COMMON OPERATOR ERRORS:
- Failure to keep insert tip parallel with the long axis of the tooth surface.
- Excessive use of hand pressure.
- Failure to use the lowest effective power setting for the case at hand.
- Insufficient water flow.
- Scaling with the point of the insert instead of the side. These failures in procedure can result in ineffective or incomplete removal of deposits and possible damage to the pulp or tooth structure.

TROUBLESHOOTING:
- Unit does not operate ("power on" indicator does not light):
  - Transformer cable disconnected from wall outlet or scaler.
  - Wall outlet not live.
  - Unit fuse has failed (contact Parkell).
- Wall outlet not live.
  - "O" ring damaged or worn. Replace "O" ring.
- No water supply.
  - Water line blocked or kinked.
  - Power too high for the amount of water.
  - Too little water flow (insert blocked).
  - Faulty, damaged or worn insert.
- Faulty, damaged or worn insert.
  - Insert not correctly seated in handle.
  - Power control not correctly adjusted.
- Excess heat at handle or tip of insert:
  - Faulty, damaged or worn insert.
  - Too little water flow (insert blocked).
  - Power too high for the amount of water.
- No water spray:
  - Water line blocked or kinked.
  - Water filter clogged.
  - Water canal in insert blocked.
  - No water supply.
- Insert does not go into handpiece:
  - Lubricate "O" ring with water and use twisting motion to seat insert.
- Insert falls out of handpiece or water leaks from front of handpiece:
  - "O" ring damaged or worn. Replace "O" ring on insert.

ADDITIONAL SPECIFICATIONS:
- Protection Against Electric Shock—Class 1, Type B applied part.
- Equipment not suitable for use in the presence of a flammable anesthetic mixture (when used with air or with oxygen).
- Protection Against Ingress of Liquids—Foot Switch & Scaler—IPX1 (drip-proof), Power Supply—IPX0 (Ordinary).
- Mode of Operation of Equipment—Intermittent: 66% duty cycle, 10 minutes on, 5 minutes off.
- Operating conditions: 15-30°C, 10-80% RH (non-condensing).
- Transport and Storage conditions: 10-40°C, 10-80% RH (non-condensing).

This equipment produces electromagnetic energy and may cause interference with other electronic devices. Should this occur, changing the position or location of the device may be necessary. The power supply line cord is the AC power disconnect device for the scaler.

The symbol ‼️ on the scaler indicates the Protective Earth connection.

The symbol ⬤ is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the scaler.

SERVICE
The handpiece sheath, power supply, water filter, and ultrasonic inserts are all detachable and may be replaced by the user. Contact Parkell for a list of authorized inserts. Otherwise, there are No User Serviceable Items in this scaler, including the foot controller. For service, return unit, freight prepaid, carefully packed with explanation of problem to Parkell. The unit will be repaired and returned to the purchaser. If you purchased this product from a dealer please register your product via the Internet at www.parkell.com. Click on the "Product Registration" button on the bottom of the Home Page. Please print out a copy of the "Warranty Registration" page for your records.

If you have any questions or a problem with the installation or use of your scaler, please call our Toll-Free Technical Support Service at 1-800-243-7446 from 9AM to 5:30PM Eastern time (outside USA and Canada, call 631-249-1134).

European Authorized Representative
(Not a dealer/distributor): EMERGO EUROPE
Molenstraat 15, 2513 BH, The Hague, The Netherlands
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Device Directive.

CONFORMANCE TO STANDARDS:
The Parkell TurboSENSOR conforms to IEC60601-1 and IEC60601-1-2. Parkell’s quality system is certified to ISO9001/13485.

Caution: Federal Law restricts this device to sale by or on the order of a properly licensed practitioner.

INSTRUCTIONS FOR USE

DEVICE DESCRIPTION:
The TurboSENSOR™ is an autotune ultrasonic tooth scaler that operates at either 25KHz or 30KHz. The TurboSENSOR automatically detects whether the handpiece contains a 25KHz or 30KHz insert and switches operating frequency to match. A dramatically expanded low-power range improves comfort during debridement.

INTENDED USE/INDICATIONS:
For removal of calculus and plaque during dental prophylaxis.

