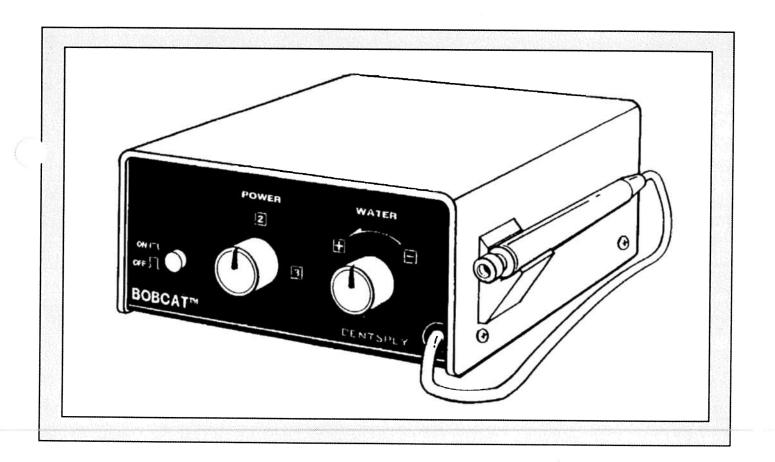
# **Dentsply/**Equipment Division

# **Dentsply**\*

# **Bobcat**<sup>TM</sup>

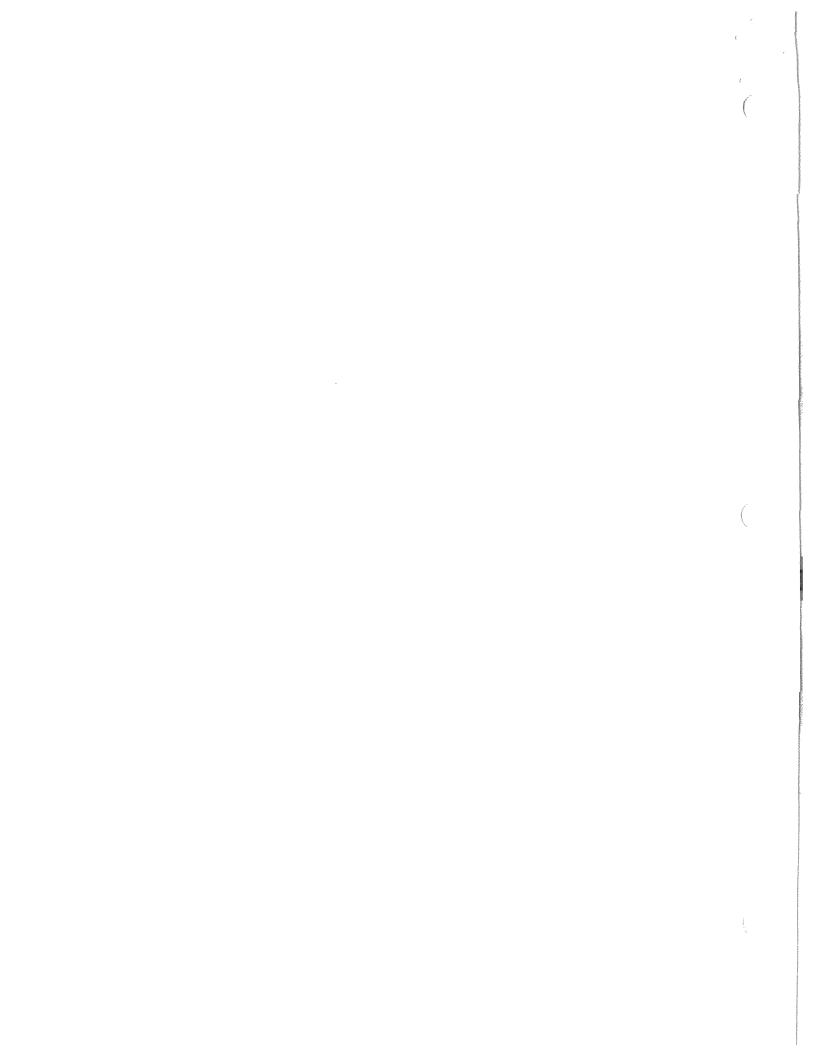
**Ultrasonic Scaler** 



# **Equipment Instruction Manual**

# **Directions For Use**

Please read carefully and completely before operating unit.



## Dentsply® Bobcat™

#### Ultrasonic Scaler

Congratulations. Your decision to add the Bobcat Ultrasonic Scaler to your practice represents a wise investment in good dentistry.

For over three decades, dental professionals like yourself have discovered the clinical benefits and labor saving advantages inherent in the ultrasonic scalers and ultrasonic inserts developed by Cavitron and Dentsply. Clinical studies and independent research projects have proven time and again that no other method of supra- and subgingival calculus removal can surpass the speed, efficiency, and versatility of Cavitron ultrasonic scalers. 25,000 microscopically small strokes per second at the insert's working tip, combine with the cavitational effect of the coolant water to produce a synergistic action that literally "powers away" the heaviest calculus deposits while providing exceptional operator and patient comfort.

For a free copy of Ultrasonic Scaling Article References and Abstracts (Form No. 79427) call 1-800-877-0020, Ext. 471.

Your Dentsply Bobcat Ultrasonic Scaler is UL/CSA, and ADA certified and approved. Conforms to IEC 601.1.

