

## MECHANICAL SPECIFICATIONS:

### GENERAL

- GENERAL SCHEMATIC LAYOUT IS INDICATED; ALL OFFSETS, OBSTRUCTIONS, AND CONSTRAINTS MUST BE FIELD VERIFIED.
- OBTAIN NECESSARY PERMITS AND PAY ASSOCIATED FEES.
- INSTALL ALL COMPONENTS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND ALL LOCAL CODES AND STANDARDS.
- DRAWINGS ARE DIAGRAMMATIC ONLY; FIELD-VERIFY ALL EXISTING CONDITIONS. COORDINATE INSTALLATIONS WITH OTHER TRADES. COORDINATE ELECTRICAL POWER REQUIREMENTS FOR ALL MOTORS.
- THE INTENTION OF THESE CONTRACT DOCUMENTS IS TO CALL FOR FINISHED WORK, FULLY TESTED AND READY FOR OPERATION. ANY COMPONENTS OR LABOR NOT MENTIONED IN THE CONTRACT DOCUMENTS BUT REQUIRED FOR FUNCTIONING SYSTEMS SHALL BE PROVIDED. SHOULD THERE APPEAR TO BE ANY DISCREPANCIES OR QUESTIONS OF INTENT, THE CONTRACTOR SHALL REFER THE MATTER TO THE ARCHITECT FOR DECISION BEFORE START OF ANY RELATED WORK.
- PERFORM WORK IN ACCORDANCE WITH LOCAL CODES.
- SEAL ALL DUCT AND PIPE PENETRATIONS WITH FIRE SEALANT.

### METAL DUCTWORK

- GALVANIZED STEEL DUCTWORK: ASTM A653 GALVANIZED STEEL SHEET, LOCK-FORMING QUALITY, AND G90 ZINC COATING.
- ALL DUCTWORK SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS.
- CONSTRUCT DUCT SYSTEMS SO THAT LEAKAGE DOES NOT EXCEED ONE PERCENT OF THE TOTAL AIR QUANTITIES. SEAL ALL DUCT JOINTS WITH GASKETED CONNECTIONS, DUCTMATE, OR EQUAL.
- INSTALL DIFFUSERS TO DUCTWORK WITH AIRTIGHT CONNECTION. SEAL GAPS BETWEEN SURFACE MOUNTED AIR INLETS AND OUTLETS AIRTIGHT. DUCT SEALANTS SHALL BE WATER BASED PRODUCTS.
- HANGERS AND SUPPORTS: ANSI B31.1.
- PROVIDE VOLUME DAMPERS AT BRANCH DUCTS AS SHOWN ON THE DRAWINGS.
- PROVIDE DUCT ACCESS DOORS AT ALL COMPONENTS THAT REQUIRE SERVICING; INCLUDING BUT NOT LIMITED TO CONTROL DAMPERS, TEMPERATURE CONTROL DEVICES, AND FIRE DAMPERS. PROVIDE SHEET-ROCK CEILING ACCESS PANELS WHERE REQUIRED.

### MECHANICAL INSULATION

- ALL SUPPLY DUCTS SHALL BE EXTERNALLY INSULATED WITH FIBERGLASS DUCT WRAP EQUAL TO SCHULLER MICOLITE TYPE 75, ASTM C533, NONCOMBUSTIBLE BLANKET, 1-1/2" THICK.
- ALL COOLING COIL CONDENSATE PIPING SHALL BE INSULATED WITH 1/2" FIBERGLASS INSULATION WITH FSK JACKET.
- ALL INTERIOR REFRIGERANT SUCTION PIPING SHALL BE INSULATED WITH 1" CLOSED-CELL FLEXIBLE ELASTOMERIC INSULATION EQUAL TO ARMAFLEX. ALL JOINTS SHALL BE SEALED WITH VAPOR BARRIER JOINT SEALANT, ARMAFLEX 520 OR EQUAL.
- ALL EXTERIOR REFRIGERANT SUCTION PIPING SHALL BE INSULATED WITH 1" CLOSED-CELL FLEXIBLE ELASTOMERIC INSULATION EQUAL TO ARMAFLEX. ALL JOINTS SHALL BE SEALED WITH VAPOR BARRIER JOINT SEALANT, ARMAFLEX 520 OR EQUAL. INSULATION SHALL BE COATED WITH UV PROTECTIVE COATING, ARMAFLEX WB FINISH OR EQUAL.

