

Title (en)

FLUID LASER JETS, CUTTING HEADS, TOOLS AND METHODS OF USE

Title (de)

FLUIDLASERDÜSEN, SCHNEIDEKÖPFE, WERKZEUGE UND VERWENDUNGSVERFAHREN DAFÜR

Title (fr)

BUSE LASER À FLUIDE, TÊTES DE COUPE, OUTILS, ET PROCÉDÉS D'UTILISATION

Publication

**EP 2611566 A1 20130710 (EN)**

Application

**EP 11822594 A 20110831**

Priority

- US 201161446042 P 20110224
- US 201161439970 P 20110207
- US 201161493174 P 20110603
- US 201161514391 P 20110802
- US 201161446312 P 20110224
- US 37891010 P 20100831
- US 201113210581 A 20110816
- US 2011050044 W 20110831

Abstract (en)

[origin: WO2012031009A1] There are provided high power laser systems, apparatus and methods for performing laser operations in particular in environments where an optically obstructive medium may be present in the laser beam path, such as within the borehole of an oil, gas or geothermal well, or below the surface of a body of water. Further, there are provided such systems, apparatus and methods that manage potentially damaging back reflections that may be generated during such laser operations. The high power laser operations would including tasks, such as, window cutting, pipe cutting and other workover completion activities, as well as decommissioning, plugging and abandonment tasks.

IPC 8 full level

**B23K 26/14** (2006.01)

CPC (source: EP)

**B08B 7/0042** (2013.01); **B23K 26/064** (2015.10); **B23K 26/0652** (2013.01); **B23K 26/106** (2013.01); **B23K 26/1224** (2015.10); **B23K 26/127** (2013.01); **B23K 26/146** (2015.10); **B23K 26/1464** (2013.01); **B23K 26/38** (2013.01); **E21B 7/14** (2013.01); **E21B 10/60** (2013.01); **E21B 29/02** (2013.01); **E21B 29/06** (2013.01); **B23K 2103/10** (2018.07)

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

DOCDB simple family (publication)

**WO 2012031009 A1 20120308**; EP 2611566 A1 20130710; EP 2611566 A4 20171108

DOCDB simple family (application)

**US 2011050044 W 20110831**; EP 11822594 A 20110831