



Committed To Innovation

**Operator's Manual for the
Alternative 4440 Cart System**

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Control Unit and Cart Frame

Operation and Features

The positions of the handpiece holders are adjustable. See the section below on adjustments.

The **drive air pressure gauge** is on the left side of the control panel.

The **water coolant on-off toggle** is on the right side of the panel.

Water coolant flow control knobs are on the underside of the control unit. The adjustment knobs are positioned in the same left-to-right order as the automatic handpiece holders.

Adjustment screws for drive air pressure are inside the control unit, on the control block. See the section below on adjustments.

Syringe

Tubing connections for the standard syringe have been made inside the control unit. The syringe is packed in a shipping envelope, with instructions and a repair kit attached. Place the syringe in the far left holder on the tool bar.

Foot Control

Pressure to any part of the foot control disc provides drive air to the selected handpiece. Air coolant is also activated by stepping on the foot control disc.

Vacuum Valves

The saliva ejector and the two HVE's will be in holders to the right of the three handpiece holders. See the instructions for the vacuum valves below.

Cleaning and Maintenance

Note

Do not use powdered cleansers, scouring pads, or abrasive scrubbers on any of the finished metal surfaces in this unit (for example, the syringe, the foot control disc, or the cart frame). Sodium Hypochlorite will also damage these surfaces.

Control Unit and Cart Frame

The control panel, cart top and other control unit surfaces can be cleaned with most commonly available surface disinfectants. Do not use Sodium Hypochlorite, or any cleansers containing large concentrations of alcohol. These may cause discoloration on the painted and finished metal surfaces of the control head and cart frame. Do not use abrasives on the cart frame. They may damage the metal finish.

System Flush

The Center for Disease Control and the American Dental Association can provide recommendations on when to flush your system, and for how long.

Adjustments

Handpiece Holders

Each handpiece holder is attached to the tool bar with two set screws, located on the underside of the holder. To reposition a holder, loosen the set screws, move the holder to the desired location, and retighten the set screws. You will need a 3/32" hex key.

Cart

The height of the control unit can be adjusted. Loosen the knob on the upright post of the cart frame. Raise or lower the control unit as desired, and retighten the knob firmly. **Make sure the weight of the control unit is supported when you loosen the knob on the post.**

Note

All of the following adjustments should be made with a burr in the handpiece. Running a handpiece without a burr installed can damage the handpiece.

Drive Air Pressure

You will need a small, flat blade screwdriver to make these adjustments.

Install a burr in the handpiece you wish to adjust. Place the lockout toggle for this handpiece in the active position. Turn the water coolant toggle to the off position.

Lift the cover on the control unit and locate the control block.

The Drive air adjustment screws are located on top of the control block. They are in the same order, from left to right, as the handpiece holders.

Position the screwdriver in the adjustment screw for the handpiece you are adjusting.

Press on the foot control disc until the handpiece is running at maximum speed.

Turn the adjustment screw counterclockwise until the pressure gauge reads a little more than the recommended pressure. Then turn the screw clockwise until the gauge indicates the recommended pressure.

Repeat this procedure for the other two handpieces.

Water Coolant

Turn the water coolant on-off toggle to the on position (toward the blue dot).

Activate the handpiece you wish to adjust by turning the toggle on the handpiece toward the red dot.

With a burr in the handpiece, press on the foot control until the handpiece is running at half speed. Turn the water coolant flow control knob for this handpiece to provide a fine mist of water around the burr. Very little water coolant is required.

Repeat this procedure for the other two handpieces.

Deluxe Vacuum Package

Operation and Maintenance

Vacuum is supplied to the two universal valves and the saliva ejector by turning on the central vacuum system.

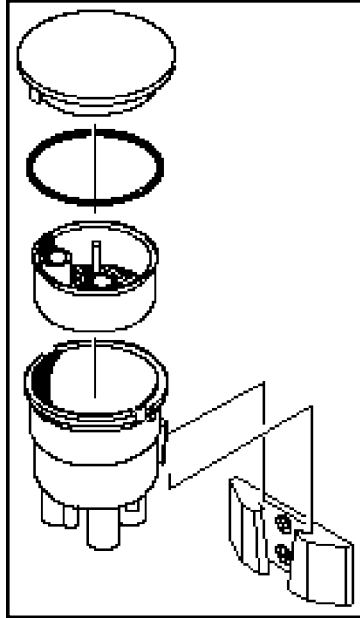


Figure 1

Solids Collector

The solids collector is located inside the control unit. It contains a removable screen, which should be emptied, cleaned and disinfected at least once a week (see *Figure 1*). To remove the lid from the solids collector, shut off the central vacuum, or open one of the universal valves if you leave the central vacuum on. The screen can be cleaned and reused or replaced with a new one.

