

Title (en)

METHOD AND DEVICE TO ALLOW GASEOUS AND SOLID REACTANTS TO REACT IN A FLUIDIZED PARTICLE LAYER

Title (de)

VERFAHREN UND VORRICHTUNG ZUR DURCHFÜHRUNG EINER REAKTION ZWISCHEN GASFÖRMIGEN UND FESTEN REAKTANTEN IN EINER FLUIDISIERTEN PARTIKELSCHICHT

Title (fr)

PROCEDE ET DISPOSITIF PERMETTANT LA MISE EN OEUVRE D'UNE REACTION ENTRE DES REACTIFS GAZEUX ET SOLIDES DANS UNE COUCHE DE PARTICULES FLUIDISEE

Publication

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Application

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Abstract (en)

[origin: DE19949193A1] In order to allow gaseous and solid reactants to react in a fluidized particle layer a fluidizing gas normally flows through a loose pile of primary particles lifting the pile and thereby creating a fluidized particle layer and reacting with said primary particles. A procedure whereby a solid powder loaded stream (11) is accelerated to supersonic speeds by means of a supersonic nozzle (4) and a carrier gas and is blown in transversally to the main stream direction of flow of the fluidizing gas in the fluidized particle layer is also known in prior art. In order to increase the solid load and the depth of penetration of the carrier gas stream (11), a carrier gas stream (11) which first exits the supersonic nozzle (4) and comprises a solid powder, is blown via a diffuser (2) disposed opposite to said supersonic nozzle (4) into a fluidized particle layer. In this invention a simple and operationally secure reactor is provided in order to perform said method characterized in that it has a supersonic nozzle (4) which lies opposite a direction of flow of a carrier gas-stream (11) and a diffuser (2) whereby a suction chamber (3) for a solid powder is provided between said supersonic nozzle (4) and a diffuser (2).

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