

1. General Information

- **Equipment:** Automated Endoscope Reprocessor (AER).
 - **Clinical Purpose:** To provide standardized, high-level disinfection, washing, and rinsing of flexible endoscopes to ensure patient safety and device longevity.
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2. Physical Characteristics

- **Dimensions:** Approximately 600×800×1100 mm (W × D × H).
 - **Weight:** ≈100 to 150 kg (unloaded).
 - **Scope Bays:** Single or Dual independent wash chambers (capable of processing two scopes simultaneously).
 - **Connections:** * **Drain:** High-flow gravity drain or pumped discharge.
 - **Water Supply:** Dual inlets (Hot/Cold or Pre-mixed) with integrated pressure regulators.
 - **Electrical Rating:** 220–240 VAC, 50 Hz, single phase.
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3. Washer / Reprocessor Functionality

- **Number of Scope Channels:** Minimum 2 independent channels to ensure perfusion of all internal scope lumens .
 - **Scope Types Supported:** Compatible with Gastrosopes, Colonoscopes, Bronchoscopes, and Duodenoscopes.
 - **Cycle Modes:** * **Full Cycle:** Leak Test → Wash → Disinfect → Rinse → Alcohol/Air Flush.
 - **Short Cycle:** Rinse and Air dry.
 - **Cycle Time:** 25–35 minutes (standard disinfection cycle).
 - **Disinfection Method:** Cold chemical high-level disinfection with automated heating for optimized chemical efficacy.
 - **Temperature Control:** Adjustable range from 20°C to 55°C.
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4. Control & User Interface

- **Display:** Minimum 7-inch color LCD/TFT screen.
- **Interface:** Glove-compatible touchscreen or sealed tactile buttons for infection control.

- **Alarms/Alerts:** Visual and audible indicators for:
 - Leak test failure (automatic cycle termination).
 - Low chemical levels.
 - Filter expiration.
 - Channel blockage/Occlusion.
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5. Performance & Safety

- **Disinfection Efficacy:** Log 6 reduction in specialized microorganisms (Mycobacteria, spores, fungi, and viruses).
 - **Validation:** Compliant with ISO 15883-1 and 15883-4 (standard for washer-disinfectors).
 - **Consumption:**
 - **Chemicals:** Automated dosing to minimize waste (approx. 100–200 mL per cycle depending on disinfectant).
 - **Water:** High-efficiency usage with multi-stage filtration (0.2 micron bacterial filters).
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6. Safety, Compliance & Standards

- **Certifications:** CE Medical Device Directive / FDA 510(k) cleared.
 - **Electrical Safety:** IEC 61010-1 (Safety requirements for laboratory use).
 - **Chemical Safety:** Vapor management system with active carbon filters to protect staff from disinfectant fumes (e.g., Peracetic Acid or Glutaraldehyde).
 - **EMC Compatibility:** IEC 60601-1-2.
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7. Consumables & Accessories

- **Approved Disinfectants:** Validated for use with Peracetic Acid, OPA (Ortho-phthalaldehyde), or Glutaraldehyde.
- **Water Filters:** Integrated pre-filters and 0.1–0.2 micron final bacteria-retentive filter.
- **Data Logging:** Integrated thermal printer or network port (RJ45) for digital cycle documentation.
- **Connectors:** Complete set of leak-proof adapters for major scope brands (Olympus, Pentax, Fujifilm).