External surfaces of the solids collector can be cleaned with a solution of warm water and a mild detergent.

The solids collector is equipped with a fitting for a Hydrocolloid Drain. To use, drill a through hole from the fitting into the solids collector. You will need a 7/64" or a number 35 drill bit.

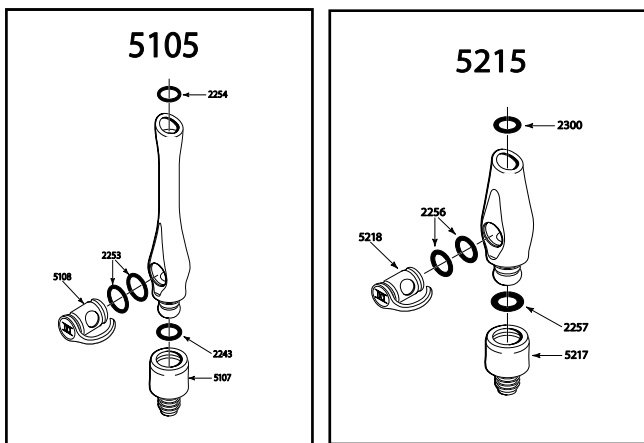


Figure 2

Autoclavable Vacuum Valves

These instructions apply to all types of Autoclavable Vacuum Valves; SE or HVE (long and short body).

The Autoclavable valves are equipped with a quick-disconnect swivel for easy removal from tubing. To separate the valve from the swivel, gently pull them apart. To reassemble, gently press the two pieces together. There will be a soft click as the O-ring in the swivel slips into place on the body.

The valve is on when the metal lever is positioned toward the swivel. It is off when the lever faces the tip (see *Figure 2*).

Cleaning and Maintenance of Valves

Note

Ultrasonic cleaning is not recommended for any of the autoclavable valves. Many of the solutions used in ultrasonic cleaners will permanently damage the finish on these instruments.

Do not use powdered cleansers, scouring pads or abrasive scrubbers on any of the autoclavable vacuum valves. These products will also damage the finish on the instruments. Remove stubborn debris by soaking in warm water.

After each patient, draw clean water through the valve, while opening and closing it several times. Then, remove the valve from the water source and leave it open until all of the water has cleared the hoses. Clean external surfaces with a solution of mild detergent and warm water and dry with a clean, soft cloth.

At the end of each day, draw clean water through the valve, while opening and closing it. Then scrub the internal surfaces with a stiff brush. Clean external surfaces as above. Eco Vac (*Part Numbers 5835 and 5837 in the DCI catalog*) is an effective vacuum system cleaner that is also non-toxic and environmentally safe.

Periodically clean and lubricate the internal parts of the valve, when operation becomes stiff or sticky. First, draw water through the valve, as above. Then separate the valve body from the swivel, push the spool & lever assembly out of the body. The O-rings can be left in place. Clean the inner surfaces and apply a small amount of silicone lube to all of the O-rings shown in *Figure 2*.

Any O-rings showing signs of wear should be replaced. The O-rings on the spool can be removed and replaced using fingers only. To remove an O-ring from the inside of the body or swivel, use a dental pick or other pointed instrument to hook the O-ring. Gently pull it out, being careful not to scratch the sealing surfaces.

Apply a small amount of silicone grease to the new O-ring. Press it flat between your fingers. Tuck one end of the flattened O-ring into the groove in the body or the swivel, then feed the rest of it in.

Disinfecting and Sterilizing of Valves

The following disinfectants are safe to use on Autoclavable Vacuum Valve; Birex SE®, Sporidicin®, Coldspor, Procide-D® Spray, Sterall Plus Spray, Asepticide, Biocide, Promedyn Iodo-Five, Wescodyne and Cavicide.

Note

Do not use Sodium Hypochlorite to disinfect any Autoclavable Vacuum Valve. It will cause permanent damage the instrument.

When autoclaving, place the instrument well away from the heating elements, and do not allow the valve to contact the walls of the sterilizer.

Steam autoclave, Dry Heat, Ethylene Oxide, and Gas or Chemical Vapor process are all safe to use, as long as temperatures do not exceed 280° Fahrenheit (138° Celsius).

Note

If you use the chemical vapor process, the valve must first be thoroughly rinsed of all cleaning agents. Cleaning agents left on the valve may react with the chemical vapor solutions to form a crystalline residue which can clog the valve or cause it to stick.