



REFRIGERATION EQUIPMENT

GENERAL SCOPE OF WORK

1. THE REFRIGERATION CONTRACTOR SHALL FURNISH AND DELIVER TO THE SITE, THE AIR-COOLED CONDENSING UNITS, EVAPORATORS, AND ALL CONTROL COMPONENTS INCLUDING THE THERMOSTATS AS REQUIRED FOR THE COMPLETE INSTALLATION FOR THIS PROJECT. THIS EQUIPMENT WILL BE AS DETAILLED IN THE REFRIGERATION DRAWINGS, LEGENDS AND SPECIFICATIONS PREPARED BY THE ENGINEER.

REFERENCE STANDARDS AND CODES

1. CODE COMPLIANCE, LAWS, ORDINANCES, RULES, AND REGULATIONS

A. THE CONTRACTORS INSTALLATION, INCLUDING WORK AND MATERIALS, SHALL COMPLY WITH ALL APPLICABLE LAWS, ORDINANCES, RULES AND REGULATIONS RELATIVE TO THIS PROJECT AND OF THE AUTHORITIES HAVING JURISDICTION.

B. IF THE CONTRACTOR PERFORMS ANY WORK NOT IN COMPLIANCE, AND DOES SO WITHOUT WRITTEN AUTHORIZATION BY THE OWNER, THE CONTRACTOR SHALL BEAR ALL COSTS RELATIVE TO CORRECTING THE INSTALLATION TO COMPLY WITH THE ORIGINAL SPECIFICATION REQUIREMENTS.

C. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO ASSURE THE BID INCLUDES ALL THESE CODE REQUIREMENTS AND PROCEDURES.

D. THE ENTIRE REFRIGERATION INSTALLATION INCLUDING PIPING AND EQUIPMENT MUST COMPLY WITH ALL CODE REQUIREMENTS FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS, BASED ON THE SPECIFIC STORE SEISMIC ZONE CLASSIFICATION.

E. ALL ELECTRICAL EQUIPMENT SHALL BE LISTED, WHERE APPLICABLE.

F. ALL REFRIGERATION EQUIPMENT SHALL BE F.M.A. APPROVED WHERE APPLICABLE.

CONDENSING UNIT REQUIREMENTS

GENERAL:

THIS SECTION DEALS WITH THE SPECIFICATIONS AND DESIGN DETAILS FOR THE SUPPLY AND DELIVERY OF COMPLETE REFRIGERATION SYSTEMS AND ASSOCIATED HARDWARE, AS REQUIRED IN ORDER TO PROVIDE PROPER REFRIGERATION FOR THE WALK-IN AS DETAILLED IN THE REFRIGERATION DRAWINGS.

A. REFER TO THE ATTACHED REFRIGERATION LEGENDS FOR THE SPECIFIC SYSTEM REQUIREMENTS. B. CONFIRM ALL VOLTAGES WITH ELECTRICAL DRAWINGS

CONDENSING UNIT REQUIREMENTS

A. LIQUID RECEIVERS:

1. THE RECEIVER SHALL BE EQUIPPED WITH PRESSURE RELIEF VALVES.

B. LIQUID LINE SOLENOID VALVES:

1. WHERE INDICATED ON THE LEGENDS, LIQUID LINE SOLENOID VALVES MUST BE FACTORY INSTALLED. IT IS MANDATORY THAT THESE BE SELECTED AT A PRESSURE DROP NO GREATER THAN 0.5 PSIG WHENEVER POSSIBLE. HOWEVER, CARE SHALL BE TAKEN TO ENSURE SUFFICIENT PRESSURE DIFFERENTIAL TO ALLOW THE VALVES TO MODULATE PROPERLY. SPORLAN OR ALCO VALVES ARE REQUIRED.

C. SCHRAEDER VALVES:

1. ALL SCHRAEDER VALVES SHALL HAVE THE PROPER LENGTH EXTENSION TO COMPENSATE FOR OVERALL CLEARANCE OF SPECIFIED INSULATION THICKNESS.

