



MECHANICAL SPECIFICATIONS

MECHANICAL SPECIFICATIONS	MOTORIZED DAMPER IS FULLY OPENED. MOTORIZED DAMPER TO MODULATE IN ACCORDANCE WITH CO2 SENSOR READING.	2. NON-RATED PARTITIONS:	4. WHITE, BAKED ENAMEL FINISH OR POWDER COAT FINISH, UNLESS OTHERWISE INDICATED.
PART I: GENERAL	C. AIR-COOLED REFRIGERANT COMPRESSOR AND CONDENSING UNITS	a. IN EXTERIOR WALL OPENINGS BELOW GRADE, ASSEMBLE RUBBER LINKS OF MECHANICAL SEAL TO THE PROPER SIZE FOR THE PIPE AND TIGHTEN IN PLACE, IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.	5. HIGH PERFORMANCE TYPE DIFFUSER INCORPORATING SHORT THROWS AND LOW NC LEVELS.
A. THE CONTRACTOR SHALL FURNISH, INSTALL, PROVIDE AND MAKE OPERATIVE ALL EQUIPMENT, MATERIALS, SUPERVISION LABOR AND ANY AND ALL ITEMS NECESSARY FOR THE PROPER INSTALLATION OF A CORRECTLY FUNCTIONING HEATING VENTILATING AND AIR CONDITIONING SYSTEM AND PLUMBING SYSTEM AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN.	1. SHALL BE MANUFACTURED BY BRYANT, CARRIER, LENNOX, DAIKIN, TRANE, OR YORK. SUBSTITUTIONS MUST MEET SPECIFICATIONS AND BE APPROVED PRE BIDDING BY THE ENGINEER.	b. AT ALL INTERIOR PARTITIONS AND EXTERIOR WALLS, PIPE PENETRATIONS ARE REQUIRED TO BE SEALED. APPLY SEALANT TO BOTH SIDES OF THE PENETRATION IN SUCH A MANNER THAT THE ANNULAR SPACE BETWEEN THE PIPE SLEEVE OR CORED OPENING AND THE PIPE OR INSULATION IS COMPLETELY BLOCKED.	C. EGGRATE GRILLE
B. SMALL DETAILS NOT USUALLY INDICATED ON THE DRAWINGS OR SPECIFIED, BUT WHICH ARE NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF THE MECHANICAL SYSTEM, SHALL BE INCLUDED IN THE WORK AND IN THE CONTRACTOR'S ESTIMATE THE SAME AS IF SPECIFIED OR SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL INSTALL THE EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. WHERE THE DRAWINGS AND SPECIFICATIONS CONFLICT WITH THE MANUFACTURER'S RECOMMENDATIONS, IT WILL BE THE CONTRACTOR'S DUTY TO BRING THIS TO THE ATTENTION OF THE ARCHITECT.	2. UNIT ENERGY EFFICIENCY RATIO (EER), COEFFICIENT OF PERFORMANCE (COP) AND INTEGRATED PART LOAD VALUE (IPLV) SHALL MEET THE MINIMUM APPLICABLE REQUIREMENTS OF ASHRAE 90.1(2004 EDITION). UNITS THAT ARE LABELED ENERGY STAR WILL BE ACCEPTABLE.	c. DUCT PENETRATIONS THROUGH NON-RATED PARTITIONS SHALL REQUIRE SHEET METAL ESCUTCHEONS WITH FIBERGLASS OR MINERAL WOOL INSULATION FILL FOR SPACES THAT INCLUDE JANITOR CLOSETS, TOILET ROOMS, MECHANICAL ROOMS, CONFERENCE ROOMS, PRIVATE CONSULTATION ROOMS, AND WHERE NOTED ON DRAWINGS ELSEWHERE.	1. ALUMINUM CONSTRUCTION WITH FRAME TYPE APPROPRIATE TO INSTALLATION.
