

Title (en)

A NOZZLE FOR CONVEYING A PLASMA STREAM FOR PLASMA ABATMENT AND RELATED METHOD

Title (de)

DÜSE ZUM FÖRDERN EINES PLASMASTRAHLS ZUR PLASMABESEITIGUNG UND ENTSPRECHENDES VERFAHREN

Title (fr)

BUSE PERMETTANT DE TRANSPORTER UN FLUX DE PLASMA POUR ABATTEMENT AU PLASMA ET PROCÉDÉ ASSOCIÉ

Publication

EP 3692770 B1 20230322 (EN)

Application

EP 18782177 A 20181001

Priority

- GB 201716185 A 20171004
- GB 2018052804 W 20181001

Abstract (en)

[origin: GB2567168A] A nozzle 50 is used to convey a plasma stream 90 from a plasma generator to a reaction chamber 70, and the nozzle has a conduit extending between an inlet arranged to receive the plasma stream, an outlet arranged to fluid couple with the reaction chamber, and an aperture to deliver water from a water dispenser 55 to the conduit for mixing with the plasma stream. In operation, the plasma-forming gas stream is introduced between a cathode 30 and an anode 40 which are electrically charged and undergo a DC arc discharge to generate the plasma stream. The plasma stream flows through a tubular conduit of the anode and exits towards the nozzle inlet. The arrangement may be used to treat an effluent gas stream 100, and the combined plasma stream and effluent gas stream travel through the nozzle towards the reaction chamber, and water is dispensed by the water dispenser for mixing. The water dispensed by the water dispenser generates hydrogen and oxygen radicals which also enter the reaction chamber where abatement of compounds within the effluent gas stream occurs. The hydrogen and oxygen radicals help improve the destruction rate efficiency of the abatement apparatus.

IPC 8 full level

H05H 1/34 (2006.01); **B05B 1/00** (2006.01); **H05H 1/48** (2006.01)

CPC (source: EP GB KR US)

A62D 3/19 (2013.01 - GB KR); **F23D 11/18** (2013.01 - GB KR); **F23G 7/06** (2013.01 - GB KR); **H05H 1/34** (2013.01 - EP GB US); **H05H 1/3468** (2021.05 - EP KR); **H05H 2245/15** (2021.05 - EP KR)

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)

GB 201716185 D0 20171115; **GB 2567168 A 20190410**; CN 111149437 A 20200512; CN 111149437 B 20230815; EP 3692770 A1 20200812; EP 3692770 B1 20230322; KR 102676559 B1 20240618; KR 20200062218 A 20200603; SG 11202003132P A 20200528; TW 201922353 A 20190616; TW I796368 B 20230321; WO 2019069066 A1 20190411

DOCDB simple family (application)

GB 201716185 A 20171004; CN 201880064937 A 20181001; EP 18782177 A 20181001; GB 2018052804 W 20181001; KR 20207009676 A 20181001; SG 11202003132P A 20181001; TW 107135061 A 20181004