### **Technical Support and Repairs**

For technical support and assistance call 1-800-347-7412 or (718) 361-2060, Monday through Friday, 8:00 AM to 4:30 PM (Eastern Time).

### **Supplies & Replacement Parts**

To order supplies or replacement parts for your Bobcat Unit, contact your Dentsply® Equipment Dealer. If your dealer is unable to assist you, call 1-800-877-0020 ext. 471, Monday through Friday, 8:00 AM to 5:00 PM (Eastern Time).

**Caution:** Federal law restricts this device to sale by or on the order of a Dentist or a Registerecd Hygienist licensed by the law of the state in which the person practices, to use or order the use of the device.

# **Table of Contents**

Section Number	Section Title Description of Contents	Page Number
1	Indications	6
2	Contraindications / Warnings	7
3	Precautions	8
4	Infection Control Information	9
	4.1 Infection Control Information Reference Card	
	4.2 General Infection Control Recommendations	
5	Pre-Installation Requirements & Recommendations	10
	5.1 General Information	
	5.2 Water Line Requirements & Recommendations	
	5.3 Electrical Requirements	
6	Bobcat Unit Installation	11
	6.1 Unpacking the Unit	
	6.2 Power Line Connection	
	6.3 Foot Control Cable Assembly Connection	
	6.4 Incoming Water Supply Line Connection	
7	Bobcat Unit Components, Controls & Connections	12-13
	7.1 Components & Accessories	
	7.2 Unit Controls	
	7.3 Insert Handpiece Sheath	
	7.4 Dentsply* Cavitron* 25K™ Ultrasonic Inserts	
8	Foot Control	14
	8.1 General Information	
	8.2 Operation for Ultrasonic Prophylaxis Procedures	
9	Clinical Use	15-16
	9.1 General Information on Patient Positioning	
	9.2 Performing Ultrasonic Scaling Procedures	
	9.3 If Patient Sensitivity Is Noted During Ultrasonic Procedures	
10	Maintenance Recommendations	17
	10.1 Daily Maintenance	
	Start-Up Procedures	
	Shut-Down Procedures	

Section Number	Section Title Description of Contents	Page Number
11	Technical Specifications and Dimensions	. 18
12	Dentsply* Cavitron* Ultrasonic Inserts Technique Guide	-25
13	Warranty Statement	-27

# **Section 1: Indications**

The following chart shows the primary clinical applications for your Dentsply $^{\circledast}$  Bobcat $^{\text{TM}}$  Ultrasonic Scaler.

# 1.1 Indications for Ultrasonic Prophylaxis Procedures

Supragingiva	I App	licatio	ons
--------------	-------	---------	-----

Calculus Removal	
Light	yes
Medium	yes
Heavy	yes
Stain Removal	
Light	yes
Medium	yes
Heavy	yes
Plaque Removal	
Light	no
Medium	no
Heavy	no
Subgingival Applications	

Calculus Removal	
Light	yes
Medium	yes
Heavy	yes
Root Planing	yes
Periodontal Therapy	
Non-Surgical Root Planing	yes
Root Planing During Surgery	yes

# 1.2 Indications for Specialized Ultrasonic Procedures

#### Illtrasonic Endodontics

Ultrasonic Endodontics	
Water Irrigation	yes
Ultrasonic Periodontics	
Water Irrigation	yes

# Section 2: Contraindications / Warnings

## 2.1 Contraindications

 Ultrasonic units should not be used for restorative dental procedures involving the condensation of amalgam.

## 2.2 Warnings

• Persons fitted with cardiac pacemakers have been cautioned that some types of electronic equipment might interfere with the operation of a pacemaker. Although no instance of pacemaker interference has ever been reported to Dentsply, we recommend that all insert handpiece sheath and power cables be kept at least 9 inches (23 cm) away from pacemaker and pacemaker leads during use.

# 3.1 General Precautions for All Units

#### **Ultrasonics**

- Do not place the Unit on or next to a radiator or other heat source. Excessive heat may damage the Unit's electronic components.
- Do not keep the Unit in a tightly confined space or corner. Place the Unit where air is free to circulate on all sides.
- The Unit is portable, however when carrying it from one place to another, handle it with care.
- A manual shut-off valve is recommended for the water line connected to your Unit.
- A strainer is recommended in the Unit's water supply line.
- Close the coolant water shut-off valve to the Unit every night before leaving the office.

#### **Ultrasonic Endodontics**

- Only Dentsply® Endosonic® Files and Diamonds can be used in the Dentsply® Cavitron® PEC-2 Ultrasonic Endodontic Insert. Other files and diamonds are not designed to withstand the stresses of ultrasonic resonance.
- Do not apply ultrasonic power to Endosonic Files and Diamonds outside of the root canal.
   Such unrestrained oscillation may lead to excessive movement and possible file breakage.
- Do not force Endosonic Diamonds around curves in the root canal. They are specifically intended to clean, shape and smooth the cervical and middle portions of the canal only, and achieve maximum efficiency when not forced or restricted.

# 3.2 Precautions for Ultrasonic Prophylaxis Procedures

- Like a toothbrush, ultrasonic inserts "wear-out" with use. Inserts with just 2mm of wear lose a minimum of 50% of their scaling efficiency. In general, it is recommended that ultrasonic inserts be discarded and replaced after one year of use to maintain optimum efficiency and avoid breakage.
- Ultrasonic insert tips that have been bent, damaged, or reshaped are susceptible to in-use breakage and should be discarded and replaced immediately.
- Whenever the ultrasonic insert tip is placed within the patient's mouth, the lips, cheeks and tongue should be retracted to prevent contact with the tip.

