Refurbishment of an existing plant

Selected BTA References
Verona

Client:	AGSM Via Sasse, 88 37132 Cà del Bue Verona – Italy
Capacity and materials processed:	150,000 tons/year – municipal solid waste 65,000 tons/year proceeded into BTA® Hydromechanical Pre-treatment
Start up:	■ 2000 first start-up ■ 2002 start-up after refurbishment by BTA/BIOTEC
Original plant design:	■ mechanical pre-treatment with sieving drum (>80 mm first line, >100 mm second line) ■ wet-mechanical pre-treatment, mainly consisting of mixer, cutter and screen ■ anaerobic wet digestion ■ incineration of RDF and digestate
Operation problems:	■ insufficient elimination of contaminants ■ resulting problems in processing and digestion
BTA refurbishment:	■ BTA® Hydromechanical Pre-treatment ■ BTA® Process Control System

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Description

Integrated concept

The plant is based on a combination of anaerobic digestion and combustion with the goal of a maximum energy yield and minimum combustion capacity. The separated high-caloric fraction and the dewatered digestate are thermally used in a fluidized-bed reactor.

Problems with original design

Just a few months after the first start-up the plant had to be shut down because of the following problems:

- insufficient elimination of contaminants like spoons, plastics, aluminium and wood
- constantly clogged pipes
- inefficient mixing of digesters
- floating layers and massive sediments in digesters
- high loss of organics in the separation resulting in a too low biogas yield

Refurbishment by BTA/BIOTEC

TÜV recommended to install BTA® Technology and the owner assigned BTA via its licensee BIOTEC to install the BTA® Hydromechanical Pre-treatment.

The new BTA® Hydromechanical Pre-treatment for the sieve underflow consists of 3 x 32 m³ BTA® Waste Pulpers, the corresponding light fraction presses and BTA® Grit Removal Systems.

Only 10 months after the order the refurbished plant was put in operation again.

Just less than 5 % of organics are lost through the pre-treatment which proves the extraordinary efficiency and selectivity of the BTA® Hydromechanical Pre-treatment.

Conclusion

Convincing for the customer was BTA's high flexibility against the wide range of waste compositions, combined with the guarantee of severe quality parameters in the output streams. This is important for the tight integration with the existing combustion on the one hand and the maximum success of the anaerobic digestion on the other hand.

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