



Modular Walk-In Freezer
Technical Manual

Installation, Operation, and Maintenance Instructions

Models:

WIF

Shipboard Freezer Space

8'4" Wide X 8'0" Deep X 7'9" High



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Chapter 1 – General Information

1.1 Introduction

This technical manual provides information on the installation, operation, maintenance, and inspection of this walk-in freezer space manufactured by **Cospolich Inc.**, Destrehan, Louisiana. The Cospolich Marine Walk-In Freezer Storage Space is engineered and built for the specific requirements of the marine shipboard environment. In its design special consideration has been given to compensate for the vibrations, movements, and rough duty which are normal for this application.

Additionally integral to the design of the freezer space is the capability of being disassembled in the future with the ability to be relocated and/or reassembled at the discretion of the end user.

A complete parts breakdown is provided in Chapter 7.

1.2 Scope of the Manual

This technical manual provides information for installation, operating, preventative maintenance, and service instructions, including applicable drawings and figures of the equipment. This information is located throughout the manual and has been formatted to pertain specifically to the needs of the end user of the equipment.

1.3 Equipment Description

The unit consists of the following parts:

- A. Storage Compartment - The storage compartment is clear storage area.
- B. Door(s) – Access to the storage compartment is through a hinge mounted door.
- C. Condensing Unit — The condensing unit assembly is located remotely outside of the freezer space adjacent to the exterior wall.

- D. Evaporator Coil Assembly— The evaporator coil assembly is located in the storage compartment and is responsible for distributing the cold air associated with the refrigeration system.
- E. Controls & Power-Disconnect Assembly — The electronic controls, fuse panel, and power-disconnect switch are located on the exterior side of the freezer space.
- F. Interior Shelving —The shelving consists of vertical lengths, horizontal battens, and flat shelves. Designed for marine shipboard use with high capacity storage.
- G. Floor Grating —The removable aluminum floor grating covers the entirety of the floor surface.

1.4 Equipment Supplied

The unit is shipped from the factory disassembled, palletized and crated to minimize the possibility of damage in shipping and storage. The following materials are furnished as part of the equipment installation package:

- Silicone Caulking (Grey Aluminum Color)
- Caulking Gun(s)
- Fastener Cap Screws
- Camlock Installation Wrenches (5/16")
- Vinyl Caps/Plugs (Grey Color)

NOTE: All tubes of caulking should be stored in a temperature-controlled area between 75 and 90 degrees Fahrenheit to ensure ease of application during installation.

The following panels and components are included as the main structure of the Freezer Walk-In Space:

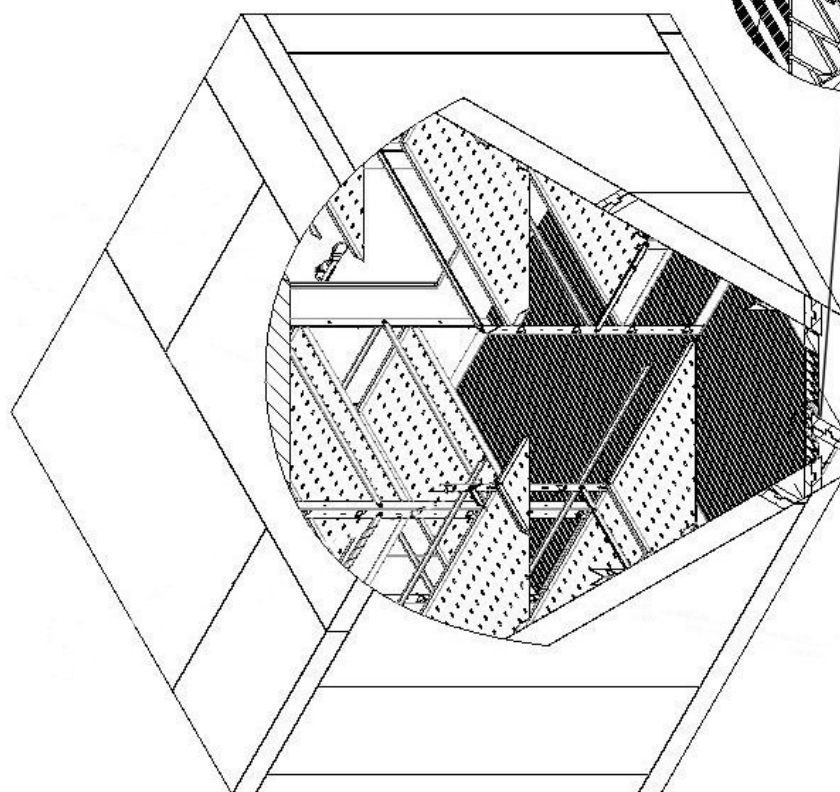
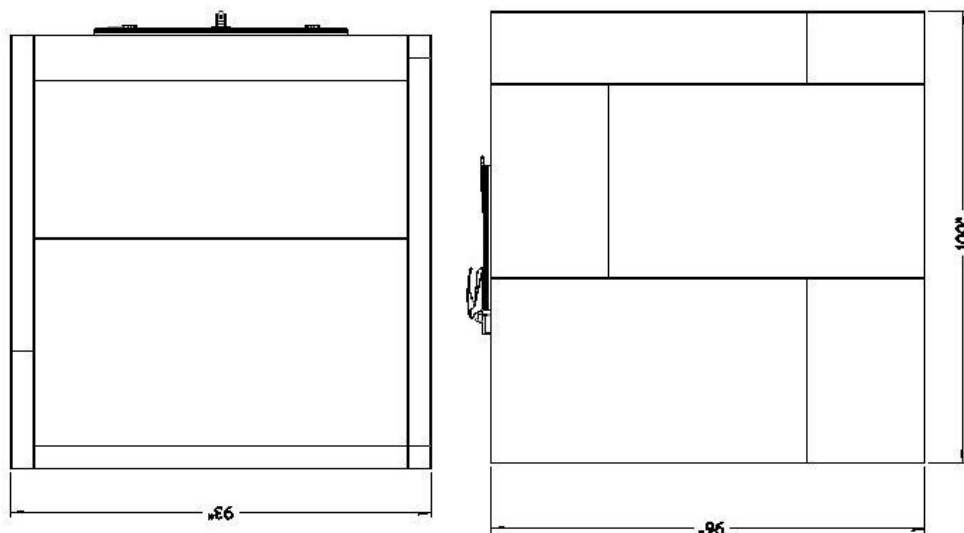
- Wall Panels
- Corner Panels
- Door Section Wall Panel with Integrated Door
- Floor Panels
- Ceiling Panels
- Removable Floor Grating
- Interior Shelving

Table A—Leading Particulars

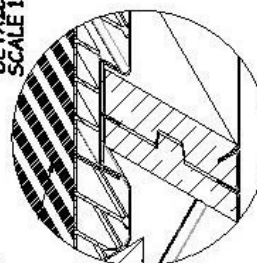
MANUFACTURER:	Cospolich Inc. Destrehan, Louisiana 70047
TYPE:	Modular Walk-In Freezer
MODEL:	WIF
PURPOSE:	Storage of Refrigerated and/or Frozen Materials
ELECTRICAL REQUIREMENTS:	Power Supply - 460 Volt AC, 60 Hz, 3 Phase RLA - 5.0 RLA Max Fuse Size: 15 Amp
REFRIGERANT:	404A
DRAIN:	Must be piped into ship's drainage system during installation
DIMENSIONS:	8'4" WIDE X 8' DEEP X 7'9" HIGH

Illustration 1.A – General Arrangement Drawing

FREEZER NO2 2-171-1Q



DETAIL 6
SCALE 1:5



ITEM: Freezer NO2 2-171-1Q	PROCESS: GA
PROJECT: CVNTS	DWG # 92407-GA-1
DATE: 12/16/2010	DWG. GB
SCALE: 1:20	BY: -
NORCO, LOUISIANA	
COSPOLICH INC.	
SHEET 1 of 6	

This drawing and all information contained on it are proprietary to Cospolich Inc. and cannot be released, reproduced or otherwise misused without the written approval of Cospolich Inc.

Chapter 2—Operation

2.1 Introduction

This model is a heavy-duty piece of cold storage equipment designed for continuous use. It incorporates electronic controls to regulate the cycling and temperature of the refrigeration system.

2.2 Table B—Controls and Indicators

Name	Type	Function
High Pressure Switch	Electronic	Safety Switch (Automatic)
Low Pressure Switch	Electronic	Safety Switch (Automatic)
Suction Valve	Manual Plunger Valve	Isolate suction at the Compressor
Discharge Valve	Manual Plunger Valve	Isolate discharge line at receiver
Electronic Controller	Push Button Electronic, Digital Display	Cycles Refrigeration System (Automatic)
Solenoid Valve	Automatic Plunger	Shuts off refrigerant flow
Light Switch	Manual Rocker Type	Activates interior lighting
Breaker Panel	Contact Points	Connect/Disconnect main power supply
Sight Glass	Liquid Indicator	Visual level of refrigerant

Illustrations 2.A, 2.B, 2.C, 2.D—Condensing Unit Assembly, Electronic Controls, Digital Temperature Read-Out, & Power-Disconnect Switch

Illustration 2.A: Condensing Unit Assembly

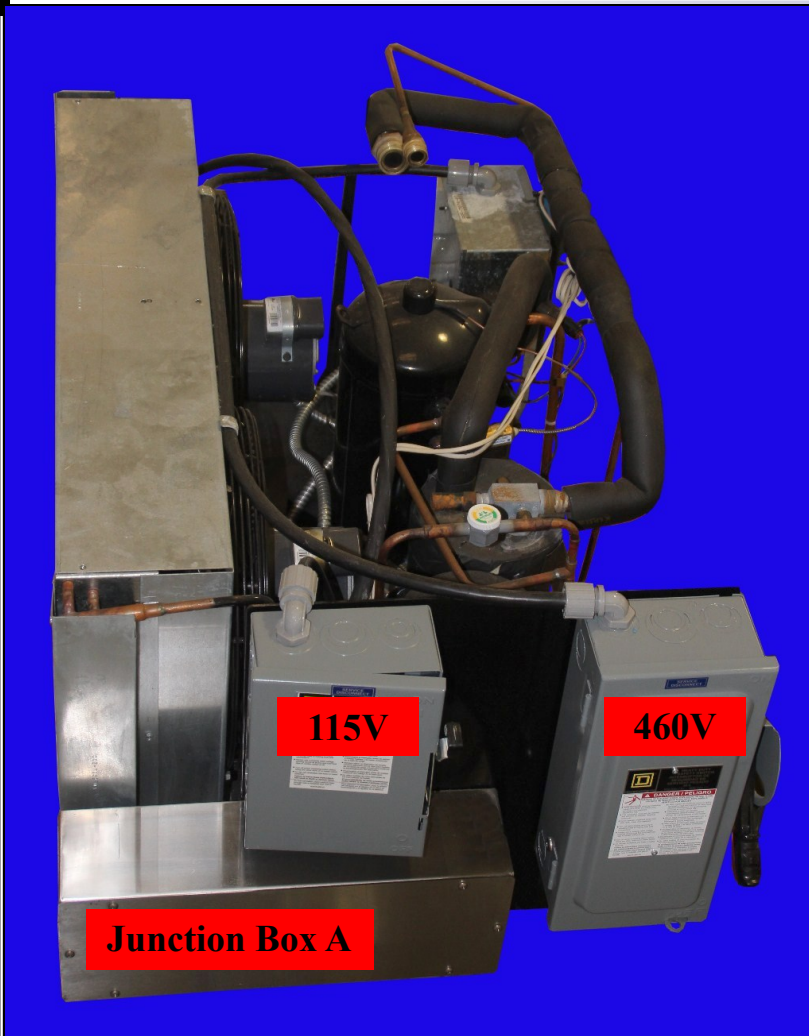


Illustration 2.C: LED Digital Temperature Read-out and Light Switch, Junction Box E

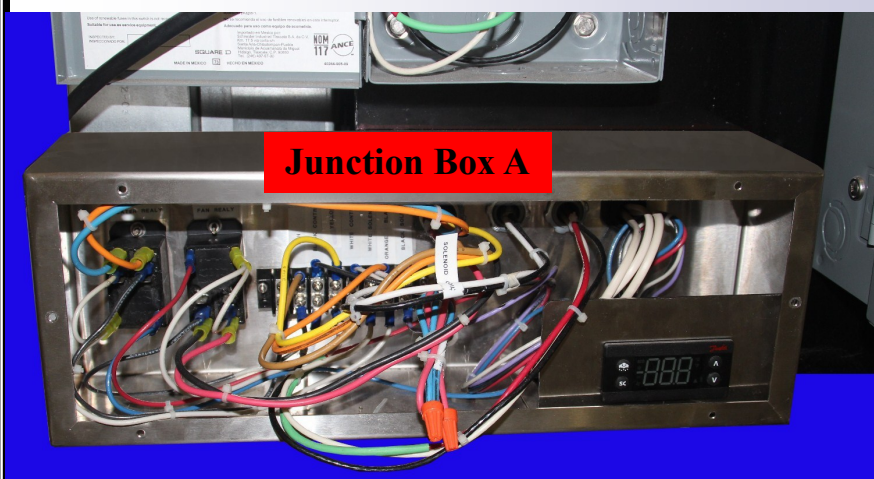


Illustration 2.B:
Electronic Controls (Cover
Removed to show Electronic
Controller), Junction Box
A



Illustration 2.D:
Power-Disconnect Switch

2.3 Start Up Procedure

1. Prior to start up, using a voltage meter, confirm that the correct 460V, 3-Phase electrical supply voltage is present.
2. Make sure all electrical connections are properly installed and secure.
3. When connecting the refrigeration quick connect fittings, make sure they are sealed/connected tightly and properly insulated.
4. To prevent excessive noise and vibration, see that the condensing unit skid is installed securely to the stand.
5. Check all bolts fastening the refrigeration stand to the cooler. Confirm that they are installed properly and fastened tightly.
6. Energize the unit by flipping the power interrupt switches to the "ON" position.
7. Check all interior lighting and confirm it is operating properly.
8. Using the electronic controller, start up the condensing unit. Let the system operate for 2-5 minutes, then locate the liquid refrigerant sight glass. The glass should appear clear and full of refrigerant.
9. Let the freezer space pull down to the proper temperature and cycle for 3 hours prior to loading any product.
10. If at any time the unit does not perform to specification, please call the Cospolich support team at (985) 725-0222 for assistance.

2.4 Shut Down Procedure

1. Fully close the discharge valve at the receiver. The compressor will then pump the liquid refrigerant from the system into the receiver.
2. Fully close the suction valve at the compressor. This will isolate the refrigerant between the two valves.
3. De-energize the system by flipping the power-interrupt switches to the "OFF" position.
4. Open main door to allow the interior of the freezer space to equalize with the ambient room temperature. This will prevent any unnecessary condensation or odors from forming within the space.
5. A mild detergent, diluted with water, may be used to clean the interior surfaces of the freezer space.
6. To clean the subfloor, begin by removing the floor grating. Each piece is labeled and a drawing is provided to assist with placing each in their original locations.
7. For extended periods of inactivity, turn the main breaker to the unit to the "OFF" position.

NOTE: Should technical assistance be required during shut down, contact Cospolich customer service at 1-800-423-7761, 1-985-725-0222, or cospolich@cospolich.com.

Chapter 3—Functional Description

3.1 System Description

The unit is a self-contained, automatically controlled, continuous duty perishable product storage system. It is designed with the intent and purpose of storing refrigerated and/or frozen items.

The operating temperature is automatically monitored by the electronic controls that are factory set to maintain a predetermined adequate storage condition.

The equipment is comprised of the following three basic compartment assemblies:

1. Digital Temperature Read Out & Light Control Panel—Located on the front exterior wall of the freeze space, adjacent to the door. Displays the internal temperature of the freeze space and controls the interior lighting.
2. Storage Compartment—The insulated storage area is a temperature controlled refrigerated area. Included in this compartment is the evaporator coil assembly and product storage shelving.
3. Condensing Unit Assembly, Main Fuse Panel, & Power-Disconnect Switches—Located on the exterior of the freeze space, contains the condensing unit assembly, main fuse panel, and the power-disconnect switches.

3.2 System Operation

The design of the freeze space focuses primarily on the safe storage of frozen products requiring refrigeration. In engineering, considerable attention was placed on not only its functionality, but also serviceability.

The refrigeration system is a closed loop system. Barring a leak in the system, the addition of refrigerant will not be necessary. A periodic check of the refrigerant level, however, is recommended to insure that the system operates at the optimum level at which it was designed.

Chapter 4—Scheduled Maintenance

4.1 Introduction

To ensure the longest and most trouble free operation, a thorough periodic maintenance schedule is required. The maintenance system should be aimed at maximizing the efficient utilization of maintenance personnel, minimizing down time, and providing the orderly acquisition of spare parts support.

The Cospolich Freezer Space will generally be in operation in a facility where scheduled maintenance is performed according to Maintenance Index Plans. This unit requires regular maintenance. This chapter is intended as an alternative to any standard maintenance program that may pre-exist. The preventative maintenance schedule is based upon similar maintenance requirements for commercial refrigeration equipment.

