

Title (en)
Submersible pump assembly

Title (de)
Pumpenaggregat

Title (fr)
Unité de pompe submersible

Publication
EP 1767787 B2 20161026 (DE)

Application
EP 05020868 A 20050924

Priority
EP 05020868 A 20050924

Abstract (en)
[origin: EP1767787A1] The pump motor stator (16) is enclosed in a sealed housing (18) with the impeller (8) shaft (12) mounted within a central housing (14) with radial bearings (20) and a seal (56) leaving the impeller in spiral housing (6) having inlet holes (62) and an outlet (48) with a back pressure valve (4).

IPC 8 full level
F04D 13/08 (2006.01); **F04D 13/06** (2006.01); **F04D 29/04** (2006.01)

CPC (source: EP US)
F04D 13/0626 (2013.01 - EP US); **F04D 13/0633** (2013.01 - EP US); **F04D 13/086** (2013.01 - EP US); **F04D 29/0413** (2013.01 - EP US)

Citation (opposition)
Opponent :

- DE 9402593 U1 19940407 - GRUNDFOS A S BJERRINGBRO [DK]
- GB 2071765 A 19810923 - LUCAS INDUSTRIES LTD
- DE 3337086 A1 19850502 - KRAEMER HERMANN
- DE 29608236 U1 19960801 - KLEINDIENST UWE [DE]
- DE 4129590 A1 19930318 - PROGRESS WERK OBERKIRCH AG [DE]
- DE 4440967 A1 19960523 - KACO GMBH CO [DE]
- US 2004219021 A1 20041104 - SHAW JAMES [US]
- EP 0240674 A2 19871014 - EBARA RES CO LTD [JP]
- EP 1231048 A2 20020814 - PIERBURG GMBH [DE], et al

Cited by
CN109386497A; CN105849414A; WO2009137316A1; WO2015086099A1

Designated contracting state (EPC)
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DOCDB simple family (publication)
EP 1767787 A1 20070328; EP 1767787 B1 20071031; EP 1767787 B2 20161026; AT E377152 T1 20071115; CN 101273201 A 20080924; CN 101273201 B 20130424; DE 502005001847 D1 20071213; US 2009035161 A1 20090205; US 8333575 B2 20121218; WO 2007033817 A1 20070329

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