

Title (en)
FURNACE AND METHOD FOR OPERATING A FURNACE

Title (de)
BRENNOFEN UND VERFAHREN ZUM BETRIEB EINES BRENNOFENS

Title (fr)
FOUR ET PROCÉDÉ POUR FAIRE FONCTIONNER UN FOUR

Publication
EP 4208681 A1 20230712 (DE)

Application
EP 20775194 A 20200903

Priority
EP 2020074647 W 20200903

Abstract (en)
[origin: WO2022048754A1] The invention relates to a method for operating a furnace (10), in particular an anode furnace, wherein: the furnace is formed from a plurality of heating ducts (12) and furnace chambers, the furnace chambers being used to receive carbonaceous bodies, in particular anodes, and the heating ducts being used to control the temperature of the furnace chambers; the furnace comprises at least one furnace unit (11), the furnace unit comprising a heating zone (18), a firing zone (19) and a cooling zone (20), which for their part are formed from at least one section (37, 38, 39, 40, 41, 42) comprising furnace chambers, an extraction ramp (15) of the furnace unit being situated in a section of the heating zone and a burner ramp (16) of the furnace unit being situated in a section of the firing zone; process air in the heating ducts of the firing zone is heated by means of the burner ramp and exhaust gas from the heating ducts of the heating zone is extracted by means of the extraction ramp; operation of the ramps is controlled by means of a control apparatus of the furnace unit; a temperature in the heating duct is measured in the firing zone; a power of the burner ramp is controlled in a closed-loop manner by means of a closed-loop control device of the control apparatus according to the temperature measured in the heating duct; by means of the control apparatus, at least two characteristic values are determined and a comparison of the characteristic values is performed; a status of the heating duct relative to a fuel amount located in the heating duct is determined by means of the control apparatus on the basis of the comparison; and a characteristic value including the temperature in the heating duct and/or a characteristic value including the power of the burner ramp and/or a characteristic value including a controlled variable of the closed-loop control device are determined as characteristic values. The invention also relates to a control apparatus for operating a furnace, and to a furnace.

IPC 8 full level
F27B 13/14 (2006.01); **F27D 19/00** (2006.01); **F27D 21/00** (2006.01)

CPC (source: EP US)
F27B 13/14 (2013.01 - EP US); **F27D 19/00** (2013.01 - EP US); **F27D 21/00** (2013.01 - EP); **F27D 21/0014** (2013.01 - US); **F27D 2019/0018** (2013.01 - EP US); **F27D 2019/0034** (2013.01 - EP US)

Citation (search report)
See references of WO 2022048754A1

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

Designated extension state (EPC)
BA ME

Designated validation state (EPC)
KH MA MD TN

DOCDB simple family (publication)
WO 2022048754 A1 20220310; AU 2020466441 A1 20230323; CA 3190743 A1 20220310; EP 4208681 A1 20230712; US 2024027133 A1 20240125

DOCDB simple family (application)
EP 2020074647 W 20200903; AU 2020466441 A 20200903; CA 3190743 A 20200903; EP 20775194 A 20200903; US 202018024334 A 20200903