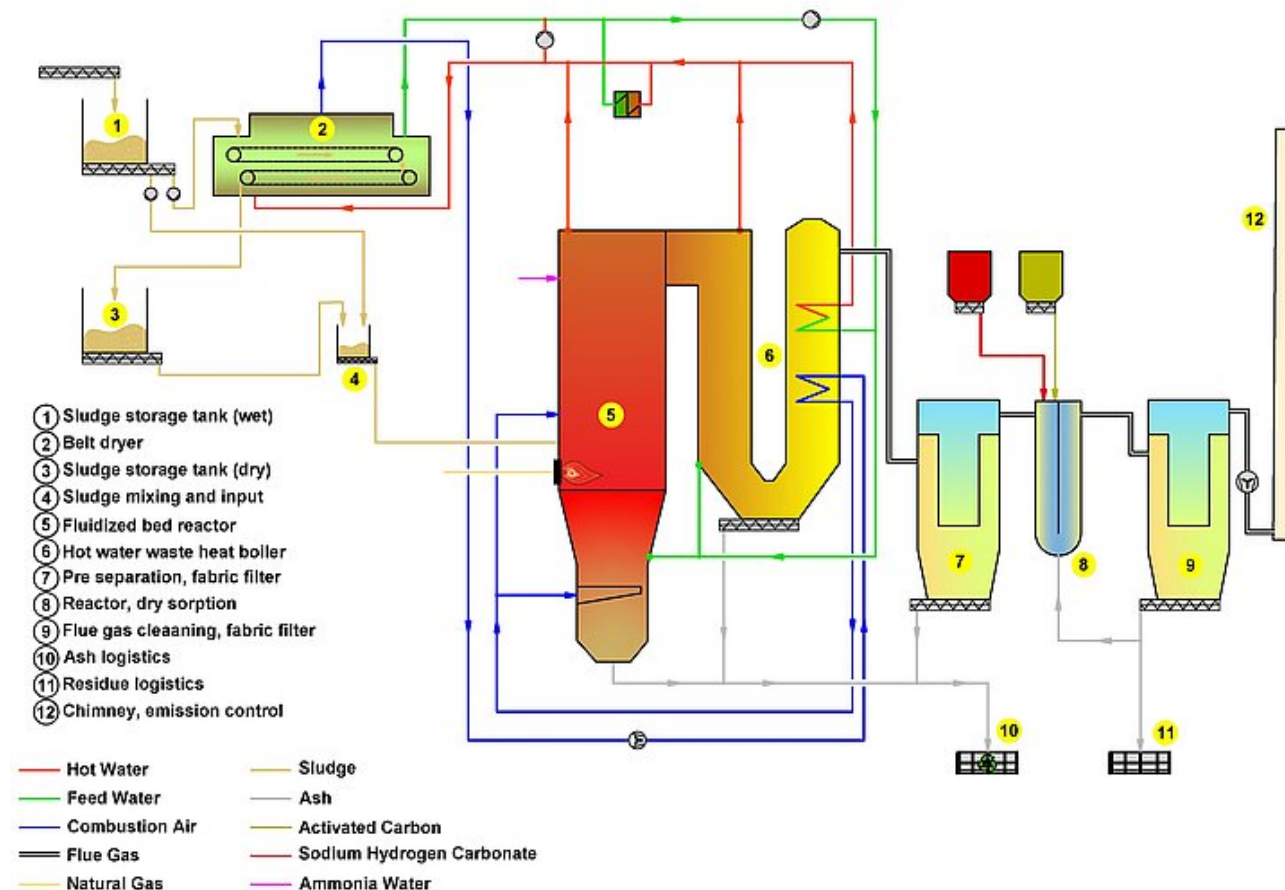


English ▾

sludge2energy Process Variant Hot Water Boiler

The version "Hot Water Boiler" represents a functional system of a simple design for thermal sewage sludge utilisation.



Brief description of the technology

- Sludge acceptance and storage area for dewatered sewage sludge (1) to balance varying supply volumes
- Full drying of a partial flow in a belt dryer (2) and heat supply through incineration
- Condensation of dryer vapours, introduction of vapours/air into the fluidised bed furnace (6) as combustion air
- Intermediate storage bunker (3) for dried sewage sludge
- Mixing (4) of dewatered and fully dried sludge for auto-thermal incineration
- Flexible combustion control including adjustable conveying line for combined sludge input
- Stationary fluidised bed furnace (5) with continuous discharge of bed material and contaminants
- Burner for plant start-up and shutdown and balancing unsteady operating states
- Waste heat boiler (6) for heat transmission from flue gas to useable hot water
- Utilisation of the hot water for heat supply to internal consumers, such as sludge dryer
- Staged combustion air system to minimize contaminants, such as dioxins, carbon monoxide, organic pollutants and nitric oxides
- Denitrification according to the selective non-catalytic reduction (SNCR) method as first stage of flue gas cleaning
- Fabric filter for pre-separation (7) of the phosphorus-rich flue ash from the flue gas

- Dry flue gas cleaning (8) with sorbent dosing to remove acid pollutants, dioxins and heavy metals (e.g. Hg)
- Fabric filter (9) (sorption filter) to remove reaction products and dust from the flue gas
- Recirculation of the sorption residues to improve separation efficiency and reduce sorbent consumption
- Measurement station in chimney (12) for the control of all legal emission limits
- Ash discharge and storage of reaction products (11) separately from phosphorus-rich bed ash, boiler ash and pre-separated ash (10)

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