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**Mechanical Specifications**

**GENERAL DESCRIPTION – VERTICAL FAN COIL UNITS**

**STY** – Vertical Recessed Cabinet

**STW** – Vertical Recessed Wide Cabinet

**PART 1 – GENERAL**

1.1 SUMMARY

A. This section includes fan coil units and accessories.

1.2 SYSTEM DESCRIPTION

A. Vertical Fan Coil Units

B. [2-pipe cooling only] [2-pipe heating only] [2-pipe heat/cool]

C. Concealed cabinets that are floor mounted

1.3 QUALITY ASSURANCE

A. Fan coils shall be Certified and Listed in accordance with AHRI Standard 440-2019.

B. [Each hydronic coil shall be factory tested for leakage at [350] [400] [450] psig air pressure with coil submerged in water.]

C. Base or “standard” units shall be ETL listed.

D. IEC certified as an ISO 9001:2015 quality management system and ISO14001:2015 environmental management system organization.

1.4 DELIVERY, STORAGE AND HANDLING

A. Unit shall be handled and stored in accordance with the manufacturer’s instructions.

**PART 2 – PRODUCTS**

2.1 MANUFACTURER

A. Basis of design shall be fan coils by International Environmental Corporation.

2.2 CONFIGURATION

A. General:

1. Factory assembled vertical fan coil units complete with coil, fan, motor, drain pan, and all required wiring, piping and controls.

2. Cabinet shall be made of heavy 18 gauge galvanized steel.

3. The interior surfaces shall be lined with [1/2˝ thick standard fiberglass] [1/2˝ foil faced] [1/4˝ closed cell] insulation. Insulation and adhesive shall meet NFPA-90A requirements for flame spread and smoke generation.

4. Adhesive shall be certified according to the GREENGUARD Indoor Air Quality (IAQ) Certification for Low Emitting Products. Reference Standard: GGPS.001 GREENGUARD IAQ Standard for Building Materials, Finishes, and Furnishings. Reference Standard: GGPS.002 GREENGUARD Children & SchoolsSM Standard.

5. Units shall have a combination condensate drain pan and fan deck constructed of 16-gauge stainless steel extending the entire width of the coil.

6. Stainless steel pans shall be externally coated with 2-part closed cell foam insulation.

7. Units shall have [non-woven synthetic throwaway] [pleated MERV 8] filter.

B. STY, STW Vertical Recessed Wall (Stud) Units:

1. Front panel shall be supplied with stamped supply and return grilles.

2. Front panel shall be fastened with tamper proof quarter-turn fasteners.

3. Cabinet shall be painted with an [Arctic White] [color determined by Architect] powder-coat.

4. [STW units shall be furnished with extended side compartment and plastic auxiliary drip pan.]

2.3 CERTIFICATION

A. Safety Agency:

1. Units shall be listed by ETL indicating the units comply with the minimum requirements of the U.S. and Canadian national product safety standard, ANSI/UL Standard 1995, and with CAN/CSA C22.2 No. 236.

B. Capacities:

1. Fan coil capacities are certified and listed in accordance with AHRI Standard 440-2019.

2.4 MATERIALS

A. Coils:

1. All coils shall have 1/2˝ copper tubes, [manual] [automatic] air vent(s), and [aluminum fins, galvanized end sheet], 10 fins per inch spacing. Coil fins shall be mechanically bonded to copper tubes.

2. Copper tubes must comply with ASTM B-75.

3. Fin thickness shall be 0.0045˝.

4. Tube thickness shall be 0.016˝.

5. Coil rows shall be as indicated on the drawings

B. Valves:

1. For installation in a 2-Pipe system, unit shall be equipped with:

A. Valve size shall be ½” as shown on the drawings.

B. [2] manual ball valves for service

C. [1] motorized control valve, 300 psig service:

a. Primary - [25 psid close-off paddle-type] [150 psid normally closed ball-type] [150 psid normally open ball-type] with quick-release actuator.

2. Valve package shall be equipped with specialty devices as indicated on the drawings.

A. Coil connections – [standard factory arrangement] [unions at the coil]

C. Fans:

1. Fans shall be direct-drive, double-width fan wheels with forward-curved blades.

2. Blower wheels shall be statically and dynamically balanced.

3. Scrolls and fan wheels shall be constructed of galvanized steel.

4. Shall be easily removable.

D. Motors:

1. Motors shall be 3-speed, single phase, 60 Hz permanent shaded-pole type for 115 volts, permanently lubricated ball bearings.

2. Motors shall be connected with quick connect electrical plugs.

3. Motors shall have internal thermal overload protection with automatic reset.

E. Controls:

1. Controls Voltage:

a. Unit shall be equipped with line voltage control.

2. Control Package shall be equipped with specialty devices listed below:

a. [Thermostat]

i. [line voltage thermostat]

c. [3-speed, 4-position fan switch on a wall plate for field installation.]

F. Operating Characteristics:

1. A 2-pipe system shall be capable of providing heating or cooling as determined by the operating mode of the central water supply system. [Pipe temperature sensor shall control the sequence of the thermostat, as indicated on the drawings.]

G. Electrical Requirements

1. Standard unit shall operate on 115 volts, single phase, 60Hz electrical power.

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| A picture containing drawing  Description automatically generated |  |
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