



Energy Plants for Biomass Fuel

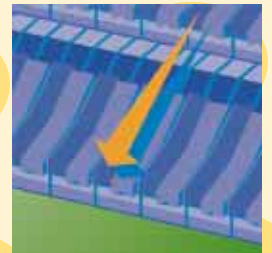
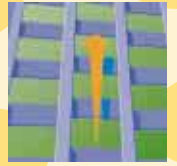
Saxlund International offers complete Energy Plants with outputs from 1 to 50 MW.



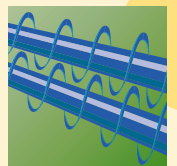
Today's plant for the conversion of biomass fuel into energy should be designed to meet the stringent technical, environmental and financial demands of tomorrow.

Since the combustion chamber is the heart of any energy system, Saxlund International has applied many years of experience along with sophisticated research and development to develop the most efficient and environmentally friendly combustion system available.

Since a combustion system is only as good as the feeding and other auxiliary systems, Saxlund International is able to supply high quality bulk material handling systems that have a proven track record the world over.



Energy Plants





Combustion Chamber for optimum performance.

Saxlund International has more than 40 years experience in the design and construction of biomass fuel energy plants. Today's environmental requirements have made efficient, complete combustion vital to a successful installation. Saxlund has participated in an ongoing research and development program with KTH (Royal Institute of Technology) to optimize the combustion process.

This technology has resulted in a new furnace geometry that achieves complete combustion while meeting all environmental emission requirements.



Patented fuel feed system

A fundamental requirement for ensuring optimum combustion in grate fired systems is that the fuel be accurately metered across the entire width of the moving

grate system at varying loads. Saxlund International has applied its vast experience with bulk solids handling techniques to this challenge. The result is a new patented grate feeding system that minimizes the possibility of "burn through" and associated uncontrolled air supply to the grate.



The feeding system design is dependent upon several factors:

- Fuel type
- Fuel moisture content and range
- Particle size
- Grate width
- Furnace output

The system can be optimized by incorporating the following:

- Simplex or duplex design
- Single or double fire protection dampers
- Surge capacity in the fuel chute
- Water cooled feeder
- Water cooled frame



The Reciprocating Grate

Saxlund International has many years of experience in the design of reciprocating grates. This knowledge has been used to develop a completely new design that has resulted in the best system available. The new grate has following major advantages:

- The new patented grate bars may be rotated to double their service life.
- Grate side cooling prevents slag formation which means less maintenance.
- The grate bars are machined to tight tolerances and then bolted together to give a uniform air flow over the entire grate resulting in better combustion and no hot spots.
- Stable combustion can be achieved even at very low outputs.
- The grate design is modular; it can be retrofitted easily into existing boilers or furnaces.
- All actuators are placed at the front of the grate. This means that there is no maximum width limitation.
- When combined with the patented

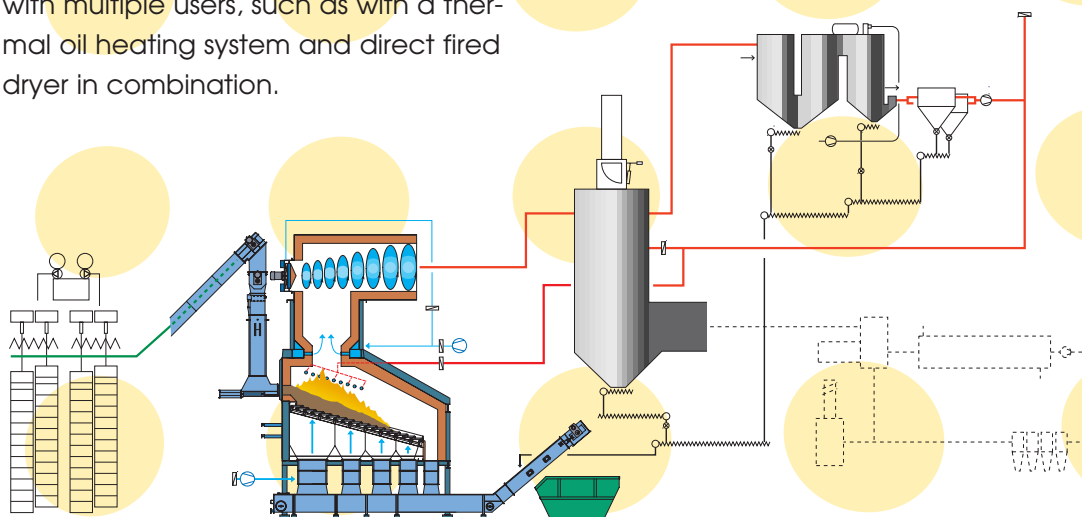


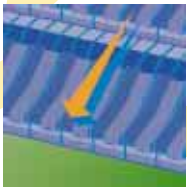
fuel feed system, the whole grate is only used for combustion, not feeding fuel. This means the heat release is maximized.

Unique Control System

Saxlund International has developed a unique control system that controls fuel feed, grate reciprocation speed, and airflow to achieve optimum performance of the system with widely varying loads. The system works especially well with multiple users, such as with a thermal oil heating system and direct fired dryer in combination.

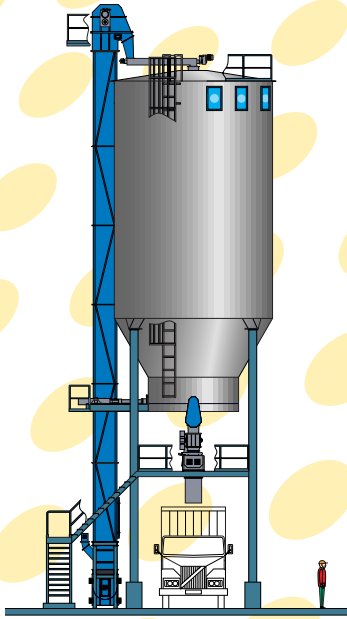
Ease of operation is enhanced by utilizing the latest man machine interface (MMI) technology, showing all operating parameters in real time. The automatic energy plant will measure-up to all demands on periodic checking.





Ash and Slag Handling System

Saxlund International has wide experience with many types of ash and slag handling systems.



For fly ash Saxlund International has supplied many storage silo systems that incorporate Saxlund's proven 'sliding frame' discharger and conditioning screws.

Wet Ash System

Our standard system uses submerged ash conveyers to create a furnace seal without the use of expensive rotary airlocks. It also cools and conditions the ash for storage and transport.

Dry Ash Handling

Saxlund International supplies many types of equipment for dry ash handling:

- Screw Conveyors
- Water Cooled Screws Conveyors
- Chain Conveyors
- Water Cooled Chains Conveyors
- Chain Elevators
- Bucket Elevators

Saxlund International

Saxlund International is your partner for efficient biomass fuel energy plants, bulk & recycling, sludge handling and ash and slag handling systems.

- Heavy duty bulk solids handling equipment
- Patented fuel feed system
- Patented long life grate bars
- Optimized combustion chamber geometry
- Patented 'turbo mixer' for low emissions
- New generation control equipment
- Complete ash and slag handling systems
- Large combustion chamber volume



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