Military Contracting Equipment Specification Sheet

Equipment Category: Tactical Restorative Dental Delivery System & Maintenance Subsystems
Document Type: Technical Specifications & Deliverable Requirements

---

1. Documentation & General Requirements

- **Operation and Maintenance (O&M) Manuals:** Comprehensive O&M manuals must be provided for all supplied systems, subsystems, and peripheral components.
- **Accessory Instructions:** Detailed Instructions for Use (IFU), installation guides, troubleshooting protocols, and preventive maintenance schedules for all field accessories must be included.
- **Delivery Format:** All documentation must be provided in both digital (PDF) and hard copy formats, complying with standard military technical manual readability and formatting specifications (e.g., MIL-STD formatting).
- **Safety Data:** Current Safety Data Sheets (SDS) must be included for all chemical, enzymatic, and resin-based products.

---

2. Restorative Dental Delivery System (Self-Contained, Military)

- **Delivery Cart Infrastructure:**
  - **Frame/Finish:** Main delivery cart constructed with a highly durable white powder coat finish to resist corrosion, chemical disinfectants, and physical impacts.
  - **Worktop:** Solid surface worktop optimized for sterile prep and field operations.
  - **Mobility:** Equipped with heavy-duty 4" casters with secure locking mechanisms to ensure stability on uneven field flooring.
- **Primary Delivery Connections:**
  - Two (2) integrated fiber-optic high-speed handpiece connections.
  - One (1) integrated air/water syringe connection.
  - One (1) straight, high-volume evacuator (HVE) line.
  - One (1) saliva ejector line.
- **Water Supply System:** Dual closed water bottle system with a dedicated waterline disinfection treatment cartridge receptacle.
- **Integrated Power, Air, and Vacuum Subsystems:**

- **Oil-Free Air Compressor:** Built-in compressor configured to deliver clean, dry medical-grade air.
- **Vacuum Pump:** Built-in vacuum pump featuring an integrated electric waste purge mechanism.
- **Exhaust Filtration:** Suction exhaust must be equipped with a high-efficiency bacteriostatic filter to protect operators and patients from biological aerosols.
- **Electrical & Power Conditioning:** Dual-voltage capability (110V/220V) integrated with an onboard power conditioner. Maximum power consumption rated at 1200 Watts.
- **Safety:** System must include an dedicated external grounding strap for electrical hazard prevention in field environments.

---

3. Sub-System Components & Handpiece Attachments

3.1. W&H Micro Motor System (Analog)

- **System Type:** Electric high/low-speed motor system featuring an analog speed control knob for tactile operation.
- **Motor Assembly:** Includes one (1) EM-12L electric motor.
- **Compatibility:** Motor must accept all standard E-style contra-angle and straight handpieces.
- **Illumination:** Integrated light source compatible with fiber-optic handpieces.

3.2. Primary Air/Water Syringe (60")

- **Configuration:** Push-ring release style air/water syringe allowing rapid, tool-free nozzle changes.
- **Tubing and Mount:** Includes 60" of high-flexibility handpiece tubing and a standard handpiece holder.

---

4. Waterline Disinfection Cartridge (DentaPure DP365)

- **Part/Model Options:** DP365M (Municipally Plumbed) or DP365B (Independent Water Bottle System).
- **Active Ingredient:** Iodinated resin (46% Iodine bonded to a strong base anion exchange resin).
- **Bacteriological Reduction:** Must reduce bacteria from the water supplied through dental instruments to a level meeting or exceeding the recommendation of ≤ 200 CFU/mL.

- **Service Life:** Formulated to last for 365 calendar days (1 year) or up to 240 liters of procedural water.
- **Operating Parameters:**
  - **Maximum Water Pressure:** 45 psi.
  - **Water Specifications:** Recommended pH level of < 8 and chlorine level of < 1 ppm.
  - **Temperature Restrictions:** Cold water use only. Heated water must not be used to prevent bacterial growth and biological film buildup.
- **Maintenance & Disposal:** Requires no daily maintenance or routine chemical shocking once installed. Cartridges can be disposed of in standard waste after their lifespan is depleted.

