

piezo brush<sup>®</sup> PZ3

# Efficient plasma device for use in the dental laboratory

The piezobrush® PZ3 has been developed as a compact handheld plasma device for use in laboratories. With a maximum power consumption of 18 W, cold-active plasma with a temperature of less than 50°C is generated using piezoelectric direct discharge (PDD®) technology. Plasma is used for highly efficient surface energy enhancement on many materials, as well as for germ and odor reduction.

### **Fields of application**

- Surface pre-treatment of dentures, abutments or crowns prior to coating or bonding
- Intermediate and final cleaning of prosthetic work
- Pre-treatment of surfaces before finishing



## **Possible applications**

- ♦ Increased adhesion for bonding abutments and prosthetics
- Improved adhesion between resin, metal and ceramic
- ♦ Improved color appearance and shortened process times for color individualization
- ♦ Support and replacement of the effect of chemical primers by plasma
- Improved durability of veneers, e.g. on chrome-cobalt-molybdenum

### **Technical data**

Electrical connection: 110-240 V / 50-60 Hz Power consumption: max. 18 W Weight: 110g Design: handheld unit with power supply, integrated fan Plasma temperature: < 50 °C Typical treatment distance: 2 - 10 mm Typical treatment width: 5 - 29 mm







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## Application examples of plasma in the dental laboratory

## Veneering of prosthetics

When veneering metallic prosthetics, e.g. chrome-cobaltmolybdenum, chipping may occur due to the high stress caused by the patient. Treating the metal surface with the Nearfield module before applying the metal primer significantly improves the bond with the subsequently applied opaquer. In this way, costly complaints and repairs can be prevented in advance.



### **Color individualization**

Color individualization often involves the use of high-gloss polished surfaces which are difficult to wet, as a result of which the color fluids often roll off the surface. This causes the color pigments contained in them to accumulate at one point on the denture, creating an uneven color appearance. With plasma pre-treatment, the denture is completely and evenly wetted with the fluid, leading to a uniform surface usually already during the first firing process.

#### Plasma treatment of implants

Plasma treatment of implants serves to raise the surface energy of the implant from a hydrophobic to a superhydrophilic state. The underlying increased surface energy improves the initial attachment of osteoblasts, which subsequently leads to increased new bone formation after implantation. This creates the best possible conditions for rapid ingrowth.







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