C. ANY ALTERATIONS TO THE PLANS CAUSED BY ALTERNATIVE EQUIPMENT THAT WAS NOT ORIGINALLY SCHEDULED WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.	3. PROVIDE FACTORY ASSEMBLED, OUTDOOR MOUNTED, AIR-COOLED CONDENSING UNIT SUITABLE FOR ON GRADE OR ROOFTOP INSTALLATION. INCLUDE COMPRESSOR, AIR COOLED CONDENSER, REFRIGERANT, LUBRICATION SYSTEM, INTERCONNECTING WIRING, SAFETY AND OPERATING CONTROLS, MOTOR STARTING COMPONENTS AND ADDITIONAL FEATURES AS SPECIFIED HEREIN OR REQUIRED FOR SAFE, AUTOMATIC OPERATION. CAPACITY AND STEPS OF UNLOADING AS INDICATED IN THE EQUIPMENT SCHEDULE.		2. GRILLE FACE 1/2" X 1/2" OR 1" X 1" GRID PATTERN 1" DEEP WITH A MINIMUM OF 85% FREE AREA.
PART II: CODE REQUIREMENTS	4. CABINET: CONSTRUCT CABINET OF HEAVY GAUGE, GALVANIZED STEEL COATED WITH WEATHER RESISTANT PAINT. PROVIDE REMOVABLE ACCESS PANELS TO FACILITATE FULL ACCESS TO THE COMPRESSOR, FAN AND CONTROL COMPONENTS.	PART VIII: INSULATION	3. GRILLE SIZES AND FINISHES AS SHOWN ON DRAWINGS AND/OR AS SCHEDULED.
A. ORDINANCES, PERMITS AND CODES: THE WORKMANSHIP AND MATERIALS COVERED BY THESE SPECIFICATIONS SHALL CONFORM TO ALL REGULATIONS OF ALL THE AUTHORITIES HAVING JURISDICTION WHETHER SHOWN ON THE DRAWINGS OR NOT.	5. COMPRESSOR: PROVIDE HERMETIC REPROVING OR SCROLL TYPE COMPRESSOR WITH BUILT IN MOTOR WINDING TEMPERATURE AND CURRENT PROTECTION. LIQUID AND SUCTION SERVICE VALVES, GAGE PORTS, SIGHT GLASS AND LIQUID LINE FILTER DRYER. PROVIDE CRANKCASE HEATER WITH REPROVING TYPE COMPRESSORS. MOUNT COMPRESSORS ON VIBRATION ISOLATORS.	A. ALL INSULATION, INCLUDING JACKET, OR FACING AND ADHESIVE USED TO ADHERE FACING OR JACKET TO THE INSULATION SHALL HAVE A COMPOSITE FIRE AND SMOKE HAZARD RATING TESTED BY THE PROCEDURE RECOMMENDED BY ASTM E84, NFPA 255 OR U.L. 723, NOT EXCEEDING FLAME SPREAD 25, SMOKE DEVELOPED 50. ALL INSULATION ACCESSORIES SHALL ALSO HAVE THE RATINGS LISTED ABOVE.	4. WHITE, BAKED ENAMEL FINISH OR POWDER COAT FINISH, UNLESS OTHERWISE INDICATED.
PART III: PERMITS	6. CONDENSER: PROVIDE CONDENSER COILS WITH ALUMINUM ALLOY PLATE FINS MECHANICALLY FASTENED TO SEAMLESS COPPER TUBING WITH INTEGRAL SUBCOOLER. CONSTRUCT COILS WITH DESIGN WORKING PRESSURE SUITABLE FOR THE REFRIGERANT. LOUVERED CONDENSER HALL GUARD SHALL BE PROVIDED.	B. NEW SUPPLY/MAKE UP AIR DUCT SHALL BE INSULATED WITH 2" THICK BLANKET TYPE FIBERGLASS INSULATION WITH A MINIMUM DENSITY OF 1.0 POUND/CUBIC FOOT, AND A FACTORY APPLIED FLAME RETARDANT FOIL BACKED KRAFT FACING. INSULATION SHALL BE WRAPPED ON THE DUCTWORK WITH ALL CIRCUMFERENTIAL JOINTS BUTTED AND LONGITUDINAL JOINTS OVERLAPPED A MINIMUM OF 2". ADHERE INSULATION WITH 4" STRIPS OF INSULATION BONDING ADHESIVE AT 8" CENTERS. FIBERGLASS SERIES ED100 OR EQUAL.	5. SCREW HOLES ON SURFACE COUNTER SUNK TO ACCEPT RECESSED TYPE SCREWS.
