

Title (en)  
MULTISTAGE CENTRIFUGAL PUMP WITH CASING OPENING FOR THE MAINTENANCE OF AN AXIAL THRUST BALANCING PISTON

Title (de)  
MEHRSTUFIGE KREISELPUMPE MIT GEHÄUSENÖFFNUNG ZUR WARTUNG EINES AXIALSCHUB-KOLBENS

Title (fr)  
POMPE CENTRIFUGE À PLUSIEURS ÉTAGES AVEC OUVERTURE DE CARTER POUR LA MAINTENANCE D'UN PISTON À POUSSÉE AXIALE

Publication  
**EP 3171033 A1 20170524 (DE)**

Application  
**EP 15195415 A 20151119**

Priority  
EP 15195415 A 20151119

Abstract (en)  
[origin: US2017146029A1] A multi-stage centrifugal pump includes a pump casing, in which a shaft (8) carrying an impeller is rotatably arranged. The pump casing has a pump casing foot part (2) that includes a reversibly closable maintenance opening (60), via which a bearing and/or seal (20, 25), which is arranged at a shaft end within the pump casing, is accessible and exchangeable.

Abstract (de)  
Die mehrstufige Kreiselpumpe weist ein Pumpengehäuse auf, in dem eine Kreiselläder tragende Welle drehbar angeordnet ist. Das Pumpengehäuse weist in seinem Fußteil (2) eine reversibel verschließbare Wartungsöffnung (60) auf, über die/eine innerhalb des Pumpengehäuses am Wellenende angeordnetes Lager und/oder Dichtung (20, 25) zugänglich und austauschbar ist.

IPC 8 full level  
**F04D 1/06** (2006.01); **F04D 29/041** (2006.01); **F04D 29/42** (2006.01); **F04D 29/62** (2006.01)

CPC (source: CN EP US)  
**F04D 1/06** (2013.01 - EP US); **F04D 13/02** (2013.01 - US); **F04D 17/08** (2013.01 - US); **F04D 25/02** (2013.01 - US); **F04D 29/0416** (2013.01 - EP US); **F04D 29/043** (2013.01 - US); **F04D 29/046** (2013.01 - US); **F04D 29/053** (2013.01 - US); **F04D 29/056** (2013.01 - US); **F04D 29/102** (2013.01 - US); **F04D 29/106** (2013.01 - US); **F04D 29/4206** (2013.01 - US); **F04D 29/426** (2013.01 - EP US); **F04D 29/624** (2013.01 - US); **F04D 29/628** (2013.01 - CN EP US); **F05D 2230/72** (2013.01 - EP US)

Citation (search report)

- [X] DE 69520343 T2 20011018 - EBARA CORP [JP]
- [XI] DE 2204892 A1 19720817 - BORG WARNER
- [X] DE 69629606 T2 20040617 - EBARA CORP [JP]
- [X] US 4722662 A 19880202 - MORGAN MICHAEL L [US]
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- [A] US 3088416 A 19630507 - DANIS ROBERT A

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DOCDB simple family (publication)  
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DOCDB simple family (application)  
**EP 15195415 A 20151119**; CN 201611042216 A 20161121; US 201615355800 A 20161118