

Title (en)  
Multistage gear pump

Title (de)  
Mehrstufige Zahnradpumpe

Title (fr)  
Pompe à engrenages multi-étagée

Publication  
**EP 1441126 A3 20040929 (EN)**

Application  
**EP 04001344 A 20040122**

Priority  
• JP 2003016612 A 20030124  
• JP 2003089245 A 20030327

Abstract (en)  
[origin: EP1441126A2] A multistage gear pump for pressurizing fluid includes a housing, a drive shaft and a gear assembly. The drive shaft is rotatably supported in the housing. The gear assembly is disposed in the housing. The gear assembly includes at least first and second gear trains. Each train has a pair of drive and driven gears that are engaged with each other. The drive gear is provided on the drive shaft and followed by the driven gear. The first gear train and the second gear train are arranged so that fluid sequentially passes therethrough as the drive shaft rotates. A theoretical discharge capacity of the first gear train is larger than that of the second gear train. <IMAGE>

IPC 1-7  
**F04C 2/18**; **F04C 11/00**; **F04C 15/04**; **F04C 15/00**

IPC 8 full level  
**F04C 2/18** (2006.01); **F04C 11/00** (2006.01); **F04C 14/02** (2006.01); **F04C 15/00** (2006.01); **F04C 13/00** (2006.01)

CPC (source: EP US)  
**F04C 2/18** (2013.01 - EP US); **F04C 11/001** (2013.01 - EP US); **F04C 14/02** (2013.01 - EP US); **F04C 15/0076** (2013.01 - EP US); **F04C 13/001** (2013.01 - EP US)

Citation (search report)  
• [X] GB 464877 A 19370427 - BRISTOL AEROPLANE CO LTD, et al  
• [X] US 2458452 A 19490104 - GEORGES VANNI PIERRE  
• [X] US 1214300 A 19170130 - GROUVELLE PHILIPPE JULES [FR], et al  
• [X] FR 710778 A 19310828 - SOIE DE CLAIROIX  
• [X] US 3198120 A 19650803 - LITTLE JR CLARENCE W  
• [XA] US 2108771 A 19380215 - PAUL LAIRD JOSEPH  
• [XA] US 2009137 A 19350723 - KIECKNER ARTHUR C  
• [A] US 5326232 A 19940705 - MCDONNEL DAVID A [US], et al  
• [A] EP 0797002 A1 19970924 - ULTRA HYDRAULICS LTD [GB]

Cited by  
EP1927753A3; CN111123118A; US8303282B2; WO2007137781A1

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)  
**EP 1441126 A2 20040728**; **EP 1441126 A3 20040929**; JP 2004278502 A 20041007; US 2004213680 A1 20041028

DOCDB simple family (application)  
**EP 04001344 A 20040122**; JP 2003089245 A 20030327; US 76284204 A 20040122