



SLAUGHTERHOUSE WASTE AND SEWAGE SLUDGE BIOGAS PLANT

The latest biogas plant by Krieg & Fischer Ingenieure GmbH combines solution for wastewaters and animal by-products from slaughterhouses in Germany with processing sludge from sewage treatment plant. The customized biogas plant is designed to process over 160,000 tons of organic waste per year, consisting of slaughterhouse waste (stomach and intestine content, intestines), flotated sludge, bedding and sewage sludge. The slaughterhouse waste is mixed with the sewage sludge and pumped into the mixing tank. There are two upright enameled steel digesters with central agitator and a volume of 5,500 m³ each, followed by the secondary digester with double membrane gas holder roof.

Fermenters are heated by two external tube-tube heat exchangers. System includes dewatering unit via decanters and ammonia stripping (steam stripping). Calculated biogas yield is >950 m³ per hour. After purification, biogas is used in two CHP units producing electricity and heat.

Full-stream hygienization after fermentation is included. The liquid phase is treated in an ammonium stripping process using alkalization and steam and directed for further purification in a 4 stages waste water treatment plant until final injection into a nearby river. The solid phase is dried for the heat production.

PROJECT DATA


- Location: West Germany

UNIQUENESS OF THE PROJECT

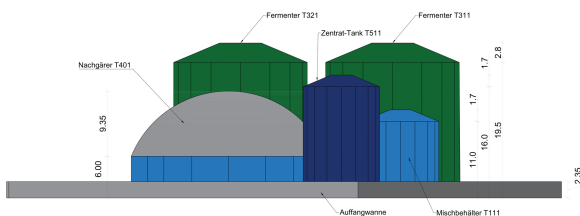
- Biogas as an integrated solution for wastewaters from the meat industry and sewage sludge
- Integrated heat recovery
- Ammonia stripping
- Full-stream hygienization after fermentation
- Collection tray according to Ordinance on facilities for handling substances that are hazardous to water

For more information:

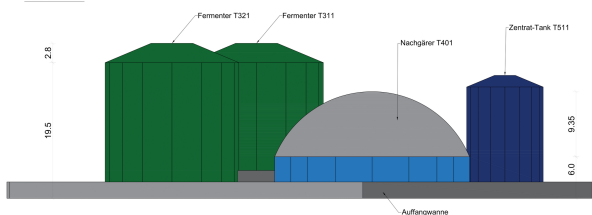
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Ost- Ansicht



Süd- Ansicht





LARGE RNG PRODUCTION FROM AGRICULTURAL RESIDUES

This state-of-the-art biogas plant by engineering team of Krieg & Fischer Ingenieure GmbH was developed for a large petrochemical company in the US. The plant processes more than 100 thousand m³ of agricultural organics (manure and straw) per year. Due to the large portion of straw in the feedstock, plant has been specially designed to process high viscosity substrate mix and includes different solid input systems and process water recirculation.

The plant comprises 7 digesters which are made of steel, with central agitators and total volume of 35.000 m³. The system is heated by external heat exchangers. With some reconstructions and additional equipment, the engineers have also utilised parts of the existing biogas plant. Gas is stored on top of secondary digester tank and on top of digestate storage tank. Biogas production is >4.000 m³ per hour, upgraded to RNG.

PROJECT DATA

- Location: US West Coast

UNIQUENESS OF THE PROJECT

- Combination of manure with fibrous substrate (straw)
- Comprehensive calculations for adapted design for high viscosity substrate mix
- Big size (biogas production 4.000 m³/h)

For more information:

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