

Title (en)
PISTON DIAPHRAGM PUMP FOR DELIVERING DOSES OF LIQUIDS

Title (de)
KOLBENMEMBRANPUMPE ZUM DOSIERTEN FÖRDERN VON FLÜSSIGKEITEN

Title (fr)
POMPE A MEMBRANE A PISTON POUR REFOULEMENT DOSE DE LIQUIDES

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Abstract (en)
[origin: US5492449A] PCT No. PCT/EP92/02029 Sec. 371 Date May 11, 1994 Sec. 102(e) Date May 11, 1994 PCT Filed Sep. 3, 1992 PCT Pub. No. WO93/05293 PCT Pub. Date Mar. 8, 1993. A piston diaphragm pump operable for delivering doses of liquids such as surfactants, or wetting agents, for example, includes a pump piston that is reciprocally moveable within a pump tube that encloses a pump pressure chamber. The pump piston is electromagnetically driven against the force of a return spring by a magnetic coil that surrounds the pump tube. In addition, a pump diaphragm is rigidly clamped about an inner circumference to a portion of an upper end of the pump piston. The outer circumference of the pump diaphragm is rigidly clamped about its periphery between upper and middle housing sections. One side of the diaphragm faces a suction chamber, and the other side faces a pressure chamber. A longitudinal bore, that encloses a pump piston provided with a piston valve, extends centrally through the pump diaphragm and links the pressure chamber to the suction chamber. In order to obtain the same pump capacity with reduced pump lifts, without requiring a specially sealed guidance of the pump piston in the pump tube, a pressure chamber located on the side of the pump diaphragm opposite to the suction chamber is designed as an additional pump pressure chamber that is constantly connected to the piston longitudinal bore that leads to the pump tube pressure chamber by cross-channels arranged in the pump piston behind the piston valve.

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