---

5. Evacuation, Sanitation & Chemical Dispensing

5.1. Keep Clear Enzymatic Evacuation System Cleaner

- **Volume / Packaging:** 1-Gallon (approx. 3.8 Liters) container.
- **Chemical Profile:** Natural, protease enzyme-based formulation.
- **Primary Function:** Effectively breaks down proteinaceous solids (including blood, tissue, and saliva) to keep suction tubing and canisters clear and odor-free.
- **Performance Characteristics:**
  - **Non-Foaming:** Must be strictly non-foaming to protect vacuum pumps from foam ingestion and mechanical damage.
  - **pH Balanced:** pH must remain between 6.0 and 8.0 to comply with EPA requirements, ensuring it does not trigger the release of mercury from amalgam separators.
- **Compatibility:** Safe for all standard dental evacuation systems, piping, and pumps.

5.2. Keep Clear Solution Dispenser

- **Capacity:** 4 Liters (approx. 1.05 Gallons).
- **Material Composition:** Constructed from heavy-duty, chemical-resistant plastic (such as high-density polyethylene, HDPE) to withstand continuous exposure to enzymatic cleaners.
- **Labeling:** Supports and includes OSHA-compliant secondary container labeling.
- **Dispensing Mechanism:** Equipped with a metered pump or specialized adapter cap to allow for precise dilution ratios and easy, spill-free dispensing of the cleaning concentrate into the evacuation lines.
- **Design:** Non-pressurized, easy-to-refill design with a secure, leak-proof closure.

---

6. Mechanical Ergonomics, Mounting & Trays

6.1. Standard Monitor Mount

- **Weight Capacity:** Rated for monitors with a maximum weight of up to 20 lbs.
- **Articulation:** Includes an adjustable arm with full swivel action, allowing multi-angle clinical viewing.
- **Riser Assembly:** Features an 8" high post riser and all required mounting brackets.
- **Mounting Configuration:** Designed to mount securely to the back of the cart system.
- **Standards Compliance:** Fully VESA-compliant; finished in tactical black. Ideal for classic series advanced delivery systems or small cart frames.

6.2. Arm-Mounted Instrument Tray (Dual Pivot)

- **Tray Dimensions:** 13.75" x 9.75" swivel tray.
- **Load Rating:** Sized and load-rated to hold standard "B" size dental instrument trays.
- **Mounting:** Screw mounts securely to the back or side of the delivery cart top, utilizing a 6" riser.
- **Articulation:** Dual-pivoting arm design consisting of one (1) 12" arm and one (1) 8" arm for maximum positioning flexibility.

---

7. Waste Management & Environmental Compliance

7.1. Quick Connect Kit (Waste Purge)

- **Application:** Engineered for self-contained delivery systems to allow hands-free purging of collected wastewater.
- **Attachment:** Connects via a quick-connect fitting directly to a standard sink drain inside a cabinet, mitigating operator contact with biohazardous waste.

7.2. Amalgam Separator

- **Type:** External, disposable amalgam separator.
- **Mounting:** Mounts to the back door of the self-contained delivery system.
- **Compatibility:** Configured to work seamlessly with the unit’s internal vacuum pumps.
- **Function:** Designed to capture, filter, and separate amalgam particles from dental wastewater prior to discharge, ensuring adherence to federal and military environmental standards.

---

8. Tactical Transit & Deployability

- **Deployable Shipping Case:** Military-grade, impact-resistant, deployable shipping case.
- **Internal Organizers:** Includes custom-molded cavities or securing straps for the delivery system cart, handpiece holders, foot control bags, and accessory systems.
- **Included Deployable Accessories:**
    - Foot control bags (protective/water-resistant).
    - Field repair kit with essential gaskets, seals, and hand tools.