

Title (en)
DEVICE AND METHOD FOR CONTROLLING THE FUEL-AIR RATIO DURING THE COMBUSTION OF GROUND COAL IN THE FIRING SYSTEM OF A COAL POWER PLANT

Title (de)
EINRICHTUNG UND VERFAHREN ZUR STEUERUNG DES BRENNSTOFF-LUFT-VERHÄLTNISSSES BEI DER VERBRENNUNG GEMAHLENER KOHLE IN EINER KOHLEKRAFTWERKSFEUERUNGSANLAGE

Title (fr)
DISPOSITIF ET PROCEDE DE REGULATION DU RAPPORT AIR-COMBUSTIBLE LORS DE LA COMBUSTION DE CHARBON BROYE DANS UNE INSTALLATION DE COMBUSTION D'UNE CENTRALE AU CHARBON

Publication
EP 2315974 A2 20110504 (DE)

Application
EP 09768827 A 20090624

Priority
• DE 2009000875 W 20090624
• DE 102008030650 A 20080627

Abstract (en)
[origin: WO2009155903A2] The invention relates to a device and method for controlling the fuel-air ratio during the combustion of ground coal in the firing system of a coal power plant, which comprises means for the pneumatic delivery of ground coal to the burners of the firing system of the coal power plant and means for feeding combustion air to the burners or into the firing chamber of the firing system of the coal power plant and in which the amount of combustion air and the amount of carrier air is controlled. The aim of the invention is to achieve a high reliability of the control combined with low maintenance of the air mass measurement devices for measuring the amount of combustion air and carrier air. According to the invention, this aim is achieved by a measurement device for measuring the amount of combustion air which, according to the correlation measurement method, evaluates the triboelectric effects on sensors which are arranged in series in the direction of flow of the combustion air and thus measures the flow velocity of the combustion air. To this end, between 0.1 mg and 10 mg of fine-grained particles having a particle diameter of between 20 µm and 200 µm are introduced per m3 air into the suctioned fresh air. The introduction of particles into the suctioned fresh air is carried out essentially during the starting phase of a firing system of a coal power plant. The measurement of the amount of carrier air is preferably carried out by means of a correlation measurement device that evaluates the triboelectric effects on sensors which are arranged in series in the carrier air stream in the direction of flow of the carrier air.

IPC 8 full level
F23K 1/00 (2006.01); **F23K 3/02** (2006.01); **F23N 1/02** (2006.01); **F23N 5/18** (2006.01); **F23N 5/20** (2006.01); **G01P 5/18** (2006.01)

CPC (source: EP KR US)
F23K 1/00 (2013.01 - EP KR US); **F23K 3/02** (2013.01 - EP KR US); **F23N 1/02** (2013.01 - KR); **F23N 1/022** (2013.01 - EP US); **F23N 5/18** (2013.01 - KR); **F23N 5/184** (2013.01 - EP US); **G01F 1/64** (2013.01 - EP US); **G01F 1/712** (2013.01 - EP US); **F23K 2201/101** (2013.01 - EP US); **F23K 2201/505** (2013.01 - EP US); **F23K 2203/104** (2013.01 - EP US); **F23N 2005/181** (2013.01 - EP US); **F23N 2221/00** (2020.01 - EP US); **F23N 2227/02** (2020.01 - EP US); **F23N 2239/02** (2020.01 - EP US); **Y02E 20/34** (2013.01 - EP US)

Citation (search report)
See references of WO 2009155903A2

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)
AL BA RS

DOCDB simple family (publication)
WO 2009155903 A2 20091230; WO 2009155903 A3 20101209; AU 2009262638 A1 20091230; BR PI0913957 A2 20180529; CA 2729863 A1 20091230; CA 2729863 C 20130226; CN 102077027 A 20110525; CN 102077027 B 20130515; DE 102008030650 A1 20100107; DE 102008030650 B4 20110616; EP 2315974 A2 20110504; JP 2011525606 A 20110922; JP 5318948 B2 20131016; KR 20110031210 A 20110324; MX 2010014131 A 20110121; RU 2010151353 A 20120810; RU 2490546 C2 20130820; UA 101380 C2 20130325; US 2011100271 A1 20110505; US 8601957 B2 20131210; ZA 201008694 B 20111228

DOCDB simple family (application)
DE 2009000875 W 20090624; AU 2009262638 A 20090624; BR PI0913957 A 20090624; CA 2729863 A 20090624; CN 200980124619 A 20090624; DE 102008030650 A 20080627; EP 09768827 A 20090624; JP 2011515093 A 20090624; KR 20117002193 A 20090624; MX 2010014131 A 20090624; RU 2010151353 A 20090624; UA A201100832 A 20090624; US 200913000427 A 20090624; ZA 201008694 A 20101202