

**RX ONLY**

This manual, in whole or in part, should not be considered a substitute for formal training in ultrasonic scaling.  
Appropriate professional education is **STRONGLY RECOMMENDED** prior to using this device clinically.

**INSTRUCTIONS FOR USE**



**TURBO  
PIEZO™**

**PIEZOELECTRIC ULTRASONIC TOOTH SCALER**

[REF] D690-110 (110VAC), [REF] D690-230 (230VAC)

A00436revD0320

**DEVICE DESCRIPTION**

The Parkell TurboPIEZO™ is a piezoelectric ultrasonic tooth scaler with a high efficiency transducer that operates at a frequency of 29KHz. It requires less cooling water and produces minimal noise. The TurboPIEZO has an expanded low-power range to improve patient comfort during debridement, and a power-boosting, user-controlled Turbo feature to increase scaling power when needed for heavy deposits.

**INDICATIONS / INTENDED USE**

For removal of calculus, plaque and oral debris from teeth during dental prophylaxis/scaling.

**CONTRAINDICATIONS TO USE**

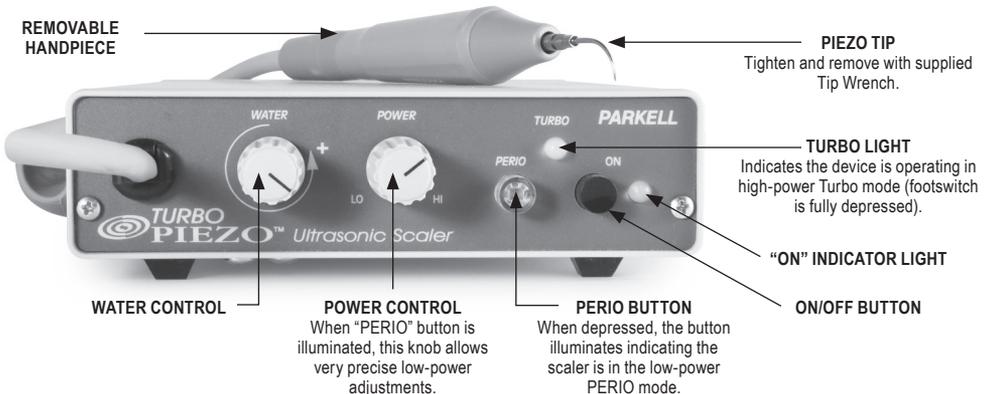
If patient or operator is pregnant, or has any medical condition which might be affected by this device during treatment, consult a physician concerning advisability of performing dental scaling prior to use.

**WARNINGS**

- This device should only be connected directly to a grounded electrical outlet.
- The water supply to the scaler should always

be turned off whenever the device is being connected, disconnected, or when not in use.

- Do not run this device dry. Water must always flow during use to cool the handpiece and tip.
- The "ON/OFF" button on the front panel functions as the AC power disconnect device for the scaler.
- The transformer should be located above and away from any sources of water. As with all electrical devices, the unit should not be immersed in water or other liquids. Do not reach for the device if it has fallen into liquid until power is disconnected, and do not use the device after it has fallen into liquid. Return the device to Parkell for servicing.
- Modification of this device will void the warranty, and may violate safety codes, endangering the patient and/or the clinician.
- This equipment is not suitable for use in the presence of a flammable anesthetic gas mixture (when used along with air or oxygen).
- This equipment produces electromagnetic energy and may cause interference with other nearby electronic devices. Should this occur, changing the position or location of the device may be necessary.



## CLINICAL PRECAUTIONS

- Protect patient's eyes, lips, cheeks, tongue or other vulnerable tissues from contact with the vibrating scaler tip.
- Protect the patient's clothing from water damage when using this device.
- As with all dental procedures, clinicians should use universal precautions (i.e., wear face mask, eyewear or face shield, gloves and protective gown).
- Keep the long axis of the tip parallel to the long axis of the tooth while maintaining gentle contact with the root to "wipe" deposits from the tooth. Prolonged perpendicular contact between the tip and the tooth will damage the tooth by gouging it.

## CONFORMANCE TO STANDARDS

Parkell's TurboPIEZO is TUV listed and conforms to IEC 60601-1, 60601-1-2 and CAN/CSA C22.2 No. 601.1. Parkell's quality system is certified to ISO13485.

