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## **AUTOSCALER® WARRANTY INFORMATION**

### **For All Models**

Proof of purchase such as a copy of ORIGINAL BILL OF SALE must be submitted to obtain warranty service. Warranty DOES NOT include Shipping and Handling charges in either direction.

South East Instruments, LLC (hereafter SEI) subject to the terms and conditions herein below expressly set forth in Paragraphs "1" through "4" **HEREBY WARRANTS** that it will repair the **AUTOSCALER® Ultrasonic Scaler** which proves defective by reason of improper workmanship and or materials.

1. **SIX YEAR Parts and Labor coverage on circuit boards, and TWO YEAR Parts and Labor coverage on all other components of the AUTOSCALER®.**
2. **ORIGINAL PURCHASER:** This warranty is limited to the original purchaser of the unit. When requesting warranty service, SEI needs a **RETAIL sales receipt to VALIDATE sales/installation date.**
3. **PROPER DELIVERY: The unit must be shipped, Freight Prepaid, or delivered to SEI to render the services provided hereunder in either its original package, or a similar package affording an equal degree of protection. Warranty does not include shipping and handling back to the customer.**
4. **UNAUTHORIZED REPAIR, ABUSE, ETC.:** The unit must not have been previously altered, repaired or serviced by anyone other than SEI or a qualified technician. To render such service, the serial number on the unit must not have been altered or removed. The unit must not have been subjected to accident, misuse, abuse, or operated contrary to the operating instructions. **Handpiece assembly** is not warranted if subjected to abuse from excessive pulling/stretching, debris and/or chemical accumulation from water supplies. **Water system** is not warranted by failure due to debris, and/or chemical deposits from water supplies or added medicinal solutions. **Foot switch** is not warranted by failure due to tampering, or operation/storage in a wet environment.

**EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE, SHALL APPLY TO THIS EQUIPMENT. DAMAGES ARE LIMITED STRICTLY TO REPAIR OR REPLACEMENT OF PARTS. UNDER NO CIRCUMSTANCES SHALL SEI BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE EQUIPMENT, AND SEI NEITHER ASSUMES NOR AUTHORIZES ANY REPRESENTATIVE, OR OTHER PERSON TO ASSUME FOR IT ANY OBLIGATION FOR LIABILITY OTHER THAN SUCH AS IS EXPRESSLY SET FORTH HEREIN.**

# AUTOSCALER®

ULTRASONIC SCALER/PROPHYLAXIS UNIT

## DIRECTIONS FOR USE For Tabletop Models AW25C and AW30C



THE **AUTOSCALER®** ULTRASONIC SCALER IS A PRESCRIPTION DEVICE AND IS INTENDED FOR USE ONLY BY LICENSED DENTAL PRACTITIONERS.

FEDERAL LAW RESTRICTS THE DEVICE TO SALE BY OR ON THE ORDER OF A LICENSED PRACTITIONER.

AUTOSCALER® DIRECTIONS FOR USE  
ALL RIGHTS RESERVED  
Form #QP272-G, Rev. September 2020  
Documents Affected: AW25C, AW30C; FM119, MP104

## FEATURES

The **AUTOSCALER®** is designed for Dental Prophylaxis Treatment when used with the appropriate Cavitron® brand – Series: “P”, “SLIMLINE”™, “FSI”™ or “TFI”™ 25,000Hz series inserts\*. If you have purchased the **AUTOSCALER®** 30,000Hz model you must use 30,000Hz frequency inserts. Inserts are not interchangeable. The **AUTOSCALER®** is acceptable for use in scaling and cleaning surfaces of teeth in conjunction with other prophylactic measures.

**AUTOSCALER®** is a registered trademark of South East Instruments, LLC.

Recommendations by the manufacturer contained within this instruction booklet are recommendations only. Other options may be available or mandated by the professional or regulating agencies.

## RESPONSIBILITIES

It is the responsibility of the dental professional using this device to be fully trained in the proper use of ultrasonic scalers. The operator must be observant of possible changes in performance during a procedure and immediately discontinue use of this product, and determine the cause of such changes in performance before continuing dental procedures. Performance varies slightly between manufacturers of ultrasonic scalers, so the operator must become familiar with the operating parameters, and adjustments of this particular device. Performance varies between Ultrasonic Inserts due to the style insert, model insert, and from the age and/or modifications of the insert.

## SPECIAL PRECAUTIONS

- ◆ ***The flexible Water Input Hose is subject to deterioration by aging, chemicals in the water supply, excessive flexing, and pressure fluctuations.*** As an added precaution, the water supply should be turned OFF at the end of the day. REMEMBER to turn the water back ON prior to use the next day.
- ◆ ***The AUTOSCALER® should NOT be used for restorative dental procedures involving the CONDENSATION OF AMALGAM.***

\*Cavitron®, SLIMLINE™, FSI™, and TFI™ are registered trade marks of Dentsply Sirona

- ◆ **The AUTOSCALER® should NOT be used on or near anyone fitted with a CARDIAC PACEMAKER.**
- ◆ **Do not remove the cover from the unit.** There are NO user serviceable parts inside. Allow only qualified technicians to service your AUTOSCALER®.
- ◆ **DO NOT AUTOCLAVE the detachable HANDPIECE assembly.** A Federally approved non-immersion WATER BASED cold sterilization solution may be used on the detachable handpiece assembly. However, DO NOT get sterilization solutions on the electrical contacts of the Handpiece CONNECTOR as this will cause oxidation, and a poor electrical connection. DRY ALL SURFACES with clean air or clean paper towels.
- ◆ **If your unit is left ON,** and the footswitch is accidentally depressed while unattended, this will permanently damage your unit. Be sure nothing is touching the operatory air foot switch when not in use.

