

### 58-23 Piezon Master 400 (Project 98-34) (9/99)

The Piezon Master 400 is a piezoelectric ultrasonic scaler from Electro Medical Systems (EMS) that is purported to offer better scaling efficiency and to generate less heat than magnetostrictive-style scalers. Piezoelectric scalers use a linear (back-and-forth) tip motion similar to the motion used during hand instrumentation with a curette. A unique feature of the Piezon Master 400 is its ability to automatically detect the load at the tip and compensate by adding or subtracting power. Two light emitting diodes (LED) on the front of the unit allow the user to tell at a glance when power is activated and which mode is engaged. The Piezon Master 400 is portable and does not require fixed air and water connections because it has a self-contained irrigation reservoir. The unit features a smooth, infection control-friendly exterior with integrated knobs for power and water adjustment. Although the Piezon Master 400 only comes with one detachable, color-coded, sterilizable handpiece, EMS offers an optional assortment of different handpieces and tips for different tasks. The tips are installed by threading them onto the handpiece with a tip wrench. In addition to the standard handpiece, the Piezon Master 400 comes with a variety of tips, a tip holder, an irrigation reservoir, and a corded foot pedal. The unit measures 4.75 inches high by 10 inches long by 9.5 inches wide and weighs 8 pounds. The Piezon Master 400 is configured for 100/110 volts, 50/60 hertz and is CSA certified.



#### **Manufacturer:**

Electro Medical Systems (EMS)  
670 International Parkway, Suite 100  
Richardson, TX 75081  
(800) 367-0367  
(972) 690-8382  
(972) 690-8981 FAX

#### **Suggested Retail Price:**

\$1,899.00 Piezon Master 400 scaler, detachable sterilizable handpiece, corded foot pedal, and instructions.

#### **Government Price:**

\$1,060.36 Piezon Master 400 scaler (same contents as above).

#### **ADVANTAGES:**

- + Full one-year warranty on parts and labor.
- + Comfortable for sensitive patients.
- + Good calculus removal.
- + Easy to use.
- + Unit is light and portable.
- + Autoclavable handpiece.
- + Self-contained irrigation reservoir eliminates need for fixed water connection.
- + Attractive design with smooth finish that facilitates asepsis.
- + Power adjustment controls are well placed.
- + Reduced noise level compared with other ultrasonic scalers.
- + Versatile, when used with optional handpiece systems.

- + Complete and clear operating, installation, and maintenance instructions.
- + Meets all electrical safety standards as outlined in AFI 41-201 and 41-203.
- + Is CSA certified.

**DISADVANTAGES:**

- Inconveniently located on/off switch.
- Learning curve for those who routinely use magnetostrictive scalers.
- Changing tips is more labor intensive.
- Lacks a waterline disinfection protocol.

**SUMMARY AND CONCLUSIONS:**

The Piezon Master 400 is a piezoelectric scaler that is easy to use for dental prophylaxis procedures. When equipped with optional handpiece systems, the unit can be used for periodontal therapy, prosthodontics, cementation, periodontal surgery, apicoectomy, and endodontics. The simple, modern design of the unit facilitates established infection control procedures such as disinfection and barrier protection. Operating, installation, and maintenance instructions were complete and easy to follow. Providers liked the light weight and portability of the unit. A self-contained irrigation reservoir eliminates the need for fixed connections. The noise level of the Piezon Master 400 was rated "Excellent." Placement of the power adjustment controls were judged to be "Good." Evaluators identified the location of the on/off switch (located at the rear of the unit) to be less than ideal. Users found that changing the tips can be labor intensive. The Piezon Master 400 met all electrical safety standards of AFI 41-201 and 41-203. Although the Piezon Master 400 can be flushed with sodium hypochlorite, the manufacturer does not provide a waterline disinfection protocol. EMS acknowledges that there is a learning curve involved in the use of piezoelectric scalers and provides well-detailed instructions to assist novice users. Four out of five clinical evaluators rated the Piezon Master 400 as "Good" or "Excellent." The **Piezon Master 400** is rated **Acceptable** for use by the federal dental services.