PART IV: SPECIFICATIONS AND DRAWINGS	7. CONTROLS:	C. NEW RETURN/EXHAUST DUCT SHALL BE INSULATED WITH 1-1/2" THICK BLANKET TYPE FIBERGLASS INSULATION WITH A MINIMUM DENSITY OF 1.0 POUND/CUBIC FOOT, AND A FACTORY APPLIED FLAME RETARDANT FOIL BACKED KRAFT FACING. INSULATION SHALL BE WRAPPED ON THE DUCTWORK WITH ALL CIRCUMFERENTIAL JOINTS BUTTED AND LONGITUDINAL JOINTS OVERLAPPED A MINIMUM OF 2". ADHERE INSULATION WITH 4" STRIPS OF INSULATION BONDING ADHESIVE AT 8" CENTERS. FIBERGLASS SERIES ED100 OR EQUAL.	
A. THE PLANS DEPICT THE LOCATION OF ALL FIXTURES AND EQUIPMENT AND ARE INTENDED TO INDICATE THE GENERAL INTENT OF THE WORK IN SCOPE, LAYOUT AND QUALITY OF WORKMANSHIP. THEY ARE NOT INTENDED TO SHOW IN MINUTE DETAIL EVERY AND ALL ACCESSORIES INTENDED FOR THE PURPOSE OF EXECUTION OF THE WORK, BUT THE CONTRACTOR SHALL UNDERSTAND THAT SUCH DETAILS ARE PART OF THIS WORK.	a. PROVIDE HIGH/LOW REFRIGERANT PRESSURE CUTOUTS WITH MANUAL RESET AND ANTI-SHORT CYCLE COMPRESSOR UNIT.	D. RIGID FIBERGLASS INSULATION: MINIMUM NOMINAL DENSITY OF 3 LBS. PER CU. FT., AND THERMAL CONDUCTIVITY OF NOT MORE THAN 0.23 AT 75 DEGREES F, MINIMUM COMPRESSIVE STRENGTH OF 25 PSF AT 10% DEFORMATION, RATED FOR SERVICE TO 450 DEGREES F.	
B. THE LOCATION OF DUCTS, PIPE AND EQUIPMENT AS SHOWN ON THE DRAWINGS, IS DIAGRAMMATIC AND SCHEMATIC AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE HIS OWN WORKING LAYOUT TO ELIMINATE ALL STRUCTURAL INTERFERENCES WITHOUT DETRIMENT TO THE STRUCTURAL AND ARCHITECTURAL COMPONENTS OF THE BUILDING.	b. PROVIDE "LOW AMBIENT" CONTROLS AND ACCESSORIES NEEDED SO THAT UNIT IS CAPABLE OF OPERATING DOWN TO AMBIENT TEMPERATURE OF 0F.	E. ALL INSULATION TO CREATE A CONTINUOUS VAPOR BARRIER BETWEEN MAIN AND BRANCH DUCTWORK.	
C. THE CONTRACTOR SHALL CAREFULLY VERIFY ALL MEASUREMENTS OF THE SITE, DETERMINE THE EXACT LOCATION OF ALL CHASES AND OPENINGS REQUIRED BY HIS WORK AND SHALL FURNISH AND SET ALL SLEEVES, INSERTS AND HANGERS AS REQUIRED FOR THE WORK HEREIN.	8. REFRIGERANT PIPING ACCESSORIES:	F. ACCEPTABLE MANUFACTURER'S ARE OWENS CORNING, JOHNS MANVILLE, ARMSTRONG OR CERTAINTED.	
