

Title (en)  
BLUE-FLAME BURNER WITH OPTIMIZED COMBUSTION CHARACTERISTICS

Title (de)  
VERBRENNUNGSOPTIMIERTER BLAUBRENNER

Title (fr)  
BRULEUR A FLAMME BLEUE OPTIMISANT LA COMBUSTION

Publication  
**EP 0683883 B1 20010228 (DE)**

Application  
**EP 95905077 A 19941217**

Priority  
• DE 4343430 A 19931218  
• DE 4430889 A 19940831  
• EP 9404204 W 19941217

Abstract (en)  
[origin: WO9516882A1] The invention concerns a liquid-fuel burner comprising a housing (10), a precombustion chamber (48) containing a nozzle assembly (24) with a nozzle (28) which produces a jet of fuel (80), a combustion chamber (92) in which the fuel jet broadens out, a partition (90) between the precombustion and combustion chambers, and a fan (16) designed to force a stream of combustion air into the combustion chamber, the fuel burning essentially stoichiometrically with a blue flame. In order to improve the burner to minimize the amounts of pollutants in the combustion gases, the invention proposes that, in addition to a stream of combustion air (102) entering the combustion chamber near the fuel jet, a second, recirculation-stabilizing stream of air (106) enters opposite the first stream, at a defined radial distance further out from the first stream. Inside the combustion chamber, an inner recirculation stream (112) is formed which is stabilized by the second stream of combustion air.

IPC 1-7  
**F23D 11/40**; **F23C 9/00**

IPC 8 full level  
**F23C 9/00** (2006.01); **F23D 11/28** (2006.01); **F23D 11/40** (2006.01)

CPC (source: EP)  
**F23C 9/00** (2013.01); **F23C 9/006** (2013.01); **F23D 11/28** (2013.01); **F23D 11/40** (2013.01); **F23C 2202/40** (2013.01)

Cited by  
DE102004021093B3; DE10349836B3; DE102007059063B3; EP1731834A1; DE102005026649A1; DE10348272B3; DE102005020664A1; DE102005020664B4; DE102004009787B3; DE10254664B3; DE202009014953U1; EP1489352A1

Designated contracting state (EPC)  
AT BE CH DE DK ES FR GB GR IE IT LI LU NL PT SE

DOCDB simple family (publication)  
**WO 9516882 A1 19950622**; AT E199451 T1 20010315; AT E283449 T1 20041215; DK 0683883 T3 20010625; EP 0683883 A1 19951129; EP 0683883 B1 20010228; ES 2154722 T3 20010416; GR 3035908 T3 20010831; PT 683883 E 20010830

DOCDB simple family (application)  
**EP 9404204 W 19941217**; AT 00111167 T 19941217; AT 95905077 T 19941217; DK 95905077 T 19941217; EP 95905077 A 19941217; ES 95905077 T 19941217; GR 20010400762 T 20010522; PT 95905077 T 19941217