



HVE and SE Vacuum Valves

HVE/SE CARE AND MAINTENANCE

Cleaning - General information

Ultrasonic cleaning of the vacuum valves is **NOT Recommended**.

The external surfaces can be cleaned with a solution of mild detergent and warm water. A variety of surface disinfectants are available for use in dental treatment rooms. Some of these can cause discoloration of painted, plated or anodized surfaces with repeated use. This can be minimized by careful adherence to the disinfectant manufacturer's instructions.



CAUTION: Do not use powdered cleansers, scouring pads or abrasive scrubbers on any of the painted, plastic or metal surfaces of the vacuum valves. To remove dried-on material, use a soft-bristled brush and a solution of mild detergent and warm water.

Vacuum Valves with QD Swivel Connection

For ease of maintenance on these valves, the main body may be removed from the QD swivel to clean or to disinfect/sterilize. QD swivels can be cleaned/disinfected with disinfecting wipes carefully following manufacturer's instructions.

Vacuum Valves without QD Swivel Connection

These valves are not to be removed from the vacuum tubing. Doing so will deteriorate or damage the tubing. These valves can be cleaned/disinfected with disinfecting wipes carefully following manufacturer's instructions.

Disinfection – General Information

The use of chemical disinfecting agents is not necessary if the vacuum valve is going to be sterilized. While their use may be easy and quick, it is important to know the effectiveness of any chemical disinfectant against the various agents of infection that may be encountered.

Your dental supply dealer will have current information from all disinfectant manufacturers regarding their product's effectiveness. Always follow the product manufacturer's recommendations for use. When using concentrated disinfectants, measure the concentrate carefully and mix according to package directions.

It is imperative that the vacuum valves be thoroughly washed with mild soap and warm water at least once per day. This wash down will minimize the harmful effects of chemical disinfectant residues being allowed to accumulate on the vacuum valve.



CAUTION: These disinfectants will harm the surface finishes of vacuum valves and are not recommended: Strong Phenols/Phenol Alcohol combinations, Sodium Hypochlorite/Household Bleach, Sodium Bromide, Strong Alcohol, Household Cleaners (Dental Equipment Only), Citric Acids, **Iodophors, Ammonium Chloride and Accelerated Hydrogen (0.5%).

****Iodophor-based disinfectants will cause yellow staining on many surfaces.**

Disinfectants that will not adversely affect the instruments are, but not limited to: BIREX SE®, SPORICIDIN®, COLDSPOR, PROCIDE-D® SPRAY, STERALL PLUS SPRAY, ASETICIDE, BIOCIDE, PROMEDYNE, IODO-FIVE, WESCODYNE and CAVICIDE.



HVE and SE Vacuum Valves

CLEANING, DISINFECTING AND STERILIZATION

After Each Patient:

- 1 Draw clean water through the vacuum valves. Work the control valve open and closed several times to free up and clear debris build-up inside the valve body.
- 2 Replace disposable tip if one is used. The tip must be cleaned and sterilized after each patient (refer to “To clean and sterilize a reusable HVE/SE tip”).
- 3 Replace barrier film if used. If barrier film is not used, clean and sterilize vacuum valves after each patient.

Daily Care:

- 1 Use supplied brushes and a mild detergent to clean the internal surfaces of the vacuum valves.
- 2 Draw a vacuum system cleaner, such as Eco Vac, through the vacuum valves.



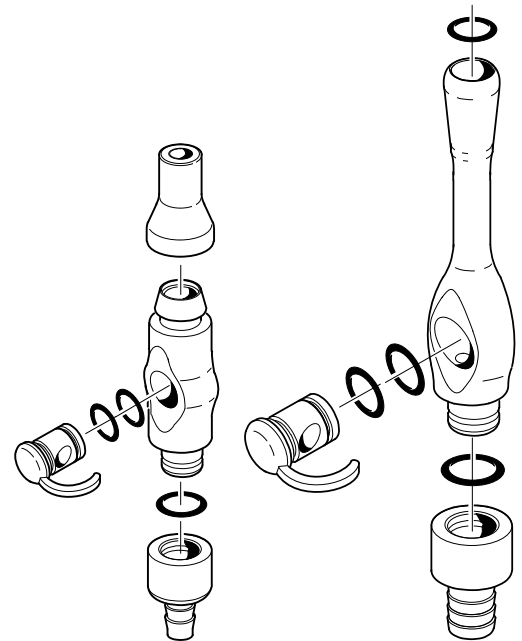
CAUTION: Disposable HVE and SE tips cannot be sterilized and should not be reused. Replace with a new tip after each patient.

To clean and sterilize reusable HVE/SE tips:

- 1 Remove tip from the HVE/SE.
- 2 Clean and rinse the tip with a mild detergent and water.
 - Allow the tip to completely dry.
- 3 Sterilize the tip using steam autoclave at a temperature of 275°F (135°C) for 4 minutes.

Weekly Care:

- 1 Turn off vacuum pump before disconnecting the HVE and/or SE.
- 2 Remove the tip from the HVE and SE.
- 3 Pull the valve bodies away from the QD swivels, and then press out the valve lever.
- 4 Clean the QD Swivel with disinfecting wipes while still attached to the tubing. Carefully follow manufacturer’s instructions.
- 5 Use supplied brushes and a mild detergent to clean the internal surfaces of the vacuum valves.
 - Allow the vacuum valves to completely dry.
- 6 Inspect O-rings for nicks, missing sections and excessive wear. Replace O-rings as necessary.
- 7 Lubricate the O-rings with a silicone lubricant, such as Parker Super O Lube, and reassemble the vacuum valve.
- 8 Sterilize the valve bodies: (refer to “To sterilize vacuum valves”).





HVE and SE Vacuum Valves

CLEANING, DISINFECTING AND STERILIZATION CON'T ...

There are several methods of sterilization that may be used. It is important to remember, however, that regardless of the method you choose, temperatures should never exceed 275° Fahrenheit (135° Celsius).

Any of the following sterilization methods may be safely used on your autoclavable vacuum valves:

- Steam Autoclave
- Ethylene Oxide Gas
- Chemical Vapor Process

Dry heat sterilization is not recommended because of the difficulty in maintaining the precise temperature control necessary to prevent damage to the vacuum valves.

To Clean and Sterilize Vacuum Valves:

- ① Turn off vacuum pump before disconnecting the HVE and/or SE.
- ② Remove the tip from the HVE and SE.
- ③ Pull the valve bodies away from the QD swivels, and then press out the valve lever.
- ④ Clean the QD Swivel with disinfecting wipes while still attached to the tubing. Carefully follow manufacturer's instructions.
- ⑤ Clean and rinse the valve body and lever with a mild detergent, water and supplied brushes.
 - Allow the vacuum valves to completely dry.
- ⑥ Reinstall the valve lever into the valve body .
- ⑦ Sterilize the valve body and lever assy:

Note: Vacuum valves with plastic bodies cannot be autoclaved.

- Sterilization should not exceed 275°F (135°C).
- Holding time of 4 minutes.
- Avoid vacuum valve contact with the sterilizer wall and close proximity to the heating elements.
- Allow to completely dry before handling and storing.



CAUTION: When using the chemical vapor process, it is essential to rinse out all cleaning agents with clear water. The internal surfaces and passages must be thoroughly purged of residual cleaning agents by flushing with water then isopropyl alcohol. This will prevent the formation of a crystalline residue resulting from reactions between the chemical vapor solutions and cleaning agents.