### TESTING, ADJUSTING, AND BALANCING

- CONTRACTOR SHALL PROVIDE TESTING, ADJUSTING, AND BALANCING FOR ALL AIR SYSTEMS.
- ADJUST ALL AIRFLOWS TO PLUS/MINUS 5% OF VALUES SHOWN ON THE DRAWINGS.
- TAB CONTRACTOR SHALL CONFIRM THAT ALL EQUIPMENT IS INSTALLED CORRECTLY AND STARTED UP CORRECTLY PRIOR TO BALANCING.
- TAB CONTRACTOR SHALL SUBMIT A TAB REPORT AT THE COMPLETION OF WORK.

### PLUMBING FIXTURES

- PROVIDE ALL FIXTURES WITH STOP VALVES AND SUPPLIES AND FIXTURE TRAPS AS REQUIRED.
- REFER TO ARCHITECTURAL DOCUMENTS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS OF ALL PLUMBING FIXTURES.

### PLUMBING EQUIPMENT AND SPECIALTIES

- TRAP PRIME ALL FUNNEL DRAIN TRAPS REQUIRED FOR INDIRECT WASTE USING PRESSURE DIFFERENTIAL OR SIMILAR TYPE VALVES.
- PROVIDE ACCESS AND ACCESS PANELS TO PROVIDE ACCESSIBLE EQUIPMENT AND SPECIALTIES. CONFIGURATION AND TRIM AS REQUIRED BY FINISH WALL SURFACE. APPROVED MANUFACTURERS INCLUDE KARP, MILCOR, NYSTROM, OR APPROVED EQUAL.

### PLUMBING PIPING

- PROVIDE ALL PIPING COMPLETE WITH FITTINGS, VALVES, STRAINERS, MOTORIZED VALVE OPERATORS, STRAINERS, HANGERS, SUPPORTS, GUIDES, SLEEVES, AND ACCESSORIES.
- ALL PRESSURIZED PIPING TO BE TESTED HYDROSTATICALLY TO 150 PSI OR 150% OF OPERATING PRESSURE, WHICHEVER IS GREATER, BUT NEVER EXCEED TEST PRESSURE ANSI B16.1 BASIS. TEST DURATION TO BE 2 HOURS WITH NO PRESSURE CHANGE CORRECTED FOR TEMPERATURE CHANGE.
- DRAINAGE AND VENT PIPING SHALL BE TESTED. CAP ALL OUTLETS AND FILL PIPING SYSTEM TO OVERFLOWING FROM A POINT AT LEAST 10 FT ABOVE THE FLOOR. WATER LEVEL SHALL REMAIN CONSTANT THROUGHOUT A 2 HOUR TEST DURATION.
- REPAIR OR REPLACE LEAKS OR DEFECTS WITHOUT ADDITIONAL COST.
- PROVIDE DIELECTRIC FITTINGS WHERE DISSIMILAR METALS ARE TO BE JOINED.
- PROVIDE ADEQUATE SUPPORT FOR PIPE AND CONTENTS TO PREVENT SAGGING, VIBRATION, OR SWAYING AND ALLOW FOR EXPANSION AND CONTRACTION. PROVIDE SUPPLEMENTAL STEEL AS REQUIRED WHERE STRUCTURE CANNOT SUPPORT POINT LOADS.
- ALL EXPOSED PIPING PASSING THROUGH WALLS, FLOORS, CEILINGS, AND PARTITIONS SHALL BE PROVIDED WITH CHROME PLATED CAST BRASS ESCUTCHEONS HELD IN PLACE WITH SET SCREWS.
- PROVIDE CONTINUOUS 1" FIBERGLASS INSULATION FOR ALL DOMESTIC HW PIPING. PROVIDE CONTINUOUS 1/2" FIBER-GLASS INSULATION FOR ALL DOMESTIC CW AND CD PIPING.
- ALL INSULATION SHALL HAVE COMPOSITE FIRE AND SMOKE HAZARD RATINGS THAT SHALL NOT EXCEED A FLAME SPREAD OF 25 AND A SMOKE DEVELOPED RATING OF 50.
- ABOVE GRADE SANITARY DRAINAGE AND VENT PIPING: SCHEDULE 40 PVC.
- DOMESTIC CW AND HW PIPING SHALL BE COPPER, TYPE L, HARD DRAWN IN ACCORDANCE WITH ASTM B88, AND LEAD-FREE SOLDER JOINTS.
- INSPECTIONS AND TESTS SHALL BE PERFORMED ON THE PIPING INSTALLATION AS REQUIRED BY CODE.
- PITCH SANITARY DRAINAGE PIPING AT 1/4" PER FT. PITCH DOMESTIC CW, HW, AND VENT PIPING TOWARDS SOURCE.

