

Title (en)
DUAL FUEL INTERNAL COMBUSTION ENGINE

Title (de)
ZWEIKRAFTSTOFF-VERBRENNUNGSMOTOR

Title (fr)
MOTEUR À COMBUSTION INTERNE À DEUX COMBUSTIBLES

Publication
EP 3092399 A1 20161116 (EN)

Application
EP 14806730 A 20141031

Priority
• GB 201319554 A 20131105
• IB 2014065750 W 20141031

Abstract (en)
[origin: GB2520017A] A dual fuel internal combustion engine which burns in a combustion chamber 16 a main charge of a gaseous fuel, for example natural gas, propane or methane, and air mixture, combustion of the main charge initiated by igniting gasoline injected directly into the combustion chamber, the liquid fuel being ignited by a spark plug 18. The gasoline may create a stratified charge. The gaseous fuel is preferably introduced by port injection so that a homogeneously premixed, preferably lean, gaseous fuel-air mixture is provided, wherein the air may be pressurised by a supercharger. Hot exhaust gases may be reintroduced into the combustion chamber, through simultaneous opening of intake and exhaust valves, so as to promote auto ignition of the gaseous fuel-air mixture. The engine may be a four-stroke or two-stroke engine. A method of operation is also claimed. The engine enables reliable ignition of a lean mixture of gaseous fuel and air without the need for a high compression ratio.

IPC 8 full level
F02B 17/00 (2006.01); **F02B 75/12** (2006.01); **F02D 13/02** (2006.01); **F02D 19/02** (2006.01); **F02D 19/08** (2006.01); **F02M 21/02** (2006.01); **F02M 26/00** (2016.01); **F02M 43/00** (2006.01)

CPC (source: EP GB)
F02B 17/005 (2013.01 - EP GB); **F02B 43/00** (2013.01 - GB); **F02B 43/04** (2013.01 - GB); **F02D 13/0207** (2013.01 - EP); **F02D 13/0265** (2013.01 - EP); **F02D 19/0647** (2013.01 - EP); **F02D 19/081** (2013.01 - EP); **F02D 41/0025** (2013.01 - EP); **F02D 41/0027** (2013.01 - EP); **F02D 41/006** (2013.01 - EP); **F02D 41/3029** (2013.01 - EP); **F02D 41/3094** (2013.01 - GB); **F02M 26/01** (2016.02 - EP); **F02B 23/101** (2013.01 - EP); **F02B 37/00** (2013.01 - EP); **F02D 19/0692** (2013.01 - EP); **F02D 41/0007** (2013.01 - EP); **Y02T 10/12** (2013.01 - EP); **Y02T 10/30** (2013.01 - EP); **Y02T 10/40** (2013.01 - EP)

Citation (search report)
See references of WO 2015068090A1

Citation (examination)
US 2010318277 A1 20101216 - PURSIFULL ROSS DYKSTRA [US], et al

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)
GB 201319554 D0 20131218; **GB 2520017 A 20150513**; EP 3092399 A1 20161116; WO 2015068090 A1 20150514

DOCDB simple family (application)
GB 201319554 A 20131105; EP 14806730 A 20141031; IB 2014065750 W 20141031