

Title (en)  
Pulsation dampener

Title (de)  
Pulsationsdämpfer

Title (fr)  
Amortisseur de pulsations

Publication  
**EP 2466112 A3 20130529 (DE)**

Application  
**EP 11009811 A 20111214**

Priority  
• DE 102010054675 A 20101215  
• DE 102010054674 A 20101215  
• DE 102011116274 A 20111019

Abstract (en)  
[origin: EP2466112A2] The device has a pressure generator, an injector with injection opening and a fuel line between the pressure generator and the injector. A damping element is provided between the pressure generator and the injection opening for reduction of fuel fluid-pressure waves. The damping element has multiple flow paths with free flowing middle cross-sectional surface having the cross section diameter or with free flowing pores having pore diameter. A length of the damping element aligned in flow direction of the fuel fluid is between 1 and 100 millimeter large. An independent claim is also included for an injection unit.

IPC 8 full level  
**F02M 61/16** (2006.01); **F02M 55/04** (2006.01)

CPC (source: EP)  
**F02M 55/02** (2013.01); **F02M 55/025** (2013.01); **F02M 55/04** (2013.01); **F02M 61/165** (2013.01); **F02M 2200/27** (2013.01); **F02M 2200/315** (2013.01)

Citation (search report)  
• [XD] DE 10247775 A1 20040422 - SIEMENS AG [DE]  
• [XA] DE 102006054178 A1 20080521 - BOSCH GMBH ROBERT [DE]  
• [A] US 7093584 B1 20060822 - POTTER DUANE E [US], et al  
• [A] US 2010012091 A1 20100121 - KANNAN VENKATESH [US], et al  
• [A] EP 1371840 A2 20031217 - BOSCH GMBH ROBERT [DE]

Cited by  
EP3805547A1; DE102013003104A1; EP3502461A1; WO2014075880A1; EP2876295B1; EP3670895B1

Designated contracting state (EPC)  
AL 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 RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**EP 2466112 A2 20120620; EP 2466112 A3 20130529; EP 2466112 B1 20140903**; DE 102011120924 A1 20120621;  
DE 102011120944 A1 20120621; DE 102011120945 A1 20120621; EP 2466113 A2 20120620; EP 2466113 A3 20130529;  
EP 2466113 B1 20141217; EP 2466116 A2 20120620; EP 2466116 A3 20130529; EP 2466116 B1 20140730; ES 2509942 T3 20141020;  
ES 2525294 T3 20141219; ES 2531313 T3 20150312; HU E024519 T2 20160128

DOCDB simple family (application)  
**EP 11009811 A 20111214**; DE 102011120924 A 20111214; DE 102011120944 A 20111214; DE 102011120945 A 20111214;  
EP 11009812 A 20111214; EP 11009813 A 20111214; ES 11009811 T 20111214; ES 11009812 T 20111214; ES 11009813 T 20111214;  
HU E11009812 A 20111214