Introduction

Cavitron® BOBCAT® Pro Ultrasonic Scaler

DENTSPLY® Professional is an ISO13485 certified company. All products are CE registered. The Cavitron® BOBCAT® Pro Ultrasonic Scaler is classified by Underwriters Laboratories Inc. with respect to electric shock, fire, mechanical hazards only in accordance with UL 60601-1 and Can/CSA C22.2 NO. 601.1 assigned control #13VA. The Cavitron BOBCAT Pro Ultrasonic Scaler meets the EMC standards of EN 60601-1-2:2001 and FCC Part 18 that includes limits for radiated and conducted emissions, as well as requirements for immunity to electrostatic discharge, surges, power interruptions and electromagnetic interference.

The Ultrasonic Scaler operates by converting ordinary AC house current into high frequency current. The ultrasonic system consists of two parts: an insert and the electronic system. The system incorporates a closed loop for automatic tuning (operating frequency is adjusted to be at resonance for each insert). The Cavitron BOBCAT Pro Ultrasonic Scaler produces 25,000 microscopically small strokes per second at the insert’s working tip. This combined with acoustic effects of the coolant water, produces a synergistic action that literally "powers away" the heaviest calculus deposits while providing operator and patient comfort.

Technical Support

There are no serviceable parts in this device. Refer all service to a qualified service repair facility. For technical support and repair assistance in the U.S., call Cavitron Care™ at 1-800-989-8826 or 717-767-8502 Monday through Friday, 8:00 A.M. to 5:00 P.M. (Eastern Time). For other areas, contact your local DENTSPLY representative.

Supplies & Replacement Parts

To order supplies or replacement parts in the U.S., contact your local DENTSPLY Distributor or call 1-800-989-8826 or 717-767-8502 Monday through Friday, 8:00 A.M. to 5:00 P.M. (Eastern Time). For other areas, contact your local DENTSPLY representative.

Caution: U.S. Federal Law restricts this device to sale by or on the order of a Dentist.

Website: www.professional.dentsply.com
# Table of Contents

<table>
<thead>
<tr>
<th>Section Number</th>
<th>Section Title</th>
<th>Description of Contents</th>
<th>Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Indications .</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>Contraindications and Warnings</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>2.1 Contraindications</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.2 Warnings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Precautions .</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>3.1 Precautions for All Systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.2 Precautions for Ultrasonic Prophylaxis Procedures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Infection Control</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>4.1 Infection Control Information Reference Card</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.2 General Infection Control Recommendations</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.3 Water Supply Recommendation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Installation Instructions</td>
<td></td>
<td>4–5</td>
</tr>
<tr>
<td></td>
<td>5.1 General Information</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5.2 Water Line Requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5.3 Electrical Requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5.4 Unpacking the System</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5.5 System Installation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5.6 Power Cord/Power Connection</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5.7 Rear Panel Controls</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5.8 Water Supply Connection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>BOBCAT® Pro Ultrasonic Scaler Description</td>
<td></td>
<td>6–7</td>
</tr>
<tr>
<td></td>
<td>6.1 System Controls</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6.2 Handpiece Holder</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6.3 Handpiece</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6.4 Cavitron® 25K™ Ultrasonic Inserts</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6.5 Foot Control Information &amp; Operation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Accessories .</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>8</td>
<td>Techniques for Use</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>8.1 Patient Positioning</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8.2 Performing Ultrasonic Scaling Procedures</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8.3 Patient Comfort Considerations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>System Care</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>9.1 Daily Maintenance—Start-Up Procedures, Between Patients, Shut-Down Procedures</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9.2 Weekly Maintenance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Troubleshooting</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>10.1 Troubleshooting Guide</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10.2 Technical Support and Repairs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Specifications</td>
<td></td>
<td>10–11</td>
</tr>
<tr>
<td>12</td>
<td>Equipment Classifications</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>13</td>
<td>Disposal of Unit</td>
<td></td>
<td>11</td>
</tr>
</tbody>
</table>
Section 1: Indications

Ultrasonic procedures:
• All general supra and subgingival scaling applications.
• Periodontal debridement for all types of periodontal diseases.
• Endodontic procedures.