D. ALL CONTRACTORS SUBMITTING PROPOSALS FOR THIS WORK SHALL FIRST EXAMINE THE SITE AND ALL CONDITIONS. ALL PROPOSALS SHALL TAKE INTO CONSIDERATION ALL SUCH CONDITIONS AS MAY THE WORK UNDER THIS CONTRACT.	a. FILTER DRYERS: FOR CIRCUITS BELOW 15 TONS PROVIDE STRAIGHT PATTERN FILTER DRYERS WITHOUT REPLACEABLE CORE.	PART IX: DUCTWORK	
PART V: COORDINATION AND CONFLICTS	b. SIGHT GLASSES: TWO PIECE BRASS CONSTRUCTION WITH SOLDER END CONNECTIONS. INCLUDE COLOR INDICATOR FOR SENSING MOISTURE.	A. ALL DUCTWORK SHALL BE CONSTRUCTED OF THE BEST BLOOM GALVANIZED SHEET METAL SHEETS, FREE FROM BLISTER IMPERFECTIONS, AND WITH GAUGES, JOINTS, BRACING AND SUPPORTS TO BE IN STRICT ACCORDANCE WITH SMACNA STANDARDS, 1993 EDITION. PROVIDE "PAINT GRIP" FINISH FOR DUCTWORK THAT WILL BE PAINTED.	
A. THE CONTRACTOR SHALL COORDINATE HIS WORK SO THAT IT DOES NOT INTERFERE WITH THE WORK OF THE OTHER TRADES. IT SHALL BE THE CONTRACTOR'S DUTY TO SEE THAT THE WORK IS PERFORMED IN A TIMELY MANNER.	c. SOLENOID VALVES: TWO WAY NORMALLY CLOSED WITH TWO PIECE BRASS BODY, FULL PORT, STAINLESS STEEL PLUG, STAINLESS STEEL SPRING, TEFLON DIAPHRAGM AND SOLDER END CONNECTIONS. PROVIDE REPLACEABLE COIL ASSEMBLY.	1. GALVANIZED STEEL SHEET: USE ASTM A 653 GALVANIZED STEEL SHEET OF LOCK FORMING QUALITY. GALVANIZED COATING TO BE 1.25 OUNCES PER SQUARE FOOT, BOTH SIDES OF SHEET, G90 IN ACCORDANCE WITH ASTM A980. PROVIDE "PAINT GRIP" FINISH FOR DUCTWORK THAT WILL BE PAINTED.	
B. IN THE EVENT THAT THERE IS A DISCREPANCY OR CONFLICT IN THE PLANS OR SPECIFICATIONS IT SHALL BE THE CONTRACTOR'S DUTY TO NOTIFY THE ARCHITECT OF THIS CONFLICT OR DISCREPANCY PRIOR TO HIS ACCEPTANCE OF THE PROJECT. UNLESS EXPRESSLY STIPULATED, NO ADDITIONAL ALLOWANCES WILL BE MADE IN THE CONTRACTOR'S AND/OR MANUFACTURER'S FAVOR BY VIRTUE OF ERRORS, AMBIGUITIES AND/OR OMISSIONS WHICH WERE KNOWN TO OR WHICH SHOULD HAVE BEEN KNOWN OR DISCOVERED DURING THE PREPARATION OF THE BID ESTIMATE AND DIRECTED TO THE ARCHITECT'S ATTENTION IN A TIMELY MANNER.	e. CHARGING VALVES: PROVIDE 1" SAE BRASS MALE FLARE ACCESS PORTS WITH FINGER TIGHT, QUICK SEAL CAPS. PROVIDE 2-INCH LONG COPPER EXTENSION SECTIONS.	2. STAINLESS STEEL SHEET: USE ASTM A167, TYPE 304 OR 316 STAINLESS STEEL SHEET AS SPECIFIED, 316L IF WELDED DUCTWORK, WITH NO. 2B FINISH FOR CONCEALED WORK AND NO. 3 FINISH FOR EXPOSED WORK.	