4.2 Preventive Maintenance Action Index

If there is not a maintenance index plan, we have formulated our schedule for periodic maintenance in Table C.

4.3 Preparation for Maintenance

Since many areas affected in the maintenance schedule are electrically supplied, it may be necessary to de-energize the system prior to making these inspections.

4.4 Maintenance

A. Monthly Maintenance

1. The unit should first be de-energized by switching the main breaker and power-interrupt switches to the "OFF" position.
2. Locate the condensing unit and, using a vacuum or soft brush/broom, brush the condenser fins in a vertical motion to remove dust or debris.

3. Check the drain line at both the inlet and outlet ends to make certain that there are no obstructions (forced air evaporator models only). The preferred method for clearing drains is to use compressed air, with approximately 60 psi being sufficient to free most obstructions. To do so, simply remove the drain line at the evaporator coil and attach an air line to it.
4. With the unit in a cooling cycle, use a flashlight and locate the refrigerant sight glass. If the compressor has been running for 3 or more minutes, there should be no visible bubbles.

A. If bubbles are present:

- Determine if there is a leak by using an electronic leak detector. Repair any/all leak(s).

Warning: *The system should be de-energized when checking for leaks.*

B. To repair leaks:

1. Flared Fitting: Can often be repaired by simply tightening the brass flare nut 1/4 of a turn. If tightening does not repair the leak, it may be necessary to re-flare the tubing.
2. Brazed Joint: (Low Side) It is necessary to pump down the system's refrigerant charge to remedy the problem. To pump the refrigerant into the receiver, you must first connect service gauges to the system at the suction valve on the compressor and the liquid valve on the receiver. Purge the gauges before opening the systems valves to avoid contamination. Run the receiver (liquid or high pressure) valve all the way in to stop the refrigerant from exiting the receiver. Start the unit and allow it to run until the suction or low pressure gauge reads 5 psi, then de-energize the system. Once pumped down, it is necessary to recover the refrigerant using an ASTM approved method, then the necessary repairs can be made.
3. Brazed Joint: (High Side) To make a high side repair, it is necessary to recover all refrigerant using an ASTM approved method prior to beginning any work.

5. Using a mild non-abrasive detergent and soft cloth, wipe the interior lining, beginning with the top, and working down. Also, wipe the gasket and where it sits on the cabinet interior.
6. With the condensing unit de-energized, check the condenser fan motor and make certain that it is secure and not loose. Inspect the fan blade for cracks and make sure it is tight on the motor.
7. To inspect the evaporator motor, de-energize the unit. Loosen the drain line from the evaporator pan. Loosen the screws that hold the shroud. Lower the shroud and disconnect the polarized electrical connection. With the shroud out of the cabinet, proceed to inspect the motor mounting bolts and the fans for cracks or excessive play.
8. Using a mild detergent and water, wipe the vinyl/foam gasket. Make certain to clean under the gasket to remove any mildew or residue that may have accumulated.
9. Using a mild, non-abrasive detergent and water, wipe the freeze space exterior, paying careful attention to wipe the panels in the direction of the stainless steel grain texture.

B. Annual Maintenance

1. Check all refrigerant lines for leaks or fatigue. Make certain that no exposed copper tubing is in contact with any other metal surface. If there is contact, install an insulating material between the two metal components.
2. With the breaker and power-disconnect switches at the main panel "OFF", inspect the system's wiring. Look for a tight fit of all connections and make certain that the wire restraining devices are tight. Inspect all wires and cords, paying particular attention to nicks or age cracks in the insulation.
3. Visually inspect the outer panels, seams, and components of the cabinet. Check screws, bolts, and all camlocks to make certain that they are tight and properly secured. Check all seams to ensure they are still sufficiently sealed with silicone to prevent fluid infiltration and bacterial growth.

C. 3-Year Frequency Maintenance

1. Replace the door gasket(s). Remove the original gasket and all leftover glue residue. Clean surface as much as possible. Install new gasket by removing paper backing and adhering to door perimeter. It may be necessary to add additional glue to reinforce the adhesion.
2. Inspect all motors and shafts for noise & wear, replace if necessary.
3. With the unit de-energized, locate the condensing unit and inspect all wiring for signs of fatigue or wear.
4. Inspect the operation of the door latch assembly (when applicable). Check for signs of wear, loose screws, or mechanical failure.
5. Inspect the operation of the door hinges. To do so, open the door at a 90° angle to the door frame and lift on the outer edge of the door. If there is upward movement of ½" or more, replace the hinges.

Table C—Preventive Maintenance Action Index

	Frequency	Description
1.	Monthly	<ul style="list-style-type: none">A. Inspect condenser coil to make certain air flow is not obstructed and that it is clear of dust and debris.B. Inspect and clear drain line.C. Check liquid refrigerant sight glass for proper refrigerant charge.D. Clean interior and exterior of freeze space with mild detergent and water, dry thoroughly.E. Check both condenser fan motor and evaporator motor(s) for proper function and that they are mounted securely.F. Clean door gaskets and breaker strips with a damp cloth.
2.	Annually	<ul style="list-style-type: none">A. Locate condensing unit, check all joints and fittings for signs of wear, leaks, or fatigue.B. Inspect electrical connections to make certain that there is a good contact and that wires are neither weakened or frayed.C. Check the integrity of the freeze space structural panels.
3.	3-Year	<ul style="list-style-type: none">A. Replace all door gaskets.B. Inspect motor shafts for noise or wear.C. Inspect electrical controls and wiring.D. Inspect door latch (when applicable) and hinges.

4.5 Cleaning

Refer to Table D for proper cleaning protocols for the Cospolich Freeze Space.

Table D—Cleaning

NOTE: It is highly recommended that the unit be turned off and disconnected from power prior to all cleaning.

Detail	Solution	Frequency
Spills - Clean all spills promptly to avoid staining and odors.	Warm, soapy water	Immediately
Freeze Space- Remove all contents and floor grating. Wipe interior, exterior, floor, shelving, and doors with solution.	1-2 tablespoons of baking soda per 1 quart of warm water	Weekly
Gasket(s) - Clean gasket(s) thoroughly with solution. Clean sealing surface and the surface behind the flap.	1-2 tablespoons of baking soda per 1 quart of warm water	Weekly
Shelving - Remove horizontal shelves from cabinet. Clean thoroughly.	1-2 tablespoons of baking soda per 1 quart of warm water OR hot water at high pressure	Monthly
Fan blades - Wipe evaporator and condensing unit fan blades clean.	Warm water	Monthly
Drain lines - Clean all drain lines (evaporator, cabinet).	Warm water and bleach	Monthly

Chapter 5—Troubleshooting

This chapter will assist in a systematic check of components in determining any cause of equipment failure.

It will be necessary that the individual involved in the troubleshooting operation be familiar with the function of the equipment as described in Chapter 3.

The following table lists the most common symptoms that may be experienced and the recommended corrective action. The tables are separated into electrical maintenance, mechanical maintenance, and operators' actions.

Table E—Mechanical and Electrical Troubleshooting Guide

Symptom	Possible Failure	Remedy
Unit does not operate	A. Control failure B. Incorrect voltage C. Failed compressor	A. Adjust control or replace B. Evaluate and correct C. Replace
Unit runs continuously	A. Control failure B. Bad connection at TXV expansion valve C. Restricted air flow D. Bad condenser fan motor E. TXV valve stuck open F. Ineffective door seal G. Restricted air flow in storage compartment	A. Adjust control or replace B. Check and secure sensor bulb to suction line C. Clear obstruction and clean condenser D. Remove and replace E. Remove and replace F. Adjust door latch and hinges G. Redistribute contents for unobstructed air flow
Low Head Pressure	A. Defective compressor B. Low refrigerant	A. Remove and replace B. Leak check & recharge
High Head Pressure	A. Dirty condenser B. System contains air C. Refrigerant overcharge D. Condenser fan bad	A. Clean condenser fins B. Evacuate, change filter dryer, recharge C. Reduce quantity of refrigerant D. Remove and replace
Short Cycling	A. Maladjusted control	A. Adjust control

Chapter 6—Parts List

6.1 Introduction

This section of the manual contains lists of replaceable parts. Each of the tables contain a list of removable parts associated with an assembly of the cabinet . No parts identification has been provided for details of permanently assembled items or those items that are not suitable for field repair.

6.2 Source Codes

The sources for some items are shown in the part tabulation. Where no individual source code is listed, the part is available through Cospolich Inc. , PO Box 1206, Destrehan, LA 70047 (Fed. Mfg. Code #66682).

Table F—Source Codes

Code Number	Name	Address
14852	Bohn Heat Transfer	Danville, IL 61834
32761	Kason Industries	Newnan, GA 30265
50992	Ranco Controls	Plain City, OH 43064
78462	Sporlan Valve	Washington, MO 63090
14569	Copeland Corporation	Sidney, OH 45365
17529	Oasis	Vacaville, CA 95687
59431	Tecumseh Products	Ann Arbor, MI 48108
49048	Miljoco Corporation	Mt. Clemens, MI 48043
42020	Nashville Wire Products	White Bluff, TN 37187
79264	Jean's Extrusions, Inc.	Salem, IN 47167
2K223	Refrigeration Hardware	Grand Junction, CO 81505
09966	Instrument Systems Corp.	Jericho, NY 11753
60886	Idec Corporation	Sunnyvale, CA 94089
19220	Eberhard, Inc.	Strongsville, OH 44149
66682	Cospolich, Inc.	Destrehan, LA 70047

Table G—Parts List for WIF

	ITEM	COSP#	MFG#	Vendor	QTY	U/M
1	BLACK FOAM DOOR GASKET	GX4215EU	#8002 EPDM W/CCT#1574	ATLAS	18	FT
2	DOOR HINGE	HXHE03	1251	KASON	3	EA
3	DOOR LATCH	HXLH03	0055000028	KASON	1	EA
4	DOOR HOLD BACK HOOK SET; CHROME	HXLH09*	15101000004	KASON	1	EA
5	HEATER WIRE, 176", ALUMINUM BRAID	L1HA176H	64-250	RHS	1	EA
6	DOOR STRIKE	HXLH03-S	0055000112	KASON	1	EA
7	MAN-TRAPPED ALARM ASSEMBLY (JUNCTION BOXES F & G)	AMT01	AMT01	COSPOLICH	1	EA
8	LED LIGHT FIXTURE, 48"	LRSK10	1810	KASON	1	EA
9	PLASTIC ENCLOSURE, 7" X 5" , NEMA4	LENC15	VM753CT	MG	1	EA
10	SINGLE CONTROL PANEL, W/LED THERMOMETER & LIGHT SWITCH (JUNCTION BOX E)	RCTL61	RCTL61	COSPOLICH	1	EA
11	LIGHTED ROCKER SWITCH	LWSR01	G31-441	JOHNSTONE	1	EA
12	4-POSITION BARRIER STRIP	PCBS01	274-658	MG	4	EA
13	6-POSITION BARRIER STRIP	PCBS02	274-659	MG	1	EA
14	TRANSFORMER, 115V-25.2V AC	PCPT56	273-1366	RADIO-SHACK	1	EA
15	LED THERMOMETER, FAHRENHEIT	RWTM14	ED1759102-240	MILJOCO	1	EA
16	ENCLOSURE BACKING PLATE	LENC09B	A8P6	NULITE	1	EA
17	CONDENSING UNIT ONLY	RUT982	DJAL-020Z-TFD-020	EMERSON	1	EA
18	FILTER DRYER	RWFD03	C-083-S	SPORLAN	1	EA
19	RELAY, 120V, 30 AMP	PCCR64	886-0144	ALLIED	2	EA
20	FUSE, TIME DELAY, 15 AMP, 600V	RWIE32	TRS15RID	NULITE	3	EA
21	FUSE, TIME DELAY, 25 AMP, 250V	RWIE33	TR25RID	NULITE	2	EA
22	SAFETY SWITCH DISCONNECT, 115V, 2 POLE, 30 AMP	RWQDCD221	D221N	NULITE	1	EA
23	SAFETY SWITCH DISCONNECT, 460V, 3 POLE, 30 AMP	RWQDCH361	H361	NULITE	1	EA
24	MODULAR QUICK CONNECT FIT- TING, 7/8"	RWQF1412	5500-14-12	PARKER	2	EA

Table G—Parts List for WIF

	ITEM	COSP#	MFG#	Vendor	QTY	U/M
25	MODULAR QUICK CONNECT FITTING, 3/8"	RWQF0068	5500-06-08	PARKER	2	EA
26	SIGHT GLASS, 3/8" ODF	RWSG03	SA-13S	SPORLAN	1	EA
27	EVAPORATOR DEFROST SENSOR, 236"	RWTS17	080G2029 33/12	DANFOSS	1	EA
28	CABINET AIR SENSOR, 236"	RWTS16	080G2019 33/12	DANFOSS	1	EA
29	CONDENSER SENSOR, 59"	RWTS13	077F8760	DANFOSS	1	EA
30	ELECTRONIC CONTROLLER	RWTT66	ERC102D	DANFOSS	1	EA
31	COMPRESSOR, 460V, 404A	RUT983	ZF08K4E-TFD-231	EMERSON	1	EA
32	ACCUMULATOR TANK	RWAC02	577-0421-01	EMERSON	1	EA
33	CONDENSER FAN BLADE	RWFB46	083-0103-02	EMERSON	1	EA
34	ELECTRONIC UNIT CONTROLLER	RWTT67	943-0152-00	EMERSON	1	EA
35	8 POSITION TERMINAL STRIP	PCBS03	#208	MARATHON	1	EA
36	ALARM LIGHT, GREEN	ALBL02	272-0708	ALLIED	1	EA
37	MAN-TRAPPED ENCLOSURE	MTAENC01	Q1PBPCD	NULITE	1	EA
38	CONDENSER FAN GUARD	RWFG21	024-0216-00	EMERSON	2	EA
39	CONDENSER FAN MOTOR, 460V	RWCM70	050-0319-00	EMERSON	2	EA
40	PIEZO BUZZER, 115V	PCEB01	20000-83	MG	1	EA
41	PLASTIC STRAIN RELIEF, ELBOW, 1/2"-5/8"	PLSR04*	5D901	GRAINGER	1	EA
42	PLASTIC STRAIN RELIEF, ELBOW, 3/8"-1/2"	PLSR03	5D900	GRAINGER	2	EA
43	PLASTIC STRAIN RELIEF, STRAIGHT, 1/2"	PLSR02*	5D885	GRAINGER	1	EA
44	PLASTIC STRAIN RELIEF, STRAIGHT, 3/8"	PLSR01	5D884	GRAINGER	3	EA
45	RECEIVER TANK	RWRT25	577-0056-01	EMERSON	1	EA
46	TRANSFORMER CONTROL	PCPT69	037-0018-08	EMERSON	1	EA
47	CONTACTOR KIT	RWCCT04	912-3025-01	EMERSON	1	EA
48	CONDENSER	RWCD81	066-0318-07	EMERSON	1	EA
49	CONDENSING UNIT FAN MOTOR KIT	RWCM71*	950-0264-03	EMERSON	1	EA

Table G—Parts List for WIF

	ITEM	COSP#	MFG#	Vendor	QTY	U/M
50	EVAPORATOR FAN MOTOR	RWEM45	25318001	HEATCRAFT	2	EA
51	EVAPORATOR FAN BLADE	RWFB41	5110E	HEATCRAFT	2	EA
52	EVAPORATOR FAN COVER, 12", BLUE PLASTIC	RWE37000701	37000701	HEATCRAFT	2	EA
53	PREPPED EVAPORATOR COIL ASSEMBLY, 115V, 1/15 HP, 404A	MODEVAP1	MODEVAP1	COSPOLICH	1	EA
54	EVAPORATOR COIL ONLY, 115V, 60 HZ, 1 PH	RWE705	ACM090AEE	LARKIN	1	EA
55	EVAPORATOR MOTOR MOUNTING PLATE	RWEM45M	40003001	HEATCRAFT	2	EA
56	EXPANSION VALVE, 3/8" X 1/2" ODF	RWEV58	EBFSE-A-Z	SPORLAN	1	EA
57	EVAPORATOR HEATER CLIP	RWE5601*	23305601	HEATCRAFT	12	EA
58	EVAPORATOR HEATER, CUSTOM, 115V, 1000W, 100"	RWE118*	RWE118	RHS	2	EA
59	HEATER BRACKET	RWE116-BRKT*	B24997A1	HEATCRAFT	2	EA
60	TERMINATOR FAN CLIP	RWE057*	SL243	SUPCO	2	EA
61	FAN HEATER TERMINATOR	RWE056	ML60	SUPCO	2	EA
62	DRAIN LINE HEATER, 115V	LFDH01	25251	SPRINGFIELD WIRE	1	EA
63	CUSTOM STAINLESS STEEL SHELF, 23" X 44	MODSHELF1	MODSHELF1	COSPOLICH	6	EA
64	CUSTOM STAINLESS STEEL SHELF, 23" X 60	MODSHELF2	MODSHELF2	COSPOLICH	6	EA
65	SIGNAL LIGHT, RED	WHE-050	2950-1-11-38310	NULITE	1	EA
66	SELECTOR SWITCH, MAN- TRAPPED ALARM	RWIE08	IDEC-AYD301N-R	NULITE	1	EA
67	ELECTRONIC HIGH-LOW TEMPERATURE ALARM (JUNCTION BOX H)	HLTA01F-EC**	HLTA01F-EC	COSPOLICH	1	EA
68	PLASTIC ENCLOSURE, 8"X6"X4"	LENC09	HFFM-A864CHQRFG	NULITE	1	EA

