

Title (en)

RADIAL PISTON PUMP FOR FUEL HIGH-PRESSURE SUPPLY

Title (de)

RADIALKOLBENPUMPE ZUR KRAFTSTOFFHOCHDRUCKVERSORGUNG

Title (fr)

POMPE A PISTON RADIAL POUR ALIMENTATION HAUTE PRESSION EN CARBURANT

Publication

EP 0925446 B2 20101020 (DE)

Application

EP 98941252 A 19980630

Priority

- DE 9801789 W 19980630
- DE 19729791 A 19970711

Abstract (en)

[origin: DE19729791A1] A radial piston pump for fuel high-pressure supply in fuel injection systems of internal combustion engines, in particular a common-rail injection system, has a driving shaft (4) which is mounted in a pump housing (2) and is eccentrically designed or has several cam-like projections around its circumference, and preferably several pistons (12, 132) radially arranged with respect to the driving shaft (4), each in its own cylinder chamber (18, 131), and movable back and forth in the cylinder chamber when the driving shaft (4) rotates. The radial piston pump also has an intake side and a high-pressure side check valve (34, 42, 124) and a component part (16, 134) with a passage (20) which forms the cylinder chamber (18, 131), a closure element (26, 110) being inserted into the outer end of the passage (20) in the radial direction. The check valve (34, 42, 124) on the intake side is integrated in the closure element (26, 110). In order to obtain a more compact radial piston pump, the closure element (26, 110) is closed in a pressure-tight manner with respect to the outside in the longitudinal direction of the passage (20) that forms the cylinder chamber and fuel is supplied to the check valve (34, 42, 124) on the intake side through a fuel supply inlet (50, 138) which extends substantially radially to the longitudinal direction in the component part (16, 134).

IPC 8 full level

F02M 59/06 (2006.01); **F04B 1/04** (2006.01); **F02M 59/44** (2006.01); **F02M 59/46** (2006.01); **F02M 63/02** (2006.01); **F04B 1/047** (2006.01); **F04B 1/053** (2006.01); **F04B 53/10** (2006.01)

CPC (source: EP US)

F02M 63/0225 (2013.01 - EP US); **F04B 1/0421** (2013.01 - EP US); **F04B 53/102** (2013.01 - EP US); **Y10T 137/7559** (2015.04 - EP US); **Y10T 137/7931** (2015.04 - EP US)

Citation (opposition)

Opponent :

- UA 4983100 A
- DE 3928375 A1 19910307 - TEVES GMBH ALFRED [DE]
- DE 4241825 A1 19940616 - TEVES GMBH ALFRED [DE]
- DE 4204631 A1 19921015 - SCHAEFFLER WAEHLZLAGER KG [DE]

Cited by

WO2005121618A1; DE102004028073B3; DE102005023323A1

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

DE 19729791 A1 19990114; DE 59809483 D1 20031009; EP 0925446 A1 19990630; EP 0925446 B1 20030903; EP 0925446 B2 20101020; JP 2001500220 A 20010109; JP 4053094 B2 20080227; US 6224350 B1 20010501; WO 9902858 A1 19990121

DOCDB simple family (application)

DE 19729791 A 19970711; DE 59809483 T 19980630; DE 9801789 W 19980630; EP 98941252 A 19980630; JP 50797799 A 19980630; US 25465599 A 19990729