

Title (en)
Burner for a gas turbine

Title (de)
Brenner für eine Gasturbine

Title (fr)
Brûleur pour turbine à gaz

Publication
EP 2436977 A1 20120404 (EN)

Application
EP 10184134 A 20100930

Priority
EP 10184134 A 20100930

Abstract (en)
The invention relates to a burner (B) for a gas turbine comprising a burner housing (BH) and a pilot combustor (PC) comprising a supply module (SM) providing pilot fuel (F) and pilot air (A) into pilot combustion room (PCR) being enclosed by a pilot combustor housing (PCH) comprising a tapered exit with a throat (THR) of a defined lengths into the resulting main flow direction, said throat (THR) discharging a concentration of radicals (R) and heat (H) generated in said pilot combustion room (PCR) into a main combustion room (MCR) enclosed by said burner housing (BH), wherein a burner axis (CS) is defined by a centre line of said throat (THR) extending in the direction of the resulting main flow through said throat (THR). To improve stability the invention proposes that the interior cross section area of said throat(THR) deviates from a circle by means of flow guiding elements (FGE) provided as protrusions (PRO) with a defined radial high or as recesses (RCE) with a defined depth extending longitudinally along the direction of the burner axis (CX) to give the discharging flow a defined velocity distribution with regard to a circumferential direction.

IPC 8 full level
F23C 3/00 (2006.01); **F23R 3/20** (2006.01); **F23R 3/28** (2006.01); **F23R 3/34** (2006.01)

CPC (source: EP US)
F23R 3/20 (2013.01 - EP US); **F23R 3/286** (2013.01 - EP US); **F23R 3/343** (2013.01 - EP US); **F23D 2900/00014** (2013.01 - EP US); **F23D 2900/00015** (2013.01 - EP US)

Citation (applicant)
WO 2009121777 A1 20091008 - SIEMENS AG [DE], et al

Citation (search report)
• [YD] WO 2009121777 A1 20091008 - SIEMENS AG [DE], et al
• [Y] EP 1975506 A1 20081001 - SIEMENS AG [DE]
• [A] US 2005100846 A1 20050512 - GUTMARK EPHRAIM [US], et al
• [A] US 3851466 A 19741203 - VERDOUW A

Cited by
EP2767696A1; US9909493B2; WO2014124777A1

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

Designated extension state (EPC)
BA ME RS

DOCDB simple family (publication)
EP 2436977 A1 20120404; CN 103140714 A 20130605; EP 2606280 A1 20130626; US 2014026579 A1 20140130;
WO 2012041839 A1 20120405

DOCDB simple family (application)
EP 10184134 A 20100930; CN 201180047759 A 20110927; EP 11766937 A 20110927; EP 2011066747 W 20110927;
US 201113876594 A 20110927