Title (en)

MULTIFUNCTION ROTARY MACHINE WITH DEFORMABLE RHOMB

Title (de)

MEHRFUNKTIONSROTATIONSMASCHINE MIT VERFORMBAREM RHOMBUS

Title (fr)

MACHINE ROTATIVE A LOSANGE DEFORMABLE MULTIFONCTIONS

Publication

EP 3045656 A1 20160720 (FR)

Application

EP 16151876 A 20090922

Priority

- FR 0805177 A 20080922
- EP 09741330 A 20090922

Abstract (en)

[origin: WO2010031927A1] The invention relates to a rotary machine with a deformable rhomb, comprising a housing (1) defining a stator (2) for receiving a rotor (3) consisting of a deformable rhomb (4) in contact with or without clearance with the inner surface of the housing (1), said deformable rhomb (4) including a plurality of pistons (6), preferably four, connected one after the other by a pivotal hinge (7) having an axis parallel to the longitudinal axis of the housing (1) and thus defining a closed chain, the inner surface of the housing (1) of said machine defining at least one so-called outer cavity (8) with the outside of the deformable rhomb (4) and with the side closing walls of the housing, and at least one so-called inner cavity (10) being formed inside the rotor with the closing side walls of the housing (1), at least one of the outer cavities and/or at least one of the inner cavities (10) being connected directly or indirectly to the inlet of at least one fluid circuit outside the machine. According to the invention, said outer (8) and inner (10) cavities include together at least three variable-volume cavities capable of implementing at least three different functions simultaneously, or at least three identical functions consecutively, or at least three functions in which at least one is different from the other two and is carried out simultaneously with the other two identical and consecutive functions, each of said functions being selected from combustion engine, turbine, compressor, pump, choke, mixer, flow distributor, energy converter, grinder, in order to modify at least one of the parameters of the fluid exiting the machine relative to the incoming fluid.

Abstract (fr)

L'invention est relative à une machine rotative à losange déformable comprenant un stator (2) définissant une enceinte de section ovale (1) ; quatre pistons (6) reliés l'un à l'autre par des liaisons pivot (7) à axes parallèles pour former un rotor (3) à losange déformable (4), chaque piston ayant une surface (9) externe au losange coopérant avec la paroi de l'enceinte pour définir quatre cavités externes (14, 15) à volume variable ; et un arbre central (16, 19) de section ovale centré dans l'enceinte. Chaque piston comprend une surface (11) interne au losange coopérant avec l'arbre central pour définir quatre cavités internes (17, 18) à volume variable.

IPC 8 full level

F01C 1/44 (2006.01); **F01C 11/00** (2006.01)

CPC (source: EP US)

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Citation (applicant)

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