Abstract

The invention relates to a device and a method for the treatment of surfaces with a plasma produced under atmospheric pressure. The device according to the invention is formed as a portable handheld unit and comprises a plasma nozzle (16) for producing a plasma jet (18), which comprises a nozzle opening (17) and at least one electrode and counter-electrode pair (27, 28) arranged upstream of the nozzle opening, the effective electrode surfaces of which pair of electrodes each have a dielectric coating (29, 30), the electrode (27) and the counter-electrode (28) defining between them a working space (34) in which a working gas can be at least partially ionized by means of a dielectric barrier gas discharge, a high-voltage generator (19, 20), which is electrically connected to the electrode and counter-electrode pair (27, 28), a feeding means (15), which produces a gas flow of the working gas from a working gas source into the working space (34) and through the nozzle opening (17), the working gas source being ambient air, and a mains-independent energy source (12) for supplying the high-voltage generator (19, 20) and the feeding means (19).