Title (en)

PUMP ARRANGEMENT FOR PROVIDING FUEL AT HIGH PRESSURE

Title (de)

PUMPENANORDNUNG ZUR KRAFTSTOFFHOCHDRUCKERZEUGUNG

Title (fr)

ENSEMBLE POMPE POUR LA PRODUCTION D'UNE HAUTE PRESSION DE CARBURANT

Publication

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Application

EP 99936424 A 19990608

Priority

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- DE 19846157 A 19981007

Abstract (en)

[origin: DE19846157A1] The inventive pump arrangement has a low-pressure pump (1) which draws fuel out of a fuel tank (2) and a high-pressure pump (10) with several pump elements (11). A supply line (3) leads from the low-pressure pump (1) to a suction valve (14) of each of the pump elements (11) respectively. A slide-type flow-regulating valve (4) and a differential pressure valve (5) are located in the supply line (3), the differential pressure valve being arranged on the exit side of the flow-regulating valve. A return line (6) leading to the fuel tank (2) branches off between the two valves (4, 5). The differential pressure valve (5) has an opening pressure that is greater than that of the suction valves (14). This prevents fuel from being drawn through the pump elements (11) when the high-pressure pump (10) is at zero delivery, but also ensures that the pump elements (11) are essentially evenly filled with fuel when the high-pressure pump (10) is operating and is partially full. The inventive pump arrangement for providing fuel at high pressure can be used in fuel injection systems of internal combustion engines, especially common-rail injection systems.

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