

Title (en)

Pump for liquids.

Title (de)

Flüssigkeitspumpe.

Title (fr)

Pompe à liquides.

Publication

**EP 0411564 A2 19910206 (EN)**

Application

**EP 90114674 A 19900731**

Priority

GB 8917747 A 19890803

Abstract (en)

The invention refers to a pump in which a diaphragm (8) is reciprocated to cause cycles of high and low pressure in a chamber (9), and two conduits (10,11) communicating between the chamber and the exteriors, contain oppositely directed one way valve elements (12,13). Because the forward directions of those valve elements may offer even very low resistance to such effects as gravity (Fig.3), an entire reservoir could empty inadvertently through the pump. The invention proposes that a single body (27) be shaped to contain the one-way elements (12,13), to fit in the lower pump body (24), to assist in clamping the diaphragm (8), and to present to the chamber (9) one or other of the conduits, preferably that destined as the inlet conduit (10A), with an orifice (27C) which will act as a valve seat. A portion (6) of the diaphragm is contrived as a valve flap, and can close that conduit which is presented with the orifice (27C). Return bias (5) of the pump acts on the diaphragm (8) such as to close the orifice under quiescent or switched off conditions of the pump.

IPC 1-7

**F04B 17/04; F04B 43/04**

IPC 8 full level

**F04B 43/04** (2006.01)

CPC (source: EP US)

**F04B 43/04** (2013.01 - EP US)

Cited by

US9845799B2; US2018132693A1; US10945581B2; US2014140873A1; CN107956667A; WO2014081701A1; US10299964B2; US10702418B2; US10143783B2; US11253639B2; US11648342B2; US11027051B2; US11534540B2; US11623039B2; US9642955B2; US10130526B2; US10682446B2; US10737002B2; US10780202B2; US10973965B2; US11141325B2; US11654228B2; EP3310238B1

Designated contracting state (EPC)

DE ES FR GB IT

DOCDB simple family (publication)

**EP 0411564 A2 19910206; EP 0411564 A3 19920102**; GB 8917747 D0 19890920

DOCDB simple family (application)

**EP 90114674 A 19900731**; GB 8917747 A 19890803