

Title (en)
Fuel pump

Title (de)
Kraftstoffpumpe

Title (fr)
Pompe à carburant

Publication
EP 1184568 A3 20020612 (EN)

Application
EP 01307398 A 20010831

Priority
GB 0021295 A 20000831

Abstract (en)
[origin: EP1184568A2] A fuel pump comprising a plurality of radially spaced pumping arrangements (10a, 10b, 10c), each of which includes a pumping plunger (20a, 20b, 20c) which is reciprocable within a plunger bore (19a, 19b, 19c) formed in a pump housing (18) under the influence of a respective driven tappet member (24a, 24b, 24c) which acts to transmit a force to the pumping plunger (20a, 20b, 20c) during a forward stroke thereof. The plunger bore (19a, 19b, 19c) defines a pumping chamber (22a, 22b, 22c) within which pressurisation of fuel to a relatively high level occurs upon reciprocal movement of the pumping plunger within the plunger bore. An end region of the tappet member (24a, 24b, 24c) is provided with a further bore (70a, 70b, 70c), a surface associated with the end region of the tappet member (24a, 24b, 24c) defining, in part, an annular auxiliary pumping chamber (40a, 40b, 40c) for fuel, the further bore (70a, 70b, 70c) defining a working chamber (51a, 51b, 51c) arranged to receive fuel to generate a force on the tappet member (24a, 24b, 24c) which acts in a return direction so as to increase the volume of the pumping chamber (22a, 22b, 22c) during a return stroke of the pumping plunger. The fuel pump further comprises a transfer pressure flow path (43) providing communication between the auxiliary pumping chamber (40a, 40b, 40c) of a first pumping arrangement (10a) and the pumping chamber (22b, 22c) of at least one of the other pumping arrangements (10a, 10b) such that fuel displaced from the auxiliary pumping chamber (40a, 40b, 40c), in use, can be supplied through the transfer pressure flow path (43) to said at least one of the other pumping chambers (22b, 22c). The auxiliary pumping chambers (40a, 40b, 40c) and the transfer pressure flow path (43) are constructed and adapted to ensure fuel flows through the transfer pressure flow path (43) at a substantially constant flow rate for a given speed of rotation of the pump. <IMAGE>

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