

# WHAT TO LOOK FOR

## WHEN BUYING DENTAL EQUIPMENT





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# EQUIP YOUR PRACTICE FOR SUCCESS.

Purchasing dental equipment is one of the most important decisions you'll make for your practice. Choosing the right equipment increases your productivity, and ultimately, your success. This booklet is designed to guide you in selecting reliable equipment to help you perform healthier, more efficient dentistry—whether you're making your first dental equipment purchase or your twenty-first.



## DURABILITY AND RELIABILITY

The first thing you should look for in dental equipment is durability and reliability. For an environment that's subject to moisture and constant use, choose solid equipment that's built to withstand the daily rigors of dentistry. **Try these tests next time you're in a dealer showroom or at a dental tradeshow:**

- Touch each piece of equipment to get a feel for how well it's made.
- Move the armrest. Adjust the headrest.
- Sit down beside and behind the chair. Is it easy to position yourself close to the chair in each working position?
- Recline in the chair to determine the comfort.
- Check the motion. Is it bumpy or smooth?
- Notice if the equipment feels sturdy.
- Open and close the cabinets. Do they operate smoothly?
- Check that all parts fit well together.
- Ask for the chair's tested lifting capacity.
- Test the functionality of the delivery system, chair, and all components. Just as you would when buying a car, take it for a test drive.

## PERFORMANCE AND EFFICIENCY

The ultimate test of your equipment is how well it performs. Top-performing equipment keeps you operating at peak efficiency. Every feature should have a specific purpose, with the ultimate goal of helping you and your team perform at your best. Each piece should be ergonomically designed for you and your patient's comfort. Consider these two major points:

- **Minimize motion.** Design your environment to access what you need, and keep what you use most often within reach. By eliminating time-wasting movements such as overreaching for an instrument, twisting your body, or craning your neck, you can complete procedures more efficiently and feel better at the end of the day.
- **Make every move count.** Treatment teams have to work in neutral positions, which implies that the more they move, the more energy they waste. The tenser the muscles, the less efficiently they operate. Through the years, the daily aches and pains of poor positioning accumulate and can lead to chronic injury, severely impacting your ability to practice dentistry. Look for equipment that will reduce your motion and make every move count.

## REPUTATION AND SERVICE

When your equipment isn't working, you're not working. Excessive maintenance can result in costly service calls and lost productivity. Choose a manufacturer that has a history of creating products that are durable, reliable, easy to maintain, and can support service parts years after the sale.

### **Ask your peers for advice:**

- What brand do they use?
- Would they buy that brand again?
- Who do they trust? Make sure you choose a manufacturer that stands by its products and will still be in business when it comes time for servicing or upgrading five, ten, even 15+ years down the road.

## BUY NEW OR MAKE DO

If your outdated equipment is still operating, you may be contemplating if it's worth investing in new equipment. Consider this:

- Is your equipment software based so you can update features as technology advances?
- Can you integrate new clinical capabilities with the existing platform?
- Does your existing equipment require excessive maintenance and continued costly service calls?
- Does your existing equipment look up to date?  
Modern, technologically up-to-date equipment and furniture instills confidence and trust that your dental techniques are equally up to date—which can pay off with higher patient referrals and case acceptance.

## VALUE AND PRICING

If you approach purchasing equipment with feature-for-feature or dollar-for-dollar comparisons, you may end up with a mismatch in terms of lasting quality and satisfaction. How can you determine what to buy, and if there really is a difference in quality?

Guide your purchasing decision by:

- Asking questions about product performance, reliability, and durability.
- Researching the manufacturer's products, consistency, and longevity in the marketplace.
- Asking what differentiates a manufacturer's products from the competition and/or new generations of the product.
- Investigating their customer service record, and reputation for standing behind the product.
- Defining what you need and expect from your next dental equipment purchase.

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# PATIENT CHAIRS

When considering patient chairs, stability is key. The precise work you perform in the oral cavity requires an unwavering platform and comfortable, efficient working environment that maximizes access to the patient.

## **Q. HOW STABLE IS THE CHAIR?**

**A.** Stability is essential, but requirements vary depending on what type of equipment you use. Chair-mounted delivery systems, for example, require a more stable chair than cabinet or wall-mounted systems.

Here's a practical test of stability on a chair with a chair-mounted delivery system and light, which is sitting on an even and level floor: with a person in the supine position, run the chair to its maximum height. Grasp the top of the light post and attempt to rock the chair side-to-side. The patient seating area should not rock or sway, but should remain basically rigid. The baseplate shouldn't rock at all. "Tippy" chairs may not be capable of delivering a stable oral cavity.

The chair baseplate is an important factor in stability. It should have a large footprint, yet be configured so it won't interfere with stool casters. Cast iron is rigid and provides more strength than aluminum, with a thinner profile. It also transfers less sound and vibration to the patient if it is hit or bumped.

## **Q. DOES THE CHAIR BASEPLATE RESIST DENTS, SCRATCHES, AND CORROSION?**

**A.** The baseplate is constantly under assault from cleaning chemicals and equipment. The finish should not be simply painted, as it will chip or scratch easily. A permanent finish process such as epoxy or electrolytic bonding is ideal. The baseplate should also be finished on all sides, so floor coverings won't be damaged by rust or corrosion.

## **Q. HOW DO THE CHAIRS MOVE?**

**A.** The chair's initial and final movements play a big role in patient comfort and experience. Sit in the chair. Move it up and down to make sure there are no initial jarring movements at the start or stop. It should provide a smooth ride for the patient from start to finish. Be sure to ask who manufactures the hydraulic cylinder, which are: an important part of the chair.

## **Q. CAN YOU EASILY POSITION THE HEADREST?**

**A.** The headrest is important for patient positioning. You should be able to easily reposition it by activating an adjustment mechanism with your thumb and forefinger. A headrest that automatically follows the motion of the patient when the chair back is raised or lowered means fewer adjustments for the operator, and more comfort for the patient. Knob-style headrests, on the other hand, are more difficult to adjust, especially when covered with a plastic barrier protection.



### **Q. DOES THE BACKREST FLEX FOR EASY ACCESS?**

**A.** An ultra-thin, sturdy backrest offers more leg room, allowing you to position the oral cavity several inches lower (and closer) to your lap. This position lets you work with your forearms parallel to the floor, minimizing arm and shoulder strain. A thin, properly designed backrest also absorbs pressure and supports the patient while entering and exiting the chair.

### **Q. HOW LOW CAN YOU POSITION THE CHAIR?**

**A.** The lower you can position the chair the better, in order to allow all members of the dental team to work comfortably and ergonomically. Keep in mind that many chairs can go low, but because they have thick upholstery, the dentist must raise the chair in order to get under it.

