

**SECTION 11 40 21**  
**FOOD SERVICE EQUIPMENT-UTILITY DISTRIBUTION SYSTEM**

SPEC WRITER NOTES:

1. Delete between // // if not applicable to project.
2. Delete other items or paragraphs in the section that are not applicable and renumber the paragraphs.
3. Select utility distribution systems according to usage requirements and codes.

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

A. Utility Distribution Systems:

1. // Island style.//
2. // Wall mounted.//
3. // With tray makeup conveyor. //
4. // With tray slide. //

**1.2 RELATED WORK**

A. Section 05 50 00, METAL FABRICATIONS: Equipment Supports.

SPEC WRITER NOTE: Retain paragraph below if required for project location.

B. Section 11 44 00, FOOD COOKING EQUIPMENT: Cooking Equipment.

C. Section 13 05 41, SEISMIC RESTRAINT REQUIREMENTS FOR NON-STRUCTURAL COMPONENTS: Seismic Restraint of Equipment.

D. //Section 21 10 00, WATER-BASED FIRE-SUPPRESSION SYSTEMS: Building Fire-Protection Systems. //

E. Section 21 13 13, WET-PIPE SPRINKLER SYSTEMS: Building Fire-Protection Systems.

F. Section 22 11 00, FACILITY WATER DISTRIBUTION: Plumbing Connections.

G. Section 22 13 00, FACILITY SANITARY SEWERAGE: Plumbing Connections.

H. Section 23 38 13 Commercial Kitchen Hoods: Ventilating Hoods.

I. Section 26 05 21, LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES (600 VOLTS AND BELOW): Electrical Connections.

**1.3 QUALITY CONTROL**

A. Installer Qualifications: Experienced in food service equipment installation or supervised by an experienced food service equipment installer:

1. Where required to complete equipment installation, electrician and plumber shall be licensed in jurisdiction where project is located.

SPEC WRITER NOTE: UL Environmental and Public Health (EPH) Classification Mark is currently used to certify compliance with NSF/ANSI standards. Equipment evaluated by UL before 2001 may bear the UL Food Service Product Certification Mark.

- B. NSF Compliance: Equipment bears NSF Certification Mark or UL Classification Mark indicating compliance with NSF/ANSI 2 and NSF 2-Supplement.
- C. UL Listing: Equipment is a "Commercial Appliance Outlet Center" listed by UL and labeled for intended use.
- D. Fire-Protection Systems: Comply with NFPA 96.
- E. Welding: Perform welding according to AWS D9.1.

SPEC WRITER NOTE: Retain paragraph and subparagraphs below if required for project location.

- F. Seismic Restraint:
  1. Comply with requirements in Section 13 05 41, SEISMIC RESTRAINT REQUIREMENTS FOR NON-STRUCTURAL COMPONENTS.
  2. Comply with applicable guidelines for seismic restraint of kitchen equipment contained in SMACNA's "Kitchen Ventilation Systems and Food Service Equipment Guidelines," Appendix A.
- G. In-Use Service: At least one factory-authorized service agency for equipment shall be located in the geographical area of the installation and shall have the ability to provide service within 24 hours after receiving a service call.

#### 1.4 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Manufacturer's Literature and Data:
  1. Include manufacturer's address and telephone number.
  2. Include catalog or model numbers and illustrations and descriptions of utility distribution systems.
- C. Installation Drawings: Show dimensions, details of installation, coordination with plumbing and electrical work, and other work required for a complete installation.
- D. Operating Instructions: In accordance with requirements in .

**1.5 WARRANTY**

- A. Warrant food service equipment to be free from defects in materials and workmanship in accordance with requirements of "Warranty of Construction", FAR clause 52.246-21.

**1.6 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. American Welding Society, Inc. (AWS):  
D9.1-2006.....Sheet Metal Welding Code
- C. ASTM International (ASTM):  
A666-15.....Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar
- D. National Association of Architectural Metal Manufacturers (NAAMM):  
AMP 500-06.....Metal Finishes Manual
- E. NFPA International (NFPA):  
96-11.....Ventilation Control and Fire Protection of Commercial Cooking Operations
- F. NSF International/American National Standards Institute (NSF/ANSI):  
2-2010.....Food Equipment  
2-Supplement.....Descriptive Details for Food Service Equipment Standards
- G. Sheet Metal and Air Conditioning Contractors' National Association (SMACNA): Kitchen Ventilation Systems and Food Service Equipment Fabrication and Installation Guidelines, 2001.

**PART 2 - PRODUCTS**

**2.1 MATERIALS**

- A. Stainless Steel: ASTM A 666, Type 304, stretcher leveled.
  - 1. Finish: No. 4 finish (bright, directional polish) according to NAAMM's AMP 500-505, Metal Finishes Manual.

SPEC WRITER NOTES:

- 1. Symbols below correspond with "Room Equipment Guide" identification system. Verify project requirements before specifying equipment that deviates from "Room Equipment Guide."
- 2. Edit symbols to coordinate with identification shown on drawings.

**2.2 UTILITY DISTRIBUTION SYSTEMS**

SPEC WRITER NOTE: Size accessories and utilities using utility chart supplied by manufacturer.