# 4.1 Infection Control Information Reference Card

For your convenience, an Infection Control Information reference card, printed on durable stock, has been included with your Dentsply® Cavitron® Unit. If your card is missing or misplaced, you can request a replacement by calling Customer Service at 1-800-877-0020 ext. 471, Monday through Friday, 8:00 AM to 5:00 PM (Eastern Time).

# 4.2 General Infection Control Recommendations

- The use of a face shield, or face mask and eye protection, by the operator is recommended.
- As with high speed handpieces, and other dental devices, the combination of water and energy from your Cavitron Unit will create aerosols. With proper technique, however, much of the Cavitron Unit's aerosol dispersion can be effectively controlled and minimized. Please carefully follow the procedural guidelines in this manual regarding the use of your Unit.
- For maximum safety for yourself and your patients, carefully follow the Infection Control Information procedures detailed on the reference card accompanying your Unit.

# Section 5: Pre-Installation Requirements & Recommendations

### 5.1 General Information

- All Dentsply® and Dentsply® Cavitron®
   Ultrasonic Scalers, Air Polishing Units, and
   multi-function Units require water line and
   electrical connections. Some Units also require
   an air line connection.
- If the installation of your Cavitron Unit is performed by someone other than trained Dentsply® Equipment Dealer personnel, care should be taken to observe the following requirements and recommendations.

# 5.2 Water Line Requirements & Recommendations

- Your Unit's water supply line is factory installed.
   Do not disconnect from the Unit.
- Incoming water supply line pressure to the Unit must be 25 psi (minimum) to 60 psi (maximum). If your office water supply line pressure is above 60 psi, install a water pressure regulator on the supply line to your Cavitron Unit.
- A manual shut-off valve on the office water supply line should be used so that the water can be completely shut-off, and line pressure relieved, when the office is unoccupied.
- A strainer in the office water supply line is recommended so that any particulates in the main water supply will be trapped before reaching your Unit.
- A connecting adapter should be installed on the office water supply line matched to the fitting on your Cavitron Unit's incoming water supply line.
- After any, or all, of the above installations are completed on the office water supply line, the line should be thoroughly flushed to remove any debris in the line prior to connecting your Unit's incoming water supply line.

## 5.3 Electrical Requirements

- A hospital grade, 3-prong, grounded wall outlet is required, supplying 110/120 volts, 50 or 60 Hz. AC current.
- Your Unit's power cable is factory installed. Do not remove the ground lug from the plug.

## Section 6: Bobcat™ Unit Installation

Please make certain that the conditions described in Section 5 - Pre-Installation Requirements & Recommendations have been met before proceeding with the installation of your Unit.

Please refer to the illustrations in Section 7 - Bobcat Unit Components, Controls & Connections for the location of fittings referenced in the following procedures.

## 6.1 Unpacking the Unit

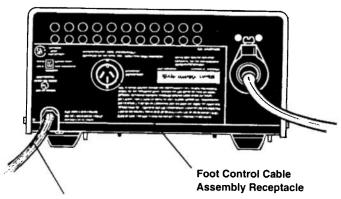
- Carefully unpack your Bobcat unit and verify that all components and accessories are included:
  - 1. Bobcat Unit with Power Cable, Water Supply Line, and Insert Handpiece Sheath Cable Assembly factory installed.
  - 2. Foot Control and Cable Assembly
  - 3. Wear indicator
  - 4. Literature packet

## **6.2 Power Line Connection**

- Please make certain that the Power Control ON/ OFF pushbutton on your Unit is in the OFF position before proceeding.
- Plug the Unit's Power Cord into an approved outlet.

# 6.3 Foot Control Cable Assembly Connection

**BACK VIEW** 



Incoming Water Supply Line

 Align the Foot Control plug to the receptacle and push in until firmly seated.

# 6.4 Incoming Water Supply Line Connection

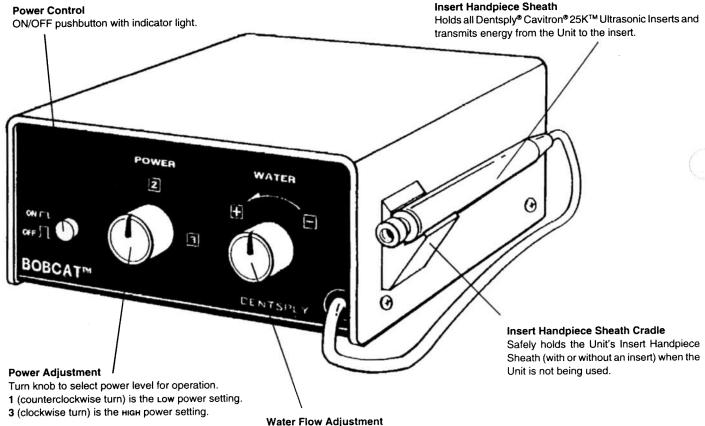
- Connect the free end of the Unit's incoming water supply line to the connecting adapter on the office water supply line.
- Turn on the manual shut-off valve, or other control valve, and inspect all connections to make certain there are no leaks.

