# Anodic Polisher

## Model E279


### FEATURES

- Reduces and polishes arch wires
- Cleans and reconditions bands
- Stainless steel electropolishing
- Mild, long-lasting electrolyte

### HEAVY-DUTY MODEL


Also available as a heavy-duty unit for orthodontic lab applications featuring a larger tank with heating/cooling temperature control (Model E1085-1) $1695

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# Instructions for
# Band Reconditioner Model E279

## Introduction

The E279 Unit is designed to reduce and polish arch wires, recondition bands, clean loose bands, polish retainer clasps, activate new bands, clean loose brackets, and clean soldering flux.

The unit is an automated instrument, designed for rapid, reliable, and simple operation. It is equipped with an automatic timer and automatic temperature control of the electrolyte. Holding devices enable the treatment of a wide variety of items: brackets, bands, wires, retainers, etc.

The ESMA-ORTHO liquid used for polishing is not phosphoric acid but a mildly acidic proprietary formulation-the result of ESMA research. Problems of water pickup, clouds of corrosive fumes of concentrated phosphoric acid, and corrosion of clips are eliminated in our system.

PLEASE READ CAREFULLY THE INSTRUCTIONS BEFORE OPERATING.

## Safety Instructions

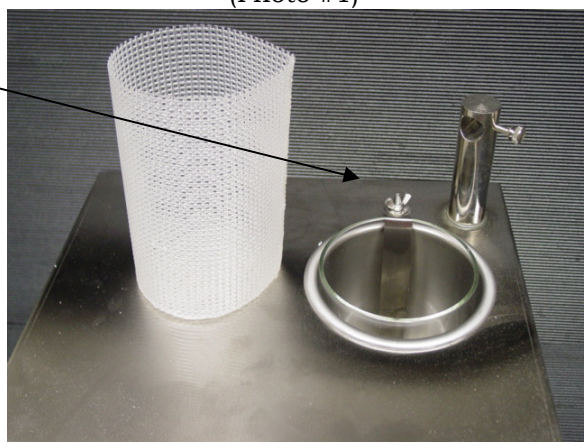
Although the system is designed with maximum safety features, certain precautions are recommended.

- Wear safety goggles when pouring ESMA-ORTHO liquid (into and out of jar). If contacted, rinse off with plenty of water. In case of eye contact, rinse off with plenty of water and seek medical attention.
- Avoid prolonged breathing of vapor during burnoff and polishing.
- Avoid overheating of liquid (details in these instructions).
- Unplug before removing the back panel. **NEVER operate with back panel off.**

## Installation

Units are shipped fully preassembled. Unpack and place unit on counter. Make sure that all packaging materials are removed and cathode 10L is connected to cathode binding post. (see photo).

(Photo #1)



The polypro mesh liner is inserted **over** the cathode to eliminate the possibility of shorting the anode to the strip cathode.

Pour ESMA-ORTHO liquid into polishing jar and connect to 115V outlet (230V for 230 units).

(Photo #2)

## Operation

Connect unit to 115-120 V outlet (230 V for 230 V units).

Polishing (see diagram 1) Turn switch of polishing cell ON (switch next to timer); in about 90 minutes the liquid attains the working temperature (thermostatically controlled); leave this switch in ON position if you use the polisher constantly during office hours; make sure cathode is connected as shown on photo #1 and positioned in solution between the glass wall and inner polyliner basket 6L.

- Suspend parts on clip 13C of arm 8E; immerse end of holder into liquid so treated parts are fully submersed; tighten arm 8E with knob 13A at desirable depth; position arm 8G by moving through hole in 6D.
- Turn automatic timer for desired time; wait for completion of polishing; indicator light is OFF during treatment; light comes ON again when polishing is ended.
- Remove holder with polished parts and dip in water, should you drop a part in the Ortho Liquid, pull out polyliner basket 6L and retrieve the part.
- Neutralize in baking soda solution (teaspoon of soda in a cup of water)
- Rinse under running hot water and air-dry.

THIS POLISHING PROCEDURE APPLIES TO ALL POLISHING APPLICATIONS.
NOTE: If you polish in sequence multiple batches, solution will overheat; allow 15-25 minutes for cool-off of liquid (leave switch in ON position).

## Applications

**1.** Loose Bands: Cleaning and Polishing—With our units you can handle a loose band case in only 45-55 seconds.

- Assistant 1 takes loose band.
- Assistant 2 mixes cement.
- Assistant 1, without any preliminary cleaning of foodstuff or calculus, attaches band to clip 13C and treats for 20 seconds in polishing cell.
- Tooth is being prepared.
- While assistant 1 cleans band, assistant 2 mixes cement and tooth is being prepared.
- Assistants hand clean band and mixed cement; band is promptly re-cemented.

Two or more loose bands can be polished in attachment 14I. Do not exceed 4 bands in a single load, and increase the treatment time.

**2.** Used Bands: Reconditioning—Bands that have been used once can be reconditioned for at least one more use. For efficiency, we recommend the reconditioning of at least 500 bands at a time.

- Separate carefully bands from wire.
- Polish 4 at a time in attachment 14I (not included) for 25-40 seconds (be aware of overheating).
- Sort by size.

NOTE: Reconditioning removes a minute amount of metal mainly from the outside of the band.

