

Title (en)
CENTRIFUGAL PUMP

Title (de)
KREISELPUMPE

Title (fr)
POMPE CENTRIFUGE

Publication
EP 3184823 B1 20190327 (DE)

Application
EP 15201513 A 20151221

Priority
EP 15201513 A 20151221

Abstract (en)
[origin: US2017175749A1] A centrifugal pump includes at least one pump stage (14). This pump stage (14) includes an impeller (18) which is mounted rotationally fixed on a pump shaft (26). Apart from the pump stage (14), the centrifugal pump is equipped with a turbine wheel (32) which is arranged on the pump shaft (26), without a movement coupling to the pump shaft, in the delivery flow of the centrifugal pump. This turbine wheel (32) forms a transducer of a flow measuring device. A blading of the turbine wheel (32) is such that a torque exerted by the delivery flow onto the turbine wheel (32') is directed counter to a torque exerted via the pump shaft (26) onto the impeller (18).

IPC 8 full level
F04D 13/06 (2006.01); **F04D 15/00** (2006.01); **F04D 29/043** (2006.01); **F04D 29/22** (2006.01)

CPC (source: CN EP RU US)
E21B 43/128 (2013.01 - RU); **E21B 47/008** (2020.05 - RU); **F01D 5/02** (2013.01 - US); **F04D 1/06** (2013.01 - US); **F04D 1/08** (2013.01 - CN); **F04D 13/06** (2013.01 - EP US); **F04D 13/086** (2013.01 - RU); **F04D 13/10** (2013.01 - RU); **F04D 15/00** (2013.01 - CN); **F04D 15/0088** (2013.01 - EP US); **F04D 17/08** (2013.01 - US); **F04D 27/001** (2013.01 - US); **F04D 29/007** (2013.01 - RU); **F04D 29/043** (2013.01 - EP US); **F04D 29/053** (2013.01 - US); **F04D 29/22** (2013.01 - EP US); **F04D 29/28** (2013.01 - US); **F04D 29/628** (2013.01 - CN)

Cited by
WO2022238300A1; CN117823415A

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)
EP 3184823 A1 20170628; **EP 3184823 B1 20190327**; CN 106968968 A 20170721; CN 106968968 B 20190315; DK 3184823 T3 20190708; ES 2731851 T3 20191119; RU 2649722 C1 20180404; US 10823183 B2 20201103; US 2017175749 A1 20170622

DOCDB simple family (application)
EP 15201513 A 20151221; CN 201611190591 A 20161221; DK 15201513 T 20151221; ES 15201513 T 20151221; RU 2016149666 A 20161219; US 201615384603 A 20161220