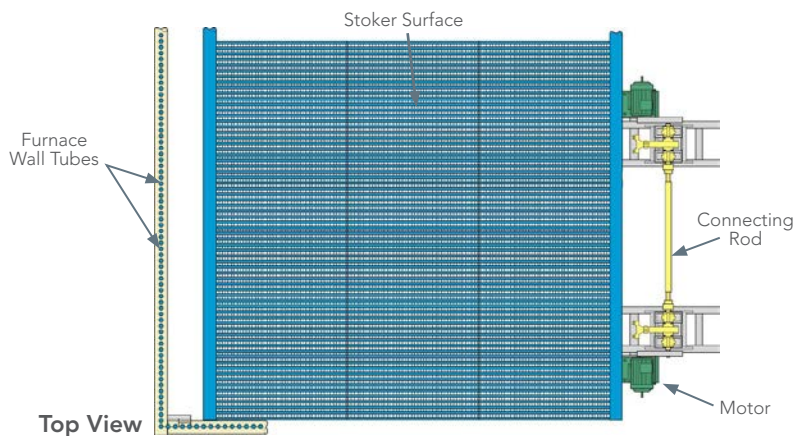
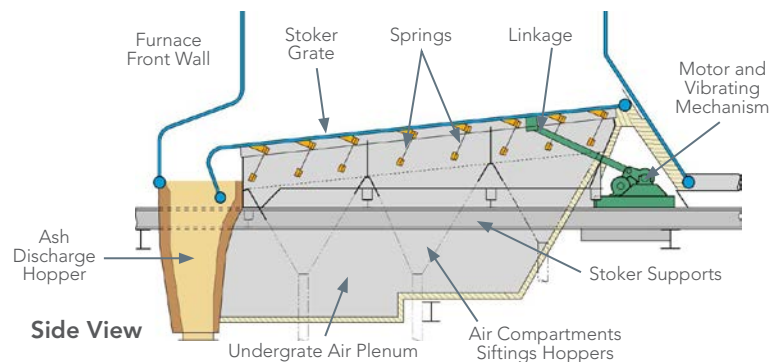


# Water-Cooled Vibrating Grates for Biomass Combustion



## Features

- Ideal for burning most types of biomass including wood chips, sawdust, wood pellets, bark, wheat and rice straw, rice husks and palm waste.
- Heat release rate up to 2.5 MW/m<sup>2</sup>.
- Suitable for a wide range of boilers, from 10 to 250 MW (input).
- Primary air can be heated to a temperature of more than 300 °C.
- Allows combustion of fuels with high moisture content.
- Grate cooling is a standard component of the boiler evaporator system.
- Air flow through the grate can be optimized and minimized as there is no need for air cooling.
- High availability, low maintenance costs and a low consumption of spare parts



continued ▶



For small to medium power input, the grate has two boiler panels up to 6.4 m wide (left). For larger power input, the grate has four boiler panels up to 12.8 m wide (center and right).

## Smooth operation

The grate consists of two or four panel walls mounted on leaf springs. These panels are activated in pairs, in counter phase, by a vibrating unit. This is a simple construction with no internal moving parts which allows smooth operation and a long life. The grate can be supplied with specially formed cast steel top plates for firing fuels with a high content of low melting point metals such as demolition timber.

## Integrated part of the boiler

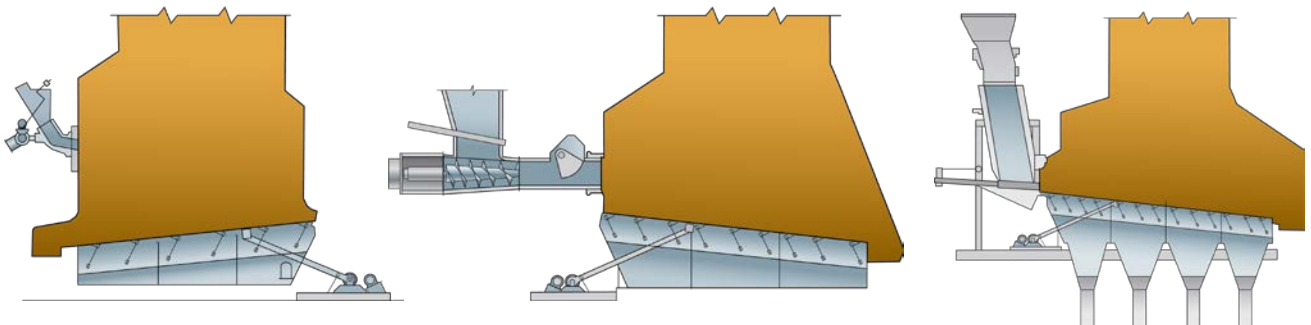
As a standard feature, the grate panels are supplied with water from the drum and perform like other boiler evaporating surfaces. Other high or low pressure cooling is possible, including for retrofit into an existing boiler.

## Optimal air flow

Primary combustion air is injected through holes drilled in the fins of the grate panel. The pattern of these holes can be custom-designed to meet the demands for primary air as determined by the specific fuel. This, combined with the independency of air flow for cooling needs, provides the optimal conditions for air flow adjustment.

## Moist fuels

A high preheating temperature of primary combustion air and in special cases, mounting of cast iron plates, make it possible to burn fuels with high moisture content.



Cross-section of vibrating grate configured with three fuel feeding types: air-spout (left), screw feeder (center) and water-cooled charging chute (right).

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