

Title (en)

CATALYTIC COMBUSTOR HAVING SECONDARY FUEL INJECTION FOR LOW NOX STATIONARY COMBUSTION TURBINES

Publication

EP 0059855 B1 19850522 (EN)

Application

EP 82101110 A 19820216

Priority

US 24069581 A 19810305

Abstract (en)

[origin: EP0059855A1] A combustion turbine provided with a plurality of catalytic combustors (30) each of which includes a combustor basket (40) coupled to a transition duct (38) through a catalytic unit (36). The combustor basket is provided with a primary nozzle (20, 44) at its upstream end to provide fuel for conventional flame combustion in a primary zone (50). A plurality of secondary nozzles (16, 46) are provided for fuel injection through the basket sidewall at the downstream end of the primary zone (50). A fuel preparation zone (54) is provided within the basket from the secondary fuel injection location to the catalytic unit (36) to provide uniform mixing of the fuel in the gas flow before entry to the catalytic unit. Flame combustion in the primary zone (50) provides preheating needed to raise in the secondary fuel mixture temperature to a level required for catalytic activity. The secondary fuel mixture passes through an outwardly flared diffuser (56), which forms an end portion of basket (40), before entering the catalytic unit. The diffuser enables use of a small path diameter for satisfactory fuel mixing in the basket as compared with the large path diameter needed for catalytic combustion.

IPC 1-7

F23R 3/40; **F23C 11/00**

IPC 8 full level

F23C 13/00 (2006.01); **F23R 3/34** (2006.01); **F23R 3/40** (2006.01)

CPC (source: EP)

F23C 13/00 (2013.01); **F23R 3/346** (2013.01); **F23R 3/40** (2013.01)

Cited by

EP1114279A4; AU567486B2; CN104583677A; US9091434B2; WO2009129547A1

Designated contracting state (EPC)

BE CH DE GB LI NL

DOCDB simple family (publication)

EP 0059855 A1 19820915; **EP 0059855 B1 19850522**; AR 228640 A1 19830330; AU 557731 B2 19870108; AU 8049682 A 19820909; BR 8201075 A 19830111; CA 1169257 A 19840619; DE 3263595 D1 19850627; IN 155701 B 19850223; IT 1150246 B 19861210; IT 8219962 A0 19820304; JP S57161424 A 19821005; JP S6016867 U 19850205; JP S6042290 Y2 19851225; MX 159433 A 19890601; ZA 821005 B 19830223

DOCDB simple family (application)

EP 82101110 A 19820216; AR 28856982 A 19820225; AU 8049682 A 19820215; BR 8201075 A 19820302; CA 396734 A 19820222; DE 3263595 T 19820216; IN 175CA1982 A 19820215; IT 1996282 A 19820304; JP 3415682 A 19820305; JP 7812184 U 19840529; MX 19141382 A 19820216; ZA 821005 A 19820216