PART VI: EXPERIENCE	f. CHECK VALVES: SPRING LOADED TYPE WITH BRONZE BODY, BRONZE DISC, NEOPRENE SEAT, BRONZE BONNET, STAINLESS STEEL SPRING AND SOLDER END CONNECTIONS.	B. CROSS BREAK FLAT SIDES OF DUCTS. REDUCTION IN DUCT SIZES SHALL BE MADE WITH A MAXIMUM SLOPE OF 30 DEGREES.	
A. THE CONTRACTOR SHALL BE A REPUTABLE FIRM REGULARLY DOING THIS TYPE OF WORK, WITH SKILLED MECHANICS AND EQUIPMENT CAPABLE OF SUFFICIENT; NO ADDITIONAL ACCESS PROVISIONS ARE REQUIRED UNLESS SPECIFICALLY INDICATED.	D. ACCESS PANELS AND DOORS	C. DOUBLE THICKNESS TURNING VANES SHALL BE USED IN ALL 90 DEGREE SUPPLY AIR ELBOWS.	
PART VII: EQUIPMENT	1. LAY-IN CEILINGS:	D. DUCT HANGERS FOR HORIZONTAL DUCT SHALL NOT BE OVER 8'-0" O.C. #16 U.S. GAUGE, ONE INCH WIDE FOR DUCTS 35" INCHES GREATEST DIMENSION, 6'-0" UP TO 59" GREATEST DIMENSION, AND 4'-0" FOR DUCTS OVER 60". DUCT HANGERS SHALL EXTEND TO THE BOTTOM OF THE DUCT. SUPPORTS SHALL BE 18 GAUGE. EACH SECTION OF DUCT SHALL HAVE AT LEAST ONE PAIR OF SUPPORTS.	
A. SUBMITTALS	a. REMOVABLE LAY-IN CEILING TILES IN 2 X 2 FOOT OR 2 X 4 FOOT CONFIGURATION PROVIDED UNDER DIVISION 9 ARE SUFFICIENT; NO ADDITIONAL ACCESS PROVISIONS ARE REQUIRED UNLESS SPECIFICALLY INDICATED.	E. ALL DUCTWORK SHALL BE MADE AIRTIGHT WITH MASTIC AND PRESSURE SENSITIVE TAPE.	
1. SUBMITTALS MUST BE REVIEWED, AND APPROVED BY SUBMITTING CONTRACTOR.	2. PLASTER WALLS AND CEILINGS	F. ALL ACCESSORY ITEMS SUCH AS TURNING VANES, DAMPER, ETC., SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA STANDARDS.	
2. SUBMIT FOR ALL EQUIPMENT AND SYSTEMS AS INDICATED IN THE RESPECTIVE SPECIFICATION SECTIONS, MARKING EACH SUBMITTAL WITH THAT SPECIFICATION SECTION NUMBER. MARK GENERAL CATALOG SHEETS AND DRAWINGS TO INDICATE SPECIFIC ITEMS BEING SUBMITTED AND PROPER IDENTIFICATION OF EQUIPMENT BY NAME AND/OR NUMBER, AS INDICATED IN THE CONTRACT DOCUMENTS.	a. 16 GAUGE FRAME WITH NOT LESS THAN A 20 GAUGE HINGED DOOR PANEL, PRIME COATED STEEL FOR GENERAL APPLICATIONS, STAINLESS STEEL FOR USE IN TOILETS, SHOWERS, AND SIMILAR WET AREAS, CONCEALED HINGES, SCREWDRIVER OPERATED CAM LATCH FOR GENERAL APPLICATIONS, KEY LOCK FOR USE IN PUBLIC AREAS, UL LISTED FOR USE IN FIRE RATED PARTITIONS IF REQUIRED BY THE APPLICATION. USE THE LARGEST SIZE ACCESS OPENING POSSIBLE, CONSISTENT WITH THE SPACE AND THE EQUIPMENT NEEDING SERVICE; MINIMUM SIZE IS 12" BY 12". PAINT TO MATCH SURROUNDING SURFACE.	G. ALL EXPOSED DUCTWORK TO BE PAINTED, COLOR BY ARCHITECT. SEAL ALL JOINTS AIR-TIGHT WITH NON-SILICONE SEALANT.	
