

Title (en)
LASER-INDUCED SPARK IGNITION FOR AN INTERNAL COMBUSTION ENGINE

Title (de)
LASERINDUZIERTE FREMDZÜNDUNG FÜR EINE BRENNKRAFTMASCHINE

Title (fr)
ALLUMAGE INDUIT PAR LASER POUR UN MOTEUR A COMBUSTION INTERNE

Publication
EP 2577042 A1 20130410 (DE)

Application
EP 11711934 A 20110405

Priority
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• EP 2011055246 W 20110405

Abstract (en)
[origin: WO2011147623A1] Disclosed is a laser spark plug for an internal combustion engine (10), comprising at least one means (26) for guiding, forming, and/or generating laser radiation (24), further comprising a combustion chamber window (58) and a housing (38). Said laser spark plug is characterized in that the housing (38) includes a diaphragm (74) to allow the laser radiation (24) guided, formed, and/or generated by the means (26) to penetrate into a precombustion chamber (110) located at the combustion chamber end (381) of the housing (38), said diaphragm (74) being located on the side of the combustion chamber window (58) that lies opposite the means (26). At least one overflow duct (120) provides a fluid connection between an interior (111) of the precombustion chamber (110) and a combustion chamber surrounding the precombustion chamber (110). Said at least one overflow duct (120) is disposed and designed such that a fluid flow (F) is generated which enters the interior of the diaphragm (74) at a minimum angle ϵ of 45°, in particular measured in relation to the longitudinal axis of the laser spark plug, when a fluid flows into the interior (111) of the precombustion chamber (110) via the overflow duct (120).

IPC 8 full level
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Citation (search report)
See references of WO 2011147623A1

Citation (examination)
EP 2504564 A1 20121003 - BOSCH GMBH ROBERT [DE]

Cited by
US10584639B2; US11421601B2; US11965466B2

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