D. SUCTION FILTERS:

1. EACH INDIVIDUAL COMPRESSOR SHALL INCORPORATE AN OVERSIZED REPLACEMENT CORE SUCTION FILTER. THE FILTER HOUSING SHALL BE MANUFACTURED OF BRASS LONG BRASS OR STAINLESS STEEL BOLTS. THE FILTERS SHALL BE OF A HIGH MOISTURE CAPACITY, REMOVAL STYLE SPORLAN ROW OR EQUAL. SUCTION FILTERS MUST BE OF A TYPE AND CAPACITY AS APPROVED BY THE COMPRESSOR MANUFACTURER.

E. MECHANICAL PRESSURE INPUT:

1. THE MECHANICAL CONNECTIONS TO ALL PRESSURE CONTROL DEVICES, INCLUDING UNLOADING SYSTEMS (WHERE APPLICABLE) SHALL BE BASED ON THE USE OF THE ECOSAFE HOSE AS MANUFACTURED BY JOHNSON CONTROLS PENN.

F. SINGLE POINT ELECTRICAL:

1. EACH CONDENSING UNIT MUST INCORPORATE A SINGLE POINT ELECTRICAL CONNECTION, WHEREBY THE COMPRESSOR AND EVAPORATORS ARE FACTOR WIRED VIA CIRCUIT BREAKERS AND/OR CONTACTORS TO THIS SINGLE ELECTRICAL SOURCE WITHIN THE CIRCUIT PANEL.

G. SINGLE PHASE PROTECTION AND ALARM:

1. EACH COMPRESSOR SYSTEM SHALL INCLUDE A DEDICATED SINGLE PHASE PROTECTION CIRCUIT MONITORING OF PHASE PROTECTION SHALL BE ACCOMPLISHED VIA THE CONDENSING UNIT CONTROL PANEL. 2. THE CONTROL PANEL, FOR EACH UNIT SHALL INCLUDE THE NECESSARY BREAKERS AND CONTACTORS REQUIRED TO PROVIDE POWER AND CONTROL TO THE EVAPORATOR FANS AND DEFROST CIRCUITS. ALL CONTACTORS AND BREAKERS MUST BE FACTORY FURNISHED AND INSTALLED.

H. COMPRESSOR MECHANICAL CONTROLS:

1. EACH INDIVIDUAL COMPRESSOR SHALL INCORPORATE THE FOLLOWING CONVENTIONAL CONTROLS: • ADJUSTABLE FEM SERIES LOW SUCTION PRESSURE WITH MICROSET. • ADJUSTABLE FEM SERIES HIGH PRESSURE, MANUAL RESET. • OIL CONTROLS COPELAND SENTRONICS.

I. COMPRESSOR CRANKCASE HEATERS:

1. EACH COMPRESSOR SHALL INCORPORATE A CRANKCASE HEATER.

J. ELECTRIC DEFROST:

1. WHERE ELECTRIC DEFROST IS INDICATED ON THE LEGENDS, EACH REFRIGERATION CIRCUIT UTILIZING ELECTRIC DEFROST WILL OPERATE IN THE FOLLOWING MANNER: THE DEFROST CIRCUIT BREAKER AND CONTACTOR WILL BE PROVIDED AND LOCATED IN THE CONTROL PANEL. THE REQUIRED CONTACTORS SHALL BE PROVIDED AND INSTALLED BY THE MANUFACTURER.

2. THE EXACT QUANTITY OF DEFROST CONTACTORS PER REFRIGERATED CIRCUIT MUST BE CONFIRMED WITH ELECTRICAL DRAWINGS.

3. THE CONDENSING UNIT CONTROL PANEL SHALL INCLUDE THE NECESSARY TIMELOCK AND CONTROL COMPONENTS TO ENABLE DEFROST CONTROL, INCLUDING DEFROST TERMINATION.

K. LIQUID DRIERS:

1. EACH UNIT SHALL INCORPORATE A REPLACEABLE CORE LIQUID FILTER-DRIER. THE FILTER DRIERS SHALL BE OF A HIGH MOISTURE CAPACITY (REMOVAL STYLE SPORLAN ROW OR EQUAL) AND OF A TYPE AND CAPACITY AS APPROVED AND RECOMMENDED BY THE COMPRESSOR MANUFACTURER.