### **Q. DO THE ARMRESTS EASILY MOVE OUT OF THE WAY?**

**A.** While armrests support the patient, it's important to be able to move them out of the way with one hand for direct, unobstructed access to the patient, and easy entry and exit from both sides of the chair.

### **Q. DOES THE CHAIR CRADLE THE PATIENT?**

**A.** Is there a simple hinge mechanism that reclines the back, or a “virtual pivot” that allows the patient to achieve the supine position without stretching or repositioning? As you recline the patient, the toeboard should simultaneously lift to elevate the patient's legs in a cradling motion that automatically rotates the patient to a comfortable position.

## **Q. DOES THE CHAIR SWIVEL?**

**A.** Have someone sit in the chair. While in the supine position, release the brake and try rotating it using two fingers. Chairs with good swivel mechanisms will rotate easily. Those that are difficult to rotate have a lower quality rotation mechanism.

## **Q. IS THE TOUCHPAD/SCREEN SIMPLE AND EASY TO PROGRAM?**

**A.** Make sure the screen has an uncluttered, responsive interface that's easy to update and simple enough that you can focus on your procedure.

## **Q. ARE THERE USEFUL PRESETS ON THE INTERFACE?**

**A.** Look for presets such as chair positioning that use icons or visuals that help you quickly and confidently reposition patients.

## **Q. CAN YOU INSTANTLY OVERRIDE AUTOMATIC OR PRESET FUNCTIONS?**

**A.** Look for conveniently located switches that allow you to override all functions with a touch.



### **Q. DOES THE CHAIR INCLUDE A POWER SUPPLY FOR THE DELIVERY SYSTEM, LIGHT, AND ASSISTANT'S INSTRUMENTATION?**

**A.** Some chairs list the power supply as an option at an additional charge. Look for:

- **Location** – A power supply in the chair base offers better service access and removes it from the floor box, where it may be susceptible to water leaks and drain overflow.
- **Output** – A power supply is important if you plan to integrate ancillary equipment, such as electric motors, cameras, or scalers into the delivery system. A 300-watt power supply provides ample power for integrating ancillaries.

### **Q. ARE FASTENERS MOLDED OR GLUED? ARE THERE EXPOSED SCREWS?**

**A.** Remove the covers on the chair. Look for fasteners on the plastic covers. Are they molded as part of the cover, or glued, which is cheaper and less durable. (Touch fasteners and glue have no place in a multi-thousand dollar product, and unfinished metals and screws will eventually rust.) Also note how carefully items are routed and retained, if the appropriate material is used for the specific part of the chair, what type of paint is used, and what's underneath. It's all in the details.

### **Q. ARE THE UPHOLSTERY MATERIALS AND COLORS COMPATIBLE WITH YOUR DÉCOR?**

**A.** Make sure the manufacturer offers durable, easy-to-clean upholstery options in a wide array of colors.





# STOOLS

When purchasing dental equipment, stools are generally that last piece considered or discussed. Ironically, this is the one item you will use in your operatory more than any other. Doesn't it make sense to start your purchase with the one piece that most directly affects your health and comfort at the end of the day?

**Q. DOES THE STOOL MEET YOUR SPECIFIC ERGONOMIC NEEDS? DOES THE SEAT PROVIDE THE FLEXIBILITY TO ALLOW FOR PROPER BLOOD FLOW TO THE LOWER LEGS?**

**A.** To avoid circulation problems, it's important that your stools do not have a hard or abrupt edge, which can pinch off the nerves and blood vessels in the rear thigh and behind the knee.

**Test the stool:**

- Place feet flat on the floor with hips slightly higher than your knees.
- Adjust the backrest to support the lumbar region.
- Move laterally on the seat to simulate using the stool in the dental environment. Does it provide the proper flex?
- Does the stool move quietly over various surfaces?

## **Q. DOES THE STOOL HAVE MULTIPLE POINTS OF ADJUSTABILITY?**

**A.** Regardless of body type, the stool you choose should provide integrated seat and backrest tilt adjustment options for a comfortable fit.

## **Q. IS THE BACKREST EASY TO ADJUST?**

**A.** You should be able to make a one finger adjustment to bring the backrest up or down.

## **Q. IS THE BACK OF THE OPERATOR STOOL SMOOTH AND FREE OF KNOBS?**

**A.** Look for a backrest that has a smooth outer surface free of knobs and handles that can mar walls, cabinetry, or other surfaces.

## **Q. ARE THERE OPTIONAL AND DYNAMIC ARMRESTS?**

**A.** The armrests are especially important when shoulder, neck, and back problems are present.



## OTHER CONSIDERATIONS FOR ASSISTANT'S STOOLS

### **Q. DOES THE ASSISTANT'S SEATING HAVE AN ADJUSTABLE FOOT RING?**

**A.** The adjustable foot ring helps the assistant maintain correct posture and stability. It also accommodates the need for greater vertical height than the operator's stool, providing improved visibility to allow your assistant to anticipate the next step in a procedure.

### **Q. DOES THE TORSO SUPPORT ON THE ASSISTANT'S STOOL OFFER MULTIPLE ADJUSTMENTS?**

**A.** For individualized comfort and ergonomics, the torso support should:

- Move on both the vertical and the horizontal plane.
- Position properly against the assistant's back and side.
- Adjust in height, providing the assistant with support and balance while leaning in toward the patient.

### CONSIDER WHILE YOU SHOP

- Are all adjustments easy to locate and operate from a seated position?
- Does the stool provide smooth, ultra-quiet movement on both carpet and hard flooring?
- Can you easily upgrade options such as armrests, backrests, and foot pedestals?
- Does the stool tip easily? The wheelbase should be sturdy and broad enough to prevent tipping.







# DELIVERY SYSTEMS

Delivery system design plays a critical role in reducing or eliminating the number and extent of motions you must perform at chairside. **Two factors play a significant role in reducing your stress and fatigue:**

- Economy of motion
- Ability to see

Because the delivery system plays such a critical role in your treatment room, and includes several components, we've organized this section into the following key categories:

- Delivery System Control Head
- Handpiece Controls and Syringe
- Delivery System Arm
- Control Pad/Touchscreens

## DELIVERY SYSTEM CONTROL HEAD

### **Q. DOES THE DELIVERY SYSTEM ALLOW FUTURE ANCILLARY INTEGRATION?**

**A.** Look for a delivery system that can keep up with changing technology and integrate new clinical capabilities with the existing platform. Even if you're not integrating additional items now, is it easy to add or replace them in the future? You'll likely have your equipment for 12–15 years or more—but technology changes rapidly. Also consider if the delivery system has space to accommodate ancillary equipment in the control head, and arms with removable covers that are large enough to easily run the required cabling or power cords.

