

Title (en)
ELECTRON SOURCE

Publication
EP 0300932 B1 19920129 (FR)

Application
EP 88420256 A 19880720

Priority
FR 8710642 A 19870722

Abstract (en)
[origin: JPH01126598A] PURPOSE: To operate an entire part under a single pressure and to eliminate the need for a complex exhaust system by constituting a potential cavity by forming for example, an opening at the side of an anode for a cathode and adding a magnetic field that is in parallel with the direction of the anode- cathode to the opening. CONSTITUTION: An electron source consists of a cathode K and an anode A and the cathode K has an opening 11 at a side toward the anode A, thus constituting a potential cavity 10. For example, a means made of, for example, a permanent magnet is provided to apply a magnetic field B in parallel with a direction for connecting the cathode K and the anode A at the opening 11. When an electric field is applied between the anode A and the cathode K, an electric force line is flexed inward at the opening 11 due to the operation of the cavity 10. Then, a region where an electric field is at right angle to the direction for connecting the anode A and the cathode K, namely at right angle to the magnetic field B being applied is formed along with the curving of the electric force line, thus forming plasma even at a lower gas than a case without this sort of electromagnetic field. A plasma region 13 is formed near the opening 11 and the pressure at that time may exceed 1/several tens pascal.

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H01J 3/02

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