

Title (en)  
Plasma torch with new sealing features

Title (de)  
Plasmabrenner mit neuen Dichtungsmerkmalen

Title (fr)  
Torche à plasma avec nouvelles caractéristiques d'étanchéité

Publication  
**EP 0837621 B1 20030219 (FR)**

Application  
**EP 97402414 A 19971014**

Priority  
• FR 9612680 A 19961018  
• US 95403697 A 19971020

Abstract (en)  
[origin: EP0837621A1] A plasma torch (1) is claimed comprising an anode (2) and a cathode (3) separated by a capillary tube (4) made from a material that is an electrical insulator and can be ablated under the action of the plasma. The anode (2) incorporates a conducting cover (12) closed at one end (10), inside which the capillary tube (4) is arranged. The capillary tube (4) is separated from the anode (2) by an insulating sheath (19). The anode cover (12) extends essentially longitudinally to the cathode (3) and the insulating sheath (19) surrounds the cathode (3) at least partially. The cathode (3) incorporates a conical bearing (17) positioned in a complementary conical housing (16) in the conducting cover (12). The insulating sheath (19) incorporates a flared part (20) that is interposed between the conical bearing (17) of the cathode (3) and the conical housing (16) of the conducting cover (12). The anode (2) also incorporates a base (14) forming an arc foot arranged at the bottom of the conducting cover (12). The cathode also incorporates an annular airtight lip (18) that is applied against the insulating sheath (19) and which delimits a boring to receive one end (21) with reduced diameter of the capillary tube (4). The cathode (3) also includes an axial housing (22) in which a conducting ring (23) is arranged to form the arc foot. A tubular insulating sleeve (27) surrounds the anode (2) and assures its integration with the cathode (3) and at least one toric joint (29,30,31) is arranged between the tubular sleeve (27) and the insulating sheath (19).

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