



Fumes and dust control in biomass combustion

Custom design for cyclones and high temperature bag filter

Fume treatment from biomass combustion plant

Our client is a company that deals with installations in large industrial sites abroad, which introduced us to the final customer with problems on a boiler of considerable size, with not particularly “modern” technology.

The aim was a turnkey treatment line for the flue gas from a biomass combustion plant that burned waste from sunflower oil processing.

Gallery

This specific fuel is among the most complex to treat, since it generates a large amount of dust when burnt (even more than 500-600 mg/Nm³), characterised by a fine particle size distribution that is difficult to capture. On top of this, the technically primitive condition of the burner was a further source of complication.

Multistage plant for powders treatment:

Following an inspection at the final customer’s site abroad, Tecnosida® designed a three-stage system. The first stage would separate the larger dust particles, the second stage those of medium size and the third stage the finest ones.

To achieve this goal, the following specific components were selected and/or designed:

- Pre-separation system downstream of the boiler (after the first combustion) with recovery of the unburnt residue and its return to the combustion chamber;
- Second stage of cyclonic separation at the boiler exhaust;
- Third mechanical filtering stage with the Dustdown® biomass model to remove the finest dust particles.

The proposed solution has the advantage of lightening the load on the cyclone, which can therefore be smaller given the reduced dust load to be treated.

Tecnosida® plant is realized in compliance with the BAT (D.MF.01 and D.MM.01). It reduces the emissions within the limits established by law, solving the problem of our customer.

