

Title (en)
PUMP UNIT

Title (de)
PUMPENAGGREGAT

Title (fr)
UNITÉ DE POMPAGE

Publication
EP 3376049 A1 20180919 (DE)

Application
EP 17160830 A 20170314

Priority
EP 17160830 A 20170314

Abstract (en)
[origin: WO2018167043A1] The invention relates to a centrifugal pump assembly having an electric drive motor (4, 6), an impeller (14) which is driven by the latter, and a pump housing (12) which surrounds the impeller and has at least two connectors (27, 32, 34), wherein a movable valve element (18) is arranged in the pump housing, which movable valve element (18) can be moved between at least two switching positions, in which the flow paths through the at least two connectors (27, 32, 34) are opened to differing extents, wherein the valve element (18) is configured and arranged in the pump housing (12) in such a way that it disconnects a suction chamber (24) which is connected to a suction side of the impeller (14) from a pressure chamber (26) which is connected to the pressure side of the impeller (14), and the valve element (18) is coupled mechanically and/or hydraulically to the drive motor (4, 6) to perform at least one movement between the at least two switching positions.

Abstract (de)
Die Erfindung betrifft ein Kreispumpenaggregat mit einem elektrischen Antriebsmotor 4,6, einem von diesem angetriebenen Laufrad 14 sowie einem das Laufrad umgebenden Pumpengehäuse 12, welches zumindest zwei Anschlüsse 27, 32, 34 aufweist, wobei in dem Pumpengehäuse ein bewegliches Ventilelement 18 angeordnet ist, welches zwischen zumindest zwei Schaltstellungen bewegbar ist, in welchen die Strömungswege durch die zumindest zwei Anschlüsse 27, 32, 34 unterschiedlich geöffnet sind, wobei das Ventilelement 18 derart ausgebildet und in dem Pumpengehäuse 12 angeordnet ist, dass es einen mit einer Saugseite des Laufrades 14 verbundenen Saugraum 24 von einem mit der Druckseite des Laufrades 14 in Verbindung stehenden Druckraum 26 trennt, und das Ventilelement 18 zu zumindest einer Bewegung zwischen den zumindest zwei Schaltstellungen mit dem Antriebsmotor 4, 6 mechanisch und/oder hydraulisch gekoppelt ist.

IPC 8 full level
F04D 29/42 (2006.01); **F04D 1/00** (2006.01); **F04D 13/06** (2006.01); **F04D 15/00** (2006.01); **F04D 29/46** (2006.01); **F04D 29/48** (2006.01); **F24D 3/10** (2006.01)

CPC (source: EP US)
F04D 1/006 (2013.01 - US); **F04D 13/06** (2013.01 - EP US); **F04D 15/0016** (2013.01 - EP); **F04D 29/4273** (2013.01 - EP); **F04D 29/4293** (2013.01 - EP); **F04D 29/486** (2013.01 - EP); **F04D 15/0016** (2013.01 - US); **F04D 29/4273** (2013.01 - US); **F04D 29/4293** (2013.01 - US); **F04D 29/486** (2013.01 - US); **F24D 3/105** (2013.01 - EP US)

Citation (applicant)
DE 9013992 U1 19911024

Citation (search report)
• [XAI] US 2016258340 A1 20160908 - KLIPPERT UWE [DE], et al
• [X] WO 2016102269 A1 20160630 - GRUNDFOS HOLDING AS [DK]
• [A] US 5924432 A 19990720 - THIES EDWARD L [US], et al

Cited by
EP3904738A1; WO2021219539A1; CN115337695A; US2023167826A1; EP3904689A1; WO2021219540A1

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 3376049 A1 20180919; CN 110418898 A 20191105; CN 110418898 B 20220401; US 11333151 B2 20220517; US 2020056614 A1 20200220; WO 2018167043 A1 20180920

DOCDB simple family (application)
EP 17160830 A 20170314; CN 201880018499 A 20180313; EP 2018056207 W 20180313; US 201816492795 A 20180313