

Title (en)  
PLASMA TORCH WITH LATERAL INJECTOR

Title (de)  
PLASMABRENNER MIT LATERALINJEKTOR

Title (fr)  
TORCHE À PLASMA AVEC INJECTEUR LATÉRAL

Publication  
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Application  
**EP 10712528 A 20100312**

Priority  
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Abstract (en)  
[origin: WO2010103497A2] The invention relates to a plasma torch, comprising: a plasma generator comprising a cathode extending along an axis X and an anode (24), the cathode and the anode being arranged so as to be capable of generating, in a chamber (26), an electric arc between the anode and the cathode due to an electrical voltage, the plasma generator also comprising a plasmagene gas injection device (30) comprising an injection pipe (72) leading, along an injection axis (li), to an injection opening (74) in the chamber; a means for injecting a material to be discharged into a plasma flow generated by said plasma generator, the plasma torch being characterized in that: the relationship R" between: the radial distance (yi) of said injection opening, defined as the minimum distance between the axis X and the center of said injection orifice; the largest transverse size (DC) of the cathode in the region of the chamber downstream from the position PAC, wherein PAC denotes the axial position of maximum radial mutual encroachment of the anode and the cathode, is less than 2.5; and the projection of the injection axis (li) into a transverse plane passing through the center of the injection orifice of said injection conduit forms an angle  $\beta$  less than  $45^\circ$  with a radius extending into said transverse plane and passing through the axis X and through the center of said injection orifice.

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