

Title (en)

GAS TURBINE ENGINE WITH AN AMBIENT AIR COOLING ARRANGEMENT HAVING A PRE-SWIRLER

Title (de)

GASTURBINENMOTOR MIT EINER RAUMLUFTKÜHLANORDNUNG MIT VORVERWIRBLER

Title (fr)

MOTEUR À TURBINE À GAZ DOTÉ D'UN AGENCEMENT DE REFROIDISSEMENT D'AIR AMBIANT AYANT UNE PRÉ-COUPELLE DE TURBULENCE

Publication

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Application

EP 14706248 A 20140212

Priority

- US 201313766909 A 20130214
- US 2014016014 W 20140212

Abstract (en)

[origin: WO2014126994A1] A gas turbine engine including: an ambient-air cooling circuit (10) having a cooling channel (26) disposed in a turbine blade (22) and in fluid communication with a source (12) of ambient air; and an pre-swirler (18), the pre-swirler having: an inner shroud (38); an outer shroud (56); and a plurality of guide vanes (42), each spanning from the inner shroud to the outer shroud. Circumferentially adjacent guide vanes (46, 48) define respective nozzles (44) there between. Forces created by a rotation of the turbine blade motivate ambient air through the cooling circuit. The pre-swirler is configured to impart swirl to ambient air drawn through the nozzles and to direct the swirled ambient air toward a base of the turbine blade. The end walls (50, 54) of the pre-swirler may be contoured.

IPC 8 full level

F01D 5/14 (2006.01)

CPC (source: EP RU)

F01D 5/082 (2013.01 - EP); **F01D 5/143** (2013.01 - EP); **F01D 5/082** (2013.01 - RU); **F01D 5/143** (2013.01 - RU); **F01D 11/001** (2013.01 - RU); **F01D 25/12** (2013.01 - RU); **F05D 2260/14** (2013.01 - EP)

Citation (search report)

See references of WO 2014126994A1

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