

Title (en)

Diaphragm membrane pump with compensating mechanism to avoid overload of diaphragm

Title (de)

Diaphragmapumpe mit hydraulischer Betätigung und Vorrichtung zum Ausgleich der entweichenden Luft

Title (fr)

Pompe à membrane à actionnement hydraulique avec dispositif de compensation des fuites

Publication

**EP 1801417 A1 20070627 (FR)**

Application

**EP 06291841 A 20061130**

Priority

FR 0512938 A 20051220

Abstract (en)

The pump has a hydraulic control chamber disposed between a piston (8) and a diaphragm (3). A chamber leak compensating unit has a refilling duct (14) opening out into the chamber via a valve (15). The valve is driven by pressing the diaphragm against a free end (16a) of a rod (16) to control the valve. The diaphragm is subjected to a force of a suction-assistance spring (13), which co-operates with the valve to return the valve to closed position. The spring co-operates with the valve to form a moving assembly that is moved without being deformed by the diaphragm during suction over travel.

IPC 8 full level

**F04B 43/067** (2006.01)

CPC (source: EP US)

**F04B 43/0081** (2013.01 - EP US); **F04B 43/067** (2013.01 - EP US)

Citation (applicant)

- US 5707219 A 19980113 - POWERS FREDERICK ALLAN [US]
- FR 2557928 A1 19850712 - MILTON ROY DOSAPRO [FR]
- EP 0547404 A1 19930623 - OTT KG LEWA [DE]

Citation (search report)

- [AD] US 5246351 A 19930921 - HORN WALDEMAR [DE], et al
- [A] US 5707219 A 19980113 - POWERS FREDERICK ALLAN [US]
- [A] US 4619589 A 19861028 - MUELLER KLAUS [DE], et al

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EP2617997A1; FR2985791A1; CN103216436A; US9388802B2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR MK YU

DOCDB simple family (publication)

**EP 1801417 A1 20070627; EP 1801417 B1 20090107**; AT E420290 T1 20090115; CA 2571024 A1 20070620; CA 2571024 C 20100323; DE 602006004692 D1 20090226; ES 2320377 T3 20090521; FR 2895036 A1 20070622; FR 2895036 B1 20080222; JP 2007170394 A 20070705; JP 4571614 B2 20101027; PT 1801417 E 20090323; US 2007140878 A1 20070621; US 7654801 B2 20100202

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**EP 06291841 A 20061130**; AT 06291841 T 20061130; CA 2571024 A 20061211; DE 602006004692 T 20061130; ES 06291841 T 20061130; FR 0512938 A 20051220; JP 2006343250 A 20061220; PT 06291841 T 20061130; US 63644206 A 20061211