

Title (en)

Pump device for liquid samples

Title (de)

Flüssigkeitsproben-Fördervorrichtung

Title (fr)

Dispositif de pompage pour échantillons liquides

Publication

EP 1621768 B1 20080430 (DE)

Application

EP 04018193 A 20040731

Priority

EP 04018193 A 20040731

Abstract (en)

[origin: EP1621768A1] The liquid sample delivery unit (10) comprises a pump (16) functioning in a pulse mode, with the pump and the delivery line (18) constituted so that the expansion volume of the line during a delivery pulse forms at most 50 % of the pulse volume.

IPC 8 full level

F04B 23/02 (2006.01); **F04B 39/00** (2006.01); **F04B 39/16** (2006.01); **F04B 43/02** (2006.01); **F04B 53/20** (2006.01)

CPC (source: EP US)

F04B 49/00 (2013.01 - EP US); **F04B 2201/0203** (2013.01 - EP US); **F04B 2205/50** (2013.01 - EP US); **Y10T 436/2575** (2015.01 - EP US)

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DOCDB simple family (publication)

EP 1621768 A1 20060201; **EP 1621768 B1 20080430**; AT E393878 T1 20080515; DE 502004007004 D1 20080612; ES 2305628 T3 20081101; US 2006024210 A1 20060202; US 7854894 B2 20101221

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EP 04018193 A 20040731; AT 04018193 T 20040731; DE 502004007004 T 20040731; ES 04018193 T 20040731; US 19402205 A 20050729