

Title (en)
Free vortex pump

Title (de)
Freistrompumpe

Title (fr)
Pompe à tourbillon

Publication
EP 1640617 A3 20120808 (EN)

Application
EP 05003526 A 20050218

Priority
• CN 200420088569 U 20040924
• CN 200410052345 A 20041117

Abstract (en)
[origin: EP1640617A2] An electric water pump rotating in the correct direction, comprising a water pump body (2) that has a chamber (3), which is basically cylindrical in shape, and a chamber cover (8), which is fitted at the axial outward end of said chamber (3); an impeller (42) is accommodated and rotates inside said chamber (3) coaxially; said impeller (42) includes at least two impeller vanes (45) that project from the impeller disc surface (44) and said impeller vanes (45) bend to the same direction around the rotating axis OO' of said disc surface (44); Assuming V as the volume inside said chamber (3) and v as the volume enveloped by all the said impeller vanes (45) when said impeller (42) rotates, a design can be made about relations of geometrical parameters between volume of said chamber (3) in said electric water pump and said volume enveloped by all the impeller vane (45) rotating inside said chamber (3) to be in the following range, i.e., ratio between volume enveloped by all the said impeller vane (45) in rotation and volume of said chamber (3): $v/V = 0.08 \text{ \# } 0.18$

IPC 8 full level
F04D 29/22 (2006.01); **F04D 29/42** (2006.01)

CPC (source: EP US)
F04D 29/2244 (2013.01 - EP US); **F04D 29/426** (2013.01 - EP US)

Citation (search report)
• [X] US 4592700 A 19860603 - TOGUCHI SEIICHI [JP], et al
• [X] JP S58210395 A 19831207 - EBARA MFG
• [X] US 3759628 A 19730918 - KEMPF D
• [X] US 3339490 A 19670905 - GLASS KENNETH E

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 1640617 A2 20060329; **EP 1640617 A3 20120808**; US 2006078447 A1 20060413

DOCDB simple family (application)
EP 05003526 A 20050218; US 7453405 A 20050308