

Title (en)

Multi stage centrifugal compressor and its application to a turbine.

Title (de)

Mehrstufiger Radialverdichter und dessen Anwendung bei einer Turbine.

Title (fr)

Compresseur centrifuge multicellulaire et son application à une turbine.

Publication

**EP 0021709 A1 19810107 (EN)**

Application

**EP 80301946 A 19800610**

Priority

US 7900469 W 19790702

Abstract (en)

A centrifugal air compressor (11) has an annular air flow path (14) of progressively increasing diameter and progressively diminishing cross-sectional area in which a plurality of internal compression-diffusion stages (30a to 30f) are provided. The stages of progressively greater diameter are defined by sets (29a to 29h) of impeller blades (12) which alternate with sets (32a to 32h) of stator blades (13) along the air flow path (14) and each such stage (30a to 30f) has a diffusion factor below about 0.55. The multi-stage construction combines higher isentropic efficiency with reduced size and may be used as a component of a gas turbine engine (18) or a turbocharger (57) or for other purposes requiring gas compression.

IPC 1-7

**F04D 17/12**; F02C 3/08

IPC 8 full level

**F04D 17/12** (2006.01); **F04D 29/28** (2006.01)

CPC (source: EP)

**F04D 17/12** (2013.01)

Citation (search report)

- GB 190905597 A 19090610 - BUECHI ALFRED [CH], et al
- FR 972751 A 19510202 - AVIATION LOUIS BREGUET SA
- FR 1078712 A 19541123
- US 2350839 A 19440606 - JOSEF SZYDLOWSKI

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EP0080251A1; EP0056338A1; US8231341B2

Designated contracting state (EPC)

BE CH DE FR GB LI SE

DOCDB simple family (publication)

**WO 8100139 A1 19810122**; EP 0021709 A1 19810107; JP S56500777 A 19810611

DOCDB simple family (application)

**US 7900469 W 19790702**; EP 80301946 A 19800610; JP 50196779 A 19790702