

HALL® MicroFree™ Battery Handpiece & Power Unit Cleaning and Sterilization Procedures & Charger & Adaptor Manual Cleaning Procedure

High Speed Drill: PRO8000SB Cleaning Information

1. Warnings, Precautions and Notes

1. Follow universal precautions for protective apparel when handling and cleaning contaminated instruments.
2. After use (post-operatively) do not allow soiled/contaminated devices to dry prior to pre-cleaning and disinfecting. Clean instruments within 30 minutes after use to minimize the potential of blood and debris drying. Consider covering the re-usable device with a cloth saturated with distilled water to avoid drying of soil.
3. Never clean equipment in an ultrasonic cleaner.
4. Always disconnect the handpiece from the HALL Small Bone Lithium Power Unit prior to cleaning.
5. Always detach accessories from equipment prior to cleaning.
6. Never clean handpieces with bleach, chlorine-based detergents, liquid or chemical disinfectants, or any products containing sodium hydroxide (such as, INSTRU-KLENZ or Buell Cleaner). These products degrade the anodized aluminum coating and may result in reduced handpiece reliability.
7. To prevent corrosion, avoid contact with agents containing iodine or chlorine.

2. Manual Cleaning Instructions

1. Remove the attachments, HALL Small Bone Lithium Power Unit and disposables from the handpieces.
2. Thoroughly scrub the handpiece and attachments with a clean, soft brush dampened with a mild, pH-balanced detergent. Ensure the blade locking collet on the oscillator and reciprocator handpieces is in the open position. Remove all traces of blood, debris and stains.
3. To clean the cannulated section of the handpiece and attachment, feed the wire end of a cleaning brush through the cannulation of the handpiece or attachment. Pull the brush completely through and repeat until all debris is removed.
4. Manipulate all moving parts of the handpiece and attachments to ensure all debris is removed. If not, clean again until all debris is removed.
5. Keeping the nose of the handpiece pointed downward, rinse under tap water (minimum temperature of 25°C/77°F) for a minimum of 30 seconds using a minimum of 6 liters to remove all traces of soap. Rinse all attachments likewise.
6. Flush all surfaces free of tap water with distilled/deionized water (minimum temperature of 25°C/77°F) for a minimum of 20 seconds using a minimum of 4 liters of distilled/deionized water. Ensure handpiece is visibly free of detergent or cleaning residues.
7. Gently shake the equipment free of water and wipe the surfaces with a clean, lint-free towel.
8. For cleaning instructions of the HALL Small Bone Lithium power unit, refer to instructions of use.

3. Automated Cleaning Instructions

HALL MicroFree Battery Handpieces are suitable for use in washer/sanitizers. They are designed with advanced materials and sealing technologies and are individually tested to ensure the prevention of ingress of fluids during use and cleaning. MicroFree handpieces have an Ingress Protection rating of IPX6, IPX8 and IPX9, ensuring they are suitably protected against water intrusion.

1. Under running water, remove all traces of blood and debris.
2. Load handpiece in washer/sanitizer and operate according to machine manufacturer's instructions. It is recommended to use a neutral pH cleaner. Only use approved solutions for cleaning powered instruments according to the manufacturer's recommendations. Ensure all collet mechanisms are in the open position.
3. Run washer/sanitizer according to the manufacturer's specifications. A dry cycle is recommended but not required.

4. Disinfecting Information

NOTE: CaviCide® Spray Ready-to-use or a comparable disinfection solution of PH between 11.0 and 12.49 are highly recommended by CONMED. However, the use of alternative methods of disinfection or disinfection agents outside the scope of this document may be suitable for disinfecting the devices. Alternate disinfection methods must be validated by the end user.

a. Manual Disinfection Instructions

1. Spray the device thoroughly with CaviCide® Spray Ready-to-use disinfectant.
2. Ensure the device remains wet for a minimum of ten (10) minutes by spraying the device as needed with the CaviCide® Spray Ready-to-use.
3. Rinse under running deionized water for a minimum of one (1) minute.
4. Thoroughly dry all surfaces of the device using a sterile, lint free wipe, changing wipes when necessary to ensure the device is completely dry.

b. Automated Disinfection Instructions

1. Place device in an automated washer disinfectant filled with purified water.
2. Run thermal rinse cycle at 194°F (90 °C) for five (5) minutes.
3. Let device cool before handling.
4. Removed device from washer and thoroughly dry the device with a sterile lint free wipe.