### GAS-FIRED CONDENSING FURNACE

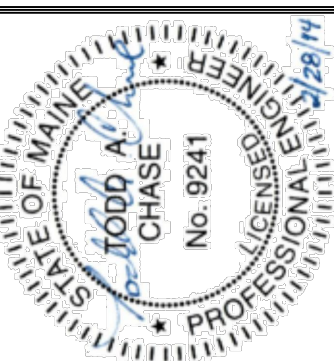
- PROVIDE AND INSTALL A GAS-FIRED CONDENSING FURNACE AS SCHEDULED.
- FURNACE BASIS OF DESIGN IS TRANE XC95m.
- THE GAS VALVE SHALL MODULATE FROM 40% TO 100% TO MATCH HEATING CAPACITY TO HEATING LOAD.
- THE FURNACE SHALL HAVE FULL COMMUNICATING CONTROLS. BASIS OF DESIGN COMFORTLINK II.
- FURNACE SHALL BE CERTIFIED TO LEAK 2% OR LESS OF NOMINAL AIR CONDITIONING CFM DELIVERED WHEN PRESSURIZED TO 0.5" W.C. WITH ALL INLETS, OUTLETS AND DRAINS SEALED.
- INTEGRATED SYSTEM CONTROL SHALL INCLUDE SOLID STATE FLAME MONITORING, DUAL SOLENOID COMBINATION GAS VALVE AND REGULATOR.
- HEAT EXCHANGER SHALL BE CONSTRUCTED OF HEAVY GAUGE ALUMINIZED STEEL. A LOW-ENERGY POWER VENT BLOWER SHALL BE USED TO INCREASE EFFICIENCY AND PROVIDE A POSITIVE DISCHARGE OF GAS FUMES TO THE OUTSIDE.
- AN AL29-4C STAINLESS STEEL SECONDARY HEAT EXCHANGER SHALL RECLAIM FLUE GAS HEAT.
- THE BLOWER SHALL BE CONTROLLED BY A VARIABLE SPEED MOTOR.
- PROVIDE TRANE COMFORTLINK II ZONING CONTROLS FOR THE 3RD FLOOR HVAC SYSTEM. PROVIDE COMFORTLINK II CONTROL INTERFACE AND WIRED ZONE THERMOSTATS/SENSORS, AND MODULATING MOTORIZED DAMPERS AS SHOWN ON THE DRAWINGS.
- PROVIDE TRANE CLEANEFFECTS AIR CLEANING SYSTEM FOR THE 3RD FLOOR HVAC SYSTEM.

