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

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Application

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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).

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