

Title (en)
DEVICE AND METHOD FOR THE PLASMA TREATMENT OF FRAGMENTED MATERIAL AT INTERMEDIATE TEMPERATURES

Title (de)
VORRICHTUNG UND VERFAHREN ZUR PLASMABEHANDLUNG VON FRAGMENTIERTEM MATERIAL BEI MITTLEREN TEMPERATUREN

Title (fr)
DISPOSITIF ET PROCEDE POUR LE TRAITEMENT DE MATIERE FRACTIONNEE PAR PLASMA A TEMPERATURES INTERMEDIAIRES

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Application
EP 20719712 A 20200320

Priority

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Abstract (en)
[origin: WO2020188344A1] Device and method for plasma-chemical treatment of fragmented material in a reactor using a PIT pulsed-plasma turbulent jet generator operating at a pressure equal to or greater than atmospheric pressure, wherein the main parameters, the dimensions of the reactor, the mean amplitude of the current and the voltage at the electrodes, the diameter, speed and concentration of the material particles to be treated, the durations of the electrical pulses and the energy for activating the material particles to be treated are related in such a way that the material particles to be treated perform trajectories in the reactor in the form of loops with a variable angle of incidence in the reactor, α , the trajectories being conditioned by the access and the reaction of the plasma particles to the surface of the material particles to be treated, the dissipation of the energy of the current pulses and the transfer of sufficient energy for producing the reaction, but limited by the condition of the absence of plasma heating. The invention is used for transforming biomass into torrefied fuel and hydrogen, destroying organic waste, simulating combustion in gas turbines, performing surgical assistance operations, such as, for example, resuscitating pseudo-necrotic cells, and passivating scars.

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Citation (search report)
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