PIPING AND INSULATION

1. REFRIGERANT PIPING:

UNLESS OTHERWISE SPECIFIED, ALL REFRIGERATION PIPING SHALL BE REFRIGERATION GRADE TYPE L OR TYPE K HARD DRAWN, DEBURRED SMOOTH CORNER TUBING.

FITTINGS SHALL BE WROUGHT COPPER OR FORGED BRASS AND ONLY LONG RADIUS ELBOWS SHALL BE USED. ALL CHANGES IN THE LINE SIZE AND DIRECTION SHALL BE ACCOMPLISHED WITH FITTINGS ONLY. ABSOLUTELY NO "STAB-INS" OR FORMED LONG SWEEP ELBOWS ARE PERMITTED.

SUCTION LINE FILTERS ARE TO BE INSTALLED FOR DIRECTION OF FLOW WITHOUT BYPASS RELIEF. FILTER PRESSURE DROP CAN THEN BE MEASURED BETWEEN THE FILTER GAUGE AND THE FITTING ON THE SUCTION SERVICE VALVE.

2. INSULATION:

INSULATION SHALL BE ARMAFLEX, ARMAFLEX II OR RUBATEX R-180FS. ALL SUCTION LINES WITH 1" WALL THICKNESS INSULATION. ALL LIQUID LINES SHALL BE INSULATED WITH 1/2" WALL THICK INSULATION.

ALL INSULATION JOINTS SHALL BE SEALED WITH RUBBER CEMENT TO ENSURE A "DRIP-TIGHT" SEAL. INSULATION SHALL BE SHIPPED ON TUBING PRIOR TO JOINT BRAZING WHERE POSSIBLE, AS AN ALTERNATE TO SPLITTING AND THEN SEALING THE JOINT. EACH JOINT SHALL THEN BE TAPED WITH APPROVED TAPE FOLLOWING THE QJLE PROCESS.

ALL INSULATION LOCATED OUTDOORS SHALL BE COVERED IN A UV RESISTANT COVERING.

EVAPORATOR COLS

A. GENERAL:

1. ALL EVAPORATORS SHALL BE AS MANUFACTURED BY CENTURY AND COLMAC. 2. REFER TO REFRIGERATION LEGENDS FOR SPECIFIC EVAPORATOR COLS. 3. REFER TO THE REFRIGERATION LEGENDS FOR EVAPORATOR VOLTAGE REQUIREMENTS.

2. OPTIONS:

A. EVAPORATOR COLS SHALL BE FURNISHED WITH THE FOLLOWING FACTORY INSTALLED OPTIONS/ACCESSORIES: 1. SPORLAN OR ALCO THERMOSTATIC EXPANSION VALVES (SWEET TYPE). 2. LIQUID LINE CLEANABLE STRAINERS. 3. INDIVIDUAL DEFROST TERMINATION THERMOSTATS (ELECTRIC DEFROST MODELS). 4. INDIVIDUAL FAN DELAY THERMOSTATS (ELECTRIC DEFROST MODELS).

GUARANTEE AND WARRANTY

THE REFRIGERATION CONTRACTOR SHALL WARRANT ALL EQUIPMENT AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM TURN-OVER. DEFECTS IN MATERIAL OR WORKMANSHIP SHALL BE CORRECTED BY MANUFACTURER AT NO COST TO THE OWNER DURING THE WARRANTY PERIOD.

2. THE REFRIGERATION CONTRACTOR SHALL ASSIGN AND FURNISH TO THE OWNER, A COPY OF ALL "WARRANTIES" FOR EQUIPMENT OR MATERIALS PROVIDED BY THE MANUFACTURER.

3. THE REFRIGERATION CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ALL CONDENSING UNITS AND ASSOCIATED PIPING. CONDENSING UNITS SHALL BE FIELD INSTALLED ON THE ROOF OF THE BUILDING ON A RAISED STEEL PLATFORM. REFER TO THE REFRIGERATION PLANS FOR DETAILED INSTALLATION REQUIREMENTS.

