Claims

1. Method for the production of ozone at elevated pressure with a capacity of at least 1 kg ozone/h by means of an ozone generator having a high voltage electrode and at least one counter electrode, wherein the high voltage electrode and the at least one counter electrode delimit a gap in which at least one dielectric is arranged and through which a gas containing oxygen and having a gas pressure of p_{gas} flows, wherein the high voltage electrode and the at least one counter electrode with a connection for an electric power supply to generate discharges are provided in at least one discharge gap, wherein the power supply provides a voltage in a range from 1 kV to 50 kV, wherein stroke widths d_i of the discharge are distributed between a minimum stroke width d_{min} and a maximum stroke width d_{max}, whereinthe gas pressure p_{gas} of the gas containing oxygen at the outlet of the ozone generator is at least 3 bar, and wherein the gas pressure p_{gas} of the gas containing oxygen is measured as an excess pressure compared to atmospheric pressure.

2. Method according to Claim 1, wherein the power supply provides a high voltage in the range from 10 kV to 30 kV.

3. Method according to Claim 1, wherein the power supply provides a high voltage in the range from 15 kV to 20 kV.

4. Method according to any one of the preceding claims, wherein the method is designed such that the ozone produced has an ozone concentration of at least 10% by weight.

5. Method according to any one of the preceding claims, wherein the gas pressure p_{gas} of the gas containing oxygen is at least 6 bar.

6. Method according to any one of the preceding claims, wherein the gas pressure p_{gas} of the gas containing oxygen is between 10 bar and 12 bar.

7. Method according to any one of the preceding claims, wherein the gas containing oxygen is at least 80% O_2.

8. Method according to any one of the preceding claims, wherein the gas containing oxygen is at least 98% O_2.

9. Method according to any one of the preceding claims, wherein the method is designed such that ozone is produced at a production rate of at least 20 kg of ozone/h.

10. Method according to any one of the preceding claims, wherein the method is designed such that ozone is produced at a production rate of at least 100 kg of ozone/h.

11. Method according to any one of the preceding claims, wherein the gas containing oxygen flows into the gap at a feed-in rate in the range from 500 kg/h O_2 to 800 kg/h O_2.

12. Method according to any one of the preceding claims, wherein the minimum stroke width d_{min} is zero.

13. Method according to any one of the preceding claims, wherein the ozone generator has a single counter electrode and the dielectric is arranged on the counter electrode.

14. Method according to any one of the preceding claims, wherein the distribution of the stroke widths is formed by a fabric made of wire.

15. Method according to Claim 14, wherein the fabric made of wire fills the gap.