

MICRO-PENCIL/MICRO SUCTION CABINET GENERAL INSTRUCTIONS

Pencils and cabinets come completely assembled, requiring only a supply of an appropriate medium, and a source of clean, dry, oil-free compressed air to begin operating.

The choice of which medium to use will depend upon the work to be performed and will vary from glass beads for peening to aluminum oxide for cutting and abrading.

If the medium is aluminum oxide, feed will be adequate until the level falls below 3" from the canister bottom.

For the recycling pencil, it is recommended to begin with 10 pounds of medium in the cone chamber; or, you may fill the cone chamber to 1 1/2 inches below the metal screen.

AIR SUPPLY

The Micro-Suction Cabinet requires an air supply delivering a minimum of 6 CFM.

As the system is rarely used on a constant basis, you can generally operate it from a compressor that delivers less than 6CFM provided the compressor is rated at least 1 HP.

For the smaller lab using the system in short cycles, a compressor delivering as little as 2 1/2 CFM may suffice if it has a moderately large air storage tank. This should allow it to build up sufficient air reserve whenever the foot control is not activated to enable the system to run in 10 to 15 second cycles. If you expect to use your unit more frequently, you should consider having a compressor that will deliver the 6 CFM requirement.

An important consideration is an "In-Line Air Filter" for the compressor as any compressor will pick up moisture, dirt and oil contamination as it operates. An air filter will prevent the inclusion of these deleterious elements into your unit.

AIR PRESSURE

The most efficient working air pressure ranges from 75 psi to 125 psi. While each unit has been factory tested, continual usage at pressures exceeding 125 psi is neither warranted or recommended, since little additional efficiency can or will be attained by excessive pressures. Conversely, too low a pressure setting can result in reduced abrading, peening or polishing efficiency.

INITIAL AIR PRESSURE SETTINGS

Aluminum Oxide (50 microns)	75 psi to 100 psi
Glass Beads (100 microns)	25 psi (For porcelain veneers only)

FILTER REGULATOR WITH GAUGE

The Filter regulator supplied with the unit includes instructions from the manufacturer. Read the precaution and maintenance instructions carefully.

MEDIUM PRECAUTIONS

Micro-Pencils and Cabinets are designed to operate optimally with free-flowing dry medium, either an abrasive (aluminum oxide) or polishing (glass beads). The importance of using only clean, dry medium cannot be over-emphasized. Even the slightest dampness in the medium can cause caking and jamming which can plug the "pickup" causing it to become inoperative. (Should this problem occur, see "Feed Difficulties" for corrective action). The importance of an "In-Line Air Filter" is critical to the operation of the unit.

FLOWVALVES

Both the Standard and Deluxe Micro-Pencils have a "flow valve". In addition, the Deluxe Micro-Suction Cabinet has one for the recycling handpiece.

The brass thumbscrew at the valve controls the flow of the medium.

To adjust::

Clockwise - Maximum Flow

Counter-Clockwise - Minimum Flow

FILTER BAG

The "Filter Bag" is another critical part of the suction system and should be cleaned on a regularly scheduled basis. Failure to do so will result in decreased suction efficiency and will cause accumulation of abrasive material and dust in the work area. The "Filter Bag" may be cleaned by striking it against a hard surface and vacuuming. You may want to order a spare bag so you will always have a clean one available for use.

DONUT AIR FILTERS

On a less frequent basis, it is also important to clean or replace these air filters.

SPENT OXIDES

Spent materials should be dumped from the bottom part of the cabinet as it accumulates. Neglect of this simple operation will markedly decrease the efficiency of the system.

MICRO-PENCIL TIPS

Tips on Micro-Pencils should be inspected for wear frequently. Replacement is recommended after every 50 pounds of oxide medium consumption or at least before the ceramic tip wears through to the brass body of the tip. Use this chart as an Indicator of wear.