4. THE REFRIGERATION CONTRACTOR SHALL WARRANT ALL EQUIPMENT AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM TURN-OVER. DEFECTS IN MATERIAL OR WORKMANSHIP SHALL BE CORRECTED BY MANUFACTURER AT NO COST TO THE OWNER DURING THE WARRANTY PERIOD.

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7. THE REFRIGERATION CONTRACTOR SHALL WARRANT ALL EQUIPMENT AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM TURN-OVER. DEFECTS IN MATERIAL OR WORKMANSHIP SHALL BE CORRECTED BY MANUFACTURER AT NO COST TO THE OWNER DURING THE WARRANTY PERIOD.

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9. THE REFRIGERATION CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ALL CONDENSING UNITS AND ASSOCIATED PIPING. CONDENSING UNITS SHALL BE FIELD INSTALLED ON THE ROOF OF THE BUILDING ON A RAISED STEEL PLATFORM. REFER TO THE REFRIGERATION PLANS FOR DETAILED INSTALLATION REQUIREMENTS.

10. THE REFRIGERATION CONTRACTOR SHALL WARRANT ALL EQUIPMENT AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM TURN-OVER. DEFECTS IN MATERIAL OR WORKMANSHIP SHALL BE CORRECTED BY MANUFACTURER AT NO COST TO THE OWNER DURING THE WARRANTY PERIOD.

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13. THE REFRIGERATION CONTRACTOR SHALL WARRANT ALL EQUIPMENT AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM TURN-OVER. DEFECTS IN MATERIAL OR WORKMANSHIP SHALL BE CORRECTED BY MANUFACTURER AT NO COST TO THE OWNER DURING THE WARRANTY PERIOD.

14. THE REFRIGERATION CONTRACTOR SHALL ASSIGN AND FURNISH TO THE OWNER, A COPY OF ALL "WARRANTIES" FOR EQUIPMENT OR MATERIALS PROVIDED BY THE MANUFACTURER.

15. THE REFRIGERATION CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ALL CONDENSING UNITS AND ASSOCIATED PIPING. CONDENSING UNITS SHALL BE FIELD INSTALLED ON THE ROOF OF THE BUILDING ON A RAISED STEEL PLATFORM. REFER TO THE REFRIGERATION PLANS FOR DETAILED INSTALLATION REQUIREMENTS.

16. THE REFRIGERATION CONTRACTOR SHALL WARRANT ALL EQUIPMENT AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM TURN-OVER. DEFECTS IN MATERIAL OR WORKMANSHIP SHALL BE CORRECTED BY MANUFACTURER AT NO COST TO THE OWNER DURING THE WARRANTY PERIOD.

17. THE REFRIGERATION CONTRACTOR SHALL ASSIGN AND FURNISH TO THE OWNER, A COPY OF ALL "WARRANTIES" FOR EQUIPMENT OR MATERIALS PROVIDED BY THE MANUFACTURER.

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REFRIGERATION INSTALLATION

PART 1 - GENERAL

1.1 SUMMARY OF SCOPE

A. RESPONSIBILITIES INCLUDE: 1. RECEIVE, STORE AND INSTALL ALL REFRIGERATION EQUIPMENT INCLUDING CONDENSING UNITS AND EVAPORATORS. 2. PROVIDE ALL LABOR AND MATERIALS TO INSTALL, COMMISSION AND OPTIMIZE THE OPERATION OF THE SYSTEMS AS DETAILLED IN THE PLANS AND SPECIFICATIONS. 3. WARRANTY ALL PARTS AND LABOR FOR ONE FULL YEAR FROM ACCEPTANCE BY THE OWNER. THIS INCLUDES PROVIDING REGULAR MAINTENANCE DURING THE WARRANTY PERIOD.

