

Title (en)

A fuel injector for internal combustion engines

Title (de)

Kraftstoffeinspritzventil für Verbrennungsmotoren

Title (fr)

Injecteur de carburant pour moteurs à combustion interne

Publication

EP 2239451 A1 20101013 (EN)

Application

EP 09156590 A 20090330

Priority

EP 09156590 A 20090330

Abstract (en)

A fuel injector for internal combustion engines, comprising: - a housing (16), - a valve guide (38) fixed at a lower end of said housing (16), the valve guide (38) having a longitudinal guide bore (44) and a chamber (46) provided with a valve seat (50), said chamber (46) being connected to a fuel supply duct (22,48); - an atomizer (56) fixed at a lower end of said valve guide (38), the atomizer (56) having a longitudinal bore (80) in flow connection with said chamber (46), the atomizer having a plurality of nozzle bores (82) having inlet openings (84) facing into said longitudinal bore (80); - a spindle (88) having a valve portion (92) cooperating with said valve seat (50), and a cut-off element (94) extending into said longitudinal bore (80) of the atomizer (56), wherein an upper cut-off section (102) and a lower cut-off section (106) axially spaced apart from each other are defined between the outer surface of the cut-off element (94) and the inner surface of the longitudinal bore (80), cut-off sections (102,106) being both closed in the closed position of the spindle (88), the cut-off element (94) having a central duct (112) in flow connection with the longitudinal bore (80) of the atomizer (56) both above the upper cut-off section (102) and below the lower cut-off section (106).

IPC 8 full level

F02M 61/04 (2006.01); **F02M 61/06** (2006.01); **F02M 61/18** (2006.01)

CPC (source: EP KR)

F02M 61/042 (2013.01 - EP KR); **F02M 61/06** (2013.01 - EP KR); **F02M 61/10** (2013.01 - KR); **F02M 61/182** (2013.01 - EP KR); **F02M 61/1866** (2013.01 - KR); **F02M 61/1893** (2013.01 - EP KR)

Citation (applicant)

- EP 0052937 A1 19820602 - B & W DIESEL AS [DK]
- WO 2008071187 A1 20080619 - MAN DIESEL AS [DK], et al

Citation (search report)

- [DA] WO 2008071187 A1 20080619 - MAN DIESEL AS [DK], et al
- [A] EP 1063416 A2 20001227 - DELPHI TECH INC [US]
- [DA] EP 0052937 A1 19820602 - B & W DIESEL AS [DK]

Cited by

DE102013001098B3; EP2428672A3; EP2503138A1; DK179281B1; DK201670986A1; EP3336342A1; CN108224476A; RU2677436C1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA RS

DOCDB simple family (publication)

EP 2239451 A1 20101013; **EP 2239451 B1 20110907**; AT E523686 T1 20110915; CN 101852157 A 20101006; CN 101852157 B 20150624; DK 2239451 T3 20111010; JP 2010236536 A 20101021; JP 5822249 B2 20151124; KR 101686671 B1 20161214; KR 20100109501 A 20101008

DOCDB simple family (application)

EP 09156590 A 20090330; AT 09156590 T 20090330; CN 201010156144 A 20100330; DK 09156590 T 20090330; JP 2010017827 A 20100129; KR 20100028612 A 20100330