# Section 7: Bobcat™ Unit Components, Controls & Connections

## 7.1 Components & Accessories

- Your Bobcat Unit contains:
  - 1. Bobcat Unit with Power Cable, Water Supply Line, and Insert Handpiece Sheath Cable Assembly factory installed.
  - 2. Foot Control and Cable Assembly
  - 3. Wear indicator
  - 4. Literature packet

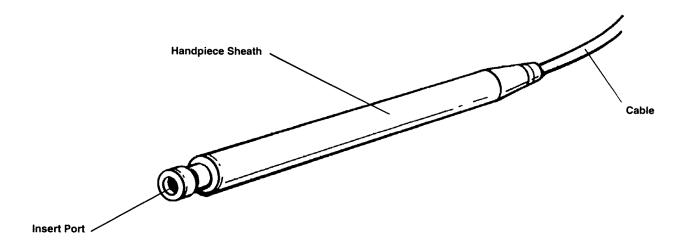
## 7.2 Unit Controls (Front View of Unit)



Turn knob to select water flow level for operation. "-" (clockwise turn) is the minimum flow setting. "+" (counterclockwise turn) is the maximum flow setting. The water flow rate through the Insert Handpiece Sheath also determines the temperature of the coolant water. A minimum flow rate generates warmer water. A maximum flow rate generates cooler water. With experience you will be able to determine the best setting between the minimum and maximum flow rates for optimum operating efficiency and patient comfort.

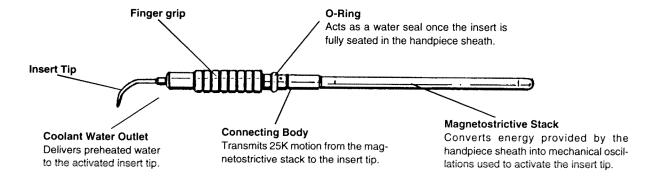
## 7.3 Insert Handpiece Sheath

The Bobcat Insert Handpiece Sheath accepts all Dentsply® Cavitron® TFI and P-style 25K™ Ultrasonic Inserts and the PEC-2 Endosonic Insert.



# 7.4 Dentsply<sup>®</sup> Cavitron<sup>®</sup> 25K<sup>™</sup> Ultrasonic Inserts

The many styles of Cavitron 25K ultrasonic inserts are easily interchangeable for various procedures and applications. Fully seat inserts into the handpiece sheath body with a gentle push-twist motion. Do not force into place. Wetting the o-ring on the insert with water facilitates insertion and protects the o-ring from damage. To remove an insert simply pull and twist it out from the handpiece sheath.



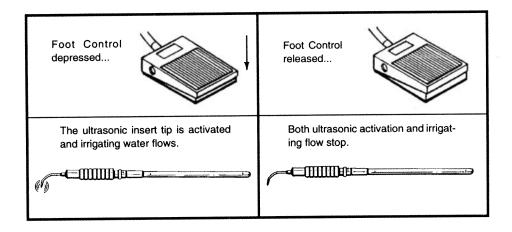
## **Section 8: Foot Control**

## 8.1 General Information

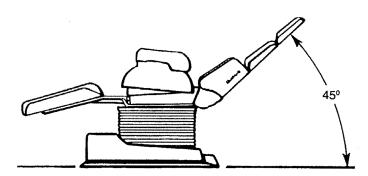
• All Dentsply® and Dentsply® Cavitron® Ultrasonic Scalers, Air Polishing Units, and Multi-Function Units are supplied with a Foot Control to regulate the Unit's functions.

# 8.2 Operation for Ultrasonic Prophylaxis Procedures

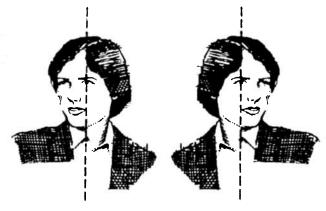
• The following operating characteristics apply when using your Dentsply Bobcat Scaler with Ultrasonic Scaling Inserts and the PEC-2 Endosonic Insert.



# 9.1 General Information on Patient Positioning



• For optimum access to both the upper and lower arch, while operating seated or standing, the backrest of the chair should be at a 45-degree angle to the floor.



 Have the patient turn his or her head to the right or left of the median line depending upon the quadrant being treated. This assures maximum comfort for the patient, minimizes the tendency to gag, and permits easier evacuation of the coolant water using either a saliva ejector or HVE.

# 9.2 Performing Ultrasonic Scaling Procedures

 NOTE: Refer to the Infection Control Information card (Form No. 79598) supplied with your Unit for general procedures to be followed at the beginning of each day, between patients, and whenever changing inserts.

