

Title (en)  
VANE PUMP

Title (de)  
FLÜGELZELLENPUMPE

Title (fr)  
POMPE À PALETTES

Publication  
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Application  
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Abstract (en)  
[origin: WO2011150917A2] The invention relates to a vane pump, comprising a rotor, which is supported in a pump housing and driven by a shaft, a plurality of vane plates supported in the rotor in a radially movable manner, and an outer ring that surrounds the rotor and the vane plates, the outer ring being arranged either directly in the pump housing or in an adjusting ring that can be moved in the pump housing along specified paths. The invention is based on the aim of developing a vane pump that among other things lowers the frictional and leakage losses, ensures the pump chambers are filled and drained optimally in regard to flow, in the lower rotational speed ranged as well as in the upper rotational speed range, significantly reduces the power losses, also is easy to manufacture and assemble in regard to production and significantly reduces the production costs, at the same time is insensitive to particles, minimizes the wear of the assemblies, and ensures the reliability and service life and a high specific delivery volume flow at high volumetric efficiency, both at low rotational speeds and high rotational speeds. The vane pump according to the invention is characterized in particular in that a cylinder guide (13) is arranged in the hollow rotor shaft (24), in which cylinder guide a freely rotating synchronizing cylinder (15) that is not rigidly connected to the adjacent assemblies is guided, wherein vane-shaped vane plate guide webs (14), which are associated with bearing grooves (4) arranged in the wall of the hollow rotor shaft (24) and which radially protrude beyond the hollow rotor shaft (24) in the vicinity of said bearing grooves (4) by approximately 0.75 to 1.8 times the diameter of the synchronizing cylinder (15) and which have bearing grooves (4), are rigidly arranged on the hollow rotor shaft (24) in such a way that the hollow rotor shaft (24) forms a vane rotor (3) together with vane plate guide webs (14), and outlet opening(s) (10), which extend completely through the adjusting slide and which extend radially with respect to the inner cylinder (6) and which are opposite the inlet nodule(s) (9) arranged in the side walls of the pump housing (1) on the pump side, are arranged in the adjusting slide (7).

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