

COLD PLASMA APPARATUS FOR THE FAST, EFFICIENT AND COST-EFFECTIVE REMEDIATION OF HIGHLY POLLUTED SOILS

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The development of cost-effective, rapid and highly efficient methods for soil remediation is crucial, since soil contamination by toxic pollutants (industrial wastes, pesticides, etc) is considered as one of the major challenges of our time, affecting both the human health and the use of land.

The cold plasma apparatus is based on the generation of non-hazardous highly reactive species, able to oxidize even the most persistent soil pollutants. These species are produced when an electric field is applied to one of two parallel electrodes between which the contaminated soil is placed. During the treatment, only atmospheric air is injected through the soil, minimizing thus the environmental impacts and operating cost.

The pollutant is **removed completely within a few minutes**, whereas the **power consumption is comparable to that of a small light bulb**. The apparatus is **user-friendly for unskilled staff and easy to scale up**.