## INFECTION CONTROL

- ◆ **Manufacturer recommends that all operators of this ultrasonic unit wear at least one pair of surgical rubber gloves,** and for extra prevention wear double pairs of gloves to isolate the operator from infection, and cross contamination of other patients.
- ◆ **It is recommended that complete eye and face protection be used** during the use of this unit to prevent saliva spray from being inhaled, and from entering the operator's eyes.
- ◆ **Operator should be careful not to puncture the skin with any insert tip containing saliva from patients.** Insert tips should be sterilized after each patient according to the insert manufacturer's instructions.
- ◆ **DO NOT AUTOCLAVE the detachable HANDPIECE assembly.** A Federally approved non-immersion WATER BASED cold sterilization solution may be used on the detachable handpiece assembly. However, DO NOT get sterilization solutions on the electrical contacts of the Handpiece CONNECTOR as this will cause oxidation, and a poor electrical connection. DRY ALL SURFACES with clean air or clean paper towels.
- ◆ **Manufacturer recommends the use of a disposable handpiece sleeve/barrier** that keeps contamination from getting on the handpiece assembly. Dispose of sleeve/barrier after each patient. Ask your local dealer for HIGH SPEED LONG sleeve/barrier.

## INTRODUCTION

Your South East Instruments **AUTOSCALER®** Ultrasonic Scaler is a precision engineered instrument, constructed with the finest of materials, and requiring no special maintenance. By taking the following precautions your unit will give you many years of service.

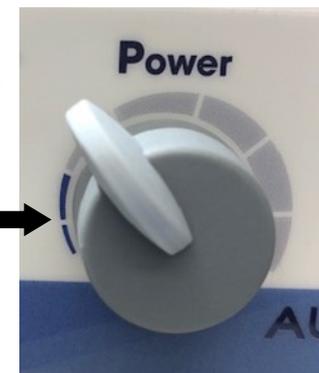
1. Do not place unit on or near any source of heat.
2. Clean the outer surfaces of the **AUTOSCALER®** with a Federally approved non-immersion WATER BASED cold sterilization solution. Dry immediately with clean air or clean paper towels.
3. Unit should be located where a normal amount of air will circulate freely around the case when in use.
4. The handpiece and Quick Connector are very strong but care should be taken NOT TO PULL with excessive force.

*Basically, the unit consists of three major components: the electronic generator, the water system, and the handpiece assembly.*

## ELECTRONIC GENERATOR AND WATER SYSTEM

The electronic generator produces the frequency and the power to activate a wide variety of interchangeable Cavitron® insert tips. The water system provides precise control over the water lavage flow which serves to wash debris from the work area, and to cool the laminations of the insert tip. The following controls are found on the front panel of your **AUTOSCALER®**:

- ◆ **Toggle Switch** : To turn unit On and Off.
- ◆ **Indicator L.E.D. Lamp** (above the switch) which lights when the Toggle Switch is set to the ON-I position, indicating the unit is ready for operation.
- ◆ **Power Control Knob**: The Linear Power Control knob adjusts the output power to the insert tip. The blue shaded area is for use when using Cavitron® SLIMLINE™, FSI™ or modified Periodontal inserts. It is recommended the Power not be set higher than 12:00 even if no mist appears at the tip. Slimline inserts do not easily mist the water, and are very fragile at higher power settings. FOLLOW INSERT MANUFACTURER'S COMPLETE INSTRUCTIONS.



- ◆ **Water Control Knob:** For adjusting the flow of water to the handpiece and insert tip. To obtain the necessary water flow of at least (18cc - 30cc/+/minute) turn the WATER KNOB clockwise. HIGHER water flow to the RIGHT, and LOWER water flow to the LEFT.
- ◆ **Handpiece Panel Receptacle:** Accepts the male side of the Handpiece connector with lock ring.

## HANDPIECE ASSEMBLY

The handpiece assembly is used to accept Cavitron® interchangeable insert tips. It is connected to the AUTOSCALER® front panel by a Quick Connector. The open end of the handpiece will accept all Cavitron® brand: "P", "TFI™", "SLIMLINE™" or "FSI™" style 25,000Hz (25K) inserts. *If you ordered a 30,000Hz (30K) model AUTOSCALER®, you must use the shorter (30K) frequency insert tips.*

- ◆ 30K tips measure (Shorter style approx. 6.25 inches long)
- ◆ 25K tips measure (Longer style approx. 7.25 inches long)



**(25K) inserts will NOT work in your 30K unit.**  
**(30K) inserts will NOT work in your 25K unit.**

**Inserts are extremely FRAGILE.** If one is dropped, bent, or scratched it WILL NOT cavitate (*i.e. will not function*) or function by operating at a higher than normal temperature, and should be replaced immediately.

**Insert tips should be routinely replaced according to insert manufacturer's recommendations.**

## ELECTRICAL REQUIREMENTS

**A GROUNDED wall receptacle is required supplying a voltage range of 110-125 volts 50/60 Hz A.C.** If a 3 to 2 prong adapter is used, the ground wire MUST be connected to the base plate screw. Have an electrician test your outlet for correct wiring polarity and a safe ground. Do not assume the ground is complete. **If you plug the AUTOSCALER® in a GFI (Ground Fault Interrupt ) outlet it may trip the socket due to the high sensitivity of the socket. If this occurs plug the AUTOSCALER® into a non-GFI socket.**

*\*Cavitron®, SLIMLINE™, FSI™, and TFI™ are registered trade marks of Dentsply Sirona*

## INSTALLING THE HANDPIECE ASSEMBLY

1. Align the electrical contacts of the MALE connector with the same on the FEMALE panel connector.
2. Gently insert the connector. It should slide in with very little effort. If the connector does not align, DO NOT force it. Turn the CONNECTOR BODY in either direction until the connector correctly aligns and goes in.
3. Once the connector has been completely inserted, screw the OUTSIDE LOCK RING to the RIGHT with light finger pressure until it stops. DO NOT over tighten the lock ring, be careful not to cross thread the lock ring.
4. To remove the connector, unscrew the lock ring to the left, and gently pull outward grasping the entire connector body.