Section 2: Contraindications and Warnings

2.1 Contraindications
• Ultrasonic Scalers should not be used for restorative dental procedures involving the condensation of amalgam.
• For optimum performance use only inserts manufactured by DENTSPLY Professional.

2.2 Warnings
• Persons fitted with cardiac pacemakers, defibrillators and other active implanted medical devices, have been cautioned that some types of electronic equipment might interfere with the operation of the device. Although no instance of interference has ever been reported to DENTSPLY, we recommend that the handpiece and cables be kept at least 6 to 9 inches (15 to 23 cm) away from any device and their leads during use.

• There are a variety of pacemakers and other medically implanted devices on the market. Clinicians should contact the device manufacturer or the patient’s physician for detailed information about the device.

Section 3: Precautions

3.1 Precautions for All Systems
• Do not place the ultrasonic scaler on or next to a radiator or other heat source. Excessive heat may damage the ultrasonic scaler’s electronics. Place the ultrasonic scaler where air is free to circulate on all sides and beneath it. Do not cover vents on rear panel.
• The ultrasonic scaler is portable, but must be handled with care when moving.
• Equipment flushing and dental water supply system maintenance are strongly recommended. See Section 9: System Care.
• Close the water shut-off valve in the dental water supply system every night before leaving the office.
• The use of an in-line water filter is recommended.
• Never operate the ultrasonic scaler without water flowing through the handpiece.
• Grounding reliability can only be achieved when the equipment is connected to an equivalent receptacle marked “Hospital Only” or “Hospital Grade”.

3.2 Precautions for Ultrasonic Prophylaxis Procedures
• Like a toothbrush, ultrasonic inserts “wear” with use. Inserts with just 2 mm of wear lose about 50% of their scaling efficiency. In general it is recommended that ultrasonic inserts be discarded and replaced after one year of use to maintain optimal efficiency and avoid breakage. A DENTSPLY Insert Efficiency Indicator is enclosed for your use.
• If excessive wear is noted, or the insert has been bent, reshaped or otherwise damaged, discard the insert immediately.
• Ultrasonic insert tips that have been bent, damaged, or reshaped are susceptible to in-use breakage and should be discarded and replaced immediately.
• Retract the lips, cheeks and tongue to prevent contact with the insert tip whenever it is placed in the patient’s mouth.
Section 4: Infection Control

4.1 Infection Control Information Reference Booklet

For your convenience, an Infection Control Information reference booklet has been included with your Cavitron BOBCAT Pro Ultrasonic Scaler. Additional booklets can be obtained by calling Customer Service at 1-800-989-8826 or 717-767-8502 Monday through Friday, 8:00 A.M. to 5:00 P.M. (Eastern Time). For other areas, contact your local DENTSPLY representative.

4.2 General Infection Control Recommendations

- As with all dental procedures, the use of universal precautions (i.e., wearing a face mask, eyewear or face shield, gloves and protective gown) is recommended.
- For maximal operator and patient safety, carefully follow the Infection Control Information procedures detailed in the booklet accompanying your ultrasonic scaler.
- As with high-speed handpieces, and other dental devices, the combination of water and ultrasonic vibration from your Cavitron BOBCAT Pro Ultrasonic Scaler, will create aerosols. With proper technique, much of the aerosol dispersion can be effectively controlled and minimized. Please carefully follow the procedural guidelines in this manual regarding the use of your ultrasonic scaler.
- A 0.12% chlorhexidine pre-rinse (ORIS™) is recommended prior to starting any dental procedure.

4.3 Water Supply Recommendations

It is highly recommended that all dental water supply systems conform to applicable CDC (Centers for Disease Control and Prevention) and ADA (American Dental Association) standards, and that all recommendations be followed in terms of flushing, chemical flushing, and general infection control procedures. See sections 5.2 and 9.

Section 5: Installation Instructions

5.1 General Information

If the installation of your Cavitron BOBCAT Pro Ultrasonic Scaler is performed by someone other than trained DENTSPLY Distributor personnel or DENTSPLY Service Technicians, care should be taken to observe the following requirements and recommendations.

