

VAS Energy Systems International GmbH

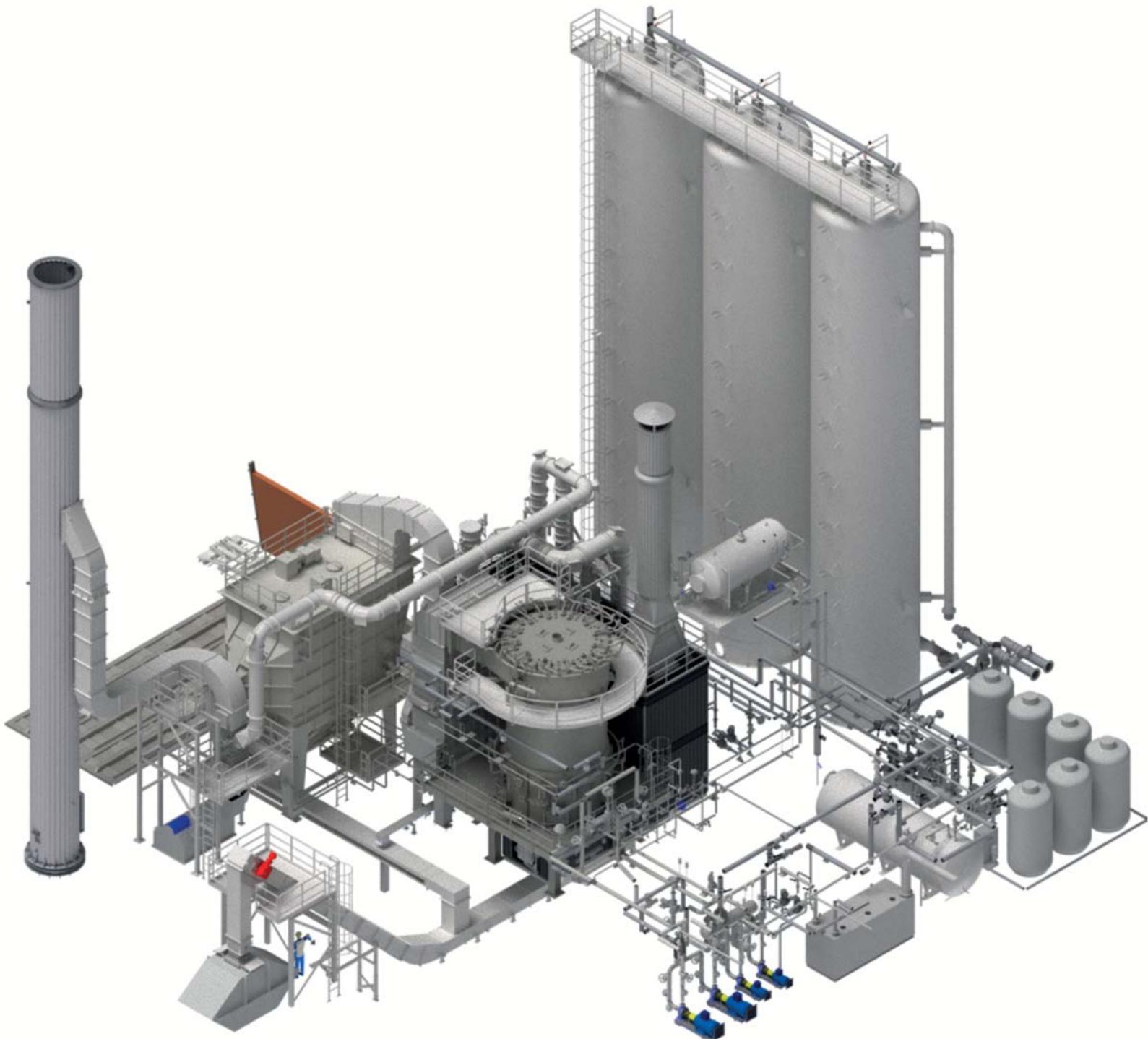
Industrial development, production and maintenance of industrial cogeneration plants from 2 to 25 MW.

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inspiration for clean energy®

Biomass Plant Malteurop Poland Reference



Biomass CHP Plant at malt production of Malteurop Poland

The Malteurop Group is the world's leading malt producer, with a current annual production capacity of more than 2,200,000 tons. The Group is present in 13 countries in Europe, North America, Oceania and Asia, with 24 industrial sites.

For its malt production at Gdansk in Poland, Malteurop invested in a biomass thermal oil plant to cover their process heat demand and to power a 1,0 MWel ORC (**O**rganic **R**ankine **C**ycle) unit. Electrical power is sold to the grid for additional benefit to the actual intention to use produced process heat for the malt production. Therefore VAS also installed the water thermal hydraulic including three each 200m³ heat accumulator (buffer storage) to fulfil clients demand of heat used and full capacity operating hours at highest level without heat dumping.

A high developed concept on the control of water thermal hydraulic is managing the different heat demand of malt production and redirect the produced heat into the buffers. The intelligent buffer system ensure that the biomass thermal oil plant can work on full capacity to run ORC at 1,0MWel output even when clients heat demand is going against zero.

Malteurop is using virgin wood chips from nearby forests and also cleaned recycled wood. Additionally they add barley husk which they get from their production.

Technical Data

Thermal input	7,6 MW
Thermal output	6,5 MW
Electrical output	1,0 MW
Fuel	virgin&recycled wood / barley husk (up to 10%)
Permission	TÜV
	Pressure Equipment Directive 97/23/EC



Scope of Supply by VAS

- Fuel handling
- Biomass plant
- Thermal oil plant
- Dedusting by electrostatic precipitator (\downarrow 25mg/Nm³)
- Water thermal hydraulics

First deliver of heat

October 2013

