

**Piezosurgery® Dental // (Piezosurgery Inc.) (Project #08 – 018) (6/09)**

The Piezosurgery® Dental // unit is designed for a wide variety of applications including sinus lift procedures, extractions, bone block harvesting, bone graft harvesting, bone contouring, endodontic surgery, orthodontic micro surgery, ridge expansion, crown lengthening, periodontal therapy, implant site preparation, and tori removal. The Piezosurgery® Dental // unit uses high-frequency ultrasonic vibrations (24.7-29.5 kHz) to cut osseous tissue while safely avoiding damage to soft tissues. Sterile irrigating fluids are delivered through either a sterile fluid bag or bottle. All parts of the unit through which fluids flow, including the handpiece cords and handpiece are sterilizable. This allows delivery of sterile irrigation while eliminating labor-intensive manual irrigation procedures. The Piezosurgery® Dental // unit has one handpiece attachment. The unit is operated using an interactive keyboard with a digital display and multiple programmable settings. A foot pedal control is also available. The settings include four different power level options based on bone quality. Electrical requirements are 110VAC ± 10%, 60 Hz. The Piezosurgery® Dental // unit has a one-year warranty.



**Manufacturer:**

Mectron S.p.A  
Via Loreto, 15/A  
Carasco, GE Italy

**U.S. Distributor:**

Piezosurgery Inc.  
750 Communications Parkway  
Columbus, OH 43214  
(888) 877-4396  
(614) 459-4922  
(614) 459-4981 FAX  
[www.piezosurgery.com](http://www.piezosurgery.com)

**Suggested Retail Price\*:**

\$15,950.00 Piezosurgery® Dental // Elite Kit  
Includes the base unit, 2 handpieces, 2 K5 wrenches, surgical tray, Basic Kit #1 for osteotomy, corticotomy, osteoplasty, and ostectomy (Inserts OT1, OP1, OT7, OT4, OP3, plus insert tray), Basic Kit #2 for extractions, sinus lifts, and implant site finalization (Inserts EX1, EX2, EX3, EL1, PS2, plus insert tray), Backup Kit (Inserts OT7, OT1, OT5, OP3, EX1, plus tray), 2 sterilizable infusion sets, IV hanger bar, handpiece holder, carrying case, foot pedal, instruction manual, keys for the carrying case, pump tube kit, and 2 tube to tube connectors

\$9,950.00 Piezosurgery® Dental // Essential Kit  
Includes the base unit, 1 handpiece, 1 K5 wrench, foot pedal, IV hanger bar, handpiece holder, foot pedal, instruction manual

**Government Price\*:**

(contents as listed above)

\$13,080.88 Piezosurgery® Dental // Elite Kit

\$8,019.90 Piezosurgery® Dental // Essential Kit

\* The above is a representative sample of products. Other insert tips, kits, and accessories are available.

**ADVANTAGES:**

- + Easy to set up and operate
- + System supports a wide range of surgical and non-surgical procedures
- + Good power and cutting ability
- + Autoclavable handpiece, tubing, and inserts
- + Integrated sterile irrigation system
- + Easier to use compared with manual irrigation
- + Consistent, reliable performance during this project
- + Foot control allows for hands-free operation

**DISADVANTAGES:**

- More expensive than other currently available piezosurgery units

**SUMMARY AND CONCLUSIONS:**

During this evaluation, the Piezosurgery® Dental // was used for a variety of procedures including sinus lift procedures, bone block harvesting, osteoplasty, crown lengthening, extractions, bone grafts, resective surgery, scaling/root planing, regeneration surgery, ridge expansion, an apicoectomy, and implant surgery. The clinical evaluators found the operating instructions to be complete and clear and the unit easy to use and to set-up. All clinical evaluators found the handpiece easy to operate, quiet, and providing good power. While one evaluator commented on the potential for heat build-up and the need to exercise caution, there were no reported patient injuries. Overheating issues with surgical handpieces are not new and have been identified as a problem by the Food and Drug Administration (FDA). Overheating problems can be minimized or eliminated by following manufacturer cleaning and maintenance instructions, ensuring that irrigation flow is adequate, and not applying excessive pressure during use. The majority of evaluators found the inserts easy to change and all reported that the insert movement stopped promptly upon release of the activation control. No problems were reported during the clinical evaluation as a result of sterilization. A major advantage noted by the evaluators was the integrated sterile irrigation system, eliminating the need for manual irrigation with a syringe. All evaluators found the irrigation flow to be adequate and all dental assistants agreed that assisting with the unit's irrigation system was easier than using an irrigation syringe. The clinical evaluators also appreciated the selective cutting action—soft tissues, including sinus membranes, nerves, blood vessels, were not cut or damaged. Also, the visibility of the surgical field, as a result of the cavitation effect, was noted as a definite advantage. Overall the Piezosurgery® Dental // received high ratings during this limited clinical evaluation, with the majority of clinical evaluators rating it “excellent” (8/13) or “good” (4/13) and only one rating it “average”. The **Piezosurgery® dental unit** is rated **Excellent** for use in US Air Force dental facilities.