1.2 RELATED DOCUMENTS

A. THE FOLLOWING DRAWINGS AND DOCUMENTS SHALL ACCOMPANY AND BE CONSIDERED PART OF THESE SPECIFICATIONS:

RELATED MATERIAL: (DRAWINGS AND/OR SPECIFICATIONS) 1. REFRIGERATION DRAWINGS (R SERIES) 2. REFRIGERATION LEGENDS

1.3 MECHANICAL INSTALLATION AND CONTRACTOR OBLIGATIONS

A. GENERAL SCOPE OF WORK: WORK REQUIRED UNDER THIS SECTION INCLUDES ALL LABOR, MATERIALS, TOOLS, AND EQUIPMENT NECESSARY FOR INSTALLATION OF ALL REFRIGERATION SYSTEMS ON THIS PROJECT AS DETAILED ON THE DESIGN PROJECT DRAWINGS AND AS HEREIN SPECIFIED, OR AS REQUIRED BY GOOD INSTALLATION PRACTICE TO MAKE THE REFRIGERATION SYSTEMS FULLY OPERATIONAL. THE CONTRACTOR SHALL COMMISSION ALL OF THE REFRIGERATION EQUIPMENT TO A FULLY OPERATIONAL STATE. MAKE ALL REQUIRED ADJUSTMENTS AND CALIBRATIONS, PERFORM AND MAKE ALL INITIAL TESTS TO ENSURE COMPLIANCE WITH THESE SPECIFICATIONS AND THEIR INTENT, AND OBTAIN ALL NECESSARY APPROVALS IN WRITING FROM ALL GOVERNING BODIES HAVING JURISDICTION OVER THIS WORK TO ENSURE COMPLIANCE WITH ALL LAWS AND ORDINANCES IN EFFECT.

ANY OMISSIONS FROM THESE SPECIFICATIONS OR FROM THE REFRIGERATION PLANS AND SCHEDULES WITH REFERENCE TO ANY PARTS AND/OR LABOR NECESSARY FOR THE COMPLETE INSTALLATION MUST NOT BE CONSTRUED AS RELINQUISHING THE CONTRACTOR FROM RESPONSIBILITY FOR FURNISHING SUCH PARTS AND/OR LABOR.

1.4 GUARANTEE AND WARRANTY

A. REFRIGERATION CONTRACTOR SHALL WARRANT ALL MATERIAL AND WORKMANSHIP FOR ONE (1) YEAR AFTER TURN OVER AND ACCEPTANCE FROM THE OWNER, DEFECTS IN MATERIAL OR WORKMANSHIP SHALL BE CORRECTED WITHOUT DELAY AND AT ANY COST TO THE OWNER DURING THE WARRANTY PERIOD.

B. THE REFRIGERATION CONTRACTOR SHALL ASSIGN AND FURNISH TO THE OWNER A COPY OF ALL "WARRANTIES" FOR EQUIPMENT OR MANUFACTURED COMPONENTS SUPPLIED ON THE PROJECT. IT IS THE RESPONSIBILITY OF THE REFRIGERATION CONTRACTOR TO PROCESS WITHOUT DELAY ALL "WARRANTY" CLAIMS THAT OCCUR DURING THE WARRANTY PERIOD. TERMS AND CONDITIONS STATED ON MANUFACTURERS' WARRANTIES SHALL APPLY TO THE OWNER.

A. THE REFRIGERATION CONTRACTOR SHALL PROVIDE TO OWNER TWO (2) FULL SETS OF ALL EVAPORATOR COIL SPECIFICATION SHEETS, CONDENSING UNIT DATA SHEETS, ETC. IN THREE-RING BINDERS. THIS MANUAL SHALL INCLUDE SPECIFICATIONS OF ALL REFRIGERATION EQUIPMENT INSTALLED BY THE CONTRACTOR.

B. DURING THE ONE (1) YEAR WARRANTY PERIOD, THE REFRIGERATION CONTRACTOR SHALL FURNISH: AT NO CHARGE TO THE OWNER, ALL LABOR AND MATERIALS NOT SPECIFICALLY COVERED BY ANY MANUFACTURERS' WARRANTY."

C. SHOULD ANY DEFECTS DEVELOP WITHIN THE WARRANTY PERIOD, THE REQUIRED REPAIRS OR REPLACEMENTS, INCLUDING LABOR AND MATERIALS, SHALL BE MADE WITHOUT CHARGE OR DELAY TO THE OWNER.

