

Title (en)

PUMP COMPRISING A SHIELD VALVE CONTROLLED BY THE CONVEYING MEDIUM

Title (de)

PUMPE MIT VOM FÖRDERMEDIUM GESTEUERTEN SCHIRMVENTIL

Title (fr)

POMPE EQUIPEE D'UNE SOUPAPE DE PROTECTION COMMANDEE PAR LIQUIDE REFOULE

Publication

EP 1458978 B1 20050112 (DE)

Application

EP 03730031 A 20030514

Priority

- DE 10233302 A 20020722
- EP 0305044 W 20030514

Abstract (en)

[origin: WO2004010000A1] The invention relates to a pump comprising at least one shield valve which is controlled by the conveying medium and is provided with a valve disk (4) made of a flexible material. Said valve disk (4) is clamped in a central area and is movable between an open position and a closed position in which the valve disk (4) closes at least one valve opening (9). The inventive pump is characterized by the fact that extensions (11) which are disposed on the valve disk (4) and/or on a valve contact surface (10) that is arranged on the side of the valve disk located opposite the valve opening (9) protrude in order to prevent the valve disk (4) from abruptly contacting in a planar manner the valve contact surface and/or limit the opening movement of the valve. The inventive pump is characterized by particularly low-noise operation.

IPC 1-7

F04B 53/10; **F04B 39/10**

IPC 8 full level

F04B 39/10 (2006.01); **F04B 53/10** (2006.01)

CPC (source: EP KR US)

F04B 39/10 (2013.01 - KR); **F04B 39/108** (2013.01 - EP US); **F04B 53/10** (2013.01 - KR); **F04B 53/1065** (2013.01 - EP US)

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

WO 2004010000 A1 20040129; DE 10233302 A1 20040212; DE 10233302 B4 20060614; DE 50300252 D1 20050217; EP 1458978 A1 20040922; EP 1458978 B1 20050112; JP 2006504020 A 20060202; KR 100881809 B1 20090203; KR 20050025610 A 20050314; US 2006051219 A1 20060309

DOCDB simple family (application)

EP 0305044 W 20030514; DE 10233302 A 20020722; DE 50300252 T 20030514; EP 03730031 A 20030514; JP 2004522160 A 20030514; KR 20057000798 A 20050115; US 51958904 A 20041228