

Title (en)
Pump with check valve

Title (de)
Pumpe mit Strömungsventil

Title (fr)
Pompe avec clapet de non-retour

Publication
EP 1249611 A3 20040102 (DE)

Application
EP 02007912 A 20020409

Priority
KR 20010019550 A 20010412

Abstract (en)
[origin: EP1249611A2] An automatic pump is provided to vertically fix a base plate of a lid switch by inserting into a switch body, to horizontally settle the lid switch by forming a fixing protrusion on a switch cover, and to improve work ability of the lid switch. An automatic pump comprises a case; an impeller, a motor, a connection unit, a flux switch unit, and a lid switch unit(160). The lid switch unit comprises a switch body(161) forming a fixing groove on an inner middle portion; a switch cover(163) installing plural fixing protrusions on a portion corresponding to the fixing groove; a base plate(165) forming patterns on vertical ends portions by being fixed by the fixing protrusion of the switch cover while forming a concave unit; a lid switch(167) soldering-fixed on both ends of the pattern corresponding to the concave unit of the base plate; and plural wires soldering-fixed to the pattern. The base plate is inserted to the switch body by being formed as a square plate corresponding to the fixing groove. The automatic pump improve work ability of the lid switch and increases using efficiency by corresponding the lid switch to horizontal and vertical install of the automatic pump.

IPC 1-7
F04D 13/06; **F04D 15/02**

IPC 8 full level
F04B 49/02 (2006.01); **F04D 13/06** (2006.01); **F04D 15/02** (2006.01)

CPC (source: EP KR)
F04B 49/02 (2013.01 - KR); **F04D 13/06** (2013.01 - EP); **F04D 15/02** (2013.01 - EP)

Citation (search report)

- [A] GB 1004265 A 19650915 - ODD FREDHEIM JOHNSEN
- [A] US RE26678 E 19691007
- [A] GB 1360225 A 19740717 - DISTILLERS CO CARBON DIOXIDE

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)
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DOCDB simple family (application)
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