## SPECIFICATIONS

- **Power:** 120VAC model – 50/60 Hz, 35VA  
230VAC model – 50 Hz, 35VA
- **Operating temperature:**  
Between 50°F and 100°F (10°C - 38°C)
- **Weight:** 30 oz
- **Size:** 1 5/8" H x 5 1/2" W x 7 1/2" D
- **Handpiece/Tip operating frequency:** 29 KHz

## ADDITIONAL SPECIFICATIONS

- Protection against electric shock: Class 1, Type B applied part.
- Protection against ingress of liquids:  
Foot Switch & Scaler: IPX1 (drip proof);  
Power Supply: IPX0 (Ordinary).
- Mode of operation of equipment: Intermittent – 10 minutes on, 5 minutes off.
- Operating conditions: 60-86°F (15-30°C), 10-80% RH (non-condensing).
- Transport and storage conditions: 50-100°F (10-40°C), 10-80% RH (non-condensing).

## TURBOPIEZO IS SUPPLIED WITH:

- (1) Piezoelectric Ultrasonic Scaler Unit with detachable handpiece, attached foot control and water line (with water filter and male quick-connect coupler attached);  
120VAC = [REF](#) D690-110  
230VAC = [REF](#) D690-230

- (3) Tips: [REF](#) D692-Universal Straight  
[REF](#) D693-Perio  
[REF](#) D695-Burnett Power-Tip

- (1) Scaler Tip Wrench ([REF](#) D691).
- (2) Inline water filters (one attached to water line) ([REF](#) D419 - bag of replacement filters).
- (1) Transformer with cables ([REF](#) D408 (120V); [REF](#) D403 (230V)).
- (1) Instructions for Use.

## INSTALLING YOUR SCALER

Locate the device where the control panel will be easy to reach during scaling procedures, and where the water filter at the rear of the unit may be periodically changed without difficulty. The scaler requires access to a grounded electrical outlet and a source of drinking-quality water. The device and its separate transformer generate a minimal amount of heat. Avoid covering them, to allow normal cooling.

## WATER CONNECTION

Before plugging in the electrical cord, connect the scaler's water line to a drinking-quality water supply (15-35 psi), clean and free of sediment. An external, office-wide water filter is recommended to minimize 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 standard fitting presently used in the dental industry. If you are replacing a scaler that uses an Adec-type or other type of connection, remove the old fitting from the unit hose and attach it to the new water line. Check for leaks at all hose and filter connections before use, and tighten if necessary.

## IMPORTANT PRECAUTIONS

The water supply line to the scaler should ALWAYS be turned off whenever the device is being connected, disconnected or is not in use. The foot-pedal should ALWAYS be placed where it will not accidentally be pressed when the device is not in use.

## ELECTRICAL CONNECTION

The TurboPIEZO must only be powered via the Transformer Assembly that is supplied with the device by Parkell.

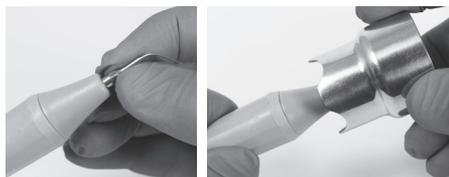
1. Plug the low voltage, round transformer power cord connector into the back of the scaler, with the arrow on top.

2. Plug the AC transformer's three-pronged power cord into a grounded electrical outlet.



## SCALING TIPS FOR THE TURBOPIEZO SCALER

The TurboPIEZO scaler comes with 3 tips included with the basic scaler unit. Replacements are available from Parkell. Prior to use, the tips should be sterilized as described later. Tips are easily threaded on and off the handpiece using the Scaler Tip Wrench. Tips should be tightened clockwise firmly with the wrench until it disengages. Tips are loosened by turning the wrench counterclockwise. Bent, worn or blunt tips will scale poorly and generate excess heat, and should be replaced with new.



## IMPORTANT INFORMATION REGARDING USE OF NON-PARKELL TIPS:

Parkell piezoelectric scaler tips may be compatible with other "EMS-compatible" brands of tips. However, for optimal performance of your scaler, we recommend using Parkell ultrasonic tips, which have been tested to function in our unit. Parkell cannot guarantee that all non-Parkell tips available on the market today or in the future will work properly with our scalers. For more information, contact Parkell.

## TURNING THE SCALER ON AND OFF

Turn the unit on by pressing the "ON/OFF" button on the front panel to the "IN" position. The Green "ON" LED will illuminate. The scaler may now be activated by pressing down on the foot-pedal. When the foot-pedal is pressed, the Green "ON" LED will get

brighter, indicating that the unit is active. When the foot-pedal is released, the Green "ON" light will return to original brightness. To turn the unit off, press the "ON/OFF" button to the "OUT" position.

## CONTROLLING THE POWER OUTPUT

The TurboPIEZO gives you several ways to adjust the scaling power.