- The Bobcat insert handpiece sheath accepts all Dentsply® Cavitron® TFI™ and P-style 25K Ultrasonic Inserts. See Section 12 of this manual for a complete listing of all inserts and recommendations for use.
- The edges of Cavitron Ultrasonic Inserts are intentionally rounded so there is little danger of tissue laceration, even during subgingival scaling. However, it is still recommended that whenever the insert tip is placed in the patient's mouth, the lips, cheek and tongue be retracted to prevent accidental prolonged contact with the activated tip.
- Hold the Handpiece Sheath in an upright position and activate the Foot Control until water exits.
- Wet the O-ring of the selected, sterilized insert and place it in the handpiece sheath with a gentle twisting motion until it is fully seated.
- Set the Unit's Power Adjustment knob to the highest recommended power setting for the insert you've selected for use. See Section 12 of this manual for a complete listing of all inserts and power setting recommendations.
- Activate the Unit over a sink or drain and check to be sure the water spray is at the desired temperature and is reaching the working edge of the insert tip. Adjust the water flow as necessary. The greater the flow, the cooler the water
- In general, it is suggested that a "feather-light-touch" be used both supra- and subgingivally. The motion of the activated tip and cavitational effect of the irrigating water, in most cases, is adequate to remove even the most tenacious calculus. If you notice that a particular insert seems to require increased finger pressure to function adequately, compare the insert to a new one. If excessive wear is noted, or the insert has been bent, reshaped or otherwise damaged, discard the insert immediately.
- The use of a saliva ejector or HVE is recommended during all procedures.

## 9.3 If Patient Sensitivity Is Noted During Ultrasonic Procedures

- Check the orientation of the insert to the tooth surface. Make certain that you are following the proper angulation and working surface as described in Section 12 of this manual.
- Keep the insert tip in constant motion. Do not remain in a static position on any one area of the tooth.
- Move the insert in a different direction.
- Move from the sensitive tooth to another and then return.
- Lighten finger pressure on the insert as you would with a hand instrument, especially on exposed dentin.
- If sensitivity persists, decrease power setting.

# **Section 10: Maintenance Recommendations**

## 10.1 Daily Maintenance

# Start-Up Procedures at the beginning of the day:

- Open the manual shut-off valve on the office water supply line.
- Turn the Unit ON using the On/Off pushbutton and verify that the indicator light is illuminated.
- Set the Power Adjustment knob to the **Low** position (1).
- Set the Water Flow Adjustment knob to the **MAXIMUM** position (plus sign).
- Hold the handpiece sheath (without an insert) upright, over a sink or drain, activate the foot control, and flush the water line at maximum water flow for 4 to 6 minutes.
- Place a sterilized insert into the handpiece sheath and return the Power Adjustment and Water Flow Adjustment knobs to your preferred operating position.
- Your Unit is now ready for use.

#### Shut-Down Procedures at the end of the day:

- Turn Unit OFF.
- Close the manual shut-off valve on the office water and air supply lines.
- Clean and disinfect the surfaces of the cabinet, power cord, handpiece sheath and cable assembly, foot control and cable assembly by applying a Federally approved non-immersion type disinfectant solution\* carefully following the instructions provided by the disinfectant solution manufacturer. Dry all surfaces with clean paper towels.
  - \* Note: water-based disinfection solutions are preferred. Some alcohol-based disinfectant solutions may be harmful and may discolor plastic materials.

# Section 11: Technical Specifications and Dimensions

## Bobcat<sup>™</sup>: 100/115 VAC Units

Electrical Voltage ...... 100V Gen 115J

115V Gen 115, Gen 115C

 Current
 0.8 Amps

 Frequency
 50/60 Hertz

 Water Pressure
 25 - 60 psig

Flow Rate ...... Minimum setting (CW) < 30 ml/min

Maximum setting (CCW) > 60 ml/min

Weight ..... 8 lbs

Dimensions ...... Height: 3.2 in.

Width: 7 in. Depth: 8 in.

Handpiece Cable: 80 in. Foot Control Cable: 77 in. Power Cord: 96 in. Water Supply Line: 96 in.

### **Bobcat™: 200/220/240 VAC Units**

Electrical Voltage ...... 200 VAC Gen 115D

220 VAC Gen 115B

240 VAC Gen 115A, Gen 115E

 Current
 0,4 Amps

 Frequency
 50/60 Hertz

 Water Pressure
 25 - 60 psig

Flow Rate ...... Minimum setting (CW) < 30 ml/min

Maximum setting (CCW) > 60 ml/min

Weight ...... 3,6 kg

Dimensions ...... Height: 8,1 cm

Width: 17,8 cm Depth: 20,3 cm

Handpiece Cable: 2,0 m Foot Control Cable: 1,9 m Power Cord: 2,4 m Water Supply Line: 2,4 m

# Section 12: Dentsply® Cavitron Ultrasonic Inserts Technique Guide

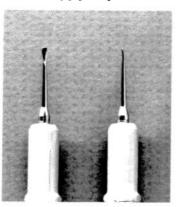
#### **Inserts TFI-1**

Power Setting: Up to Hi or 3 Working Surface: Insert Tip

#### Use very light pressure.

For removing supragingival and subgingival calculus interproximally and from labial and lingual surfaces of anteriors and bicuspids...also, for correcting overhanging margins. When scaling anteriors interproximally, use horizontal strokes supragingivally. Use vertical strokes subgingivally. Water spray pattern is a thin stream.

#### TFITM-1



#### **Inserts TFI-3 & P-3**

Power Setting: Up to Hi or 3 Working Surface: Insert Tip Proper Angulation: 15° to tooth surface

#### Use very light pressure.

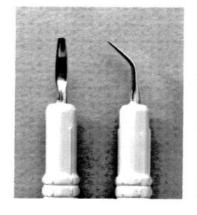
For removing supragingival calculus from labial and lingual of posteriors...and removing surface stain from all accessible tooth surfaces. Excellent for heavy black tar; not recommended for light yellow stain.