3. SUBMIT ALL SHOP DRAWINGS IN PDF FORMAT WITH PAPER COPIES.	E. IDENTIFICATION	H. DUCT SEALANT	
B. ELECTRICAL FURNACES	1. IDENTIFY ALL MECHANICAL EQUIPMENT BY STENCILING EQUIPMENT NUMBER AND SERVICE WITH ONE COAT OF BLACK ENAMEL AGAINST A LIGHT BACKGROUND OR WHITE ENAMEL AGAINST A DARK BACKGROUND. USE A PRIMER WHERE NECESSARY FOR PROPER PAINT ADHESION. DO NOT LABEL EQUIPMENT SUCH AS CABINET HEATERS AND CEILING FANS IN OCCUPIED SPACES. MECHANICAL EQUIPMENT INCLUDES BUT IS NOT LIMITED TO: FURNACES, CONDENSERS, RTUs, AND OTHER SCHEDULED EQUIPMENT.	1. SILICONE SEALANTS ARE NOT ALLOWED IN ANY TYPE OF DUCTWORK INSTALLATION	
1. SHALL BE MANUFACTURED BY BRYANT, CARRIER, LENNOX, DAIKIN, TRANE, OR YORK. SUBSTITUTIONS MUST MEET SPECIFICATIONS AND BE APPROVED PRE BIDDING BY THE ENGINEER.	a. STENCILS: NOT LESS THAN 1 INCH HIGH LETTERS/NUMBERS FOR MARKING PIPE AND EQUIPMENT.	2. INSTALL SEALANTS IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, PAYING SPECIAL ATTENTION TO TEMPERATURE LIMITATIONS. ALLOW SEALANT TO FULLY CURE BEFORE PRESSURE TESTING OF DUCTWORK, OR BEFORE STARTUP OF AIR HANDLING SYSTEMS.	
2. 22 GAUGE STEEL CASING WITH BAKED ENAMEL FINISH OR PRE-PAINTED GALVANIZED STEEL. INSULATE CASING BACK AND SIDE PANELS WITH FOIL FACED FIBERGLASS INSULATION.	b. ENGRAVED NAME PLATES: WHITE LETTERS ON A BLACK BACKGROUND, 1/16 INCH THICK PLASTIC LAMINATE, BEVELED EDGES, SCREW MOUNTING, SETONPLY STYLE 2060 BY SETON NAME PLATE COMPANY OR EMOEDULITE - STYLE EP BY EMOED CO., OR EQUAL, BY MARKING SERVICES, OR W. H. BRADY.	J. GASKETS	
3. CENTRIFUGAL TYPE BLOWER FAN STATICALLY AND DYNAMICALLY BALANCED WITH MULTIPLE SPEED, DIRECT DRIVE OR BELT DRIVE FAN MOTOR. PROVIDE LOW ENERGY INDUCED DRAFT BLOWER FOR HEAT EXCHANGER PREPURGE AND COMBUSTION GAS VENTING.	2. WHERE STENCILING IS NOT APPROPRIATE FOR EQUIPMENT IDENTIFICATION, ENGRAVED NAME PLATES MAY BE USED.	1. 2 INCH PRESSURE CLASS AND LOWER: SOFT NEOPRENE OR BUTYL GASKETS IN COMBINATION WITH DUCT SEALANT FOR FLANGED JOINTS.	
4. PROVIDE UNIT WITH 2" THICK FARR 30/30 OR EQUAL TYPE PANEL AIR FILTER AND FILTER HOLDING RACK	F. DUCT PENETRATIONS:	PART X: REINFORCEMENT:	
5. PROVIDE SOLID STATE INTEGRAL CONTROL UNIT WITH ALL NECESSARY CONTROLS AND RELAYS INCLUDING BUT NOT LIMITED TO:	1. ANNULAR SPACE BETWEEN DUCT (WITH OR WITHOUT INSULATION) AND THE NON-RATED PARTITION OR FLOOR OPENING SHALL NOT BE LARGER THAN 2" WHERE EXISTING OPENINGS HAVE AN ANNULAR SPACE LARGER THAN 2". THE SPACE SHALL BE PATCHED TO MATCH EXISTING CONSTRUCTION TO WITHIN 2" AROUND THE DUCT. INSULATION TO MAINTAIN CONTINUOUS VAPOR BARRIER THROUGH PENETRATION.	A. ALL DUCTS REQUIRING REINFORCEMENT SHALL BE REINFORCED ACCORDING TO THE LATEST EDITION OF THE SMACNA MANUAL. MATERIALS FOR THE REINFORCING SHALL BE GALVANIZED STEEL. ALL SCREWS AND WASHERS SHALL BE PLATED OR GALVANIZED.	
