Title (en)

Method for optimising the energy of pumps

Title (de)

Verfahren zur Energieoptimierung von Pumpen

Title (fr)

Procédé d'optimisation de l'énergie de pompes

Publication

EP 2354555 B1 20151216 (DE)

Application

EP 10000447 A 20100119

Priority

EP 10000447 A 20100119

Abstract (en)

[origin: EP2354555A1] The method involves determining whether pumps (pu1, pu5) are directly assigned to loads (v1, v3) as pilot pumps (pu2, pu3) and hydraulically connected upstream of the pilot pumps. The upstream pumps are controlled with variable speed for energy optimization. Energy optimization circuits are selected such that the upstream pumps are assigned to one of the energy optimization circuits. The energy optimization circuits are energy-optimized with respect to the upstream pumps, where the upstream pumps comprise a speed-controllable centrifugal pump driven by an electric motor. Independent claims are also included for the following: (1) a control unit for implementing a method for optimizing energy (2) a pump for implementing a method for optimizing energy.

IPC 8 full level

F04D 13/14 (2006.01); **F04B 23/04** (2006.01); **F04B 49/06** (2006.01); **F04D 15/00** (2006.01)

CPC (source: EP US)

F04D 13/0686 (2013.01 - EP US); **F04D 13/14** (2013.01 - EP US); **F04D 15/0066** (2013.01 - EP US); F05B 2270/101 (2013.01 - US); F05B 2270/111 (2013.01 - US); F05B 2270/309 (2013.01 - US); F05B 2270/504 (2013.01 - US); F05D 2270/02 (2013.01 - EP US); F05D 2270/07 (2013.01 - EP US); F05D 2270/13 (2013.01 - EP US); F05D 2270/309 (2013.01 - EP US); F05D 2270/54 (2013.01 - EP US)

Citation (opposition)

Opponent : WILO SE

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- WO 0057111 A1 20000928 - KSB AG [DE]
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- GB 2245967 A 19920115 - ELECTRICITY ASS SERVICES LTD [GB]
- WO 2008025452 A1 20080306 - WILO AG [DE], et al
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- S. BIEL: "Energieeinsparung und Komfortgewinn - Pumpenauslegung und - regelung in Klimaanlagen", IKZ FACHPLANER, vol. Heft, March 2007 (2007-03-01), pages 14 - 17, XP055314533
- R.-W. SENCZEK: "Ist die Buskommunikation zwischen Pumpen und GLT- Anlagen sinnvoll?", HEIZUNGSJOURNAL, March 1995 (1995-03-01), pages 104 - 111, XP055314535

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Designated contracting state (EPC)

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 SE SI SK SM TR

DOCDB simple family (publication)

EP 2354555 A1 20110810; **EP 2354555 B1 20151216**; **EP 2354555 B2 20190925**; CN 102753831 A 20121024; CN 102753831 B 20150722; EA 025057 B1 20161130; EA 201290664 A1 20121228; IN 5006DEN2012 A 20151002; PL 2354555 T3 20160630; PL 2354555 T5 20200331; US 2013017098 A1 20130117; US 9051936 B2 20150609; WO 2011088983 A1 20110728

DOCDB simple family (application)

EP 10000447 A 20100119; CN 201180006040 A 20110118; EA 201290664 A 20110118; EP 2011000184 W 20110118; IN 5006DEN2012 A 20120606; PL 10000447 T 20100119; US 201113522640 A 20110118