

Title (en)  
MULTIFUNCTION ROTARY MACHINE WITH DEFORMABLE RHOMB

Title (de)  
MEHRFUNKTIONSROTATIONSMASCHINE MIT VERFORMBAREM RHOMBUS

Title (fr)  
MACHINE ROTATIVE A LOSANGE DEFORMABLE MULTIFONCTIONS

Publication  
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Application  
**EP 09741330 A 20090922**

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• FR 0805177 A 20080922

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.

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