

Title (en)
DIAPHRAGM PUMP WITH A HYDRAULICALLY ACTUATED ROLLING MEMBRANE

Publication
EP 0188730 B1 19890315 (DE)

Application
EP 85115807 A 19851211

Priority
DE 3446914 A 19841221

Abstract (en)
[origin: US4749342A] In a diaphragm pump with a diaphragm in the form of a rolling diaphragm that separates a delivery chamber from a fluid-filled pressure chamber and that with its peripheral edge is firmly clamped between a casing body and pump cover, and with an oscillating hydraulic piston which is displaceable in a bore of the casing body between the pressure chamber and a hydraulic reservoir, so as to actuate the diaphragm, the rolling diaphragm rolls alternately up an outer roll-off cylinder formed by the wall of the pressure chamber and off an inner roll-off cylinder formed by the peripheral surface of a support piston for the rolling diaphragm that is axially displaceable in the pressure chamber, the front surface of which support piston is connected with the corresponding surface section of the rolling diaphragm. The inner roll-off cylinder of the support piston shaped as a support plate gradually changes, in the rear limit position of the rolling diaphragm, into the outer roll-off cylinder by way of a support shoulder, which, for the completely mechanical support of the rolling diaphragm, together with the two roll-off surfaces forms a completely gap-free support surface adapted to the natural form and roll-off geometry of the rolling diaphragm.

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CPC (source: EP US)
F04B 43/067 (2013.01 - EP US)

Cited by
EP1959140A1; EP0547404A1; US6276907B1; US10100830B2; WO2016079127A1; WO0112990A1

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