D. THE CONTRACTOR SHALL GUARANTEE EACH PIECE OF EQUIPMENT SUPPLIED BY HIM TO MEET THE CAPACITY AND DUTY REQUIREMENTS HEREIN/AS SPECIFIED. THE SATISFACTORY PERFORMANCE OF THE EQUIPMENT AND SYSTEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

E. OFFICIAL ACCEPTANCE OF THE COMPLETED CONTRACT SHALL ONLY COMMECE WHEN THE INSTALLATION IS FULFILLED IN EVERY RESPECT AND HAS BEEN IN OPERATION UNDER LOAD CONDITIONS FOR A PERIOD OF AT LEAST ONE WEEK TO THE SATISFACTION OF THE OWNER.

A. DESCRIPTION: ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND THE PRODUCT OF A REPUTABLE MANUFACTURER. MATERIALS AND EQUIPMENT SHALL FULLY CONFORM TO THE APPLICABLE SPECIFICATIONS AND STANDARDS, AND SHALL COMPLY WITH SIZE, MAKE, TYPE AND QUALITY SPECIFIED OR AS OTHERWISE SPECIFICALLY APPROVED IN WRITING BY THE OWNER AND ENGINEER. DO NOT USE MATERIAL OR EQUIPMENT FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT IS DESIGNED.

IT SHALL BE UNDERSTOOD THAT THE PLANS CANNOT INDICATE EVERY SPECIALTY OR DETAIL. HOWEVER, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL SUCH SPECIALTIES AND EQUIPMENT NECESSARY FOR THE COMPLETE INSTALLATION IN ACCORDANCE WITH THE NORMAL INTERPRETATION OF THE PLANS AND SPECIFICATIONS FOR A FULLY OPERATIONAL SYSTEM, GOOD PRACTICE, AND TO THE SATISFACTION OF THE OWNER AND ENGINEER.

B. SUBSTITUTIONS: WHERE MANUFACTURERS' NAMES, CATALOG NUMBERS, OR TRADE NAMES APPEAR IN THE SPECIFICATIONS, IT IS NOT THE INTENT TO RESTRICT OR ELIMINATE COMPETITION, BUT MERELY TO ESTABLISH QUALITY OF MATERIALS. HOWEVER, WHERE THE WORDS "OR APPROVED EQUAL" APPEAR, THE "EQUAL" ITEM MUST CONFORM TO THE REQUIREMENTS OF THE SPECIFICATIONS AND MUST BE SUBMITTED, WITH COMPLETE INFORMATION, TO THE ENGINEER FOR WRITTEN APPROVAL PRIOR TO USE.

ALL COSTS ASSOCIATED WITH ADDITIONAL WORK THAT MAY BE REQUIRED BY OTHER TRADES AS A RESULT OF A SUBSTITUTION OF EQUIPMENT AND/OR MATERIALS, SHALL BE BORNE BY THE CONTRACTOR.

MATERIALS THAT ARE NOT SATISFACTORY TO THE OWNER SHALL BE REMOVED FROM THE PREMISES.

1.6 REFERENCE STANDARDS AND CODES

A. CODE COMPLIANCE, LAWS, ORDINANCES, RULES, AND REGULATIONS:

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4. THE ENTIRE REFRIGERATION INSTALLATION INCLUDING PIPING AND EQUIPMENT MUST COMPLY WITH ALL CODE REQUIREMENTS FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS, BASED ON THE SPECIFIC STORE SEISMIC ZONE CLASSIFICATION.

5. ALL ELECTRICAL EQUIPMENT SHALL BE LISTED, WHERE APPLICABLE.

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THIS SECTION DEALS WITH THE SPECIFICATIONS AND DESIGN DETAILS FOR THE SUPPLY AND DELIVERY OF COMPLETE REFRIGERATION SYSTEMS AND ASSOCIATED HARDWARE, AS REQUIRED IN ORDER TO PROVIDE PROPER REFRIGERATION FOR THE WALK-IN AS DETAILLED IN THE REFRIGERATION DRAWINGS.

A. REFER TO THE ATTACHED REFRIGERATION LEGENDS FOR THE SPECIFIC SYSTEM REQUIREMENTS. B. CONFIRM ALL VOLTAGES WITH ELECTRICAL DRAWINGS

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INSULATION SHALL BE ARMAFLEX, ARMAFLEX II OR RUBATEX R-180FS. ALL SUCTION LINES WITH 1" WALL THICKNESS INSULATION. ALL LIQUID LINES SHALL BE INSULATED WITH 1/2" WALL THICK INSULATION.