NEW



GOOD



REPLACE



DO NOT USE

TROUBLE SHOOTING CHART

PROBLEM	CAUSE	CORRECTION
PULSATION Gun has a pulsating or throbbing feel. Oxide feed varies from heavy to almost none.	Flow valve is shut too tightly.	Turn the valve screw counter-clockwise. Inspect the oxide medium to insure that it is clean and dry. Replace it if necessary.
COMPLETE FEED STOPPAGE Air flow from the nozzle is set at full flow	Nozzle is plugged. Holes in the feed are plugged with over-size medium or foreign matter. Medium level is too low	Close the nozzle momentarily with a finger in order to "blowback" oxide, (Also see: PULSATION). Remove the lid from the Canister. in order to clear the pickup openings. Shift the medium or replace it with new medium. Canister must have at least 3" of medium at all times.
WEAK OR LACK OF AIR FLOW FROM THE NOZZLE	Jammed air-jet	Try to clear it with a fine wire (.010 maximum gauge). Close the nozzle momentarily with a finger in order to "blowback" oxide.

Assembly and Operating Instructions STANDARD MICRO-SUCTION CABINET MODEL NUMBER 2102200

As this cabinet does not come with a Filter Regular/Gauge, we suggest it be used with our Deluxe Micro-Pencil (Model 2101516) which includes this feature. (The filter is an important adjunct to a compressor filter - not a replacement)

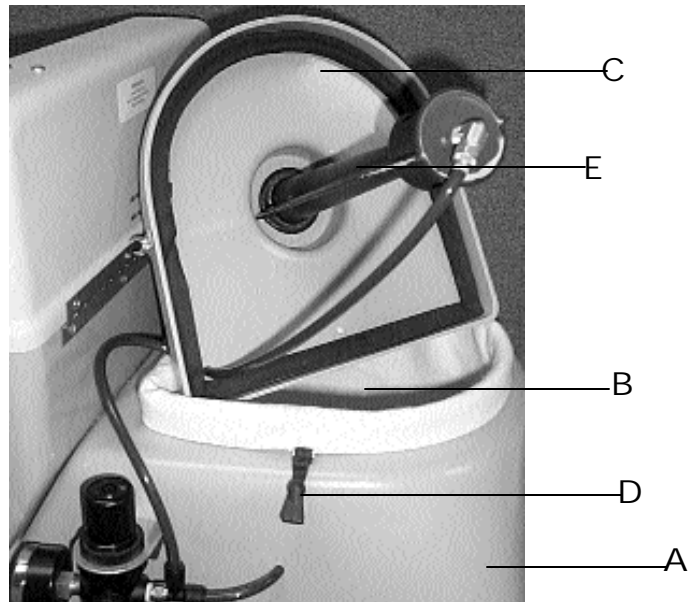
SETUP OF CABINET AND MICRO-PENCIL - See figure 1, Page 5

1. Remove pressure tubing from brass "Elbow" (1) on Filter Regulator Gauge (C) located on Canister Lid.
2. Unscrew the Elbow and replace it with the plastic "T" fitting (A) that is connected to the tubing entering the Cabinet
3. Take the pressure tubing end removed from the Elbow and firmly insert it into the horizontal arm of the "T". (This is a pressure fitting - if it becomes necessary to remove the tubing, push in on the exposed plastic of the fitting to release the tubing.)
4. Connect the tubing from the foot control (H) to an air supply. Set the air supply to deliver 100 psi.
5. Plug in the electric line cord from the cabinet light (D).
6. To empty spent medium from the cabinet, depress the foot control several times to loosen the medium. Disengage the two cabinet rubber hinge latches (F) on the collector (G). Carefully

lift off the cabinet from the collector and dump the spent medium from the collector.

CABINET FILTER

The cabinet filter bag (B) is located in (A), unlatch the two cabinet rubber hinges latches (D) on the upper cabinet to expose the bag. Clean the bag frequently.



PARTS IDENTIFICATION

- A. Filter Compartment
- B. Filter Bag
- C. Compartment Top
- D. Rubber Hinge Latch
- E. Venturi Assembly,

