

Title (en)
SPHERICAL POSITIVE-DISPLACEMENT ROTARY MACHINE

Title (de)
SPHÄRISCHE, ROTIERENDE VERDRÄNGERMASCHINE

Title (fr)
MACHINE ROTATIVE VOLUMETRIQUE SPHERIQUE

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Application
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Abstract (en)
[origin: WO0057028A1] The present invention relates to a spherical positive-displacement machine that can be used as an engine, a pump or a compressor. The machine includes a body comprising two parts (1, 2) in which the spherical cavity comprises three rotors (4, 5, 6). The central disc rotor (4) is connected on both sides through a diametrical hinge to the sectorial rotors (5, 6). The rotors (4, 5, 6) define four chambers (9, 10, 11, 12), while the radial chamber-defining surfaces of the rotors (4, 5, 6) have a circular shape. Inlet-outlet channels (15, 16, 17, 18) are provided in the sectorial-rotor closure area during the cycle changes within the chambers, wherein said channels include a nozzle portion and have a tangential inclination. The diametrical hinge of the sectorial rotor (6) includes two connected semi-axes (21, 22) having their journals extending into the meniscus of a spherical form (25), while the second diametrical hinge (5) comprises a solid cylindrical axis. The half-bodies (1, 2) include a centering device (3) that allow for the modification of the phase definition angle and of the machine precession. A channel network (26, 27, 28, 29, 30) is provided in the rotor unit for lubricating and cooling the same. The machine body further includes an oil discharge and drainage slot device (33), while a gap is provided between the portions of the body (1, 2) and the shafts (7, 8) for assembling the machine.

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- [X] US 2727465 A 19551220 - ANDRE DUTREY
- [A] DE 187640 C
- See references of WO 0057028A1

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