

Title (en)

Reversible gear machine (motor or pump).

Title (de)

Reversierbare Zahnradmaschine (Pumpe oder Motor).

Title (fr)

Machine à engrenages réversible (moteur ou pompe).

Publication

**EP 0093917 A1 19831116 (DE)**

Application

**EP 83103941 A 19830422**

Priority

DE 3217753 A 19820512

Abstract (en)

[origin: US4465444A] A reversible gear machine which can be used either as a gear pump or as a gear motor regardless of the pressure gradient direction between its inlet and outlet ports includes a housing accommodating meshing gears for rotation about their respective axes which are defined by respective stub shafts extending axially beyond the end faces of the gears. At least one pressure element, which may be constituted by bearing members for the stub shafts, and which is movable axially of the respective stub shafts, has a surface facing away from the gears. A sealing component including a relatively rigid support ring and an elastically yieldable sealing body is accommodated in a groove of the sealing element provided at the aforementioned surface of the latter, such that the support ring contacts the close end wall of the housing and a rib of the sealing body contacts the bottom of the groove and subdivides the latter into two compartments. The sealing component delimits on the aforementioned surface of the sealing element first and second pressure fields which are in communication with the respective ports of the gear machine, and third pressure fields which are situated between the sealing component and the respective stub shafts and which are subjected to the pressure prevailing between the other axial surface of the pressing element inwardly of the root circle of the gear teeth and outwardly of the respective stub shafts. Two of the pressing elements and two of the sealing components may be provided, each at one axial side of the gears.

Abstract (de)

Die reversierbare Zahnradmaschine nach den Fig. 1 und 2, die als Pumpe oder Motor betrieben werden kann, weist zwei im Außeneingriff kämmende Zahnräder (26, 29) auf, deren Wellenzapfen in Lagerkörpern (16 bis 19) gelagert sind. Diese werden durch an ihren Außenseiten aufgebaute Druckfelder (68 bis 71) dichtend an die Zahnradseitenflächen gedrückt. Die Druckfelder werden begrenzt durch eine Dichtungsanordnung, die aus einem Stützring (46) und einem in diesem eingesetzten Dichtkörper (47) besteht. Die Dichtungsanordnung ist in passende Nuten (39, 41, 44) eingesetzt, die an den den Zahnrädern abgewandten Seiten der Lagerkörper angeordnet sind.

IPC 1-7

**F04C 2/18**; **F04C 15/00**

IPC 8 full level

**F04C 2/18** (2006.01); **F04C 15/00** (2006.01)

CPC (source: EP US)

**F04C 15/0026** (2013.01 - EP US)

Citation (search report)

- [A] GB 1210825 A 19701104 - BORG WARNER [US]
- [A] GB 1210824 A 19701104 - BORG WARNER [US]
- [A] FR 2434264 A1 19800321 - COMMERCIAL SHEARING [US]
- [A] GB 2033478 A 19800521 - BOSCH GMBH ROBERT
- [A] FR 2193455 A5 19740215 - TRW INC [US]

Cited by

EP0411225A1; EP0211723A1; FR2585083A1

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

**EP 0093917 A1 19831116**; **EP 0093917 B1 19870708**; BR 8302454 A 19840117; DE 3217753 A1 19831117; DE 3372395 D1 19870813; US 4465444 A 19840814

DOCDB simple family (application)

**EP 83103941 A 19830422**; BR 8302454 A 19830511; DE 3217753 A 19820512; DE 3372395 T 19830422; US 42500282 A 19820927