

REFRIGERATION DRAWING INDEX

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LEAK DETECTION SYSTEM SEQUENCE OF OPERATIONS

THE SYSTEM IS BASED ON AN EMERSON MRLDS-500 LEAK DETECTION SYSTEM. THE SYSTEM PROVIDES CONTINUOUS MONITORING OF REFRIGERANT GAS LEVELS IN SEPARATE TEST ZONES.

THE ON BOARD ANALYZER WILL TRIGGER AN ALARM IF ANY OF THE ZONES CONTAIN REFRIGERANT LEVELS HIGHER THAN THOSE SPECIFIED BY PUBLIX.

THE MRLDS-500 IS CONNECTED TO THE EMERSON LEAK DETECTION SYSTEM LOCATED WITHIN THE MECHANICAL ROOM.

THE SYSTEM WILL BE PROGRAMMED FOR THREE TYPES OF ALARMS FOR BOTH REFRIGERANTS:

R-484A LEAK (SMALL - 75 PPM; SPILL (MEDIUM - 200 PPM) EVACUATION (LARGE - 400 PPM)

R-744 LEAK (SMALL - 4,000 PPM; SPILL (MEDIUM - 6,000 PPM) EVACUATION (LARGE - 8,000 PPM)

WALK-IN BOXES	MECHANICAL CENTER
AN ALARM OF 4,000 PPM OR LESS WILL TRIGGER A NOTICE ON THE EMS PANEL.	BASED ON THE ABOVE CRITERIA ABOVE FOR R-484A AND R-744.
AN ALARM OF 6,000 PPM WILL TRIGGER LIGHT AND HORN.	A LEAK WILL TRIGGER THE ROOM EXHAUST FANS TO TURN ON.
AN ALARM OF 8,000 PPM WILL TRIGGER LIQUID LINE SOLENOIDS, SHUT DOWN OF REFRIGERANT TO CIRCUIT.	A SPILL WILL TRIGGER LIGHT AND HORN. AN EVACUATION WILL SHUT OFF POWER TO THE REFRIGERATION RACKS.

VERIFY LEAK DETECTION SETTINGS WITH PUBLIX AND EMERSON DURING COMMISSIONING PHASE

SEMI-DESIGN CATEGORY	I.B.D.
RISK OCCUPANCY CATEGORY	II
COMPONENT WORKING FACTOR	1.0

CO₂ INSULATION TABLE

PIPE SIZE	VERTICAL DRIPS	HORIZONTAL RUNS	INSIDE MECHANICAL ROOM
ALL	1"	1 1/2"	2"

PERMISSIBLE REFRIGERANT QUANTITY PER ASHRAE 34

REFRIGERANT TYPE	REFRIGERANT CLASSIFICATION	REFRIGERANT PER OCCUPIED SPACE	TYPE OF SYSTEMS	PROBABILITY OF SYSTEMS
R-484A	A1	4.5	DIRECT	HIGH
R-484A	A1	24.0	DIRECT	HIGH
REFRIGERANT ALLOWANCE		REFRIGERANT TOTAL QUANTITY	REFRIGERANT IN LARGEST RACK	
R-744	1.654 LBS	1,200 LBS	1,200 LBS	
R-484A	8,820 LBS	600 LBS	600 LBS	

- LEGEND**
- LOW TEMP LOOP 1
 - LOW TEMP LOOP 2
 - MED TEMP LOOP 1
 - MED TEMP LOOP 2
 - MED TEMP LOOP 3
 - MED TEMP LOOP 4
 - UNDERGROUND PIPING
 - CONDENSATE PIPING
- ELECTRIC EVAPORATOR PRESSURE REGULATOR - FIELD PROVIDED & INSTALLED FOR CASES WHERE INDICATED (PER CIRCUIT)
 - CASE CONTROLLER - FACTORY INSTALLED AND PREWIRED IN CASES
 - CASE CONTROLLER - FIELD PROVIDED, INSTALLED AND WIRED FOR ALL WALK-INS
 - LIQUID LINE SOLENOID VALVE - FIELD MOUNT ONE PER COIL ON TOP OF EACH WALK-IN (SEE DETAIL SHEET)
 - LIQUID LINE CHECK VALVE FIELD MOUNTED ON TOP OF WALK-IN BOX
 - SUCTION LINE CHECK VALVE FIELD MOUNTED ON TOP OF WALK-IN BOX
 - 24V HORN/STROBE SUPPLIED BY PUBLIX AND WIRED BY ELECTRICAL CONTRACTOR. SEE DETAIL SHEET #10
 - 24V REFRIGERATION LEAK DETECTOR W/SENSOR BY PUBLIX, INSTALLED & WIRED BY ELECTRICAL CONTRACTOR
 - CHASE/FLOOR OR REFRIGERATION PIPING
 - REFRIGERATION PIPING IN WALL
 - UNLESS OTHERWISE NOTED
 - ISOLATION VALVE WITH INTERNAL PRESSURE RELIEF TO PROTECT AND INSTALLED
 - FACTORY INSTALLED TEMPERATURE SENSOR
 - FIELD INSTALLED TEMPERATURE SENSOR, 2C 3/8" DIA
 - ON CIRCUIT ISOLATION VALVE (SEE DETAIL 1 ON R-8.3)
 - CASE CONTROLLER AT BOTTOM OF CASE
 - CASE CONTROLLER AT TOP OF CASE
 - CASE CONTROLLER IN DCP
 - DRILL CONTROL PANEL
 - ELECTRONIC EXPANSION VALVE (2C 3/8" DIA)
 - PRESSURE TRANSducer, 2C 3/8" DIA SHIELDED
 - TEMPERATURE SENSOR (SUCTION LINE), 2C 3/8" DIA SHIELDED
 - DOOR SWITCH, 2C 3/8" DIA SHIELDED
 - DEFROST TERMINATION PROBE, 2C 3/8" DIA SHIELDED
 - OVER PRESSURE TOP SUCTION, 2C 3/8" DIA SHIELDED FROM MECHANICAL CENTER OF SHOPPING CENTER
- SYSTEM NUMBER
 - SELF CONTAINED
 - ICE MACHINE
- MT LIQUID OVERHEAD
S - SECTION
R - RETURN
VSDR - VERTICAL SUCTION DOUBLE RISER DIAGRAM
L - LIQUID

