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REFERENCE SHEET

Steam boiler with integrated BFB firing system | Palm Wörth

BETTER PERFORMANCE

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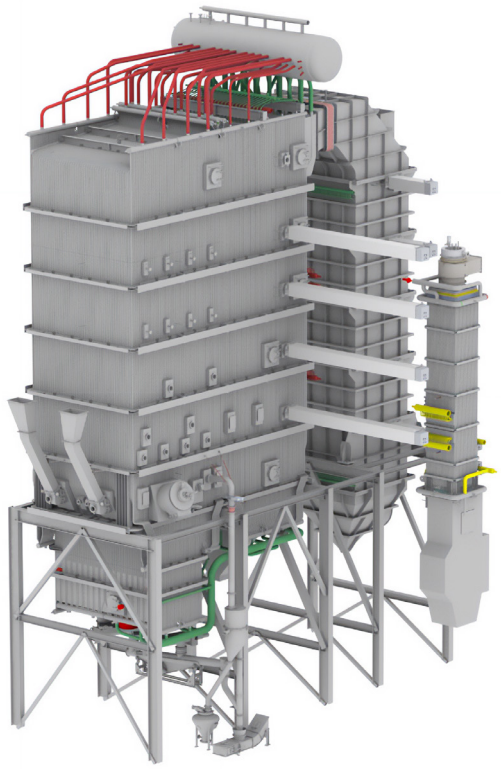
Steam boiler with integrated bubbling fluidized bed firing system for 100% coarse rejects

Bubbling fluidized bed boiler for 100 % coarse rejects with up to 1.9 % d.s. Cl and 1.4 % d.s. N in the fuel. In addition, up to 30 % fiber sludge and 20 % bio sludge can be burned. The boiler design has been optimized for minimum corrosion. The boiler steam outlet temperature is 400 °C. The final two superheater bundles are made of austenitic, corrosion-resistant steel. The first boiler pass (combustion chamber) is completely cladded to protect the membrane walls against corrosion.

An external superheater constructed with solely superheater walls and bundles was added to superheat the steam to 460 °C and heated with natural gas (5 MW max. load). The heat is used exclusively for steam superheating. This results in a lower gas consumption for steam superheating compared to external superheaters that are integrated into the boiler. Such superheaters also partially transfer heat to the evaporation system of the main boiler which is then lost for steam superheating.

For precise fuel dosing redundant weighing belts have been foreseen to ensure continuous and stable operation of the boiler. An SCS shower cleaning system is located in the second boiler pass. For lowest NOx emissions, an SCR system is included downstream of the dry sorption system and the bag filter. Heat recovery after the SCR system is achieved with a heat transfer system to the condensate system for optimized performance and the highest plant efficiency.



Scope of Supply

- Fuel dosing system
- Steam boiler with integrated bubbling fluidized bed firing system
- External superheater
- Flue gas treatment with additive dosing system
- SCR DeNOx for lowest NOx emissions
- Operation and control system
- Balance of plant

Technical Data	
Firing capacity	44 MW
Steam flow (MCR)	59 t/h
Steam pressure	76 bar (a)
Steam temperature	460 °C
Fuel	coarse rejects, up to 30% fibre sludge and 20 % bio sludge
Country	Germany