5.2 Water Line Requirements

- The System’s water supply line is factory installed. Do not disconnect it from the ultrasonic scaler.
- Incoming water supply line pressure to the ultrasonic scaler must be 25 psi (172kPa) minimum to 60 psi (414kPa) maximum. If your dental water system’s supply line pressure is above 60 psi, install a water pressure regulator on the water supply line to your Cavitron BOBCAT Pro Ultrasonic Scaler.
- A manual shut-off valve on the dental water system supply line should be used so that the water can be completely shut-off when the office is unoccupied.
- A filter in the dental water system supply line is recommended so that any particles in the water supply will be trapped before reaching the ultrasonic scaler.
- After the above installations are completed on the dental water supply system, the dental office water line should be thoroughly flushed prior to connection to the ultrasonic system.
- After flushing system verify there are no leaks.

5.3 Electrical Requirements

Refer to Section 11: Specifications.

5.4 Unpacking the System

Carefully unpack your Cavitron BOBCAT Pro Ultrasonic Scaler and verify that all components and accessories are included:

1. Cavitron BOBCAT Pro Ultrasonic Scaler with factory installed water supply line, handpiece assembly and foot control assembly.
3. Efficiency Indicators for Cavitron Inserts.
4. Literature Packet.
5. Cavitron Ultrasonic Inserts (quantity optional).

5.5 System Installation

- The BOBCAT Pro is designed for both horizontal and vertical placement on a level surface.
- Be sure unit is stable and resting on four feet.
- Placing unit in direct sunlight may discolor plastic housing.
5.6 Rear Panel Controls

- The ON/OFF Control Switch is located on the Rear Panel of the Cavitron BOBCAT Pro Ultrasonic Scaler. The POWER INDICATOR is located on the Front Panel of the Cavitron BOBCAT Pro Ultrasonic Scaler. (See Section 6.1)

5.7 Power Cord/Power Connection

- Verify the ON/OFF Control Switch located on the rear panel of the ultrasonic scaler is in the OFF position before proceeding.
- Plug the detachable AC Cord into the back of the ultrasonic scaler and into an approved outlet.

5.8 Water Supply Line Connection

- Connect the free end of the ultrasonic scaler’s water supply line to the dental water supply line or a Cavitron DualSelect™ Dispensing System. If your ultrasonic scaler’s water supply line is provided with a quick disconnect, connect the quick disconnect to the dental water supply line or a Cavitron DualSelect Dispensing System.
- Inspect all connections to make certain there are no leaks.
6.1 System Controls

Handpiece Holder
Safely holds the Ultrasonic Scaler's Handpiece (with or without an insert) when the System is not being used.

Handpiece
Holds all Cavitron 25K Ultrasonic Inserts and transmits energy from the ultrasonic scaler to the insert.

Power Control
Turn knob to select ultrasonic power level for operation. Clockwise increase power and counterclockwise decreases power.

Power Indicator Light
Illuminates when POWER ON/OFF Control Switch is ON.

Water Flow Adjustment
Turn knob to select water flow level for operation. Clockwise decreases water flow and counterclockwise increases water flow. The water flow rate through the Handpiece also determines the temperature of the coolant water. Low flow rates produce warmer water. High flow rates produce 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.

6.2 Handpiece Holder

Vertical Orientation
Seat handpiece with a downward action as shown.

Horizontal Orientation
Squeeze handpiece into holder as shown.

6.3 Handpiece

The Cavitron BOBCAT Pro Ultrasonic Scaler handpiece accepts all Cavitron 25K Ultrasonic Inserts.

Note: Handpiece does not detach from the cable.
6.4 Cavitron® 25K™ Ultrasonic Inserts

The many styles of Cavitron® 25K™ Inserts are easily interchangeable for various procedures and applications. See enclosed booklet for specific information.

Hold the handpiece in an upright position. Activate the foot control to bleed with water any air bubbles that might be trapped inside the handpiece. Lubricate the rubber o-ring on the insert with water before placing it into the handpiece. Fully seat insert with a gentle push-twist motion. DO NOT FORCE.

6.5 Foot Control Information & Operation

The following operating characteristics apply when using your Cavitron BOBCAT Pro Ultrasonic Scaler with Cavitron Ultrasonic Scaling Inserts and the PEC-2 Endosonic Insert.

