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**Part 1            General**

**1.1               RELATED REQUIREMENTS**

- .1       Section 23 05 00 – Common Work Results for HVAC.
- .2       Section 23 05 49.01 – Seismic Protection System.

**1.2               ACTION AND INFORMATIONAL SUBMITTALS**

- .1       Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2       Product Data:
  - .1       Submit manufacturer's instructions, printed product literature and data sheets for fan coil units and include product characteristics, performance criteria, physical size, finish and limitations.
  - .2       Product data to include:
    - .1       Filters, fan accessibility.
    - .2       Suspension and Anchoring of cabinet.
    - .3       Thermostat, transformer, controls where integral.
    - .4       kW rating, voltage, phase.
    - .5       Cabinet material thicknesses.
- .3       Shop Drawings:
  - .1       Submit drawings stamped and signed by professional engineer registered or licensed in Canada and OIQ member.
- .4       Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.

**1.3               DELIVERY, STORAGE AND HANDLING**

- .1       Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements with manufacturer's written instructions.
- .2       Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3       Storage and Handling Requirements:
  - .1       Store materials off ground, indoors, in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2       Store and protect fan coil units from nicks, scratches, and blemishes.
  - .3       Replace defective or damaged materials with new.

**Part 2            Products**

**2.1               FAN COIL UNITS**

- .1       General

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- .1 Vertical or horizontal unit, factory mounted, modular type. Complete unit with filter, chilled water cooling or heating coil, drip pan, electronically commutated motor and fan (ECM), direct belt drive.
  - .2 Unit type (horizontal or vertical) and air supply and return opening orientations must be provided as specified in the drawings
  - .3 Each device must be ARI tagged and its nominal characteristics must comply with ARI 430 standards.
- .2 Housings
- .1 Housings made of 0.9 mm (20 gauge), galvanized steel, factory painted with a baked polyurethane powder coating. All panels are insulated with ¾" thick fiberglass. The rear panel includes a filter frame 2" thick with lateral access.
  - .2 Access panels shall be provided for fan/motor maintenance. Panels on both sides are removable for inspection and maintenance.
- .3 Fan
- .1 Direct belt drive centrifugal fan with galvanized steel backward inclined blades, statically and dynamically factory balanced.
  - .2 Single-speed motor will be supplied with rheostat. Motors must have a resilient base and a ball bearing.
  - .3 Motor must be compatible for variable frequencies operation
  - .4 Provide a starter with a disconnecting switch.
- .4 Coil
- .1 Aluminium fins coil on copper tubes subjected to mechanical expansion. Designed for 2760 kPa (400 psi) pressure operation and 3450 kPa (500 psi) pressure test
  - .2 Connections on piping must be to the left or right, depending on the application
  - .3 Manual air vent
- .5 Condensate drip pan
- .1 The drip pan is made of stainless steel with ¾" connection, located at the bottom of the pan, at the lowest point and extends over the entire length and width of the coil. The drain tube slope is at least 1 % in order to remove water continuously. The pan will be made of class 304 stainless steel.
- .6 Filter
- .1 Filter section integrated to unit with access on both sides of the casing.
  - .2 50 mm (2 in) thick filter, MERV-8, installed into the unit.
  - .3 See specifications Section 23 44 00.
- .7 Capacities and features
- .1 Capacities must be certified by a competent and independent organization. Refer to mechanical table for capacities.
  - .2 Features: refer to the mechanical table in drawings.
  - .3 Dimensions: refer to drawings for the units' maximal dimensions. Dimensions : se reporter au bloc en plans pour les dimensions maximales des unités.

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- .8 Acceptable products: Magic Aire, Trane, Carrier, York or replacement product approved by addendum in accordance with the Instructions to Bidders.

**Part 3 Execution**

**3.1 EXAMINATION**

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for fan coil units installation in accordance with manufacturer's written instructions.
- .1 Visually inspect substrate in presence of Departmental Representative.
- .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
- .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

**3.2 INSTALLATION**

- .1 Mount or Hang units, according to specifications.
- .2 Make electrical and control connections.
- .3 Co-ordinate installation of fresh air ducts with Division 23.

**3.3 FIELD QUALITY CONTROL**

- .1 Perform tests in accordance with Section 26 05 00 - Common Work Results for Electrical.

**3.4 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
- .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .3 Waste Management: separate waste materials for reuse recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

**END OF SECTION**