

SECTION 238233 - CONVECTORS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes hydronic convectors.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include rated capacities, operating characteristics, furnished specialties, and accessories.

1.3 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

PART 2 - PRODUCTS

2.1 HOT-WATER CONVECTORS

- A. Heating Elements: Seamless copper tubing mechanically expanded into evenly spaced aluminum fins and rolled into cast-[iron] [or] [brass] headers with inlet/outlet and air vent; steel side plates and supports. Factory-pressure-test element at minimum 100 psig (690 kPa).
 - 1. Element Height: .See Mechanical Drawings.
 - 2. Element Depth: .See Mechanical Drawings.
 - 3. Element Length: .See Mechanical Drawings.
 - 4. Entering-Air Temperature: 65 deg F (18 deg C).
 - 5. Average Water Temperature: 150-180 deg F (82 deg C).
 - 6. Temperature Drop: 20 deg F (11.1 deg C).
- B. Front and Top Panel: Minimum 0.0528-inch- (1.35-mm-) thick steel with exposed corners rounded; removable front panels with tamper-resistant fasteners braced and reinforced for stiffness.
- C. Wall-Mounted Back and End Panels: Minimum 0.0428-inch- (1.1-mm-) thick steel.
- D. Floor-Mounted Pedestals: Conceal conduit for power and control wiring at maximum 36-inch (914-mm) spacing. Pedestal-mounted back panel shall be solid panel matching front panel.
- E. Support Brackets: Locate at maximum 36-inch (914-mm) spacing to support front panel and element.
- F. Insulation: 1/2-inch- (13-mm-) thick, fibrous glass on inside of the back of the enclosure.

- G. Finish: Baked-enamel finish in manufacturer's standard color as selected by Architect.
- H. Free-Standing Enclosure Style (Public Spaces): Flat top.
 - 1. Front Inlet Grille: Punched louver; painted to match enclosure.
 - 2. Front Outlet Grille: Punched louver; painted to match enclosure.
- I. Free-Standing Enclosure Style (Public Spaces): Sloped top.
 - 1. Front Inlet Grille: Punched louver; painted to match enclosure.
 - 2. Front Outlet Grille: Punched louver; painted to match enclosure.
- J. Semi-Recessed Enclosure Style: Flat top.
 - 1. Front Inlet Grille: Punched louver; painted to match enclosure.
 - 2. Front Outlet Grille: Punched louver; painted to match enclosure.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install convectors level and plumb.
- B. Install valves within reach of access door provided in enclosure.
- C. Install air-seal gasket between wall and recessed flanges or front cover of fully recessed unit.
- D. Install piping within pedestals for freestanding units.
- E. Install free standing style convectors, as indicated under part 2.1 I or J. in public hall and commercial areas, baseboard units are not acceptable.
- F. Install semi-recessed style convectors, as indicated under part 2.1 K., in bathroom and kitchen areas subject to space limitations from layout, plumbing fixtures or cabinetry.

3.2 CONNECTIONS

- A. Piping installation requirements are specified in Section 232113 "Hydronic Piping". Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Connect hot-water convectors and components to piping according to Section 232113 "Hydronic Piping".
- C. Install shutoff valves on inlet and outlet, and balancing valve on outlet.
 - 1. Install shutoff valve on inlet; install strainer, and shutoff valve on outlet.
- D. Install control valves as required by Section 230523.12 and Section 230523.15.
- E. Install thermostatic control valves as required by Section 230900 "Instrumentation and Control for HVAC."
- F. Install piping adjacent to convectors to allow service and maintenance.

3.3 FIELD QUALITY CONTROL

- A. Perform the following field tests and inspections:
 - 1. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
 - 2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- B. Convector will be considered defective if they do not pass tests and inspections.
- C. Prepare test and inspection reports.

END OF SECTION 238233