

Title (en)  
Fuel injection system

Title (de)  
Brennstoffeinspritzsystem

Title (fr)  
Système d'injection de carburant

Publication  
**EP 1336752 A2 20030820 (EN)**

Application  
**EP 03250874 A 20030213**

Priority  
GB 0203615 A 20020215

Abstract (en)  
A fuel injection system for use in an internal combustion engine having an engine housing comprises two or more unit pumps (18) and a plurality of fuel injectors (26), each of the unit pumps being received, in use, within a pocket provided in the engine housing and including a pumping plunger (30) that is reciprocable within a plunger bore (32) under the influence of a drive arrangement (40, 42, 46), to cause fuel pressurisation within a pumping chamber (36). Each drive arrangement includes a cam (46) that is mounted upon a cam shaft of the engine, which extends through the engine housing and which carries or is formed with the or each of the other cams. An inlet metering valve arrangement (50) is arranged to control the rate of flow of fuel into each pumping chamber (36), thereby to control the quantity of fuel to be pressurised within the pumping chamber during a pumping cycle. An outlet valve arrangement (64) is arranged to control the delivery of pressurised fuel from the pumping chamber (36) directly to an accumulator volume (22) through an associated high pressure fuel line (70), said accumulator volume being arranged to supply pressurised fuel to all of the injectors (26) of the system. An engine installation incorporating the fuel injection system and the cam drive arrangement for each unit pump (18) is also provided by the present invention. <IMAGE>

IPC 1-7  
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IPC 8 full level  
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Citation (applicant)  
• US 5404855 A 19950411 - YEN BAI-MAO [US], et al  
• WO 0063551 A1 20001026 - CATERPILLAR INC [US]  
• JP 2001003791 A 20010109 - DENSO CORP

Cited by  
CN113404627A; EP2063093A1; US9157402B2; WO2013063828A1

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