### **A delivery system that enables ancillary integration will also:**

- Allow you to prepare for unexpected future needs.
- Provide integrated items at chairside, within arm's reach.
- Eliminate hanging ancillaries, which may impede control head positioning.
- Improve infection control by having ancillary power controls out of the aerosol zone.
- Offer connectivity options with software updates keep your equipment updated and you informed.

**Q. DOES THE CONTROL HEAD HAVE MULTIPLE PIVOT POINTS?**

**A.** When accessing handpieces, multiple pivot points offer more angles for accurate and easier control head positioning.

**Q. DOES THE SYSTEM SUPPORT A SOLO OPERATOR?**

**A.** Instrument and handpiece positioning is even more important for the solo practitioner. All handpieces, ancillary devices, and vacuum instruments should be within easy reach of the seated operator to minimize Class 4 and 5 movements.

**Q. DO YOU HAVE A CHOICE OF CONTROL HEAD DESIGN STYLES?**

**A.** Rear delivery, side delivery, chair-mounted... no one design style works for all operators. Choice is essential.

**Q. ARE MULTIPLE TRAY SIZE AND MOUNTING OPTIONS AVAILABLE ON THE DELIVERY SYSTEM?**

**A.** Multiple tray size and mounting options satisfy every operator's requirements—one size doesn't necessarily fit all.

**Q. HOW MUCH WEIGHT CAN THE CONTROL HEAD TRAY HANDLE?**

**A.** The tray on the control head should adequately hold up to four pounds (1.8 kg) of instruments and other materials without causing the control head to drift or damaging the tray holder.

## **Q. HOW ARE CONTINENTAL® DELIVERY SYSTEMS DIFFERENT FROM TRADITIONAL DELIVERY SYSTEMS?**

**A.** The Continental® delivery system features handpieces on top of the control head with flexible “whip arms” to guide the tubing. The handpieces are partially supported by the whip arms, which takes weight off the wrist, helps balance electric handpieces, and prevents them from dropping to the floor. The flexible control arm supports both left- and right-handed positioning for multiple operators.

**They also have excellent ergonomics that:**

- Eliminate unnecessary bending, twisting, and eye strain.
- Use peripheral vision when picking up or replacing a handpiece from the control head, allowing you to keep your eyes on the patient.

## **Q. DOES THE DELIVERY SYSTEM MEET YOUR NEEDS FOR ADDITIONAL TIME-SAVING FEATURES?**

**A.** The ability to remotely control several ancillary devices such as a call system, light, or bitewing viewer from a touchpad increases efficiency and reduces touch points for contamination.

## HANDPIECE CONTROLS AND SYRINGE

### **Q. ARE HANDPIECE ADJUSTMENTS EASY TO LOCATE?**

**A.** Handpiece adjustments should be conveniently grouped and located within easy reach of the operator. When removing a handpiece from the holder the corresponding adjustments should illuminate to ensure quick and accurate adjustment.

### **Q. ARE THERE REMOVABLE AIR AND WATER ADJUSTMENT KNOBS?**

**A.** Adjustment knobs are a cross-contamination point. Knobs that are easy to remove, clean, and sterilize are preferable. Some operators may want to remove and store the knobs once the water coolant settings are established, making a delivery system surface that's easy to wipe throughout the workday.

### **Q. DOES THE DELIVERY SYSTEM OFFER A CHAIR LOCKOUT FEATURE?**

**A.** Look for this deluxe safety feature that automatically stops chair movement when the handpiece is in use.

### **Q. IS THE CONTROL BLOCK UNITIZED?**

**A.** Some control blocks can have up to 12 gaskets/diaphragms; a unitized block has just one. Fewer components require less seals and gaskets, eliminating potential leaks and the need for maintenance gaskets between blocks. A unitized block also accommodates standard features, such as integration of ancillaries.

## **Q. WHAT SIZE IS THE AIR SUPPLY TUBING TO THE CONTROL BLOCK?**

**A.** Larger tubing, such as 5/16" diameter (7.938 mm), provides superior airflow for higher handpiece torque. Increased airflow to the handpieces results in more power and durability.

## **Q. CAN YOU REPAIR A WATER VALVE BY REPLACING A SINGLE WATER CARTRIDGE?**

**A.** Most systems require replacement of the entire control block in the event of a water leak. Replacing a single cartridge to repair a leak is quick and easy, minimizing downtime. An optional dry block cartridge eliminates biofilm in a handpiece position otherwise intended solely for a lowspeed or prophylaxis handpiece.

## **Q. DOES THE FOOT CONTROL MODULATE THE HANDPIECE SMOOTHLY?**

**A.** The foot control should vary the handpiece speed in a smooth and controlled manner. It's difficult to achieve precision results with a foot control that produces erratic speed. A-dec also offers a lever foot control option, which precisely modulates and controls electric handpiece motor speed.

## **Q. WHEN RETURNING THE HANDPIECE TO THE HOLDER, DOES THE WEIGHT OF THE HANDPIECE AND TUBING AUTOMATICALLY TURN OFF THE HANDPIECE?**

**A.** It shouldn't take extra effort to push the handpiece into the holder, or to remove it. It's also important that the handpiece properly seat itself in the holder with its own weight so that when

you attempt to use another handpiece, the one left in the holder isn't unintentionally activated.

### **Q. DOES THE DELIVERY SYSTEM FEATURE ROBUST HANDPIECE TUBING?**

**A.** Handpiece tubing should utilize materials that promote flexibility and stain resistance. Tubing should be light and not harden over time, allowing it to consistently follow the natural movement of your hand.

### **Q. HOW MANY HANDPIECES OR ANCILLARY DEVICES CAN YOU OPERATE WITH A SINGLE FOOT CONTROL?**

**A.** If you integrate a camera, electric motors, or a scaler along with handpieces on your delivery system, you'll want to ensure that you can operate all devices from a single foot control.

### **Q. DOES THE DELIVERY SYSTEM ACCOMMODATE A WARM WATER SYRINGE?**

**A.** Your patients will thank you for this one, especially those with sensitive teeth. A warm water syringe provides a pleasant, comforting experience. It should maintain a consistent temperature range that assures comfort during all procedures, from hygiene to lengthier treatments.

### **Q. DOES THE MANUFACTURER OFFER A LOCKING SYRINGE TIP OPTION?**

**A.** A good syringe design provides the flexibility to meet the needs of a given procedure. Changing a nut to lock the syringe tip tightly in place helps facilitate cheek retraction, while allowing it to swivel freely improves access to certain areas of the oral cavity.

