

Title (en)

Electric pump for delivering water in household appliances

Title (de)

Elektrisch angetriebene Pumpe zur Wasserförderung in Haushaltsgeräten

Title (fr)

Pompe électrique pour l'alimentation en eau dans un appareil ménager

Publication

**EP 0610569 B1 19960904 (DE)**

Application

**EP 93119617 A 19931206**

Priority

DE 4304238 A 19930212

Abstract (en)

[origin: EP0610569A1] The invention relates to an electric pump (40, 44) for delivering water, comprising a pump chamber (9) having a diaphragm (6), and a piezoelectric oscillating member (7) which is attached to the diaphragm (6). The pump chamber (9) is connected to a reservoir (25, 34, 42), which can be filled with water, via an inlet (4, 17) at which a check (non-return) valve (4, 18) is constructed which closes in the direction of the reservoir (25, 34, 42), and is connected to a consumer via an outlet (10, 21). When overpressure prevails in the pump chamber (9), the check valve (4, 18) on the one hand blocks the connection from the reservoir (25, 34, 42) to the pump chamber (9), with the result that liquid is fed via the outlet (10, 21) to an exit opening (37, 46). On the other hand, the check valve (4, 18) opens in the case of underpressure in the pump chamber (9), with the result that liquid can flow via the reservoir (25, 34, 42) into the pump chamber (9) (suction phase). An ascending pipe (11, 38, 45) leads from the outlet (10) of the pump chamber (9) to the exit opening (37, 46), which is situated above the level of the maximum filling of the reservoir (25, 34, 42). During the suction phase, the abrupt rapid movements of the diaphragm (6) produce in the region of the check valve (4, 18) independently of the filling in the reservoir (25, 34, 42) an underpressure with respect to the water pressure prevailing at the inlet (4, 17), with the result that water flows into the pump chamber (9) from the reservoir (25, 34, 42). <IMAGE>

IPC 1-7

**F04B 43/04**

IPC 8 full level

**F04B 43/04** (2006.01)

CPC (source: EP US)

**F04B 43/046** (2013.01 - EP US)

Cited by

EP1236900A1; FR2932822A1; FR2915857A1; US8641388B2; WO2010007227A1; WO2008138728A1; US6623256B2; US8484869B2

Designated contracting state (EPC)

DE ES FR GB NL

DOCDB simple family (publication)

**EP 0610569 A1 19940817; EP 0610569 B1 19960904; DE 4304238 A1 19940818; DE 59303656 D1 19961010**

DOCDB simple family (application)

**EP 93119617 A 19931206; DE 4304238 A 19930212; DE 59303656 T 19931206**