<table>
<thead>
<tr>
<th>Foot Control depressed...</th>
<th>Foot Control released...</th>
</tr>
</thead>
<tbody>
<tr>
<td>The ultrasonic insert tip is activated and irrigating water.</td>
<td>Both ultrasonic activation and irrigating flow stop.</td>
</tr>
</tbody>
</table>

NOTE: Water may drop from insert tip after deactivation of foot control from pressure in handpiece.
Section 7: Accessories

1. AC Power Cord set
2. Cavitron® Ultrasonic Inserts
3. Cavitron® DualSelect® Dispensing system

For detailed information, contact your local DENTSPLY representative or authorized DENTSPLY distributor.

Section 8: Techniques for Use

8.1 Patient Positioning

- For optimal access to both the upper and lower arches, the backrest of the chair should be adjusted to a 45° degree angle. This assures patient comfort and clinician visibility.
- Have the patient turn his/her head to the right or left. Also position chin up or down depending upon the quadrant and surface being treated. Evacuate irrigant using either a saliva ejector or High Volume Evacuator (HVE).

8.2 Performing Ultrasonic Scaling Procedures

- Hold the empty handpiece in an upright position over a sink or drain. Activate the Foot Control until water exits.
- Lubricate the rubber o-ring on the insert with water before placing it into the handpiece. Fully seat insert with a gentle push-twist motion. DO NOT FORCE.
- Activate the System. Hold the handpiece over a sink or drain. (Check spray to verify fluid is reaching the working end of the insert tip). Adjust the Water Control knob to ensure adequate flow. Greater flow settings provide cooler irrigant.
- In general, it is suggested that a "feather-light touch" be used for ultrasonic scaling. The motion of the activated tip and acoustic effects of the water, in most cases, is adequate to remove even the most tenacious calculus.
- Periodically check the Cavitron Ultrasonic Insert for wear with the Cavitron Insert Efficiency Indicator.
- The use of a saliva ejector or High Volume Evacuator (HVE) is recommended during all procedures.
- Set the ultrasonic scaler’s Power Control knob to the lowest effective power setting for the application and the selected insert.

8.3 Patient Comfort Considerations

Reasons for sensitivity

- Incorrect tip placement. The point should never be directed toward tooth root surfaces.
- Not keeping tip in motion on tooth. Do not allow the insert to remain in a static position on any one area of the tooth. Change the insert’s path of motion.
- Applying excessive pressure. Use a very light grasp and pressure, with a soft tissue fulcrum whenever possible, especially on exposed cementum.
- If sensitivity persists, decrease power setting and/or move from the sensitive tooth to another and then return.
Section 9: System Care

9.1 Daily Maintenance

It is recommended that you perform the following maintenance procedures to help minimize bio-film formation in the water path of your Cavitron BOBCAT Pro ultrasonic scaler which could affect the water flow to the ultrasonic insert, and scaling performance.

Start-Up Procedures at the beginning of the day:
1. Open the manual shut-off valve on the dental office water supply system.
2. Turn the System ON using the ON/OFF control switch. (See illustration on page 5). Verify the Power Indicator Light is lit.
3. Set the Power Control knob to the minimum setting.
4. Set the Water Control knob to maximum.
5. Hold the Handpiece (without an insert installed) upright over a sink or drain. Activate the Foot Control and flush the water line for at least 2 minutes.
6. Place a sterilized insert into the Handpiece and set the Water Control knob and Power Control knob to your preferred operating position.

Between Patients:
1. Remove ultrasonic insert used, clean and sterilize.
2. Disinfect the surfaces of the cabinet, Power Cord, Handpiece and cable assembly and Foot Control and cable assembly by applying an approved non-immersion type disinfectant solution* carefully following the instructions provided by the disinfectant solution manufacturer. To clean system, generously spray disinfectant solution on a clean towel and wipe all surfaces. Discard used towel. To disinfect system, generously spray disinfectant on a clean towel and wipe all surfaces. Allow disinfectant solution to air dry. Never spray disinfectant solution directly on the ultrasonic scaler.
3. Set the power to minimum and hold the handpiece over a sink or drain and flush the water line at maximum water flow for 30 seconds.
4. When ready, place a sterilized insert into the handpiece.

