

Title (en)

Controlled, energy efficient multi stage centrifugal pump with high pressure stage

Title (de)

Gesteuerte, energiesparende Mindestmengeneinrichtung einer mehrstufigen Kreiselpumpe mit einer Höchstdrucksonderstufe

Title (fr)

Pompe multi-étages commandée à faible consommation d'énergie avec étage haute pression

Publication

EP 1612426 A3 20090624 (DE)

Application

EP 05011473 A 20050527

Priority

DE 102004031469 A 20040630

Abstract (en)

[origin: EP1612426A2] The turbine pump has a pump housing (1) with a flow feed channel behind the last pumping stage (4). The feed channel supplies a partial mixture to an additional rotor to produce an additional pressure increase. A special rotor (5) behind the additional rotor produces a pressure increased mixture feed to a distributor (7) for selective return of mixture to the turbine end pressure.

IPC 8 full level

F04D 1/10 (2006.01); **F04D 15/00** (2006.01)

CPC (source: EP)

F04D 1/10 (2013.01); **F04D 15/0005** (2013.01); **F04D 15/0072** (2013.01)

Citation (search report)

- [X] EP 0604390 A2 19940629 - AUSTRIAN ENERGY & ENVIRONMENT [AT]
- [X] FR 1201234 A 19591229 - BABCOCK & WILCOX FRANCE
- [A] US 3118386 A 19640121
- [A] GB 216893 A 19240626 - SULZER AG
- [A] GB 806219 A 19581223 - OERLIKON MASCHF

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR LV MK YU

DOCDB simple family (publication)

EP 1612426 A2 20060104; **EP 1612426 A3 20090624**; **EP 1612426 B1 20150805**; CN 1715680 A 20060104; CN 1715680 B 20110330; DE 102004031469 A1 20060126; ES 2550242 T3 20151105

DOCDB simple family (application)

EP 05011473 A 20050527; CN 200510081071 A 20050629; DE 102004031469 A 20040630; ES 05011473 T 20050527