APPLICATION REPORT

SAACKE

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EUROPE // FRANCE – FONTENAY-SOUS-BOIS

EFFICIENT DISTRICT HEATING AND THE LOWEST POSSIBLE NO_X EMISSIONS

Modernization of a power plant: Modular DDG-LN burner system for Régie de Chauffage Urbain, Fontenay-sous-Bois (France)

KEY FACTS

Régie de Chauffage Urbain

Utility company

DDG-LN burner

As part of the modernization of a power plant for the district heat supply, the public operator in Fontenay-sous-Bois, near Paris, switched to a much more efficient and cleaner technology. The company decided to draw on the longstanding expertise of SAACKE.

MODULAR DESIGN SAVES CONVERSION COSTS

In just a short time the customer's plant was equipped with three DDG-LN burners, gas valves and fittings, and a highly efficient control. The project took only two and a half months to complete from the award of contract to commissioning. This was possible thanks, in particular, to the simply, modular design of the components, which also ensured to continued use of existing fans – a significant saving for the operator.

Furthermore, the DDG-LN impressed with its joint air supply for the burner in the boiler and its fuel grading. This ensures convenient operation with maximum availability and increases energy efficiency. Since its commissioning, NO_x values have been well below the 100 mg/m³ limit, despite a fully brick-lined boiler floor and without secondary measures such as external flue gas recirculation.

» NO_x values have been well below the 100 mg/m³ limit. «

Ludovic Courtot – SAACKE BRÛLEURS INDUSTRIELS Area Sales Manager

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TASK

Energy-efficient and low-emission modernization of a power plant for district heat supply.

SOLUTION

Three SAACKE Low-NO_x burners with graded combustion including gas valves and fittings and easy to operate, highly efficient control.

THE SAACKE SOLUTION IN DETAIL

The DDG-LN is an advanced development of the tried and trusted SAACKE steam-assisted pressure jet technology, which externally offers an impressively rugged exterior, but internally also sets very high standards. Graded combustion allows extremely low NO_x values: As a fuel, natural gas is divided into primary and secondary sub-streams, which can be controlled together or separately of one another. Optimized, internal flue gas recirculation ensures a low-emission combustion reaction. The swirl-stabilized primary area is responsible for producing a very stable flame.

SAACKE was also responsible for designing and implementing the firing concept and fuel-air compound control. It generates the optimum conditions using a differential pressure control for the combustion air through a joint fan with a frequency converter. Due to the high turn down ratio and efficient combustion technology of the DDG-LN, the ideal cost-benefit ratio can be achieved - which benefits the environment as well as the operator.

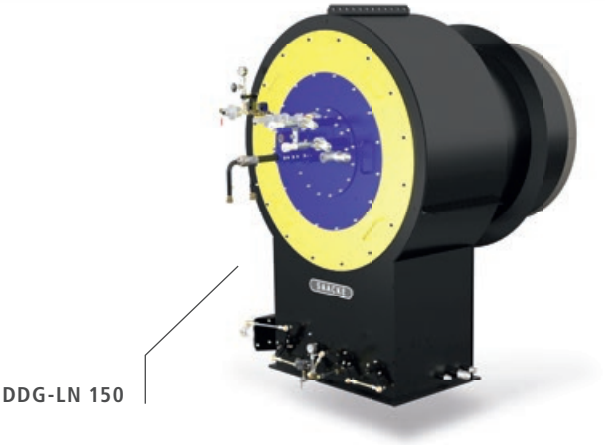
THE MULTI-TALENTED DDZG

The DDG-LN is a component of the subsequently developed DDZG burner series, which is suitable for a variety of custom solutions:

- Standard fuels and almost any special fuel
- Simultaneous combustion of gases and liquids in any combination (gas/gas, liquid/liquid, gas/liquid)
- Variants for use in potentially explosive atmospheres

CONCLUSION

Quick and tailored solutions of exceptional "Made in Bremen" product quality are a given with the DDG-LN from SAACKE. This is equally true of the installation and commissioning, as well as its convenient operation and efficient heat supply with the lowest possible NO_x values.



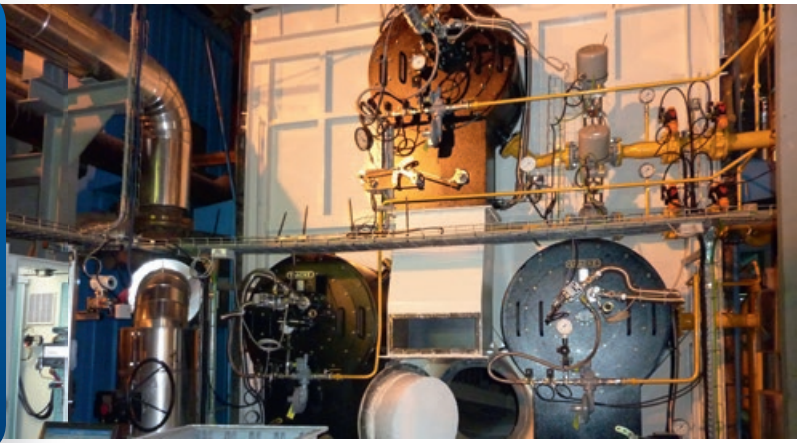
DDG-LN 150

Key technical data

Boiler type	36 MW water-tube boiler, brick-lined furnace
Burner type	3 x DDG-LN 150
Burner capacity	3 x 12 MW
Fuel	Natural gas
Peripherals	Differential pressure control system for combustion air
Turn down ratio	1:5
NO_x-emissions	Safely under 85 mg/m³ (based on 3% O_2) without secondary measures
Design	Internal gas grading, single-entry air with moderate pressure loss

ADVANTAGES AT A GLANCE

- Consistent adherence to the limit value of 100 mg/m³ NO_x
- Highly efficient combustion technology with fuel grading
- Convenient operation and maximum availability
- High turn down ratio
- Smooth project management and fast order tracking
- Extremely durable and easy to maintain



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