- A. Island-Style Utility Distribution System: Floor mounted, to supply the utilities to operate cooking equipment, with floor-to-ceiling risers at each end to house reset switches, // controls for gas, steam, and water // gas shutoff with manual reset station // fire fuel shutoff for gas and electric // and other components indicated.
- B. Wall-Mounted Utility Distribution System: Supplies utilities to operate tray-line equipment, with wall-mounted reset switches, // controls for gas, steam, and water // gas shutoff with manual reset station // fire fuel shutoff for gas and electric //, and other components indicated.
- C. Electrical Requirements: Isolated compartment with electrical bus bars.
  - 1. Stainless-Steel Connection Plate: Interchangeable, with // receptacle, // circuit breaker and pilot light.
  - 2. Circuit Breaker: Rated 10,000-A RS symmetrical interruption capacity.
- D. Plumbing: // Gas // Water // Steam piping // color-coded and quick disconnect.
- E. Valves: Ball type shutoff, quarter turn // quick disconnects // remote motorized steam shutoff with continual, programmable steam supply control timer //.
- F. Connector Assembly: // Water, brass double shutoff quick disconnect multiflexible, stainless-steel outer braiding. // Gas, brass or cadmium-plated steel quick disconnect, multiflexible hose, stainless-steel outer braiding. //Steam and condensate, fiberglass woven insulation and stainless-steel outer braiding.//
- G. Utility Distribution System Units:

<b>SYMBOL</b>	<b>LENGTH</b>	<b>TYPE</b>	<b>COMPONENTS</b>
K1081	// As indicated on drawings // _____ //	Island style	Control panel, ventilator Utility chase Interior waste drain line Water wash control panel Fire-protection system
K1221	1525 mm (60 inches)	Wall mounted	Remote status indicator lights or LED read-outs Point-of-use circuit breakers
K1222	3050 mm (120 inches)	Wall mounted	Remote status indicator lights or LED read-outs Point-of-use circuit breakers
K1223	4575 mm (180 inches)	Wall mounted	Remote status indicator lights or LED read-outs Point-of-use circuit breakers
K1224	7000 mm (240 inches)	Wall mounted	Remote status indicator lights or LED read-outs Point-of-use circuit breakers

### 2.3 UTILITY DISTRIBUTION SYSTEMS MOUNTED WITH TRAY-MAKEUP CONVEYORS

- A. Assembly Description: Utility distribution system mounted under motor-driven conveyor system for food-tray makeup.
- B. Utility Distribution System: Supplies utilities to serving equipment, with reset switches, remote status indicator lights or LED read-outs, point-of-use circuit breakers, and controls for water.
  - 1. Electrical Requirements: Isolated compartment with electrical bus bars.
    - a. Stainless-Steel Connection Plate: Interchangeable with // receptacle, // circuit breaker and pilot light.
    - b. Circuit Breaker: Rated 10,000-A RS symmetrical interruption capacity.

2. Plumbing: Connector assemblies for water with brass double shutoff quick disconnects and multiflexible, stainless-steel outer braiding.
- C. Tray-Makeup Conveyor:
1. Exterior: Stainless steel.
  2. Drip Pan: Drains into belt washer housing.
  3. Belt Washer:
    - a. Enclosed in watertight stainless-steel tank with hinged access door located on front of tank.
    - b. Internal lukewarm water sprays wash each belt surface.
    - c. Clean belt is wiped continuously.
    - d. Equipped with vacuum breaker; reducing, mixing, shutoff and solenoid valves that are interwired to conveyor movement; and drain located in bottom of wash tank.
  4. Scrap: Stainless-steel, perforated, removable baskets on 12 mm (1/2-inch) legs located in base of belt washer tank.
  5. Drive Motor: 560-W (3/4-hp) motor, torque not less than 50 percent greater than required for operation, with thermal-overload protection and manual reset.
  6. Drive Unit Speed: 0.01 to 0.02 km/min. (30 to 60 ft./min.).
  7. Conveyor Motor Control:
    - a. Manual On-Off: Switch on control console with auxiliary switch at discharge end of conveyor.
    - b. Automatic Limit Switches: Two simultaneous limit switches respond to two trays at end of conveyor to shut down conveyor, automatic startup when trays are removed.
    - c. Control Console: Waterproof, internally wired in factory, located adjacent to drive unit housing.
- D. Utility Distribution System and Tray Makeup Conveyor Units:

SYMBOL	LENGTH	DESCRIPTION
K1211	10058 mm (33 feet)	Utility distribution system
K1201	10058 mm (33 feet)	Tray makeup conveyor

#### 2.4 UTILITY DISTRIBUTION SYSTEMS WITH TRAY SLIDES

- A. Description: Supplies serving-line equipment with electrical and water utilities and with tray slide above.

SPEC WRITER NOTE: Size accessories and utilities using utility chart supplied by manufacturer.

- B. Griddle Shutoff: Equipment connection plate shuts off griddle when fire control on ventilator is activated.
- C. Cord Sets: Equip each 208-V receptacle with 2440 mm (96 inch) coiled cord set with angle-type cap.
- D. Tray Slide Bed: Configure as shown on drawings.
- E. Exposed Surfaces: Stainless steel.
- F. Front Panel: // Plastic laminate // Stainless steel //, removable.
- G. Utility Distribution System with Tray Slide Units:

SYMBOL	COMPONENTS
K1071	Control panel Interwired with fire-protection system

**PART 3 - EXECUTION**

**3.1 INSTALLATION**

- A. Install utility distribution systems level and plumb; arranged for safe and convenient operation; with access clearances required for maintenance and cleaning; and according to manufacturer's written instructions.

SPEC WRITER NOTE: Show on drawings support for equipment specified in this section. Specify requirements for support in Section 05 50 00.

- B. Coordinate installation of utility distribution systems with supports; see Section 05 50 00, METAL FABRICATIONS.
- C. Interconnect utility distribution systems to service utilities.

SPEC WRITER NOTE: Retain paragraph below if required for project location.

- D. Install seismic restraints for equipment.

**3.2 CLEAN-UP**

- A. At completion of the installation, clean and adjust equipment as required to produce ready-for-use condition.
- B. Where stainless-steel surfaces are damaged during installation procedures, repair finishes to match adjoining undamaged surfaces.

**3.3 INSTRUCTIONS**

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

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