NOTES APPLY TO ALL SHEETS, UNLESS OTHERWISE NOTED

- PIPING NOTES**
- ALL OVERHEAD REFRIGERATION PIPING AT BACKROOM NEEDS TO STAY A MINIMUM 3/4" OFF OF THE BACK WALL OF THE SALES FLOOR AREA (WHICH IS THE WALL BEHIND THE SALES FLOOR).
 - UTILIZE THE STACKING OF REFRIGERATION LINES WHERE SPACE IS LIMITED.
- CONTRACTOR NOTES**
- REFRIGERATION CONTRACTOR SHALL SET AND START ALL SELF-CONTAINED EQUIPMENT, INCLUDING ICE MACHINES.
 - REFRIGERATION CONTRACTOR SHALL INSTALL CPC PROBES IN COOLERS AND FREEZERS. PROBES ARE FURNISHED BY PUBLIX.
 - ALL WALK-IN COOLERS AND FREEZERS ARE FURNISHED BY PUBLIX AND INSTALLED BY THE MANUFACTURER.
 - REFRIGERATION CONTRACTOR SHALL INSTALL AND PIPE ALL EVAPORATOR COILS AND HAND VALVES IN COOLERS AND FREEZERS.
 - FOR ALL OVERHEAD REFRIGERATION PIPING ABOVE THE SALES AREA, THE REFRIGERATION INSTALLATION CONTRACTOR SHALL PROVIDE AND INSTALL A DRAIN PAN AS PER TYPICAL DETAIL ON DRAWING R-3.1.
 - SEE WATER HEATER / HEAT RECLAIM PIPING DETAIL FOR SETUP & CONTROL OF DOMESTIC WATER HEATING SYSTEM.
 - REFRIGERATION CONTRACTOR SHALL MOUNT MANUFACTURER SUPPLIED OR SENSOR UNDERNEATH MECHANICAL COOLING TONS RESTRUCTURE (AVOID EXPOSURE TO SUNLIGHT), GAS SENSOR AND WIRING PROBABLY BY REFRIGERATION CONTROL SUPPLIER.

AREAS OF HORIZONTAL RUNS BY TRADES

ELECTRICAL: HANG AS CLOSE TO STRUCTURE AS POSSIBLE WHILE LEAVING ROOM FOR REFRIGERATION LINES AND HVAC DUCTS. THE INSTALLATION SHALL BE IN COMPLIANCE WITH NEC 300.4(E).

REFRIGERATION: 32 IN. TO 36 IN. BELOW STRUCTURE; EXPOSED IN PROTOTYPE; 18 IN. TO 24 IN. BELOW STRUCTURE.

FIRE SPRINKLER: 8 IN. ABOVE CEILING, WHERE EXPOSED IN PROTOTYPE, & 18 IN. ABOVE BOTTOM CHORD OF STEEL GIRDER JOISTS AND JOISTS.

AIR CONDITIONING: 36 IN. BELOW STRUCTURE TO 40 IN. ABOVE CEILING, WHERE EXPOSED IN PROTOTYPE; HANG AS CLOSE UNDER BOTTOM OF STRUCTURE AS POSSIBLE WHILE LEAVING ROOM FOR REFRIGERATION LINES.

IF DEVIATION FROM THESE AREAS IS INDICATED, SUCH DEVIATION MUST BE AGREED UPON BY JOB SUPERINTENDENT AND PUBLIX REPRESENTATIVE.

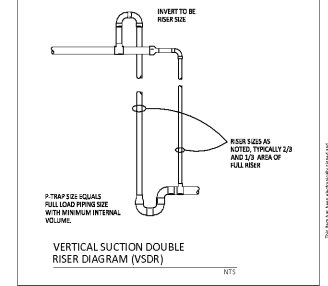
DRAIN PAN NOTE:

FOR ALL OVERHEAD OR REFRIGERATION PIPING IN FOOT PATH AREA OF SALES FLOOR, THE REFRIGERATION INSTALLATION CONTRACTOR SHALL PROVIDE AND INSTALL DRAIN PANS AS PER TYPICAL DETAIL 7 ON SHEET R-3.1.

REFRIGERATION AND PLUMBING CONTRACTORS SHALL COORDINATE REFRIGERATION DROPS AND VENT PIPES TO RUN BUNDLED TOGETHER.

NOTE:

REFRIGERATION INSTALLATION CONTRACTOR TO COORDINATE REFRIGERATION PIPING WITH DUCTWORK INSTALLER.



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PUBLIX
SUPER MARKETS

REFRIGERATION FLOOR PLAN - SYSTEMS & VALVES
EAST COBB PUBLIX - #1745
EAST COBB CROSSING SHOPPING CENTER
ROSEWELL ROAD
MARIETTA, GA 30068

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R-11

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