

SEPARATION DEVICE TO REMOVE FINE PARTICLES

Abstract of the Disclosure

A multi-cyclone gas/solids separator with reduced solids re-entrainment is disclosed. The separator uses a plurality of cyclones spaced horizontally apart from adjacent cyclones to process flue gas containing residual catalyst
5 fines. Each cyclone has a body that has a feed inlet end for admitting gas and entrained solids into an annular space defined by a sidewall of the cyclone body and a cylindrical gas outlet tube axially aligned with the cyclone body. A solids outlet at an opposing end of the cyclone body has a tangential outlet for solids and a minor amount of gas through a sidewall of the cyclone body. A
10 gas reflux opening is axially aligned with the outlet tube. The plurality of cyclones share both a common catch chamber for solids discharged from the solids outlet, and a common manifold for gas and entrained solids. A plurality of shields are positioned in the catch chamber to inhibit discharge of solids from the tangential outlet of the adjacent cyclones into a vicinity of an inlet of the gas
15 reflux opening.

FIGURE 2