

Ignition Device for Microwave Plasma Generator.



Characteristics:

Description: High Voltage ignition device

Working gas: Argon, Helium, others

Application: Generation of metal ion-free plasma for analysis

Power: 5V (USB)

Prize: low cost

Special: The required high voltage for ignition is realized with an inexpensive motorcycle ignition coil.

Description:

The original version of the microwave generator had no ignition device to ignite the plasma. It had to be ignited externally by frictional electricity. The plasma was not allowed to come into contact with metal electrodes so that it would not be contaminated with metal ions, since the plasma is used for chemical analysis and must be highly pure.

The ignition device developed ignites the plasma using two ring electrodes attached to the outside of the glass tubes near the microwave antenna. With this ignition device, the plasma can be ignited by a control signal.

The ignition voltage is realized with an inexpensive motorcycle ignition coil and is about 8kV. At the primary side of the ignition coil a capacitor, previously charged to 180V, is discharged by means of a thyristor. A simple voltage converter generates the necessary 180V from a voltage of 5V (USB).

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