SECTION 238216 - AIR COILS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Refrigerant coils.

1.2 RELATED REQUIREMENTS

A. Section 230719 - HVAC Piping Insulation.

B. Section 232300 - Refrigerant Piping.

C. Section 233100 - HVAC Ducts and Casings: Installation of duct coils.

1.3 REFERENCE STANDARDS

A. ARI 410 - Standard for Forced-Circulation Air-Cooling and Air-Heating Coils; Air-Conditioning and Refrigeration Institute; 2001 (R2002) .

B. SMACNA (DCS) - HVAC Duct Construction Standards - Metal and Flexible; Sheet Metal and Air Conditioning Contractors' National Association; 2005.

1.4 SUBMITTALS

A. See Section 013300 - Submittal Procedures, for submittal procedures.

B. Product Data: Provide coil and frame configurations, dimensions, materials, rows, connections, and rough-in dimensions.

C. Shop Drawings: Indicate coil and frame configurations, dimensions, materials, rows, connections, and rough-in dimensions.

D. Certificates: Certify that coil capacities, pressure drops, and selection procedures meet or exceed specified requirements.

E. Warranty: Submit manufacturer's warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

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.

B. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Protect coil fins from crushing and bending by leaving in shipping cases until installation, and by storing indoors.

B. Protect coils from entry of dirt and debris with pipe caps or plugs.

1.7 WARRANTY

A. See Section 017700 - Closeout Procedures, for additional warranty requirements.

PART 2 PRODUCTS

2.1 REFRIGERANT COILS

A. Manufacturers:

1. Carrier:
2. Trane Inc: www.trane.com.
3. York.
4. Substitutions: See Section 016000 - Product Requirements.

B. Tubes: 5/8 inch (16 mm) OD seamless copper or brass arranged in parallel or staggered pattern, expanded into fins, silver brazed joints.

C. Fins: Aluminum or copper continuous plate type with full fin collars. Solder coat copper fin coils.

D. Casing: Die formed channel frame of 16 gage (1.6 mm) galvanized steel with 3/8 inch (9.5 mm) mounting holes on 3 inch (75 mm) centers. Provide tube supports for coils longer than 36 inches (900 mm).

E. Headers: Seamless copper or brass tubes with silver brazed joints.

F. Liquid Distributors: Brass or copper venturi type distributor with seamless copper distributor tubes, 5/16 inch (8 mm) outside diameter; maximum 12 circuits per distributor.

G. Testing: Air test under water at 300 psi (2070 kPa) for working pressure of 250 psi (1720 kPa); clean, dehydrate, and seal with dry nitrogen charge.

H. Configuration: Down feed with bottom suction to prevent trapping of oil.

I. Fin Spacing: 8 fins per inch (3.1 mm on center).

PART 3 EXECUTION

3.1 INSTALLATION

A. Install in accordance with manufacturers written instructions.

B. Install in ducts and casings in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible.

1. Support coil sections independent of piping on steel channel or double angle frames and secure to casings.
2. Provide frames for maximum three coil sections.
3. Arrange supports to avoid piercing drain pans.
4. Provide airtight seal between coil and duct or casing.
5. Refer to Section 233100.

C. Protect coils to prevent damage to fins and flanges. Comb out bent fins.

D. Install coils level. Install cleanable tube coils with 1:50 pitch.

E. Make connections to coils with unions and flanges.

F. Refrigerant Coils: Provide sight glass in liquid line within 12 inches (300 mm) of coil. Refer to Section 232300.

G. Insulate headers located outside air flow as specified for piping. Refer to Section 230719.

END OF SECTION