a. ROLL-OUT SWITCH WITH MANUAL RESET TO PREVENT OVER TEMPERATURE IN HEATER AREA.	2. WHERE SHOWN OR SPECIFIED, PACK ANNULAR SPACE WITH FIBERGLASS BATT INSULATION OR MINERAL WOOL INSULATION. PROVIDE 4" SHEET METAL ESCUTCHEON AROUND DUCT ON BOTH SIDES OF PARTITION OR FLOOR TO COVER ANNULAR SPACE. INSULATION TO MAINTAIN CONTINUOUS VAPOR BARRIER THROUGH PENETRATION.	B. SQUARE CEILING DIFFUSERS - HIGH PERFORMANCE	
b. BLOWER ACCESS SAFETY INTERLOCK.	6. SEALING AND FIRESTOPPING	1. DIFFUSERS TO BE STEEL UNLESS OTHERWISE INDICATED, LOUVERED FACE FURNISHED WITH FRAME TYPE APPROPRIATE TO INSTALLATION	
c. FACTORY INSTALLED 24 V TRANSFORMER FOR CONTROLS AND THERMOSTAT.	1. FIRE AND/OR SMOKE RATED PENETRATIONS:	2. DIFFUSER SHALL HAVE THROW CHARACTERISTICS OF A ROUND DIFFUSER HAVING A 360° HORIZONTAL BLOW PATTERN.	
d. LED'S TO INDICATE STATUS AND TO AID IN TROUBLESHOOTING.	a. INSTALL APPROVED PRODUCT IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS WHERE PIPES PENETRATE A FIRE/SMOKE RATED SURFACE. WHEN PIPE IS INSULATED, USE A PRODUCT WHICH MAINTAINS THE INTEGRITY OF THE INSULATION AND VAPOR BARRIER. PROVIDE A UL LABEL AT EACH PENETRATION.	3. LOUVER CONES SHALL BE ONE-PIECE CONSTRUCTION WITH NO CORNER JOINTS.	
10. PROVIDE A 7 DAY PROGRAMMABLE THERMOSTAT WITH 2 OCCUPIED PERIODS PER DAY, AUTOMATIC CHANGEOVER, SEPARATE HEATING AND COOLING SET POINTS FOR BOTH OCCUPIED AND UNOCCUPIED MODES. PROVIDE AUXILIARY CONTROLS ON SUB-BASE TO OPEN MINIMUM OUTSIDE AIR DAMPER DURING OCCUPIED MODE. EQUAL TO HONEYWELL MODEL T7300 WITH 07300 SUB-BASE.			
11. DURING OCCUPIED MODE RUN THE SUPPLY FAN CONTINUOUSLY. OPEN THE OUTSIDE AIR DAMPER AND CYCLE THE COOLING OR HEATING AS REQUIRED TO MAINTAIN OCCUPIED SPACE TEMPERATURE COOLING OR HEATING SET POINT. DURING UNOCCUPIED MODE CLOSE THE OUTSIDE AIR DAMPER AND CYCLE THE SUPPLY FAN AND COOLING OR HEATING AS REQUIRED TO MAINTAIN UNOCCUPIED COOLING OR HEATING TEMPERATURE SET POINT.			
12. OUTSIDE AIR BALANCING DAMPER TO BE ADJUSTED TO ALLOW SCHEDULED OUTSIDE AIRFLOW WHILE			