

Title (en)

Torch for microplasma welding.

Title (de)

Brenner zum Mikroplasma-schweißen.

Title (fr)

Chalumeau de soudage à microplasma.

Publication

EP 0008701 A1 19800319 (DE)

Application

EP 79102914 A 19790810

Priority

DE 2839485 A 19780911

Abstract (en)

[origin: US4282418A] A plasma torch for micro-plasma welding which has a hollow cylindrical torch housing, an electrode supported in the housing and insulated therefrom, a plasma nozzle having a cooling chamber and a plasma channel mounted in the housing adjacent the end of the electrode, an inert gas nozzle arranged concentrically around the plasma nozzle and various lines and connections for supplying plasma gas, inert gas and a welded current as well as lines for applying a cooling agent to the cooling chamber of the plasma nozzle characterized by the plasma channel of the plasma nozzle having a raised annular edge facing the electrode, which has a large diameter and terminates in a point and is provided with its own cooling chamber. This structure enables the welding torch to withstand high continuous loadings during series fabrication, reduces wear, and provides increased heat dissipation. Preferably, the torch is also provided with a diffusion-tight plasma gas supply line which improves the life of the torch.

Abstract (de)

Die Erfindung bezieht sich auf einen Brenner zum Mikroplasma-schweißen, der der hohen Dauerbelastung bei der Serienfertigung Stand zu halten in der Lage ist. Bei dem Brenner gemäß der Erfindung weist der Plasmakanal (10) der Plasmadüse an der Eintrittsstelle des Plasmas einen gegen die Spitze der Elektrode (12) gerichteten erhöhten Ringrand (13) auf. Ferner ist die Elektrode (12) zur Ermöglichung eines erhöhten Wärmeabtransportes entsprechend stark bemessen und mit einer eigenen Kühlung (17, 20) versehen. Schließlich besitzt der Brenner eine diffusionsdichte Plasmagas-zuleitung (29).

IPC 1-7

B23K 28/00

IPC 8 full level

B23K 10/00 (2006.01); **H05H 1/28** (2006.01); **H05H 1/34** (2006.01); **H05H 1/38** (2006.01)

CPC (source: EP US)

H05H 1/28 (2013.01 - EP US); **H05H 1/341** (2013.01 - EP US); **H05H 1/3478** (2021.05 - EP); **H05H 1/38** (2013.01 - EP US); **H05H 1/3478** (2021.05 - US)

Citation (search report)

- AT 296726 B 19720225 - LINDE AG [DE]
- DE 2309188 A1 19730830 - ELECTRICITY COUNCIL
- [D] DE 1806858 C

Cited by

FR2527891A1; US4716269A; CN103997841A

Designated contracting state (EPC)

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EP 0008701 A1 19800319; **EP 0008701 B1 19820623**; DE 2839485 A1 19800320; DE 2839485 C2 19820429; DK 376979 A 19800312; JP S5540097 A 19800321; US 4282418 A 19810804

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EP 79102914 A 19790810; DE 2839485 A 19780911; DK 376979 A 19790910; JP 11662579 A 19790911; US 5368679 A 19790702