### ENERGY RECOVERY VENTILATORS

- PROVIDE AND INSTALL ENERGY RECOVERY VENTILATORS AS SCHEDULED.
- ERV SHALL BE A PACKAGED UNIT AND SHALL TRANSFER BOTH HEAT AND HUMIDITY USING STATIC PLATE CORE TECHNOLOGY. BASIS OF DESIGN IS RENEWAIRE MODEL EV90.
- THE ERV SHALL BE CERTIFIED BY THE HOME VENTILATING INSTITUTE UNDER CSA 439.
- THE UNIT SHALL BE UL TESTED TO VERIFY THE CORE MEETS A MAXIMUM FLAME SPREAD INDEX OF 25 AND A MAXIMUM SMOKE DEVELOPED INDEX OF 50 AS REQUIRED IN NFPA 90A.
- THE ERV CORE SHALL BE WARRANTED FOR 10 YEARS AND THE BALANCE OF THE UNIT SHALL BE WARRANTED FOR 5 YEARS.
- ENERGY TRANSFER: THE ERV SHALL BE CAPABLE OF TRANSFERRING BOTH SENSIBLE AND LATENT ENERGY BETWEEN AIRSTREAMS.
- PASSIVE FROST CONTROL: THE ERV CORE SHALL PERFORM WITHOUT CONDENSING OR FROSTING UNDER NORMAL OPERATING CONDITIONS (ABOVE -10°F AND INSIDE RH BELOW 40%). NO CONDENSATE DRAINS WILL BE ALLOWED.
- CONTINUOUS VENTILATION: UNIT SHALL HAVE THE CAPACITY TO OPERATE CONTINUOUSLY WITHOUT THE NEED FOR BYPASS, RECIRCULATION, PRE-HEATERS, OR DEFROST CYCLES UNDER NORMAL OPERATING CONDITIONS.
- POSITIVE AIRSTREAM SEPARATION: WATER VAPOR TRANSFER SHALL BE THROUGH MOLECULAR TRANSPORT BY HYDROSCOPIC RESIN AND SHALL NOT BE ACCOMPLISHED BY "POROUS PLATE" MECHANISMS. EXHAUST AND FRESH AIRSTREAMS SHALL TRAVEL AT ALL TIMES IN SEPARATE PASSAGES, AND AIRSTREAMS SHALL NOT MIX.
- THE UNIT CASE SHALL BE CONSTRUCTED OF 24-GAUGE STEEL WITH LAPPED CORNERS AND ZINC PLATED FASTENERS. THE CASE SHALL BE FINISHED WITH TEXTURED, POWDER COAT PAINT.
- CASE WALLS AND DOORS SHALL BE FULLY INSULATED WITH 1 INCH, EXPANDED POLYSTYRENE FOAM INSULATION FACED WITH A CLEANABLE FOIL FACE ON ALL EXPOSED SURFACES.
- THE ERV CORES SHALL BE PROTECTED BY A MERV-8 RATED, DISPOSABLE FILTER IN BOTH AIRSTREAMS.
- THE UNIT SHALL HAVE A LINE-CORD POWER CONNECTION AND BE SUPPLIED WITH AN INTERNAL 24VAC TRANSFORMER AND RELAY.
- PROVIDE PROPORTIONAL RUN-TIME CONTROL, AND FURNACE INTERLOCK CONTROL.

