

Title (en)

MULTI-SITE REACTOR SYSTEM WITH DYNAMIC, INDEPENDENT CONTROL OF INDIVIDUAL REACTION SITES

Title (de)

MEHRORT-REAKTORSYSTEM MIT DYNAMISCHER, UNABHÄNGIGER STEUERUNG INDIVIDUELLER REAKTIONSTELLEN

Title (fr)

SYSTEME DE REACTEUR MULTI-SITE A COMMANDE DYNAMIQUE INDEPENDANTE DE SITES DE REACTION INDIVIDUELS

Publication

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Application

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Abstract (en)

[origin: WO9948608A2] A multi-site reactor system (60) provides dynamic, independent, computer-implemented control of each reaction site, permitting different thermal profiles to be performed on samples at different reaction sites simultaneously. The system includes reaction vessels (2) for holding reaction mixtures and heat-exchanging modules (37) for receiving the vessels. Each heat-exchanging module (37) includes a pair of thermal plates between which one of the vessels (2) is inserted, heating elements coupled to one or both plates for heating the reaction mixture contained in the vessel, a fan for cooling the plate and mixture, and a temperature sensor for measuring the temperature of the plate. The system also includes a controller (64) for independently controlling each heat-exchanging module (37) to heat and/or cool the reaction mixture contained therein. The controller (64) includes an adaptive control program for dynamically adjusting the duration or intensity of power pulses provided to each heating element and for dynamically adjusting the duration of fan operation to attain target temperatures quickly and accurately without overshooting or undershooting the target.

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