

Title (en)
METHOD AND SYSTEM FOR CONTROLLING THE ELECTRODE EROSION OF A PLASMA TORCH

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Application
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Priority
CA 483451 A 19850607

Abstract (en)
[origin: US4683367A] Method and device for controlling the erosion of the electrodes of a plasma torch, in which an electrical arc is produced when the electrodes are connected to an electrical supply. An axial magnetic field generated by a system of field coil causes the rotation of the extremities of the arc according to a circular trajectory inside the electrodes. The relative position of the field coils is such that there exists a position on the electrode surface where the value of the total magnetic field is a minimum where the arc runs thereby controlling the erosion of the electrodes. According to the invention, the value of current is periodically varied in the system of field coil used to cause the rotation of the arc, thereby producing a controlled axial displacement of the circular trajectory of the extremity of the arc. The plasma torch according to the invention is characterized by structure to periodically vary the value of the current in the field coil system used to cause the rotation of the arc thereby producing a controlled axial displacement of the circular trajectory of the extremity of the arc. Under these conditions, the life of the electrodes is substantially increased.

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H05H 1/3431 (2021.05 - EP); **H05H 1/40** (2013.01 - EP US); **H05H 1/3431** (2021.05 - US)

Citation (search report)

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