

Title (en)
METHOD FOR ADAPTING THE AIR FLOW OF A TURBINE ENGINE HAVING A CENTRIFUGAL COMPRESSOR AND DIFFUSER FOR IMPLEMENTING SAME

Title (de)
VERFAHREN ZUR ADAPTIERUNG DES LUFTSTROMS EINES TURBINENMOTORS MIT ZENTRIFUGALVERDICHTER UND DIFFUSER ZU SEINER UMSETZUNG

Title (fr)
PROCÉDÉ D'ADAPTATION DE DÉBIT D'AIR DE TURBOMACHINE À COMPRESSEUR CENTRIFUGE ET DIFFUSEUR DE MISE EN OEUVRE

Publication
EP 2558728 B1 20190724 (FR)

Application
EP 11730371 A 20110413

Priority

- FR 1052827 A 20100414
- FR 2011050846 W 20110413

Abstract (en)
[origin: WO2011128587A1] The invention relates to a method for maintaining the efficiency and duty of a turbine engine compressor in order substantially to reduce the specific consumption Cs, while guaranteeing a high enough pumping margin with partial load. For this purpose, the invention proposes an optimised method for adapting the airflow to a variable demand for flow or mechanical or electric power in a centrifugal compressor of a turbine engine. The method includes diffusing the airflow (F) through a first annular blade ring (G1) having variable-pitch blades (24), radially bordered by a second annular blade ring (G2) having the same number of fixed-pitch blades (28) with an equivalent extension, guiding the radial extension diffusion by coupling the blades (24, 28) of the two blade rings. According to said method, each blade (24) of the first blade ring (G1) is spun off-axis.

IPC 8 full level
F04D 29/44 (2006.01); **F04D 29/46** (2006.01)

CPC (source: EP KR US)
F04D 29/44 (2013.01 - KR); **F04D 29/444** (2013.01 - EP US); **F04D 29/46** (2013.01 - KR); **F04D 29/462** (2013.01 - EP US); **F05D 2250/52** (2013.01 - EP US)

Citation (opposition)
Opponent : Raytheon Technologies Corporation

- US 3029067 A 19620410 - PARKER WILTON E, et al
- US 3588270 A 19710628 - BOELCS ALBIN
- US 3101926 A 19630827 - FRITZ WEBER
- US 2985427 A 19610523 - WILLIAM HOUGHTON WARREN

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 2011128587 A1 20111020; CA 2794825 A1 20111020; CA 2794825 C 20180612; CN 102834622 A 20121219; CN 102834622 B 20160210; EP 2558728 A1 20130220; EP 2558728 B1 20190724; EP 2558728 B2 20221012; FR 2958967 A1 20111021; FR 2958967 B1 20130315; JP 2013524099 A 20130617; JP 2017061936 A 20170330; JP 6483074 B2 20190313; KR 20130079326 A 20130710; PL 2558728 T3 20191031; PL 2558728 T5 20230206; RU 2012148378 A 20140520; RU 2564158 C2 20150927; US 2013034425 A1 20130207

DOCDB simple family (application)
FR 2011050846 W 20110413; CA 2794825 A 20110413; CN 201180018458 A 20110413; EP 11730371 A 20110413; FR 1052827 A 20100414; JP 2013504319 A 20110413; JP 2016215929 A 20161104; KR 20127025210 A 20110413; PL 11730371 T 20110413; RU 2012148378 A 20110413; US 201113640978 A 20110413