## DELIVERY SYSTEM ARM

### **Q. DOES THE DELIVERY SYSTEM ARM ALLOW FOR EASY INTEGRATION OR FUTURE REPLACEMENT OF ANCILLARY EQUIPMENT?**

**A.** A delivery system arm must be large enough to route power cables for ancillary devices and/or monitors. Choose a delivery system with removable arm covers. This allows you to add or replace devices, without cutting wires or fastening them to the outside of the arm.

### **Q. DOES THE ARM SYSTEM USE BUSHINGS AT THE PIVOT POINTS?**

**A.** Needle bearings or self-lubricating bronze bushings provide the longest product lifespan. Plastic bushings tend to deform and become worn after minimal use.

### **Q. ARE THE BUSHINGS PRECISION FIT?**

**A.** Loose bushings affect unit stability. To check:

- Extend the arm to its full length.
- Lock the arm brake.
- Lift the control head.

The unit should remain stable and level, with little or no slack.



## CONTROL PAD/TOUCHSCREEN

### **Q. WHAT FUNCTIONS CAN YOU OPERATE FROM THE CONTROL PAD?**

**A.** A control pad is all about user-friendly operation. It should be intuitive and have direct access to functions, rather than requiring you to navigate through layers of menus to find what you want. Look for operation of the following functions:

- Chair
- Light
- Cuspidor bowl rinse and cup fill
- Electric motors with endo capability
- Scaler
- Preset positions for multiple operators
- Remote functions

### **Q. IS THERE AN OPTION FOR A SMOOTH GLASS SCREEN?**

**A.** A durable glass screen and advanced responsive surface is easy to navigate and sanitize.

**Q. DOES THE TOUCHPAD HAVE A SEALED FACE?**

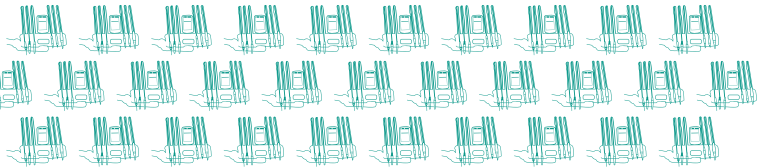
**A.** A sealed face protects the touchpad’s internal parts from liquid. If you can easily peel or remove the touchpad face, liquids will seep underneath and cause damage.

**Q. IS THE SCREEN’S VIEWING ANGLE AND BRIGHTNESS ADJUSTABLE?**

**A.** Look for screens that allow you to adjust the brightness and angle for less glare and optimal visibility.

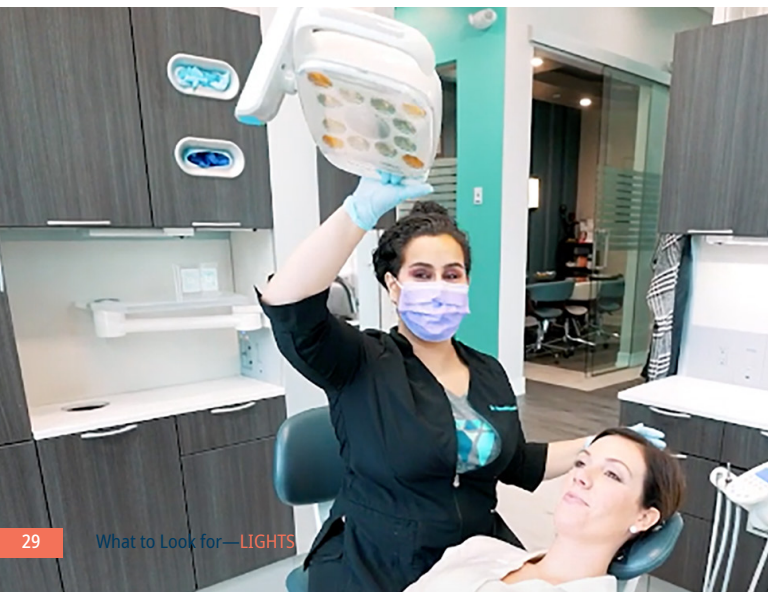
**Q. DOES THE TOUCHPAD DESIGN ALLOW FOR EASY UPGRADING, REPAIR, OR REPLACEMENT?**

**A.** A touchpad that is a separate piece can be upgraded and easily repaired, ensuring that equipment doesn’t become obsolete due to its limitations.



## CONSIDER WHILE YOU SHOP

- Does the delivery system accommodate technology integration?
- Does the delivery system provide a range of motion, such as easy left or right positioning?
- Does the delivery system provide a choice of delivery preference?
- How easy is it to level the control head?
- Does the control head maintain its vertical position when the brake is off?
- For ease of replacement, are there quick disconnects for handpiece tubings at the control block?
- Is the water adjustment to the handpiece very fine or coarse?
- Can you place a fiber-optic handpiece on a non-fiber-optic handpiece tubing?
- Does the 3-way syringe have easy air and water flow control, or simply an On/Off control?
- Do the syringe tips have a visible indicator that ensures proper installation?
- Does the shape of the syringe make it easy to bag for barrier protection, easy to clean, and easy to autoclave?
- Are there friction adjustments on flexing control arms?
- How do you adjust the balance of the flexarm?





# LIGHTS

Your ability to see—and perform—depends greatly on your light. While a general lighting system should satisfy normal visual requirements, some procedures require greater visual clarity and illumination.

Three properties are essential for providing good dental lighting in the oral cavity:

- **Light continuity** – A “clean” and uniform light pattern, free of shadows.
- **Color correction** – For consistent color-matching and accurate soft tissue inspection, the dental light must show teeth surfaces, gingiva, and surrounding tissues in their natural colors. This helps you see better during treatment procedures, and assists with soft tissue inspection.
- **Shadow reduction** – This is essential for good oral cavity lighting and to reduce eyestrain and fatigue.

## Q. DOES THE LIGHT HAVE A TOUCHLESS ACTIVATION SENSOR?

**A.** Effortless, hands-free activation eliminates another touchpoint.

## Q. CAN YOU POSITION THE LIGHT HEAD SO THE LIGHT PATTERN IS WHERE YOU NEED IT?

**A.** Make sure you can place the light in a number of operating positions. For example, a third axis of rotation allows you to illuminate the oral cavity no matter how you turn or position the patient’s head.

## Q. WHAT IS THE LIGHT PATTERN?

**A.** Look for a soft or feathered light edge, to reduce eyestrain and fatigue as you look away from the oral cavity. In addition, make sure the light pattern fully illuminates the oral cavity, yet is controlled enough not to extend up to the patient's eyes.