## INSTALLATION AND OPERATION

*DO NOT use your AUTOSCALER® until all of the following steps have been completed.*

1. Upon receipt of your unit carefully unpack it and see that the Toggle Switch is in the OFF-O position.
2. **The Water Control Knob should be in the HIGH position** by turning the water control knob all the way to the RIGHT.
3. **Set the Power Knob** all the way to the LEFT in the LOW position.
4. **Plug the male Water Quick Release Valve water connector** into the Dental operator or have a plumber install a SHUT OFF style FEMALE connector. A minimum of (20 P.S.I.) water input pressure and a maximum of (60 P.S.I.) is needed from the operator for proper operation of the AUTOSCALER®. It is recommended that water line filtration be used to remove larger particles before entering the scaler.
5. **Plug the power cord into the wall** (see electrical requirements). Press the toggle switch to the ON-I position. The L.E.D. light above the switch should be ON ("I" position).
6. **Select an insert. Moisten the rubber O-RING before inserting into the handpiece. While holding the handpiece UPRIGHT place the insert in the open end of the handpiece and with a gentle PRESS and TURN motion, snap the insert in fully. DO NOT force the insert.**
7. **Manufacturer recommends the use of a disposable handpiece sleeve/barrier be used over the handpiece assembly.** Place the sleeve/barrier over the handpiece. While holding the sleeve/barrier in place, puncture the insert through the plastic at the open end of the handpiece, and snap the insert in fully. Dispose of sleeve/barrier after each patient.
8. Due to atmospheric exposure and exposure to sterilization solutions the **O-RING** on the insert tip may become swollen, brittle, or crack, and require replacement.

9. **Hold the handpiece in a VERTICAL upright position and step on the foot switch.** Within 10-15 seconds water should come out of

the open end of the handpiece IF NOT, QUICKLY turn WATER KNOB clockwise to get water flow, some air will escape at the same time. This step is IMPORTANT because trapped air will cause HOT SPOTS (usually noted by a loud screeching sound) which can affect the performance of the AUTOSCALER® or permanently damage the handpiece assembly.



10. **Inserts and handpiece will burn in 45-60 seconds in the absence of water. A (18cc—30cc+/min) flow is the normal flow range, and necessary at all times. NEVER touch the Cavitating/Vibrating end of the insert tip to any flesh such as the cheek, tongue, or gums unless performing special periodontal procedures. This will cause a FRICTION BURN to the patient. Always keep the insert in motion, do not rest the handle or insert on the lips during a procedure. The insert tip should touch primarily the calculus on the tooth surface and NOT the enamel of the tooth surface.**
11. **Allow the air bubbles to escape for about 10-20 seconds. Turn the POWER KNOB to the RIGHT in the Medium position and the insert tip should Cavitate/Vibrate with a strong mist.** Turn the water knob to the right if there is *no mist or weak misting*.
12. **The application of the power knob** is for controlling the Output Power to the insert tip in a smooth linear action. The operator can select the EXACT power needed for cleaning. Set power knob LOW (Left Direction) to MEDIUM (Center) for cooler handpiece/insert temperature.
13. **The high power setting** is for applications where an excessive amount of calculus is built up. **The Low power setting** can be used for periodontal Subgingival curettage and root planing procedures. Most scaling should be done only on the LOW to MEDIUM power setting.
14. **If SLIMLINE™, FSI™ or Modified Periodontal inserts are used set the POWER Knob in the BLUE shaded area.** This power level is designed to be used with these fragile specialty inserts. Inserts may give a drip and mist combination, this is normal for these inserts. This is actually preferred by most Periodontal professionals due to the water drip being ultrasonically activated within 0.5mm of the tip assisting in killing plaque.

**UNIT IS NOW READY FOR USE**

## SHUT DOWN PROCEDURE

1. **IMPORTANT:** At the end of the work day turn off the water supply to the AUTOSCALER® by disconnecting the QUICK RELEASE VALVE water connector or shutting off the main operatory water supply. This will prevent water damage to your office by aging or unseen defects in water lines that could rupture under continuous pressure.
2. Purge water from the AUTOSCALER® water hose and plumbing system at the end of the day.
  - Connect the QUICK RELEASE VALVE water connector to an air source.
  - Turn the Power Knob to the Left to the lowest setting and the Water Knob to the Right to the highest setting.
  - Press the Toggle switch to the *ON-I* position
  - Hold the handpiece assembly over a basin and step on the footswitch and run the scaler just until all water is expelled via the handpiece assembly.
3. Press the Toggle Switch to the *OFF-O* position. The light should be off.
4. Reconnect the QUICK RELEASE VALVE water connector to the water supply.
5. REMEMBER to reconnect (turn on) the water the next day before usage.

## TROUBLESHOOTING

**If the unit does not function, proceed with the following:**

1. **If the power L.E.D. light above the switch is not lit,** replace the FUSE on the rear panel with a "LITTLE FUSE" 2 amp Fast Blow style. If the fuse opens again DO NOT attempt to replace the fuse as this indicates a serious condition that must be examined by the factory. Call for service (800) 648-9445.
2. **Check the plug.** Is it all the way in the receptacle?
3. **Try another insert.** Make sure it is the correct frequency, 25K or 30K, depending on your model. Each model has a frequency (25K or 30K) label on the cover and the frequency is also indicated on the serial number plate located on the back of the device. **The most common mistake when purchasing a new unit is selecting the wrong frequency insert.**
4. **If water flow is insufficient,** check water pressure at the operatory for minimum of **20 P.S.I.** The Insert Water slot could be clogged with debris. Try another insert. See if the QUICK RELEASE VALVE water connector is locked fully in place.
5. **If the handpiece handle or insert operates HOT:** REDUCE POWER LEVEL and INCREASE WATER FLOW.

6. **NEVER touch the Cavitating/Vibrating end of the insert tip to any FLESH such as the cheek, tongue, or gums unless performing special periodontal procedures**, this will cause a friction burn to the patient. Always keep the insert in motion. Do not rest the handle or insert on the lips during a procedure. The insert tip should touch PRIMARILY the calculus on the tooth surface, and NOT the enamel of the tooth surface.
7. **If the AUTOSCALER® stops functioning or is intermittent when the handpiece cord is moved**, this means a wire in the handpiece cord is broken and must be immediately repaired or replaced. DO NOT continue to press the foot switch as there is a possibility the internal circuit safety fuse may blow and require replacement by a qualified technician.
8. **If handpiece service is needed:** Turn the unit OFF. Carefully unscrew the outer lock ring of the handpiece assembly to the LEFT and gently unplug the handpiece from the front panel. You can call your dealer for assistance or SEI at (800) 648-9445 for further instruction.
9. **If a humming or high pitch sound is noted from the console during routine use**, this is a normal circuit resonance which will change as the POWER control knob is adjusted up and down, and will not affect the performance of your AUTOSCALER®.
10. **Slimline™ and FSI™ inserts** are extremely thin and FRAGILE. During normal use the water may not mist like standard inserts (*i.e. like a TFI#10 curette tip*); however, the cleaning action is just as effective. It is recommended the Power knob be set in the LOW position (Blue area) to assure best performance.