When removing surface stain, use an "erasing" motion.

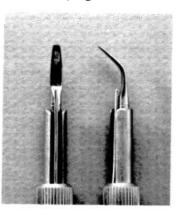
When scaling lingually, use vertical overlapping strokes.

On labial surfaces, use vertical strokes. **Do not use sides or face of insert.** 

TFI™-3



P-3



#### **Inserts TFI-4U**

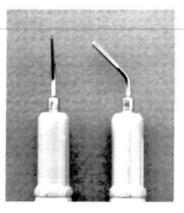
Power Setting: Up to Hi or 3 Working Surface: Insert Tip

#### Use very light pressure.

For removing supragingival and subgingival calculus from buccal and lingual of bicuspids and molars.

When removing calculus from posteriors, use vertical overlapping trokes.

TFI™-4U



#### **Inserts TFI-7**

Power Setting: Up to Hi or 3 Working Surface: Insert Tip

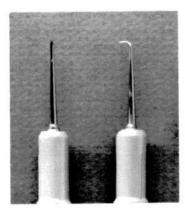
#### Use very light pressure.

For removing supragingival calculus from very tight interproximal spaces...and removing surface stain from crevices not accessible with inserts 30K-3, TFI-3 or P3.

When removing deposits from tight interproximal spaces, use a push or a pull stroke.

Use insert for lingual approach to interproximal deposits.

### TFI™-7



#### Inserts TFI-9 & P-9

Power Setting: Up to Hi or 3
Working Surface: Insert Tip
Proper Angulation: 15° to tooth
surface

#### Use very light pressure.

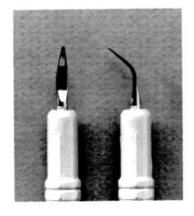
For removing subgingival calculus from labial and lingual surfaces of anteriors. This tip is channeled to permit an adequate flow of water to the base of the subgingival work area.

Hold the insert so that the tip makes a 15° angle with the tooth surface.

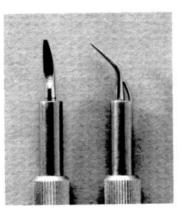
On labial surfaces, work initially with vertical, overlapping strokes. Then finish the surface with horizontal overlapping strokes.

On lingual surfaces, work with vertical, overlapping strokes.

TFI™-9



P-9



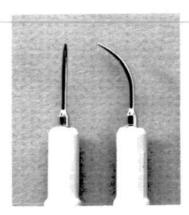
#### Inserts TFI-10 & P-10

Power Setting: Up to Hi or 3 Working Surface: Insert sides only

#### Use very light pressure.

For removing calculus in all areas supra and subgingivally. Its primary use is to finish after heavier scaling. Use push or pull strokes. **Do not use tip of insert.** 

TFI™-10



#### P-10



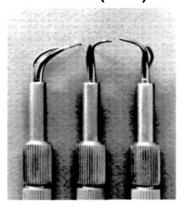
#### Insert EWP-10 (R & L)

Power Setting: Working Surface: Up to Med or 2 Insert sides only

#### Use very light pressure.

For removing subgingival calculus, use as a curette on most anteriors and all posteriors. Work from the distal to the mesial edge of the tooth surface, with a pull stroke. Use the EWP-10R on lingual and buccal surfaces of the lower right, and upper left posteriors; also may be used on labial and lingual surfaces of anteriors. It may be used for supragingival calculus removal on the lower left, upper right buccal posteriors, inter-proximally, and the lower right, upper left lingual posteriors, interproximally. Use the EWP-10L for the opposite surfaces.

### **EWP-10 (R&L)**



#### Inserts TFI-11 & P-11 (R & L)

Power Setting: Working Surface: Up to Med or 2 Insert sides only

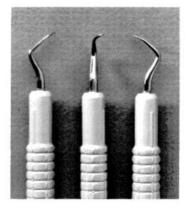
#### ise very light pressure.

For removing supragingival and subgingival calculus interproximally from bicuspids and molars.

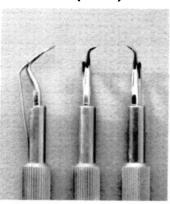
Use push or pull strokes.

When using inserts buccally, use 11R insert on lower right buccal, left lingual; upper right lingual, left buccal. Use 11L for opposite positions.

TFI™-11 (R&L)



P-11 (R&L)



P-12

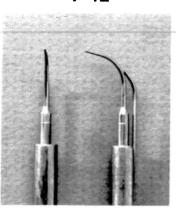
#### Slimline™ Insert P-12

Power Setting: Working Surface:

Up to Med. or 2 Insert sides only

#### Use very light pressure.

For light anterior, posterior and interproximal supragingival and subgingival scaling. The tip of the insert should be directed away from tooth and oot surfaces. Use gentle, brush-like strokes.



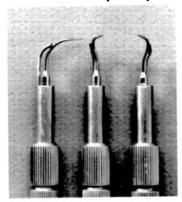
#### Slimline™ Inserts EWP-12 (R & L)

Power Setting: Working Surface: Up to Med. or 2 Insert Back and Sides

#### Use very light pressure.

For root planing and subgingival debridement including furcations. Always select the insert that curves away from the root surface. Use gentle, brush-like strokes along the root surface of each tooth, parallel to the long axis. The insert will follow the topography of the root surface, reaching the apical extent of the pocket. For interproximal and cemento-enamel junction debridement, place the side of the insert perpendicular to the long axis and instrument with brush-like strokes. To debride furcations, the insert tip should be pointing away from the tooth surface.

