

Title (en)  
Pumping device

Title (de)  
Pumpvorrichtung

Title (fr)  
Dispositif de pompage

Publication  
**EP 2405138 A3 20121003 (EN)**

Application  
**EP 11183329 A 20100128**

Priority  
• EP 10152003 A 20100128  
• NL 2002460 A 20090128

Abstract (en)  
[origin: EP2224132A2] The invention relates to a pumping device comprising a first low pressure plunger with a first plunger surface area and which is up and down moveable in a first cylinder, and a functionally coupled second, high pressure plunger with a second, smaller plunger area and which is moveable in a second cylinder, which first plunger in operation drives the second cylinder causing in operation an amplification of the compressor force for pumping a fluid, wherein further a breathing segment is provided between both plungers, in which the space of the breathing segment is in fluid connection coupled with an inlet of the fluid which needs to be pumped, like a gas, and is provided with a regulator for in operation maintaining a small overpressure on the breathing segment.

IPC 8 full level  
**F04B 9/113** (2006.01); **F04B 49/08** (2006.01); **F04B 53/16** (2006.01)

CPC (source: EP)  
**F04B 9/113** (2013.01); **F04B 49/08** (2013.01); **F04B 53/162** (2013.01)

Citation (search report)  
• [X] US 1185412 A 19160530 - KRAEMER BERNHARD [DE]  
• [X] GB 191311996 A 19140522 - BRITISH THOMSON HOUSTON CO LTD [GB]  
• [X] GB 190421436 A 19050817 - NORTHCOTT WILLIAM HENRY [GB]  
• [X] GB 190823886 A 19090311 - DEFRIES & SONS LTD J [GB], et al  
• [A] US 519225 A 18940501  
• [A] US 5520169 A 19960528 - GEORGIEFF MICHAEL [DE], et al

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 MK MT NL NO PL PT RO SE SI SK SM TR

Designated extension state (EPC)  
AL BA RS

DOCDB simple family (publication)  
**EP 2224132 A2 20100901**; **EP 2224132 A3 20110323**; **EP 2224132 B1 20200108**; EP 2405138 A2 20120111; EP 2405138 A3 20121003; EP 2405138 B1 20150311

DOCDB simple family (application)  
**EP 10152003 A 20100128**; EP 11183329 A 20100128