

Title (en)  
SUBMERSIBLE MOTOR WITH SHAFT SEALS

Title (de)  
TAUCHMOTOR MIT WELLENDICHTUNGEN

Title (fr)  
MOTEUR SUBMERSIBLE DOTE DE BOITES D'ETANCHEITE

Publication  
**EP 1222393 A1 20020717 (EN)**

Application  
**EP 00968505 A 20000929**

Priority  
• US 0026898 W 20000929  
• US 15770299 P 19991004

Abstract (en)  
[origin: WO0125634A1] A submersible electric motor driven pump has a motor chamber and a pump chamber separated by a seal chamber. Inboard and outboard shaft seals(MS1,MS2) immersed in an oil buffer fluid within the seal chamber restricts the flow of liquid from the seal chamber into the pump and motor chambers. An integral or externally mounted pre-pressurized buffer fluid reservoir (PA) maintains a positive fluid pressure in the seal chamber relative to the external pressure at working depth, and maintains a suitable buffer fluid level within the seal chamber, in order to prevent the ingress of the pumped media through the outboard seal(MS2). A unique impeller design (631) circulates fluid within the seal chamber in the region of the outboard shaft seal (MS2), allowing continuous dry run operation when used in conjunction with an integrally cooled motor design. A cartridge shaft sleeve subassembly, having a bearing (3) configured between the inboard and outboard seals (MS1,MS2), facilitates maintenance.

IPC 1-7  
**F04B 17/00**

IPC 8 full level  
**F04D 13/08** (2006.01); **F04D 29/10** (2006.01); **H02K 7/14** (2006.01)

CPC (source: EP)  
**F04D 13/086** (2013.01); **F04D 29/106** (2013.01); **F04D 29/108** (2013.01)

Cited by  
RU2644423C2; CN105715560A; US2011293404A1; US10330109B2; EP2706236B1

Designated contracting state (EPC)  
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)  
**WO 0125634 A1 20010412**; AT E417201 T1 20081215; AU 7840800 A 20010510; CA 2385820 A1 20010412; CA 2385820 C 20100406; CN 1224782 C 20051026; CN 1377447 A 20021030; DE 60041076 D1 20090122; EP 1222393 A1 20020717; EP 1222393 A4 20021106; EP 1222393 B1 20081210; ES 2317852 T3 20090501; JP 2003529702 A 20031007; JP 4644406 B2 20110302; MX PA02003375 A 20040927

DOCDB simple family (application)  
**US 0026898 W 20000929**; AT 00968505 T 20000929; AU 7840800 A 20000929; CA 2385820 A 20000929; CN 00813880 A 20000929; DE 60041076 T 20000929; EP 00968505 A 20000929; ES 00968505 T 20000929; JP 2001528341 A 20000929; MX PA02003375 A 20000929