

Title (en)

Method for reducing nitrogen oxide emissions and corrosion in a bubbling fluidized bed boiler and a bubbling fluidized bed boiler

Title (de)

Verfahren zur Reduzierung von Stickstoffoxidemissionen und Korrosion in einem Kessel mit stationärer Wirbelschicht und Kessel mit stationärer Wirbelschicht

Title (fr)

Procédé pour réduire les émissions d'oxyde d'azote et la corrosion dans une chaudière à lit fluidisé bouillonnant et chaudière à lit fluidisé bouillonnant

Publication

EP 2574841 A2 20130403 (EN)

Application

EP 12397524 A 20120926

Priority

FI 20115962 A 20110930

Abstract (en)

To reduce nitrogen oxide emissions and corrosion in a bubbling fluidized bed boiler that burns biofuel or waste, air is supplied into the boiler furnace (1) in stages so that two sub-stoichiometric combustion zones (I), (II) and a superstoichiometric zone (III) are brought about. The first combustion zone (I) begins from the height level of primary air supply nozzles (3) and it extends above the fluidized bed (2), ending under the height level (hS) of secondary air nozzles (6). The second combustion zone (II) begins from the height level (hS) of the secondary air nozzles (6) and ends under the height level (hT) of tertiary air nozzles (7). The third combustion zone (III) begins from the height level (hT) of the tertiary air nozzles. The length of the first combustion zone (I) is optimized by placing the secondary air nozzles (6) at a height (hS) from the top surface of the fluidized bed (2), which height (hS) is chosen according to a given calculation formula and calculated according to furnace-specific variables, reference values and design point-specific variables. The design point-specific variables are different in a boiler with a high furnace load and in a boiler with a low furnace load.

IPC 8 full level

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CPC (source: EP FI)

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Citation (applicant)

WO 2006084954 A1 20060817 - KVAERNER POWER OY [FI], et al

Cited by

EP3054214A1; WO2016128616A1; EP3081690A1

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