Title (en)

Rotating and reciprocating piston engine.

Title (de)

Dreh-Hubkolben-Maschine.

Title (fr)

Moteur alternatif à pistons tournant.

Publication

EP 0369990 B1 19931201

Application

EP 90100552 A 19870403

Priority

CH 131686 A 19860404

Abstract (en)

[origin: WO8705964A1] The rotating and alternating piston machine is an alternating or free piston machine in which the pistons effect a rotating and alternating movement. Main characteristics: 1) the use of rotation or alternation/rotation, for example in order to control the ports provided in the cylinder walls of two- and four-stroke engines, pumps and compressors; 2) simple conversion of rotating and alternating movement by mechanical or electrical means. The rotating and alternating piston machine offers the possibility of: pumps, including the electric drive, in which there is only one rotating part; direct conversion of the alternating movement of the piston into electrical energy; control of the gas movement by the piston; operation of other ports having specific functions (for example, introducing additional compressed gas, discharge ports operating in succession etc.); free selection of the number of piston strokes per rotation; choice of piston stroke kinematics; powerful rotation or swirling of charge; easily designed compact and inexpensive machines; possible integration of a compressor without having to provide for an additional volume and virtually without any weight increase. In the two-stroke combustion engine, in which the gas exchange is controlled by the pistons (2 and 5), the useful power is available at the central shaft (14), which carries the rotating and alternating piston (2) in a longitudinally-slidable but rotationally-fixed manner. Movement is converted by the oscillating shaft (35) and transmission element (38). The engine is provided with four working chambers and has a 100% mass balance.

IPC 1-7

F01B 3/08; F02B 75/26

IPC 8 full level

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CPC (source: EP KR)

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