Call your dealer or customer service at South East Instruments for further instructions at (800) 648-9445 to help you with questions and what to do next.

## SCALING TECHNIQUES

Scaling techniques are at the option of the professional using this instrument.

1. Excessive pressure is not necessary with the AUTOSCALER®. Use a gentle, rapid motion with small overlapping strokes, being certain that the insert is at a *15 degree angle* to the tooth surface.
2. If patient Hypersensitivity is noted, you should *lighten pressure* on the handpiece, *Reduce the Power Level* or *move from the sensitive tooth* to another and return to the tooth later. If sensitivity persists, switch to a hand instrument.

# AUTOSCALER®

ULTRASONIC SCALER/PROPHYLAXIS UNIT

## DIRECTIONS FOR USE For Build-In Retrofit Models AW25BI and AW30BI



THE AUTOSCALER® ULTRASONIC SCALER IS A PRESCRIPTION DEVICE AND IS INTENDED FOR USE ONLY BY LICENSED DENTAL PRACTITIONERS.

FEDERAL LAW RESTRICTS THE DEVICE TO SALE BY OR ON THE ORDER OF A LICENSED PRACTITIONER.

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Form #QP272-G, Rev. September 2020  
Documents Affected: AW25BI, AW30BI; FM124, MP105

## FEATURES

The **AUTOSCALER**<sup>®</sup> is designed for Dental Prophylaxis Treatment when used with the appropriate Cavitron<sup>®</sup> brand – Series: “P”, “SLIMLINE”<sup>™</sup>, “FSI”<sup>™</sup> or “TFI”<sup>™</sup> 25,000Hz series inserts\*. If you have purchased the **AUTOSCALER**<sup>®</sup> 30,000Hz model you must use the 30,000Hz frequency inserts. Inserts are not interchangeable. The **AUTOSCALER**<sup>®</sup> is acceptable for use in scaling and cleaning surfaces of teeth in conjunction with other prophylactic measures.

This Build-In style **AUTOSCALER**<sup>®</sup> unit is **NOT** intended for user/owner install. It requires a technician familiar with dental operatory Air and Water circuitry. This product needs installation of the following for proper operation:

1. **The Handpiece Assembly.** Routing of 18 gauge wires through the dental operatory to the **AUTOSCALER**<sup>®</sup> console.
2. **Water delivery/control for the unit.** The **AUTOSCALER**<sup>®</sup> does not come equipped with any water control devices/controllers, however proper water flow is mandatory for the operation of this product. See operating instructions later in this booklet for proper operating parameters.
3. **Power Control Pot.** Routing of (2) 18 gauge wires through the dental operatory to the **AUTOSCALER**<sup>®</sup> console.
4. **An independent Air Source** to activate the **AUTOSCALER**<sup>®</sup> supplied by the dental operatory (*i.e. independent air/water block with auto holder*). The air supply must relieve to zero pressure after each depression of the main air rheostat.

**AUTOSCALER**<sup>®</sup> is a trade mark of South East Instruments, LLC.

Recommendations by the manufacturer contained within this instruction booklet are suggestions only. Other options may be available or mandated by the professional or regulating agencies.

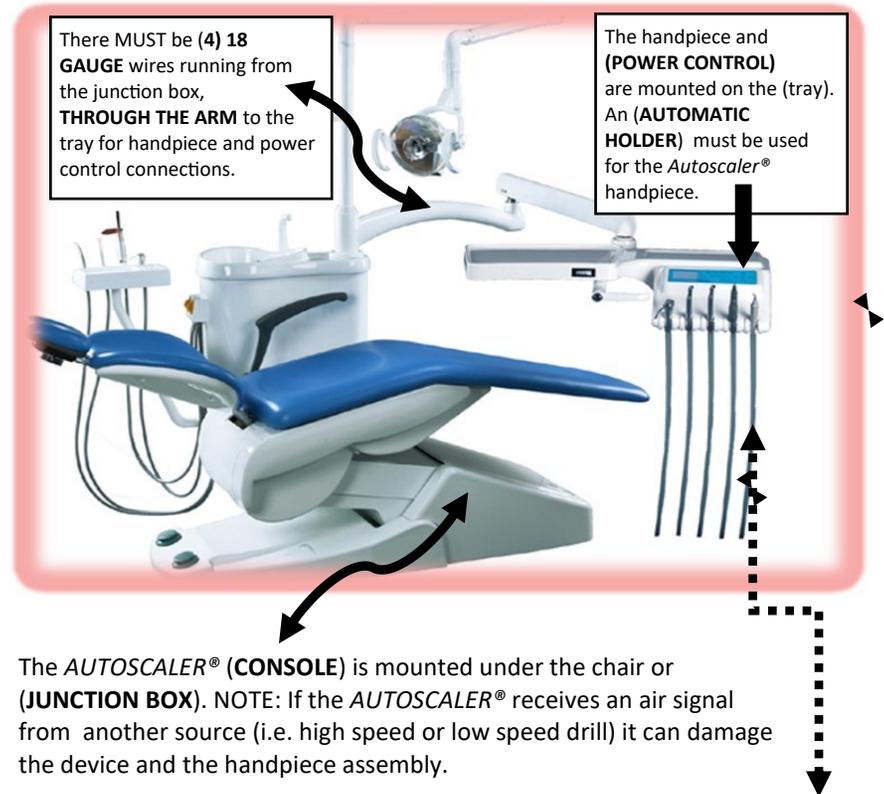
**The source of the air signal, water supply, and installation are not the responsibility of South East Instruments, LLC. Any damage to the AUTOSCALER<sup>®</sup>, PATIENTS or DENTAL OPERATORY resulting from improper installation or configuration is the sole responsibility of the installing dealer or technician. The AUTOSCALER<sup>®</sup> BUILD-IN Models AW25BI or AW30BI are sold as component devices that require further installation by a party appointed by the end user. If the installing technician or end user is in doubt as to correct installation procedures they should stop immediately and call South East Instruments, LLC for further instructions at (800) 648-9445 before attempting to proceed with the installation.**

\*Cavitron<sup>®</sup>, SLIMLINE<sup>™</sup>, FSI<sup>™</sup>, and TFI<sup>™</sup> are registered trade marks of Dentsply Sirona

## BUILD-IN MODEL INSTALLATION GUIDE

This GUIDE is to assist the technician. Most dental chairs utilize similar configurations. It is the responsibility of the technician to properly install and confirm proper function with the particular chair manufacturer configuration.

