

Title (en)

Fuel injection device for an internal combustion engine

Title (de)

Kraftstoffeinspritzeinrichtung für eine Brennkraftmaschine

Title (fr)

Dispositif d'injection de combustible pour moteur à combustion interne

Publication

EP 1321663 A3 20030702 (DE)

Application

EP 02024857 A 20021108

Priority

DE 10162385 A 20011219

Abstract (en)

[origin: EP1321663A2] Fuel injection device for an internal combustion engine comprises a valve element (54) with a sealing surface (60) which interacts with a valve seat (64) to control an inlet opening (62) leading from a feed pump into the cylinder bore (52) and which completely closes the inlet opening in a position in which it lies with the sealing surface on the valve seat. <?>Preferred Features: The valve element does not release with its outer casing a through flow cross-section during a return stroke (h) away from the valve seat. After the empty stroke the outer casing (56) releases an increasingly greater stroke-dependent through flow cross-section. The sealing surface of the valve element tapers conically toward the end of the valve element.

IPC 1-7

F02M 63/02; **F02M 59/34**; **F02M 59/36**; **F02M 59/46**

IPC 8 full level

F02M 37/00 (2006.01); **F02M 47/00** (2006.01); **F02M 51/00** (2006.01); **F02M 53/00** (2006.01); **F02M 59/06** (2006.01); **F02M 59/34** (2006.01); **F02M 59/36** (2006.01); **F02M 59/46** (2006.01); **F02M 63/00** (2006.01); **F02M 63/02** (2006.01); **F02M 69/52** (2006.01)

CPC (source: EP US)

F02M 53/00 (2013.01 - EP US); **F02M 59/06** (2013.01 - EP US); **F02M 59/34** (2013.01 - EP US); **F02M 63/0001** (2013.01 - EP US); **F02M 63/0017** (2013.01 - EP US); **F02M 63/004** (2013.01 - EP US); **F02M 63/0225** (2013.01 - EP US); **F02M 69/52** (2013.01 - EP US); **F02M 2200/60** (2013.01 - EP US)

Citation (search report)

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DOCDB simple family (publication)

EP 1321663 A2 20030625; **EP 1321663 A3 20030702**; AU 2002363846 A1 20030630; DE 10261780 A1 20030703; DE 10295868 D2 20041111; JP 2003222059 A 20030808; US 2003136384 A1 20030724; WO 03052262 A1 20030626

DOCDB simple family (application)

EP 02024857 A 20021108; AU 2002363846 A 20021219; DE 0204757 W 20021219; DE 10261780 A 20021219; DE 10295868 T 20021219; JP 2002365264 A 20021217; US 31958402 A 20021216