

Title (en)
FLUID PUMPING USING ELECTRIC LINEAR MOTOR

Title (de)
FLÜSSIGKEITSPUMPEN MIT ELEKTRISCHEM LINEARMOTOR

Title (fr)
POMPAGE DE FLUIDE PAR MOTEUR ÉLECTRIQUE LINÉAIRE

Publication
EP 3788234 A4 20211229 (EN)

Application
EP 19796208 A 20190430

Priority
• US 201862665039 P 20180501
• US 2019029847 W 20190430

Abstract (en)
[origin: WO2019213041A1] A drilling fluid pump system includes a plurality of modular pump units that are each driven by a linear electric motor. A control system that can include positional feedback information which is used to control all of the linear motors in the pump system and reduce pressure pulsation. The linear motors can be controlled to reduce fluid pressure pulsation by controlling velocity and relative timing between pistons. To accommodate removal and addition of individual pump units the pump modules can be isolated electrically and hydraulically. This can improve scalability, reliability, and serviceability of the pump system.

IPC 8 full level
E21B 43/12 (2006.01); **F04B 15/02** (2006.01); **F04B 17/04** (2006.01); **F04B 47/02** (2006.01)

CPC (source: EP US)
E21B 43/12 (2013.01 - US); **F04B 11/0041** (2013.01 - EP); **F04B 15/02** (2013.01 - EP); **F04B 17/03** (2013.01 - EP US); **F04B 17/044** (2013.01 - EP); **F04B 23/06** (2013.01 - EP); **F04B 47/02** (2013.01 - EP US); **F04B 49/06** (2013.01 - US); **F04B 49/20** (2013.01 - EP)

Citation (search report)
• [XY] WO 2017048740 A1 20170323 - SCHLUMBERGER TECHNOLOGY CORP [US], et al
• [Y] US 2014290768 A1 20141002 - RANDLE COY [US], et al
• [X] US 2008264625 A1 20081030 - OCHOA BRIAN [US]
• See references of WO 2019213041A1

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 2019213041 A1 20191107; EP 3788234 A1 20210310; EP 3788234 A4 20211229; US 2021102530 A1 20210408

DOCDB simple family (application)
US 2019029847 W 20190430; EP 19796208 A 20190430; US 201917044348 A 20190430