**DO NOT attempt to install this device without an independent air/water block with automatic handpiece holder. The technician must be familiar with dental chair air water logic to correctly install this device. Most installations convert the existing 3<sup>rd</sup> or 4<sup>th</sup> air/water high or low speed drill block for this purpose.**



The **AUTOSCALER**<sup>®</sup> (**CONSOLE**) is mounted under the chair or (**JUNCTION BOX**). NOTE: If the **AUTOSCALER**<sup>®</sup> receives an air signal from another source (*i.e. high speed or low speed drill*) it can damage the device and the handpiece assembly.

WATER FLOW to the handpiece is received from the air/water block (**NEEDLE VALVE**). When the main air rheostat is pressed, an air signal is sent to the **AUTOSCALER**<sup>®</sup> console to (cavitate the insert) and the air/water block opens to release water flow to the handpiece. Quickly adjust the water knob to get water flowing.

### If no water is present:

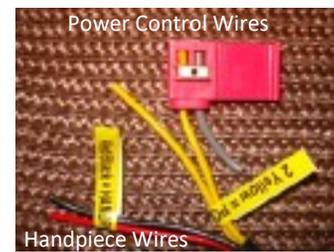
- ◆ The handpiece will become overheated and damage the handpiece within 45-60 seconds.
- ◆ Do not activate the *AUTOSCALER*® without an insert in the handpiece. This can cause the internal coil to overheat and damage the handpiece.

### Connections on the console are:

- ◆ Front Panel - Connector for handpiece and power control wires.
- ◆ Black and Red wires are for the HANDPIECE. There is NO POLARITY for the handpiece wires.
- ◆ 2 Yellow wires are for the POWER CONTROL. There is NO POLARITY for the power control wires.
- ◆ *ALL WIRES MUST BE 18 GAUGE. THINNER WIRE WILL RESULT IN THE WIRE HEATING AND LOSS OF POWER and/or TUNING.*
- ◆ Rear Panel - Air input line yellow 1/16" to receive the independent activation signal (20 to 60 PSI Range) from the dedicated air/water block (chip/drive air). BE SURE when the *AUTOSCALER*® handpiece is picked up from the automatic holder, no other air handpieces are activated. Verify that when a high or low speed drill is removed from the automatic holder the *AUTOSCALER*® does not receive an air signal and activate. If so, it will permanently damage the *AUTOSCALER*®. Only ONE handpiece should activate at a time when picked from the holder.
- ◆ Rear Panel - AC power plug on rear panel.

*Enclosed:* (10) Scotchlok 557 wire connectors to complete your wire connections. Only 8 are needed and two are spares. Tools needed are pliers to compress and secure the Scotchlok 557 connector. The example on the following page shows one connection for the power control yellow wires connecting to the existing wires from the dental unit arm.

**The existing wires in the dental chair arm MUST be 18 gauge in order not to overheat the wires and cause tuning and/or power issues.**



Example shows hookup of one of the 4 wires on the console side in the junction box. Insert one yellow wire into the connector and one of the wires from the chair arm.



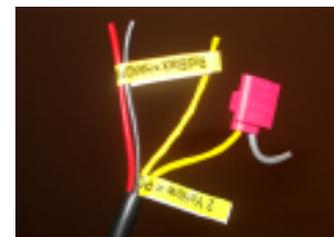
Make sure both wires are inserted fully.



Take your *pliers* and pinch the metal clamp fully until it *clicks and is flat with the plastic*.



Fold over the *plastic lid* until it locks. Repeat process for other connections. *If the Scotchlok 557 connector fails to complete the connection, the technician MUST SOLDER the wires and apply a UL or CSA approved heat shrink. DO NOT twist, tape or use wire nuts for the connections.*



On the tray side repeat the same method for the handpiece and power control wires.



The handpiece wires are *thinner and care should be noted* that the wires are fully inserted and align straight in the *metal clamp blades* to make a secure connection.

## RESPONSIBILITIES

It is the responsibility of the dental professional using this device to be fully trained in the proper use of ultrasonic scalers. The operator must be observant of possible changes in performance during a procedure and immediately discontinue use of this product and determine the cause of such changes in performance before continuing dental procedures. Performance varies slightly between manufacturers of ultrasonic scalers, so the operator must become familiar with the operating parameters, and adjustments of this particular device. Performance varies between Ultrasonic Inserts due to the style insert, model insert, and from the age and/or modifications of the insert.

## DAILY PROCEDURES

- ◆ At the end of the work day shut off ALL operatory Air and Water supplies. This will prevent water damage to your office by aging or unseen defects in water lines that could rupture under continuous pressure.
- ◆ REMEMBER to turn back on the next day before usage.

## SPECIAL PRECAUTIONS

- ◆ As an added precaution, the water supply should be turned OFF at the end of the day. REMEMBER to turn the water back ON prior to use the next day.
- ◆ **The AUTOSCALER® should NOT be used for restorative dental procedures involving the CONDENSATION OF AMALGAM.**
- ◆ **The AUTOSCALER® should NOT be used on or near anyone fitted with a CARDIAC PACEMAKER.**
- ◆ **Do not remove the cover from the unit.** There are NO user serviceable parts inside. Allow only qualified technicians to service your AUTOSCALER®.
- ◆ **Do not remove the internal air restrictor. This is a safety device and must not be removed.**
- ◆ **DO NOT AUTOCLAVE the HANDPIECE assembly.** A Federally approved non-immersion WATER BASED cold sterilization solution may be used on the handpiece assembly. DRY ALL SURFACES with clean air or clean paper towels.
- ◆ **If your unit is left ON,** and the footswitch is accidentally depressed while unattended, this will permanently damage your unit. Be sure nothing is touching the operatory air foot switch when not in use.

