

Title (en)  
Internal combustion engine

Title (de)  
Verbrennungskraftmaschine

Title (fr)  
Moteur à combustion interne

Publication  
**EP 1496243 B1 20070627 (DE)**

Application  
**EP 04015163 A 20040629**

Priority  
DE 10330511 A 20030705

Abstract (en)  
[origin: EP1496243A1] Combustion engine for burning conventional fuel, especially diesel, and Orimulsion (RTM) has a diesel fuel injection system with a pressure source (3) that has two parallel opposing flow paths (20, 21) with non-return valves (23, 24) connected to the fuel line (16). A separate pressure source (7) is connected to an Orimulsion line (17). The two fuel lines are routed to the outlet of the injector needle. The non-return valves prevent either of the fuels flowing in the wrong direction.

IPC 8 full level  
**F02M 43/02** (2006.01); **F02M 61/10** (2006.01); **F02M 43/04** (2006.01); **F02M 59/46** (2006.01)

CPC (source: EP KR)  
**F02M 43/02** (2013.01 - EP); **F02M 43/04** (2013.01 - EP); **F02M 59/462** (2013.01 - EP); **F02M 61/10** (2013.01 - KR)

Cited by  
CN103590947A; DK201670955A1; DK179213B1; US8596561B2; US8978359B2

Designated contracting state (EPC)  
CH DE FI IT LI

DOCDB simple family (publication)  
**EP 1496243 A1 20050112**; **EP 1496243 B1 20070627**; DE 10330511 A1 20050210; DE 502004004175 D1 20070809; KR 100992057 B1 20101105; KR 20050005752 A 20050114

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**EP 04015163 A 20040629**; DE 10330511 A 20030705; DE 502004004175 T 20040629; KR 20040039872 A 20040602