### MULTI-ZONE SPLIT SYSTEMS

- SYSTEM DESCRIPTION
  - THE HEAT PUMP AIR CONDITIONING SYSTEM SHALL BE A VARIABLE CAPACITY MULTI-ZONE SERIES.
  - THE SYSTEM BASIS OF DESIGN IS MITSUBISHI ELECTRIC MXZ-B.
  - THE SYSTEM SHALL CONSIST OF 2 TO 8 SLIM SILHOUETTE, COMPACT WALL MOUNTED INDOOR FAN COIL SECTIONS WITH DIGITAL WIRELESS REMOTE CONTROLLER CONNECTED TO A COMPACT HORIZONTAL DISCHARGE OUTDOOR UNIT OF INVERTER DRIVEN HEAT PUMP DESIGN.
- QUALITY ASSURANCE
  - TRAP SYSTEM COMPONENTS SHALL BE TESTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY AND SHALL BEAR THE ETL LABEL.
  - ALL WIRING SHALL BE IN ACCORDANCE WITH THE NEC.
  - THE UNITS SHALL BE RATED IN ACCORDANCE WITH AHRI STANDARD 240 AND SHALL BEAR THE AHRI CERTIFICATION LABEL.
  - A DRY AIR HOLDING CHARGE SHALL BE PROVIDED IN THE INDOOR SECTIONS.
  - SYSTEM EFFICIENCY SHALL MEET OR EXCEED 14.7 SEER WHEN PART OF A MULTI-SYSTEM.
- WARRANTY
  - THE UNITS SHALL HAVE A MANUFACTURER'S PARTS AND DEFECTS WARRANTY FOR A PERIOD OF 5 YEARS FROM DATE OF INSTALLATION. THE COMPRESSOR SHALL HAVE AN EXTENDED WARRANTY PERIOD OF 7 YEARS FROM DATE OF INSTALLATION. IF, DURING THIS PERIOD, ANY PART SHOULD FAIL TO FUNCTION PROPERLY DUE TO DEFECTS IN WORKMANSHIP OR MATERIAL, IT SHALL BE REPLACED OR REPAIRED AT THE DISCRETION OF THE MANUFACTURER. THE WARRANTY DOES NOT INCLUDE LABOR.
- OUTDOOR UNITS:
  - THE OUTDOOR UNIT SHALL BE COMPLETELY FACTORY ASSEMBLED, PIPED AND WIRED. EACH UNIT SHALL BE RUN TESTED AT THE FACTORY PRIOR TO SHIPMENT.
  - UNIT CABINET:
    - THE CASING SHALL BE FABRICATED OF GALVANIZED STEEL, BONDERIZED, FINISHED WITH AN ELECTROSTATICALLY APPLIED, THERMALLY FUSED ACRYLIC OR POLYESTER POWDER COATING FOR CORROSION PROTECTION. ASSEMBLY HARDWARE SHALL BE CADMIUM PLATED FOR WEATHER RESISTANCE.
    - FURNISH TWO MILD STEEL MOUNTING FEET, TRAVERSE MOUNTED ACROSS THE CABINET BASE PAN, WELDED MOUNT, AND PROVIDING 4 SLOTTED MOUNTING HOLES. ASSEMBLY SHALL WITHSTAND LATERAL WIND GUSTS UP TO 155 MPH.
  - FAN:
    - THE UNIT SHALL BE FURNISHED WITH A DIRECT DRIVE HIGH PERFORMANCE PROPELLER TYPE FAN.
    - THE CONDENSER FAN MOTOR SHALL BE A VARIABLE SPEED, DC MOTOR AND SHALL HAVE PERMANENTLY LUBRICATED BEARINGS.
    - THE FAN SPEED SHALL SWITCH AUTOMATICALLY ACCORDING TO THE NUMBER OF OPERATING INDOOR UNITS AND THE COMPRESSOR OPERATING FREQUENCY.
    - THE FAN MOTOR SHALL BE MOUNTED WITH VIBRATION ISOLATION FOR QUIET OPERATION.
    - THE FAN SHALL BE PROVIDED WITH A RAISED GUARD TO PREVENT CONTACT WITH MOVING PARTS.
    - THE OUTDOOR SOUND LEVEL SHALL NOT EXCEED 55 dB(A).
  - COIL:
    - THE OUTDOOR UNIT COIL SHALL BE OF NONFERROUS CONSTRUCTION WITH LANCED OR CORRUGATED PLATE FINS ON COPPER TUBING.
    - THE COIL SHALL BE PROTECTED WITH AN INTEGRAL GUARD.
    - REFRIGERANT FLOW FROM THE OUTDOOR UNIT TO THE INDOOR UNITS SHALL BE INDEPENDENTLY CONTROLLED BY MEANS OF INDIVIDUAL ELECTRONIC LINEAR EXPANSION VALVES FOR EACH INDOOR UNIT.
    - OUTDOOR UNIT SHALL BE PRE-CHARGED WITH SUFFICIENT R-410A REFRIGERANT FOR UP TO 131 FEET OF REFRIGERANT PIPING.
    - ALL REFRIGERANT LINES BETWEEN OUTDOOR AND INDOOR UNITS SHALL BE OF ANNEALED, REFRIGERATION GRADE COPPER TUBING, ARC TYPE, MEETING ASTM B280 REQUIREMENTS, INDIVIDUALLY INSULATED IN TWIN-TUBE, FLEXIBLE, CLOSED-CELL CFC-FREE ELASTOMERIC INSULATION.
    - ALL REFRIGERANT CONNECTIONS BETWEEN OUTDOOR AND INDOOR UNITS SHALL BE FLARE TYPE.
  - COMPRESSOR:
    - THE COMPRESSOR SHALL BE A HIGH PERFORMANCE, HERMETIC, INVERTER DRIVEN, VARIABLE SPEED, DUAL ROTARY TYPE.
    - THE COMPRESSOR MOTOR SHALL BE DC TYPE EQUIPPED WITH A FACTORY SUPPLIED AND INSTALLED INVERTER DRIVE PACKAGE.
    - THE OUTDOOR UNIT SHALL BE EQUIPPED WITH A SUCTION SIDE REFRIGERANT ACCUMULATOR.
    - THE COMPRESSOR SHALL BE EQUIPPED WITH AN INTERNAL THERMAL OVERLOAD.
    - THE COMPRESSOR SHALL BE MOUNTED TO AVOID THE TRANSMISSION OF VIBRATION.
  - BRANCH BOXES:
    - THE OUTDOOR UNIT SHALL HAVE A 3/8" LIQUID LINE CONNECTION AND A 5/8" GAS LINE CONNECTION. PIPE LINES RUNNING FROM THE OUTDOOR UNIT SHALL CONNECT TO A 3-PORT BOX, A 5-PORT BRANCH BOX OR A COMBINATION OF BOTH.
    - THE OUTDOOR UNIT MUST BE CONNECTED TO AT LEAST ONE BRANCH BOX. IT CAN ALSO BE CONNECTED TO TWO 3-PORT BRANCH BOXES, TO ONE 3-PORT AND ONE 5-PORT BRANCH BOX, OR TO TWO 5-PORT BRANCH BOXES (WITH 2 UNUSED PORTS).
  - ELECTRICAL:
    - THE UNIT ELECTRICAL POWER SHALL BE 208/230V, 1-PHASE, 60 HZ.
    - THE OUTDOOR UNIT SHALL BE CONTROLLED BY THE MICROPROCESSORS LOCATED IN THE INDOOR UNIT AND IN THE OUTDOOR UNIT COMMUNICATING SYSTEM STATUS, OPERATION, AND INSTRUCTIONS DIGITALLY OVER A SYSTEM THAT POWERS THE INDOOR UNITS DIRECTLY FROM THE OUTDOOR UNIT USING A 3-WIRE, 14 GAUGE AWG CONNECTION PLUS GROUND.
    - THE OUTDOOR UNIT SHALL BE EQUIPPED WITH PULSE AMPLITUDE MODULATION COMPRESSOR INVERTER DRIVE CONTROL FOR MAXIMUM EFFICIENCY WITH MINIMUM POWER CONSUMPTION.
- WALL MOUNTED INDOOR UNITS
  - GENERAL: THE INDOOR UNIT SHALL BE FULLY FACTORY ASSEMBLED, WIRED AND RUN TESTED PRIOR TO SHIPMENT. CONTAINED WITHIN THE INDOOR UNIT SHALL BE ALL FACTORY WIRING, PIPING, CONTROL CIRCUIT BOARD, FAN AND FAN MOTOR. THE UNIT SHALL HAVE A SELF-DIAGNOSTIC FUNCTION, 3-MINUTE RESTART TIME DELAY MECHANISM, AND AUTO RESTART FUNCTION, AND AN EMERGENCY / TEST OPERATION.