*Not shown in illustrations

**For complete BOM and operational instructions, refer to separate HLTA01F-EC technical manual

Illustrations 6.A, 6.B—Condensing Unit Assembly

Illustration 6.A

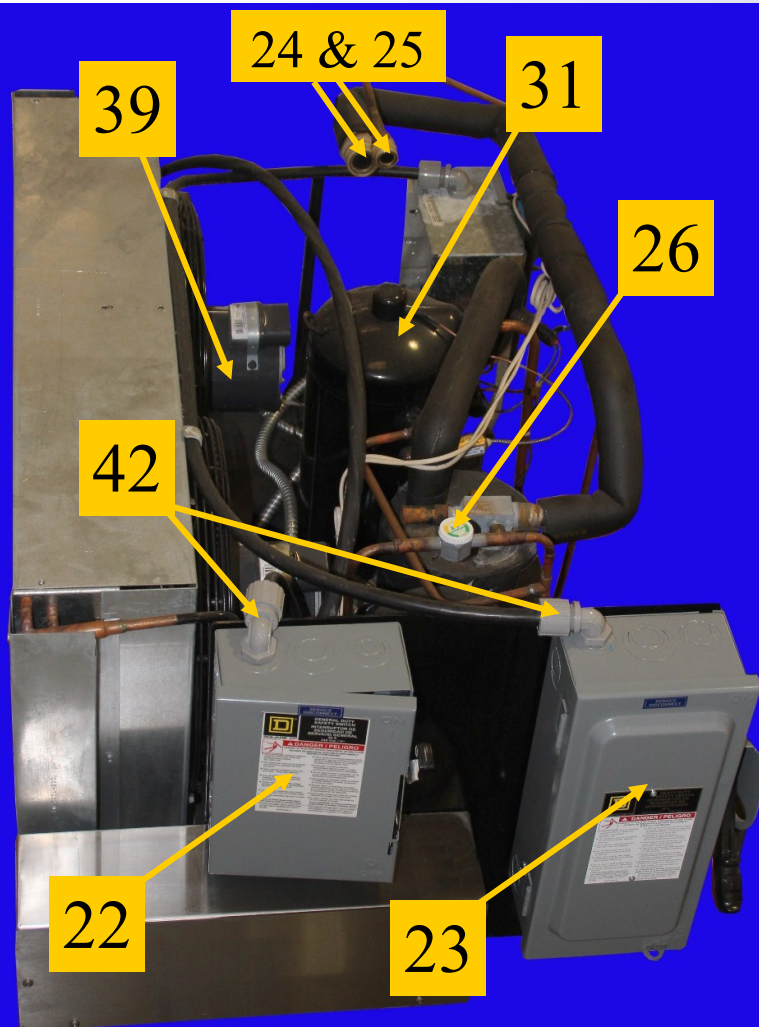
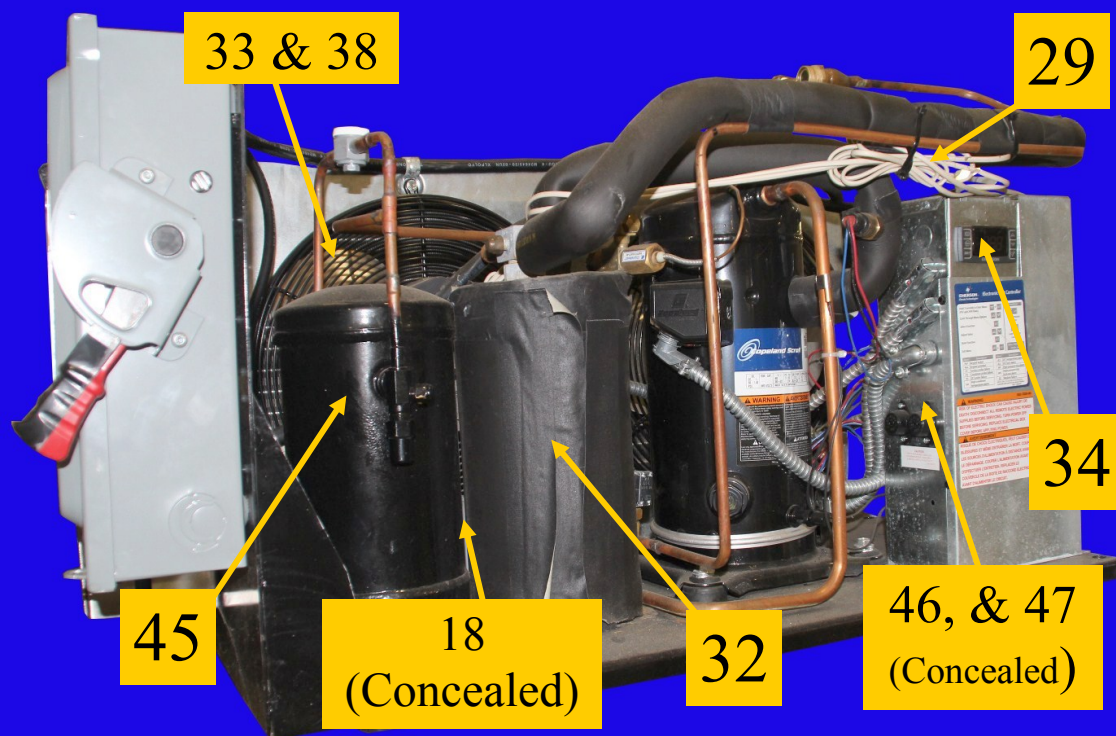


Illustration 6.B

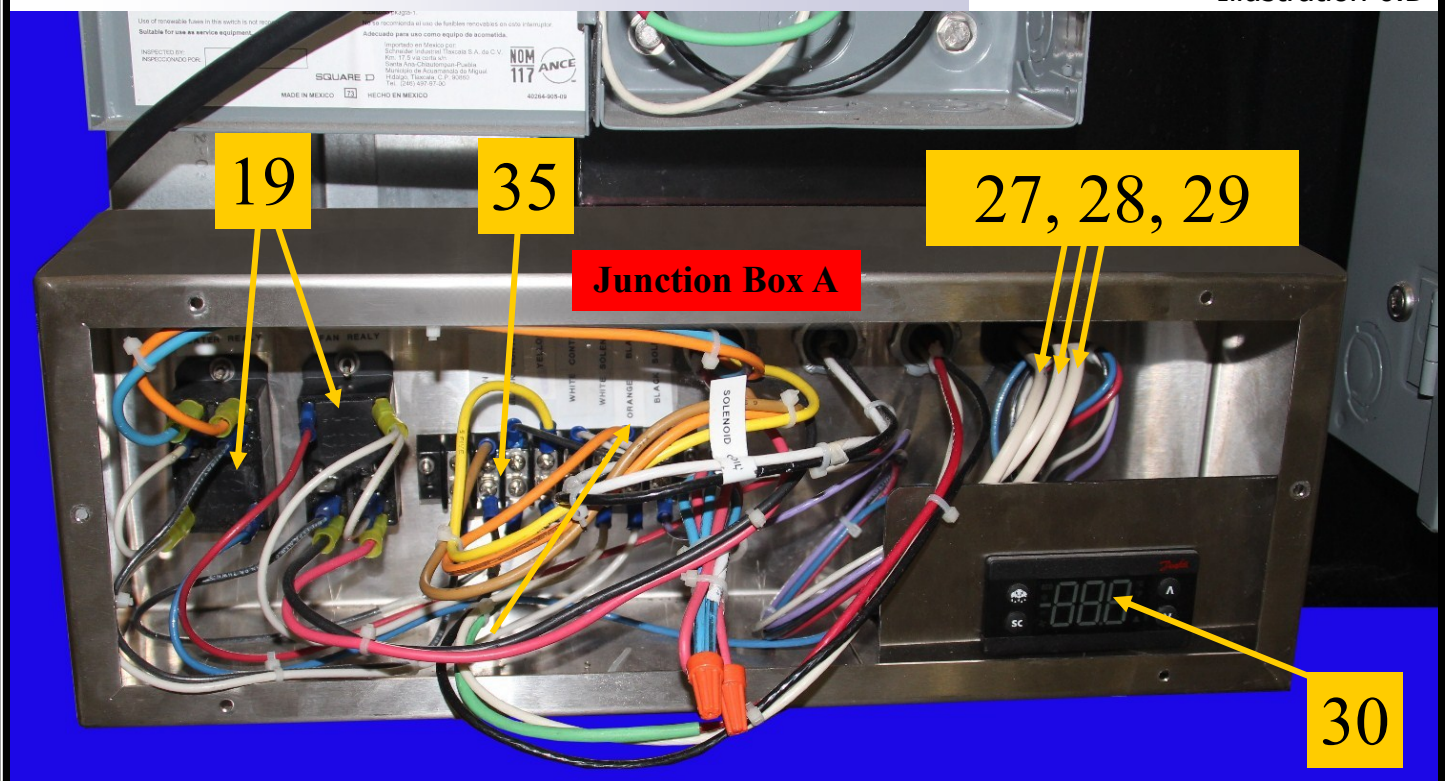


Illustrations 6.C, 6.D – Condensing Unit Assembly



Illustration 6.C

Illustration 6.D



Illustrations 6.E, 6.F, 6.G, 6.H—Condensing Unit Assembly

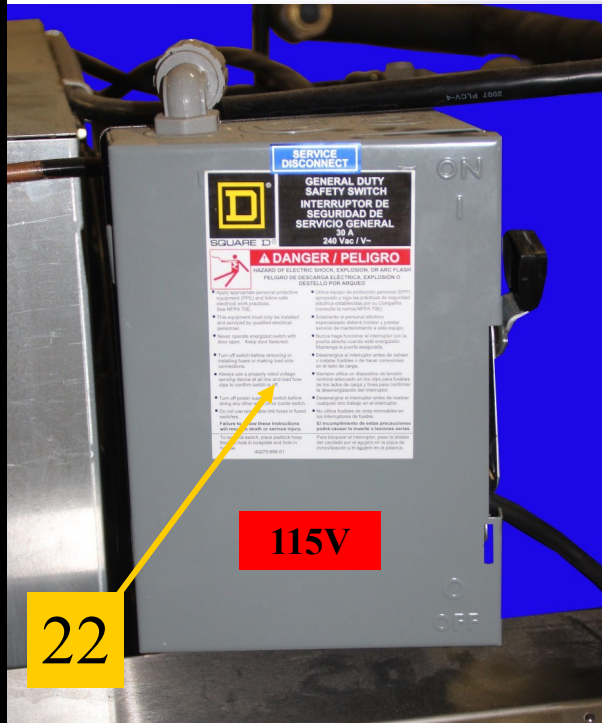


Illustration 6.E

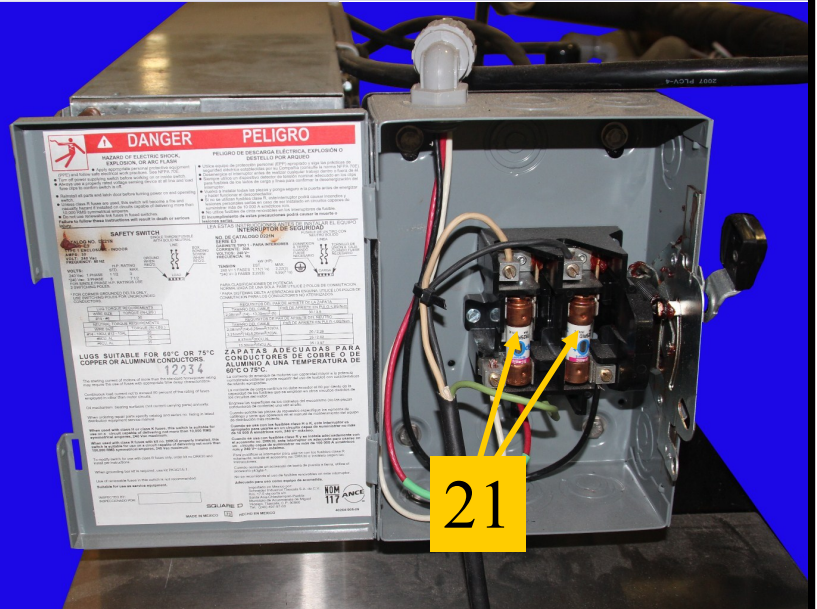


Illustration 6.F

Illustration 6.G

Illustration 6.H



Illustrations 6.I, 6.J—MODEVAP1 Evaporator Coil Assembly

(53)

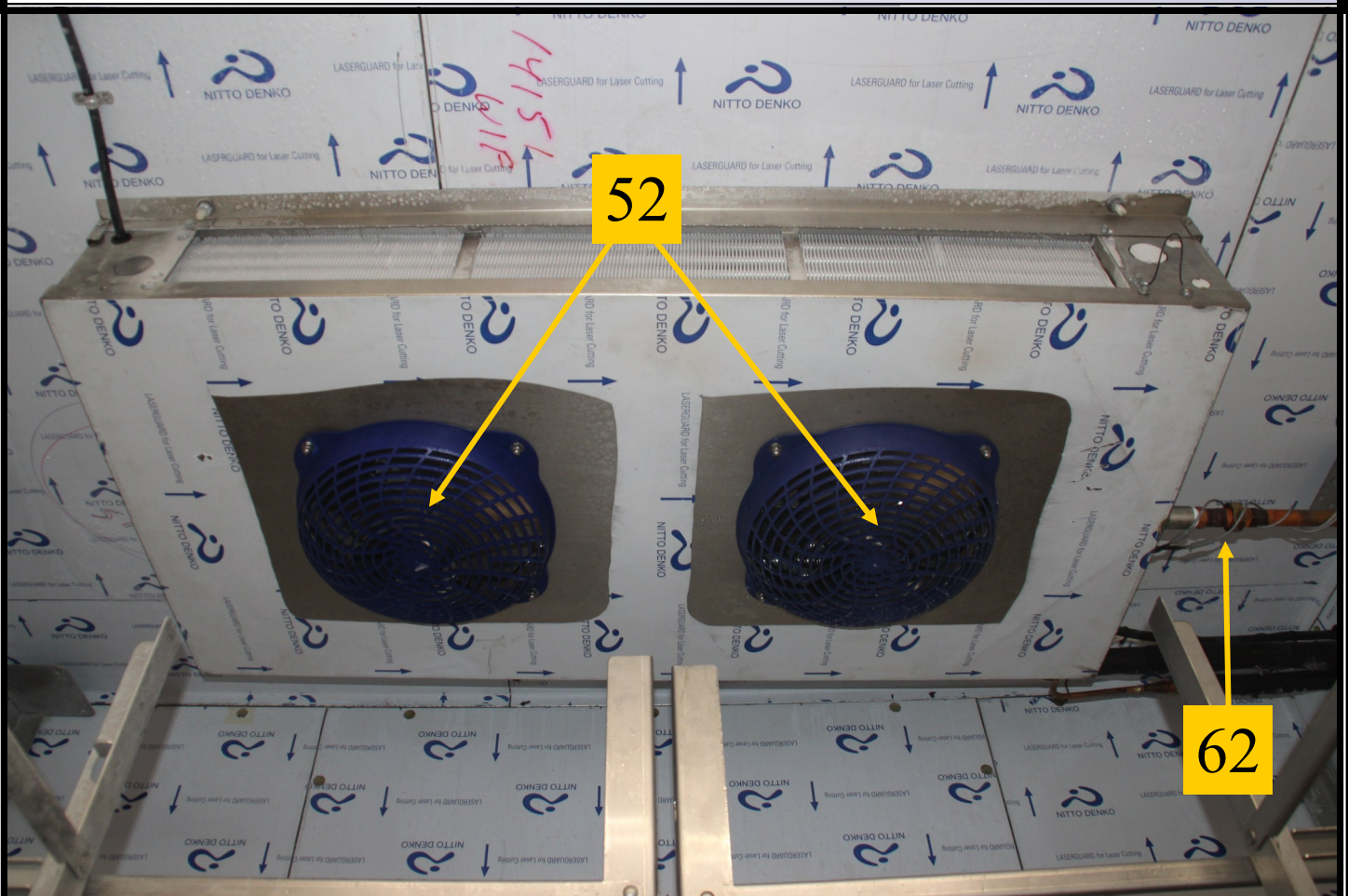
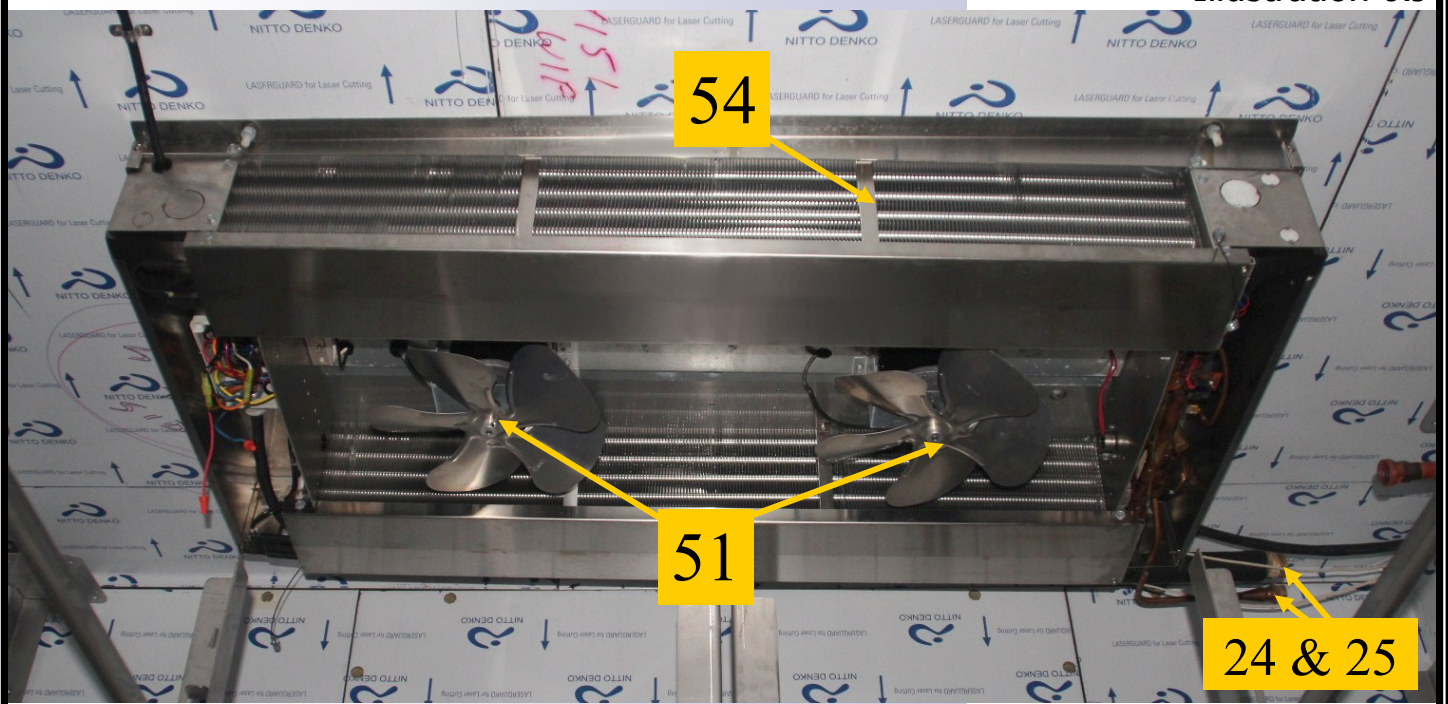


