

Title (en)  
RECIPROCATING PUMP WITH IMPROVED FLUID CYLINDER CROSS-BORE GEOMETRY

Title (de)  
KOLBENPUMPE MIT VERBESSERTER FLUIDZYLINDERQUERBOHRUNGSGEOMETRIE

Title (fr)  
POMPE ALTERNATIVE PRÉSENTANT UNE MEILLEURE GÉOMÉTRIE D'ALÉSAGE TRANSVERSAL DE CYLINDRE DE FLUIDE

Publication  
**EP 3146210 A4 20180117 (EN)**

Application  
**EP 15796267 A 20150522**

Priority  
• US 201462002593 P 20140523  
• US 2015032300 W 20150522

Abstract (en)  
[origin: WO2015179839A1] A reciprocating pump comprising a fluid end housing having a number of plunger sections, each of which includes a plunger bore within which a plunger is slidably received, a suction bore within which a suction valve is positioned, a discharge bore within which a discharge valve is positioned, and a cross bore chamber which is located between said bores and is configured as a surface of revolution. Each of the bores intersects the cross-bore chamber to thereby define a respective cross curve which is spatially separated from each adjacent cross curve. In this manner, the cross-bore chamber defines a single, contiguous surface which extends around and between all of said cross curves.

IPC 8 full level  
**F04B 53/00** (2006.01); **F04B 53/10** (2006.01); **F04B 53/16** (2006.01)

CPC (source: EP US)  
**F04B 19/22** (2013.01 - US); **F04B 53/007** (2013.01 - EP US); **F04B 53/10** (2013.01 - EP US); **F04B 53/1025** (2013.01 - EP); **F04B 53/1032** (2013.01 - EP US); **F04B 53/14** (2013.01 - US); **F04B 53/16** (2013.01 - EP US); **F04B 53/162** (2013.01 - EP); **F04B 53/22** (2013.01 - EP US)

Citation (search report)  
• [X] US 7186097 B1 20070306 - BLUME GEORGE H [US]  
• [A] US 6382940 B1 20020507 - BLUME GEORGE H [US]  
• [A] US 2014086774 A1 20140327 - CHANDRASEKARAN ARUN NAHENDRA RAJ [US], et al  
• [A] US 2012288387 A1 20121115 - FREED WESLEY D [US], et al  
• [A] US 7484452 B2 20090203 - BAXTER WINSTON KIRK [US], et al  
• See references of WO 2015179839A1

Cited by  
WO2022016911A1

Designated contracting state (EPC)  
AL 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 RS SE SI SK SM TR

DOCDB simple family (publication)  
**WO 2015179839 A1 20151126**; CA 2949708 A1 20151126; CA 2949708 C 20210518; CN 106460820 A 20170222; CN 106460820 B 20191213; EP 3146210 A1 20170329; EP 3146210 A4 20180117; EP 3146210 B1 20200408; MX 2016015372 A 20170609; US 2017082103 A1 20170323

DOCDB simple family (application)  
**US 2015032300 W 20150522**; CA 2949708 A 20150522; CN 201580034503 A 20150522; EP 15796267 A 20150522; MX 2016015372 A 20150522; US 201515311504 A 20150522