

Title (en)

INTEGRATED FUEL INJECTORS AND IGNITERS AND ASSOCIATED METHODS OF USE AND MANUFACTURE

Title (de)

INTEGRIERTE BRENNSTOFFEINSPRITZER UND ZÜNDER SOWIE ENTSPRECHENDE VERFAHREN ZU IHRER HERSTELLUNG UND VERWENDUNG

Title (fr)

ALLUMEURS ET INJECTEURS DE CARBURANT INTÉGRÉS, ET PROCÉDÉS ASSOCIÉS D'UTILISATION ET DE FABRICATION

Publication

**EP 2470774 A4 20151216 (EN)**

Application

**EP 10814045 A 20100721**

Priority

- US 2009067044 W 20091207
- US 58182509 A 20091019
- US 23742509 P 20090827
- US 30440310 P 20100213
- US 23746609 P 20090827
- US 65308509 A 20091207
- US 31210010 P 20100309
- US 23747909 P 20090827
- US 2010002076 W 20100721

Abstract (en)

[origin: WO2011028223A2] The present disclosure is directed to integrated injector/igniters providing efficient injection, ignition, and complete combustion of various types of fuels. One example of such an injectors/igniter can include a body having a base portion opposite a nozzle portion, and a fuel passageway extending from the base portion to the nozzle portion. A force generator and a first valve are carried by the base portion. The first valve is movable in response to actuation from the force generator to move between closed and open positions. The injector/igniter also includes a second valve at the nozzle portion that is deformable in response to pressure in the fuel passageway to deform between a closed position and an open position.

IPC 8 full level

**F02M 51/06** (2006.01); **C03C 10/00** (2006.01); **F01N 5/02** (2006.01); **F02D 41/30** (2006.01); **F02M 31/20** (2006.01); **F02M 33/08** (2006.01); **F02M 53/04** (2006.01); **F02M 57/00** (2006.01); **F02M 57/06** (2006.01); **F02M 61/04** (2006.01); **F02M 61/10** (2006.01); **F02M 61/12** (2006.01); **F02M 61/16** (2006.01); **F02P 3/02** (2006.01); **F02P 23/02** (2006.01)

CPC (source: EP)

**F02D 41/3023** (2013.01); **F02M 31/20** (2013.01); **F02M 33/08** (2013.01); **F02M 51/0639** (2013.01); **F02M 53/043** (2013.01); **F02M 57/06** (2013.01); **F02M 61/047** (2013.01); **F02M 61/12** (2013.01); **F02M 61/16** (2013.01); **F02M 61/1893** (2013.01); **F01N 5/02** (2013.01); **F02M 57/005** (2013.01); **F02M 2200/9038** (2013.01); **F02P 3/02** (2013.01); **F02P 23/02** (2013.01); **Y02T 10/12** (2013.01)

Citation (search report)

- [Y] US 5715788 A 19980210 - TARR YUL J [US], et al
- [Y] US 5738283 A 19980414 - POTZ DETLEV [DE], et al
- [Y] JP 2008208759 A 20080911 - YAMAZAKI TOMOKI
- [X] US 2009014554 A1 20090115 - MALEK NADIM [FR], et al
- See references of WO 2011028223A2

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 SE SI SK SM TR

DOCDB simple family (publication)

**WO 2011028223 A2 20110310**; **WO 2011028223 A3 20110630**; CA 2771996 A1 20110310; CA 2771996 C 20160426; CN 102713243 A 20121003; CN 102713243 B 20150916; EP 2470774 A2 20120704; EP 2470774 A4 20151216; JP 2013503294 A 20130131; JP 5695050 B2 20150401

DOCDB simple family (application)

**US 2010002076 W 20100721**; CA 2771996 A 20100721; CN 201080048877 A 20100721; EP 10814045 A 20100721; JP 2012526706 A 20100721