Illustration 6.I

Illustration 6.J



Illustrations 6.K, 6.L, 6.M—MODEVAP1 Evaporator Coil Assembly (53)

Illustration 6.K

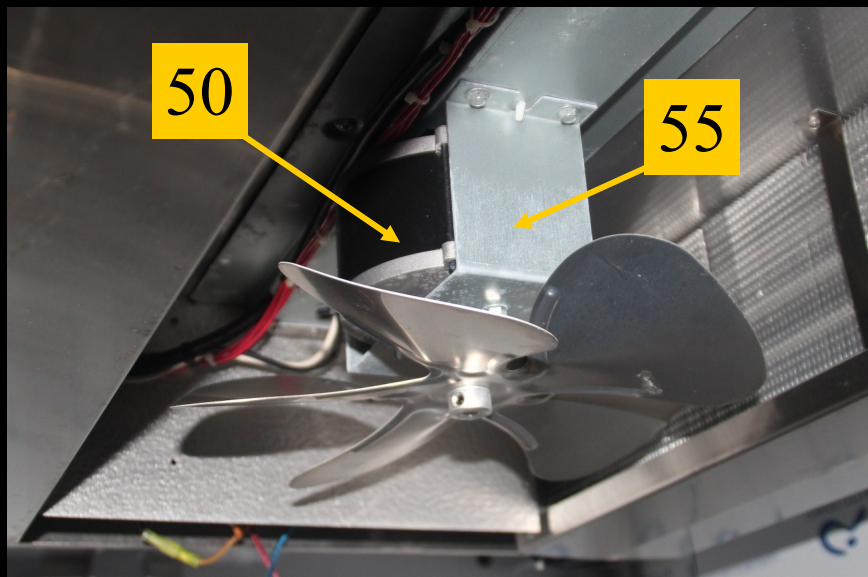


Illustration 6.L

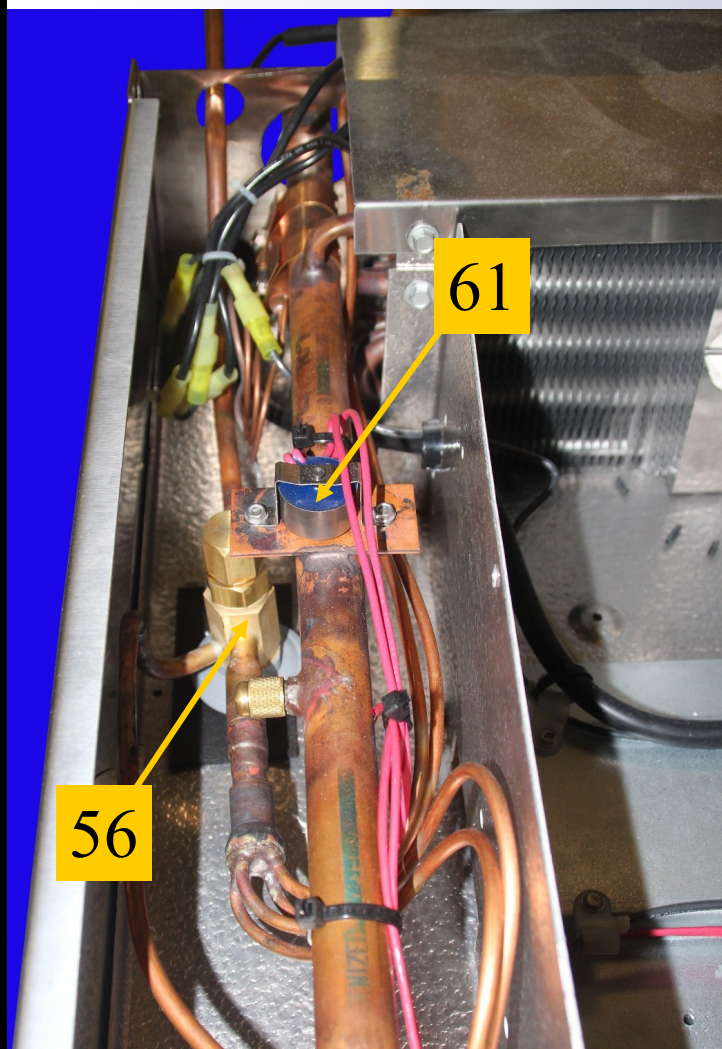
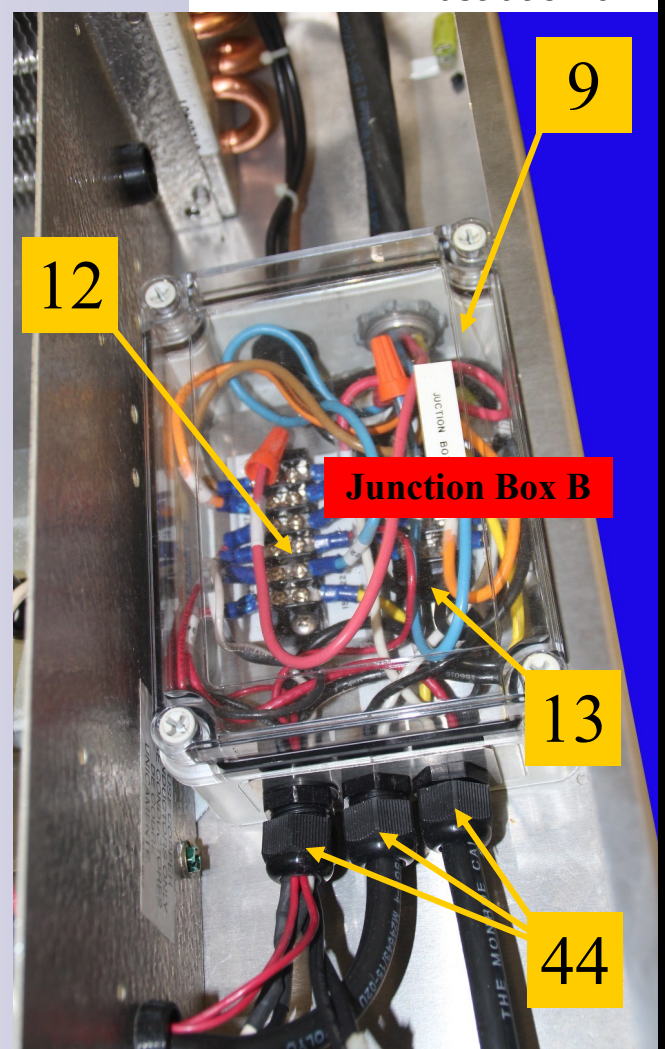


Illustration 6.M



Illustrations 6.N, 6.O—RCTL61, Control Panel Assembly (10)

Illustration 6.N

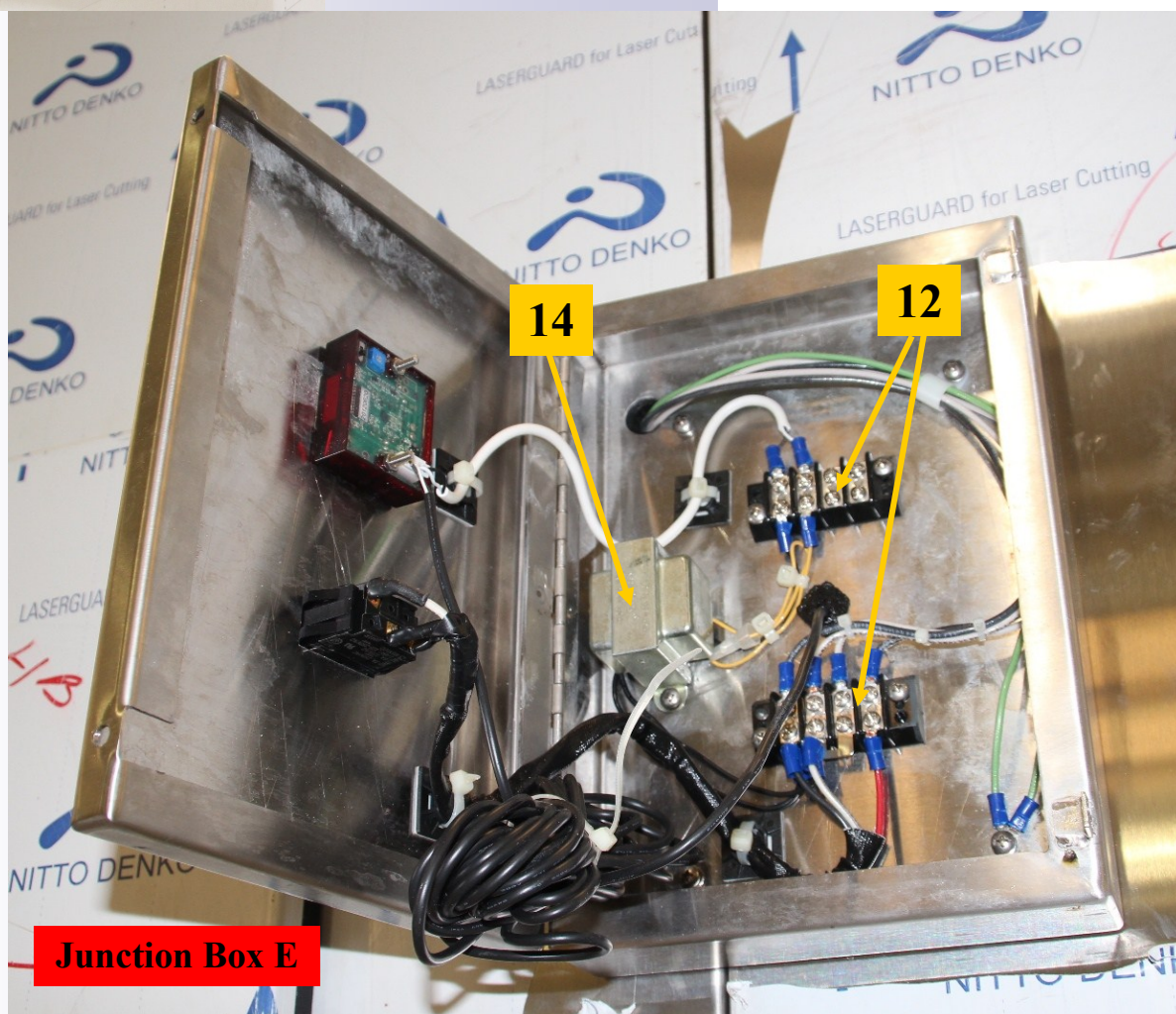
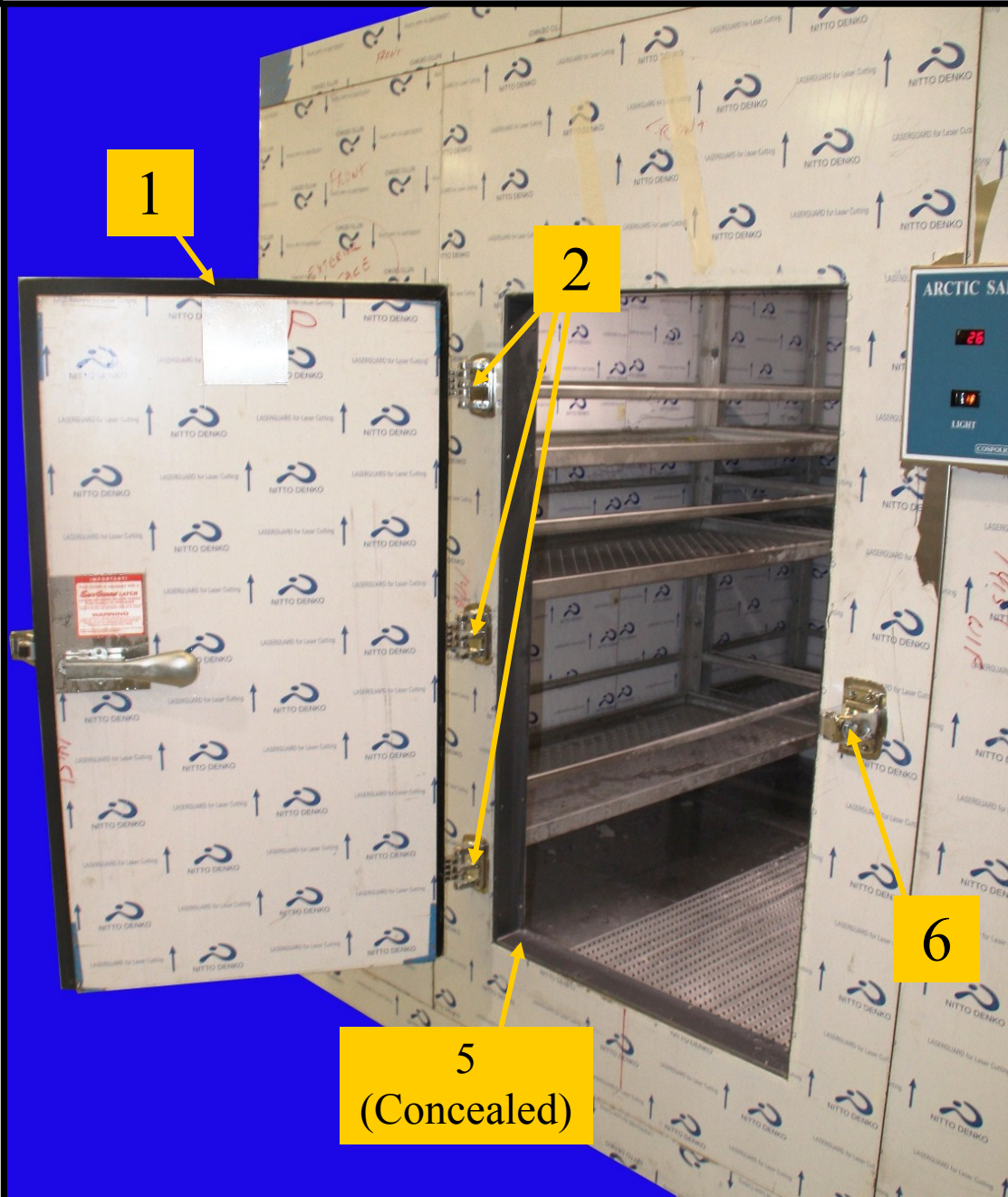


Illustration
6.O

Illustrations 6.P, 6.Q— Door Assembly Detail

Illustration 6.P



5
(Concealed)

Illustration 6.Q



Illustrations 6.R, 6.S— Interior & Shelving Detail

Illustration 6.R

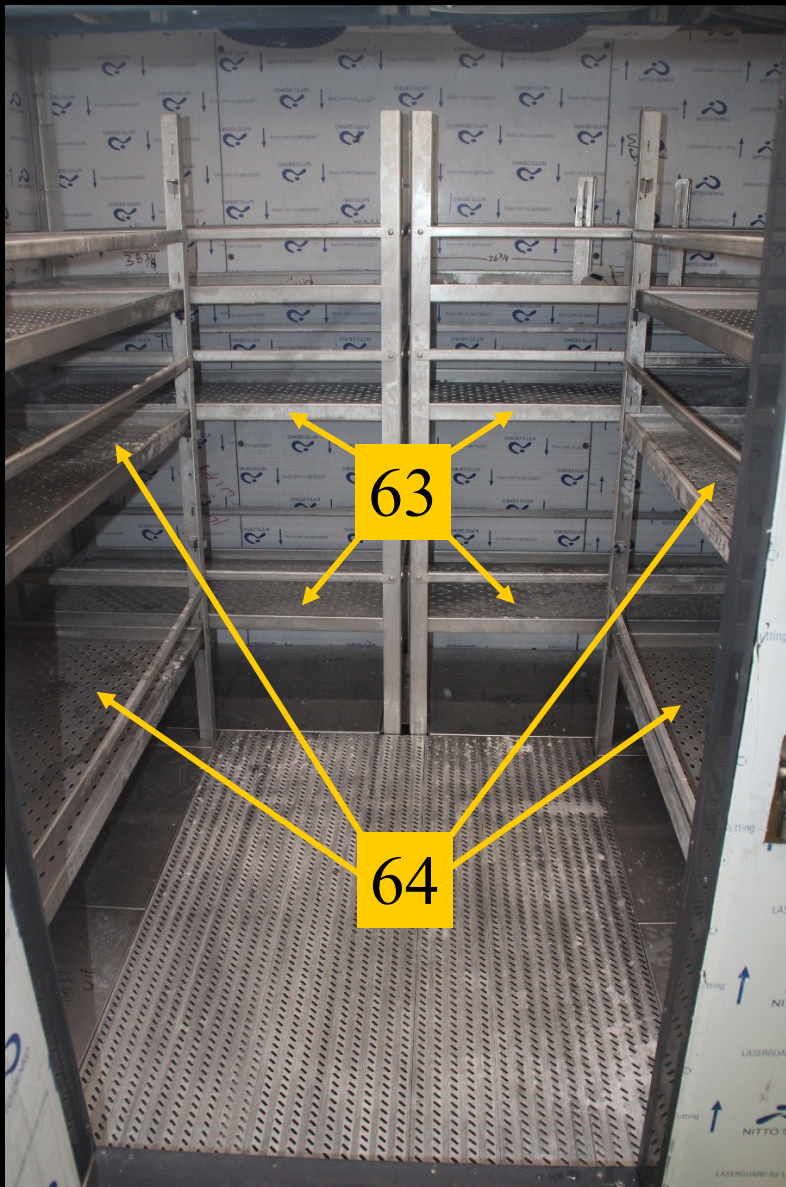
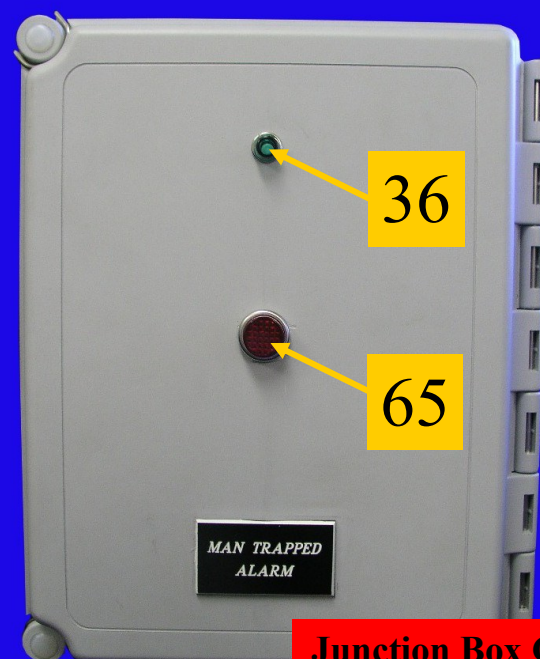


Illustration 6.S

Illustrations 6.T, 6.U, 6.V – AMT01, Man-Trapped Alarm Assembly (7)



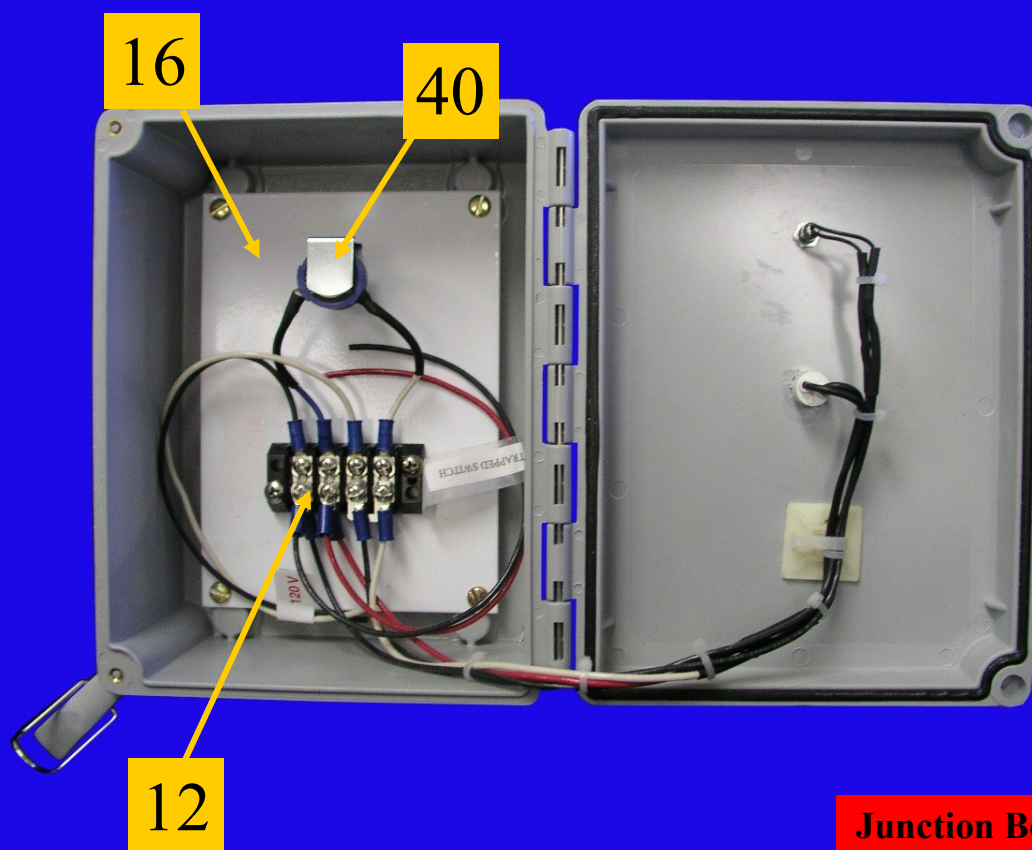
Junction Box F



Junction Box G

Illustration 6.T

Illustration 6.U



Junction Box G

Illustration
6.V

Illustrations 6.W, 6.X— High-Low Temperature Alarm Assembly (67)

Illustration 6.W



Junction Box H

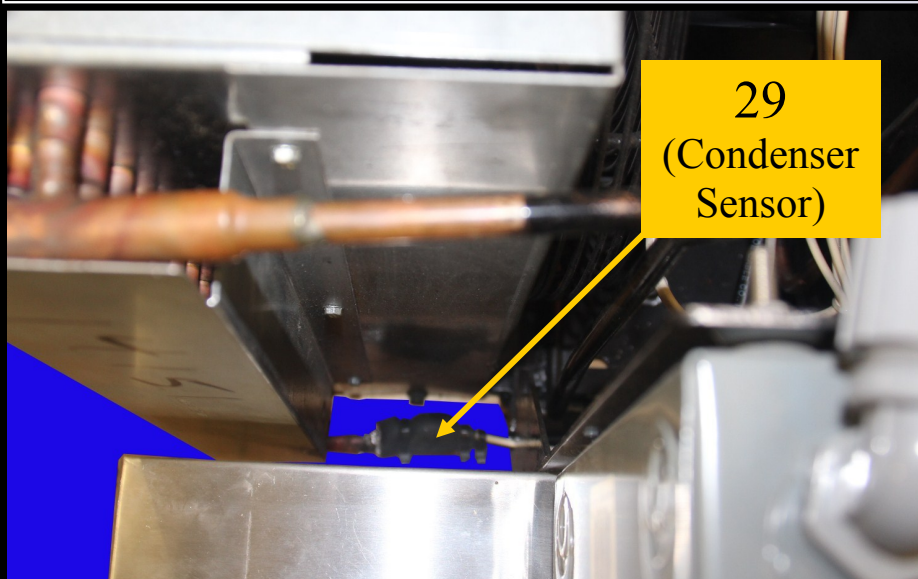
Illustration 6.X



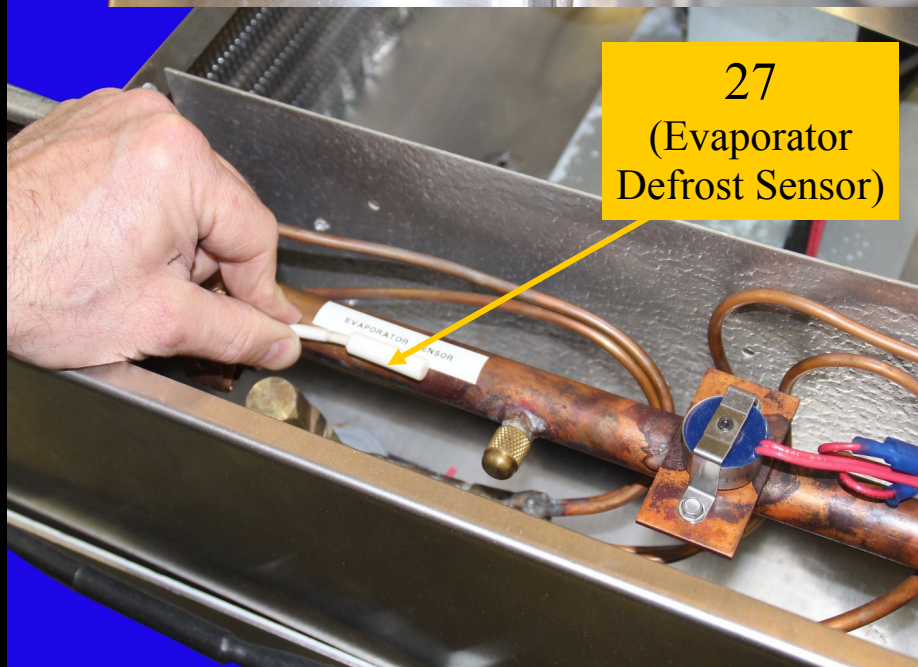
Junction Box H

Illustrations 6.Y, 6.Z, 6.AA – Temperature Probe Locations

Illustration 6.Y

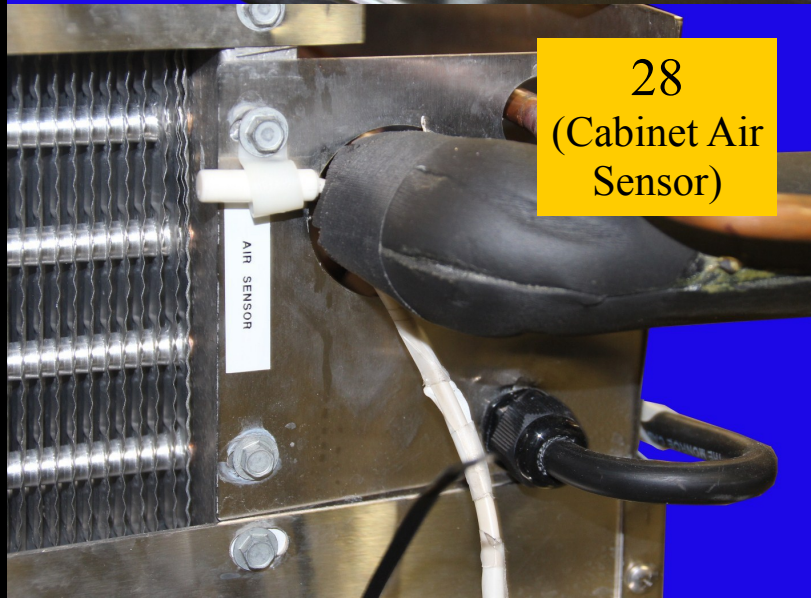


29
(Condenser
Sensor)



27
(Evaporator
Defrost Sensor)

Illustration 6.Z



28
(Cabinet Air
Sensor)

Illustration 6.AA

Illustration 6.BB—Main Unit Front Exterior Detail



Illustration 6.BB

Chapter 7—Installation

7.1 Installation

A. Preparing the Deck

1. Prior to installation, the deck must be inspected and determined free of obstructions. Even though the Cospolich Modular Freeze Space can accommodate moderately unfair decks, those with excessive irregularities should be adjusted by either applying leveling compound or shimming.

NOTE: When installing the floor panels, it is necessary to begin at the highest point on the floor deck. This allows for shimming, as required, during installation.

B. Fastening System

NOTE: The panel fastener “camlocks” utilized in the design of the Cospolich Modular Freeze Space have individual locking capacities of 2,000 pounds and are located around the perimeter of each panel. They are integrated into the perimeter hardrail foam and require a special wrench for operation.

1. A 5/16” hex wrench, which is provided as part of the installation tool kit, is utilized to operate the panel fastener camlocks. To do so, insert the tool into the camlock access opening on the sides of the panels and turn the wrench in a clockwise direction to draw in and lock the panel fastener. Should the lock not engage the corresponding pin of the adjacent panel, reset the camlock by first rotating in the counterclockwise direction until the cam tongue is fully extended. Then, repeat the clockwise rotation until the camlock locks and engages properly.
2. Once all panels are installed in place, each camlock access opening must have a squirt of silicone sealant applied, with a gray camlock plug then inserted to seal the hole.

C. Sealing the Modular Panels

1. A seven step procedure has been developed to ensure that the ceiling, floor, and wall panels are both air and liquid tight, eliminating leaks of any kind.

Step 1: Panel Rails — Using the caulk gun(s) and silicone sealant provided in the installation tool kit, place a continuous 1/8" bead of the silicone in the groove of the female portion of the modular panels perimeter hard rail. When the installer encounters a camlock panel fastener in the perimeter hard rail, the bead should be continued in a circle around the entire perimeter of the fastener(s), essentially sealing and isolating the mechanism from moisture.

Step 2: Panel Flanges — Using the caulk gun(s) and silicone sealant provided, place a continuous 1/8" bead of silicone along the one inch wide metal flanges of the side edges of each modular panel.

Step 3: Protective PVC Plastic — With all the modular panels installed/secured properly in place, the protective PVC plastic covering the stainless steel surfaces of each panel should be removed. This is accomplished by simply starting at an edge and peeling it from the surface.

NOTE: Do not use a scraper or metal tool of any kind to assist with removing the plastic PVC coating as it may scratch, mar, or damage the surface of the panels.

Step 4: Panel Seams — For reasons of both cosmetics and sanitation, the installed should seal all the seams between the modular panels with the caulk guns and silicone. Wipe away excess silicone with a paper towel or rag upon completion of the sealing process.

Step 5: Camlock Access Holes — Using the caulk gun(s) and silicone provided, each camlock access hole opening should be filled with silicone to seal the hole and prevent fluid infiltration.

Step 6: Vinyl Caps — Gray vinyl caps are provided in the installation kit and should be used to seal all camlock access holes in both the wall and ceiling panels. Install by simply pressing into each hole opening. Tap into place using a rubber mallet, if necessary.

D. Installation of the Floor Panels

1. All floor panels are labeled and identified by letters/numbers (Example: F1) which directly correspond to those shown on the installation drawing.
2. The first floor end panel should be placed into the predetermined position/location. Apply the silicone sealant and described previously under the "Sealing the Modular Panels" section of the installation instructions.
3. Place the second panel into place, secure together with the camlock panel fasteners and wrench as described previously under the "Fastening System" section of the installation instructions. Seal the panels following the same protocol as used previously.
4. Continue the installation process with the remaining floor panels.
5. Place the stainless steel cap pieces over the raised ridges of the floor panel seams to protect them from fluid infiltration.

E. Installation of the Wall and Ceiling Panels

1. Place the first wall panel in the appropriate vertical position and place the adjacent wall panel next to it. Fully lock only the center vertical panel camlock fastener and only one camlock fastener along the bottom of each wall panel with the adjacent floor panel. Make certain that the panels are aligned and even at the top and bottom. Deviation of as little as 1/16" in height can create significant difficulty with the installation of follow-up panels.
2. Proceed by placing the wall panels sequentially in the assembly order marked on the panel(s), locking only the middle vertical camlock panel fastener on the sides and the top and bottom panel fasteners. As soon as sufficient vertical wall panels have been installed, lay the first ceiling panel into place, but do not secure it as it may require adjustment. Depending on the amount of available installation space peripheral to the unit being erected, sections of the ceiling may need to be assembled and installed prior to installing the remaining vertical wall panels. Special attention should be given to the door section panel to ensure it is in proper vertical and horizontal alignment.
3. Once all wall and ceiling panels have been installed and have been confirmed to be in proper alignment, proceed with locking all remaining camlock panels fasteners.

F. Installation of the Aluminum Floor Grating

1. All floor grating panels are labeled and identified by letters/numbers (Example: F1) which directly correspond to those shown on the installation drawing.
2. The first floor grating panel should be placed into the predetermined position/location.
3. Place the second panel into place, installing the remainder sequentially as shown in Appendix II.

Chapter 8—Electrical and Mechanical

8.1 Introduction

This section of the manual contains drawings and schematics of the electrical and piping systems.

Illustration 8.A – Electrical Schematic (Junction Boxes A & B)

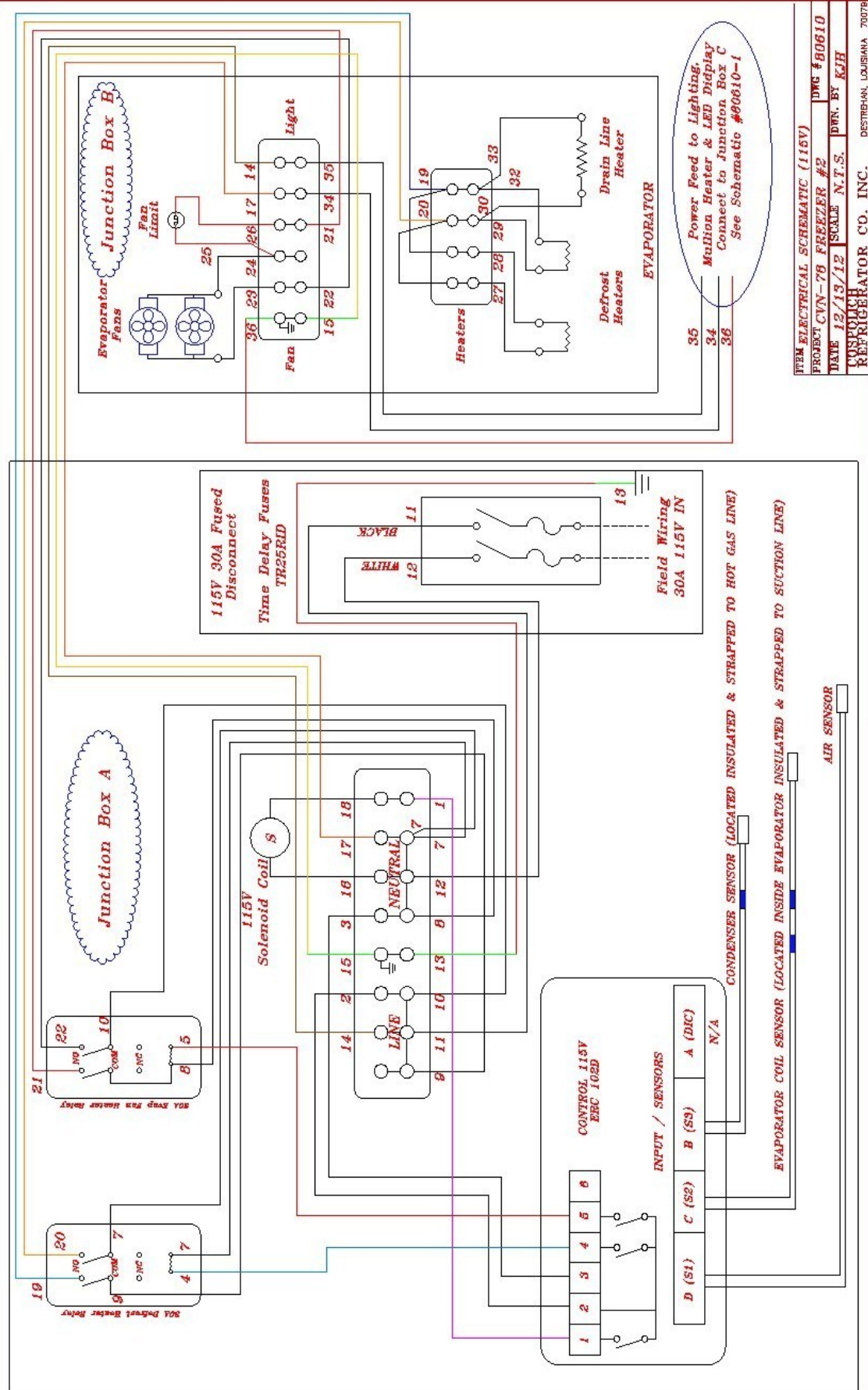
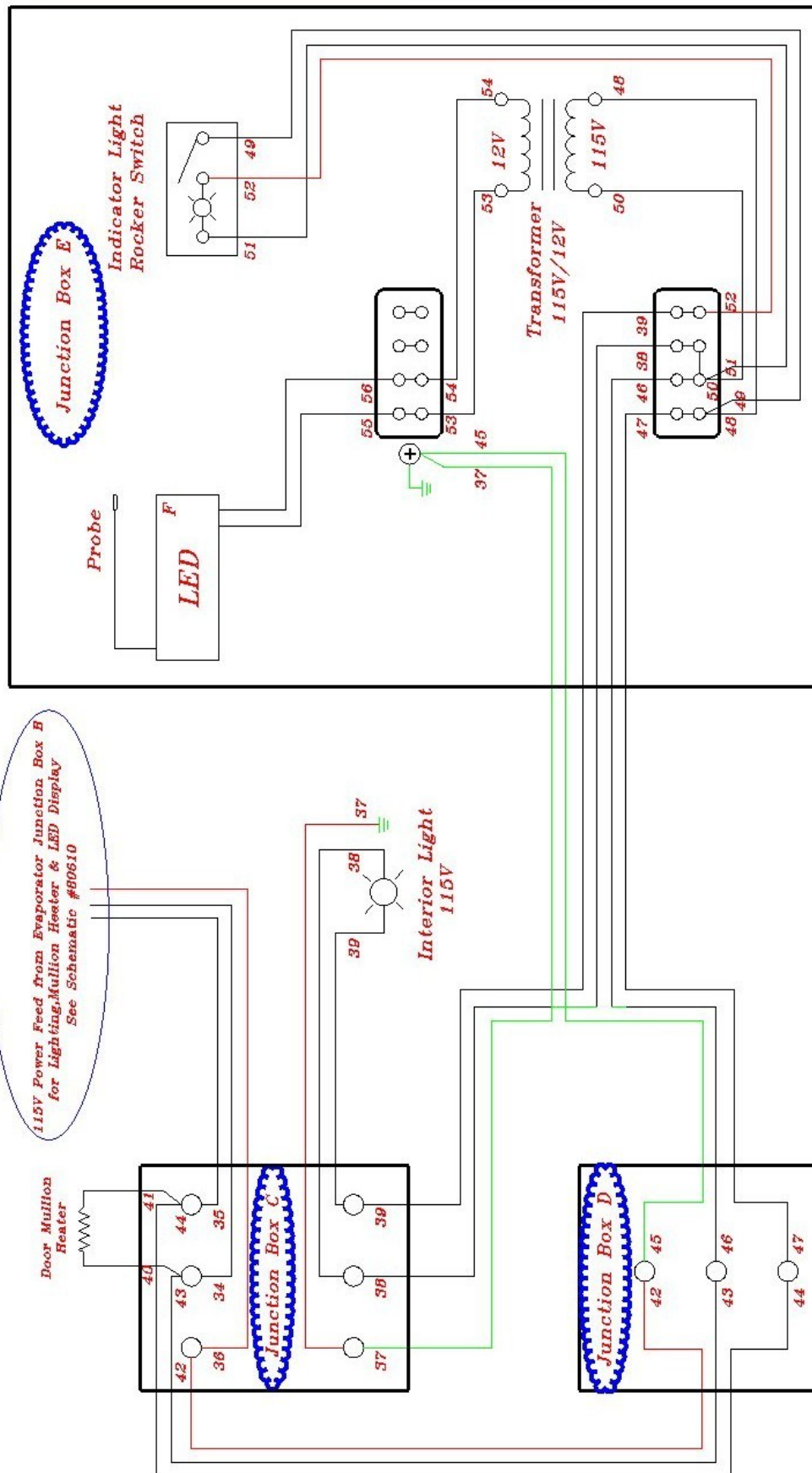
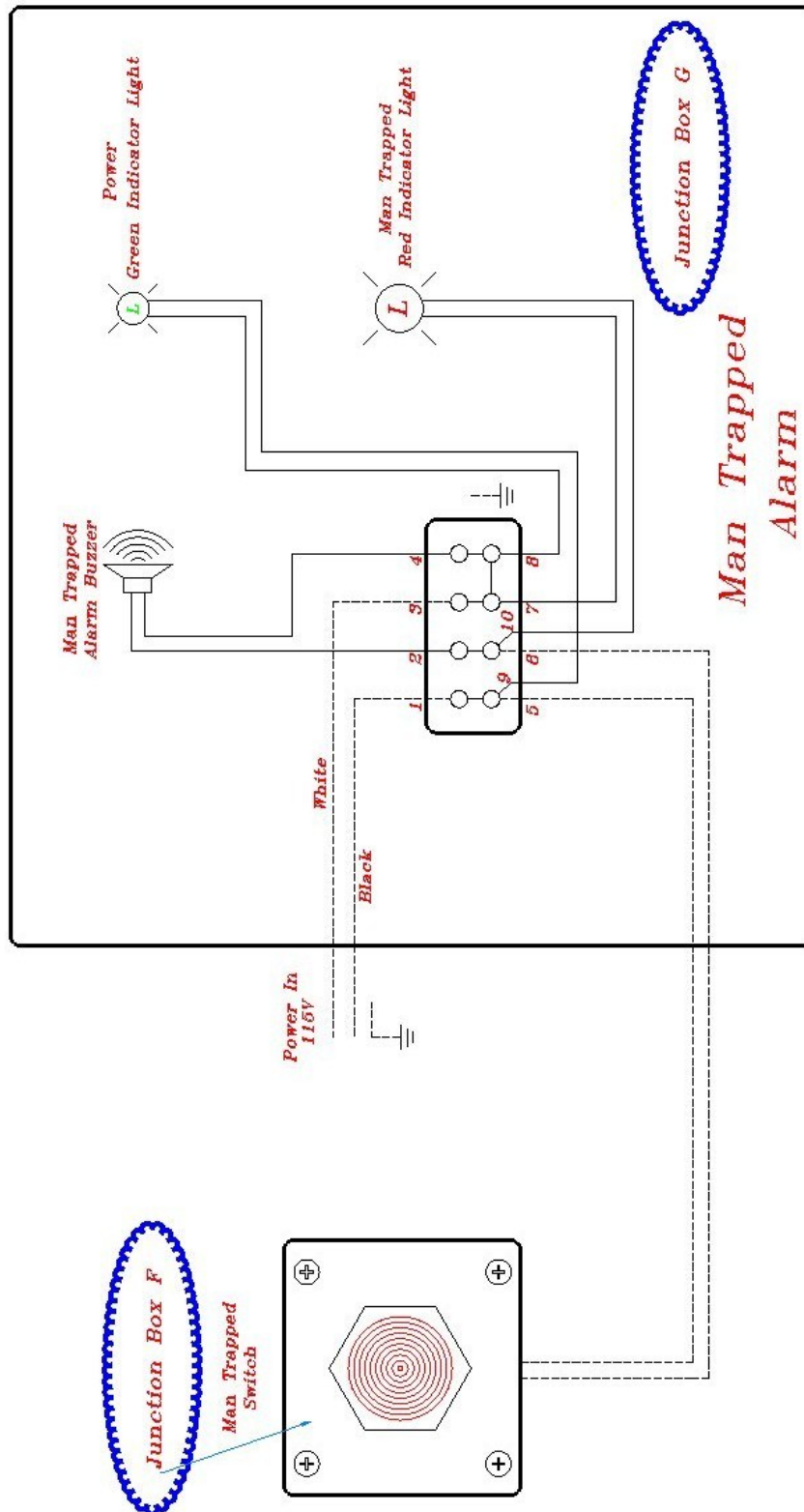


Illustration 8.B—Electrical Schematic (Junction Boxes C, D, & E)



ITEM ELECTRICAL SCHEMATIC (115V)
 PROJECT CVN-78 FREEZER #2 DWG #80610-1
 DATE 12/13/12 SCALE N.T.S. DWN. BY KJH
 COSPOLCH
 REFRIGERATOR CO. INC. DESTREHAN, LOUISIANA 70078

Illustration 8.C—Electrical Schematic (Junction Boxes F & G)



NOTE: Field Wiring

ITEM ELECTRICAL SCHEMATIC (MAN TRAPPED ALARM)

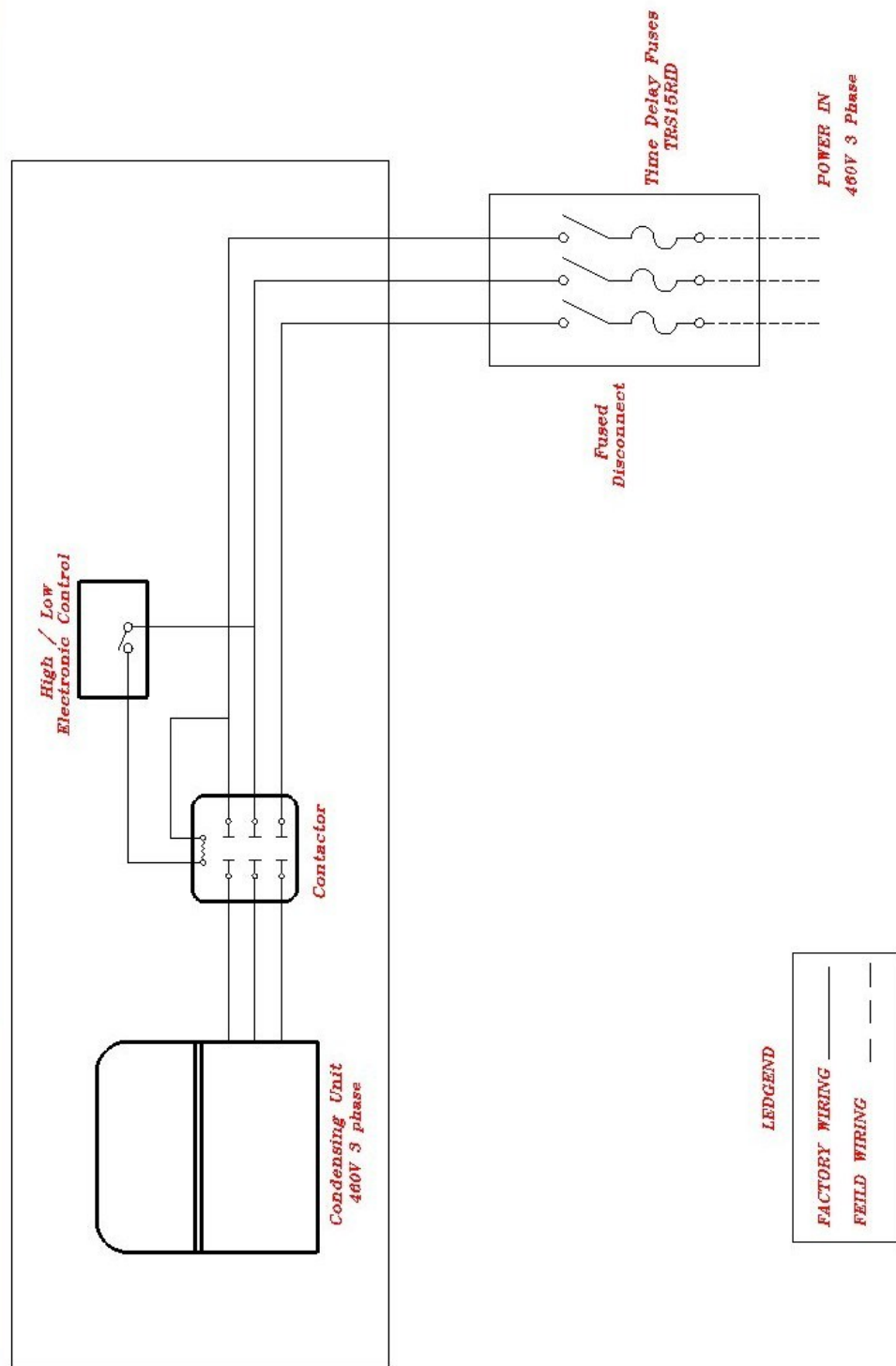
PROJECT CVN-78 FREEZER #2

DATE 9/26/12 SCALE N.T.S.

