

Emå Dairy



Mjölk från din hemtrakt™

"Milk from your area" is the slogan of Emå Dairy. The milk is collected from the local farms in Hagelsrum, Virstad, Fröreda, Torsjö Manor and Ålatorp, which provides short transport journeys and thus a reduced environmental impact. To produce their own electricity and heat from local biofuels lies entirely in line with the plant's focus on local production.

The choice of switching from an oil-based heating system to a gasification plant is due partly to a reduced tax relief for the manufacturing industry. Other reasons have been the ambition to meet consumer's growing environmental awareness, but also because the existing heating system is in urgent need of refurbishment.

By replacing the old oil boiler to a micro scale power plant in the form of a thermal gasifier (Volter), Emå dairy will become virtually self-sufficient in heat. In addition, local electricity will be produced, covering about 20% of the electricity demands. A thermal carburetor provides high electrical efficiency, good controllability and a reasonable investment.

An accumulation tank will manage the shifting heating requirements during the day. The demands for a high flow temperature of the heat were such that there was only one supplier that could guarantee the specifications necessary for the production of heat to the Emå dairy.

Fuel availability is a very important parameter when the carburetor works optimally with a coarse fractionated and dry fuel, which are in relatively limited supply in the area. The solution to this problem was to construct a combined dryer and fuel storage based on demountable containers for flexibility and scalability. One factor that made the dryer economic is that the model Volter™ has a ventilation connection for low-temperature waste heat, which makes it easy to use low-grade heat for drying.

PLANT DATA

EFFECT

40 kW of electricity (45 kW) generator and 100 kW heat

OPERATING HOURS/YEAR

Max 7 800 h

ELECTRICITY

Max 312 MWh / year

INVESTMENT COST

Approximately 3 million

CALCULATED REPAYMENT

Approximately 8-10 years

RAW MATERIAL

Roughly fractioned chips

MOISTURE IN RAW MATERIAL

15-18%



MODEL

Volter™ 40 Indoor

DIMENSIONS

4,8 m X 1,3 m X 2,5 m

WEIGHT

4,5 tons

QUANTITY OF ASH

Approximately 500 liters / week (about 1-2% by outgoing fuel)

ASH HANDLING

Automatic ash handling

GAS COMPOSITION

CO (carbon monoxide) 25%
H₂ (hydrogen) 17%
CO₂ (Carbon dioxide) 8%
CH₄ (Methane) 2.5%
N₂ (Nitrogen) 47.5%

CALORIFIC VALUE, GAS

5,75 MJ/m³

PROCESS PICTURE

