

Title (en)
DISCHARGE HEAD FOR A VERTICAL PUMP AND VERTICAL PUMP

Title (de)
AUSSTOSSKOPF FÜR EINE VERTIKALE PUMPE UND VERTIKALE PUMPE

Title (fr)
TÊTE DE DÉCHARGE DE POMPE VERTICALE ET UNE TELLE POMPE

Publication
EP 3135923 A1 20170301 (EN)

Application
EP 15199634 A 20151211

Priority
US 201562206529 P 20150818

Abstract (en)
A discharge head for a vertical pump is proposed comprising a base plate (11) for mounting the discharge head, a top plate (12), at least one support member (13) connecting the base plate (11) with the top plate (12), a discharge pipe (15) with an outlet (16) for delivering a fluid, said discharge pipe (15) extending through the base plate (11), and an inner tube (17) for receiving a shaft (4) that connects a drive unit (3) with an impeller (21) of the vertical pump, wherein the inner tube (17) extends in an axial direction (A) and coaxially within the discharge pipe (15) in the region of the base plate (11), passes through a wall of the discharge pipe (15) at an intersection (18), and further extends to the top plate (12), wherein the inner tube (17) comprises a bellows member (19) being located between the intersection (18) and the top plate (12). In addition, a vertical pump with such a discharge head (10) is proposed

IPC 8 full level
F04D 29/42 (2006.01); **F04D 7/06** (2006.01); **F04D 13/08** (2006.01); **F04D 29/043** (2006.01); **F04D 29/52** (2006.01); **F04D 29/66** (2006.01)

CPC (source: CN EP KR US)
F04D 1/06 (2013.01 - KR US); **F04D 7/06** (2013.01 - CN EP US); **F04D 13/06** (2013.01 - KR); **F04D 13/08** (2013.01 - EP US); **F04D 13/14** (2013.01 - US); **F04D 29/007** (2013.01 - CN); **F04D 29/043** (2013.01 - EP US); **F04D 29/046** (2013.01 - KR US); **F04D 29/22** (2013.01 - US); **F04D 29/406** (2013.01 - KR); **F04D 29/426** (2013.01 - EP US); **F04D 29/4293** (2013.01 - EP US); **F05D 2230/642** (2013.01 - EP US); **F05D 2260/602** (2013.01 - EP US); **F05D 2260/941** (2013.01 - CN)

Citation (search report)

- [XAY] US 3071296 A 19630101 - MAX FREY, et al
- [A] JP H0886295 A 19960402 - HITACHI LTD
- [YA] US 2015211550 A1 20150730 - BEHNKE PAUL W [US]
- [YA] CN 201661474 U 20101201 - GUANGGUO HE
- [YA] US 2009180874 A1 20090716 - GUTIERREZ JOSE RAMON [US], et al

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)
EP 3135923 A1 20170301; BR 102016016857 A2 20170221; CN 106468267 A 20170301; IL 246903 A0 20161229; KR 20170021729 A 20170228; RU 2016131276 A 20180201; US 2017051754 A1 20170223

DOCDB simple family (application)
EP 15199634 A 20151211; BR 102016016857 A 20160721; CN 201610630982 A 20160804; IL 24690316 A 20160721; KR 20160095422 A 20160727; RU 2016131276 A 20160729; US 201615227251 A 20160803