

Title (en)

METHOD FOR DETERMINING THE HYDRAULIC OPERATING POINT OF A PUMP ASSEMBLY

Title (de)

VERFAHREN ZUR BESTIMMUNG DES HYDRAULISCHEN ARBEITSPUNKTES EINES PUMPENAGGREGATS

Title (fr)

PROCÉDÉ DE DÉTERMINATION DU POINT DE FONCTIONNEMENT HYDRAULIQUE D'UN GROUPE MOTOPOMPE

Publication

EP 3123033 A1 20170201 (DE)

Application

EP 15719612 A 20150326

Priority

- DE 102014004336 A 20140326
- EP 2015000642 W 20150326

Abstract (en)

[origin: WO2015144310A1] The invention relates to a method for determining a first hydraulic variable (Q) of a pump assembly (1), which is operated at a predefinable rotation speed (n_o), from a mechanical or electrical variable (M_{act}, P_{el}, n_{act}) by evaluating a combination of the hydraulic variable (Q) with the mechanical or electrical variable (M_{act}, P_{el}, n_{act}). In this case, an actuating variable (M_{target}, n_{target}) of the pump assembly (1) is acted on by a periodic excitation signal (f_A, n(t), f_A, H(t)) of a specific frequency (f) in such a way that a second hydraulic variable (H, Δp) is modulated. The current value of the first hydraulic variable (Q) is then determined from the mechanical or electrical variable (M_{act}(t), P_{el}(t), n_{act}(t)) as a system response (X(t)) to the excitation signal (f_A, n(t), f_A, H(t)) using the combination. The invention further relates to a pump electronics system and to a pump assembly which are designed to carry out the method.

IPC 8 full level

F04D 15/00 (2006.01)

CPC (source: CN EP US)

F04D 13/06 (2013.01 - US); **F04D 15/0066** (2013.01 - CN EP US); **F04D 15/0088** (2013.01 - CN EP US); **F04D 1/00** (2013.01 - US)

Citation (search report)

See references of WO 2015144310A1

Cited by

EP3816451A1; EP4279745A1; LU502112B1

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

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

DE 102014004336 A1 20151001; CN 106133327 A 20161116; CN 106133327 B 20180706; DK 3123033 T3 20191028; EP 3123033 A1 20170201; EP 3123033 B1 20190821; US 10184476 B2 20190122; US 2017037857 A1 20170209; WO 2015144310 A1 20151001

DOCDB simple family (application)

DE 102014004336 A 20140326; CN 201580015793 A 20150326; DK 15719612 T 20150326; EP 15719612 A 20150326; EP 2015000642 W 20150326; US 201515114996 A 20150326