## Q. WHAT INTENSITIES DOES THE DENTAL LIGHT FEATURE?

**A.** Light intensities range from 15,000 lux (1394 fc) to 30,000 lux (2785 fc).

## Q. HOW IS THE INTENSITY OF THE LIGHT DISTRIBUTED?

**A.** To reduce eye fatigue, the intensity should evenly distribute throughout the light pattern, with no dark or bright spots.

## Q. CAN YOU ACCURATELY MATCH COLORS AND SHADES WITH THE LIGHT?

**A.** Don't overlook this important feature. Take your shade guide along while shopping to test for accurate color and shade matching. A color temperature of 5,000K provides optimum color for shade matching.



## Q. WHAT IS THE COLOR RENDERING INDEX?

**A.** The higher the color rendering index (CRI), the better your illumination. A high CRI mimics sunlight's clarity and reflects colors accurately for soft and hard tissue diagnosis. Look for a light that conforms to the latest ISO9680 standards for brightness, color, rendering, and uniformity.

## Q. DOES THE LIGHT HAVE A RANGE OF MOUNTING OPTIONS?

**A.** You may need or want to have your dental light delivered from a wall, cabinet, ceiling, or chair. Choose a mounting location that best meets your space requirements and treatment room functions:

- **Wall/cabinet mounts** – Offer great stability, have fewer surfaces to clean, and can fold against the wall or above a cabinet when not in use.
- **Ceiling/track mounts** – Offer great stability and less area to clean.
- **Chair mounts** – Offer less stability, but are more economical, require less positioning, and are ideal for small treatment rooms.







# DENTAL FURNITURE

Dental furniture should be adaptable to your configurations and made to endure the unique environment of the operatory. Cabinets manufactured by dental equipment companies are engineered and designed with durability, workflow, technology integration and ergonomics in mind—a benefit that isn't guaranteed with custom cabinets.

Other benefits include:

- **Ownership** – While the property owner may own built-ins, you own freestanding cabinets. You can take them with you when you move, or sell them at retirement. Additionally, construction costs are often lower with freestanding furniture.
- **Loan collateral** – Lending institutions treat freestanding cabinetry as capital equipment, allowing it to be used as loan collateral. Traditional built-in cabinetry is classified as a leasehold improvement and can't be used as collateral.
- **Tax advantages\*** – Just like other dental equipment, dental cabinets are considered capital equipment (not leasehold improvements), making them eligible for investment tax credit and accelerated depreciation schedules.

*\*Consult your accountant for additional details.*

**Q. HOW IS THE CABINET DESIGNED TO WITHSTAND IMPACT FROM DENTAL STOOLS, CARTS, OR OTHER MOBILE EQUIPMENT PRESENT IN THE TREATMENT ROOM?**

**A.** Let's face it: cabinets do take a beating. Metal radiused panels, PVC edgebanding on all four sides of the shelving (instead of melamine), and edgebanding on drawers and doors provide more durability and impact resistance.

**Q. IS THE EDGEBANDING MOLDED?**

**A.** In an environment where water is always present, cabinetry with molded edgebanding is a practical choice. The advantage of this type of banding is that it seals and protects the edges of all cabinet doors and drawers, prolonging the life of the cabinetry.

**Q. DOES THE COUNTERTOP SUBSTRATE PROVIDE RESISTANCE TO ENVIRONMENTAL AFFECTS OF HIGH HUMIDITY AND MOISTURE?**

**A.** High-quality cabinetry uses a phenolic (resin) material to seal and protect the wood underside of countertops.

## **Q. HOW WILL THE DRAWERS HOLD UP OVER TIME?**

**A.** Rather than traditional all-wood cabinet drawers, some are manufactured with epoxy-coated metal sides and integrated drawer runners. These runners and sides last the lifetime of the cabinet. Metal side drawers should be rated to hold contents in excess of 75 pounds (34 kg). Make sure drawers include higher quality, heavy-duty slide hardware.

Drawers should be easy to clean, and accessible from a seated position during a procedure.

## **Q. ARE THE DOORS AND DRAWER FRONTS ADJUSTABLE?**

**A.** High-quality dental furniture uses modern “Euro” hardware that allows for side-to-side, front-to-back, and top-to-bottom adjustments to doors and drawers. This ensures that the cabinetry functions the way it’s designed to, while also allowing quick and easy replacement of doors or drawers for color changes.

## **Q. IS THE CABINETRY DESIGNED TO MINIMIZE INFECTION CONTROL “TOUCH POINTS?”**

**A.** Cabinet drawers and doors may be equipped with push-latches rather than knobs. You can operate the drawer and/or door with a push of the elbow or knee, instead of grasping a knob with gloved hands (or having to remove gloves).

If cabinet doors and drawers include knobs, they should be easy to clean and barrier protect, if this is your usual procedure. Look for a hole in the countertop where you can deposit trash rather than having to open a drawer or door. Cabinet products with foot- or knee-activation systems allow you to operate the sink without using your hands. The sinks should be deep enough to fill self-contained water bottles in the operatory.

## **Q. HOW IS THE FAUCET ACTIVATED?**

**A.** A foot- or knee-activated faucet is more hygienic than one requiring hand operation. The faucet control should not interfere with washing or cleaning space. In addition, a single control should operate both the hot and cold water.

## **Q. ARE MATERIALS AND CONSTRUCTION METHODS CONSISTENT WITH INFECTION CONTROL REQUIREMENTS?**

**A.** Good dental cabinet construction should reflect attention to improved asepsis within the dental treatment room. This is demonstrated in materials and design features such as clean lines, smooth shapes, easy-to-clean surfaces, and minimized joints and seams.

**Q. IF FREESTANDING CABINETRY IS NOT CUSTOM-INSTALLED, IS THE MOUNTING BASE (COMMONLY CALLED “SUBBASE” OR “TOE KICK”) DURABLE AND EASILY LEVELED?**

**A.** When manufactured with corrosion-resistant materials and protective coatings, metal subbases are much more durable than wood subbases. Look for powder-coated 14- to 16 gauge steel and integrated leveling and anchoring systems.

**Q. IS THE DENTAL FURNITURE DESIGNED TO ACCOMMODATE CURRENT AND FUTURE DENTAL DELIVERY SYSTEMS?**

**A.** One of the greatest disadvantages of local custom cabinet shops is the lack of knowledge about how to properly mount and position dental delivery systems. It's better to choose the same manufacturer for both your cabinetry and delivery systems. This way, the mounting systems are compatible and include integrated water supply, vacuum, and nitrous subsystems.

