BERTSCH

BERTSCHenergy
Boiler and Energy Technology
Process Equipment Construction

Solid Fuel Boiler Plants
Electricity and Heat from Biomass

Solid Fuel Boiler Plants
Combined-Cycle / Cogeneration HRSG
Waste Heat Recovery Boilers
Process Heat Recovery Systems and Pressure Equipment
Service

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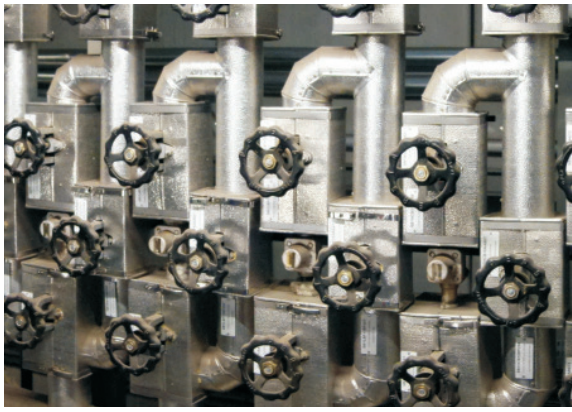
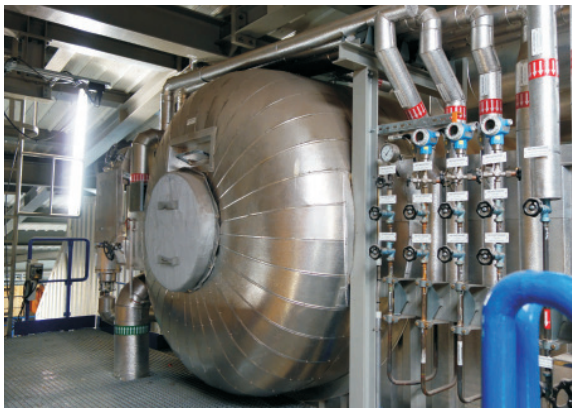
Boiler plants with grate firing for biomass and special fuels

We offer customized solutions for renewable energies and thermal recycling of special fuels such as biogenous waste, EBS, and others. Our solutions are thus best suited for the specific operational needs.





Fuel
Wood chips, bark, sawdust, landscape conservation material, biogenous residues, peat, waste wood, EBS, special fuels

Performance range
- Steam parameters 15-80 t/h per line, 40-130 bar, 400-520°C

Fuel-burning technology
- Air- or water-cooled reciprocating grate.
- Feeding by a fuel pusher or double sluice.
- The combustion chamber is an integral part of the boiler construction.
- Combustion air is fed in stages to optimise burnout while simultaneously minimising nitrous oxide emissions.
- Optimisation of the combustion process by adding recirculation gas.

Boiler technology
- Natural circulation boiler as a membrane wall construction with post-combustion chamber, second pass as empty pass, and a third pass to accommodate the convective heating surfaces.
- Economiser, designed as free-standing sheet metal wall construction with in-line mounted convective heating surfaces.
- The hot steam temperature is regulated by spray attemporators which are arranged between the superheaters.
- The heating surfaces are cleaned with soot blowers and/or shot ball cleaning systems as well as alternative cleaning technologies.

Flue gas treatment
A customised flue gas cleaning technology is utilised depending on the respectively specified emission limit values, which contains the follow elements or a combination thereof:
- SNCR system to reduce nitrous oxide emissions.
- E-filter with or without mechanical dust pre-separator.
- Textile filter optional with dry sorption to reduce HCl, SO2 emissions and bind heavy metals, etc.
- Optional utilisation of a flue gas condenser unit for a maximised heat recovery from the flue gas.

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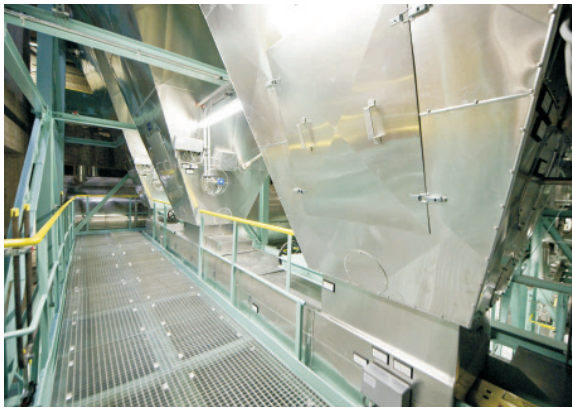
Boiler systems with fluidised bed combustion for biomass and special fuels

Fluidised boiler systems represent a technological enhancement of grate boiler systems. These systems are characterised by a greater flexibility regarding fuel use with respect to their heating values as well as low achievable emission values.



