

Piezotome™ (ACTEON North America) (Project #07 - 013) (8/08)



The Piezotome™ is a piezoelectric ultrasonic generator designed for use in dental surgeries. The unit uses high frequency ultrasonic vibrations (28-36 kHz) to cut osseous tissue while safely avoiding damage to soft tissues in the operative field. All parts of the unit through which fluids flow, including the handpiece cords and handpiece are sterilizable or disposable. This allows delivery of sterile irrigation while eliminating labor-intensive manual irrigation procedures. The unit has two handpiece attachments, which allow the user to connect and use a Piezotome (surgical) handpiece or a Suprasson Newtron handpiece. Each handpiece cord receptacle automatically recognizes either type of handpiece, allowing for multiple configurations. The Piezotome function can be used for osseous surgical procedures, including osteotomies, osteoplasties, ridge expansions, syndesmotomy (surgical division of a ligament), autogenous bone harvesting, and sinus lifts. The Newtron function can be used for mechanical ultrasound treatment in prophylaxis, periodontics or endodontics. A variety of handpiece tips designed for each handpiece and procedure are available. The unit has touchpad controls which provide settings to match bone density, select mode of operation, and adjust the irrigation level and ultrasonic intensity. A multifunction footswitch is also included. Electrical requirements are 115-230 VAC, 50/60 Hz. The Piezotome™ Ultrasonic Surgery Unit has a two-year warranty and a one-year warranty on the handpieces.



Manufacturer:

Satelec

U.S. Distributor:

ACTEON North America
 124 Gaither Drive, Suite 140
 Mount Laurel, NJ 08054
 (800) 289-6367
 (856) 222-9988
 (856) 222-4726 FAX
www.acteongroup.com

Suggested Retail Price*:

- \$11,500.00 Piezotome Kit (#F57327)
 Includes the base unit, footswitch, and metal irrigation bracket;
 1 Bone surgery pack which includes a Piezotome handpiece, 6 bone surgery tips, metal autoclavable stand for tips, an autoclavable box, and Easytorque wrench;
 1 Sinus Lift Kit which includes 5 tips, metal autoclavable stand, and a wrench;
 1 LC1 tip for tooth extraction; and
 2 autoclavable (up to 100 cycles) irrigation lines, and 20 disposable perforators
- \$2925.00 Newtron Perio Pack (# F87320)
 Includes 6 tips, autoclavable stand, an autoclavable box, Newtron handpiece, and Easytorque wrench

Government Price*:

(item number and contents as listed above)

- \$6947.00 Piezotome Kit
- \$1770.00 Newtron Perio Pack

The above is a representative sample of products used during this evaluation. Multiple combinations of the handpieces, ultrasonic tip "kits," and accessories sold as packaged equipment combinations (i.e., "packs") are also available.

ADVANTAGES:

- + Easy to set up and operate
- + System supports a wide range of surgical and non-surgical procedures
- + Two handpiece receptacles
- + Handpiece receptacles automatically recognize either the Piezotome or the Newtron handpiece
- + Clinically-acceptable power and cutting ability
- + Autoclavable handpieces, 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
- + Competitively priced

DISADVANTAGES:

- Ultrasonic scaling tips too long to adapt to tooth surfaces well

SUMMARY AND CONCLUSIONS:

During this evaluation, the Piezotome™ was used for a variety of procedures including: extractions, osteoplasty, sinus lift, osteotomy, crown lengthening, bone block harvesting, regeneration surgery, and scaling/root planing. The evaluators found the operating instructions to be complete and clear and the unit easy to use and to set-up. All evaluators found the handpiece easy to operate, quiet, and providing clinically-acceptable power. There were no reported problems with overheating. 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. Evaluators felt the scaling handpiece tips, used with the Newtron handpiece, were too long and found them somewhat awkward to use because they did not adapt to the tooth surface well. 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. No problems were reported during the clinical evaluation or as a result of sterilization. The evaluators appreciated the versatility of the unit. A major advantage noted by the evaluators was being able to perform surgical and non-surgical periodontal procedures while delivering sterile irrigation fluids with the same unit. Also, the Piezotome™ offers the advantage of having two handpiece receptacles available on one unit—one for the surgical Piezotome handpiece and one for the Suprasson Newtron handpiece for non-surgical procedures such as scaling/root planing. Overall the Piezotome™ received high ratings during this limited clinical evaluation, with all clinical evaluators rating it “excellent” (3/9) or “good” (6/9). The **Piezotome™** is rated **Excellent** for use in US Air Force dental facilities.