

Title (en)

A CENTRIFUGAL PUMP WITH BALANCING MEANS AND A METHOD OF BALANCING AXIAL FORCES OF THE CENTRIFUGAL PUMP

Title (de)

KREISELPUMPE MIT AUSGLEICHSMITTEL UND VERFAHREN ZUM AXIALKRAFTAUSGLEICH DER KREISELPUMPE

Title (fr)

POMPE CENTRIFUGE AVEC DES MOYENS D'ÉQUILIBRAGE ET PROCÉDÉ D'ÉQUILIBRAGE DES FORCES AXIALES DE LA POMPE CENTRIFUGE

Publication

EP 3430270 B1 20191113 (EN)

Application

EP 17707915 A 20170306

Priority

- EP 16160876 A 20160317
- EP 2017055118 W 20170306

Abstract (en)

[origin: WO2017157702A1] The present invention relates to single- or multi-stage centrifugal pumps having novel disc-type means for balancing the axial forces of the pump. The disc-type balancing means are provided with at least one annular groove (54) in at least one of the non-axial counter surfaces (50) and (52) of the balancing disc (22) and the counter member (28).

IPC 8 full level

F04D 29/041 (2006.01); **F04D 1/06** (2006.01); **F04D 29/047** (2006.01); **F04D 29/22** (2006.01)

CPC (source: EP US)

F04D 29/041 (2013.01 - EP US); **F04D 29/0413** (2013.01 - US); **F04D 29/0416** (2013.01 - EP US); **F04D 29/0473** (2013.01 - EP US);
F04D 29/2266 (2013.01 - EP US); F04D 1/06 (2013.01 - EP US); F05D 2250/294 (2013.01 - EP US)

Citation (examination)

US 1499056 A 19240624 - ALADAR HOLLANDER

Cited by

CN114508393A; CN113396287A; WO2020165046A1

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

DOCDB simple family (publication)

WO 2017157702 A1 20170921; BR 112018068267 A2 20190115; CN 108779782 A 20181109; EP 3430270 A1 20190123;
EP 3430270 B1 20191113; RU 2018132444 A 20200417; RU 2018132444 A3 20200519; US 2019063450 A1 20190228

DOCDB simple family (application)

EP 2017055118 W 20170306; BR 112018068267 A 20170306; CN 201780014882 A 20170306; EP 17707915 A 20170306;
RU 2018132444 A 20170306; US 201716081471 A 20170306