

Title (en)  
Turbomachine with integrated fluid recirculation system

Title (de)  
Strömungsarbeitsmaschine mit integriertem Fluidzirkulationssystem

Title (fr)  
Turbomachine avec système de recirculation de fluide intégré

Publication  
**EP 1382855 B1 20061025 (DE)**

Application  
**EP 03011631 A 20030522**

Priority  
DE 10233032 A 20020720

Abstract (en)  
[origin: EP1382855A2] The machine which operates with a fluid flow, e.g. at a blower or compressor or fan or pump and the like, has at least one rotor (1) and a freely-selected number of stators (2) in the fluid flow path, with at least one paddle. A system to extract and return fluid into the flow path is at the surface defining the paddle channel, in a bi-functional structure, with at least one feedback channel (4) with throttles (5) to return extracted fluid to an upstream position in the flow path, and at least one additional channel to lead fluid out of a downstream position in the flow path. The fluid can be a gas or a liquid.

IPC 8 full level  
**F04D 27/02** (2006.01); **F01D 5/14** (2006.01); **F04D 29/68** (2006.01)

CPC (source: EP US)  
**F04D 27/0207** (2013.01 - EP US); **F04D 29/324** (2013.01 - EP US); **F04D 29/542** (2013.01 - EP US); **F04D 29/682** (2013.01 - EP US);  
**F04D 29/684** (2013.01 - EP US)

Cited by  
EP1536146A3; EP1898067A3; EP1536147A3; GB2406139A; EP1659293A3; EP2110559A3; RU2679098C2; US9574452B2; EP1536147A2; WO2007051444A3; WO2011157398A3; EP2110559A2; DE102008019603A1; US8257022B2; US8382422B2; US8262340B2; US8419355B2; EP1898067A2; US8192148B2; US8251648B2; EP2639411A1; US9249686B2

Designated contracting state (EPC)  
DE ES FR GB IT SE

DOCDB simple family (publication)  
**EP 1382855 A2 20040121**; **EP 1382855 A3 20050323**; **EP 1382855 B1 20061025**; DE 10233032 A1 20040129; DE 50305466 D1 20061207; ES 2272841 T3 20070501; US 2004081552 A1 20040429; US 7077623 B2 20060718

DOCDB simple family (application)  
**EP 03011631 A 20030522**; DE 10233032 A 20020720; DE 50305466 T 20030522; ES 03011631 T 20030522; US 62213503 A 20030718