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237310 - Air Handling Units

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237310 - Air Handling Units

SECTION 23 7310 – AIR HANDLING UNITS

1.1 SUMMARY

A. Section Includes:

1. Air Handling Units.

B. See Chapter 5, Division 01, Section 017700.1.1.B.1.i Closeout Procedures - Project Record Documents for equipment list requirements for all equipment provided in this section.

1.2 SUBMITTALS

A. LEED Submittal:

1. Product Data for Prerequisite EQ 1: Documentation indicating that units comply with ASHRAE 62.1, Section 5 - "Systems and Equipment."

1.3 MANUFACTURERS

A. Modular Air Handling Units: Carrier, McQuay, Trane, or JCI/York.

B. Custom Air Handling Units: Air Enterprises, Haakon, or JCI/York.

1.4 SUPPLY FANS

A. Static pressure control on VAV air handlers shall be provided by electronic variable frequency drives. Inlet vane or bypass dampers are not acceptable.

1.5 HEATING COILS

A. All air handling units utilizing any percentage of outside air shall have both coil valve control AND integral factory installed face and bypass damper sections, even units with energy recovery devices. Face and bypass assemblies shall have one continuous face coil section and one continuous bypass section. Assemblies with alternate coil and bypass sections are not acceptable. Below 40 degrees outside air temperature, the coil valve shall remain open and the face & bypass damper shall modulate to maintain setpoint. Above 40 degrees outside air temperature, the face & bypass damper shall remain in full face, and the coil valve shall modulate to maintain setpoint. Energy recovery wheels shall be utilized for all 100% outside air systems. The desiccant wheel shall utilize a "balanced sieve" 4A hygroscopic solid desiccant coating. Wheel shall allow for both sensible and latent heat transfer equally. An independent wheel test from a third



party testing agency shall document that the desiccant material on the wheel does not transfer pollutants typically encountered in the indoor air environment.

- B. Air handler outside air and return air ductwork shall be of sufficient length and configured so as to prevent any air stratification problems in the mixing box and coil areas.
- C. Snow mitigation shall be included for the outside air intake in the design and construction of all new systems.

1.6 FILTER SECTIONS

- A. All air handling unit filter racks shall have analog differential pressure transducers, with local magnehelic gauge readout, to report filter loading status to the BAS.
- B. LEED EQ Credit 5 Indoor Chemical & Pollutant Source Control requires that MERV 13 filters or better be used on outdoor and return air streams.

1.7 DAMPERS AND ACTUATORS

- A. The University strongly prefers that all damper actuators be externally mounted when possible.
- B. Air handlers, with externally mounted actuators located indoors, shall be provided by the manufacturer with damper shaft extensions that allow all damper motors to be installed exterior to the air handler. External shafts, piping or linkage must not pass through or obstruct the easy operation of access panels necessary for maintenance for that purpose and shall be provided by the equipment manufacture with shafts extended to the exterior ready for actuator mounting.
- C. All air handlers located outdoors shall be provided with weather tight enclosures and damper shaft extensions that allow all damper motors to be installed outside of the system air stream. All such enclosures shall be 3rd party certified and labeled to meet the requirements of the NH State Fire Marshal's Office (NHSFMO).
- D. When internally-mounted actuators are necessary or advantageous, they shall be permitted only when the complete assembly including the air handling unit, actuator and all associated wiring are certified by an independent 3rd party inspection service as approved by the NHSFMO. All interior actuators shall be accessible by hinged access panels of sufficient size to permit easy access, adjustments and removal. Doors or exterior casing will be provided with a view port to allow the position and operation of the actuator to be easily observed. An internal light is required on all AHU's with an airflow capacity greater than or equal to 15,000 CFM.

END OF SECTION 23 7310