

Title (en)
THREE-PHASE PLASMA GENERATOR HAVING ADJUSTABLE ELECTRODES

Title (de)
DREIPHASEN-PLASMAGENERATOR MIT EINSTELLBAREN ELEKTRODEN

Title (fr)
GENERATEUR DE PLASMA TRIPHASE A ELECTRODES AJUSTABLES

Publication
EP 1258177 A4 20070307 (EN)

Application
EP 00902432 A 20000118

Priority
US 0001123 W 20000118

Abstract (en)
[origin: WO0154464A1] Three adjustable electrodes (33a-33c) within a chamber (40) form a thermal plasma generating system (30). The electrodes (33a-33c) are positioned with a narrow gap at one portion and a wide gap at another portion to form a cone shape. The gap between the electrodes is adjusted to accommodate for wear on the electrodes (33a-33c). An electric arc is initiated at the narrowest point between two electrodes which moves over the length of the electrodes because of a magnetic field created by the arc and the forward motion of the injected stream. At the end of the electrodes, the arc is extinguished and another arc is initiated. The continuous arc moving along the electrodes ionizes a working stream that is tangentially injected from three pneumatic rings (35a-35c) which provide improved mixing of the working stream for high quality thermal plasma. The thermal plasma exits through a narrow orifice (42).

IPC 8 full level
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CPC (source: EP US)
H01J 37/32 (2013.01 - US); **H05H 1/36** (2013.01 - EP); **H05H 1/44** (2013.01 - EP)

Citation (search report)
• [Y] US 5801489 A 19980901 - CHISM JR PAUL E [US], et al
• [Y] US 2964678 A 19601213 - REID JAMES W
• [A] US 3714390 A 19730130 - FOEX M, et al
• [A] EP 0526560 B1 19970129 - HYPERTHERM INC [US]
• See references of WO 0154464A1

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)
WO 0154464 A1 20010726; CA 2397756 A1 20010716; EP 1258177 A1 20021120; EP 1258177 A4 20070307

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