

BIO-SENA

BIOLOGICAL EXHAUST GAS CLEANING WITH A WET ELECTROSTATIC PRECIPITATOR STAGE FOR CLEANING DRYER EXHAUST GASES



The advantages:

High filtration performance:

- Excellent filtration of health-threatening organic content such as formaldehyde, methanol or phenol

Low operating costs:

- Low maintenance and cleaning costs
- Biological decomposition of contaminants

High levels of availability:

- Adaptable micro-organisms
- Ideal design of trickle filter prevents clogging
- High operating safety

Additional advantages available by adding the SENA electrostatic precipitator stage:

- Excellent aerosol filtration (blue haze)
- Excellent filtration of fine dust types such as fly ash found in boiler gases

The Bio-SENA process is the ideal combination of the SABA biological system and the SENA electrostatic system. It is used primarily in the production of MDF board.

Scrubber Pre-moistening

The exhaust gas is saturated with water and thereby cooled to the cooling limit temperature. Moistening of the solid materials in the crude gas significantly improves filtration efficiency. Water-soluble substances are already partially removed in this stage.

Scrubber Dust separation

A high relative velocity between the gas and the water promotes contact between the already moistened particles and the water droplets. These are then removed together here from the gas stream.

Biological cleaning

The heart of the unit is the biological gas scrubber. A thin layer of optimally adapted microorganisms is located directly on the trickle filter. For these microorganisms, health-threatening organic substances such as formaldehyde, methanol or phenol are essential nutrients. Most of these contaminants are decomposed directly on the trickle filter.

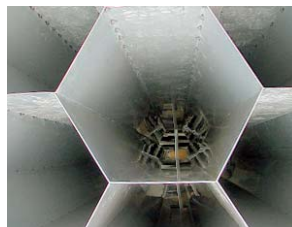
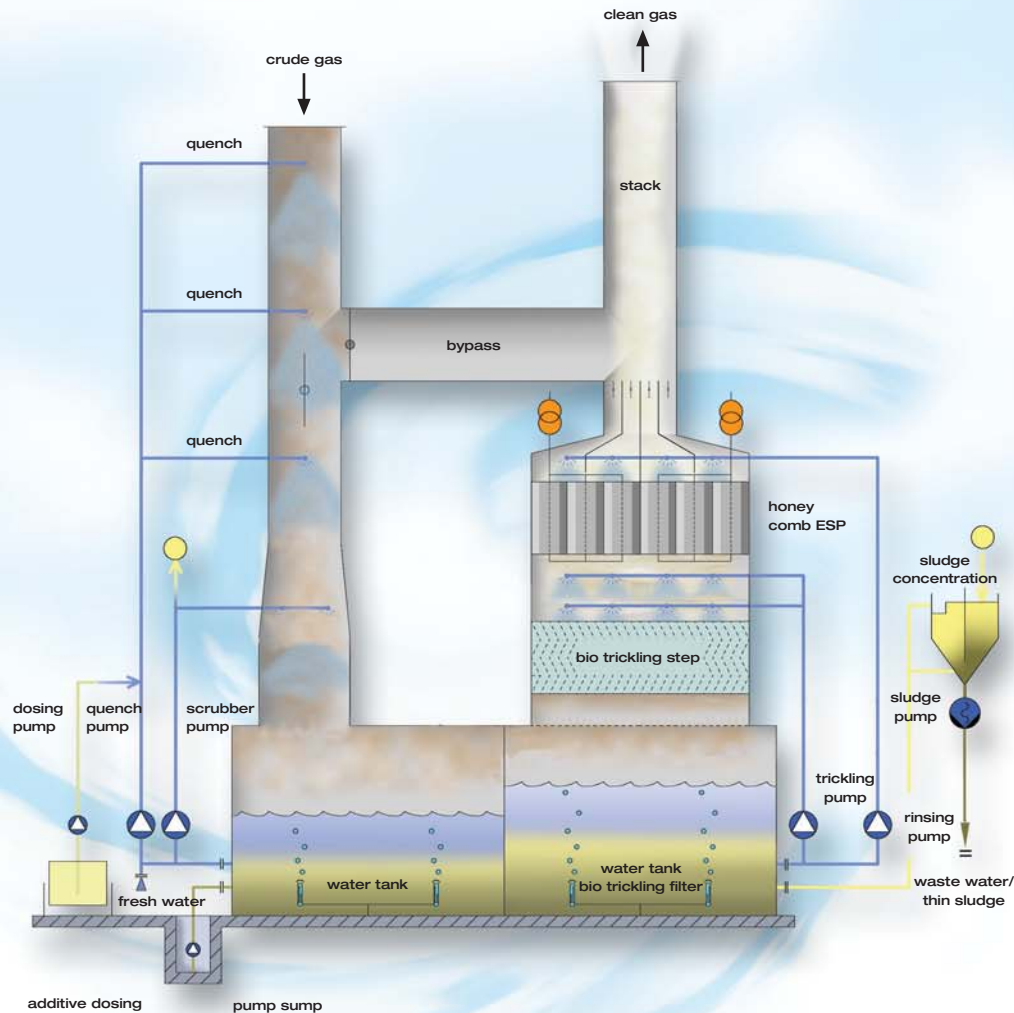
Biological water treatment

The activation process provides for the reliable conversion of the remaining contaminants and creates optimal living conditions for the microorganisms. The solid waste household is regulated using separate filtration equipment.

Electrostatic precipitator stage

Fine dust particles such as those found in boiler exhaust gases and aerosols (blue haze) are then separated in the honeycomb-like electrostatic precipitator. The precipitator's honeycomb-like cells are cleaned at periodic intervals.

THE PROCESS BIO-SENA



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TECHNOLOGY FOR CLEAN AIR