

Title (en)  
BURNER WITH ATOMISER NOZZLE

Title (de)  
BRENNER MIT ZERSTÄUBERDÜSE

Title (fr)  
BRULEUR DOTE D'UNE BUSE DE PULVERISATION

Publication  
**EP 0910776 B1 20010822 (DE)**

Application  
**EP 97936627 A 19970708**

Priority  
• DE 19627760 A 19960710  
• EP 9703595 W 19970708

Abstract (en)  
[origin: DE19627760A1] The invention relates to a burner for combustors (2) of gas turbines, said burner having an atomiser nozzle (3) for atomisation of fuel in the combustion air and having a primary and secondary flow channel (4, 5). In said burners, mostly used in aircraft engines, an extensively homogenous distribution of the air-fuel mixture is to be achieved in the combustor to reduce emissions. The flow channels (4, 5) opening into the combustor (11) are separated from a first component (6) arranged concentrically in relation to the burner axis (A) and having a sleeve-shaped atomiser lip (8) extending cylindrically or conically, and the external secondary flow channel (4) is bounded externally and radially by a second annular component (7) arranged concentrically and having an internal wall (14) extending to converge and diverge. The second component (7) forms an area (Q) with the most narrow flow cross-section, the first component (6) being arranged radially inwards and ending with the atomiser lip (8) at the axial height of said cross-section or upstream thereof, the air flow (L) flowing through the flow channels (4, 5) to twist in the same direction. By positioning the atomiser lip (8) at the narrowest flow cross-section in the or just in front of the atomiser nozzle, the fuel can be atomised in a range of the maximum air shear forces with the result that there can be optimal atomisation.

IPC 1-7  
**F23D 11/40**; **F23D 11/10**; **F23C 7/00**; **F23D 11/00**; **F23R 3/54**; **F23R 3/58**; **F23R 3/14**

IPC 8 full level  
**F23C 7/00** (2006.01); **F23D 11/00** (2006.01); **F23D 11/10** (2006.01); **F23D 11/40** (2006.01); **F23R 3/14** (2006.01); **F23R 3/54** (2006.01); **F23R 3/58** (2006.01)

CPC (source: EP US)  
**F23R 3/14** (2013.01 - EP US); **F23D 2900/11101** (2013.01 - EP US)

Cited by  
DE10211590B4; DE10207311B4; DE10205573B4; EP1342950A3; EP1340940A1; US6764302B2; EP1342950A2; US6883730B2

Designated contracting state (EPC)  
CH DE ES FR GB IT LI SE

DOCDB simple family (publication)  
**DE 19627760 A1 19980115**; **DE 19627760 C2 20010503**; DE 59704382 D1 20010927; EP 0910776 A1 19990428; EP 0910776 B1 20010822; ES 2162683 T3 20020101; US 6244051 B1 20010612; WO 9801706 A1 19980115

DOCDB simple family (application)  
**DE 19627760 A 19960710**; DE 59704382 T 19970708; EP 9703595 W 19970708; EP 97936627 A 19970708; ES 97936627 T 19970708; US 21483399 A 19990111