**Q. WILL THE FREESTANDING CABINETRY EASILY AND ECONOMICALLY ADAPT TO EXISTING FACILITIES AND ODDLY SHAPED ROOMS?**

**A.** Some manufacturers have modular equipment that allows you to configure and expand the cabinets in many different ways. Look for cabinets that you can configure to meet your specific needs now... and in the future.

## **Q. IS EVERYTHING READILY ACCESSIBLE?**

**A.** Cabinetry should allow the chairside assistant to easily and instantly reach all supplies and instruments needed during a treatment procedure.

## **Q. ARE PASS-THROUGH UPPER STORAGE AREAS AVAILABLE?**

**A.** Pass-throughs are not only convenient, they also permit supply sharing between rooms, and allow tray and tub restocking without treatment room entry.

## **Q. IS THE CABINETRY WELL THOUGHT-OUT FOR SPECIFIC DENTAL REQUIREMENTS?**

**A.** Some cabinetry includes features such as glass shelving in cassette, tub, and tray storage areas.

Thin (but strong) tempered glass shelving:

- Allows for nearly any size of cassette, tub, or tray.
- Offers purchasing flexibility, as it doesn't restrict you a particular size or brand of cassette, tub, or tray storage.
- Cleans easily, a major requirement for any dental setting.
- A cabinetmaker may not know all of the requirements for a dental clinic. Dental cabinetry manufacturers will have a better understanding of your professional needs.

## **Q. WHAT KIND OF DOORS ARE ON UPPER STORAGE AREAS?**

**A.** Three types of doors are common for upper storage units:

- Sliding
- Slide-up
- Pop-open

## **Q. IS THE CABINETY COMPATIBLE WITH A TUB AND TRAY RETRIEVAL SYSTEM?**

**A.** Cabinetry should be proportioned to accommodate standard-sized racks for tubs and trays.

## **Q. IS THE CABINETY DESIGNED TO ACCOMMODATE X-RAY MOUNTING?**

**A.** The cabinetry should be structurally capable of supporting a fully extended x-ray arm. Be sure that the manufacturer drills and taps the mounting holes to fit the x-ray equipment you choose.

## **Q. ARE THE CORNERS ROUNDED?**

**A.** Sharp corners on cabinetry are dangerous and obtrusive. Check for rounded corners, covered with a resilient molding for safety and durability.

**Q. HOW EASY IS IT TO ADD OR CHANGE TECHNOLOGY AND EQUIPMENT IN THE FUTURE?**

**A.** Not having to cut holes in your cabinetry to route cables is a big plus if you decide to add an ancillary device in the future. Look for cabinetry where you can literally “run a cable from anywhere to anywhere” in the cabinet, without having to cut holes.

**Q. DOES YOUR ELECTRICIAN HAVE TO DO EXTRA WORK TO INSTALL YOUR TREATMENT ROOMS?**

**A.** Look for manufactured dental furniture that is agency-rated, with hospital-grade components and wiring with redundant grounding. Connectors that attach the cable to electrical boxes should be manufactured to conform to recognized standards.

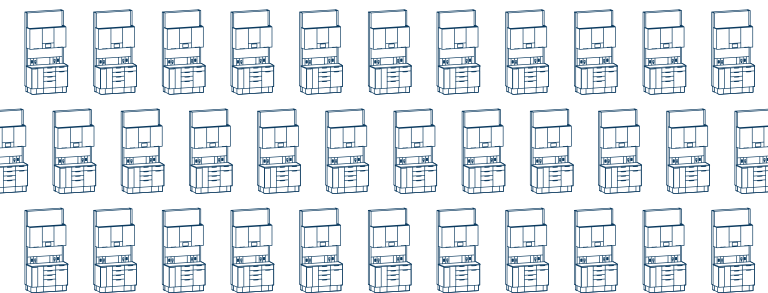
**Q. ARE INDIVIDUAL PORTIONS OF CABINETRY REPLACEABLE?**

**A.** In case of damage, replacement panels or modules should be readily available and easy to install. This could provide substantial savings on your installation, depending on the number of treatment rooms.



## CONSIDER WHILE YOU SHOP

- Are doors small and light enough to open easily and allow full access to the cabinet interior?
- Can you open doors conveniently and safely from a seated position or with your arms full?
- Watch out for doors that could close on your hand and cause injury.
- Will the hinges or tracks collect dirt, debris, or obstructions?
- Are the doors “soft close” to maintain your quiet environment?







# STERILIZATION CENTERS

The sterilization center should be organized into functional workspaces that allow you to group together related steps and optimize workflow. When materials move efficiently, so does your team.

## **Q. IS THE CABINET SYSTEM DESIGNED WITH STERILIZATION PROCEDURES IN MIND?**

**A.** It's critical to take into account the standards and processing guidelines relevant to your country, such as the U.S. Centers for Disease Control and Prevention (CDC), when purchasing a sterilization center.

Has the manufacturer:

- Developed a system that allows flexibility to observe the various guidelines as set by organizations such as the CDC?
- Published helpful information about how their product supports guidelines, and how you can use their sterilization center cabinetry in the manner intended?
- Designed their sterilization center with colors or visual cues to indicate “dirty” and “clean” areas?

## **Q. IS THE STERILIZATION CENTER DESIGNED FOR DURABILITY?**

**A.** Sterilization processes are wet, dirty, and sometimes chaotic. Well-built cabinetry stands up to moisture and perpetual cleaning, and easily accommodates unexpected, temporary, larger volumes of work with an efficient design. Be sure to look for:

- Metal toe-kicks that resist potential damage from floor cleaning equipment.
- Drawers with durable stainless steel slide mechanisms.
- Solid surface countertops designed and manufactured to withstand exposure to constant moisture.

## **Q. ARE THERE OPTIONS FOR INTEGRATING STERILIZATION TECHNOLOGY?**

**A.** Look for the ability to accommodate built-in ultrasonic cleaners, instrument dryers, and/or thermal disinfectors to significantly decrease instrument processing throughput time.

## **Q. HOW DO PLUMBING AND ELECTRICAL HOOKUPS WORK WITH YOUR INSTALLATION?**

**A.** Installation will be smoother if your sterilization center manufacturer has devoted engineering time to plumbing and electrical details. Plumbing and electrical templates, cabinet cutouts, and special mounting locations all contribute to a successful installation.

## **Q. CAN YOU CUSTOMIZE THE STERILIZATION CENTER TO FIT THE SIZE AND NEEDS OF YOUR PRACTICE?**

**A.** Modularity is extremely important when you're planning a sterilization room. Choices, options, fit, and sequence are important considerations. Your practice may need more storage to accommodate a particular part of the sterilization process, or additional sterilization capabilities that require space for supplementary autoclaves. You may want to use thermal disinfection, which has capacity potential for better instrument turnover than ultrasonic cleaning. You may want to add a "make-ready" cabinet across your sterilization center that provides more space and utility for your processes. Efficient sterilization cabinetry offers all of these options.

