

INSTRUCTIONS

MICROETCHER[®] CD

INTRAORAL SANDBLASTERS / DENTAL BONDING SYSTEM



- Hook up instructions
- Microetcher use
- Bonding techniques
- Intraoral use
- Maintenance instructions

Patented

RxOnly

NOTICE OF SAFETY & LIABILITY

For safety, read the instructions carefully before using this unit. The manufacturer, distributor, or retailer of this product can exercise no control over the use of the Microetcher. Therefore, the buyer or user shall assume full responsibility for any loss or injury. In all cases, original jurisdiction shall rest in San Diego County of the State of California.

SAFETY

Caution: Do not point the abrasive nozzle toward your face or eyes. Always wear safety glasses when using the unit outside of a closed cabinet. Note also that excessive backflushing can pressurize the abrasive jar and cause it to pop off or even burst. For this reason, backflushing should always be done in a safe receptacle.

We recommend that non intraoral sandblasting operations be done inside a dust cabinet. The cabinet should be equipped with a dust collection system to draw off the spent abrasive dust. Abrasive dust particles floating in the air can cause eye, nose, and throat problems, as well as damage to nearby machinery and optical instruments. Abrasive particles will scratch eye glasses! Protect the patient's eyes, glasses, and nose during intraoral procedures, and use high speed suction.

PRODUCT DESCRIPTION

MicroEtcher is a handheld dental sandblasting unit for intraoral sandblasting and dental lab applications. Surface area and surface reactivity are dramatically increased for maximum bonding. MicroEtcher CD is a fully autoclavable unit (except for removable jar) with stainless steel construction and a replaceable carbide tip that rotates 360 degrees. It includes a custom disconnect at the rear of the unit that plugs directly into your KaVo, Sirona, Bien-Air, or NSK handpiece quick connector.

INSTALLATION

The Microetcher CD is designed to be directly connected to a handpiece connector, compressed air of 40 to 100 psi (2.6 to 6.6 bars) at 1 cfm (30ccm/m) is required. There is a significant reduction in sandblasting action as the pressure is reduced below 60 psi., which is often found at unadjusted handpiece connection. **If connection is made to other than a conventional handpiece line, oxygen, flammable, or toxic gases must not be used.** Dehydrated air is not required; however, large particles in the air line can plug up the Microetcher.

HANDPIECE ADAPTOR INSERTS

The Microetcher CD has an adaptor insert designed for a specific handpiece connector brand. This insert can be removed and exchanged for another connector brand but frequent interchanging will damage o-rings on the insert.

CHANGING ADAPTOR INSERTS

The adaptor insert is held inside the Microetchers rear tube by o-ring friction. To remove the insert start by unscrewing the cap at the rear of the Microetcher. Then plug in and pull out the handpiece connector, the adaptor will come out with the connector. If no connector is available, the adaptor can be removed by wedging the tip of a small bent instrument inside the adaptor bore. Then pull the adaptor out using the instrument, taking care not to damage the o-ring inside the bore. The new adaptor is placed inside the Microetcher tube and the cap is screwed in place.

CHANGING ADAPTOR O-RINGS

The o-ring inside the adaptor bore is used to retain the handpiece connector. In time, with use the o-ring may wear and allow the handpiece connector to pop out.

O-ring replacement: Use small, sharp instrument, (such as an explorer) to catch and pull out the old o-ring. Push the new o-ring into the bore and use a small, blunt instrument to push it fully into the groove. The o-ring on the outside of the adaptor is removed with a sharp instrument. The new o-ring is stretched over the adaptor and should snap into the groove.

OPTIONAL NOZZLES

Nozzle Angles	Tip Sizes
60°	.048
Stainless Steel & Carbide	
60°	.032* & .048
Aluminum & Carbide	

* For pit & fissure preps.

Patented nozzle design allows rotation in 360° and easy removal for autoclaving.

ABRASIVES

The jar on the Microetcher should be filled three-quarters full with clean, dry abrasive. Abrasive should flow freely as the jar is rotated. Moist abrasive will cling to itself. Abrasives are very hygroscopic and should be kept in tightly sealed containers.

General abrasive uses are:

Aluminum Oxide, 90 micron, tan Rapid removal of cements from metals. Preparation of metals for bonding.

Aluminum Oxide, 50 micron, white General bonding preparation of metallic and nonmetallic surfaces. (Will not discolor porcelain or composites).

SilJet Powder Effectively applied to silanate surfaces.

Microprophy B, white Stain removal. Pit and fissure preparation. Sodium Bicarbonate, Flavored.

