

Title (en)

A pump for liquids, in particular for the cooling circuit of an internal combustion engine

Title (de)

Flüssigkeitspumpe insbesondere für den Kühlkreislauf einer Brennkraftmaschine

Title (fr)

Pompe à liquides en particulier pour le circuit de refroidissement d'un moteur à combustion interne

Publication

EP 0953773 B1 20040818 (EN)

Application

EP 99108411 A 19990429

Priority

IT TO980371 A 19980430

Abstract (en)

[origin: EP0953773A1] The pump (1) comprises a spiral casing (13) with an inlet duct (2a) and a (first) outlet duct (3a) for the liquid, between which a chamber (14) is defined in which an impeller with blades (15) is mounted for rotation. A second outlet duct (3b) branches off the first outlet duct (3a); valve means (9) are associated with the said second outlet duct (3b) which are sensitive to the difference between the pressure in the first outlet duct (3a) and the inlet duct (2a) and operable to allow a flow of liquid through the said second outlet duct (3b) in dependence on the said difference in pressure. <IMAGE>

IPC 1-7

F04D 15/00; **F01P 7/16**

IPC 8 full level

F01P 7/16 (2006.01); **F04D 15/00** (2006.01)

CPC (source: EP)

F01P 7/161 (2013.01); **F04D 15/0011** (2013.01); **F04D 15/0016** (2013.01); **F01P 2025/32** (2013.01); **F01P 2070/00** (2013.01)

Cited by

EP2993354A1; EP2218887A3; CN104653272A; CN116291843A; EP1635068A1; CN109844277A; US2019277183A1; EP2447497A4; US7156617B2; WO2007019496A1; US8172502B2; US10865695B2; US11156146B2; WO2018086878A1; WO2018086886A1; WO2018086851A1

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

EP 0953773 A1 19991103; **EP 0953773 B1 20040818**; DE 69919437 D1 20040923; DE 69919437 T2 20050120; IT TO980371 A1 19991030

DOCDB simple family (application)

EP 99108411 A 19990429; DE 69919437 T 19990429; IT TO980371 A 19980430