APPLICATION REPORT

SAACKE

ASIA // CHINA – TONGXIAN

MULTIPLE STAGED COMBUSTION FOR LOW-EMISSION, EFFICIENT DISTRICT HEATING

Six modern DDG-LN burners for a new heating and power plant of Nantong Wanda Boiler in Tongxian (China)

KEY FACTS

Nantong Wanda Boiler

Steel & metal production

DDG-LN burner

A new heating and power plant for the district heat supply – this was the goal of the Chinese boiler manufacturer Nantong Wanda Boiler from Tongxian, near Beijing. The clear objectives were: Adherence to the most up-to-date standards as well as using technology that is efficient and generates very few emissions.

MODULAR CONSTRUCTION ENABLES RAPID IMPLEMENTATION

SAACKE provided this customer with six DDG-LN burners, gas valves and fittings and highly efficient controls - and all this within four months from confirming the order to commissioning the facility. This was only made possible by the simple, modular construction of the components.

» Six DDG-LN burners, gas valves and fittings and highly efficient controls – all this within only four months. «

Furthermore, the DDG-LN stands out with the common air supply of the burners in the boiler and its fuel staging. 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.

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TASK

Energy-efficient equipment with extremely low emissions for a new heating and power plant for the district heat supply.

SOLUTION

Six SAACKE Low-NO_x burners with multiple staged 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. Staged combustion allows extremely low NO_x values: The fuel, natural gas is divided into primary and secondary sub-streams, which can be controlled together or alternativly independent 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 combustion 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 control range 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.

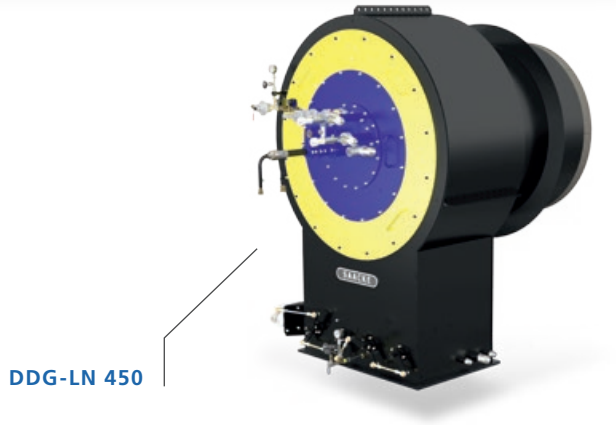
THE MULTI-TALENTED DDZG

The DDG-LN is a component of the 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 DDZG Series 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.



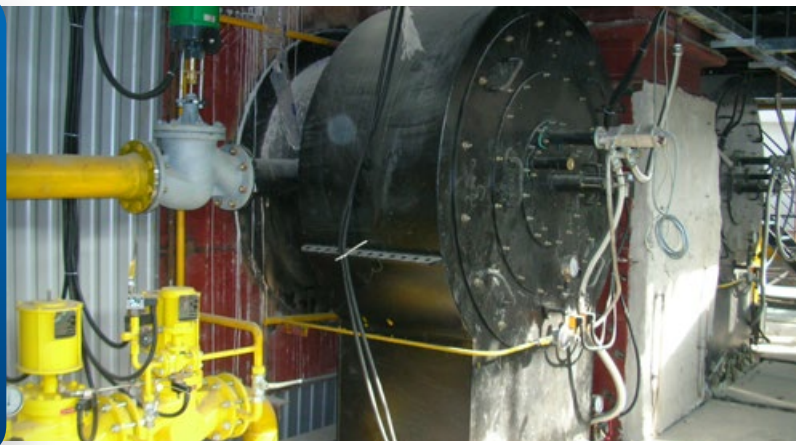
DDG-LN 450

Key technical data

Boiler type	High temperature water boiler, with a completely lined boiler base
Burner type	6 x DDG-LN 450
Burner capacity	3 x 43 MW for each of two 123-MW-high temperature water boilers
Fuel	Natural gas
Peripherals	Process display, differential pressure control system for combustion air
Control range	1:5
NO_x-emissions	Safely under 100 mg/m³ (based on 3% O_2) without secondary measures
Design	Internal gas grading, single-entry air with moderate pressure loss, small installation diameter

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
- Smooth project management and fast order tracking
- Extremely durable and easy to maintain



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