

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.

IPC 1-7  
**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)

CPC (source: EP KR US)  
**F01D 25/30** (2013.01 - KR); **F04D 29/682** (2013.01 - EP US); **F04D 29/441** (2013.01 - EP US); **F05D 2250/70** (2013.01 - EP US); **Y10S 415/914** (2013.01 - EP US)

Citation (search report)  
• GB 1000767 A 19650811 - INT RESEARCH & DEV CO LTD  
• GB 1024328 A 19660330 - GEN ELECTRIC

Designated contracting state (EPC)  
AT BE CH DE FR GB IT LU NL SE

DOCDB simple family (publication)  
**EP 0056233 A1 19820721**; **EP 0056233 B1 19841010**; AT E9832 T1 19841015; AU 547535 B2 19851024; AU 7926482 A 19820715; BR 8200051 A 19821026; CA 1193513 A 19850917; DE 3260910 D1 19841115; ES 508555 A0 19821201; ES 8302862 A1 19821201; FR 2497544 A1 19820709; FR 2497544 B1 19850503; JP H0259285 B2 19901212; JP S57146003 A 19820909; KR 830009415 A 19831221; KR 890000914 B1 19890413; RO 82608 A 19830926; US 4471910 A 19840918; ZA 82121 B 19821124

DOCDB simple family (application)  
**EP 82100019 A 19820105**; AT 82100019 T 19820105; AU 7926482 A 19820107; BR 8200051 A 19820107; CA 393683 A 19820107; DE 3260910 T 19820105; ES 508555 A 19820107; FR 8100210 A 19810108; JP 82182 A 19820106; KR 820000088 A 19820108; RO 10624281 A 19810105; US 33789082 A 19820107; ZA 82121 A 19820108