

Title (en)  
Double diaphragm pump

Title (de)  
Doppelmembranpumpe

Title (fr)  
Pompe à membrane double

Publication  
**EP 0801228 A3 19990721 (EN)**

Application  
**EP 97302476 A 19970411**

Priority  
• US 1565096 P 19960412  
• US 83723797 A 19970410

Abstract (en)  
[origin: EP0801228A2] An air operated double diaphragm pump 10 is provided with an air valve assembly which allows the valve cup 38 to move in a rectangular pattern which greatly reduces the cost and number of parts required for such an air valve. The main housing 12 of the pump 10 is mounted on a fluid base 20 to which the lines of fluid are attached. This allows removal of the pump for servicing by undoing several basic fasteners such as nuts and bolts 18 without requiring removal of the fluid fittings to the base 20. Thus, in the event of a pump malfunction, the pump may be easily replaced while the fluid fittings remain intact. Provision is also made for additional passages 54, 56 into each air chamber 44, 46 for operation via an externally operated solenoid valve. A one-piece check valve 26 construction is utilised with the part having a central sealing disk 26A having a plurality of radially axially extending guide members 26B extending therefrom wherein each of the guide members has an outer diameter sized to slidably fit within a cylindrical cavity 28 and each of the guide members 26B having axially opposite the sealing disk 26A a plurality of spring loaded fingers 26D which serve to bias the check valve 26 into a closed position. <IMAGE>

IPC 1-7  
**F04B 9/123**

IPC 8 full level  
**F04B 43/02** (2006.01); **F04B 9/135** (2006.01); **F04B 35/00** (2006.01); **F04B 43/073** (2006.01); **F04B 53/16** (2006.01); **F04B 53/22** (2006.01); **F16K 15/02** (2006.01)

CPC (source: EP KR US)  
**F04B 9/135** (2013.01 - EP); **F04B 35/00** (2013.01 - EP); **F04B 39/0061** (2013.01 - KR); **F04B 39/10** (2013.01 - KR); **F04B 43/0736** (2013.01 - EP US); **F04B 45/041** (2013.01 - KR); **F04B 53/10** (2013.01 - KR); **F04B 53/16** (2013.01 - EP US); **F04B 53/22** (2013.01 - EP); **F05B 2210/12** (2013.01 - KR); **Y10S 417/00** (2013.01 - KR)

Citation (search report)  
• [A] EP 0609044 A1 19940803 - ARO CORP [US]  
• [A] US 4597403 A 19860701 - MILBURN JR WILLIAM W [US]  
• [A] WO 9608130 A2 19960321 - HUEWEL RALF [DE], et al  
• [A] US 4385869 A 19830531 - OMATA KATSUMORI [JP]

Cited by  
GB2463822A; GB2426556B; GB2463822B; US9074589B2; WO2023020867A1

Designated contracting state (EPC)  
DE FR GB IT

DOCDB simple family (publication)  
**EP 0801228 A2 19971015; EP 0801228 A3 19990721; EP 0801228 B1 20030702; EP 0801228 B9 20031008**; AR 006617 A1 19990908; CN 1081747 C 20020327; CN 1165699 C 20040908; CN 1174293 A 19980225; CN 1374455 A 20021016; DE 69723144 D1 20030807; DE 69723144 T2 20040429; DE 69723290 D1 20030807; DE 69723290 T2 20040205; JP 2007285301 A 20071101; JP 4004097 B2 20071107; JP H1030570 A 19980203; KR 100461707 B1 20041216; KR 100491065 B1 20050812; KR 19980076691 A 19981116

DOCDB simple family (application)  
**EP 97302476 A 19970411**; AR P970101462 A 19970411; CN 01124998 A 19970411; CN 97111233 A 19970411; DE 69723144 T 19970411; DE 69723290 T 19970411; JP 2007178316 A 20070706; JP 9394897 A 19970411; KR 19970013509 A 19970412; KR 20040042785 A 20040611