

Title (en)
MULTI-STAGE CENTRIFUGAL PUMP HAVING TENSION ANCHORS MADE OF SHEET METAL

Title (de)
MEHRSTUFIGE KREISELPUMPE MIT AUS BLECH GEBILDETEN ZUGANKERN

Title (fr)
POMPE CENTRIFUGE À PLUSIEURS ÉTAGES AVEC TIRANTS D'ANCRAGE EN TÔLE

Publication
EP 3181908 B1 20200513 (DE)

Application
EP 15200756 A 20151217

Priority
EP 15200756 A 20151217

Abstract (en)
[origin: WO2017102491A1] The multi-stage centrifugal pump has a foot part (2) and a head part (9), between which pump stages are incorporated. The head part (9) and foot part (2) are connected via tie rods (11), which have one end secured on the head part (9) and the other end secured on the foot part (2). The tie rods (11), at one end, have a thread (14), by means of which they are braced on the head part (9). The tie rods (11) are formed from sheet metal and, at the other end, have a protrusion (31), by means of which they are secured on the foot part (2) in a form-fitting manner at least in the direction of tension (22).

IPC 8 full level
F04D 1/06 (2006.01); **F04D 29/42** (2006.01); **F04D 29/62** (2006.01)

CPC (source: EP RU US)
F04D 1/06 (2013.01 - RU); **F04D 1/066** (2013.01 - EP US); **F04D 29/426** (2013.01 - EP US); **F04D 29/4293** (2013.01 - RU); **F04D 29/628** (2013.01 - EP RU US); **F05D 2230/54** (2013.01 - EP US)

Citation (examination)
US 2008019831 A1 20080124 - KAJIWARA KENICHI [JP], et al

Cited by
EP3670919A1; EP4080058A1; CN111350669A; US11879474B2

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)
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DOCDB simple family (application)
DE 202016008104 U 20161207; CN 201680074525 A 20161207; EP 15200756 A 20151217; EP 2016080043 W 20161207; RU 2018123322 A 20161207; US 201616060215 A 20161207