

**SECTION 11 53 61
CUSTOM FABRICATED LABORATORY EQUIPMENT**

SPEC WRITER NOTES:

1. Delete between // // if not applicable to project.
2. Also, delete other items or paragraphs not applicable in the section and renumber the paragraphs.

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section specifies necropsy // dissecting tables // and // animal-cage sinks //.

1.2 RELATED WORK

- A. Section 22 11 00, FACILITY WATER DISTRIBUTION: Plumbing Connections.
- B. //Section 22 13 00, FACILITY SANITARY AND VENT PIPING: Plumbing Connections. //
- C. //Section 22 66 00, CHEMICAL-WASTE SYSTEMS FOR LABORATORY AND HEALTHCARE FACILITIES: Plumbing Connections. //
- D. Section 23 31 00, HVAC DUCTS AND CASINGS: Ductwork.
- E. Section 26 05 11, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS.
- F. Electrical Devices: Section 26 27 26, WIRING DEVICES: Electrical Connections.

1.3 QUALITY CONTROL

- A. Manufacturer Qualifications: Manufacturer regularly and presently manufactures necropsy equipment.
- B. Electrical Components and Devices: UL listed and labeled for intended use.

1.4 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Manufacturer's Literature and Data: Include illustrations and descriptions of necropsy equipment.
- C. Shop Drawings: Show details of installation, coordination with mechanical and electrical work, anchorage, and other work required for complete installation.
- D. Field Test Reports: Indicate dates and times of tests and certify test results.
- E. Operating Instructions: Comply with requirements in Section 01 00 00, GENERAL REQUIREMENTS.

1.5 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. ASTM International (ASTM):
E11-20.....Wire Cloth and Sieves for Testing Purposes
- C. National Electrical Manufacturers Association (NEMA):
250-08.....Enclosures for Electrical Equipment (1000 Volts Maximum)
- D. Scientific Equipment and Furniture Association (SEFA):
2-10.....Recommended Practices for Installation of Scientific Laboratory Furniture and Equipment
7-10.....Fixtures

PART 2 - PRODUCTS

SPEC WRITER NOTE: Show types, quantities, and locations of service fixtures required for each type of necropsy unit on drawings.

2.1 NECROPSY EQUIPMENT, GENERAL

- A. Factory install service fixtures and electrical devices in locations shown on drawings.
- B. Service Fixtures, General: Heavy-grade designed for mortuary use and complying with relevant requirements in SEFA 7.
- C. Water Service Fixtures: With integral vacuum breaker and as follows:
 - 1. Outlet: Female, 10 mm (3/8 inch); threaded outlet for attachment of filter pumps, hose connectors, antihose nozzle, or antisplash spout ends.
 - 2. Goosenecks: With minimum clearance of 191 mm (7-1/2 inches) between threaded outlet and top of table. Bend gooseneck 180 degrees to direct water flow vertically into sinks. Attach gooseneck to base with adapter-type connection that will permit field conversion of swing-type to fixed-type gooseneck and fixed-type to swing-type gooseneck.
 - 3. Operation: Manual with wrist-blade handles, unless otherwise indicated.
- D. Pedestals: Cast brass, tapered to a round base; factory assembled and tested; and with brass shanks, brass locknuts, and washers for attaching to tops or curbs.

SPEC WRITER NOTE: Equipment described in article below corresponds to symbol "HW-800" in "Room Equipment Guide."

2.2 DOWNDRAFT NECROPSY TABLE

- A. Description: Stainless-steel table with integral fittings and fixtures and downdraft capability designed to pull air down, away from operator's face, and to protect from odors.
- B. Integral Sink Unit: Equipped with hot- and cold-water fittings, swing spout faucet, and self-closing trigger control spray head with 2438 mm (8 feet) of hose.
- C. Integral Drain Pan: Equipped with manual flush down manifold, sloped to one end to allow for complete drainage.
- D. Integral Exhaust Plenum: Equipped with a manually controlled adjustable damper, and located the full width of the rear of the table.
- E. Exhaust Connection: 254 mm (10 inch) diameter flange for connection to the building exhaust system.
- F. Filter Housing: Equipped with 99.9 percent HEPA filter.
- G. Waste Disposer: 560 watts (3/4 horsepower) heavy-duty disposer and controls.
- H. Electrical Receptacles: One 120-V, single-phase, 15-A, hospital-grade duplex receptacle.

SPEC WRITER NOTE: Equipment described in article below corresponds to symbol "HW-803" in "Room Equipment Guide." Revise for selected equipment.

