

Title (en)

ROTARY PISTON ENGINE WHICH ACTS AS A PUMP, CONDENSER OR MOTOR FOR A FLUID

Title (de)

DREHKOLBENMASCHINE, DIE ALS PUMPE, VERDICHTER ODER MOTOR FÜR EIN FLUID WIRKT

Title (fr)

MACHINE À PISTON ROTATIF QUI FONCTIONNE COMME POMPE, COMPRESSEUR OU MOTEUR POUR UN FLUIDE

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Application

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Abstract (en)

[origin: WO2013159946A1] The invention relates to a rotary piston engine (2) which operates as a pump, condenser or motor for a liquid or gaseous medium. The rotary piston engine (2) has a first gear (4) having a first central axis (I), a second gear (6) arranged opposite the first gear (4) and having a second central axis (II), and a drive shaft (8) having a third central axis (III) and a sliding plane (10, 12) fixedly connected to the drive shaft (8). The first central axis (I) and the second central axis (II) enclose an angle (α_3) which is not equal to 180° . The third central axis (III) and at least one central axis (I, II) from the group comprising the first central axis (I) and second central axis (II) enclose an angle (α_1 , α_2) which is not equal to 0° or 90° . The sliding plane (10, 12) and the central axis (I, II) are perpendicular to each other. The first gear (4) has a first end face (14) having a first toothing (16) that has at least one first tooth (18), and the second gear (6) has a second end face (20) having a second toothing (22) that has at least one second tooth (24), wherein a first number of first teeth and a second number of second teeth differ from each other. The first tooth (18) and the second tooth (24) engage with each other in such a way that a working chamber (26) is formed by means of a meshing of the teeth (18, 24). A volume formed by means of the at least one working chamber (26) is changed by the meshing of the teeth (18, 24). The at least one working chamber (26) is delimited by a conically shaped inner wall (30) of a housing (28). The at least one working chamber (26) can be connected to a supply flow (40) and an outlet flow (42) for the medium. According to the invention, a component (4, 6) from the group comprising the first gear (4) and second gear (6) is coupled to the housing (28) such that a rotation of the drive shaft (8) causes only the components (4, 6) to tumble. The respective other components (4, 6) from the group comprising the first gear (4) and second gear (6) is coupled to the sliding plane (10, 12) such that the respective other component (4, 6) rotates and tumbles by means of a rotation of the drive shaft (8).

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