

Title (en)
SELF-ALIGNING GEAR PUMP

Title (de)
SELBSTAUSRICHTENDE ZAHNRADPUMPE

Title (fr)
POMPE À ENGRENAGE À AUTO-ALIGNEMENT

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Application
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Abstract (en)
[origin: EP3786416A1] Disclosed herein is a gear pump (100) for pumping a fluid (404). The gear pump comprises: a sealed internal chamber (102); a pumping chamber (104) within the sealed internal chamber; a first pump port (122) fluidically connected to the pumping chamber; a second pump port (114) fluidically connected to the pumping chamber; a drive gear (120) within the pumping chamber; an idler gear (122) within the pumping chamber, wherein the drive gear and the idler gear are configured for pumping the fluid between the first pump port and the second pump port; a drive shaft (124) coupled to the drive gear, wherein the drive shaft is configured for rotationally driving the drive gear, wherein the drive shaft is within the sealed internal chamber; an idler shaft (126) coupled to the idler gear, wherein the idler shaft is within the sealed internal chamber, wherein the idler gear is coupled to the idler shaft; a pump housing (106, 108, 110) formed from a first housing element (106), a central housing element (108), and a second housing element (110), wherein the central housing element is positioned between the first housing element and the second housing element, wherein the first housing element, the second housing element and the central housing element form at least a portion of the sealed internal chamber, wherein the pumping chamber is formed entirely within the central housing; a first drive shaft bearing (128), wherein the first drive shaft bearing is mounted partially within the first housing element; a second drive shaft bearing (130), wherein the second drive shaft bearing is mounted partially within the second housing element, wherein the first drive shaft bearing and the second drive shaft bearing both partially extend into and align the drive gear with the pumping chamber; a first idler shaft bearing (132), wherein the first idler shaft bearing is mounted partially within the first housing; a second idler shaft bearing (134), wherein the second idler shaft bearing is mounted partially within the second housing element, wherein the first idler shaft bearing and the second idler shaft bearing both partially extend into the pumping chamber and align the idler gear with the pumping chamber.

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