

Title (en)

Plasma torch with electromagnetic coil for rotating the arc.

Title (de)

Plasmabrenner mit elektromagnetischer Spule zur Rotierung des Lichtbogens.

Title (fr)

Torche à plasma pourvue d'une bobine électromagnétique de rotation de pieds d'arc.

Publication

**EP 0427590 B1 19940824 (FR)**

Application

**EP 90403044 A 19901029**

Priority

FR 8914675 A 19891108

Abstract (en)

[origin: EP0427590A1] The invention relates to a plasma torch of the type comprising - two tubular and coaxial electrodes (5 and 6), one a continuation of the other, each electrode being arranged in a holder (3 and 4); - fluid-flushed means of cooling said electrodes, the said means of at least one electrode comprising a sealed cylindrical chamber (16) provided in the corresponding holder and separated by a cylindrical wall dividing the chamber into two communicating annular spaces (16A and 16B) through which the said coolant fluid circulates; - means (9) for initiating an electric arc between the electrodes; - means (11, 13) for injecting a plasma-forming gas between the electrodes; and, - electromagnetic coil means for displacing the pick-up points of the said electric arc onto the inner surfaces of the said electrodes. According to the invention, the coolant fluid for the said electrode, whose sealed chamber (16) contains the separation wall, is electrically insulating and the said electromagnetic coil (15) does the job of the separation wall.

IPC 1-7

**H05H 1/28**; **H05H 1/40**

IPC 8 full level

**H05H 1/34** (2006.01); **B23K 10/00** (2006.01); **H05H 1/28** (2006.01); **H05H 1/40** (2006.01)

CPC (source: EP KR US)

**H05H 1/28** (2013.01 - EP US); **H05H 1/34** (2013.01 - KR); **H05H 1/3421** (2021.05 - EP); **H05H 1/3431** (2021.05 - EP); **H05H 1/40** (2013.01 - EP US); **H05H 1/3421** (2021.05 - US); **H05H 1/3431** (2021.05 - US)

Cited by

EP0750450A1; FR2735940A1; US5695664A; EP0750451A1; FR2735941A1; US5719371A; DE102009005078A1

Designated contracting state (EPC)

AT BE CH DE DK ES GB IT LI NL SE

DOCDB simple family (publication)

**EP 0427590 A1 19910515**; **EP 0427590 B1 19940824**; AT E110515 T1 19940915; CA 2029508 A1 19910509; CA 2029508 C 20000502; DE 69011814 D1 19940929; DE 69011814 T2 19941222; DK 0427590 T3 19940919; ES 2060984 T3 19941201; FR 2654295 A1 19910510; FR 2654295 B1 19920214; JP 3006720 B2 20000207; JP H03171599 A 19910725; KR 0146046 B1 19980817; KR 910011095 A 19910629; US 5132511 A 19920721

DOCDB simple family (application)

**EP 90403044 A 19901029**; AT 90403044 T 19901029; CA 2029508 A 19901107; DE 69011814 T 19901029; DK 90403044 T 19901029; ES 90403044 T 19901029; FR 8914675 A 19891108; JP 30124390 A 19901108; KR 900017993 A 19901107; US 60999390 A 19901107