Shut-Down Procedures at the end of the day:
1. Remove ultrasonic insert used, clean and sterilize.
2. Turn the System OFF.
3. Disinfect the surfaces of the cabinet, Power Cord, Handpiece and cable assembly and Foot Control and cable assembly by applying an approved non-immersion type disinfectant solution* carefully following the instructions provided by the disinfectant solution manufacturer. To clean system, generously spray disinfectant solution on a clean towel and wipe all surfaces. Discard used towel. To disinfect system, generously spray disinfectant on a clean towel and wipe all surfaces. Allow disinfectant solution to air dry. Never spray disinfectant solution directly on the ultrasonic scaler.
4. Close the manual shut-off valve on the dental water supply system.

*NOTE: Water-based disinfectant solutions are preferred. Some alcohol-based disinfectant solutions may be harmful and may discolor plastic materials.

9.2 Weekly Maintenance

End of Week Procedures
(when connected to a DualSelect™ Dispensing System).

1. Follow the end of week procedures listed in the DualSelect™ Dispensing System manual.
Section 10: Troubleshooting

Although service and repair of the Cavitron BOBCAT Pro Ultrasonic Scaler should be performed by DENTSPLY personnel, the following are some basic troubleshooting procedures that will help avoid unnecessary service calls. Generally, check all lines and connections to and from the ultrasonic scaler. A loose plug or connection will often create problems. Check the settings on the ultrasonic scaler’s knobs.

10.1 Troubleshooting Guide

System will not operate:
1. Check that the ON/OFF Control switch is in the ON (1) position, and that the detachable Power Cord is fully seated in the receptacle on back of the ultrasonic scaler.
2. Check that the ultrasonic scaler’s three-prong plug is fully seated in an appropriate AC receptacle, and that AC current is present.

System operates:
(No water flow to insert tip)
1. Assure that water control is properly adjusted.

(Insert stops vibrating)
1. Deactivate foot control.
2. Verify insert is 25kHz and in good condition.
3. Depress foot control.

10.2 Technical Support and Repairs

For technical support and assistance in the U.S. call 1-800-989-8826 or 717-767-8502 Monday through Friday, 8:00 A.M. to 5:00 P.M. (Eastern Time). For other areas, contact your local DENTSPLY representative.

Section 11: Specifications

**Cavitron® BOBCAT® Pro: 115 VAC Systems**

- **Electrical Voltage**: 115V Gen-130
- **Gen-130 (Model approved for U.S. application)**
- **Current**: 0.8 amps @ 115V (80VA)
- **Frequency**: 50/60 Hertz
- **Water Pressure**: 25–60 psig
- **Flow Rate**: Minimum setting (CW) = 0 ml/min, Maximum setting (CCW) > 60 ml/min
- **Weight**: 6 lb. (2.7 Kg)
- **Dimensions**: Height: 8 in., Width: 3.8 in., Depth: 8 in.
- **Handpiece Cable**: 96 in.
- **Foot Control Cable**: 96 in.
- **Power Cord**: 96 in.
- **Water Supply Line**: 96 in.

**Cavitron® BOBCAT® Pro: 220/230/240 VAC Systems**

- **Electrical Voltage**: 220V Gen-130B, 230V Gen-130U, 240V Gen-130A, Gen-130E
- **Current**: 0.4 amps @ 220V/230V/240V (80VA)
- **Frequency**: 50/60 Hertz
- **Water Pressure**: 172-414 kPa
- **Flow Rate**: Minimum setting (CW) = 0 ml/min, Maximum setting (CCW) > 60 ml/min
- **Weight**: 2.7 kg
- **Dimensions**: Height: 20.3 cm, Width: 9.6 cm, Depth: 20.3 cm
- **Handpiece Cable**: 2.4 m
- **Foot Control Cable**: 2.4 m
- **Power Cord**: 2.4 m
- **Water Supply Line**: 2.4 m
Section 12: Equipment Classifications

- Type of protection against electric shock: Class 1
- Degree of protection against electric shock: Type B
- Degree of protection against the harmful ingress of water: Ordinary
- Mode of operation: Continuous
- Degree of safety of application in the presence of a flammable anaesthetic mixture with air or with oxygen or nitrous oxide: Equipment not suitable for use in the presence of flammable anaesthetic or oxygen.
- According to medical device directive: IIA (rule 9)

Section 13: Disposal of Unit

- In accordance with local and state laws.