WARNING: As with all electrical products, the unit should not be immersed in water or other liquids. Do not reach for the device if it has fallen into liquid. Do not use the device after it has fallen into liquid (return it to Parkell for servicing.) Do not modify this device. Modification may violate safety codes and endanger patient and operator. Any modification will void the warranty.

CONTRAINDICATIONS:
- Do not use this device if the patient or the operator possesses a cardiac pacemaker or any other intra-corporeal medical electronic device (eg. insulin pump, defibrillator, etc.).
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PRECAUTIONS:
Caution: Water flow through tip during use must be sufficient to cool handpiece and insert.
Caution: Do not allow prolonged contact of tip with lips, cheek or tongue.
Caution: All ultrasonic scalers produce aerosols. Take precautions to prevent transmission of contagious diseases.
Caution: Use the long axis of the insert tip to wipe accretions from the tooth. Do not gouge the tooth with the tip.

IMPORTANT: The water supply line to the scaler should always be turned off whenever the device is being connected, disconnected, or when not in use.
Caution: Precautions should be taken to locate the transformer away from any sources of water that may enter the unit.

SPECIFICATIONS:
- Operating frequency - 25KHz and 30KHz
- Power: 120 V, 60Hz, 120VA (for 230V model: 50Hz, 120VA)

INSTALLING YOUR SCALER:
Locate the device where the control panel will be easy to reach during scaling procedures. The scaler requires access to a grounded electrical outlet and a source of drinking-quality water.

The scaler and its separate transformer generate a minimal amount of heat. Avoid covering them, as this will prevent normal cooling.
WATER CONNECTION:
Before plugging in the device, connect the scaler’s water line to a supply of drinking-quality water (20-50psi). Water should be clean and free of sediment. We suggest that an external water filter be used to minimize the frequent changes of the device’s in-line water filter.

The male quick-connect that comes on the end of the water hose is the same as that currently fitted to the Cavitron® scaler. If you are replacing an older scaler that uses a different type of connection, remove the fitting from the old unit and attach it to the water line.

IMPORTANT: The water line to the scaler should be turned off whenever the device is not in use.

ELECTRICAL CONNECTION:
The scaler must be powered via the Transformer Assembly supplied with the scaler.

1. Plug the transformer cable into the back of the scaler.
2. Plug the transformer into any grounded outlet. From this point on, simply stepping on the pedal will turn on the scaler.

INSERTS
The TurboSENSOR accepts any Parkell insert as well as 25K and 30K inserts designed for Cavitron scalers.

The scaler automatically adjusts the operating frequency to match the frequency of the insert in the handpiece (either 25KHz or 30KHz) without operator intervention.

Brand new inserts fit very tightly in the handpiece. Using a slight twisting motion when inserting and lubricating the “O” ring with water will make insertion easier.

Old, worn or blunt instruments will provide poor scaling action and should be replaced.

TURNING ON THE SCALER:
The unit does not have a traditional on/off switch. The foot pedal turns the unit on each time you remove your foot. Because of this, the pedal should be placed where it will not be accidentally hit when the device is not in use.

CONTROLLING THE POWER:
The TurboSENSOR gives you two ways to adjust the scaling power: a traditional power control knob, and a Turbo mode.

Use the power control knob to set the initial power for the scaling procedure at hand. A tip powered by the TurboSENSOR will begin oscillating at much lower amplitude (power) than a tip in a traditional scaler. This permits more comfortable debridement of recall patients.

With the foot pedal depressed, turn the power control knob in a clockwise direction to increase the amount of tip motion. When the “Perio” light is illuminated, the Power Control Knob permits very subtle adjustments in tip amplitude (relatively large movements of the knob produce small increases in amplitude). When the “Perio” light is not illuminated, tip amplitude reacts more dramatically to knob adjustment for high power calculus removal.

For short-term increases in power during the procedure, simply increase foot-pressure on the pedal. (The yellow “Turbo” light will illuminate.) This will instantly boost scaling power to a point midway between the current setting and the scaler’s maximum power. (In other words, increasing foot-pressure when the scaler is operating at a low setting will cause a major boost in power. Increasing foot-pressure when the scaler is already operating at maximum power will produce no significant increase.)