## INFECTION CONTROL

- ◆ **Manufacturer recommends that all operators of this ultrasonic unit wear at least one pair of surgical rubber gloves,** and for extra prevention wear double pairs of gloves to isolate the operator from infection, and cross contamination of other patients.
- ◆ **It is recommended that complete eye and face protection be used** during the use of this unit to prevent saliva spray from being inhaled, and from entering the operator's eyes.
- ◆ **Operator should be careful not to puncture the skin with any insert tip containing saliva from patients.** Insert tips should be sterilized after each patient according to the insert manufacturer's instructions.
- ◆ **DO NOT Autoclave the handpiece assembly.** Federally approved non-immersion WATER BASED cold sterilization solutions may be used on the handpiece assembly. DRY ALL SURFACES with clean air or clean paper towels.
- ◆ **Manufacturer recommends the use of a disposable handpiece sleeve/barrier** that keeps contamination from getting on the handpiece assembly. Dispose of sleeve/barrier after each patient. Ask your local dealer for HIGH SPEED LONG sleeve/barrier.

## INTRODUCTION

Your South East Instruments AUTOSCALER® Ultrasonic Scaler **BUILD-IN UNIT**, is a precision engineered instrument, constructed with the finest of materials. By taking the following precautions your unit will give you many years of service.

The AUTOSCALER® BUILD-IN unit is NOT a table top user installation product. It must be installed by a qualified technician knowledgeable in Dental Operatory Air circuitry and Water systems.

1. Do not place unit on or near any source of heat.
2. Unit should be located where a normal amount of air will circulate freely around the case when in use.
3. The handpiece is very strong but care should be taken NOT TO PULL with excessive force.

Basically, the unit consists of two major components, the Electronic Generator and the Handpiece Assembly (Water Source is also NECESSARY but not supplied with this model). The Water Supply is used from the Dental operatory, and must be applied/configured by a qualified technician.

## ELECTRONIC GENERATOR AND WATER SYSTEM

The electronic generator produces the frequency and the power to activate a wide variety of interchangeable INSERT TIPS. A Water System/SUPPLY MUST BE ATTACHED to your unit to provide precise control over the water flow which serves to wash debris from the work area, and to cool the laminations of the insert tip. The following is a brief description of controls needed for the proper operation of your AUTOSCALER®:

- ◆ **The AIR SOURCE (20 PSIG) minimum is required**, and (must be installed by a qualified technician) providing an independent supply of air to your AUTOSCALER® unit.
- ◆ **POWER CONTROL KNOB:** The *linear Power Control knob* adjusts the output power to the insert tip (must be installed by a qualified technician).
- ◆ **WATER CONTROL (supplied by the dental operatory, and is not part of the AUTOSCALER® unit)** is for adjusting the flow of water to the handpiece, and insert tip. To obtain the NECESSARY water flow of at least (18cc - 30cc +/-minute) - i.e. a very strong mist, it may require more than ONE or MORE complete rotations of the knob in either direction.

Depending on the water regulator supplied in your operatory the following applies: **HIGHER water flow to the RIGHT, and LOWER water flow to the LEFT.** Some water regulators adjust the opposite (more flow to left and less to the right). Become familiar with your controls first before performing any dental procedures on patients.

## HANDPIECE ASSEMBLY

The handpiece assembly is used to accept Cavitron® interchangeable insert tips. It is connected to the AUTOSCALER® through specially routed wires in your operatory (INSTALLED BY QUALIFIED TECHNICIAN ONLY). The open end of the handpiece will accept all Cavitron® brand: "P", "TFI™", "SLIMLINE™" or "FSI™" style 25,000Hz (25K) inserts. *If you ordered a 30,000Hz (30K) model AUTOSCALER® you must use the shorter (30K) frequency insert tips.*

- ◆ 30K tips measure (Shorter style approx. 6.25 inches long)
- ◆ 25K tips measure (Longer style approx. 7.25 inches long)



\*Cavitron®, SLIMLINE™, FSI™, and TFI™ are registered trade marks of Dentsply Sirona

**(25K) inserts will NOT work in your 30K unit.**

**(30K) inserts will NOT work in your 25K unit.**

**Inserts are extremely FRAGILE**. If one is dropped, bent, or scratched it WILL NOT cavitate (i.e. will not function) or function by operating at a higher than normal temperature and should be replaced immediately.

**Insert tips should be routinely replaced according to insert manufacturer's recommendations.**

## ELECTRICAL REQUIREMENTS

**A GROUNDED electrical receptacle is required supplying 120-130 volts 50/60 Hz A.C.** If a 3 to 2 prong adapter is used, the ground wire MUST be connected to the base plate screw. Have an electrician test your outlet for correct wiring polarity and a safe ground. **DO NOT plug the AUTOSCALER® in a GFI (Ground Fault Interrupt) outlet.**

## HANDPIECE—POWER CONTROL POT INSTALLATION

- ◆ **Two 18 gauge wires must be routed between the AUTOSCALER® console and the handpiece assembly.** Thinner wire may result in poor tuning/operation or non function.
- ◆ **Two 18 gauge wires must be routed between the AUTOSCALER® unit and the Power Control Pot.** A minimum of ½ watt rating @ 5K ohms is required if substituting the power control pot with another brand/style.

## INSTALLATION AND OPERATION

1. **The Water Control Knob should be in the HIGH position.** It is normal for the Knob to turn past the High position several rotations which will increase water flow substantially.  
**Depending on the water regulator supplied in your operatory the following applies:** HIGHER water flow to the RIGHT and LOWER water flow to the LEFT. Some water regulators adjust the opposite (more flow to left and less to the right). Become familiar with your controls first before performing any dental procedures on patients.
2. **Your unit is equipped with a AIR SWITCH ACTIVATOR. The air supply must be attached to the rear of the unit, and a minimum of ( 20 PSIG ) is necessary to activate the switch.** DO NOT REMOVE THE INTERNAL AIR RESTRICTOR FITTING. The restrictor relieves the air input line if accidentally charged from another air

source without a purge cycle. The scaler air line will bleed off to zero pressure protecting the AUTOSCALER®.

