GENERAL DESCRIPTION

MPY – Modular Hi-Rise Concealed

MXY – Modular Hi-Rise Cabinet

MAY/MBY – Modular Hi-Rise Concealed Ditto – Two units share the same riser set. Both units are completely piped to the common riser set and shipped as a coupled pair with a common riser chase.

MMY/MSY – Modular Hi-Rise Concealed Primary/ Secondary – Two units share the same riser set. The Primary unit is completely piped to the riser set. The units are shipped separately and the Secondary unit is field piped to the Primary riser set.

NOTE: These are general mechanical specifications. Please refer to www.iec-okc.com for more detailed specifications.

PART 1

1.1 SUMMARY

This section includes fan coil units and accessories.

1.2 SYSTEM DESCRIPTION

Modular Hi-Rise Fan Coil Units, 2-pipe, 4-pipe, or 2-pipe with electric heat, concealed or exposed cabinets that are floor mounted; direct connected to optional factory supplied risers.

1.3 QUALITY ASSURANCE

Coils shall be tested in accordance with AHRI Standard 440. Each coil shall be factory tested for leakage at 300 psig air pressure with coil submerged in water. Insulation and adhesive shall meet NFPA-90A requirements for flame spread and smoke generation.

Base or "standard" units shall be ETL listed.

1.4 DELIVERY, STORAGE AND HANDLING

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

PART 2. PRODUCTS

2.1 MANUFACTURER

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

2.2 CONFIGURATION

A. General:

Factory assembled Modular Hi-Rise fan coil units complete with water coil with integrated motorized control valve, fan, motor, drain pan, and all required wiring, piping and controls.

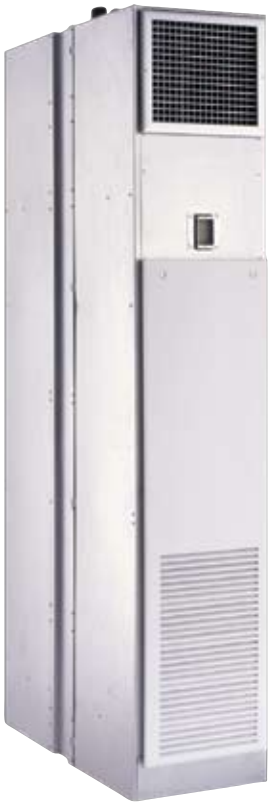
B. MXY Exposed Modular Hi-Rise Units:

1. Outside panels shall be multi-bend and made of heavy gauge galvanized steel with powder-coat finish and are fabricated with no exposed fasteners.
2. Interior surfaces shall be lined with 1/2" standard fiberglass (1/2" premium IAQ fiberglass with sealed edges, 1/2" foil face with taped edges, or 1/4" closed cell) insulation.
3. Units shall be supplied with aluminum double deflection supply air grille(s) and a steel stamped return air grille/ access panel with (or without) control access door.
4. Controls shall be factory wired and accessible from front of unit.
5. Drains shall be factory piped to the drain riser with a removable/cleanable "p-trap."
6. Galvanized drain pans shall be internally coated with a 2-part closed cell foam insulation.
7. Units shall have internal piping from coil and drain to risers.
8. Units shall have 1" throwaway non-woven synthetic (permanent or MERV 8 pleated) filters.
9. Units shall have removable acoustical service accesss panel.

C. MPY Concealed Modular Hi-Rise Units:

1. Units shall be constructed of heavy-gauge galvanized steel frame and back panel.
2. Interior surfaces shall be lined with 1/2" standard fiberglass (1/2" premium IAQ fiberglass with sealed edges, 1/2" foil face with taped edges, or 1/4" closed cell) insulation.
3. Units shall be designed to have wallboard applied directly to the unit surface.
4. Units shall have an optimal double deflection aluminum discharge grille(s) and painted, stamped steel return air grille/access panel.
5. Removable return air/ access panel shall provide access to all internal components.
6. Controls shall be provided with a quick connect plug for field-mounting of thermostat on the front of unit.
7. Drain pans shall be factory piped to the drain riser with a removable/cleanable "p-trap".
8. Galvanized (or removable stainless steel) drain pans shall be internally coated with a 2 part closed cell foam insulation.
9. All valve package piping to coil(s) and risers shall be factory installed.
10. Units shall have 1" throwaway non-woven synthetic (permanent or MERV 8 pleated) filters.
11. Units shall have acoustical service access panel.

