

Title (en)
Method and device for driving a micropump

Title (de)
Verfahren und Vorrichtung zur Ansteuerung einer Mikropumpe

Title (fr)
Procédé et dispositif pour commander une micropompe

Publication
EP 0703364 B1 19970423 (DE)

Application
EP 95112161 A 19950802

Priority
DE 4433894 A 19940922

Abstract (en)
[origin: EP0703364A1] The control system is used for a micro-membrane pump(100) which has a feed direction defined by its valve structure(118,120), with selective reversal of the feed direction when a driver signal with a given energising frequency is supplied to the pump. The energising frequency is in a frequency range above the resonance frequency of the resonating system provided by the moving parts (106,118,120) of the pump and the pumped fluid, with a phase difference of between 90 and 180 degrees between the driver signal and the deflection of the valve structure.

IPC 1-7
F04B 19/00; **F04B 43/04**

IPC 8 full level
F04B 19/00 (2006.01); **F04B 43/04** (2006.01)

CPC (source: EP US)
F04B 19/006 (2013.01 - EP); **F04B 43/043** (2013.01 - EP US); **F04B 2203/0404** (2013.01 - EP)

Cited by
EP1557565A3; EP0844395A3; US6395638B1; EP1195523A3; DE19837434C2; JP2010151717A; EP1065378A3; EP2027923A1; US7192629B2; US9623413B2; WO0101025A3; WO9851929A1; WO2021014444A1; US7217367B2; US11022470B2; US7144616B1; US7695683B2; US7291512B2; WO2020064060A1; US6951632B2; US9643178B2; WO9937400A1; WO9851928A1; US7583853B2; US7459022B2; US7258774B2; US7927422B2; US8992858B2; US7368163B2; US7195670B2; US6261066B1; US9932687B2; US7407799B2; US7244402B2; US6599477B1; US8017353B2; US9868978B2; WO2022162651A1; US7279146B2; US7326296B2; US6408878B2; US6793753B2; US7040338B2; US7169314B2; US9926521B2; US7494555B2; US7217321B2; US7097809B2; US9725764B2; US9957561B2; US10208341B2; US10214774B2; US10328428B2; US10940473B2; US7216671B2; US6899137B2; US7754010B2; US7766055B2; US8104497B2; US8656958B2; US7250128B2; US7306672B2; US6929030B2; US7704322B2; US9643136B2; US9657344B2; US10509018B2; US7143785B2; US7232109B2; US7294503B2; US6416294B1; US8252539B2; US9714443B2; US10131934B2

Designated contracting state (EPC)
CH DE FR GB IT LI NL

DOCDB simple family (publication)
EP 0703364 A1 19960327; **EP 0703364 B1 19970423**; DE 4433894 A1 19960328; DE 59500196 D1 19970528

DOCDB simple family (application)
EP 95112161 A 19950802; DE 4433894 A 19940922; DE 59500196 T 19950802