3. **Plug the power cord into the wall** (see electrical requirements).
4. **Select an insert.** Moisten the rubber O-RING before inserting into the handpiece. While holding the handpiece, *UPRIGHT*, place the insert in the open end of the handpiece, and with a gentle *PRESS* and *TURN* motion, snap the insert in fully. DO NOT force the insert.
5. **Manufacturer recommends the use of a disposable handpiece sleeve/barrier be used over the handpiece assembly.** Place the sleeve/barrier over the handpiece. While holding the sleeve/barrier in place, puncture the insert through the plastic at the open end of the handpiece, and snap the insert in fully. Dispose of sleeve/barrier after each patient.
6. Due to atmospheric exposure, and exposure to sterilization solutions, the **O-RING** on the insert tip may become swollen, brittle, or crack, and require replacement.
7. **Set the POWER KNOB** all the way to the LEFT in the LOW position
8. **Hold the handpiece in a VERTICAL upright position, and step on the foot switch.** Within 10-15 seconds water should come out of

the open end of the handpiece IF NOT, QUICKLY turn WATER KNOB clockwise 1-2 rotations to get water flow. Some air will escape at the same time. This step is IMPORTANT because trapped air will cause HOT SPOTS (usually noted by a loud screeching sound) which can affect the performance of the AUTOSCALER® or permanently damage the handpiece assembly.



9. **Inserts and handpiece will burn in 45-60 seconds in the absence of water. A (18cc—30cc+/min)** flow is the normal flow range, and necessary at all times. NEVER touch the Cavitating/Vibrating end of the insert tip to any flesh such as the cheek, tongue, or gums unless performing special periodontal procedures. This will cause a FRICTION BURN to the patient. Always keep the insert in motion. Do not rest the handle or insert on the lips during a procedure. The insert tip should touch primarily the calculus on the tooth surface, and NOT the enamel of the tooth surface.
10. **Allow the air bubbles to escape for about 10-20 seconds. Turn the POWER KNOB to the RIGHT in the Medium position, and the insert tip should Cavitate/Vibrate with a strong mist.** Turn the water knob to the right if there is *no mist or weak misting*.

11. **The application of the power knob** is for controlling the Output Power to the insert tip in a smooth linear action. The operator can select the EXACT power needed for cleaning. Set power knob LOW (Left Direction) to MEDIUM (Center) for cooler handpiece/insert temperature.
12. **The high power setting** is for applications where an excessive amount of calculus is built up. **The Low power setting** can be used for periodontal Subgingival curettage and root planing procedures. Most scaling should be done only on the LOW to MEDIUM power setting.
13. **If SLIMLINE™, FSI™ or Modified Periodontal inserts are used, set the POWER Knob in the BLUE shaded area.** This power level is designed to be used with these fragile specialty inserts. Inserts may give a drip and mist combination, this is normal for these inserts. This is actually preferred by most Periodontal professionals due to the water drip being ultrasonically activated within 0.5mm of the tip assisting in killing plaque.

## UNIT IS NOW READY FOR USE

## SHUT DOWN PROCEDURE

Be sure to shut off Air and Water supply to the scaler when unattended. The installing service technician will indicate to the operator which controls perform this action.

## TROUBLESHOOTING

**If the unit does not function, proceed with the following:**

1. **Check the plug.** Is it all the way in the receptacle?
2. **Try another insert.** Make sure it is the correct frequency 25K or 30K depending on your model. Each model has a frequency (25K or 30K) label on the cover and the frequency is also indicated on the serial number plate located on the bottom of the device. **The most common mistake when purchasing a new unit is selecting the wrong frequency insert.**
3. **If water flow is insufficient,** check water pressure at the operatory for minimum of **20 P.S.I.** The Insert Water slot could be clogged with debris. Try another insert.
4. **If the handpiece handle or insert operates HOT:** REDUCE POWER LEVEL and INCREASE WATER FLOW. Depending on the water regulator supplied in your operatory the following applies: HIGHER water flow to the RIGHT, and LOWER water flow to the LEFT. Some water regulators adjust the opposite (more flow to left and less to the

right). Become familiar with your controls first before performing any dental procedures on patients.

5. **NEVER touch the Cavitating/Vibrating end of the insert tip to any FLESH such as the cheek, tongue, or gums unless performing special periodontal procedures.** This will cause a friction burn to the patient. Always keep the insert in motion. Do not rest the handle or insert on the lips during a procedure. The insert tip should touch PRIMARILY the calculus on the tooth surface, and NOT the enamel of the tooth surface.
6. **If the AUTOSCALER® stops functioning or is intermittent when the handpiece cord is moved,** this means a wire in the handpiece cord is broken and must be immediately repaired or replaced. DO NOT continue to press the foot switch as there is a possibility the internal circuit safety fuse may blow and require replacement by a qualified technician.
7. **If a humming or high pitch sound is noted from the console during routine use,** this is a normal circuit resonance which will change as the POWER control knob is adjusted up and down, and will not affect the performance of your AUTOSCALER®.
8. **Slimline™ and FSI™ inserts** are extremely thin and FRAGILE. During normal use the water may not mist like standard inserts (*i.e. like a TFI#10 curette tip*). However, the cleaning action is just as effective. It is recommended the Power knob be set in the LOW position (Blue area) to assure best performance.

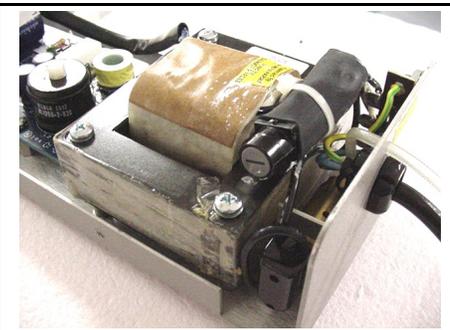
Call your dealer or customer service at South East Instruments for further instructions at (800) 648-9445 to help you with questions and what to do next.

## SCALING TECHNIQUES

Scaling techniques are at the option of the professional using this instrument.

1. Excessive pressure is not necessary with the AUTOSCALER®. Use a gentle, rapid motion with small overlapping strokes, being certain that the insert is at a *15 degree angle* to the tooth surface.
2. If patient Hypersensitivity is noted, you should *lighten pressure* on the handpiece, *Reduce the Power Level*, or *move from the sensitive tooth to another*, and return to the tooth later. If sensitivity persists, switch to a hand instrument.

## BRIEF LAYOUT OF THE BUILD-IN STYLE AUTOSCALER®

	<p>Front view 25K and 30K</p>
	<p>Rear view</p>
	<p>Circuit board <b>20mm-4.0 amp Fuse Fast Blow</b></p>
	<p>AC power <b>AGC 2.0 amp Fuse Fast Blow</b></p>

Connect the AC POWER CORD to supply. GROUND conductor MUST BE Used.

