Piezosurgery® is a recently developed system for cutting bone with ultrasonic microvibrations. The piezoelectric device uses low-frequency ultrasonic waves (24.7–26.5 kHz). The amplitude of the ultrasonic waves allows a clean, precise, and selective cut when the insert works on mineralized tissue yet is ineffective on soft tissue.

**Piezosurgery - equipment**

The hand-pieces and inserts are connected to the main unit. This unit supplies power and has holders for the hand-pieces and irrigation fluids. It contains 2 peristaltic pumps, for cooling during surgery with a jet of physiological solution that discharges from the inserts.

**Histomorphometric study:** No soft tissue damage.

At histological examination, no evidence of injury to the facial nerve itself, was visible after contact and ultrasonic activation of the piezoelectric device, with working force for 5 seconds. Less invasive cutting action produces minor tissue damage and consequently better healing.