

Title (en)
BURNER WITH MEANS FOR CHANGING THE DIRECTION OF FUEL FLOW

Title (de)
BRENNER MIT MITTELN ZUR ÄNDERUNG DER RICHTUNG DES KRAFTSTOFFFLUSSES

Title (fr)
BRÛLEUR ÉQUIPÉ DE MOYENS DE CHANGEMENT DE LA DIRECTION D'ÉCOULEMENT D'UN COMBUSTIBLE

Publication
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Application
EP 07826814 A 20071022

Priority
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Abstract (en)
[origin: WO2008065554A1] A description is given of a burner for introducing solid, liquid or gaseous fuel to a burning zone of a kiln, such as a rotary kiln for manufacturing cement clinker or the like, said burner comprising a number of substantially concentric ducts (1, 2, 3), being parallel to the main axis B3 of the burner, for conveying fuel and primary air to nozzle openings, as well as a number of additional ducts (4, 6, 7, 8) for conveying solid, fluid or gaseous fuel to separate nozzle openings, said additional ducts being located in the central part (10) of the burner. The burner is characterized in that it comprises means (4a, 5) for changing the flow direction of the fuel which is introduced via at least one of the additional ducts in the central part (10) of the burner, relative to the main axis B3 of the burner, at least in an ascending direction. This will allow the individual fuel particles to travel in a curved, approximately ballistic path, thereby extending the time they can be maintained in the flame. Another advantage of this configuration of the burner is that the large particles will attain the highest, and hence the longest, path, since the path of the smaller particles will to a greater extent than is the case for the large ones be deflected by the primary air which is injected via the outer annular primary air nozzle which is parallel to the main axis of the burner. Hence it will be possible to achieve a more uniform combustion of all particles, regardless of their size. It will be possible to change the path of the particles by altering the velocity or direction of injection.

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Citation (search report)
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• [Y] US 6315551 B1 20011113 - SALZSIEDER PATRICK [DE], et al
• [Y] US 2832401 A 19580429 - LAIL ERNEST E
• [A] EP 0987508 A1 20000322 - AIR LIQUIDE [FR]
• [A] US 5433573 A 19950718 - BUTA JOHN R [US], et al
• See references of WO 2008065554A1

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