**3.** New Brackets and Bands: Cleaning and Activating Prior to Cementing—A 5-10 seconds polish in the polishing cell will remove oils, dust, and thin oxidation films that accumulate during storage. This cleaning-activation is being achieved as a result of a combined electrochemical and chemical action of ESMA-ORTHO liquid (polish 6 bands or 25 brackets in holder 14I). Without proper cleaning, loose brackets or bands could result.

**4.** Arch Wires: Reducing ("Smoothening")—When the arch wire does not fit easily into the slot, the reason is often the presence of burrs and irregularities, rather than mismatching gauge. A 3-7 seconds treatment in polisher will "smoothen" the wire and assure proper fit. Smoothening rather than excessive reduction will ensure close fit.

Procedure:

- Close ends of wire and cross over ends (diagram 2).
- Grip with clip 13C over wire just above the crossover point.
- Immerse in liquid so that the POINT OF CONTACT OF CLIP WITH WIRES IS IMMERSED (immersion will prevent overheating and tarnish), tighten screw 13A.
- Polish (set timer) for 3-7 seconds and rinse off.

Full immersion treatment is depicted in diagram 2: the crossover is done at about half the length of wire and holder 8E is lowered to full immersion of wire. Treatment time for tarnished wire is 2-3 seconds; longer treatment will be required if reduction of thickness of the full length is sought.

When a short wire has to be reduced, flipping and crossover maybe undesirable. A different way can be applied: Open jaws of clip 13C and insert the upper rounded part of the arch wire (middle of wire) into the joint of welded bracket. Releasing the jaws of clip 13C will ensure a firm grip. Polish with wire fully immersed.

**5.** Flux Removal: Polishing After Soldering--A 5-8 seconds polishing of soldered work completely removes fluxes and will polish the stainless parts. A mild dark deposit that may form on the soldered joint can be easily removed by treating ultrasonically with a tarnish remover. Shorter treatment reduces the amount of deposit.

**6.** Retainer Clasps Polishing--Stainless Steel clasps are usually oxidized and discolored after the curing of an acrylic retainer. Treatment in polishing cell will clean and polish the clasps and wires to a high luster so no manual polishing is required. Procedure: grip the clasp or wire with clip 13C and polish for 5-20 seconds. ESMA-ORTHO liquid will not damage the acrylics (and neither will it polish or clean the acrylics).

## Maintenance

Maintain clean cabinet—Wipe off with cloth wetted with mild detergent; polish with a polish for stainless appliances (as SHEILA SHINE). Solution should not be spilled on cabinet. Shorting

of post 6D may take place—Wipe off. Level of liquid to be 1¾" below top; keep replenishing. Replacement of ESMA-ORTHO. During polishing metal and metal oxides are dissolved, some decomposition and drag-out take place. Replace when action gets slow, solution thick, objectionable odor, non-uniform shine and rapid overheating. Frequency of exchange: 2-3 months. Clean polishing cell once every 4-6 months: unplug unit, unscrew knob of binding post, remove cathode and arm 8G, transfer liquid into separate container, rinse and dry vessels 1K and 5K. Water in rinsing beakers: exchange daily. Temperature of liquid to read 110F-130F (measure 90 minutes after start and 20 minutes after operating). Keep polishing switch ON during office hours.

Trouble Shooting—

Fuse Blowing

- Solution is spent and needs to be replaced.
- Cathode binding post connection is in need of cleaning and tightening.
- Polishing more parts than specified (refer to this manual).
- Frequent switching of ON/OFF switch causing overheating of solution (let unit cool or adjust).
- Liquid on cabinet top shorts post 6D (wipe off with wet and dry cloth).

No polishing

- Replace fuse, check cathode contact, clean all contact points.

FOR TECHNICAL ASSISTANCE PLEASE CALL 800-276-2466/708-331-1855

WE ALSO MANUFACTURE ANODIC POLISHERS WITH BURNOFF FURNACES FOR BRACKET RECONDITIONING, AS WELL AS OUSTANDING HIGH POWER ULTRASONIC UNITS.

Diagram 1

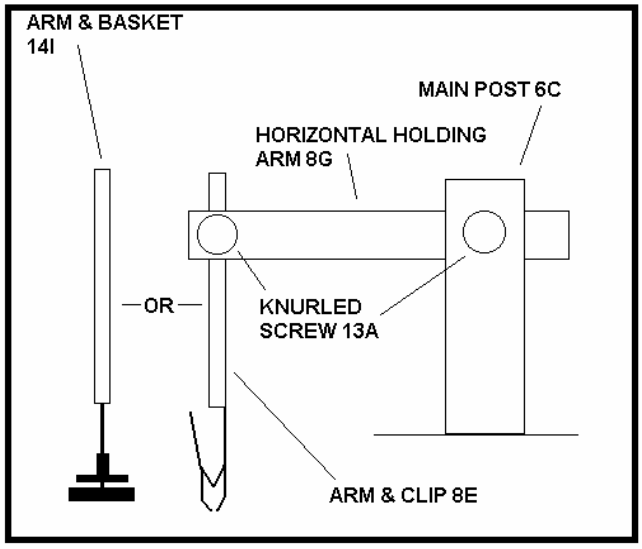



Diagram 2