Guide specification

Outline guide specification for custom air handling units. Edit to suit the project and coordinate with Divisions 01, 23, 25 and 26. Values in brackets are choices for the specifier.

PART 1 GENERAL

1.1 Summary: Factory-assembled custom air handling units as scheduled, including casing, coils, fans, filters, dampers and accessories.

1.2 References: AHRI 430, AHRI 1350, ANSI/AMCA 210, AMCA 300, ASHRAE 52.2, ASHRAE 62.1, ASHRAE 90.1, UL 1995 / CSA C22.2 No. 236, editions as adopted by the authority having jurisdiction.

1.3 Submittals: performance data at scheduled conditions; fan curves; sound power by octave band; general-arrangement drawings with section lengths, weights and connection locations; wiring diagrams; casing leakage and deflection test procedure.

1.4 Quality assurance: units shall be listed to UL 1995 / CSA C22.2 No. 236. Manufacturer shall run-test each unit at the factory and provide a test report.

1.5 Warranty: as stated in the manufacturer's quotation, starting at [startup] [shipment].

PART 2 PRODUCTS

2.1 Casing: [2 in.] [4 in.] double-wall panels, galvanized steel exterior, [solid galvanized] [perforated] [stainless] liner, with a thermal break between inner and outer skins. Panel deflection not to exceed L/240 at [±8] in. w.g. Casing leakage not to exceed [1%] of design airflow at design static pressure.

2.2 Base: welded structural steel base rail with lifting lugs, sized for rigging of each shipping section.

2.3 Access doors: double-wall, same construction as the casing, with [two] latching handles operable from inside and outside, and viewports where scheduled.

2.4 Fans: [direct-drive plenum fan array with EC or PM motors, sized for N+1 redundancy] [single plenum fan]. Fan wheels statically and dynamically balanced. Provide [backdraft dampers] [blank-off plates] for each fan in an array.

2.5 Coils: AHRI 410 rated, [copper] [stainless] tubes, aluminum fins, face velocity not to exceed [500] fpm for cooling coils. Stainless steel IAQ drain pans sloped in two directions.

2.6 Filters: [MERV 8 pre-filters] and [MERV 14 final filters] in side-access or front-load racks, with differential pressure gauges.

2.7 Energy recovery: [enthalpy wheel with purge sector] [fixed-plate exchanger] [run-around loop] with frost control as scheduled.

2.8 Dampers: low-leakage airfoil dampers with seals, [parallel] [opposed] blade, as scheduled.

PART 3 EXECUTION

3.1 Installation: install level on a housekeeping pad or curb per the manufacturer's instructions. Trap condensate drains to suit fan pressure.

3.2 Field assembly: reassemble split or knockdown units per the manufacturer's instructions and verify casing leakage after assembly.

3.3 Startup: manufacturer's representative to perform startup, verify fan rotation, vibration and airflow, and train the owner's staff.