

Fluidized-bed Biomass Boiler

Features

- A system that allows both incinerator-type operation for waste combustion and boiler-type operation.
- A thermal recycling system based on rich track records in waste combustion.
- An environment-friendly system that utilizes Kurabo's unique environmental technology.

Overview

(Technical principles, actions, etc.)

Kurabo's Fluidized-bed Biomass Boiler System is applied to an incineration furnace. The System maintains the silica sand (medium) in the incineration furnace in a fluidized state at hot temperatures, into which waste (fuel) is input so that the fuel will perfectly burn instantly and the combustion heat will be collected with steam.

The System makes it possible to select either an incinerator-type operation method for waste combustion or a boiler-type operation method fueled by waste combustion for the control of steam pressure. The configuration of the System incorporates a heat recovery process in the fluidized bed and a two-stage combustion process. Kurabo's unique development includes equipment that combust waste plastics and waste oil of high calorific values together with sludge of high moisture content, such as human waste sludge, paper manufacture sludge, and food residues. Kurabo has already delivered approximately 50 units of this equipment. The greatest feature of the System is thermal recycling, i.e., it does not burn only woody biomass fuel but also combines and uses many types of waste as fuel.

Introductory Track Record

■ Factory A

Fuel: 150 tons/day

| | |
|--------------------------|-----------|
| Construction scrap wood: | 80ton/day |
| Sludge etc: | 60ton/day |
| Waste plastics: | 10ton/day |

Amount of generating steam: 15-20ton/H



Introductory track record (Factory A)

■ Factory B

Fuel: 50 tons/day

| | |
|--------------------------|-----------|
| Construction scrap wood: | 35ton/day |
| Sludge etc: | 7ton/day |
| Waste plastics: | 8ton/day |

Amount of generating steam: 8ton/H(Steam turbine)



Introductory track record (Factory B)

■ Factory C

Fuel: 115 tons/day

Woody chips

| | |
|--------------------------|-----|
| From forests: | 60% |
| Construction scrap wood: | 40% |

Amount of generating steam: 18 tons/H



Introductory track record (Factory C)

Effects

- ◎ **Low-cost thermal recycling (energy saving) based on the effective use of waste and biomass and a reduction of CO₂ emissions from a carbon-neutral viewpoint.**

Applicable field
Industrial manufacturers, such as paper, food, and chemical
manufacturers, local self-governing bodies, and various associations

Water

Energy saving/Energy recovery

ENERGY
Energy storage/Energy creation

New energy

Waste disposal/
Recycling/
Resource saving

Air

Soil

Other