D. MAY/MBY Ditto Concealed Modular Hi-Rise Units:



Two Concealed Modular units shall share a common riser set and will be shipped joined together by a common UL one hour fire rated riser chase.

E. MMY/MSY Primary/ Secondary Concealed Modular Hi-Rise Units:

Two Concealed Modular units share a riser set, but are shipped separately.

2.3 CERTIFICATION

A. Safety:

IEC's Modular Hi-Rise Series units are listed by ETL. The C-ETL-US listing signifies that IEC's fan coil units have been examined by ETL and are in compliance with both the U.S. and Canadian applicable standards.

B. Capacities:

Coil capacities are tested in accordance with ARI Standard 410.

2.4 MATERIALS

A. Coils:

All coils shall have 1/2" O.D. copper tubes, manual (or automatic) air vent, and aluminum fins, 14 fins per inch spacing. Coil fins shall be mechanically bonded to copper tubes. Copper tubes must comply with ASTM B-75. Fin thickness shall be 0.0045" and tube thickness shall be 0.016". All coils shall be leak tested with air at 300 psig under water.

1. For installation in a 2-pipe system, unit shall be equipped with:
   a. 3-row or 4-row coil as shown on equipment drawings

b. 2 ball valves

c. 1 circuit setter (or fixed flow control valve)

d. 1 motorized control valve

2. For installation in a 4-pipe system, unit shall be equipped with:

a. 3/1, 3/2 or 4/1 row-split coil, as shown on equipment drawings

b. 4 ball valves

c. 2 circuit setters (or fixed flow control valve)

d. 2 motorized control valves

B. Motorized Control Valves:

1. Shall be rated at 300 psig.
2. Shall be rated to operate with fluid temperatures from 40° F to 180° F.
3. Normally closed valve shall be powered open with spring driven closure.

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. Fans shall be easily removable.

D. Fan Motors:

1. Motors shall be 3-speed, single phase, 60 Hz permanent split capacitor type for 115 V (208 V, 230 V, or 277 V), permanently lubricated, with sleeve bearings.
2. Motors shall be equipped with quick connect electrical plugs.
3. Motors shall have thermal overload protection with automatic reset.
4. Motors shall be factory mounted on the blower housing.

E. Electric Heaters:

Unit shall be equipped with nichrome wire electric strip heaters for total or auxiliary electric heat as specified on the equipment schedule.

1. Heaters shall be protected by an automatic reset safety cutout switch and a fusible link.
2. Heater capacity shall be as specified on the equipment schedule.
3. Heaters shall be single phase, 120 V (208 V, 240 V, or 277 V) as specified on the equipment schedule.

F. Controls:

1. Manual (or Auto) changeover heating/cooling thermostat with integral 3-speed fan switch
2. Continuous (or cycling) fan
3. Motorized outside air damper
4. Water temperature sensing for 2-pipe CW/HW system changeover
5. Unit (wall or surface) mounted thermostat
6. Line (or low) voltage components
7. Standard (or digital) display
8. Condensate overflow level switch to shut down unit when water is at unsafe level

G. Safeties:

1. Fan motors shall include thermal overloads.
2. Electric heaters shall include thermal overloads with fusible link back-up.
3. Equipment shall be supplied with a service switch and unit fusing.
4. Electric heat units shall also include blower motor and control sub-fusing.

H. Electrical Requirements:

Standard unit shall operate on 115 V (208 V, 230 V, or 277 V), single phase, 60 Hz electrical power, and all externally exposed wiring shall be in flexible conduit.

I. Options and Accessories:

1. Risers (included standard on Ditto):
    a. Supply risers shall be 1 to 2-1/2" diameter as shown on the equipment drawings.
    b. Length of risers shall be as specified on the equipment drawings.
    c. Supply and return risers shall be Type M (or L) copper.
    d. Drain riser shall be Type M copper.
    e. Insulation on risers shall be 1/2" (or 3/4") thick closed cell insulation or 1/2" (or 1") fiberglass insulation.
2. Supply grille:
    a. Double-deflection aluminum finish supply grille(s) shall be furnished for field installation.
    b. Double-deflection aluminum finish supply grille(s) with opposed blade damper shall be furnished for field installation on two or more discharge units only.
3. Return air panels (or grilles) shall be supplied as shown on the drawings.
4. Unit shall be supplied with a sight and acoustical baffle in the supply air plenum in units with two discharge grilles.
5. An outside air opening shall be provided as shown on the equipment drawings.
6. Galvanized riser chase.