

Title (en)

Fuel injection pump

Title (de)

Kraftstoffeinspritzpumpe

Title (fr)

Pompe d'injection de combustible

Publication

**EP 0665373 B1 20000510 (EN)**

Application

**EP 94120704 A 19941227**

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- JP 34917693 A 19931228
- JP 34918193 A 19931228

Abstract (en)

[origin: EP0665373A1] A fuel injection pump comprising a plunger (15) and a plunger barrel formed with a main port (41) and a sub-port (42) whose upper edge (42A) is no higher than the upper edge (42A) of the sub-port (42), the plunger head is provided with an upper sub-lead groove (47) capable of communicating with the sub-port (42) and of maintaining communication therewith even when the main port (41) is closed by an upper end (15A) of the plunger (15), with a lower sub-lead groove (48) capable of communicating with the sub-port (42) and with an inclined lower main lead groove (44) capable of communicating with the main port (41). In a second aspect of the invention, the plunger (15) is further formed with an upper main lead groove (46) and a positional relationship is established such that in the rotational position of the plunger (15) at engine starting the main port (41) can be closed by a portion of the upper end (15A) of the plunger (15) not formed with the upper main lead groove (46) and the sub-port (42) can be closed by a portion of the upper end (5A) of the plunger (15) not formed with the upper sub-lead groove (47). These configurations enable both utilization of preflow effect and control of the start and cutoff of fuel injection. In a third aspect of the invention, the fuel injection pump is used in combination with a throttling type fuel injection nozzle provided in an auxiliary combustion chamber of a divided-chamber combustion system diesel engine in order to control fuel injection cutoff and reduce maximum fuel injection rate during low-speed, high-load operation thereby reducing generation of black smoke and particulate. During high-load operation the main port (41) does not communicate with the lower main lead groove (44) even when the sub-port (42) communicates with the lower sub-lead groove (48) and during low-load operation the sub-port (42) does not communicate with the lower sub-lead groove (48) even when the main port (41) communicates with the lower main lead groove (44). <IMAGE> <IMAGE>

IPC 1-7

**F02M 59/26**

IPC 8 full level

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CPC (source: EP KR)

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