1. Use the Power Control Knob on the main power unit to set the initial scaling power for the procedure at hand. Turn the knob in a clockwise direction to increase the power, or counterclockwise to decrease the power.
  - Usually, the Power Control Knob is set at the "Medium" setting to start. When the foot-pedal is slightly depressed, the tip will begin vibrating at Medium power.
  - The "PERIO" button reduces the range of the power control knob. When this switch is pressed, it lights up. Now, relatively large movements of the Power Control Knob will produce small changes in tip power. This permits very subtle adjustments that are useful for subgingival scaling.
2. Use the "Turbo Mode" for short-term increases in power during scaling. Press the foot-pedal using increased foot pressure and 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.
  - Engaging the Turbo feature at a low power setting causes a significant boost in power.
  - Engaging the Turbo feature at high power will produce very little change.
  - Since water flow is not affected by "Turbo Mode", extended procedures may require a water adjustment.
  - Partially lifting your foot off the foot-pedal will return the scaler to normal, "non-Turbo" mode, and the yellow "TURBO" light will go out.

## CONTROLLING THE WATER FLOW

Observing the arrow printed on the control panel, turn the water control counterclockwise to increase the flow, or clockwise to decrease water flow. If water does not flow through the tip when the foot-pedal is depressed, consult the Troubleshooting Section of this manual.

## HOW TO REPLACE THE FILTER DISK

The water filter disk on the rear hose of the unit should be replaced every 3-4 months, or when it becomes dark or clogged with debris, or when water flow is impeded. Packages of replacement filters are available from Parkell (REF D419). To change the filter:

1. Close any water valves, and bleed all water lines of residual water pressure.
2. Disconnect the water supply hose quick-connect from the water supply.
3. Remove the old filter disk by holding it in one hand and twisting off the hose connectors on either side in opposite directions.
4. Install the new filter disk in the same position as the old one, and tighten the connectors by hand in reverse. Do not use a tool, which may overtighten the connection.
5. Reconnect the water supply hose quick-connect to the supply, open the control valve and check for leaks.
6. If the filter becomes clogged and you do not have a replacement disk, the hose connectors may be locked together TEMPORARILY without the filter disk to allow emergency operation only.

## CLINICAL SUGGESTIONS ON TOOTH SCALING

- Ultrasonic scalers should be used by trained, licensed professionals only.
- **DO NOT OPERATE UNIT WITHOUT WATER FLOWING THROUGH THE HANDPIECE.**
- If patient is new to ultrasonic scaling, explain to them what to expect. Usually, they should not experience discomfort. However, if this occurs, adjust power and water controls, and lighten up on your handpiece pressure.
- Use of face mask by the clinician and high-volume intraoral suction is strongly recommended when operating this device, to avoid inhalation of microbially-contaminated aerosols.
- To keep heat generation to a minimum, use the lowest effective scaling power for the case at hand.
- Before using the tip in the oral cavity, adjust the water spray over a sink or cuspidor until desired mist is obtained. For maximum patient comfort, use a good flow of water as a coolant, lubricant and to flush out debris.

- Hold the handpiece in a comfortable pen-grasp. To remove deposits from teeth, always use a light, brushing stroke with the side of the tip, in contact with and parallel to the root surface. Excess pressure will not improve scaling action, but may cause heating and pain to the patient. Always keep the tip in motion, using repeated gentle strokes to remove all tenacious deposits.
- Do not use the point of the tip on the tooth surface. You may gouge the tooth.
- Pause occasionally during scaling by removing foot from pedal to evaluate deposit removal.
- Testing a scaler tip by touching it with your fingers is NOT a valid indication of how it is operating.
- If you are using an external water supply bottle, you may fill it with FDA-approved mouthwashes in a ratio of 4 parts water to 1 part mouthwash. Be sure to flush the TurboPIEZO unit with plain water afterward.
- Exercise caution scaling near ceramic or resin restorations, as they can discolor or fracture if overstressed.

## COMMON OPERATOR ERRORS THAT MAY RESULT IN POOR CLINICAL PERFORMANCE

- Failure to keep tip parallel to the long axis of the tooth.
- Excessive use of hand pressure.
- Failure to use the lowest effective power setting for the case at hand.
- Insufficient water flow.
- Use of a heated water supply causing excessive water temperature at the tip.
- Scaling with the point of the tip instead of the side.
- Using tips that are damaged, bent or worn out.

## CLEANING AND INFECTION CONTROL

- Consult [www.CDC.gov](http://www.CDC.gov) for the most current guidelines for infection control in dental health-care settings.
- DO NOT AUTOCLAVE the TurboPIEZO Control Unit, Cable or Handpiece, as autoclave heat will destroy them. They may be protected using appropriate barrier materials during use, and should be cleaned of debris with a water-damp paper towel, disinfected by wiping with a paper towel that

has been saturated with an EPA-registered low-level (HIV/HBV claim) to intermediate-level (tuberculocidal claim) hospital disinfectant, wiped of chemical residue with a water-damp paper towel, and dried. Utilize the surface disinfecting protocol of the disinfectant manufacturer.

