

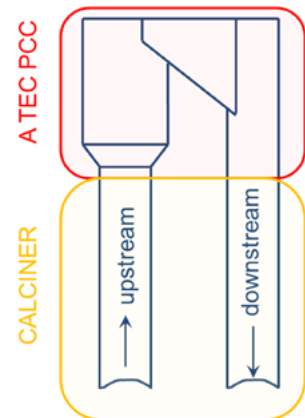
A TEC Post Combustion Chamber (PCC)

IMPROVING CALCINER COMBUSTION PERFORMANCE

Challenging combustion conditions in the calciner have to be handled properly.

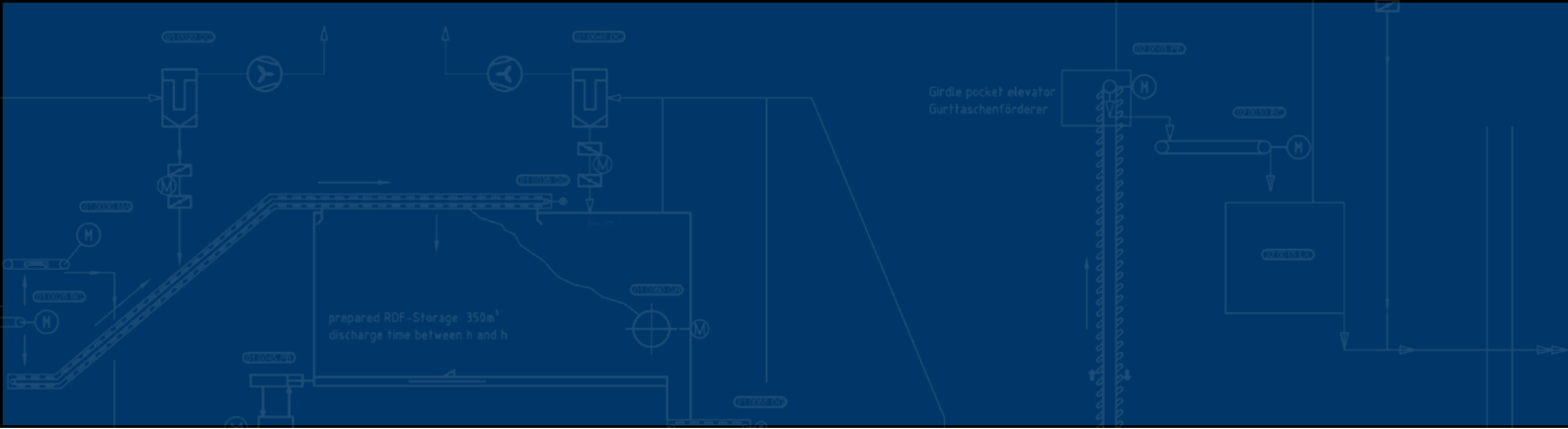
Kiln gas has to be mixed with calciner fuels and tertiary air which is in many cases not successful due to the high viscosity of the kiln gas. Current and future fuel compositions tend to be originated from low grade solid fuel fractions or alternative fuels, such as RDF waste fractions. High residence time for complete combustion lead to massive calciner length extensions.

Placed on the top of the calciner, the A TEC Post Combustion Chamber effectually improves the calciner combustion performance by enlargement of the residence time and improved mixing of the gas stream. Compared to a conventional duct, this installation saves space and weight while the combustion step can be completed by effective mixing of unburned components with residual O₂.



Arrangement of the A TEC Post Combustion Chamber on the calciner top.





DESCRIPTION

The special design (increase of cross section upstream) reduces velocity upstream. Larger unburned fuel particles can stay in the upstream section (increased residence time). The entrance to the downward loop duct is designed eccentrically which produces a high mixing potential without effecting pressure drop. This is a big advantage for the reduction of CO emissions as well as for minimizing any unreacted SNCR reagent emission.

BENEFITS

- Increase of retention time up to 1.5 seconds
- Proper mixing of gas, fuel and material
- Combustion completed before bottom stage cyclone
- Reduction of CO streams
- Reduction of NOX emissions
- Reduction of deposits in preheater
- Maximized combustion efficiency
- High AF utilization
- For SNCR: Low NH3 consumption, lowest NH3 slip
- Lower weight compared to calciner enlargement
- Compact installation

Benefit from maximized combustion efficiency, high calcination efficiency and lower specific heat consumption.

The high performance and compact installation makes the A TEC Post Combustion Chamber the first choice for new plants as well as for revamping calciners to manage challenging fuels, minimize emissions and optimize the calciner performance.

