

Title (en)  
FUEL INJECTOR FOR INTERNAL-COMBUSTION ENGINES

Publication  
**EP 0135872 B1 19880824 (DE)**

Application  
**EP 84110659 A 19840907**

Priority  
DE 3332808 A 19830912

Abstract (en)  
[origin: EP0135872A2] 1. Fuel injection nozzle for internal-combustion engines, with a flow restrictor, in which a valve needle loaded by a closing spring is displaceably mounted and a pressure space connected to a fuel feed line is formed and surrounds the valve needle in the region of a thrust shoulder, at which the fuel pressure induces a force displacing the valve needle against the fuel flow in opening direction, and furthermore with means which damp the opening stroke movement of the valve needle, characterized in that a flow restrictor (50) is arranged between the mouth of the fuel feed line (38) into the pressure space (36, 46) and the thrust shoulder (22) of the valve needle (12), which flow restrictor restricts the fuel flow arriving at the thrust shoulder (22) during the opening stroke of the valve needle (12) and allows the fuel volume displaced in the opposite direction to flow back without delay during the closing stroke of the valve needle (12).

IPC 1-7  
**F02M 61/16**; **F02M 61/10**

IPC 8 full level  
**F02M 45/12** (2006.01); **F02M 61/10** (2006.01); **F02M 61/16** (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP)  
**F02M 45/12** (2013.01); **F02M 61/10** (2013.01); **F02M 61/16** (2013.01); **F02M 2200/304** (2013.01)

Cited by  
EP1382838A3; US6113012A; FR2742190A1; GB2307275A; US5826802A; GB2307275B; US7172140B2; WO9967529A1; WO2004003377A1; WO02090753A1; US7971802B2

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DE FR GB

DOCDB simple family (publication)  
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**EP 84110659 A 19840907**; DE 3332808 A 19830912; DE 3473625 T 19840907; JP 15330084 A 19840725