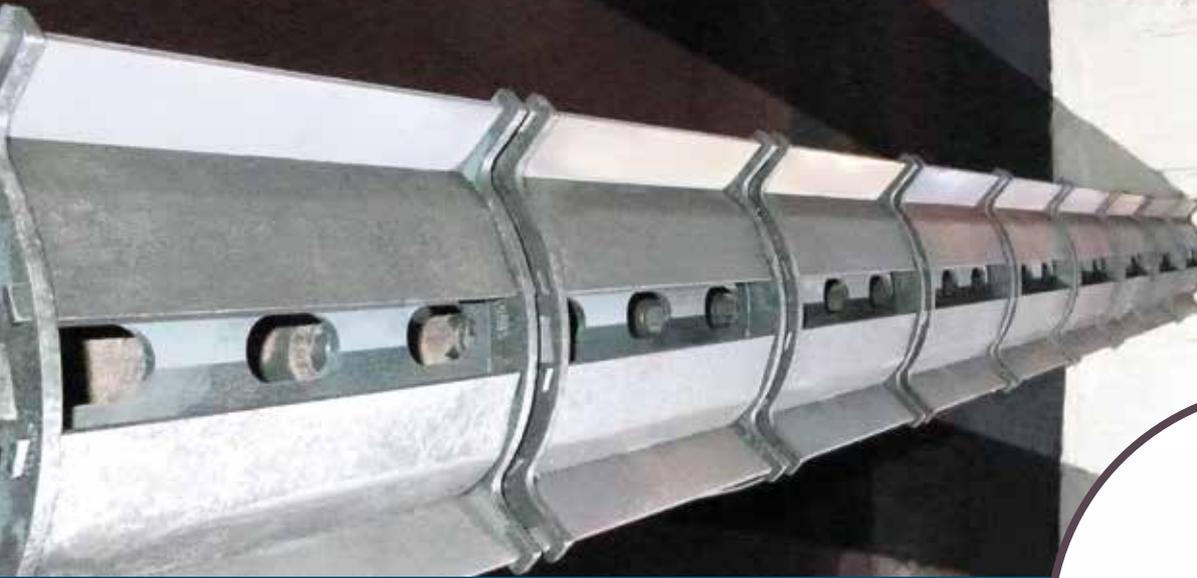


Product information

LONOX DTEG gas duct burner

SAACKE



Modular concept for maximum efficiency

*SAACKE LONOX DTEG gas duct burner:
Make full use of combined heat and power
(CHP) potentials in the high temperature range*

To utilize existing resources better, and increase the fuel efficiency – many consultants, plant suppliers and operators are choosing combined heat and power generation as part of their measures to improve efficiency. For example, they utilize waste heat from the power generation in the form of exhaust gas or hot gas for drying processes. A smart approach – and yet only half the story because industrial generators, such as gas turbines with downstream heat recovery, generally have an overall efficiency of $< 75\%$. The unused potential is worth utilizing, especially as government aids for combined heat and power (CHP) generation often only takes effect from a value $> 75\%$ and legal requirements in some states are expected to make this minimum value a binding requirement in the future.

Overall efficiency of over 90 %

This is precisely where SAACKE can offer a solution: an additional combustion system with LONOX DTEG for the use of turbine exhaust gas as part of a combined heat and power generation. This auxiliary firing system improves the plant efficiency by reducing the residual oxygen content in the exhaust gas. This leads to a higher efficiency of the overall plant of over 90% and an improved emissions balance.

Energy and heat suppliers

Chemical industry

Refineries

Food processing industry

Building materials industry

All the benefits at a glance

- ✓ NO_x emissions approximately 10% below the level of other competitors
- ✓ Modular construction
- ✓ Intelligent design for high flexibility with individual adaptations
- ✓ User-friendly maintenance
- ✓ In-house CFD analysis by SAACKE to optimize the flow distribution and reduce pressure losses

The SAACKE solution in detail

The SAACKE LONOX DTEG is used in water-tube boilers and in insulated or water-cooled combustion chambers upstream of shell boilers, thermal oil heaters and heat recovery boilers without a separate furnace as well as drying plants. The benefit lies in its modular concept: Individual bars or frames with multiple bars are available for delivery as required. The combustion zone construction is free of welding to ensure the lowest possible thermal stresses. This intelligent design means that the system is exceptionally maintenance-friendly with a long product lifecycle as well as being extremely flexible for individual adaptations. This also includes the option of shutting off the bar, which allows the control range to be increased compared to a traditional CHP generation burner. Besides a large capacity range and the lowest possible NO_x values, the SAACKE LONOX DTEG gas duct burner naturally also provides compact flame dimensions, including an outstanding flame stability. The complete burner design is based on in-house CFD analysis in order to calculate the optimal efficiency early on in the design phase.

Conclusion

The SAACKE LONOX DTEG is the straightforward and cost-effective alternative or addition to traditional burner concepts for turbine exhaust gas and hot gas generators. It is the result of over 30 years of market experience in turbine exhaust gas burners as well as continual research and development. A reduction in NO_x values by approximately 10% compared to the competition is solid evidence of this technological aim.

Technical data: LONOX DTEG

Areas of application	Use of turbine exhaust gas as combustion air to maximize the efficiency of downstream heat generation in combined heat and power (CHP) plants
	For hot gas generation with fresh air as combustion air, e.g. for drying processes*
Burner capacity (max.)	1.5 - 150 MW, can be designed for turbine exhaust gas quantities from gas turbines with up to 100 MW of electric power
Fuels	Natural gas, refinery gas, biogas
Emission levels	NO _x increase < 27 mg/MJ, CO increase < 25 mg/MJ (across the entire control range)
Control range	Per bar max. 1:10, max. up to 1:50**
Process gas	
TEG pressure loss burner	max. 1.5 mbar
TEG temperature burner inlet	max. 650 °C
Flue gas temperature burner outlet	max. 1,100 °C

* As an alternative to the use of turbine exhaust gas, the use of fresh air as combustion air is possible upon request. ** By using multiple bars with bar shut-off

SAACKE LONOX DTEG in a market comparison

Values measured at a customer plant:

