Date: 01/22/14

MODEL NO. IRW1-3 "ECO-COOL" INDOOR WATER COOLED REFRIGERATION SYSTEM

NOTES:
? PROVIDED WITH A PRIMARY HIGH EFFICIENCY DIGITAL SCROLL COMPRESSOR FOR MEDIUM AND LOW TEMP FIXTURES WITH A STAND BY SCROLL WITH MANUAL CHANGE OVER FOR 100% REDUNDANCY.
? MED TEMP COMPRESSOR PROVIDED WITH AN OS4-07 AND LOW TEMP PROVIDED WITH OS4-05 OIL SEPARATOR.

SYSTEM DETAILS

RACK MODEL NO: IRW1-3 "ECO-COOL"
DESCRIPTION: INDOOR WATER COOLED
DIMENSIONS: 60" (L) X 40" (W) X 54" (H)
WEIGHT: 905 LBS.
FLOW RATE: 20.2 GPM
PRESSURE DROP: 9.8 PSIG
INCOMING WATER TEMP: 40"-90" F
MAXIMUM OPERATING PRESSURE: 150 PSI
THR (INTO WATER): 101,221 BTU/H
HEAT EMISSION: 3,665 BTU/H
WATER INLET/OUTLET: 1-3/8"

ENGINEERING SUMMARY

POWER SUPPLY: 208-230/60/3
CONNECTED LOAD: 54.2 AMPS

MAX FUSE SIZE: 70 AMPS
MINIMUM CIRCUIT AMPACITY: 60.7

SYSTEM	ITEM #	FIXTURES DESCRIPTION	TEMP F.IXT.	TEMP SUCT.	REFRIG. R-	REQ'D FIXTURE BTU/H	COMPRESSORS MODEL NO.	H.P.	RATING @ 60 Hz RLA	V	PH	BTU CAP. @ 90°F	TYPE	EVAPORATOR COILS MODEL NO.	FAN MOTORS @ 60 Hz QTY.	RLA	V	PH	HEATERS @ 60 Hz RLA	V	PH	DEFROST TYPE	TOTAL SYSTEM LOAD L1	L2	L3	DEFROST CLOCK	REFRIGERANT LINE SIZES SUCT.	LIQ.	LINE TYPE	ACCESSORIES THERMOSTAT	SOL. VALVE	TXV
A1	3	2 SECT. REACH IN REFRIG	30		404A	2560								BY OTHERS													3/8	3/8	B	0	0	0
A2	13A-1	CHEFS COUNTER REFRIG PREP BASE	30		404A	3000								BY OTHERS													3/8	3/8	B	0	0	0
A3	15A-1	CHEFS COUNTER REFRIG PREP BASE	30		404A	3000								BY OTHERS													3/8	3/8	B	0	0	0
A4	15B	CHEFS COUNTER REFRIG BASE	30		404A	2000								BY OTHERS													3/8	3/8	B	0	0	0
A5	20	BACK BAR COOLER	30		404A	3064								BY OTHERS													3/8	3/8	B	0	0	0
A6	20	BACK BAR COOLER	30		404A	3064								BY OTHERS													3/8	3/8	B	0	0	0
A7	20	BACK BAR COOLER	30		404A	3064								BY OTHERS													3/8	3/8	B	0	0	0
A8	57	2 SECT REACH IN REFRIG	30		404A	2560								BY OTHERS													3/8	3/8	B	0	0	0
A9	96	PRODUCE COOLER	35		404A	11750								ADT-120	1	1.8	115	1	–	–	–	O.C.				GRSLN	7/8	3/8	B	FE	FE	FE
A10	98	MEAT COOLER	35		404A	6832								ADT-070	1	1.8	115	1	–	–	–	O.C.				GRSLN	1/2	3/8	B	FE	FE	FE
A11	103	BEER COOLER	35		404A	11173								ADT-120	1	1.8	115	1	–	–	–	O.C.				GRSLN	7/8	3/8	B	FE	FE	FE
A		MED TEMP DIGITAL SCROLL		20	404A		ZBD45KCE	6.0	22.5	208	3	57500	Z										22.5	22.5	22.5		1-3/8	5/8	M			
B1	13A-2	CHEFS COUNTER REFRIG PREP RAIL	0		404A	2815								BY OTHERS													1/2	3/8	B	0	0	0
B2	13B	CHEFS COUNTER FRZR BASE	0		404A	4266								BY OTHERS													5/8	3/8	B	0	0	0
B3	15A-2	CHEFS COUNTER REFRIG PREP RAIL	0		404A	2815								BY OTHERS													1/2	3/8	B	0	0	0
B4	100	WALK-IN FREEZER	-10		404A	8001								LET-065	1	1.0	208	1	7.8	208	1	ELEC	7.8	7.8	–	PARAGON	7/8	3/8	B	FE	FE	FE
B		LOW TEMP DIGITAL SCROLL		-20	404A		ZFD13KVE	4.0	17.1	208	3	16600	Z														1-1/8	5/8	M			
C	(MCO)	MT/LT STAND-BY COMP			404A		ZS45K4E	6.0	23.9	208	3	–	Z										23.9	23.9	23.9							
																							54.2	54.2	46.4							

UL LISTED FINAL ASSEMBLY

NOTE:
IT IS THE INSTALLING CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL APPLICABLE CODES AND CURRENT REFRIGERATION INDUSTRY STANDARDS AND PRACTICES WHEN DETERMINING LINE SIZES, AND INSTALLING AND STARTING UP RDT EQUIPMENT.

COMPRESSOR TYPE
S SEMI-HERMETIC
H HERMETIC
Z SCROLL

DEFROST TYPE
O.C. OFF CYCLE
ELEC ELECTRIC

LINE TYPE
M MAIN – UP TO 150'
B BRANCH – UP TO 50'

EVAPORATOR ACCESSORIES
FE FACTORY EQUIPPED ON EVAP
FR FACTORY EQUIPPED ON RACK
L LOOSE (FIELD INSTALLATION)
O PROVIDED BY OTHERS

APPROVAL STATUS

THIS DRAWING REPRESENTS OUR UNDERSTANDING OF THE SPECIFICATIONS. PLEASE REVIEW IT CAREFULLY FOR ACCURACY. CLEARLY AND IN DETAIL NOTE CHANGES REQUIRED.

MARK APPROPRIATE BOX, SIGN AND DATE BELOW.

☐ APPROVED FOR FABRICATION NO CHANGES
☐ APPROVED FOR FABRICATION WITH CHANGES NOTED
☐ REVISE AND RE-SUBMIT DRAWING

BY: _____

DATE: _____

NOTICE

THIS DRAWING BEING AN INSTRUMENT OF SERVICE IS AND WILL REMAIN PROPERTY OF REFRIGERATION DESIGN TECHNOLOGIES AND CANNOT BE USED WITHOUT WRITTEN AUTHORIZATION.

No.	Revision/Issue	Date
0	ORIGINAL ISSUE	10-17-13

PLAN VIEW / CLEARANCE REQUIREMENTS

MINIMUM CLEARANCE REQUIRED FOR SERVICEABILITY

VERTICAL RISE DETAIL

? Insulate suction lines with 3/4" wall Armaflex insulation.
? All joints soldered with minimum 15% silver content welding rod.
? Install "P" trap on suction line every 15' vertical rise.
? Not to exceed 45' vertically over all.
? Install inverted trap on top of the rise to prevent oil from seeping down when fixture(s) is turned off.

EVAPORATOR DETAILS - MODEL ADT & LET

ADT Size	DIMENSIONS A Inches	B Inches	C Inches	D Inches	CONNECTIONS (Inches) Coil Inlet	Suction	Drain	Approx. Net Wt. Lbs.	ELECTRICAL DATA Qty. Motors	EC Motor Fan Amps 115V	208V
070	45-1/2	33-1/4	–	–	1/2 OD	7/8 OD	3/4 MPT	45	2	1.8	1.0
120	45-1/2	33-1/4	–	–	1/2 OD	7/8 OD	3/4 MPT	51	2	1.8	1.0

LET Size	DIMENSIONS A Inches	B Inches	C Inches	D Inches	CONNECTIONS (Inches) Coil Inlet	Suction	Drain	Approx. Net Wt. Lbs.	ELECTRICAL DATA Qty. Motors	EC Motor Fan Amps	Heater Amps as wired for 208-230/60/1	208-230/60/3	460/60/1
090	45-1/2	33-1/4	–	–	1/2 OD	7/8 OD	3/4 MPT	48	2	1.0	7.8	4.5	3.9

EVAPORATORS PROVIDED WITH EC MOTORS TO COMPLY WITH U.S. ENERGY INDEPENDENCE ACT OF 2007

IRWEC SERIES "ECO-COOL" ENGINEERING SPECIFICATIONS

Multi compressor, indoor, remote water cooled parallel refrigeration system. The refrigeration package shall be a pre-engineered and factory-assembled unit, trade name IRW2-5 "Eco-Cool", as manufactured by Refrigeration Design Technologies, 1808 FM Road 66, P.O. Box 622, Waxahachie, Texas 75168. Phone: (972) 937-3215; Fax: (972) 937-0970.

1. Water-Cooled Refrigeration System
The RDT UL Listed "Water-Cooled" Refrigeration system shall be housed in a single compact structural steel frame. The system shall include a water-cooled condenser designed to operate at 15 degrees TD. Entire tubular steel frame shall be pre assembled, welded, cleaned and painted with two coats of polyurethane. The water circuits of the condensers shall be valved separately and pre-piped to a common supply and return header. The header shall employ a bronze ball valve for connection to building condenser or chilled water supply.Suction line for low temperature units must be insulated with ?? Armaflex.

The refrigeration unit shall be equipped with the following components:

* R-404A Medium and Low Temp Compressors
* XC645CX Controller manufactured by Dixell
* Receiver with Relief Valve and Liquid Level Indicator
* Liquid Line Solenoids
* Evaporator Pressure Regulator (where required)
* Stainless Steel Super Hose Connection
* Adjustable Water Regulators
* Complete Manifold System – Pre-Piped and Mounted with Temperature Control, Electric Solenoid and Service Valve as needed
* Large Capacity, Oversized Receiver
* Pre-Wired Defrost Panel (where electric defrost is required)
* Liquid Sight Glass

2. Pre-Piping
All refrigerant lines shall be extended to one side of the package in a neat and orderly manner. All tubing shall be securely supported and anchored with non-corrosive coated clamps. All joints must be welded not soldered. All piping and controls shall be factory pressure-tested with nitrogen at 175 PSI.

3. Evaporator Coils
A. Evaporator coils shall be direct expansion type fabricated of copper tubes with aluminum fins.
B. All evaporators shall be provided with factory-mounted solenoid valve, thermostatic expansion valve and temperature sensor.
C. Refrigeration contractor to provide suction P trap.

4. Control Panel
The package shall have a factory-mounted U.L.-Listed and Labeled Pre-Wired Control Panels which feature a single Point Electrical Connection, Main Fused Disconnect, Individually Fused Circuits, Definite Purpose Contactors and Breakers

General Information
Contractors shall verify all dimensions and coordinate with other trades. General contractor shall prepare the platform, curbed openings and weatherproofing the unit after installation.

Refrigeration Contractor
All copper tubing to be refrigerant grade. A.C.R. or type "L.? Brazing should be used for all refrigerant piping. Silver solder or soft solder is not acceptable. All piping to be pressure tested with nitrogen at 300 psi. After the condensing unit and coil have been connected the balance of the system shall be leak tested with the valves open at 200 psi. The complete system shall be evacuated with a vacuum pump. Sich unit should be charged tested and adjusted to assure operation. Refrigeration contractor should provide and install the drain-line heater in freezer. Heater shall be connected by electrical contractor.

Electrical Contractor
Electrical contractor to provide power for refrigeration package and connect control and defrost system as called for in the wiring diagram. Electrical contractor to provide 6-wire color-coded service from the time clock at the refrigeration package to blower coil in fixture when electric defrost is used, either cooler or freezer. Electrical contractor to connect drain-line heater in the freezer. All electrical wiring and installation shall be in accordance with the wiring diagram and local codes.

Plumbing Contractor
Plumbing contractor to Provide ?? A.C.R or "L" copper drain lines for walk-in refrigerator and freezer, pitched 1/4" per foot of run. Plumbing contractor to fit condensate drain lines with ?? sweat union. Trap drain-line outside of refrigerated space to avoid entrance of warm, moist air. Plumbing contractor to provide individual drain-line for each evaporator unless other arrangements made.
All plumbing installation shall be in accordance with local codes.

EVAPORATOR MOUNTING DETAIL (TYPICAL)

WIRING DIAGRAM DIAGRAM: TI-1

TIME-INITIATED, TIME TERMINATED CLOCK FOR WALK-IN COOLER

Note:
Refrigerator time clock provided pre-mount to housing of evaporator assembly.

FACTORY WIRING ————
FIELD WIRING — — — —

WIRING DIAGRAM - ELECTRIC DEFROST

ELECTRIC DEFROST COIL TERMINAL BOARD

NOTE: Factory installed expansion valve, solenoid valve and thermostat with factory wired on/off power switch. Power switch requires field wiring from switch to "N" and "4" at electric defrost time clock.

FACTORY WIRING ————
FIELD WIRING — — — —

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-
-

Press Hotel
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Project	Sheet
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1	13_07-01	30% Marriott Submission
2	13_09-09	60% Marriott Sub. & Pric.
3	13_10-14	Issue for Bid & Marriott Revw

Scale: None

Date: 10 OCT 13

Foodservice Equipment
Water-Cooled Compressor
Rack Detail

FS-10