

Title (en)
VACUUM PUMP

Title (de)
VAKUUMPUMPE

Title (fr)
POMPE A VIDE

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Application
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Abstract (en)
[origin: WO0218794A1] The vacuum pump (10) comprises a stator (14) in which a rotor (12) with radial magnetic bearings (16,19) and with an axial magnetic bearing (40) is mounted in a contactless manner. The axial magnetic bearing (40) produces an axial magnetic field by means of a magnet coil (40) with a yoke iron (44) on the stator (14). An axially magnetized permanent magnet (50) is provided on the rotor (12), located approximately axially opposite the yoke iron (44). A permanently axially magnetized compensating magnet (54) is provided on the stator (14) and arranged axially opposite the permanent magnet of the rotor (50) and polarized in the opposite direction, whereby the permanent magnet (50) of the rotor and the compensating magnet (54) repel each other. In a centre position, the rotor is bias-free by compensating the forces of attraction between the permanent magnet of the rotor and the yoke iron. As a result, the centre position of the rotor can be adjusted with relatively small magnet coil flows. This results in small magnet coils, produces less heat and reduces the required power of the axial bearing.

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