

Title (en)  
HYDRAULIC POWER UNITS WITH SUBMERGED MOTORS

Title (de)  
HYDRAULIKAGGREGATE MIT TAUCHMOTOREN

Title (fr)  
UNITÉS DE PUISSANCE HYDRAULIQUE DOTÉES DE MOTEURS SUBMERGÉS

Publication  
**EP 4065851 A4 20221221 (EN)**

Application  
**EP 19955767 A 20191214**

Priority  
US 2019066410 W 20191214

Abstract (en)  
[origin: WO2021118607A1] A hydraulic power unit ("HPU") with a submerged motor for moving hydraulic fluid between a first chamber and a second chamber of a hydraulic device is provided. The HPU may comprise a tank for storing hydraulic fluid, wherein the tank houses: a motor submerged in the hydraulic fluid, the motor having a powered on and a powered off configuration based on at least one command signal; and a pump submerged in the hydraulic fluid and connected to the motor, wherein the motor drives the pump to route the hydraulic fluid in and out of the tank.

IPC 8 full level  
**F15B 13/042** (2006.01); **F15B 1/26** (2006.01); **F15B 13/04** (2006.01); **F15B 15/18** (2006.01); **F15B 21/00** (2006.01)

CPC (source: EP)  
**F04B 17/03** (2013.01); **F04B 23/021** (2013.01); **F15B 1/26** (2013.01); **F15B 13/0814** (2013.01); **F15B 13/0896** (2013.01); **F15B 2211/20515** (2013.01); **F15B 2211/20538** (2013.01); **F15B 2211/3051** (2013.01); **F15B 2211/30515** (2013.01); **F15B 2211/7053** (2013.01)

Citation (search report)

- [X1] US 6290474 B1 20010918 - BAVENDIEK RAINER [DE], et al
- [XY] DE 19612582 A1 19971002 - MIAG FAHRZEUGBAU GMBH [DE]
- [XY] WO 2017077060 A1 20170511 - KNORR-BREMSE SYSTEME FÜR SCHIENENFAHRZEUGE GMBH [DE]
- [XYI] DE 202005005620 U1 20060817 - HAWE HYDRAULIK GMBH & CO KG [DE]
- [X1] US 5988989 A 19991123 - HOBSON NICHOLAS M [GB]
- [Y] US 2017089369 A1 20170330 - WUNCH JIM [US], et al
- See references of WO 2021118607A1

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

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BA ME

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KH MA MD TN

DOCDB simple family (publication)  
**WO 2021118607 A1 20210617**; CN 115053074 A 20220913; EP 4065851 A1 20221005; EP 4065851 A4 20221221

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**US 2019066410 W 20191214**; CN 201980103539 A 20191214; EP 19955767 A 20191214