FIGURE I

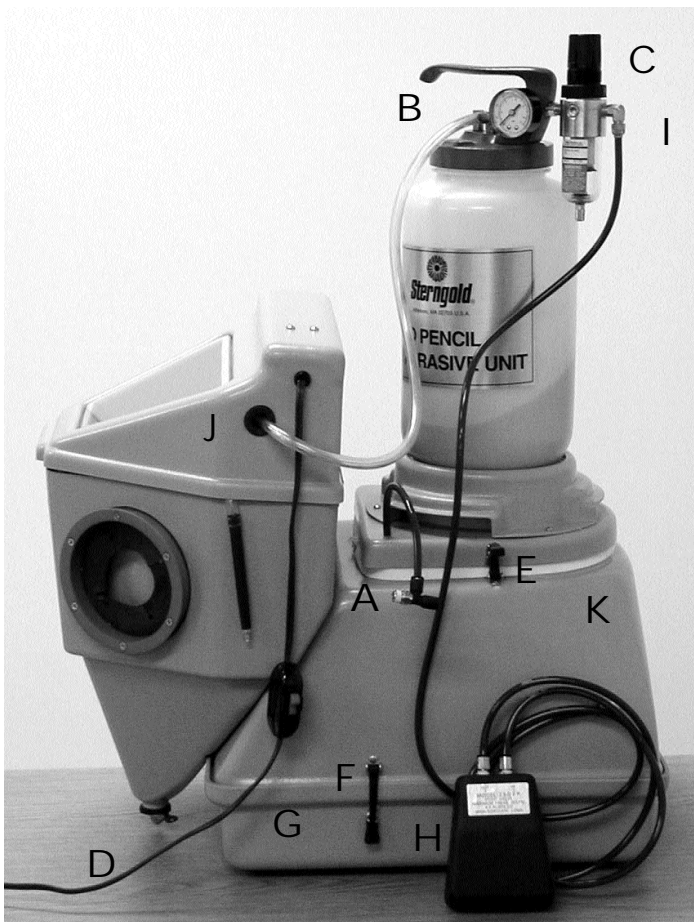
MICRO VAC
COMPONENT SYSTEMS

WORK STATION

- REGULAR VACUUM 2102200
- MICRO PENCIL DELUXE 2101516

PARTS IDENTIFICATION

- A. "T" Assembly
- B. Flow.- Control Ftg.
- C. Filter Regulation/Gauge



- D. Electric Cord
- E. Rubber Hinge Latch
- F. Rubber Hinge Latch
- G. Collector
- H Foot Control
- I. Elbow
- J. Micro-Pencil. Opening
- K. Filter Bag Compartment

Assembly and Operating Instructions DELUXE MICRO-SUCTION CABINET MODEL NUMBER 2102250

With a built-in recycling Micro-Pencil and Filter
Regulator/Gauge

Used In conjunction with a Standard Micro-Pencil - Model
Number 2101510

SETUP OF CABINET AND MICRO-PENCIL

See figure 2, Page 7

1. Firmly insert blue tubing from Micro-Pencil into Bulkhead Union (A) located to the left of the Recycling switch (B). (This is a pressure fitting - if it becomes necessary to remove the tubing, push in on the exposed plastic of the fitting to release the tubing.)
2. Insert Gun Body Hand Piece into Cabinet Opening (R).
3. Connect pressure tubing from Foot Control (L) by firmly pressing into the brass pressure fitting (E) on the Filter Regulator.
4. Connect the Foot Control Air Supply fitting to your air supply. Set the air supply to deliver 100 psi.
5. Plug in the electric line cord from the cabinet light (C).

HOW THE CABINET RECYCLING HANDPIECE WORKS

The Non-recycling Micro-Pencil will operate whenever the Cabinet Recycling Switch (B) Is In the UP position.

The Cabinet's built-in Recycling Handpiece will operate whenever the Cabinet Recycling Switch Is in the DOWN position.

In either mode, the Venturi Suction System is automatically activated whenever the Foot Control is depressed.

(In order for the built-in Recycling Handpiece to function, there must be oxide in the front collection chamber of the Cabinet. Before starting, lift the Cabinet Lid and pour In about 10 pounds of oxide - it will fall through the chamber grate.)

EMPTYING THE CABINET

Depress the foot control several times to loosen the medium. Disengage the two cabinet rubber hinge latches (K) on the collector (Q). Carefully lift off the cabinet from the collector and dump the spent medium from the collector.

EMPTYING THE RECYCLING CHAMBER

Place a waste container under the nose cone spout plug (1) and release the spout plug. NOTE: you must refill the cone chamber for the recycling hand piece to function.

CABINET FILTER

Refer to the illustration shown for the STANDARD MICRO-SUCTION CABINET On the previous page.