To return to normal scaling power, lighten foot-pressure. (The yellow “Turbo” light will go out.)

The “Turbo” mode allows you to scale at lower power than usual because you do not have to allow for occasional pieces of residual calculus. If you encounter hard-to-remove accretions during debridement, simply use the “Turbo” feature to eliminate them. (The “Turbo” mode does not change the water flow, so extended procedures may require a water adjustment.)

Whenever you release the pedal, the green “on” light on the front panel will instantly turn off. If you are operating in the “Turbo” mode, the illuminated Turbo light will also turn off, though it may take several seconds.

CONTROLLING THE WATER FLOW:
Turn the water control clockwise to increase the flow. (Notice the arrow printed on the control panel.) If water does not flow through the insert when the foot pedal is depressed, the water passage in the scaling insert may be clogged.

INFECTION CONTROL:
When removing the autoclavable handpiece sheath, hold the handpiece at the base with one hand and turn the top counter-clockwise with the other. . . . taking care not to twist the hose. The sheath will unscrew and slip off. Sheaths can be sterilized in any conventional steam autoclave following manufacturer’s instructions. DO NOT USE DRY HEAT OR CHEMCLAVE.

NOTE: Autoclaving does not remove debris that has accumulated on the sheath. Failure to adequately remove debris may result in inadequate sterilization. The sheath must be washed in soap and water and rinsed in running water prior to autoclaving.

Before replacing the sheath, lubricate the O-ring on the handpiece with water to assure a tight seal. Slide the sheath over the handpiece carefully to avoid damaging or dislodging this O-ring, and screw the sheath in place. (Do not overtighten.)

The exterior case of the scaler may be wiped with a cloth dampened by any standard surface spray cleaner as desired.

HOW TO REPLACE THE FILTER DISK:
(Time required: 10 seconds)

The water filter disk should be replaced when it becomes very dark or so clogged with debris that water flow is impeded.

1. Disconnect the scaler from the water supply.
2. Remove the old filter disk by holding it in one hand and twisting off the hose connectors on either side. (They rotate in opposite directions.)
3. Install the replacement filter disk, and firmly tighten the connectors using hand pressure
4. Reconnect the scaler to the water supply and check for leaks.

NOTE: If the filter becomes clogged and you do not have a replacement disk, the hose connectors can be locked together without the filter disk to allow emergency operation. If you have any questions, please contact:
Parkell’s Service Dept. 1-800-243-7446 Replacement Filters (Stock No. D419.)
10 per package.

GENERAL COMMENTS ON SCALING:
• Ultrasonic scalers should be used only by trained, licensed professionals.
• Inserts and handpiece sheath should be sterilized before each use.
• Do not operate unit without water flowing.
• Use of face mask is recommended when operating this device, to avoid inhalation of bacterially-contaminated aerosol by the operator. High-speed suction to remove this aerosol from the dental environment, as close to the source as possible, is also recommended.
• Use the lowest effective scaling power for the case at hand. This keeps heat generation to a minimum.
• Before using the insert in the oral cavity, adjust the water spray over sink or cuspidor until desired mist is obtained. For maximum patient comfort, use a good flow of water which acts as coolant, lubricant and lavage to flush out debris.
• If patient is new to ultrasonic scaling, tell him/her what to expect. If procedure becomes uncomfortable, adjust power and water controls accordingly.
• Grasp handpiece in a comfortable manner, like holding a pen. To remove deposits from teeth, always use a light brushing stroke with the side of the insert tip in contact with the tooth surface. Excess pressure will not improve scaling action, but may cause heating and pain to the patient. Keep the scaler insert in motion at all times and use repeated gentle strokes to remove all tenacious deposits.
• Exercise caution near porcelain restorations as they can fracture.
• Occasionally turn unit off to evaluate deposit removal with an explorer.
• If you test any scaler tip on your fingers while operating, it will feel uncomfortably hot. This is not a good or true test of how it feels on a tooth. To operate, adjust the power control to the minimum setting for the case at hand (start at zero). With a good water flow, the patient will not experience any uncomfortable heat.