

Title (en)
FLUID DISPLACEMENT PUMP WITH BACKPRESSURE STOP

Title (de)
VERDRÄNGERPUMPE MIT GEGENDRUCKVERHINDERUNG

Title (fr)
POMPE VOLUMETRIQUE A BUTEE DE CONTREPRESSION

Publication
EP 1421282 B1 20071107 (EN)

Application
EP 02728628 A 20020328

Priority

- NL 1018833 A 20010827
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- NL 1019406 A 20011120
- US 0209986 W 20020328
- US 3603601 A 20011231

Abstract (en)
[origin: WO03019009A1] The fluid displacement pump enables substantially continuous pumping from a low-pressure side to a high-pressure side substantially without any backflow or backpressure pulsations. Liquid or gas is injected to the high-pressure side by way of mutually intertwined worm spindles that form a fluidtight displacement system. The blades (9A, 9B) of the impeller system are slightly curved from the inside out, i.e., from their axles (31) to their periphery, so as to ensure a tight seal between adjacent blades. The orientation of the blades is almost flat, i.e., their attack angle relative to backpressure is close to perpendicular so that they will turn quite freely in the forward direction, but will not be turned backwards by a pressurized backflow. The impeller rotation that is introduced via the spindle shafts (31) nevertheless leads to a volume displacement towards the high-pressure side, for instance, towards a chamber to be pressurized or to be subjected to equal pressure.

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