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PUMP

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Publication  
**EP 2802776 A4 20151209 (EN)**

Application  
**EP 11877611 A 20111222**

Priority  
CN 2011084449 W 20111222

Abstract (en)  
[origin: WO2013091218A1] A pump (10) includes a drive assembly (14) having a drive shaft rotatable about a drive axis (98), and an eccentric (106) coupled to the drive shaft for rotation therewith. The eccentric (106) includes a shaft portion (118) defining an eccentric axis (122) that is offset from the drive axis (98). The shaft portion (118) includes a shaft end defining a first alignment feature (124). A piston (166) is rotatably coupled to the shaft portion (118) and defines a second alignment feature (190). A cylinder (30) reciprocatingly receives the piston (166). Positioning the first alignment feature (124) in a predetermined orientation with respect to the second alignment feature (190) locates the piston in one of a top-dead-center position and a bottom-dead-center position with respect to the cylinder (30). A method for orienting a first piston (166) and a second piston (166) in a dual piston pump (10) is also provided.

IPC 8 full level  
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**F04B 1/02** (2013.01 - US); **F04B 1/0404** (2013.01 - EP US); **F04B 9/045** (2013.01 - EP US); **F04B 17/03** (2013.01 - EP US);  
**F04B 23/06** (2013.01 - EP US); **F04B 27/0404** (2013.01 - EP US); **F04B 35/04** (2013.01 - EP US); **F04B 41/06** (2013.01 - EP US)

Citation (search report)  
• [X] US 2009104052 A1 20090423 - LEU SHAWN A [US], et al  
• [X] WO 03016717 A1 20030227 - THOMAS INDUSTRIES INC [US], et al  
• [X] FR 557006 A 19230801  
• [X] CH 129676 A 19290102 - ROSSET L E [CH], et al  
• See references of WO 2013091218A1

Designated contracting state (EPC)  
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**WO 2013091218 A1 20130627**; CN 103477073 A 20131225; CN 103477073 B 20160608; EP 2802776 A1 20141119; EP 2802776 A4 20151209;  
US 2014314593 A1 20141023

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**CN 2011084449 W 20111222**; CN 201180066707 A 20111222; EP 11877611 A 20111222; US 201113809613 A 20111222