

Title (en)  
HELICAL GEAR PUMP OR MOTOR

Title (de)  
SCHRÄGVERZAHNTE ZAHNRADPUMPE ODER-MOTOR

Title (fr)  
POMPE OU MOTEUR A ENGRENAGES HELICOID AUX

Publication  
**EP 0769104 B1 19990901 (EN)**

Application  
**EP 95943151 A 19950707**

Priority  
• GB 9501610 W 19950707  
• GB 9413676 A 19940707  
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Abstract (en)  
[origin: WO9601950A1] Hydraulic apparatus, for example a gear pump or motor, for low noise generation employs helical gears (8 and 10) retained within a casing. The contact ratio and the helical advance of the gear teeth (which may be approximately 2 and 1, respectively) are such as to substantially prevent back-flow of hydraulic fluid from the outlet side to the inlet side. In the case of a gear pump, a pressure relief recess (70 or 74) and a fluid feed recess (72 or 76) can communicate with the spaces between the teeth in the meshing zone at each end of the gears, the recesses being so shaped and positioned as to avoid communication with each other by way of said spaces, and the disposition of said recesses at one end of the gears relative to those at the other end thereof being staggered by an amount corresponding to the helical advance. Each pressure relief recess is a slot having a basic end surface (78 or 82) beyond which there extends a subsidiary slot or "nose" (80 or 84), and each fluid feed recess is a slot interconnecting the bearings for the shafts carrying the gears. In the case of a reversible gear motor, respective pressure relief recesses communicate with both ports of the motor at each end of the gears.

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IPC 8 full level  
**F04C 2/08** (2006.01); **F04C 2/16** (2006.01)

CPC (source: EP KR)  
**F04C 2/02** (2013.01 - KR); **F04C 2/084** (2013.01 - EP); **F04C 2/16** (2013.01 - EP)

Cited by  
US8556609B2; DE102007046420B4; US2010104463A1; DE202006014930U1; EP2317144A2; US9404366B2; DE102013226852A1;  
US8512018B2; US10634135B2; EP3418571A1; US2018372091A1; EP3882464A1; US9366250B1

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