## **EWP-12 (R&L)**



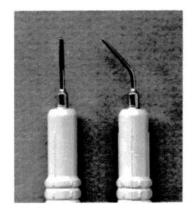
# Inserts TFI-EWPP & EWPP (Perio Probe)

Power Setting: Working Surface: Up to Med. or 2 Insert Tip and Sides

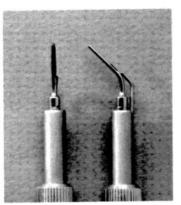
#### Use very light pressure.

The perio probe insert may be used for subgingival scaling and root planing. Its length makes it suitable for working on most subgingival labial, buccal, and lingual surfaces, as well as many interproximal surfaces. Use the tip of the insert to initiate removal of deposits. Enlarge the cleaned area by working with either vertical or horizontal strokes, using the sides of the tip. Complete the surface cleaning by moving the tip so that the sides of the tip trace a cross-hatched pattern of overlapping vertical and horizontal strokes over the surface; avoid using only the tip for deposit removal, by holding the insert so that the probe is parallel to the tooth surface.

### TFI™-EWPP



#### **EWPP**



#### **Insert TFI-1000**

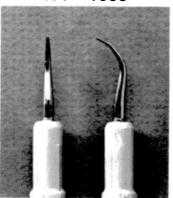
Power Setting: Working Surface: Up to Hi or 3 Insert sides only

#### Use very light pressure.

The TFI-1000 is a specially designed insert which brings increased efficiency to general scaling procedures. The insert may be used on all supragingival and shallow subgingival tooth surfaces.

Use a push-pull brushing motion. Subgingival calculus deposits may be located tactilely by de-activating the insert and using it as a hand explorer. With the side of the insert on the deposit, reactivate the handpiece and resume normal scaling procedures.

## TFI™-1000



#### Endosonic® Insert PEC-2

Power Setting:

Up to MED, or 2



### ROOT CANAL PREPARATION

# ISOLATION OF THE TOOTH WITH RUBBER DAM AND COTTON ROLLS IS RECOMMENDED FOR ALL CASES.

The access cavity is prepared in the usual manner.

The root canal is initially opened using hand instrumentation to determine canal anatomy, curvature and morphology. If necessary, the hand file should be precurved before entering the root canal. The canal should be enlarged to at least a #15 file in posterior teeth, and to the appropriate size in anterior teeth (due to larger canal diameter).



With the #15 Endosonic File locked in the insert as shown above, the handpiece is best held in the pen grasp to allow proper manipulation while maintaining the necessary tactile sense.

Endosonic Files should be precurved to follow the natural canal anatomy established during hand instrumentation. The #15 Endosonic File is then inserted into the opened canal.

#### Never force an instrument into the canal.

1. Activate the Endosonic File by depressing the Foot Control to start flow of irrigating water into the canal. The initial movement with the #15 Endosonic File is a light, smooth stroke along the intracanal walls. This up and down movement should be repeated along all the walls of the root canal.



The operator can maintain precise control simply through guiding the Endosonic File and using the instrument's ultrasonic effect. The most effective dentin removing action is the withdrawal or pull motion along the canal walls. Preparation of the root canal walls should be accompanied simultaneously by irrigation with aspiration.

2. The second movement of the Endosonic File is the circumferential movement, intended to create an early smoothing of canal walls and further dentin removal. This procedure also starts to develop the required funnel effect. While the action of an activated file is reciprocal in nature, with a slight rotation of the Endosonic Insert a circumferential movement can be achieved.



The combination of endosonic filing with a gentle push-pull stroke, light circumferential motion, copious irrigation and constant aspiration creates a synergistic effect, an "ultrasonic bath" that cleanses and debrides the root canal.

Continue the shaping action with the #15 Endosonic File until the root canal space is properly enlarged. Most canals should be prepared entirely with the #15 Endosonic File.

3. When enlarging and shaping of the apical areas is completed, the Endosonic Diamond, usually #25, is then inserted into the straight coronal portion of the canal. The diamonds will smooth and taper the canal walls to allow for easy insertion of the gutta percha obturating material.

Initially, Endosonic Diamonds are used in a push-pull motion followed by circumferential movement, with simultaneous irrigation, until the proper coronal flare is achieved. Some resistance will be encountered due to the Endosonic Diamond particles, but the instru-

ment will gradually become looser in the canal. Circumferential movement is key to achieving optimal effect with the Endosonic Diamond as it helps to round, taper and smooth the coronal intracanal walls.



4. When canal shaping is completed, the #15 Endosonic File should be placed as loosely as possible into the canal for 1-3 minutes to optimize ultrasonic debridement. The water irrigant is guided by the Endosonic File to flow deep into the root canal. The root canal should always be filled with irrigant so an "ultrasonic bath" effect can be maintained. The loosely fitted file and flowing water irrigant comboactions to remove all necrotic material and debris from the canal.

## Section 12: Dentsply® Cavitron Ultrasonic Inserts Technique Guide, cont.

5. After completing canal preparations, the apical 1-2 mm of the canal should undergo recapitulation (rechecked and reestablished) by using a #20 or #25 hand file to the established working length. This allows for maintenance of a properly limited apical opening with a terminal matrix. The canal is smooth and tapered so the small sized hand files will fit loosely in the cervical and middle portions



of the canal while encountering some resistance in the endosonically shaped and cleaned matrix of the terminal apical constriction.

