

Use alternative fuels, maximize efficiency!

Realize the full potential



Alternative fuels: Get more out of them for your plant

Disposing of the waste or by-products frequently generated in industrial manufacturing processes in accordance with legal requirements is not only time-consuming and costly - but in most cases also inefficient. This is because SAACKE combustion systems allow these residual materials to be both burned with low levels of pollutants and used for energy - usually without the additional use of fossil supporting fuels.

Save energy costs, reduce pollutants emissions



Alternative fuels - whether in gaseous, liquid or powdered form - despite their sometimes extremely low or fluctuating

calorific values, have enormous potential. With the right technology, industrial by-products can thus be turned into valuable energy sources. In this way, natural gas and other expensive primary fuels can be substituted completely or at least partially, and your energy costs can be reduced considerably. In addition, this smart recycling also reduces your company's greenhouse gas emissions.

Unlock the untapped thermal potential of your production now with field-proven over decades technology - for the challenges of today and tomorrow.

Your advantages at a glance

- Reduced disposal and primary fuel costs thanks to efficient recycling of residual materials as a substitute
- Minimized CO₂ emissions protect the environment and generally fall below even the strictest emission limits, such as the requirements based on EU decisions on Best Available Techniques (BAT) for large combustion plants (> 50 MW)
- Highest availability of the proven combustion technology "Made by SAACKE"
- Short payback period

Reference

The solution

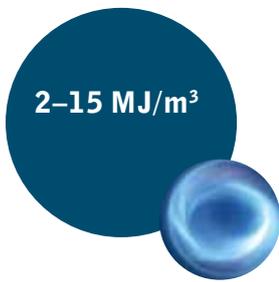
During steel production at ArcelorMittal in Bremen, blast furnace gases with a low calorific value are produced as a by-product. These blast furnace gases are completely converted into steam in a closed cycle and fed back into the plant network as thermal energy.

The result

This sophisticated technology saves the customer **approximately 6.8 million standard cubic meters of natural gas** and **8,400 tons of CO₂ annually**.



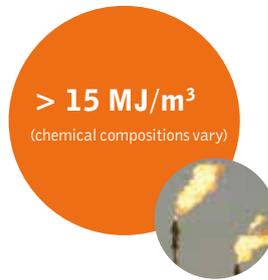
Our fuel portfolio



Low calorific value gases

Coal gas, Corex gas, vent gas, CO gas, blast furnace gas

Hydrogen
(up to 100 %)



Alternative gases

Landfill gases, coal oil methane, refinery gases, coke oven gas



Low calorific value liquid fuels

Molasses, vinasse, acrylonitrile polymer solutions



Alternative liquid fuels

Sulfur, animal fat, glycerin, etc. (problem substances that are usually costly to dispose of)



Biogenic fuels (liquid and gaseous)

Biogases and bio-oils such as palm, rapeseed or soybean oil, biodiesel, animal fat



Dusty fuels

Fermentation substrate, dust from sugar beet pulp, coffee husks, rapeseed meal

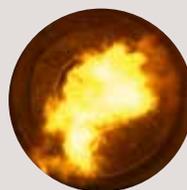
Flame patterns of various alternative fuels (selection)



Lean gas



Glycerin



Animal fat



Vinasse

Using hydrogen as a residual material

In the public discussion, H₂ has advanced to become the beacon of hope in the energy mix of the future. For decades, SAACKE has been manufacturing low NO_x combustion systems that can process both mixed and pure hydrogen - for example, as a residual material in the chlor-alkali industry or titanium dioxide production and in

propulsion and heating systems on ships. Using the available H₂ here instead of additional natural gas or marine diesel oil not only saves emissions, but also costs.



Our worldwide references

Gases, low calorific value (LCG)	Industry (mainly)	Customers (extracts)
Blast furnace gas	Steel industry	Arcelor Mittal (DE, BE, ES, PL), TATA Steel (IN), Raabe Steel Works (FI)
Formalin gas (2.0 MJ/m ³)	Chemical industry	Dynea (NL, DE, NO)
Carbon black gas (1.5 - 2.0 MJ/m ³)	Carbon black production	CABOT (CN), BIRLA (CN)
CO gas (CO boiler)	Refineries	Holborn Refinery (DE), Bayern Oil Refinery (DE)

Gases, fluctuating calorific value		
Refinery gas	Refineries	BP Gelsenkirchen (DE), PCK Schwedt (DE)
Vent gases	Tank farm	Odfjell Rotterdam (NL)
Landfill gas, sewage gas, biogas, mine gas	Wastewater treatment, food industry	Paulaner Brauerei (DE), Inbev (DE, BE, NL), Privatmolkerei Bauer (DE)
Hydrogen	Chemical industry, shipping	Nouryon Ibbenbüren (DE), Produits Chimique de Loos (FR), COOGEE Chemicals (AU), LH₂ carrier (JP/AU)
Coke gas	Coking plant, steel industry	Thyssen Krupp (DE)
Gasification gas, reactor gas	Waste to Energy, district heating supply, chemical industry	Lahti Energia (FI), Mitteldeutsche Bitumenwerke MBW Webau (DE)

Liquids, low calorific value (LCL)		
ACN Polymer Solution	Chemical industry	EC/INEOS Dormagen (DE)
Wastewater concentrate	Chemical industry	ZTS Pułkov (PL), ANGUS Ibbenbüren (DE), DSM (CN)
Soy molasses	Food industry	IMCOPA (BR), Soja Protein (RS)

Liquids, fluctuating composition		
BPA	Chemical industry	TAMINCO (BE)
Toluene, styrene, fusel oil (alcohol waste)	Chemical industry	DOW Chemicals/EnBW (DE)
Biooil, vegetable oil, animal fat	Animal carcass disposal, energy supplier	SARIA (FR, DE), TBA (DE)
Glycerin	Biofuel industry	COANSA (ES)

Dusty fuels		
Lignite / hard coal	Energy suppliers, sugar industry, gypsum industry	Erfurt Tapeten , Knauf , Pfeifer&Langen , Nordzucker , Südzucker (all DE), Shenjang (CN)
Wood dust	Municipal utilities	Helen Oy (FI), Gothenburg Energi (NO)
Wood grinding dust	Wood-based materials industry	Kronospan (DE)
Coffee husk dust	Cement industry, coffee industry	Plants in Kenya (KE), Kraft Foods St. Petersburg (RU)

Which residual materials with thermal potential exist in your industrial processes? We will analyze your current situation together and find the best solution for maximizing your efficiency!

For orders and inquiries



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