## **Q. CAN YOU MODIFY THE STERILIZATION CENTER IF YOUR PRACTICE NEEDS CHANGE?**

**A.** Procedures and equipment change over time (for example, you get an instrument washer instead of an ultrasonic). Modularity is the key to "future proofing" your sterilization center. It should be able to change as your practice needs change.

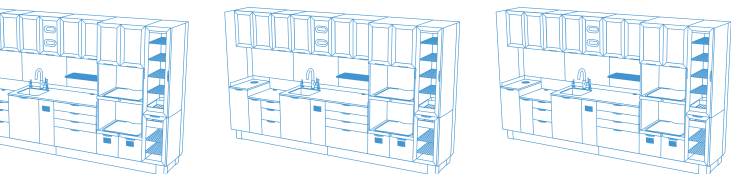
## **Q. DOES THE STERILIZATION CENTER INCLUDE HANDS-FREE DESIGN FEATURES?**

**A.** The key to a good sterilization procedure lies in the ability to operate or access certain functions without having to touch a control or grab a knob. While not all drawers and doors need to be automatic, key areas such as incoming dirty storage or outgoing clean storage, should be accessible without touch. Faucets should feature foot activation. All of this helps maintain a clear break between the contaminated and sterile sides of the process, and increases staff safety when handling contaminated instruments.

## **Q. WHAT ORGANIZATIONAL OPTIONS DOES THE STERILIZATION CENTER PROVIDE?**

**A.** Flexibility is key. Look for:

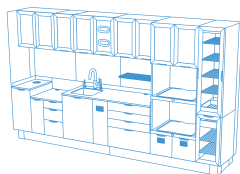
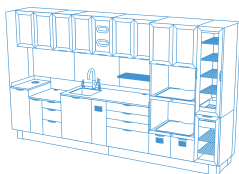
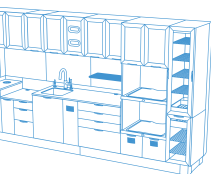
- Adjustable shelves
- Adjustable tray holders
- Drawer inserts with divider format options



You may want a convenient high volume vacuum hand-piece that allows you to clean up spills. Waterproof slide-out shelves are also good for mounting “wet devices” such as ultrasonic cleaners and sterilizers.

## **Q. WHAT ARE YOUR STERILIZATION CENTER COLOR CHOICES?**

**A.** More dental practices are making their sterilization rooms visible to patients to reinforce good asepsis processes. The ability to choose the same color scheme for both your treatment rooms and sterilization center is a significant benefit. With a blended color scheme, the sterilization center integrates nicely into the overall appearance of your clinic and is visually impressive to your patients.









# MECHANICAL ROOM

The mechanical room is arguably the most important, yet least thought about, part of a dental office. The compressor and vacuum are often called the “heart and lungs” of the practice, supported by the “circulatory system” of piping and connectivity to your operatory equipment.

If they stop working, you stop working—resulting in lost time and income.

To better cover each component of the mechanical room, we’ve organized this section into the following key categories:

- Air Compressor
- Dental Vacuum
- Controls/Water Safety Valve

## Q. IS THE COMPRESSOR MADE FOR DENTAL WORK?

A. There are several types of air compressors on the market, but oil-free, rocking piston compressors are ideal for the quick “start-stop” nature of using handpieces and air/water syringes during dental procedures. Oil-free compressors also:

- Eliminate concerns about oil vapors in the treatment environment
- Reduce contaminants that can affect bonding agents and other dental restorative agents

## Q. WHAT'S THE DECIBEL LEVEL?

A. A noisy compressor can impact everything from your mechanical room location to your patients' comfort. Decibel levels vary widely between brands, so have the salesperson run the compressor so you can hear it for yourself. Ask if a sound-dampening cover comes standard, or if it's an add-on that incurs an extra charge.

## Q. HOW MUCH SPACE DOES IT TAKE?

A. In today's dental offices, space is at a premium. Look for mechanical room equipment with a compact footprint and/or a stackable design that uses less floorspace. You'll have more flexibility in planning your office layout—and more room to use for providing dental services.

## Q. CAN YOU EASILY EXPAND THE CAPABILITY?

**A.** Is the compressor you're considering scalable to handle increased demand, or will you have to purchase a replacement? Some brands can be upgraded simply by adding more motors to an existing unit, or by connecting multiple compressors together. Choose a system that makes it easy to upgrade size and capacity at any time to support more users.

## Q. WHAT'S THE DUTY CYCLE?

**A.** Compressors designed with "on demand," 100% duty cycles run at the lowest possible level, ramping up only when air is required. This ensures:

- Quieter performance
- Greater redundancy with more motors per user
- A system that runs with maximum efficiency

Look for a compressor that automatically senses the number of active users, and adjusts to meet air demand when and where it's needed. Managing loads evenly across motors this way extends product life.

## Q. IS IT COMPATIBLE WITH MILLING UNITS?

**A.** Air-driven mills require large volumes of air at higher-than-normal PSI minimums, and have long run-time demands. Ask the salesperson if the compressor you're considering will support the milling unit you use, and if the milling unit will reduce the compressor's life expectancy.

## Q. IS A WET OR DRY SYSTEM BETTER?

**A.** The primary function of the vacuum is to provide suction for dental treatment. Wet vacuums spin water in a small tube using impellers to create a negative pressure vacuum. Dry vacuums utilize air flow to create the suction at the dental unit, and are considered the more efficient of the two.

Benefits of a dry vacuum system:

- Quieter to operate
- Saves thousands of gallons of water
- Drains frequently to prevent odor buildup
- No concerns about backflow or bacterial contamination
- No open floor drains that allow aerosols to recirculate

While wet vacuums have improved in efficiency, they still require high volumes of water and electricity to operate. With the significantly lower water and sewer costs of using a dry vacuum, the system can pay for itself over the life of the machine.

## Q. WHAT'S THE FOOTPRINT SIZE?

**A.** A compact vacuum unit—ideally, one designed to be stackable—allows you to locate your mechanical room in a smaller area, so you can save more valuable floor space for income-generating treatment rooms.

## Q. IS THERE ENOUGH AIRFLOW?

**A.** The use of additional devices for aerosol reduction, such as HVEs in place of saliva ejectors, has dramatically increased the demands placed on the vacuum system. The higher the airflow rate, as measured in cubic feet per minute (CFM), the more air moves through the vacuum line and the more aerosols are removed in and around the oral cavity.