2.3 NECROPSY DISSECTING TABLE:

- A. Description: Stainless-steel unit with sink compartments, work tops, splash backs, disposer, and shelves. Apply sound-deadening material to underside.
- B. Waste Disposer: Heavy-duty, //5595 watt (7-1/2 horseowerp)// //__// commercial-type designed to dispose of type of waste normally accumulated in necropsy area and for continuous commercial use. Equip disposer with sink adaptor, silver trap, floor support, vacuum breaker, solenoid valve, flow control, motor starting switch, and motor controller.
 - 1. Disposer Action: Subjects waste to simultaneous grinding and flushing action before discharging into building waste system.
 - a. Discharged Materials:

- 1) Of a consistency to flow freely through waste piping.
 - 2) Using ASTM E 11 U.S.A standard testing sieves, 40 percent of the discharged materials passes through a 2.36 mm (0.093 inch) sieve, and 65 percent passes through a 6.7 mm (0.265 inch) sieve.
2. Housing: Cast iron or stainless steel, with inlet opening not less than throat diameter. Provide direct water connection into grind chamber.
 3. Grind Ring: Rust-resistant steel alloy, with cutting projections of teeth hardened and precision ground, and replaceable without replacing housing.
 4. Motor Control: Remote start-stop push-button switch in stainless-steel waterproof box mounted on dissecting table that is wired to wall-mounted prefabricated control center with the following components:
 - a. Magnetic starter with overload and undervoltage protection.
 - b. Solenoid valve.
 - c. Time-delay relay.
 - d. Control-circuit transformer.
 - e. Flow-control interlock switch.
 - f. Stainless-steel, NEMA 250, Type 4 enclosure.
- C. Equip each sink with hot- and cold-water fixtures, stainless-steel sink outlet, and chemical-resistant antisiphon drum trap with clean-out plug.

SPEC WRITER NOTE: Equipment described in article below corresponds to symbol "HW-879" in "Room Equipment Guide." Revise for selected equipment.

2.4 ANIMAL-CAGE SCULLERY SINK AND TABLE WITH WASTE DISPOSER

- A. Description: Stainless-steel sink and table unit with waste disposer.
- B. Waste Disposer: Heavy-duty, //2238 watts (3 horsepower)// //___//, commercial-type food waste disposer designed for continuous commercial use to dispose of cooked bones, vegetable waste, scullery waste, milk cartons, and plastic individual condiment and jelly containers. Equip disposer with cone, cover, silver trap, floor support, vacuum breaker, solenoid valve, flow control, prerinse spray assembly, on-off switch, and disposer control center.

1. Disposer Action: Subjects waste to simultaneous grinding and flushing action before discharging into building waste system.
 - a. Discharged Materials:
 - 1) Of a consistency to flow freely through waste piping.
 - 2) Using ASTM E 11 U.S.A standard testing sieves, 40 percent of the discharged materials passes through a 2.36 mm (0.093 inch) sieve, and 65 percent passes through a 6.7 mm (0.265 inch) sieve.
2. Housing: Cast iron or stainless steel, with inlet opening not less than throat diameter, and with direct water connection into grind chamber.
3. Grind Ring: Rust-resistant steel alloy, with hardened and precision-ground cutting teeth, and replaceable without replacing housing.
4. Cone: Fabricated from 1.3 mm (0.050 inch) thick stainless steel with top diameter of not less than 381 mm (15 inches) and depth of 203 mm (8 inches).
 - a. Opening at bottom of cone fitted to disposer with vibration-dampening, leakproof connection.
 - b. Equip with one or more water inlets designed to direct water stream so it will dislodge food waste and convey it into disposer.
 - c. Equip with removable cover to fit cone flush with top of drainboard. Fabricate cover with scrap hole that is approximately 152 mm (6 inches) in diameter and is located directly over bottom opening of cone.
 - d. Equip with removable neoprene scrapping block with integral sleeve, and molded neoprene ring tableware trap that fits bottom of cone.
5. Vacuum Breaker: For water connections to disposer housing and to cone.
6. Motor Control: Remote start-stop push-button switch in stainless-steel waterproof box mounted on table and wired to wall-mounted prefabricated control center containing the following components:
 - a. Magnetic starter with overload and undervoltage protection.
 - b. Solenoid valve.
 - c. Time-delay relay.
 - d. Stainless-steel, NEMA 250, Type 4 enclosure.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install necropsy equipment according to manufacturer's written instructions and to comply with relevant requirements in SEFA 2.
- B. Install waste disposers to prevent backflow of polluted water or waste into water supply system or on to work surfaces.
- C. Install and interconnect electrical controls and switches.

3.2 TESTS

- A. Field test installed necropsy equipment after water systems are pressurized for proper operation.
 - 1. Operate each component of equipment. During and after testing, there shall be no evidence of leaks, electrical malfunction, or other symptom of failure.
 - 2. For units that fail testing, make adjustments and corrections to installation, or replace necropsy equipment, and repeat tests until necropsy equipment operates properly.

3.3 PROTECTING AND CLEANING

- A. Protect equipment from dirt, water, and chemical or mechanical injury during the remainder of the construction period.
- B. At the completion of work, clean interior equipment as required to produce ready-for-use condition.

3.4 INSTRUCTIONS

- A. Instruct personnel and transmit operating instructions in accordance with requirements in Section 01 00 00, GENERAL REQUIREMENTS.

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