

Title (en)

VARIABLE DISPLACEMENT PUMP HAVING A ROTATING CAM RING AND METHOD OF OPERATION

Title (de)

VERSTELLPUMPE MIT ROTIERENDEM NOCKENRING UND BETRIEBSVERFAHREN

Title (fr)

POMPE A CYLINDRE VARIABLE A CAGE ROTATIVE ET METHODE D'UTILISATION

Publication

EP 1384005 A1 20040128 (EN)

Application

EP 02728572 A 20020327

Priority

- US 0209298 W 20020327
- US 28163401 P 20010405

Abstract (en)

[origin: WO02081921B1] Vane pump (10) mechanical losses are reduced by removing vane friction losses and replacing them with lower magnitude journal bearing fluid film viscous drag losses. A freely rotating cam ring (70) is supported by a journal bearing (80). A relatively low sliding velocity is imposed between the cam ring and the vanes (26). This permits the use of less expensive and less brittle materials in the pump by allowing the pump to operate at much higher speeds without concern for exceeding vane tip velocity limits.

IPC 1-7

F04C 2/344; F04C 15/04

IPC 8 full level

F01C 21/08 (2006.01); **F04C 2/344** (2006.01); **F04C 14/22** (2006.01); **F04C 15/00** (2006.01)

CPC (source: EP KR)

F01C 21/0809 (2013.01 - EP); **F04C 2/344** (2013.01 - KR); **F04C 2/3442** (2013.01 - EP); **F04C 14/226** (2013.01 - EP); **F04C 2220/24** (2013.01 - EP); **F05C 2203/0826** (2013.01 - EP)

Cited by

US2023083167A1; US8747085B2

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)

WO 02081921 A1 20021017; **WO 02081921 B1 20030320**; AT E310164 T1 20051215; CA 2443367 A1 20021017; CA 2443367 C 20110315; CA 2715436 A1 20021017; CA 2715436 C 20150310; CN 100557244 C 20091104; CN 101968053 A 20110209; CN 101968053 B 20130619; CN 1531629 A 20040922; DE 60207401 D1 20051222; DE 60207401 T2 20060810; EP 1384005 A1 20040128; EP 1384005 A4 20041013; EP 1384005 B1 20051116; JP 2004522902 A 20040729; JP 4215515 B2 20090128; KR 20040004577 A 20040113

DOCDB simple family (application)

US 0209298 W 20020327; AT 02728572 T 20020327; CA 2443367 A 20020327; CA 2715436 A 20020327; CN 02809627 A 20020327; CN 200910173737 A 20020327; DE 60207401 T 20020327; EP 02728572 A 20020327; JP 2002579661 A 20020327; KR 20037013097 A 20031006