

Title (en)

DEVICE AND METHOD FOR RELIABLY OPERATING A COMPRESSOR AT THE PUMP THRESHOLD

Title (de)

VORRICHTUNG UND VERFAHREN ZUM SICHEREN BETREIBEN EINES VERDICHTERS AN DER PUMPGRENZE

Title (fr)

DISPOSITIF ET PROCÉDÉ POUR L'UTILISATION EN SÉCURITÉ D'UN COMPRESSEUR À LA LIMITE DE POMPAGE

Publication

EP 2619461 B1 20160608 (DE)

Application

EP 11813656 A 20110919

Priority

- DE 102010046490 A 20100924
- DE 2011001739 W 20110919

Abstract (en)

[origin: WO2012095062A1] The invention relates to a method which allows a reliable detection of the operating state independent of the state and position of the compressor blades and thus an optimal compressor operation. In an advantageous manner according to the invention, the deviations from the ideal state of each individual compressor blade are ascertained when starting up the compressor after reaching the minimum rotational speed in order to align the compressor blades. The passing times of each compressor blade, said passing times being measured during operation, can be corrected on the basis of the deviation determined for the individual compressor blades. Said correction allows a precise determination of the operating state and an efficiency-optimal operation of the compressor below the pump threshold. During each start of the compressor, the deviations of the compressor blades are re-ascertained with respect to the ideal state, adapted, and incorporated into the analysis. The thus corrected measured passing times are used to ascertain the deflection due to the sag of the compressor blade, wherein only the sag due to the flow mechanics is ascertained advantageously according to the invention. An ascertainment of the operating point is achieved independent of the state and the position of the compressor blades.

IPC 8 full level

F04D 27/00 (2006.01); **F01D 21/00** (2006.01); **F01D 21/04** (2006.01); **G01H 1/00** (2006.01); **G07C 3/00** (2006.01)

CPC (source: EP US)

F04D 27/00 (2013.01 - US); **F04D 27/001** (2013.01 - EP US); **F04D 27/02** (2013.01 - EP US); **F05D 2270/101** (2013.01 - EP US); **F05D 2270/708** (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)

DE 102010046490 A1 20120329; EP 2619461 A1 20130731; EP 2619461 B1 20160608; US 2013223981 A1 20130829; US 9835162 B2 20171205; WO 2012095062 A1 20120719

DOCDB simple family (application)

DE 102010046490 A 20100924; DE 2011001739 W 20110919; EP 11813656 A 20110919; US 201113824452 A 20110919