

Title (en)

COMBUSTION DEVICE WITH AIR RATIO REGULATION DEVICE, AND HEATING APPARATUS

Title (de)

VERBRENNUNGSVORRICHTUNG MIT REGELEINRICHTUNG ZUR LUFTZAHL-REGELUNG, SOWIE HEIZGERÄT

Title (fr)

DISPOSITIF DE COMBUSTION AVEC DISPOSITIF DE RÉGLAGE DU RAPPORT AIR/AIR, AINSI QU'APPAREIL DE CHAUFFAGE

Publication

**EP 3978805 B1 20231227 (DE)**

Application

**EP 21199318 A 20210928**

Priority

GB 202015572 A 20201001

Abstract (en)

[origin: GB2599423A] A method for operating a combustion device 100 to provide a combustible mixture composed of an air stream 'A' and a hydrogen combustion gas stream 'G', and to burn the mixture 'M' so that heat is generated. The combustible air/fuel mixture is regulated as a function of the heat required, and when low heat power is required the combustible mixture is controlled such that it is a lean mixture, and/or when a high heat power is required the combustible mixture is controlled such that it is a rich mixture. In particular, the air quantity, represented by an air number  $\lambda$  of the air/combustion gas mixture stream is regulated within defined limits in dependence of the range of heating power, and as such  $\lambda = \lambda(Q)$  and is regulated within the boundaries of:  $0.15 / Q + 1 \leq \lambda \leq 0.175 / Q + 1.25$ , when the relative heating power 'Q' is in the range between 0 and 1. The regulating arrangement may include a fan 102, a fuel gas metering unit 104, a mixing unit 106 and regulating apparatus 110.

IPC 8 full level

**F23N 1/00** (2006.01); **F23D 14/02** (2006.01); **F23N 1/02** (2006.01); **F23N 3/00** (2006.01); **F23N 5/00** (2006.01); **F23N 5/12** (2006.01)

CPC (source: EP GB)

**F23D 14/02** (2013.01 - EP); **F23N 1/00** (2013.01 - GB); **F23N 1/002** (2013.01 - EP); **F23N 1/022** (2013.01 - EP); **F23N 3/00** (2013.01 - GB); **F23N 3/002** (2013.01 - EP); **F23N 5/00** (2013.01 - GB); **F23N 5/006** (2013.01 - EP); **F23N 5/123** (2013.01 - EP); **F23C 2900/9901** (2013.01 - EP); **F23N 2233/08** (2020.01 - EP)

Cited by

EP4306850A1; EP4317778A1; WO2024012837A1; WO2023247690A1; WO2023247691A1; WO2023247689A1; WO2023247692A1

Designated contracting state (EPC)

AL 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 RS SE SI SK SM TR

DOCDB simple family (publication)

**EP 3978805 A1 20220406**; **EP 3978805 B1 20231227**; GB 202015572 D0 20201118; GB 2599423 A 20220406

DOCDB simple family (application)

**EP 21199318 A 20210928**; GB 202015572 A 20201001