

Title (en)
ROTARY PISTON ENGINE

Title (de)
ROTATIONSKOLBENMASCHINE

Title (fr)
MACHINE A PISTON ROTATIF

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Application
EP 02779261 A 20020808

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Abstract (en)
[origin: WO03014527A1] The invention relates to a rotary piston engine. In said engine, a housing (10) forms a prismatic chamber (12), whose cross-section forms an oval of an uneven order, composed of alternating arcs (34, 36, 38) with a first, smaller radius of curvature and arcs (40, 42, 44) with a second, larger radius of curvature, which graduate into one another in a constant, differentiable manner, forming corresponding cylindrical internal wall sections. A rotary piston (60), whose cross-section forms an oval of an order that is smaller than that of the chamber (12) by 1, is configured in said chamber (12). Opposing outer sections are formed on the rotary piston (60), of which one respective section can be rotated in an internal wall section of the same radius of curvature and the other section lies on the opposing internal wall section. In each position, the rotary piston (60) sub-divides the chamber (12) into two working chambers (78, 80). Instantaneous rotational axes (112, 114) of the rotary piston (60), said axes being fixed in relation to the piston, are defined on a central plane. A drive medium for driving the rotary piston (60) is cyclically supplied to and evacuated from the working chambers. In each displacement phase, one of the opposing outer sections (70) of the rotary piston (60) rotates in an internal wall section (62) about an allocated instantaneous rotational axis (112), the opposite outer section (72) gliding along the opposite internal wall section (54) of the chamber (12) to reach a stop position in said section. For the subsequent displacement phase, the instantaneous rotational axis then jumps to a modified position that corresponds to the other rotational axis (114), fixed in relation to the piston. A drive or driven shaft (102) is coupled to the rotary piston (60). To prevent the kinematics of the instantaneous rotational axis from being not fully defined in the stop position, one respective rotational axis is temporarily fixed by mechanical means in the stop position.

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