Title (en)

Catalytic combustion system with staged fuel injection

Title (de)

Katalytisches Verbrennungssystem mit gestufter Kraftstoffeinspritzung

Title (fr)

Système de combustion catalytique à injection étagée de combustible

Publication

EP 0784187 A1 19970716 (FR)

Application

EP 96402804 A 19961219

Priority

FR 9600512 A 19960115

Abstract (en)

The system consists of a housing (1) with an inlet (2) for a combustive material such as air, and a number of injectors (3,5) positioned to give a staged injection of fuel. It has a first monolithic element (4) coated with a catalyst and positioned after the first fuel injector (3) in relation to the air/ fuel mixture flow. At least a second monolithic element (6) is situated after a second injector (5) with the aim of stabilising the combustion. The second element is coated with a catalyst selected from hexa-aluminates. A third monolithic element can also be included. The first and second elements can be in the form of a number of sections coated with catalysts based on precious metals. The catalytic coating on the second element is able to withstand temperatures up to about 1100 deg C, with the temperature of its output gases below about 1000 deg C. The catalytic materials have different valencies and are selected from barium, strontium, rare earths, manganese, cobalt and iron, magnesium and zinc. The catalytic coating on the first element is of palladium oxide.

Abstract (fr)

La présente invention concerne un système de combustion catalytique comprenant une enveloppe (1) ayant une entrée (2) pour un comburant tel que de l'air, plusieurs moyens d'injection (3, 5 ; 7) de combustible destinés à réaliser une injection étagée de combustible, et au moins un premier élément monolithe (4) susceptible d'être recouvert d'un catalyseur de combustion et placé en aval d'un premier moyen d'injection de combustible (3) relativement au sens de progression d'un mélange air-combustible dans le système, ledit premier moyen d'injection réalisant une injection partielle de combustible, caractérisé en ce qu'il comprend au moins un deuxième élément monolithe (6) disposé en aval d'un deuxième moyen d'injection (5), ledit deuxième élément monolithe (6) étant destiné à stabiliser la combustion. Le deuxième élément monolithe (6) peut être recouvert d'un catalyseur de combustion. <IMAGE>

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F23C 11/00; F23C 6/04

IPC 8 full level

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F23C 6/047 (2013.01 - EP US); **F23C 13/00** (2013.01 - EP US)

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