- Since sterilization does not remove accumulated debris, Scaling Tips and Wrench must be washed in soap and water either manually or in an ultrasonic cleaner, rinsed in running water and dried prior to bagging. Failure to adequately remove debris, especially from the narrow water passages in the tip, will result in inadequate sterilization.
- Scaling Tips and Wrench may be sterilized in any conventional steam autoclave following manufacturer's instructions. A typical gravity steam cycle is 270° F (132° C) for 15 minutes at a minimum of 15 psi, followed by a 15-minute minimum cool-down period. After sterilization, inspect the device in the autoclave bag for integrity. If suspicion about the item exists, discard it and order a replacement from Parkell or your dealer.

## **TROUBLESHOOTING**

### **■ Unit does not operate (power "ON" indicator does not light):**

- Transformer cable disconnected from wall outlet or scaler. Reconnect properly.
- Wall outlet not live. Contact electrician for repair.
- Unit fuse has failed. Contact Parkell.

### **■ Tip does not vibrate properly:**

- Faulty, damaged or worn tip. Replace.
- Tip not correctly threaded onto handpiece. Re-attach properly.
- Power control not correctly adjusted. Re-adjust until correct.
- Use of non-compatible, non-Parkell tip.

### **■ Excess heat at handle or tip:**

- Faulty, damaged or worn tip. Replace.
- Too little water flow. Tip water passage may be blocked. Inspect and clear blockage, or replace tip.
- Power too high for the amount of water. Increase water flow.

- Excessive hand pressure applied. Correct technique.
- Heated water being used. Use room temperature water only.

### **■ No water spray when foot-pedal is depressed:**

- Water line blocked or kinked. Correct.
- Water passage in the scaling tip clogged. Inspect and clear blockage, or replace tip.
- Water filter clogged. Replace.
- No water supply connected. Correct.

### **■ Tip does not go on handpiece:**

- Threads damaged. Replace tip or handpiece.

## **USER MAINTENANCE AND AUTHORIZED SERVICE**

- The Parkell TurboPIEZO requires very little maintenance for years of trouble-free operation. There are no user-serviceable parts inside the control unit or the foot pedal. Opening the cases will void all warranties. Authorized Parkell personnel must make all internal repairs.
- Parkell urges all scaler users to monitor the condition of the water filter periodically and change the filter whenever noticeable darkening of the disk occurs, or when water flow decreases. The most common reason for service for ultrasonic scalers is failure by the user to periodically change the water filter. This will result in contamination and clogging of the internal water components, as well as costly repair service.
- The ultrasonic tips, power supply, water filter and water hose are all detachable and may be replaced by the user. Contact Parkell for a list of authorized tips and available replacement parts.
- Within the US, all repairs must be made by Parkell. We maintain a complete service and parts facility in our factory at 300 Executive Drive, Edgewood, NY 11717. After calling our factory for advice, equipment needing service in the US should be returned, freight pre-paid, via approved common carrier (e.g. USPS, UPS, FedEx), and adequately insured. Return all accessories with the unit, and include an explanation of the problem. Pack in the original box, add plenty of cushioning material, and overbox the unit during

shipping. Transit should maintain a dry temperature of 50°F-110°F. You will be contacted for your approval of the repair, along with any associated costs, prior to any work requiring payment. The unit will be repaired and returned to you.

- Outside the US, repairs must be made by a Parkell-authorized facility.

If you have any questions or problems with the installation or use of your TurboPiezo, call Technical Support Service at 1-800-243-7446, M-F from 8:30 AM to 5:30 PM EST. Outside of the USA or Canada, call +1 631-249-1134 or email our Technical Support Service at: [techsupport@parkell.com](mailto:techsupport@parkell.com)

## WARRANTY

For full Warranty and Terms of Use information, please see [www.parkell.com](http://www.parkell.com). Parkell's Quality System is certified to ISO 13485.

## EXPLANATION OF SYMBOLS USED

	Professional use only
	Serial number
	Sterilizable in a steam sterilizer (autoclave) at the temperature specified
	Non-sterile
	Temperature limit
	Do not use if package is damaged. This symbol is on packaging.
	Follow instructions for use
	Keep dry

	Do not dispose this product into the ordinary municipal waste or garbage system
	Package contents
	Catalogue / stock number
	Manufacturer
	Referenced to ground at high frequencies
	Ground Terminal
	Type BF Equipment
	Dangerous high voltage



---

This precision dental device was designed, manufactured and is serviced in the United States of America by:

**parkell**<sup>®</sup>

300 Executive Drive, Edgewood, NY 11717 USA 

**Toll-Free:** (800) 243-7446 • **Phone:** (631) 249-1134 • **E-mail:** [info@parkell.com](mailto:info@parkell.com) • **Web:** [Parkell.com](http://Parkell.com)