  - UNIT CABINET
    - THERE SHALL BE A SEPARATE BACK PLATE THAT SECURES THE INDOOR UNIT FIRMLY TO THE WALL. THE INSTALLATION-PLATE SHALL BE SECURELY ATTACHED TO THE WALL USING AN APPROPRIATE ANCHOR METHOD.
  - FAN:
    - THE INDOOR UNIT FAN ASSEMBLY SHALL HAVE A DIRECT DRIVE LINE-FLOW FAN WITH A SINGLE MOTOR.
    - THE FAN SHALL BE STATICALLY AND DYNAMICALLY BALANCED AND RUN ON A MOTOR WITH PERMANENTLY LUBRICATED BEARINGS.
    - A MANUAL ADJUSTABLE GUIDE VANE SHALL BE PROVIDED WITH THE ABILITY TO CHANGE THE AIRFLOW FROM LEFT TO RIGHT.
    - AN INTEGRAL, MOTORIZED, MULTI-POSITION, HORIZONTAL AIR SWEEP FLOW LOUVER SHALL PROVIDE FOR UNIFORM AIR DISTRIBUTION UP AND DOWN. 5 POSITIONS PLUS AUTO AND SWING SHALL BE PROVIDED AND CONTROLLED FROM THE REMOTE CONTROLLER.
    - THE INDOOR FAN SHALL OPERATE AT ONE OF 5 SPEEDS FOR MODELS UP TO 18,000 BTUH AND 4 SPEEDS FOR THE 24,000 BTUH MODEL.
  - FILTER:
    - RETURN AIR SHALL BE FILTERED BY MEANS OF AN EASILY REMOVED, WASHABLE, CATECHIN, ANTIOXIDANT PREFILTER AND SEPARATE ANTI-ALLERGY ENZYME FILTER.
  - COIL:
    - THE INDOOR UNIT COIL SHALL BE OF NON-FERROUS CONSTRUCTION WITH SMOOTH PLATE FINS ON COPPER TUBING.
    - THE REFRIGERANT TUBING SHALL HAVE INNER GROOVES FOR HIGH EFFICIENCY HEAT EXCHANGE.
    - ALL TUBE JOINTS SHALL BE BRAZED WITH PHOSCOPPER OR SILVER ALLOY.
    - THE COILS SHALL BE PRESSURE TESTED AT THE FACTORY.
    - A SLOPED, CORROSION RESISTANT CONDENSATE PAN WITH DRAIN SHALL BE PROVIDED UNDER THE COIL.
    - A DRAIN PAN LEVEL SWITCH SHALL BE PROVIDED AND INSTALLED ON THE CONDENSATE PAN TO PREVENT OVERFLOWING.
  - ELECTRICAL:
    - THE INDOOR UNIT ELECTRICAL POWER SHALL BE 208/230V, 1-PHASE, 60 HZ.
    - THE INDOOR UNITS SHALL NOT HAVE ANY SUPPLEMENTAL OR BACKUP ELECTRICAL HEATING ELEMENTS.
  - CONTROL:
    - THE UNIT SHALL HAVE A WIRELESS HAND HELD CONTROLLER TO PERFORM INPUT FUNCTIONS NECESSARY TO OPERATE THE SYSTEM.
    - THE WIRELESS HANDHELD CONTROLLER SHALL HAVE A POWER ON/OFF SWITCH, MODE SELECTOR, TEMPERATURE SETTING, TIMER CONTROL, FAN SPEED SELECT AND AUTO VANE SELECTOR.
    - THE MICROPROCESSOR LOCATED IN THE INDOOR UNIT SHALL HAVE THE CAPABILITY OF SENSING RETURN AIR TEMPERATURE AND INDOOR COIL TEMPERATURE, RECEIVING AND PROCESSING COMMANDS FROM THE WIRELESS OR WIRED CONTROLLER, PROVIDING EMERGENCY OPERATION, AND CONTROLLING THE OUTDOOR UNIT.



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Revisions:

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**MECHANICAL SCHEDULES & DETAILS**

**m3.0**