Fuel
Wood chips, bark, sawdust, landscape conservation material, biogenous residues, peat, waste wood, EBS, special fuels

Performance range
- Steam parameters 5-80 t/h per line, 40-130 bar, 400-520°C

Fuel-burning technology
- Stationary, boiler-integrated fluidised bed with open nozzle grid.
- Fuel feed via dosing screws and fuel chutes.
- The fluidised bed is fluidised with a mix of combustion air and recirculated flue gas. Secondary air and recirculated flue gas are fed in stages and temperature-controlled into the post-combustion chamber. The combustion air is pre-heated depending on the respective fuel's requirements.
- Ignition and auxiliary burners are arranged in the free board.

Boiler technology
- Natural circulation boiler as a membrane wall construction with temperature-optimised post-combustion chamber and downstream radiation and convection passes to accommodate the convective heating surfaces.
- Economiser, designed as a free-standing sheet metal construction with in-line mounted convective heating surfaces.
- The hot steam temperature is regulated by spray attemporators which are arranged between the superheaters.
- The heating surfaces are cleaned with soot blowers and/or shot ball cleaning systems as well as alternative cleaning technologies.

Flue gas treatment
A customised flue gas cleaning technology is utilised depending on the respectively specified emission limit values, which contains the following elements or a combination thereof:
- SNCR system to reduce nitrous oxide emissions.
- Textile filter optional with dry sorption to reduce HCl, S02 emissions and bind heavy metals, etc.
- Optional utilisation of a flue gas condenser unit for a maximised heat recovery from the flue gas.

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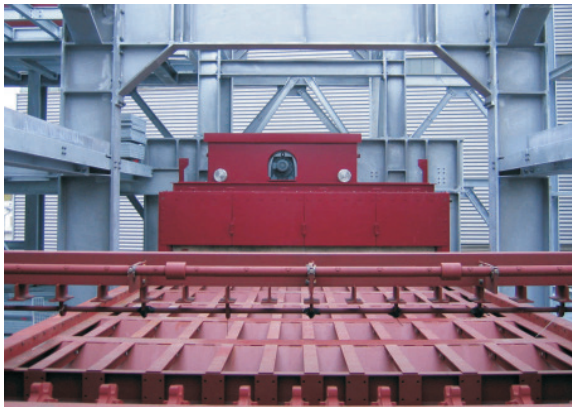
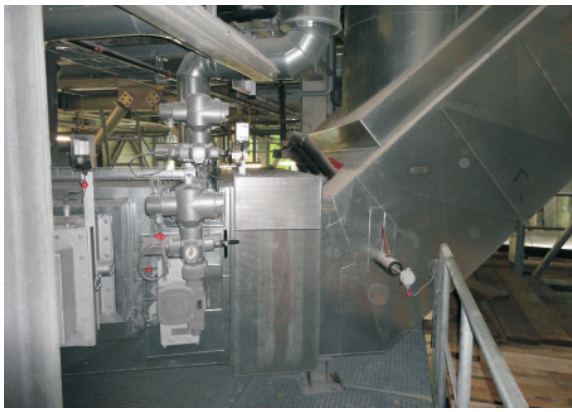
Boiler systems with grate firing for coal

The combination of the traditional fuel coal with the modern, by BERTSCHenergy supplied, mature and industrial firing technology meets current emissions restrictions and simultaneously offers a high boiler efficiency.





Fuel
Anthracite and lignite

Performance range
- Steam parameters up to 80 t/h per line, 130 bar, 540°C

Firing technology
- Air-cooled travelling grate.
- Feed via coal distributor and layer height regulator.
- Primary air is regulated under the grate, secondary air is added at the entrance to the post-combustion chamber.
- Recirculated flue gas is added under and above the grate to optimise the combustion process.
- The combustion chamber walls are membrane walls with ceramic lining.

Boiler technology
- Natural circulation boiler as membrane wall construction with post-combustion chamber and downstream radiation and convective passes which contain the convective heating surfaces.
- Economiser, designed as a free-standing sheet metal wall construction with in-line mounted convective heating surfaces.
- The hot steam temperature is regulated by spray attemporators which are arranged between the superheaters.
- The heating surfaces are cleaned with soot blowers.

Flue gas treatment
A customised flue gas cleaning technology is utilised depending on the respectively specified emission limit values, which contains the following elements or a combination thereof:
- SNCR system to reduce nitrous oxide emissions.
- E-filter with or without mechanical dust pre-separator.
- Textile filter optional with dry sorption to reduce HCl, S02 emissions and bind heavy metals, etc.
- Optional utilisation of a flue gas condenser unit for a maximised heat recovery from the flue gas.

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