DESIGNED BY KJH

REVIEWED BY DESTREHAN, LOUISIANA 2007

Illustration 8.D—Electrical Schematic (460V, 3Ph Condensing Unit)



WIRING ELECTRICAL SCHEMATIC (CONDENSER 460V)
PROJECT CVN-78 FREEZER #2 DWG 80810-3
DATE 12/13/10 SCALE N.T.S. DWN. BY KJH
COSPOLICH INC
MOORE, LOUISIANA 70378

Illustration 8.E—Electrical Schematic (Hi-Low Temperature Alarm)

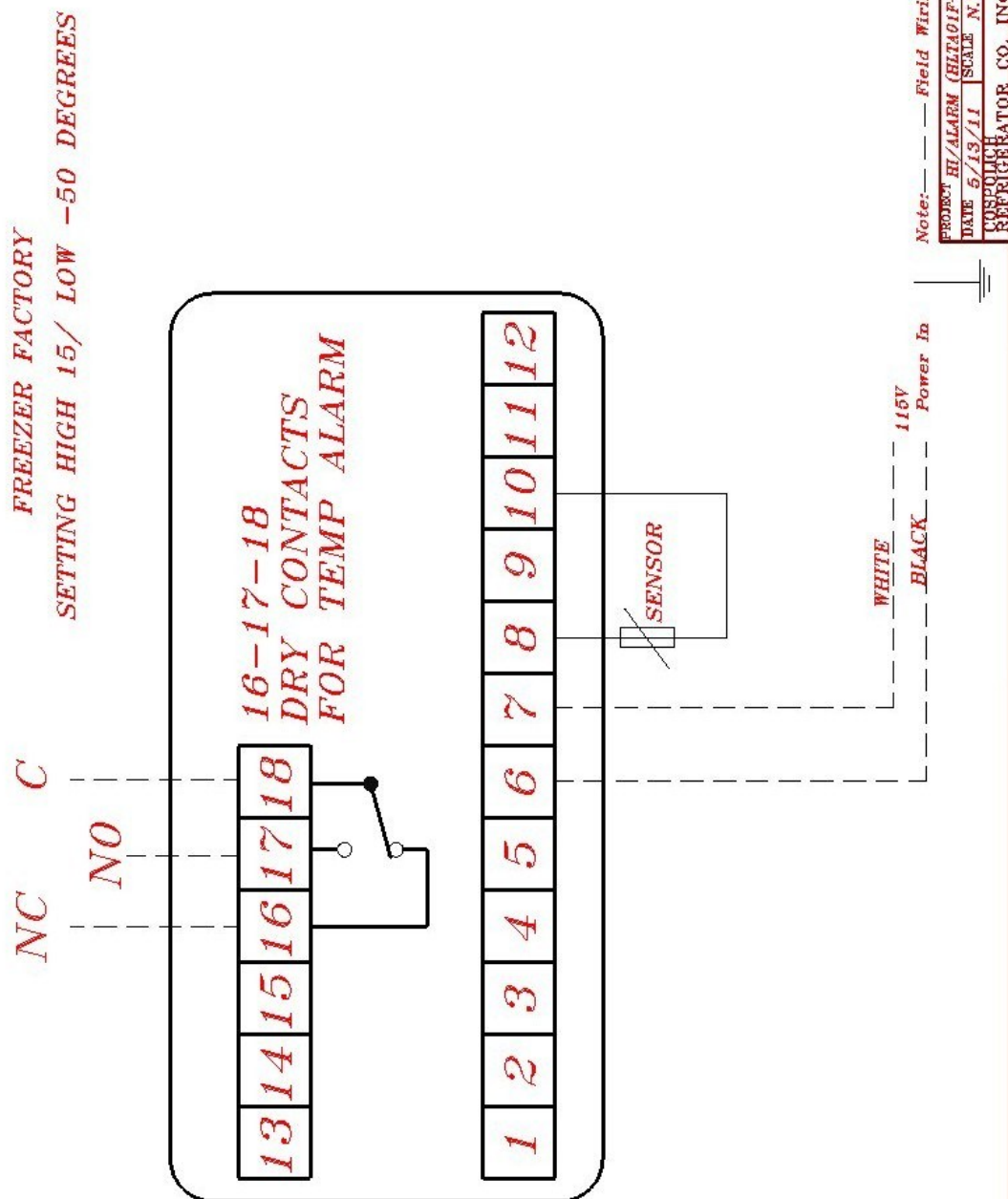
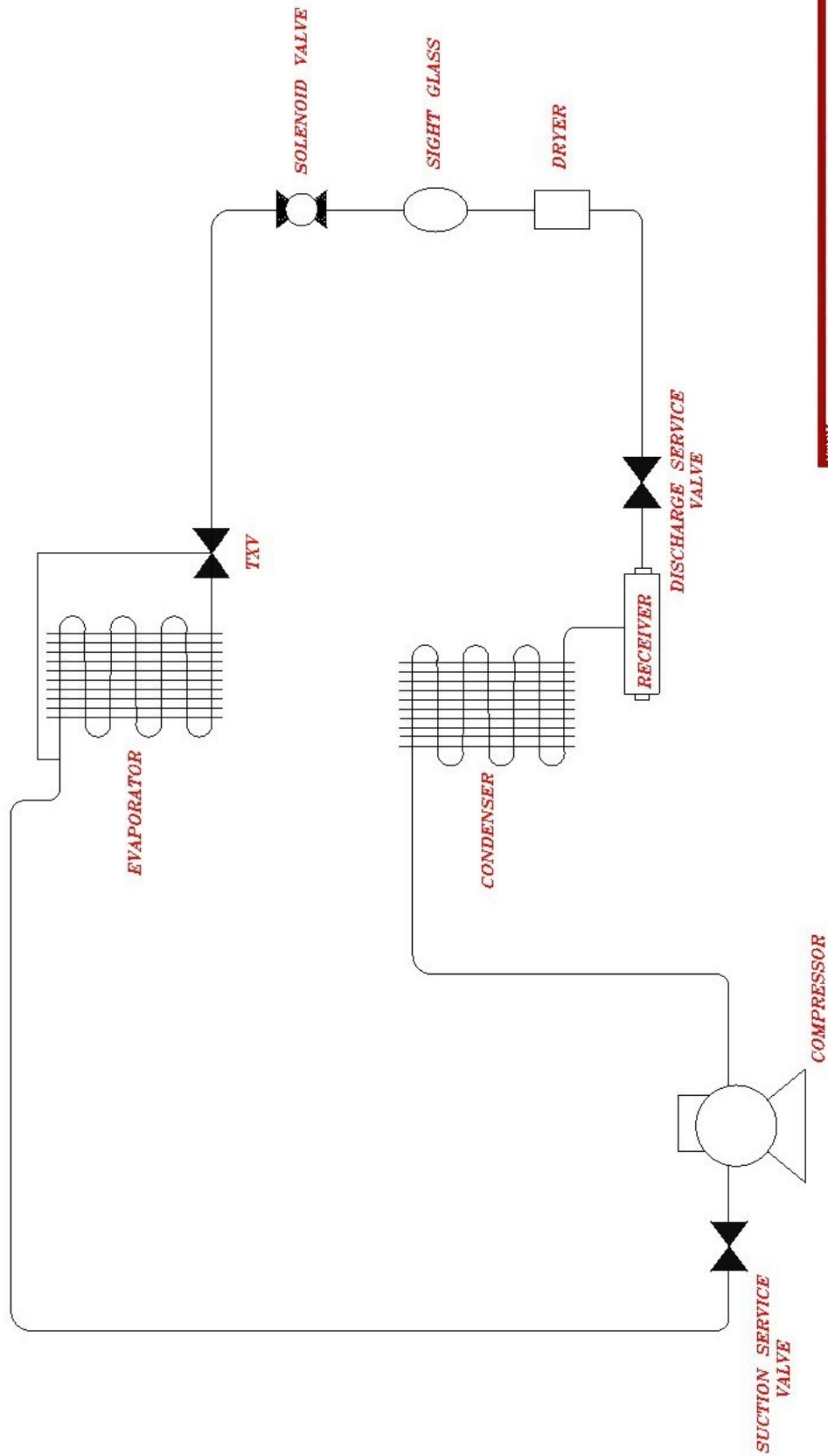


Illustration 8.F—Piping Schematic



ITEM MECHANICAL PIPING DIAGRAM

PROJECT CVN-7B WALK-IN DWG # 70387

DATE 12/13/12 SCALE N.T.S. DWN. BY KJH

COSPOLICH INC. NORCO, LOUISIANA 70079

Chapter 9—Limited Warranty

Cospolich Inc. warrants their cabinets to consumers against defects in material or workmanship under normal use and service for a period of one year from the date of the shipment. We will repair or replace at our option, any part, assembly or portion thereof which Cospolich's examination discloses to be defective. Cospolich will pay the labor costs for the repair up to twelve (12) months from date of shipment.

In instances where the purchaser is not the owner in possession and the acceptance of Cospolich equipment is closely tied to the completion and delivery of the project, our warranty will begin on the acceptance date and will extend for one year.

Terms

Exclusions

Cospolich's obligations under this warranty shall not extend to any malfunction or other problem caused by unreasonable use, such as but not limited to, improper setting of controls, improper installation, improper voltage supply, loose electrical connections or blown fuses, and damage not attributable to a defect in workmanship. This warranty shall not apply to any cabinet or component part that has been suspect to any accident, alteration, abuse, misuse to any damage caused in fire, flood, or other acts of God and to any product that has been serviced by an unauthorized service person or company.

To secure Warranty Service

If you claim a defect under this warranty, direct your claim to whom you purchased the product, giving model, serial and code numbers with a description of the problem. Telephone calls should be directed to the service department at (800) 423-7761 or (985)725-0222 with fax request going to (985) 725-1564.

If the above procedure fails to satisfy your claim, you may write directly to the following address including the above identifying information.

**DIRECTOR of CUSTOMER RELATIONS
COSPOLICH INC.
P.O. BOX 1206
DESTREHAN, LA 70047**

There is not other express warranty on the Cospolich units except the terms stated herein. Any implied warrants of fitness and merchantability are limited in duration to the duration of this Warranty. The liabilities of Cospolich are limited solely and exclusively to replacement as stated herein and do not include any liability for any incidental, consequential or other damages of any kind whatsoever, whether any claim is based upon theories of contract negligence or tort. Some states do not allow limitations on how long an implied warranty lasts, or the exclusion of limitations of incidental or consequential damages. So the above limitations and exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights that vary from state to state.

Appendix I—RUT982 Condensing Unit Product Specs

DJAL-020Z-TFD-020

HFC, R-404A, 60Hz, 3- Phase, 460 V



Availability : OEM and Wholesaler Standard

Mechanical

Unit Height (in):	19.0
Unit Length (in):	25.2
Unit Width (in):	34.0
Ship Weight (lbs):	204.0
Condensor Type:	Air
Copevap Water Storage:	NA
Liquid Connection Size (in)/Type:	3/8 S
Suction Connection Size (in)/Type:	1-1/8 S
Discharge Line Size (in):	0.500
Water Inlet (in):	
Water Outlet (in):	
Oil Type:	POE
Oil Recharge Amount (oz):	50

Electrical

Max Fuse Size:	15
Min Circuit Ampacity:	7.7
Compressor:	ZF08K4E-TFD-231
Compressor LRA - Low:	
Compressor LRA - High:	31.0
Compressor LRA - Half winding:	
Compressor RLA:	5.0
UL:	
UL File #:	
UL Guide Card:	
UL Fan Motor FLA Rating Per Motor:	0.23
Fan Motor Quantity:	2

Air Cooled Unit Performance

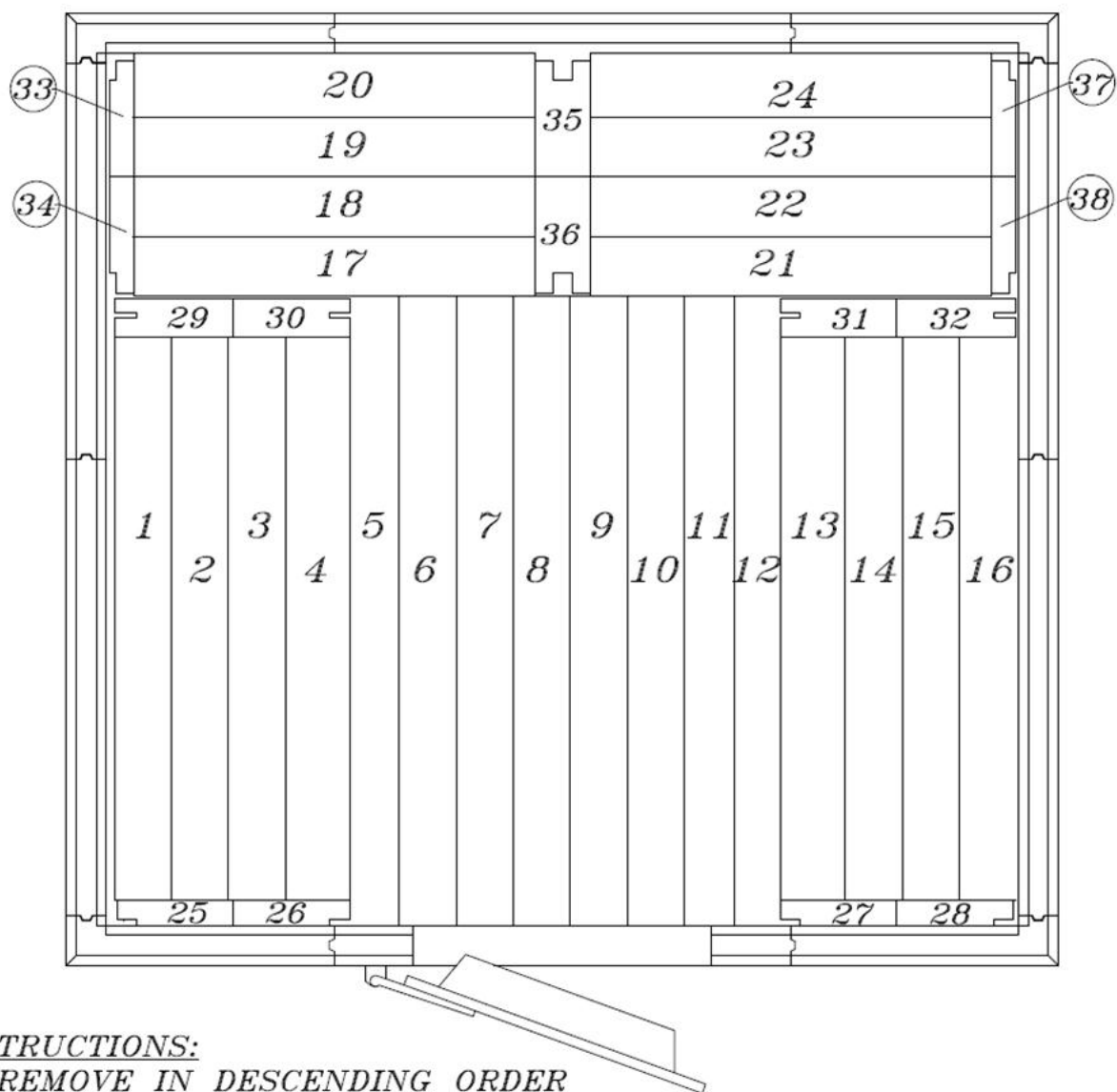
Release Date:	13-Jan-2006	Return Gas Temp. (°F):	65
Compressor:	ZF08K4E-TFD-231 x 1	Subcooling (°F):	5
Performance No:	7777	Air Flow Rate (CFM)	1680

