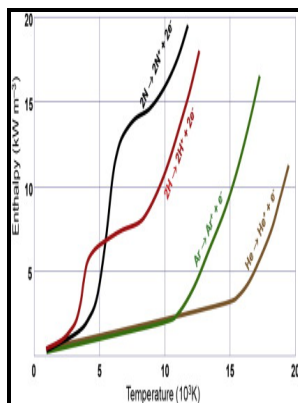


Performance characteristics of a vortex stabilized plasma generator using argon

McDonnell Aircraft Corporation, Research Dept. - US5243169A



Description: -

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Generalization of the operating characteristics of a segmented plasma generator with constricted channel

The spiraling flow has a linear component of motion perpendicular to the axis of the vortex-generating ring 20. A clear lucite end window in the vortex chamber made this feasible see Fig. To attach an arc to its hollow exit electrode a vortex-stabilized, axially positioned DC arc must bend radially at the end and form a conducting path, commonly called a finger.

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Both tubes have walls whose thickness is nominally 1. Radiation losses from the arc are calculated by the partial characteristics method for atmospheric pressure water and argon-water discharges.

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A consideration of the overall energy balance of the arc has shown that there is insufficient power to heat the gas to an equilibrium temperature profile if the axial velocity is uniform across the arc. The length of the interelectrode is 3 to 10 times its diameter.

The Impact of Molecular Radiation Processes in Water Plasma on Performance of Water

The direction measuring system was mounted along a diameter in a lucite tube, of the same bore as the inner quartz tube of the arc vessel, as shown in Figure A. Next, an auxiliary start electrode 9 is disposed such that it intersects the axis of the main torch 1, and an insulator 28 having an auxiliary gas inlet 11, a first auxiliary casing 10 having a discharge port, an insulator 30 having a second auxiliary gas inlet 37, a second auxiliary casing 36 having a discharge port, an insulator 30 having a third auxiliary gas inlet 42, and a third auxiliary casing 44 having a discharge port are coaxially disposed in this order toward the extreme end of the auxiliary torch start electrode 9 in alignment with the axis thereof. The artificial diamond is made in such a manner that a material gas such as a material gas 20 composed of methane and hydrogen, which has been injected from a material supply tube 19 into a ultra-high temperature plasma flame 23 generated by the above-mentioned multiple torch type plasma generation apparatus composed of the main torch 1 and the auxiliary torch 2 of the above-mentioned embodiment, is melted and sprayed onto a substrate 53 cooled by a cooling water 52 to form a diamond film 54 on the surface thereof, and at the time an exhaust gas 56 is exhausted from the exhaust

port 58 defined to a housing 57.

Generalization of the operating characteristics of a segmented plasma generator with constricted channel

The portal can access those files and use them to remember the user's data, such as their chosen settings screen view, interface language, etc. This is done by accelerating the flow through a nozzle and letting it impinge on a flat plate.

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