FAN COILS

Apartment Vertical Standard Configurations

1. Furnish and install Superior Rex model AVC vertical high-output fan coils of sizes and capacities shown on the plans to meet prevailing cooling and heating requirements.
2. Fan coils shall be performance certified to AHRI Standard 440.
3. Units shall be wired in compliance with ANSI/UL 1995 Standard and listed with ETL.
4. Fan coils shall be sound tested in accordance with AHRI Standard 260 for ducted units and AHRI Standard 350 for non-ducted units. Manufacturer shall provide these dB ratings on request for each model specified.
5. Unit casing shall be 18-gauge, zinc coated, phosphate treated, G90 galvanized steel.
6. High-efficiency, 3-row coil shall be suitable for a 2-pipe system. Coils shall be manufactured with aluminum fins mechanically bonded to seamless copper tubes. The copper tubes shall be ½-inch OD with a wall thickness of 0.014-inch which comply with ASTM B-75. The fins shall be waved with ripple edges for superior efficiency with a thickness of 0.0045-inch and spaced at 10 fpi. Coils rated to 300 psi operational pressure. All coils shall be shipped with a safety air pressure of 30 - 50 psi to guarantee a leak free arrival at the final destination. Unit pipe entry location shall be in accordance with the project schedule.
7. Coil shall be installed with manual Schrader type air vents with a sealing cap and be located at the highest point of the coil. The cap shall have a dual purpose, to seal any potential water leakage in the eventuality of Schrader valve failure and as a service tool for the extraction/insertion of the internal Schrader valve.
8. Filter shall be 1-inch nominal thickness of the disposable type with a one-piece moisture resistant chipboard frame to eliminate corner separations. The spun glass filtering media shall be bonded with a resinous agent providing rigidity and resistance to media compression and meets UL class 2.
9. Cabinet shall be lined with ½-inch dual-density fiberglass with a density of 1.5lbs/ft^3 and 4.0lbs/ft^3 for the face meeting NFPA 90A and 90B (appliances), NFPA 255, UL 181, UL723 and ASTM E84.
10. Motor(s) shall be multi-speed of the permanent split capacitor type (PSC) and be directly coupled to the centrifugal fan blower. Motor shall be suitable for a power supply of 115V/1Ph/60Hz and shall be internally protected with an automatic thermal overload. Motor shaft shall be supported by sleeve bearings of the permanently lubricated type for the full life expectancy of the motor. All motors shall be directly mounted to the fan blower and be isolated from the unit casing by three resilient anti-vibration mounts.
11. Direct-driven fan(s) shall be of the whisper quite type, Double Width Double Inlet (DWDI) forward curved statically and dynamically balanced at the factory. The fan wheel and casing shall be constructed of galvanized steel.
12. Electric components shall be wired to a single control panel for single point power supply. Wiring exposed to the outside of the units shall be installed in conduits to meet UL 1995 safety requirements.
13. Condensate pans shall be single-wall 18-gauge G90 galvanized steel welded at the corners, thermally insulated on the outside with ½-inch dual-density fiberglass with a density of 1.5lbs/ft^3 and 4.0lbs/ft^3 for the face meeting NFPA 90A and 90B (appliances), NFPA 255, UL 181, UL723 and ASTM E84 (Consult Superior Rex for availability).
14. The factory installed ⅞-inch OD sweat copper condensate connection shall be located at the lowest point of the condensate pan to ensure all water drains from the condensate pan.
15. Discharge air flange(s) shall be 1-inch to facilitate the connection of field ducts.

FAN COILS

Apartment Vertical Optional Configurations

COOLING AND HEATING COIL

1. High-efficiency 4-, 5- and 6-row coils suitable for 2-pipe systems, or
2. High-efficiency single block with 2, 3, 4 and 5-rows chilled water (CW) with 1-row re-heat/pre-heat coil suitable for 4-pipe system applications, or
3. High-efficiency single block with 2, 3 and 4 rows chilled water (CW) with 2-row re-heat/pre-heat coil suitable for 4-pipe system applications.

FILTER

1. Filter shall be 1-inch pleated filter with an average atmospheric dust spot efficiency range of 20 - 30% per ASHRAE Standard 52.1 test method or,
2. Filter shall be 1-inch washable filter consisting of synthetic fibers coated with a special resin, then baked together at a high temperature resulting in a tough and springy, thoroughly bonded, nearly rigid air filtration media. Washable filters shall have a longer service life, better structural integrity as well as being completely odor free.
3. A spare set of filters shall be available for replacement after the commissioning of the unit and prior to the handover of the project.

CABINET INSULATION

Cabinet liners shall be 1-inch dual-density fiberglass with a density of 1.5lbs/ft^3 and 4.0lbs/ft^3 for the face meeting NFPA 90A and 90B (appliances) and NFPA 255 with less than 25 flame and less than 50 smoke spread, UL 181, UL723 and ASTM E84.

MOTOR AND MOTOR ACCESSORIES

1. Motors shall be suitable for 115V/1Ph/60Hz or 208V/1Ph/60Hz or 230V/1Ph/60Hz or 277V/1Ph/60Hz power supplies (delete as applicable).
2. A motor in-line quick disconnect shall be installed to facilitate the removal/replacement of motor.

THERMOSTAT AND ACCESSORIES

Refer to the Accessories section for details.

DISCONNECT SWITCH AND FUSES

Units shall be wired for single point power supply with a disconnect switch and fuse(s) to match the unit full maximum circuit ampacity (MCA) in line with UL 1995.

TWO-PIPE HEAT/COOL AUTO CHANGEOVER SWITCH

A mechanical changeover switch shall be supplied on 2-pipe systems to automatically change over the operation of the thermostat for summer and winter modes.

ELECTRIC HEATER AND ACCESSORIES

1. Electric heaters shall be of the wound type mounted in a metal frame and supported by ceramic rings and terminals. Electric heaters shall installed on the blower and coil discharge side for better heat dissipation and shall include an automatic reset high limit cut-out and contactor.
2. 2-pipe standby electric heating - heaters shall be installed and pre-wired as standby heating for the eventuality of a failure of the primary hot water (HW) system. A changeover sensor shall be installed in each unit and the changeover between the failed hot water system and the standby electric heater shall be automatic.

CHILLED AND HOT WATER VALVE CONTROLS

Refer to the Accessories section for details.

CONDENSATE PAN AND ACCESSORIES

1. Condensate pan shall be single wall manufactured in 20-gauge 304 stainless steel and shall be thermally protected on the outside with ½-inch dual-density fiberglass with a density of 1.5lbs/ft^3 and 4.0lbs/ft^3 for the face meeting NFPA 90A and 90B (appliances), NFPA 255, UL 181, UL723 and ASTM E84.
2. An automatic safety overflow switch shall be installed in the condensate pan and shall prevent the operation of the unit electric system if an overflow status is detected.