

Title (en)
GAS TURBINE DIFFUSER BLOWING METHOD AND CORRESPONDING DIFFUSER

Title (de)
GASTURBINENDIFFUSORBLASVERFAHREN UND ENTSPRECHENDER DIFFUSOR

Title (fr)
PROCÉDÉ DE SOUFFLAGE DANS UN DIFFUSEUR DE TURBINE À GAZ ET DIFFUSEUR CORRESPONDANT

Publication
EP 2710268 B1 20190306 (FR)

Application
EP 12728695 A 20120515

Priority
• FR 1154211 A 20110516
• FR 2012051087 W 20120515

Abstract (en)
[origin: WO2012156640A1] The invention seeks effectively to combat boundary layer separation in a gas turbine compressor diffuser. To do this, the invention plans to reenergize the boundary layer using air at a higher pressure by a special form of intake/reinjection coupling. According to one embodiment, a diffuser of a compressor of centrifugal or mixed flow type able to implement the invention comprises two shrouds trapping a plurality of evenly distributed circumferential blades (60), and at least one transverse upstream passage (63, 64) in the pressure faces (6i) or suction faces (6e) of the blades (60). Injection/bleed coupling is performed by recirculating some flow (Fi) in the flow path (V) of the diffuser from an injection of air (F1) from at least one point (64) in the leading edge region (6a) on the upstream side of the diffuser (6). Air is then blown into at least one groove (62, 65) formed along a lateral flank of each blade (60) by bleeding the air flow (Fi) from the trailing edge (6f).

IPC 8 full level
F04D 27/02 (2006.01); **F04D 29/44** (2006.01); **F04D 29/68** (2006.01)

CPC (source: EP KR RU US)
F04D 27/00 (2013.01 - KR); **F04D 29/44** (2013.01 - KR); **F04D 29/441** (2013.01 - US); **F04D 29/444** (2013.01 - EP US);
F04D 29/68 (2013.01 - KR); **F04D 29/682** (2013.01 - EP US); **F04D 29/684** (2013.01 - EP US); **F04D 27/023** (2013.01 - EP US);
F04D 27/0238 (2013.01 - EP US); **F04D 29/444** (2013.01 - RU); **F04D 29/682** (2013.01 - RU); **F04D 29/684** (2013.01 - RU);
F05D 2240/122 (2013.01 - EP US); **F05D 2250/52** (2013.01 - EP US)

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 RS SE SI SK SM TR

DOCDB simple family (publication)
WO 2012156640 A1 20121122; CA 2835355 A1 20121122; CA 2835355 C 20190409; CN 103534488 A 20140122; CN 103534488 B 20160817;
EP 2710268 A1 20140326; EP 2710268 B1 20190306; FR 2975451 A1 20121123; FR 2975451 B1 20160701; JP 2014513778 A 20140605;
JP 6100758 B2 20170322; KR 101885402 B1 20180910; KR 20140043364 A 20140409; PL 2710268 T3 20190731; RU 2013153402 A 20150627;
RU 2618712 C2 20170511; US 2014105723 A1 20140417; US 9618008 B2 20170411

DOCDB simple family (application)
FR 2012051087 W 20120515; CA 2835355 A 20120515; CN 201280023145 A 20120515; EP 12728695 A 20120515; FR 1154211 A 20110516;
JP 2014510863 A 20120515; KR 20137031926 A 20120515; PL 12728695 T 20120515; RU 2013153402 A 20120515;
US 201214117747 A 20120515