

SECTION 23 3700 - AIR OUTLETS AND INLETS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Registers/grilles:
 - 1. Ceiling-mounted, exhaust and return register/grilles.
- B. Gravity ventilators.

1.2 REFERENCE STANDARDS

- A. AMCA 511 - Certified Ratings Program for Air Control Devices; 2010.
- B. AMCA 550 - Test Method for High Velocity Wind Driven Rain Resistant Louvers; 2015.
- C. ASHRAE Std 70 - Method of Testing the Performance of Air Outlets and Inlets; 2006 (R2011).
- D. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2014.
- E. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric); 2013.
- F. SMACNA (DCS) - HVAC Duct Construction Standards Metal and Flexible; 2005 (Rev. 2009).

1.3 SUBMITTALS

- A. Product Data: Provide data for equipment required for this project. Review outlets and inlets as to size, finish, and type of mounting prior to submission. Submit schedule of outlets and inlets showing type, size, location, application, and noise level.
- B. Project Record Documents: Record actual locations of air outlets and inlets.

1.4 QUALITY ASSURANCE

- A. Test and rate air outlet and inlet performance in accordance with ASHRAE Std 70.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Titus: www.titus-hvac.com
- B. MetalAire
- C. Krueger-HVAC; _____: www.krueger-hvac.com/#sle.
- D. Price Industries; _____: www.price-hvac.com/#sle.

2.2 GRILLES, REGISTERS, AND DIFFUSERS

- A. Refer to the schedule on the drawings for model numbers, construction, and colors.

2.3 CEILING EXHAUST AND RETURN REGISTERS/GRILLES

- A. Type: Streamlined blades, 3/4 inch (19 mm) minimum depth, 3/4 inch (19 mm) maximum spacing, with blades set at 45 degrees, vertical face.
- B. Frame: 1-1/4 inch (32 mm) margin with countersunk screw mounting.
- C. Fabrication: Aluminum with 20 gage (0.90 mm) minimum frames and 22 gage (0.80 mm) minimum blades, steel and aluminum with 20 gage (0.90 mm) minimum frame, or aluminum extrusions, with factory baked enamel finish.
- D. Color: As indicated.

2.4 GRAVITY VENTILATORS

- A. Spun Aluminum Intake Gravity Ventilator:
 - 1. Manufacturers:
 - a. Greenheck Fan Corporation; _____: www.greenheck.com/#sle.
 - b. Loren Cook Company; _____: www.lorencook.com/#sle.

2. General:
 - a. Provide low silhouette configuration for intake applications with natural gravity or negative pressure system.
 - b. Performance ratings and factory testing to be in accordance with AMCA 511 and AMCA 550.
 - c. Suitable for non-ducted applications.
3. Hood:
 - a. Material: Aluminum.
 - b. Internal structure constructed of galvanized steel.
4. Birdscreen:
 - a. Fabricate in accordance with ASTM B221 (ASTM B221M).
 - b. Construction: 1/2 inch (12.7 mm) galvanized mesh.
 - c. Horizontally mounted across hood intake area.
5. Housing:
 - a. Curb Cap:
 - 1) Construction: Aluminum.
 - 2) Integral deep spun inlet venturi with pre-punched mounting holes to ensure correct attachment to roof.
6. Options/Accessories:
 - a. Roof Curbs:
 - 1) Pitched Roofs: Welded, straight side curb with flashing flange and wood nailer.
 - 2) Material: Aluminum.
 - b. Dampers:
 - 1) Type: Motorized.
 - 2) Factory designed to prevent outside air from entering back into building when fan is off.
 - 3) Balanced for minimal resistance to flow.
 - 4) Galvanized frames with pre-punched mounting holes.
 - c. Factory Finish: Polyester meeting or exceeding the chemical resistance properties of air dry phenolic (heresite).
 - d. Flashing Flange:
 - 1) Construction:
 - a) Aluminum.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Check location of outlets and inlets and make necessary adjustments in position to comply with architectural features, symmetry, and lighting arrangement.
- C. Install diffusers to ductwork with air tight connection.

- D. Provide balancing dampers on duct take-off to diffusers, and grilles and registers, despite whether dampers are specified as part of the diffuser, or grille and register assembly.
- E. Paint ductwork visible behind air outlets and inlets matte black, see Section 09 9123.

END OF SECTION