Title (en)

AXIAL TURBOMACHINE HAVING ASYMMETRICAL COMPRESSOR INLET GUIDE BAFFLE

Title (de)

AXIALE STRÖMUNGSMASCHINE MIT ASYMMETRISCHEM VERDICHTEREINTRITTSLEITGITTER

Title (fr)

TURBOMACHINE AXIAL À GRILLE DE GUIDAGE D'ENTRÉE DU COMPRESSEUR ASYMÉTRIQUE

Publication

EP 2329150 A1 20110608 (DE)

Application

EP 09737335 A 20090909

Priority

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Abstract (en)

[origin: WO2010034285A1] An axial turbomachine having an asymmetrical air inlet and a compressor which is connected downstream of the air inlet and has an inlet guide baffle formed by guide vanes is characterized in that at least individual guide vanes of the inlet guide baffle have a blade profile that deviates from the remaining guide vanes and/or a deviating angle of attack. In this way, the inlet flow angle of the first compressor stage is evened out symmetrically over the periphery. This is achieved in that the different inlet angles caused by the asymmetry of the air inlet on different peripheral positions of the inlet guide baffle are influenced by specific profiles and/or specific changes of the angle of attack of individual guide vanes such that this results in an outflow angle out of the inlet guide ring which is symmetrical over the periphery. In this way, the peripheral interference caused by the asymmetrical air inlet is minimized and the first compressor stage is provided with substantially peripherally symmetrical inlet conditions, resulting in improved stability and improved efficiency of the compressor.

IPC 8 full level

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CPC (source: EP US)

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Citation (search report)

See references of WO 2010034285A1

Cited by

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