ALL INSULATION JOINTS SHALL BE SEALED WITH RUBBER CEMENT TO ENSURE A "DRIP-TIGHT" SEAL. INSULATION SHALL BE SHIPPED ON TUBING PRIOR TO JOINT BRAZING WHERE POSSIBLE, AS AN ALTERNATE TO SPLITTING AND THEN SEALING THE JOINT. EACH JOINT SHALL THEN BE TAPED WITH APPROVED TAPE FOLLOWING THE QJLE PROCESS.

ALL INSULATION LOCATED OUTDOORS SHALL BE COVERED IN A UV RESISTANT COVERING.

FOR THE REFRIGERATION CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL COMPRESSORS ARE OPERATING WITH THE CORRECT QUANTITY AND TYPE OF REFRIGERANT OIL. THIS APPLIES PRIOR TO STARTUP, AND FOLLOWING INITIAL OPERATION TO ENSURE THAT THE OIL QUANTITIES HAVE STABILIZED. THE REFRIGERATION CONTRACTOR SHALL PROVIDE ALL OIL AS REQUIRED INCLUDING ANY OIL REQUIRED TO TOP OFF THE SYSTEMS AFTER THEY HAVE REACHED EQUILIZATION.

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C. REFRIGERATION DRAINS

1. INSTALLATION MUST CONFORM TO ALL STATE AND LOCAL CODE REQUIREMENTS.

COOLER AREAS - INSTALLATION OF THE EVAPORATOR COIL CONDENSATE DRAINS SHALL BE PERFORMED BY THE REFRIGERATION CONTRACTOR. ALL OF THESE CONDENSATE DRAIN LINES SHALL BE COPPER.

A. THE REFRIGERATION CONTRACTOR SHALL INSULATE ALL THE MEAT COOLER CONDENSATE DRAINS. ELECTRIC HEATER TAPE WILL BE SUPPLIED AND INSTALLED AROUND THESE CONDENSATE LINES BY THE REFRIGERATION CONTRACTOR. THE ELECTRIC HEATER TAPE SHALL EXTEND THROUGH THE BOX WALL TO THE OUTSIDE OF THE BOX. POWER TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR. WALK-IN CONDENSATE LINES SHALL EXIT THE REFRIGERATED SPACE AS SOON AS PRACTICAL. THE DRIP LINES SHALL HAVE A THREADED BRASS OR COPPER UNION CONNECTED TO THE COIL PAN. A 1/2" TRAP SHALL BE INSTALLED NEAR CURB DRAIN OUTSIDE OF THE REFRIGERATED AREA. WALK-IN COIL CONDENSATE DRIP LINES SHALL INCORPORATE A MINIMUM NUMBER OF FITTINGS AND EMPLOY LONG RADIUS ELBOWS. THE REFRIGERATION CONTRACTOR SHALL SEAL ALL OPENINGS CUT IN COOLER AND FREEZER PANELS. USE BUTYL RUBBER CALK ON BOTH SIDES OF THE PANEL AT THE PENETRATION.

D. AUTOMATED CONTROL SYSTEM

1. THE REFRIGERATION SYSTEMS WILL UTILIZE TIME CLOCKS AND THERMOSTATS TO MONITOR AND CONTROL THE COMPRESSORS AND INDIVIDUAL TEMPERATURE AND DEFROST FUNCTIONS. REFER TO THE REFRIGERATION PLANS FOR SPECIFIC FIXTURE TEMPERATURE CONTROL METHODS. THE REFRIGERATION CONTRACTOR SHALL BE RESPONSIBLE FOR, BUT NOT LIMITED TO, THE FOLLOWING:

A. THE THERMOSTAT SHALL BE TO BE WIRED BACK TO THE CONDENSING UNIT CONTROL PANEL.

B. REFRIGERATION CONTRACTOR MUST CAREFULLY REVIEW THE REFRIGERATION DESIGN PLANS AND FULLY ADHERE TO THE REQUIRE









