

Title (en)
REDUCED LENGTH PLASMA ENGINE WITH CLOSED ELECTRON DEVIATION

Title (de)
PLASMAMOTOR GERINGER LÄNGE MIT GESCHLOSSENEM ELEKTRONENDRIFT

Title (fr)
MOTEUR A PLASMA DE LONGUEUR REDUITE A DERIVE FERMEE D'ELECTRONS

Publication
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Application
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Priority
FR 9300612 W 19930621

Abstract (en)
[origin: WO9500758A1] The means (31 to 33, 34 to 38) for generating a magnetic field in the main channel of the plasma engine are adapted to produce, in said main channel (24) an essentially radial magnetic field at the downstream end (225) of the channel (24), its induction being maximum at this point. The magnetic field has a minimum induction in the transition area in the vicinity of the anode (25), the absolute induction value of the field increasing again upstream of the anode (25), in the region of the buffer chamber (23) in order to produce a magnetic mirror effect. The magnetic field lines include, between the anode (25) and the downstream end (225) of the channel (24), a concavity oriented downstream, causing focusing of ions, the maximum ionisation density area being located downstream of the anode (25). The magnetic field generating means comprise several distinct magnetic field generating means (31 to 33) and inner (35) and outer (34) radial, plane pole pieces (34, 35) disposed at the outlet face on either side of the main channel (24) and linked to one another by a central core (38), a frame (36) and a peripheral magnetic circuit (37) axially disposed outside of the main channel (24). The frame (36) consists of radial elements located in the immediate vicinity of the anode (25) and passing through the annular buffer chamber (23), thereby creating spaces (13) for communication between the annular buffer chamber (23) and the main channel (24).

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