Utilizing waste materials safely and cleanly

*Turnkey SAACKE plant increases energy efficiency and economy*

Saving energy and transport costs and conserving fossil raw materials while increasing capacity and efficiency in production – ANGUS Chemie GmbH, a company working in the field of specialty chemicals, asked SAACKE to be its plant engineer to satisfy these requirements. The result after nearly two years of construction: a new plant that is based on the principle of recycling waste chemical production material for energy recovery. Instead of using large quantities of natural gas to generate process steam, as has been the case until now, by-products that have been previously unused are utilized in the more efficient residue incineration method – before that a complicated process had to be employed to remove this waste. The material flows of the plant are variable and fluctuate strongly in terms of quantity, heat value and composition – from potentially explosive vent gases to liquid residues.

**Turnkey solution from a single source**

Collaboration between ANGUS and SAACKE dates back to the 1970s, but so far, it was limited to the development and delivery of individual combustion components. In this project, however, the customer wanted the plant to be built by a general contractor that provides a turnkey solution, from engineering to commissioning. An area of competence where SAACKE has many years of experience and is capable of taking on comprehensive project management from a single source.

“The plant significantly increases our competitiveness due to the closed production cycle. They met all our requirements and stayed on budget.”

Martin Oelgeklaus, Project Manager, ANGUS Chemie GmbH
Simultaneously fires liquids, vent gases, natural gas and other residues – the SSB-GL 100.

Behind the flaps: 290 boiler pipes that are cleaned fully automatically at 7-8 bar using an air-pressure gun.

All benefits at a glance

- Intelligent planning and plant architecture, as well as engineering and project management from a single source
- Natural gas savings of up to 85% in steam generation and NOx levels far below legal regulations due to two-stage combustion (without SNCR/SCR)
- Efficient residue incineration for a virtually closed production cycle minimizes waste transport costs
- Flexibility with regard to the fuels and quantities (both vent gases as well as liquid waste material)
- High plant availability of 98% and a short ROI period due to low support fuel requirement
- Innovative, fully-automatic boiler cleaning system during operation
- Reliable commissioning ahead of schedule
- Customer support even after the completion of the project (training, control migration and maintenance)
- Service life of the plant: at least 25 years, non-stop operation, maintenance once per year

Technical data: STAN

<table>
<thead>
<tr>
<th>Plant capacity / burner</th>
<th>11 MW / SSB-GL 100</th>
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<tbody>
<tr>
<td>Fuels</td>
<td>Liquids with a low heat value, vent gases, natural gas</td>
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<tr>
<td>Emissions</td>
<td>&lt; 100 mg/m³ (for optimum conditions, even 40 - 50 mg/m³ without SNCR/SCR)</td>
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<tr>
<td>Boiler</td>
<td>12.5 t/h capacity, 14 bar pressure, 1,350 °C combustion temperature</td>
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</tbody>
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Conclusion

SAACKE is known worldwide for very-high-quality combustion solutions. The integration of these individual components into an overall system, as well as the development and completion of entire new systems as a general contractor, are also core competences. This is proven by the reliable commissioning before the deadline, the compliance with the budget and the high level of customer satisfaction only a few weeks after the start of production.