

Title (en)  
CONTOURED ELECTRODES FOR AN ELECTROSTATIC GAS PUMP

Title (de)  
PROFILIERTE ELEKTRODEN FÜR ELEKTROSTATISCHE GASPUMPE

Title (fr)  
ÉLECTRODES PROFILÉES POUR POMPE À GAZ ÉLECTROSTATIQUE

Publication  
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Application  
**EP 08728095 A 20080122**

Priority

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Abstract (en)  
[origin: US2008175720A1] The present invention achieves high gas flow rates through an electrostatic pump having sharp and blunt electrodes with a corona discharge taking place in the gas gap in between the electrodes. According to certain aspects, the invention comprises a specially shaped blunt electrode that is contoured to maintain a constant or approximately constant distance between the sharp (corona) electrode and the neutralizing surface of the blunt electrode. The contour provides maximum electric field enhancement at the corona electrode and minimizes the electric field at the blunt electrode. This maximizes the non-arcing operating voltage and increases the maximum power output of the corona discharge. The contour also isolates neighboring corona electrodes, preventing their electric fields from interfering with one another and making it possible to increase the density of electrodes which further increases the pumping power of the device.

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