HALL MicroFree Power Unit: L3500SB Cleaning Information

HALL MicroFree Power Units are UL-approved and fully autoclavable meaning that the entire system can be placed in the same tray as the handpieces and attachments for sterile processing,

1. Manual Cleaning – Power Unit

- a. To clean the Power Unit, use a lint-free cloth dampened with a pH-balanced detergent after each use.
- b. Then, rinse the Power Unit under running water with a minimum temperature of 25°C or 77°F for a minimum of 30 seconds using a minimum of 3 liters of rinse water.
- c. A final rinse in deionized water at a minimum of 30 seconds using a minimum of 2 liters of rinse water.
- d. Ensure Power Unit is visibly free of detergent or cleaning residues.
- e. Then, thoroughly wipe the Power Unit with a lint-free cloth moistened with deionized water.
- f. NOTE: tap water can cause mineral deposits to collect on contacts which may affect operation of the handpiece.
- g. Dry the Power Unit with a clean, lint-free cloth or compressed air.

2. Automatic Cleaning – Power Unit

- a. Under running water or using a dampened lint-free cloth, remove all traces of blood and debris.
- b. Load Power Unit in washer/sanitizer, ensuring open end of Power Unit is facing downward as displayed in the image below.
- c. Run washer/sanitizer to the manufacturer’s specifications. A dry cycle is recommended but not required. However, before charging, ensure the power unit and its contacts are dried using a lint-free cloth or compressed air. Charging should occur after cleaning but prior to sterilization.

High Speed Drill, Bur Guard, and Power Unit Sterilization Information

1. Warnings, Precautions, and Notes

1. The use of disinfecting solutions for an exterior instrument wipe will not sterilize the equipment and is not recommended.
2. Do not sterilize equipment or accessories using Ethylene Oxide (EtO).
3. Do not sterilize equipment or accessories using a STERIS system or by comparable sterilization methods.
4. Do not sterilize equipment or accessories in cold sterilants like CIDEX.
5. Always detach accessories from equipment prior to sterilization.
6. Do not use equipment while warm. Allow adequate time for cooling prior to use. Cool by exposure to room temperature. Operation of equipment that is not completely cool or dry may decrease performance and/or reliability.
7. When sterilizing equipment and attachments in a system sterilization tray, use the recommended sterilization parameters in its instruction manual.
8. Do not "Peel Pack" handpieces for sterilization. Sterilization in a sealed pouch traps moisture which can cause damage.
9. Attachments or handpieces with collet mechanisms must be sterilized with the collet fully open.
10. A minimum dry cycle according to the Sterilization Instructions must be run on all equipment and attachments every time the product is sterilized. Failure to use a dry cycle on the products may lead to reduced product performance or premature product failure.
11. In instances where a facility does not have the ability to perform Pre-vacuum sterilization with dry cycles that correspond for the recommendations above, we recommend that the handpiece be dried in a dry heat sterilizer at 250°F (121°C) after sterilization, once a day for two hours. This process will eliminate moisture that may have built up during previous gravity sterilization cycles. Following this process should ensure optimum performance of the handpiece.

2. Sterilization Instructions

Steam sterilization is safe and effective and has no contraindications for sterilizing this equipment. Handpieces, attachments and Power Unit may be processed in a pre-vacuum steam sterilizer or in a gravity displacement sterilizer.

Sterilization parameters utilizing Sterilization Tray.

1. Place components into tray in the location and orientation seen in the images below.
2. Be sure to place the power units open-side down in the tray.

Method	Cycle	Temperature	Exposure	Dry Cycle
Steam	Pre-Vacuum	270° F (132° C)	3 minutes	20 minutes



Hall® Lithium Battery Charger (L3000) and Adaptor (L3500) : Manual Cleaning ONLY.

NEVER STERILE PROCESS.



1. Disconnect the power cord from the electrical power source and from the bottom of the charger.
2. Wipe the charging station with a clean, soft cloth dampened with a mild, pH-balanced detergent approved for plastics.
3. After cleaning, wipe the Charging Station again with a clean, lint-free towel moistened with distilled or sterilized water.
4. Wipe it dry with a clean, soft cloth.

DO NOT STERILE PROCESS THE CHARGER OR ADAPTOR.