

Title (en)  
IMPELLER

Title (de)  
LAUFRAD

Title (fr)  
ROUE À AUBES

Publication  
**EP 1977114 A1 20081008 (DE)**

Application  
**EP 07702382 A 20070120**

Priority  
• DE 2007000104 W 20070120  
• DE 102006003727 A 20060126

Abstract (en)  
[origin: US2009016895A1] The invention relates to closed impellers (1) for centrifugal pumps used for conveying homogeneous liquids, especially in cooling systems of motor vehicles. The aim of the invention is to develop a novel design of closed impellers (1) for centrifugal pumps used for conveying homogeneous liquids, especially in coolant pumps, such that closed impellers comprising single-curved blades (3) as well as closed impellers comprising three-dimensionally curved blades (3) can be produced at a low cost while the effect of cavitation wear is minimized on the parts/subassemblies that are mounted downstream of the impeller and the hydraulic efficiency as well as the suction behavior of the respective impeller design is significantly improved. The aim is achieved by a closed impeller (1) for centrifugal pumps which is characterized in that the width of the blade channel continuously increases from the feeding point of the flow into the impeller to the discharge point of the flow from the impeller (1) from a perspective of the meridian section such that the ratio between the width (b2) at the discharge point and the width (b1) at the feeding point ranges from 1.01 to 1.2.

IPC 8 full level  
**F04D 29/22** (2006.01); **F04D 29/24** (2006.01)

CPC (source: EP US)  
**F04D 29/2216** (2013.01 - EP US); **F04D 29/242** (2013.01 - EP US)

Citation (search report)  
See references of WO 2007085231A1

Cited by  
EP2652284A1

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 LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)  
**US 2009016895 A1 20090115; US 8469671 B2 20130625**; AT E471458 T1 20100715; DE 102006003727 A1 20070802; DE 112007000708 A5 20081224; DE 502007004127 D1 20100729; EP 1977114 A1 20081008; EP 1977114 B1 20100616; JP 2009524759 A 20090702; JP 4927097 B2 20120509; WO 2007085231 A1 20070802

DOCDB simple family (application)  
**US 22301007 A 20070120**; AT 07702382 T 20070120; DE 102006003727 A 20060126; DE 112007000708 T 20070120; DE 2007000104 W 20070120; DE 502007004127 T 20070120; EP 07702382 A 20070120; JP 2008551644 A 20070120