

Title (en)

Cooling pipe for a plasma arc torch and spacer

Title (de)

Kühlrohr für einen Plasma-Lichtbogenbrenner und Abstandshalter

Title (fr)

Tuyau de refroidissement pour une torche à plasma d'arc et écarteur

Publication

**EP 2734015 A3 20141029 (DE)**

Application

**EP 13005830 A 20120507**

Priority

- EP 13005830 A 20120507
- EP 12003596 A 20120507

Abstract (en)

[origin: EP2663167A1] The cooling pipe (4) has a hollow cylindrical electrode (1) that is provided with a central internal core whose front end is provided with an electrode core holder (12) in which an electrode core (11) is arranged. The hollow cylindrical cooling pipe is inserted into the internal core that forms a cooling channel (8) as a return in the intermediate space between the outer circumference of the internal core and the inner circumference of the electrode. A spacer (13) or space washer or wires or bar are provided on the inner side that faces the electrode core holder.

IPC 8 full level

**H05H 1/34** (2006.01)

CPC (source: EP US)

**H05H 1/28** (2013.01 - US); **H05H 1/34** (2013.01 - EP US); **H05H 1/3405** (2013.01 - US); **H05H 1/3436** (2021.05 - EP); **H05H 1/3436** (2021.05 - US)

Citation (search report)

- [XY] WO 2010115397 A2 20101014 - KJELLBERG FINSTERWALDE PLASMA [DE], et al
- [YD] WO 2009070362 A1 20090604 - HYPERTHERM INC [US], et al
- [A] GB 2192821 A 19880127 - WTC HOLDINGS LIMITED

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)

**EP 2663167 A1 20131113; EP 2663167 B1 20161221**; EP 2734015 A2 20140521; EP 2734015 A3 20141029; EP 2734015 B1 20161019; US 2015102020 A1 20150416; US 9661731 B2 20170523; WO 2013167244 A2 20131114; WO 2013167244 A3 20140103; WO 2013167244 A4 20140213

DOCDB simple family (application)

**EP 12003596 A 20120507**; EP 13005830 A 20120507; EP 2013001277 W 20130427; US 201314361882 A 20130427