SA-85 Remove resin paste without enamel erosion.

Glass Beads, 90 micron, white Satin luster texturing metal surfaces to reduce brightness. Clean dentures. *Not for bonding or intraoral use.*

OPERATION

Hold the nozzle 2mm to 10mm from the surface. Sandblasting is most effective using continuous, overlapping sweeps rather than fast, erratic movements. A surface should appear evenly etched with a dull texture for optimal results. Excessive sandblasting will actually erode some surfaces such as porcelain.

Experiment on metal and glass. These will simulate both precious and nonprecious alloys and porcelain.

Nozzles are changed by unscrewing the collar completely. It is important to remove abrasive from the threads, collar and mating surfaces prior to reinstallation.

SAFETY

- Do not spray into gingiva for risk of air embolism.
- Protect eyes, nose & optical equipment.
- Have patient hold breath during intraoral spray, or use rubber dam.
- Clinical use which is not in accordance with the indicated uses listed in this manual should be avoided.

INDICATED USES

- Pit & fissure preparation.
- Tough stain removal from grooves.
- Crowns, bridges, posts and other restorations roughened for maximum bond.
- Existing amalgam, composite and porcelain can be etched intraorally.
- SilJet powder application.
- Intraoral porcelain repair and acrylic refacing.
- Orthodontic bonds and brackets roughening and cement removal for reuse.
- Denture repairs.

STERILIZATION

When used intraorally, a plastic sleeve should be placed over the Microetcher, piercing only the tip through the sleeve to limit direct patient contact to the tip. The nozzle should be sterilized prior to each use. Other portions of the Microetcher should be sterilized if patient contact or contamination is suspected.

PREPARATION FOR STERILIZATION

Prior to sterilization and while connected to the compressed air line, remove the abrasive jar from the pickup stem, and depress the finger button. Unscrew the nozzle and remove any debris. This will purge abrasive from the internal components of the Microetcher. Failure to do this may result in clogging.

Note: Remove clear jar and white filter from jar cap prior to sterilization. Replace filter before operating unit again. Filter is removed and reinstalled by pushing with fingers.

Model Type	Component	Sterilization Procedure
Microetcher CD	Nozzle	Autoclave at 132°C (269°F) for 15 minutes.
Microetcher CD	Body	Autoclave at 132°C (269°F) for 15 minutes.

TROUBLESHOOTING/MAINTENANCE

Problem

Recommended Corrective Action

IMPORTANT: A loose collar will cause the Microetcher to malfunction and can result in the abrasive jar bursting or popping off.

Air flow but sporadic or no abrasive flow.

- Back flush by placing finger over the nozzle and depressing the finger button very briefly.
- Check abrasive fill, or for moist or lumpy abrasive.
- Tighten nozzle assembly; check for worn or missing o-rings.
- Worn nozzle; replace carbide or entire nozzle assembly.

Limited air flow.

- Check air pressure.
- Remove nozzle, clear possible plugs by blowing air backwards into carbide tip (convenient air source is center port in handpiece body).

Carbide tip replacement.

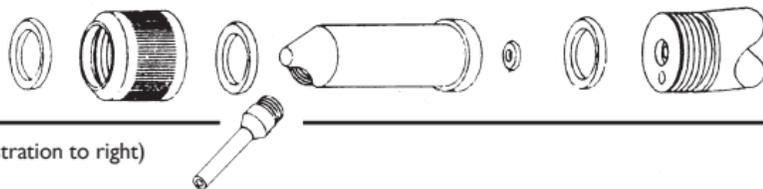
Worn carbide tips result in greatly reduced performance (annual replacement with normal use is recommended). For .048 carbide tips simply unscrew and replace with a new tip. The smaller tips .032 are glued in place and should be returned for replacement.

Handpiece connector leaks or pops off.

If handpiece connector leaks, change the outer adaptor O-ring. If connector pops off, replace the O-ring within the adaptor bore.

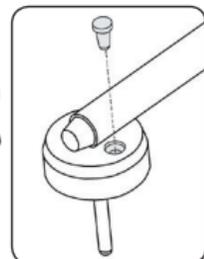
O-ring replacement.

Replace according to chart.



Filter Replacement

Filter pushes in and out of jar cap. (See illustration to right)



DEFINITIONS OF SYMBOLS

The following symbols may appear on the product packaging or labeling.

Symbol	Definition	Symbol	Definition
	Reference number		Lot number
	Use by		Manufacturer
RxOnly	Caution: Federal law restricts this device to sale by or on the order of a dentist.		European Community Authorized Representative
	European Mark of Conformity		Consult instructions for use



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