

Selected BTA References

Kirchstockach



Client: M. Ganser GmbH & Co.
Entsorgungsbetriebe KG
Taufkirchner Str. 1,
85649 Brunnthal, Germany
www.ganser-entsorgung.de

Capacity: 20,000 ton/year (designed)
30,000 ton/year (in 2006)

Start up: 1997

Materials processed: ■ Biowaste
with a high content of garden waste (>30%)

Process: ■ BTA Process with two-stage digestion

Plant description:

- Waste reception and pre-treatment
- Hydrolysis and methanization of organic components (two-stage digestion process)
- Digestate treatment
- Biogas utilization

More Information
Fon +49 8441 8086-600
www.bta-international.de

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Description

Waste reception and pre-treatment

The delivered waste is registered with a vehicle scale and brought onto a flat bunker within the delivery hall. Using a front loader, it is fed into a screw mill and chopped roughly. A conveyor belt transports the waste via a magnetic separator to two BTA Waste Pulpers. In the pulpers, the waste is mixed up with water to produce a thick, pumpable suspension (pulp). Contaminants are separated and removed, either as heavy fraction (e.g. glass, stones, metals) or as light fraction (e.g. plastics, textiles). Fine contaminants like sand, little stones, and glass splinters are separated by the subsequent BTA Grit Removal System, before the pulp is stored in a suspension tank.

Hydrolysis and anaerobic digestion

The plant is based on a multi-stage digestion: Digestion is divided into two steps: hydrolysis and methanization in a fixed film reactor. Before being fed into the biological stage of the process, the pulp is separated into a liquid and a solid phase. The liquid phase with a high amount of already dissolved organic material is

pumped directly into the methane reactor. The dewatered solids are mixed with process water and fed into the hydrolysis reactor to dissolve the remaining organic solids. After 2-4 days, the suspension is dewatered and the resulting liquid also fed into the methane reactor.

Digestate treatment

The resulting solid hydrolysis residue, contaminant free and low in salt, is further stabilized in the plant's existing composting facility together with garden waste. Most of the water is reused as process water in the pulpers. The effluent water is transferred into a cleaning system consisting of a flotation and nitrification/denitrification steps. The effluent is discharged into the public sewage system.

Biogas utilization

To utilize the biogas, it is fed into two CHPs (combined heat and power stations). The energy thus produced then is available to meet the consumption of the plant itself. Surplus energy is fed into the national grid.

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