

Title (en)
Diffusor with boundary layer suction.

Title (de)
Diffusor mit Grenzschichtabsaugung.

Title (fr)
Diffuseur à aspiration pariétale.

Publication
EP 0056233 A1 19820721 (FR)

Application
EP 82100019 A 19820105

Priority
FR 8100210 A 19810108

Abstract (en)
[origin: ES8302862A1] The diffuser is symmetrical about an axis AA' and has a flared outer wall (2,3) going from an axial inlet to an outlet. The outer wall is divided into an upstream portion (2) and a downstream portion (3) by a circular bleed slot (1) disposed symmetrically about the axis. The profile of the outer wall is such that, in operation, the direction of fluid flow along the outer wall is from the inlet towards the outlet, both over the upstream portion, and over the downstream portion. Further, it is so arranged that the pressure gradient measured at the surface of the wall and along the direction of fluid flow is negative upstream from the bleed slot and positive downstream therefrom. This ensures that only a small percentage of the fluid flow needs to be bled off to achieve desirable flow conditions, thereby providing good diffuser efficiency.

Abstract (fr)
Diffuseur à aspiration pariétale symétrique de révolution autour d'un axe AA' et à entrée axiale, comportant une paroi (2, 3) extérieure entourant le fluide circulant à l'intérieur du diffuseur, ladite paroi (2, 3) étant munie d'une fente (1) circulaire évacuant une fraction du débit du fluide entrant. Cette paroi (2, 3) a un tracé tel que le gradient de pression mesuré à sa surface dans le sens de l'écoulement soit négatif en amont de la fente (1) et positif en aval. Le débit d'aspiration est ramené à une très faible proportion du débit d'entrée, d'où un très bon rendement du diffuseur. Ce diffuseur peut être appliqué dans les turbines et dans les souffleries.

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F04D 29/68

IPC 8 full level
G01M 9/00 (2006.01); **F01D 25/30** (2006.01); **F04D 29/68** (2006.01); **G01M 9/04** (2006.01)

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• GB 1024328 A 19660330 - GEN ELECTRIC

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