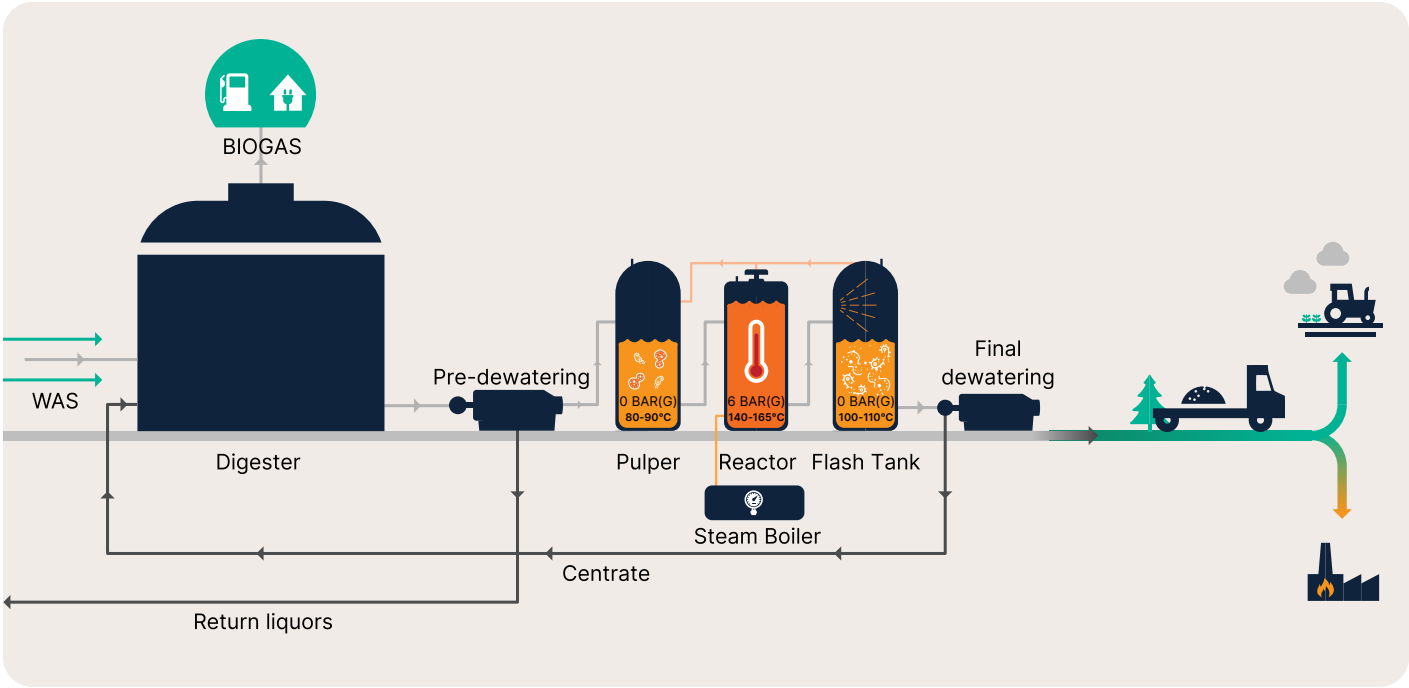
Cambi SolidStream

Product description



SolidStream is a novel process technology and service, building on Cambi's well known, compact, modular thermal hydrolysis process (THP). Developed in 2013, it is tailored to dramatically reduce sludge handling and disposal costs for wastewater treatment plants (WWTPs) with sufficient digester capacity at existing anaerobic digestion plants.

Digested and dewatered sewage sludge is subjected to high temperature and pressure during thermal hydrolysis, then processed in a final dewatering stage. Hot centrate from final dewatering, rich in soluble COD, is sent back to the digester, recycling heat and increasing biogas production.

Laboratory testing of digested sludge samples from 24 different WWTPs showed reduction in the final cake volume of 50% to 70%, compared to conventional anaerobic digestion.

Test results were confirmed and even surpassed in full-scale demonstration at Geiselbullach WWTP (Amperverband) near Munich.

SolidStream achieves higher rates of transformation of the volatile solids into biogas and better dewatering compared to conventional anaerobic digestion. When combined with electricity production, heat from cogeneration will provide both enough steam for SolidStream and heat for digestion. The process increases net energy production, thanks to innovative energy flows and recycling at all stages. The end product is a low-odour, pathogen-free, high quality organic fertiliser, which qualifies for Class A product status. Alternatively, it enables the use of smaller and more efficient dryers due to a two-thirds reduction in water content.

SolidStream is modular and easy to integrate with existing processes and plant layouts.

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Benefits

Energy Efficient & Pasteurisation

- Building on Cambi's long experience with process optimisation
- Heat is recycled in a closed process and to the digesters

Higher Biogas Production

- Up to 50% higher biogas production
- Stable and reliable process with simple operation and maintenance

Low Volume of High Quality Biosolids

- 50% to 70% total mass reduction
- Stable, easy to handle end-product with up to 40-50% DS
- Less GHG emissions

	Conventional Anaerobic Digestion	Cambi SolidStream
Sludge feed	4,700 tDS/year (62% primary), with 83% VS	
Volatile solids reduction	52%	75%
Biogas production	Baseline	43% over baseline
Final cake mass	12,500 t/year	4,100 t/year
Final cake DS content	20%	38%

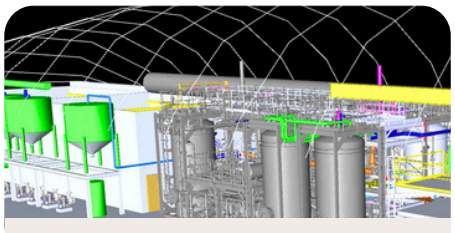
EPA Class A, Vector Attraction Reduction Compliance

Cambi SolidStream will meet Class A in the THP time/temperature of the THP step.
Vector attraction reduction will achieved using USEPA Option 2: Additional Digestion of Anaerobically Digested Sewage Sludge [503.33(b)(2)].

References

Biosolids to incinerator
Demonstrated full scale
Munich - Amperverband, Germany

Biosolids to incinerator
Installed
Antwerp - Schijnpoort, Belgium



Biosolids to land application
Under manufacturing
Oslo - VEAS, Norway