6. As with traditional root canal therapy, the canal must be disinfected with a sodium hypochlorite solution prior to obturation. The root canal now can be obturated using the technique of your choice.



A correctly prepared endosonic root canal will maintain the outline of the original canal, have a proper flare terminating into a prepared limited apical matrix opening and have smooth tapering walls allowing for ease of obturation. Endosonic Files and activated irrigation serve to debride and cleanse the apical and middle thirds. The middle and cervical portions of the canal have been cleansed and smoothed by the synergistic effect achieved by combining Endosonic Files, Diamonds and endosonically activated irrigation.

## Section 13: Warranty Statement

## **Period of Warranty**

Dentsply<sup>®</sup> Cavitron<sup>®</sup> Prophy-JET<sup>®</sup> 30 Air Polishing Unit

Dentsply® Cavitron® Model 3000 Ultrasonic Scaler and Handpiece

Dentsply® Cavitron® JET Ultrasonic Scaler/Air Polishing Unit and Handpiece

Dentsply® Cavitron® MED Ultrasonic Scaler/Periodontal Treatment Unit

Dentsply® Cavitron® Endosonic® Ultrasonic Scaler/Endodontic Unit

#### **Full Two Year Warranty**

The Dentsply® Cavitron® Ultrasonic Scalers, combination units and handpieces listed above are designed expressly for use in a dentist's office, and this warranty is not applicable to other uses. These units are warranted against defects arising from faulty materials or workmanship for two (2) years from date of purchase. Parts will be repaired or replaced at our option. The units must be installed and operated in accordance with Dentsply written instructions furnished with the units.

#### **Five Year Extended Warranty**

In addition, if the *Printed Circuit Board or the Micro Circuit Module* fails because of defective workmanship or material within five (5) years of original purchase, Dentsply will repair or replace the defective part, at our option.

#### Dentsply® Bobcat™ Ultrasonic Scaler

#### **Full One Year Warranty**

The Dentsply Bobcat Ultrasonic Scaler and Densonic Scaler are designed for use in a dentist's office, and this warranty is not applicable to other uses. They are warranted against defects arising from faulty materials or workmanship for one (1) year from date of installation. Parts will be repaired or replaced at our option.

30K<sup>™</sup> Inserts (30 KHz Units)
TFI (Thru-Flow\*) Inserts (25 KHz Units)
P-Style Inserts (25 KHz Units)
CM Ultrasonic Periodontic Inserts
P-105 Endosonic\* Insert
30K<sup>™</sup> PEC Endosonic\* Insert (30KHz Units)
PEC-2 Endosonic\* Insert (25 KHz Units)
Slimline™ Inserts

Cavitron® JET Air Polishing Insert Prophy-Jet® Air Polishing Nozzles

#### **Limited Ninety Day Warranty**

Product inserts and accessories are warranted for ninety (90) days against defects arising from faulty materials or workmanship. Parts will be repaired or replaced at our option.

## **Warranty Terms**

This warranty extends to Dentsply Equipment products purchased from an authorized Dentsply Dealer, and only to the original purchaser, and is subject to the following conditions:

- 1. The registration card must be completed and returned to Dentsply within two (2) weeks of date of installation.
- 2. Any installation, repair or servicing of the Dentsply unit must be performed by trained Dentsply Equipment Dealer service personnel.
- 3. The Dentsply unit must not be subjected to abuse or improper installation or operation.
- 4. Dentsply/Cavitron Ultrasonic Inserts are subject to these additional terms:
  - a. Inserts must not be subjected to abuse, improper use or application, including, but not limited to, bending or reshaping.
  - b. Inserts must not be subjected to improper cleaning, disinfection or sterilization procedures.
  - c. Warranty will not be honored for inserts used in units other than Dentsply Cavitron units.
- 5. Use of irrigating solutions other than ProSol in the Cavitron® MED unit will void the warranty.
- 6. Use of air polishing powder other than Prophy-Jet cleaning powder in the Prophy-JET or Cavitron JET units will void their warranties.

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. Dentsply neither assumes, nor authorizes any person to assume for it, any other liability in connection with the sale or use of this Unit.

DAMAGES ARE LIMITED STRICTLY TO REPAIR OR REPLACEMENT OF PARTS. DENTSPLY EXPRESSLY DISCLAIMS LIABILITY FOR INCIDENTAL AND CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE EQUIPMENT.

Claims covered by this warranty will be honored when presented through your Dentsply Equipment Dealer within one (1) month from discovery of defect.

### **Technical Support and Repairs**

For technical support and assistance call 1-800-347-7412 or (718) 361-2060, Monday through Friday, 8:00 AM to 4:30 PM (Eastern Time).

#### **Supplies & Replacement Parts**

To order supplies, replacement parts or repairs to your Cavitron Unit, contact your Dentsply® Equipment Dealer. If your dealer is unable to assist you, call 1-800-877-0020 ext. 471, Monday through Friday, 8:00 AM to 5:00 PM (Eastern Time).



# **Dentsply/**Equipment Division

Dentsply International Inc. 11 - 40 Borden Avenue Long Island City, NY 11101