

Title (en)
GEAR PUMP

Title (de)
ZAHNRADPUMPE

Title (fr)
POMPE A ENGRENAGE

Publication
EP 1852612 A4 20100707 (EN)

Application
EP 06714031 A 20060217

Priority

- JP 2006302890 W 20060217
- JP 2005048965 A 20050224
- JP 2005015675 W 20050829

Abstract (en)
[origin: EP1852612A1] A gear pump applicable for feeding a high-pressure and high-viscosity fluid, such as a molten resin is provided. In the gear pump 100, the fluid is fed from a suction port side to a discharge port side by the rotation of gears. The gears are formed in a pair and meshing with each other. The gears are double-helical gears having a one-point continuous contact tooth profile. For the gears, the ratio D/B of the outer diameter D and the tooth width B are set to 1.1 to 1.15. When the ratio D/B is equal to or smaller than 1.1, a bearing may be damaged due to an excessively increased bearing load. On the other hand, when the ratio D/B is larger than 1.15, in accordance with an increase in the overall size of the pump external dimension, the mechanical efficiency is lowered, and the overall efficiency is also lowered.

IPC 8 full level
F04C 2/18 (2006.01)

CPC (source: EP)
F04C 2/084 (2013.01); **F04C 2/18** (2013.01); **F04C 13/002** (2013.01); **F04C 15/0042** (2013.01); **F04C 15/0096** (2013.01)

Citation (search report)

- [X] JP S5064804 A 19750602
- [A] DE 4012929 A1 19901031 - BARMAG BARMER MASCHF [DE]
- See references of WO 2006090652A1

Cited by
CN109931258A; US8556609B2; WO2018041434A1

Designated contracting state (EPC)
CH DE IT LI

DOCDB simple family (publication)
EP 1852612 A1 20071107; EP 1852612 A4 20100707; EP 1852612 B1 20170705; WO 2006090652 A1 20060831

DOCDB simple family (application)
EP 06714031 A 20060217; JP 2006302890 W 20060217