

Title (en)
METHOD AND APPARATUS FOR A CATALYTIC FIREBOX REACTOR

Title (de)
VERFAHREN UND VORRICHTUNG FÜR EINEN KATALYTISCHEN REAKTOR

Title (fr)
PROCEDE ET APPAREIL CON US POUR UN REACTEUR A FOYER CATALYTIQUE

Publication
EP 1269076 A4 20091104 (EN)

Application
EP 00921557 A 20000331

Priority
US 0008585 W 20000331

Abstract (en)
[origin: WO0175364A1] A catalytic firebox reactor (10) employing an exothermic catalytic reaction channel (60) and multiple cooling conduits (20) for creating a partially reacted fuel/oxidant mixture. An oxidation catalyst (50) is disposed on the walls forming the boundary between the multiple cooling conduits (20) and the exothermic catalytic reaction channel (60), on the side walls facing the exothermic catalytic reaction channel. This configuration allows the oxidation catalyst to be backside cooled by any fluid passing through the cooling conduits. The heat of reaction is added to both the fluid in the exothermic catalytic reaction channel and the fluid passing through the cooling conduits. After discharge of the fluids from the exothermic catalytic reaction channel, the fluids mix to create a single combined flow. A further innovation in the reactor incorporates geometric changes (15) in the exothermic catalytic reaction channel to provide streamwise variations of the velocity of the fluids in the reactor.

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Citation (search report)

- [X] US 4305910 A 19811215 - KUDO HIROSHI, et al
- [X] US 4303618 A 19811201 - FUKUI JUN, et al
- [E] US 6174159 B1 20010116 - SMITH LANCE L [US], et al
- See references of WO 0175364A1

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