

Title (en)

METHOD FOR SUPPLYING A FLUID AND MICROPUMP FOR SAID PURPOSE

Title (de)

VERFAHREN ZUM FÖRDERN EINES FLUIDS UND MIKROPUMPE HIERFÜR

Title (fr)

PROCÉDÉ POUR LA CIRCULATION D'UN FLUIDE, ET MICROPOMPE UTILISÉE À CET EFFET

Publication

**EP 2222959 B1 20120125 (DE)**

Application

**EP 08847009 A 20080925**

Priority

- EP 2008008177 W 20080925
- DE 102007053047 A 20071105

Abstract (en)

[origin: WO2009059664A1] The invention relates to a device and a method for supplying a fluid in a bubble-tolerant and effective fashion. The device comprises a number of N = 2 pump chambers having N separate chamber volumes, each of which may be altered independently of the other(s). The volume changes of the pump chambers occur periodically with substantially the same frequency (f). The device further comprises N actuators for changing the respective chamber volumes and valves for establishing the pumping direction, and finally a common inlet and outlet. The pump chambers of the device are disposed in series one behind the other, and the forms of the periods of volume changes of all pump chambers are substantially identical. Moreover, an ideal phase offset PHI of approximately 180° exists between the volume change of the chamber volumes of two sequential pump chambers.

IPC 8 full level

**F04B 43/04** (2006.01); **F04B 19/00** (2006.01); **F04B 43/09** (2006.01)

CPC (source: EP US)

**F04B 19/006** (2013.01 - EP US); **F04B 43/046** (2013.01 - EP US); **F04B 43/095** (2013.01 - EP US); **Y10T 137/0396** (2015.04 - EP US);  
**Y10T 137/85978** (2015.04 - EP US)

Cited by

WO2007070714A1; DE102018124467A1; DE102019117262A1; DE102019117261A1; WO2020003154A1; US10174749B2; US10746167B2;  
US11506193B2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

DOCDB simple family (publication)

**WO 2009059664 A1 20090514**; AT E543002 T1 20120215; EP 2222959 A1 20100901; EP 2222959 B1 20120125; US 2011005606 A1 20110113

DOCDB simple family (application)

**EP 2008008177 W 20080925**; AT 08847009 T 20080925; EP 08847009 A 20080925; US 74124108 A 20080925