Connect Handpiece leads, and Power Control pot leads according to drawing FRONT VIEW. There is NO POLARITY for Handpiece leads or Power Control Pot leads. **IT IS SUGGESTED THE 15' EXTENSION WIRES (not supplied) CONNECTED TO THE AUTOSCALER® CONSOLE BE SOLDERED TOGETHER, AND INSULATED WITH A "UL or CSA" APPROVED SHRINK TUBING** Hand twisting and taping of wire connections is NOT recommended. It may affect the performance and safety of the installation.

When installing the AUTOSCALER® build-in unit, the AIR SOURCE used to activate the scaler MUST be independent of all other operatory equipment, and the supply line pressure must relieve to ZERO PSI after each activation. The AUTOSCALER® unit may be damaged by activation while other equipment is in use if the air signal is not turned OFF to the scaler, and line pressure fully relieved when not in use.

The AUTOSCALER® is internally fitted from the factory with a pressure relief valve (restrictor) and must not be removed. This restrictor helps relieve line pressure after each activation.

**IMPORTANT:** The AUTOSCALER® unit has been calibrated anticipating approximately **15' Fifteen feet** of **18 GAUGE** wire will be used in the installation. **DO NOT use any wire thinner than 18 GAUGE.** This will change the tuning (i.e. insert will not vibrate properly) of the AUTOSCALER® and/or not function.

## ULTRASONIC SCALER INSERTS

*DIRECTIONS FOR USE FOR OPTIMAL FUNCTION.*

- ◆ **Sterilize before each use** in accordance with the insert manufacturer's instructions
- ◆ **Federal Law restricts the device to sale by or on the order of a licensed practitioner**
- ◆ **3 month warranty**

## INSERT DEVICE DESCRIPTION

*Ultrasonic* inserts are accessory inserts designed for use with magnetostrictive scaler units, (see specifications) that generate a frequency of either 25KHz or 30KHz. A range of tip designs are available to suit different clinical conditions. Finger-grips are either plastic or metal and the water channel is either of internal or external design. These inserts are designed to be used in magnetostrictive ultrasonic scalers only by professionally trained operators, such as Dentists or Dental Hygienists, to perform general supra and subgingival scaling procedures.

### Internal water channel with plastic finger-grip

<i>Tip Design</i>	<i>Application</i>
DF#3 Beaver Tail/Flat	Heavy to moderate supragingival deposits on buccal and lingual surfaces.
DF#10 Universal Curette	Heavy to moderate supragingival deposits, light to moderate subgingival deposit on all surfaces.
DF#100 Periodontal Style	Light to moderate supragingival deposits especially interproximally.

### External water channel with metal finger-grip

<i>Tip Design</i>	<i>Application</i>
DF#10 Universal Curette	Heavy to moderate supragingival deposits, light to moderate subgingival deposit on all surfaces.
DF#100 Periodontal Style	Light to moderate supragingival deposits especially interproximally.

## **WATER FLOW**

An adequate water flow setting, indicated by a small spray or rapid drips, should be selected for the power setting used to prevent overheating of the insert tip during function, and to prevent possible injury.

## **INSTRUCTIONS FOR USE**

Ensure that the insert is suitable for the frequency (25K or 30K) of the scaler unit. Always sterilize inserts prior to each use in accordance with the insert manufacturer's instructions. Always use a light, smooth, gentle touch with a well-positioned stable intraoral or extraoral fulcrum. The lateral surfaces of the insert are normally used for clinical procedures. In the event that this insert is dropped or damaged or becomes bent, discard the insert and replace with a new insert. Inserts with high usage, which exceed the warranty period, should be discarded to avoid in-use breakage and possible injury.

### **Inserts should not be used for condensation of amalgam.**

Care must be exercised to avoid iatrogenic results from the use of ultrasonics in the presence of dental restorations. Note that the tip end or other sharp aspect of an insert can scratch or otherwise modify the surface of gold or amalgam restorations. Thin porcelain veneers and composite margins can be cracked or crazed by activated ultrasonic tips.

Normal wear of the tip occurs during function. When approximately 2 mm of the tip has worn the insert may lose up to 50% efficiency, and should be discarded. Contact with composite restorations will cause more rapid attrition of ultrasonic inserts.

## **O-RINGS**

Before placing inserts into the handpiece performing the following steps will increase O-ring life.

1. Fill entire handpiece with water
2. Lubricate O-ring (black or green material) with water
3. Gently twist the insert down into the handpiece until fully seated

## **UNIT POWER SETTINGS**

1. DP#100, & DF#100 inserts should be used with minimum power setting only on the unit.
2. DF#10, DF#1000 & DP#10 inserts should be used on low - medium power setting.
3. DF#3 inserts may be used on medium - high power setting  
As a rule the power setting on the unit should always be set at the minimum and increased only as dictated by clinical requirements.

## **INSERT STERILIZATION**

**Sterilize inserts before each use** in accordance with the insert manufacturer's instructions.

## **SPECIFICATIONS**

These inserts are designed for 25K or 30K magnetostrictive scaler handpieces with:

- ◆ Internal diameter of 7.3 mm.
- ◆ Internal length of no less than 125 mm.

## **INSERTS LIMITED WARRANTY**

If, in normal use, any insert is found to be defective in material or workmanship within a period of ninety (90) days from the date of original purchase it will be replaced or the purchase price will be refunded.

The limited warranty stated herein is the sole and exclusive warranty to the insert and SEI hereby disclaims any and all other warranties, expressed or implied, including without limitation, any statutory warranties or any warranties of merchantability, fitness for use or fitness for any particular purpose. SEI shall not be responsible for any inconvenience loss, injury, or direct, indirect, tort, exemplary, punitive, special incidental or consequential damage arising from the possession or use of the insert. In no event will SEI's liability exceed the purchase price of the insert.

Tampering, abuse, misuse, neglect, alteration, accidental damage, failure to follow manufacturer's instructions, improper disinfection or sterilization procedures, bending, re-grinding or re-shaping, or lack of reasonable care with respect to the insert will void this warranty. Use of the insert by anyone other than a licensed dental practitioner or qualified hygienist will void this warranty.

A warranty claim must be accompanied by a dated sales receipt or other appropriate documentation showing the date of purchase. In the event of a warranty claim, it is the responsibility of the user to return the defective insert(s) to original purchaser.