

**SECTION 23 78 80**  
**MEDICAL WASTE STEAM AUTO CLAVE**

**PART 1 - GENERAL**

**1.1 WORK INCLUDED**

- A. Provide labor, materials, equipment and services for the complete installation of the Medical Waste autoclave as required in Contract Documents.

**1.2 SUBMITTALS**

- A. Provide complete piping diagrams for equipment. Deliver diagrams to proper trades in time for roughing of piping, equipment connections, and avoid delay in construction schedule.

**1.3 GENERAL REQUIREMENTS**

- A. Equipment Manufacturer shall be responsible for the following:
  - 1. Furnish complete installation Drawings, templates, wiring diagrams and instruction manuals for the equipment. Manufacturer's "Installation Instructions" and "Start-up and Service Instruction" and catalog for wiring and piping shall become a part of the Contract Documents.
  - 2. Provide additional copies of above data for O&M Manual.
  - 3. Provide piping diagram prior to installation showing exact location and arrangement of piping connections, thermostats, flow switches, gauges, thermometers.
  - 4. Supervise and check installation for compliance with manufacturer's recommendations.
  - 5. Complete start-up for each unit shall be performed under the direction of the manufacturers authorized representative.
- B. Contractor Shall:
  - 1. Provide piping, valves and accessories to connect to autoclave, including miscellaneous devices to make a complete and operable system.
  - 2. Provide one year, 24-hour service and guarantee, from date of final acceptance.
- C. Start-Up, Testing and Instructions:
  - 1. Provide complete installation, testing, wiring, start-up, and instructions to Owner's Representative's.

## **PART 2 - PRODUCTS**

### **2.1 AUTO CLAVE**

#### **A. General**

1. The unit shall have a horizontal chamber constructed of 304, welded stainless steel with internal spray manifolds and nozzles.
2. The chamber shall carry an ASME Pressure Vessel Code.
3. The door shall be latched closed by latch bars and pneumatically locked and sealed at the initiation of the process cycle.
4. Fully insulated chamber.
5. The cylindrical chamber shall be mounted on rails and guides for ease of alignment
6. The chamber shall have an externally mounted vacuum pump properly sized to draw a vacuum on the chamber.
7. Floor scale and radiation monitors shall be mounted at the entrance of the chamber.
8. Unit to be factory provided with penetrations, valves, stainless steel pipes, fittings and hoses as required for operation.
9. The processing chamber shall have a 10 year warranty from time of start-up.

#### **B. Controls**

1. The controls system shall be UL listed and mounted in a NEMA 4 enclosure.
2. The user interface shall be an LCD touch screen.
3. Radiation monitoring and detection consists of a digital monitor and scintillation detector that will annunciate in the event of radiation detection.
4. The unit shall have three wet steam cycles and one dry heat cycle.
5. Status / Instruction Notification
6. Process temperature and pressure indicator.
7. Emergency Alarm and Shutdown.
8. Seven day record retention.

9. Cycle history, alarm/event history, operator training and maintenance.

C. Accessories:

1. High Capacity Cart Tipper / Lifter
  - a. Cart Compatibility: C/I STL: ANSI Z245.60-2008 Type B Containers (domestic 2-bar carts)
  - b. C/I SCTL: ANSI Z245.60-2008 Type B Containers (domestic 2-bar carts)
  - c. Lift Capacity: 400 lbs. @ 1800 psi
  - d. Voltage (60 Hz): 230/460 volt 3-phase AC  
110/220 volt 1-phase AC, 12 volt DC
  - e. Hydraulic Pressure: 2500 psi maximum
  - f. Hydraulic Flow: 1.8 gpm
  - g. Cycle Time: 8 seconds
  - h. Bearings: Self-Lubricating Composite Material
  - i. Actuator: Rack and Pinion Rotary Actuator
  - j. Finish: Safety Yellow Powder Coating
2. Quantity 30: Red 96 Gal Medical Waste interlocking toters with lockable lids.
3. Low Profile Air Bag Scissor Lift Table
  - a. Capacity: 4,000 lbs
  - b. Platform Size: 36" x 47"
  - c. Lowered Height: 4"
  - d. Raised Height: 29"
  - e. Requires 60-120 psi with ½" incoming air line
  - f. Lifetime lubricated bearings

D. Validation Testing

1. Validation testing shall be performed to confirm the manufacturers recommended cycle protocols and parameters
2. Provide adjustment to protocols and parameters as necessary to meet standards.

3. Validation testing shall be completed prior to final acceptance of project completion
- E. Operator Training
  1. Operating training shall be provided to daily users, maintenance personnel, and appropriate department supervisors and managers.
- F. Maintenance Service Contract.
  1. Provide 1 year Maintenance Service Contract to include:
    - a. All parts and labor, freight, transportation and travel expenses. To be performed by a qualified technician.
  2. Quarterly Preventative Maintenance
    - a. Provide additional and ongoing operator training as needed.
    - b. Preventative maintenance as require per manufacturers recommendations.

### **PART 3 - EXECUTION**

#### **3.1 INSTALLATION**

- A. Placement of unit and connect services to the unit where called for, in complete accordance with the Manufacturer's Installation Instructions. Furnish Division 26 with wiring diagrams and electrical data, to permit power wiring connections to the unit. Provide control wiring serving the control panel in accordance with Section "Electric Wiring."
- B. Manufacturer's representative and technicians shall provide installation of autoclave shall include transportation to the site, placement and fastening of the equipment, connections of all utilities to the equipment such as, steam, power, compressed air, water, vent and drain, operational testing of the equipment and components. Included will be Calibration of the scale, radiator monitor, thermocouple and pressure transducer.

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