Your vacuum should have a high CFM rate and be able to handle multiple aerosol-capturing devices operating at the same time. Look for a system with an “on demand” or variable speed function that adjusts operating speed based on the airflow demand.

## Q. HOW MUCH MAINTENANCE DOES IT NEED?

**A.** Some vacuums use oil to keep the motor cool and lubricated, which requires checking, changing, and adding oil to the system. Choose a vacuum that doesn't require oil or lubricant to keep things simple: one annual maintenance service and the recommended number of vacuum line/piping cleanings.

## Q. HAVE YOU CONSIDERED YOUR PIPING?

**A.** While it's easy to overlook, it's important that your piping is adequate for your equipment and vacuum demands. Has the vacuum manufacturer tested its system from HVE tip to the vacuum unit? Ask your salesperson which manufacturers have clear piping guidelines, and offer piping layout diagrams to use when building out a new office or remodel.

## CONTROLS AND WATER SAFETY VALVE

### Q. HOW COMPREHENSIVE IS THE CONTROL PANEL?

A. Controls that only indicate whether the equipment is on or off provide no insight into the overall system. Look for a touchscreen control that shows you the operational status of your equipment in real-time throughout the day.

### Q. WILL YOU KNOW WHEN THE EQUIPMENT NEEDS ATTENTION?

A. Just like your car, mechanical room equipment needs regular maintenance. A control panel that gives you maintenance reminders and service indicators helps keep your equipment operating at peak performance—and can prevent costly, unexpected shutdowns.

### Q. CAN IT SEND REMOTE ALERTS ABOUT EQUIPMENT ISSUES?

A. Controls that give your dealer or the manufacturer a window into overall functionality of your mechanical room equipment can save you the expense and aggravation of an untimely breakdown. Look for a control system that offers remote monitoring and potential problem alerts. Continuously monitoring data to recognize changes over time is a proactive step towards a zero downtime mechanical room.

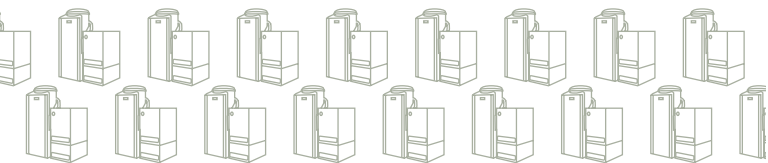
### Q. ARE YOU PROTECTED FROM WATER DAMAGE?

A. A water safety control valve protects your practice and the businesses around you from water damage caused by leaking fixtures (sinks, toilets, washing machines, etc.). Look for a water

control valve with an integrated filter to capture sand, grit, rust, and other contaminants that can harm fixtures and your dental equipment.

### CONSIDER WHILE YOU SHOP

- Is the equipment designed specifically for a dental setting, to meet stringent medical-grade regulations?
- Have the compressor and vacuum been developed and tested to work efficiently with other dental equipment?
- Will space requirements and noise levels limit where you can locate your mechanical room?
- If you configure the system to meet your current needs, how easy will it be to increase capabilities in the future?
- How often is maintenance required, and what is the cost?
- Does the equipment have built-in redundancy so you can continue operation during planned maintenance or unexpected mechanical disruptions?
- Is the equipment backed with a solid, comprehensive warranty?









# PROTECTION AND MAINTENANCE

Your daily sterilization and routine equipment maintenance routines are critical to maintain a healthy, efficient environment. Equipment with extra built-in sterilization features that eliminate touch points and prevent cross contamination make it that much easier. Like your car, periodic maintenance is also essential. Make sure the equipment you choose offers easy access to parts and is technician recommended.

## **Q. IS THE EQUIPMENT DESIGNED TO MINIMIZE TOUCH POINTS?**

**A.** Are there features that help limit the number of times you need to touch the product to make adjustments? For example:

Multifunction control pad/touchscreen

Handles and adjustment levers that allow you to perform a number of functions in one pass

Hands-free activated features, including dental lights, sink faucets, and sterilization center doors

Think about how you can set up your treatment room and plan your chairside procedures to take more advantage of your equipment features and reduce touching surfaces.

## **Q. HAS THE MANUFACTURER DESIGNED THEIR EQUIPMENT TO BEST ACCOMMODATE INFECTION CONTROL PRACTICES?**

**A.** Look at the equipment and see how barriers would be placed over key areas such as chair back, headrest and handles. Does the manufacturer recommend a protocol for maintaining dental unit waterlines and suction system? Are the vacuum traps easily accessible for replacement?

**Q. WHAT STEPS HAS THE MANUFACTURER TAKEN TO HELP MINIMIZE DAMAGE THAT MIGHT RESULT FROM YOUR INFECTION CONTROL PRACTICES?**

**A.** Select robust materials and finishes that are resistant to environmental factors (i.e., humidity, chemicals, UV, abrasion), minimize touch points requiring infection control, and design surfaces to support barrier protection and cleanability.

**Q. IS ROUTINE MAINTENANCE ON THE DENTAL CHAIR AND DELIVERY SYSTEM RELATIVELY EASY?**

**A.** Be sure to ask about the required maintenance schedule and routine steps required.





# DISCOVER THE A-DEC DIFFERENCE.

A-dec began in 1964, with an invention and a dream to better the world of dentistry. To this day, we inherently understand that every successful product requires a tremendous amount of perspective from the dentist. We work in partnership with engineers, designers, and dental professionals—developing simple, intuitive products that are made to last.

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A-dec built its reputation on an unwavering commitment to outstanding customer service, because we see ourselves as a partner in your success.

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We invite you to an A-dec educational experience to see firsthand how each chair, light, delivery system, and piece of dental furniture is designed with one goal: to improve the performance, safety, and comfort of your practice. Call an A-dec dealer and set up a time to visit:

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### Nashville, Tennessee

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### Come join us.

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## IF YOU SUCCEED, WE SUCCEED

We're all in this together: A-dec, your authorized A-dec dealer, and you. We're partners with a common goal of helping you succeed. That's why A-dec enjoys the strongest referral base in the dental industry. We take great pride in that—and we are thankful for the large number of enthusiastic, satisfied customers around the world who make it possible. We hope you'll consider joining them.



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**FOR DENTAL PROFESSIONALS WORLDWIDE**

**A-dec Headquarters**

2601 Crestview Drive

Newberg, Oregon 97132 USA

**P:** 1.800.547.1883 within USA/CAN

**P:** +1.503.538.7478 outside USA/CAN

**F:** +1.503.538.0276

**a-dec.com**

**Other Locations:**

A-dec Nashville Experience Center

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