

Title (en)

Circulating fluidized bed boiler with improved NOx reduction

Title (de)

Zirkulierender Wirbelbettkessel mit verbesserter NOx-Reduzierung

Title (fr)

Chaudière à lit fluidisé circulant à réduction d'oxydes d'azote améliorée

Publication

EP 0936405 B1 20040818 (FR)

Application

EP 99400288 A 19990209

Priority

FR 9801839 A 19980216

Abstract (en)

[origin: EP0936405A1] The combustion area (1) is connected to a separation cyclone (11) by a pipe (9) carrying a flow of particles and gas containing nitrogen oxides (NOx). A reactant is injected into the flow, to reduce the NOx emissions, using at least one tubular rod (21) in the top of the combustion area which extends into the pipe to inject the reactant in the direction of flow of the fluid. A second rod mounted in the top of the pipe near the combustion area also injects reactant in the direction of fluid flow. An external exchanger with dense fluidized bed connects the separation cyclone to the combustion area and the top of this forms a pipe for the flow, with a third tubular rod in the top of the exchanger injecting reactant into the flow. Each tubular rod contains at least one injection nozzle for the reactant and can be moved in a direction perpendicular to the longitudinal axis of the pipe. Each tubular rod has a cooling circuit containing water and is coated with tungsten carbide or chromium carbide to resist the abrasion of the flow. The reactant is gaseous ammonia or droplets of ammonia in solution, or an ammonia compound such as urea, sprayed by air.

IPC 1-7

F23C 10/02; **F23J 15/00**

IPC 8 full level

F23C 10/10 (2006.01); **F23J 15/00** (2006.01)

CPC (source: EP US)

F23C 10/10 (2013.01 - EP US); **F23J 15/003** (2013.01 - EP US); **F23C 2206/103** (2013.01 - EP US); **F23J 2215/10** (2013.01 - EP US); **F23J 2219/20** (2013.01 - EP US)

Cited by

DE102010036749A1; US10653996B1; US8353698B2; CZ302726B6; US8251694B2

Designated contracting state (EPC)

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