90°F Ambient Air Temperature

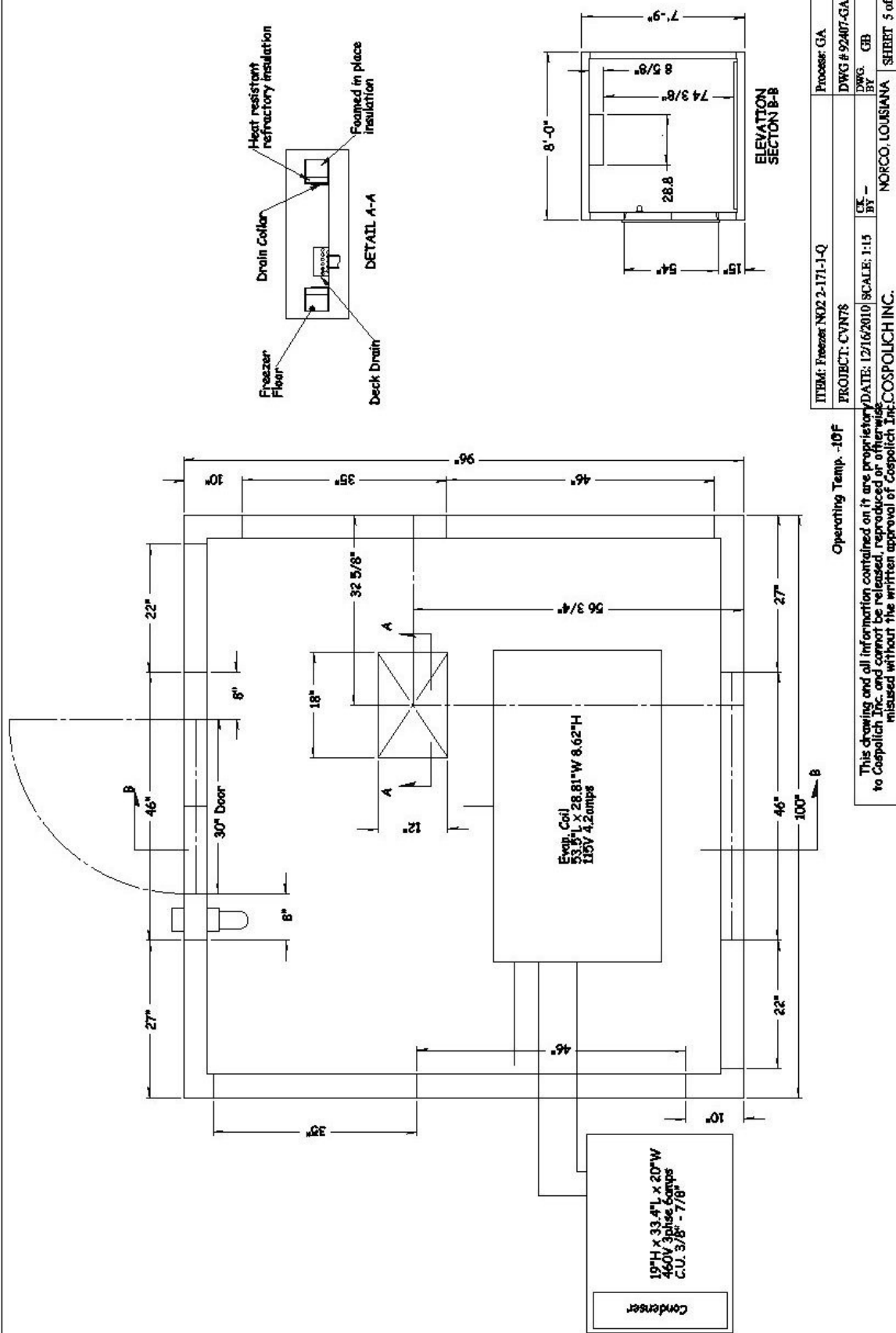
<u>Evap Temp</u> <u>(°F)</u>	<u>Unit Capacity</u> <u>(Btu/hr)</u>	<u>Cond. Temp.</u> <u>(°F)</u>	<u>Temp. Diff.</u> <u>(°F)</u>	<u>EER</u> <u>(Btu/Wh):</u>
-40	6,040	102.5	12.5	2.7
-35	6,870	103.5	13.5	3.0
-30	7,770	104.5	14.5	3.3
-25	8,740	105.6	15.6	3.6
-20	9,780	106.8	16.8	3.9
-15	10,900	108.2	18.2	4.2
-10	12,100	109.6	19.6	4.5
-5	13,300	111.1	21.1	4.8
0	14,600	113.1	23.1	5.0

Appendix II—Floor Grating Installation Diagram

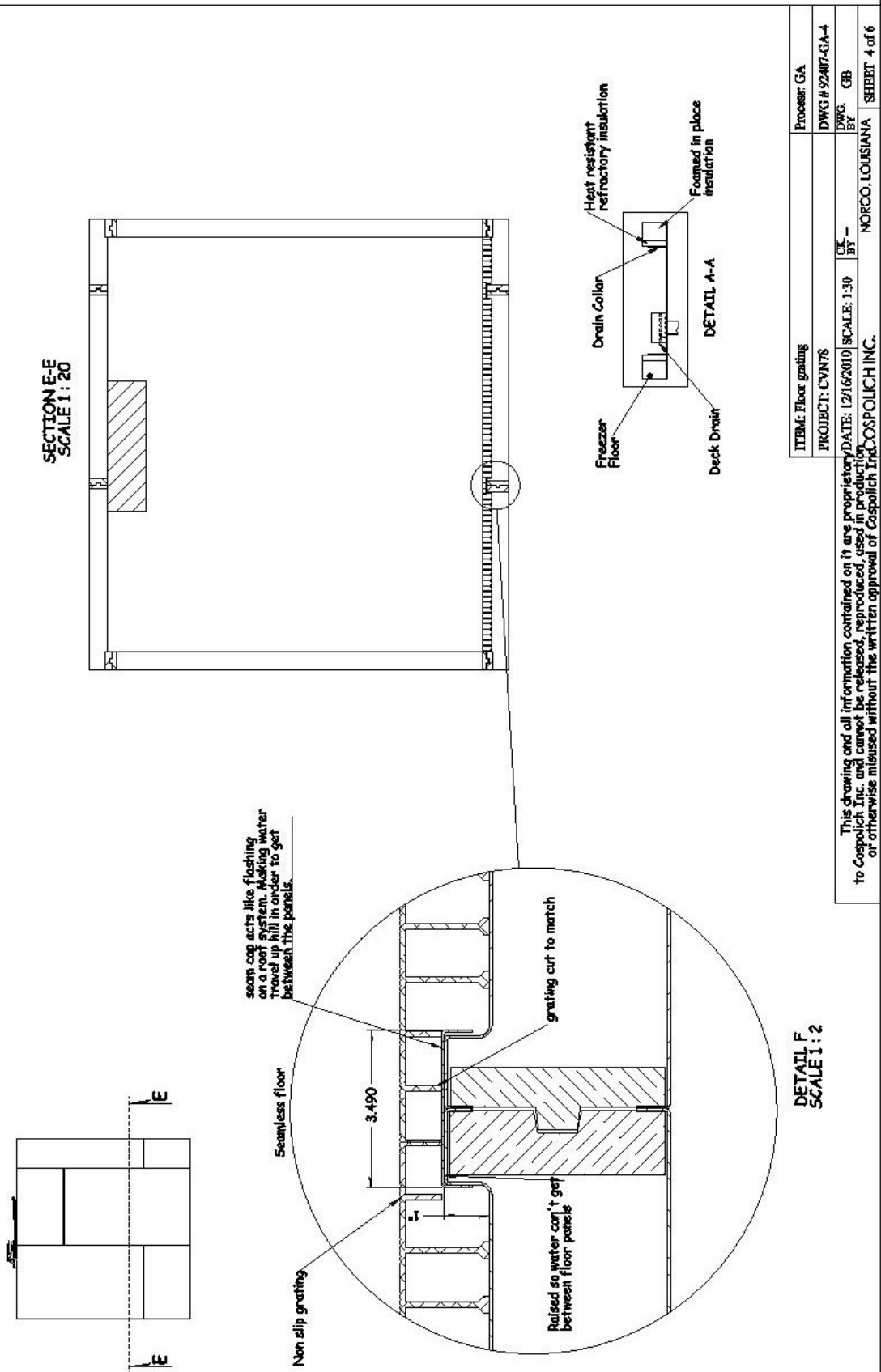
Grating Layout



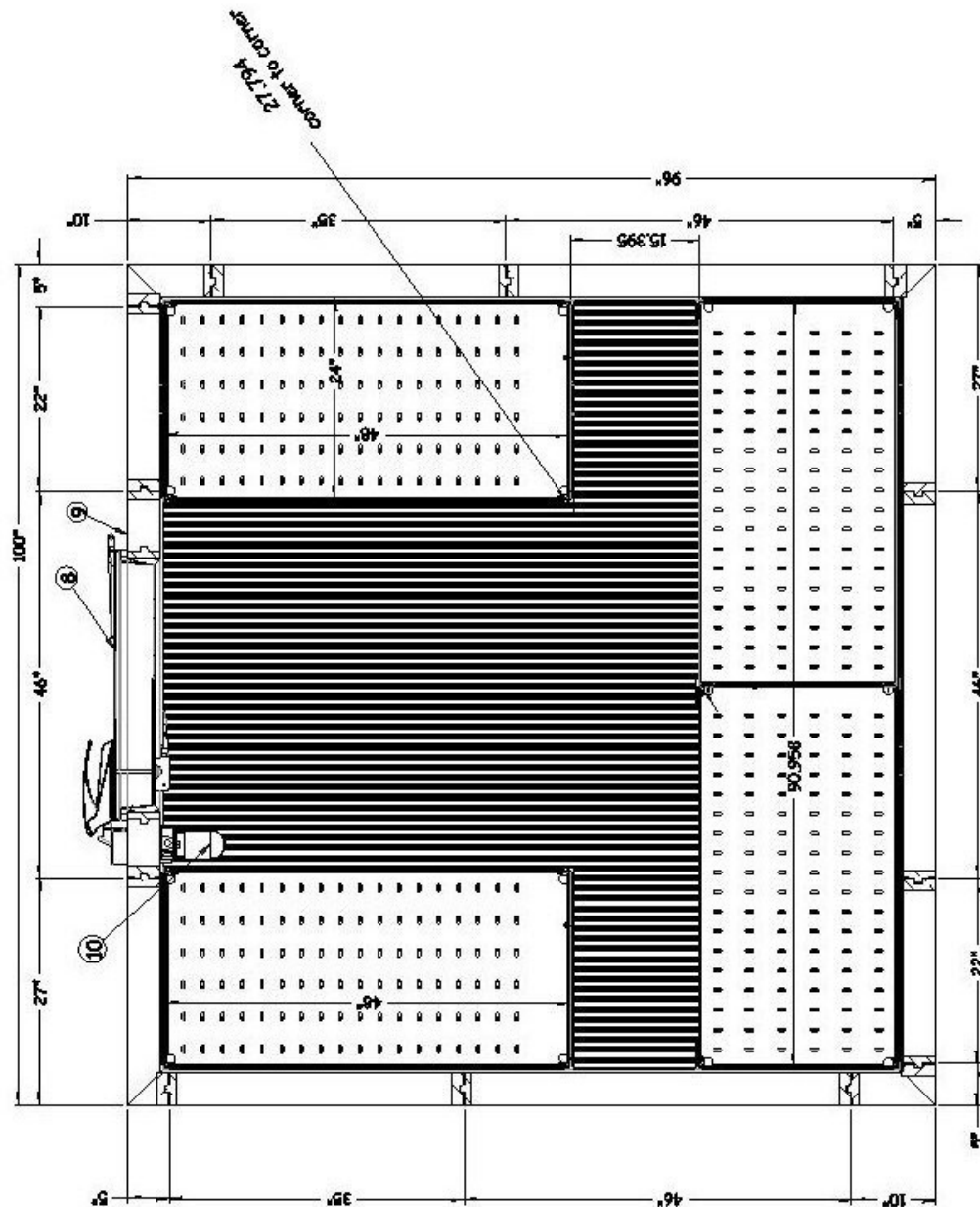
Appendix III—Detailed Dimensional Drawing



Appendix IV – Structural Detail Drawing



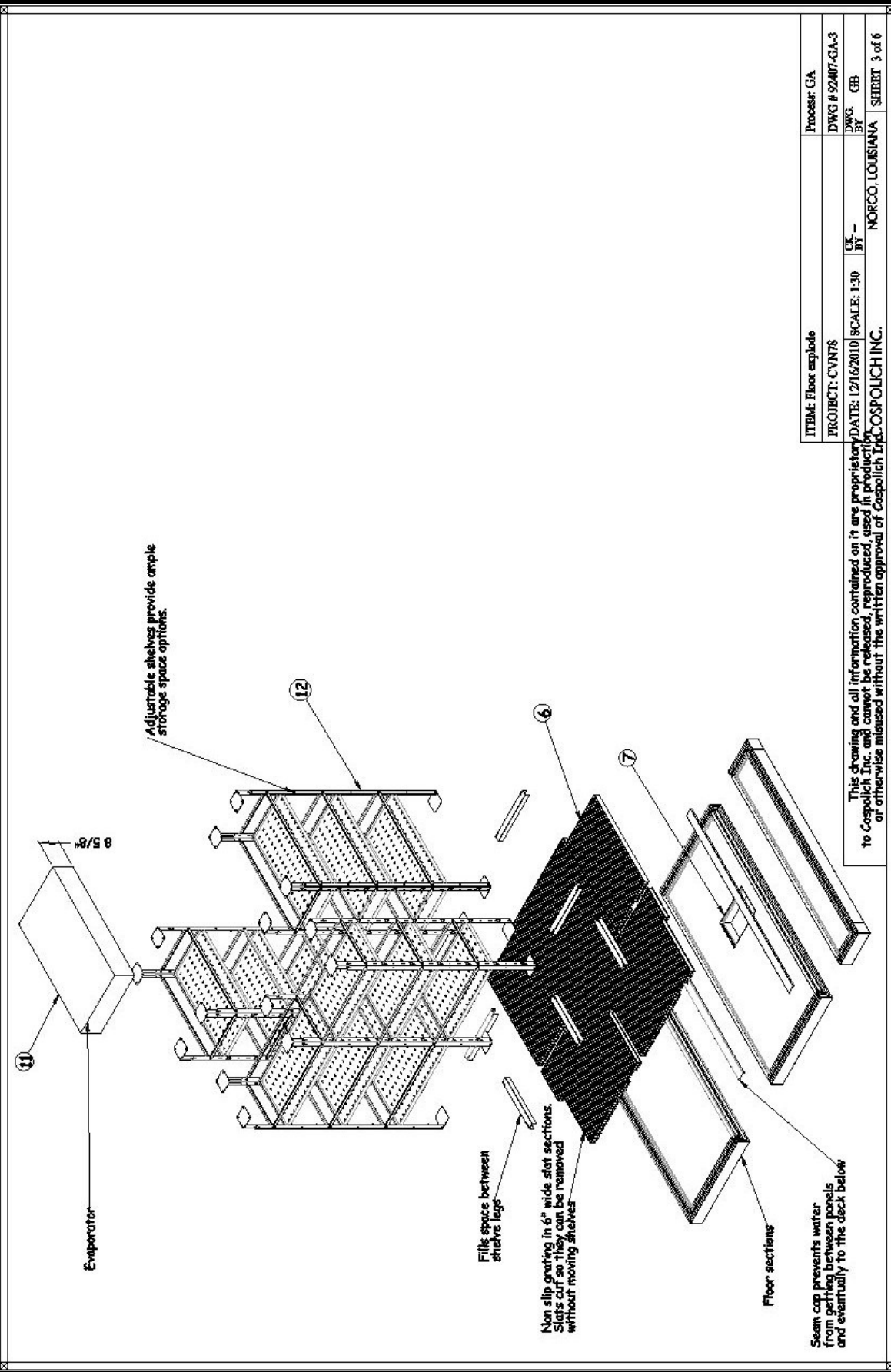
Appendix V—Floor Layout Drawing



ITEM: Floor Layout				Process: GA	
PROJECT: CVN78				DWG # 90A07-GA-2	
DATE: 12/16/2010				CS -	CB
SCALE: 1/8" = 1'-0"				BY -	BY
NORCO, LOUISIANA				SHEET 2 of 6	

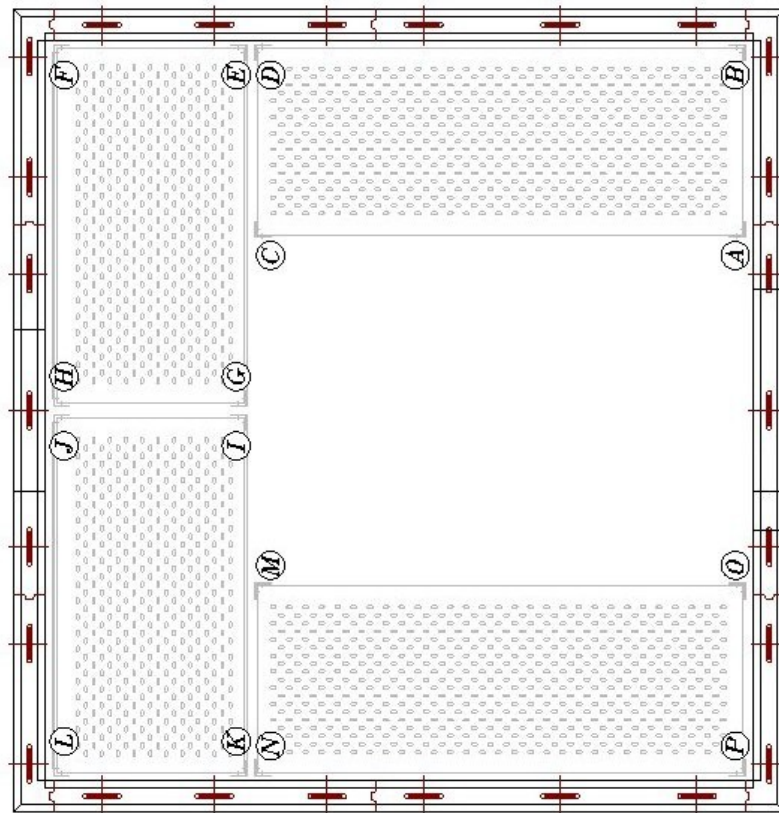
This drawing and all information contained on it are proprietary to Caspolich Inc. and cannot be released, reproduced, used in production or otherwise released without the written approval of Caspolich Inc.

Appendix VI—Shelving Layout Exploded View Drawing



Appendix VII—Shelving Layout Drawing

Shelving Layout



Shelving legs are labeled per the drawing

Install vertical legs in alphabetical order per the diagram

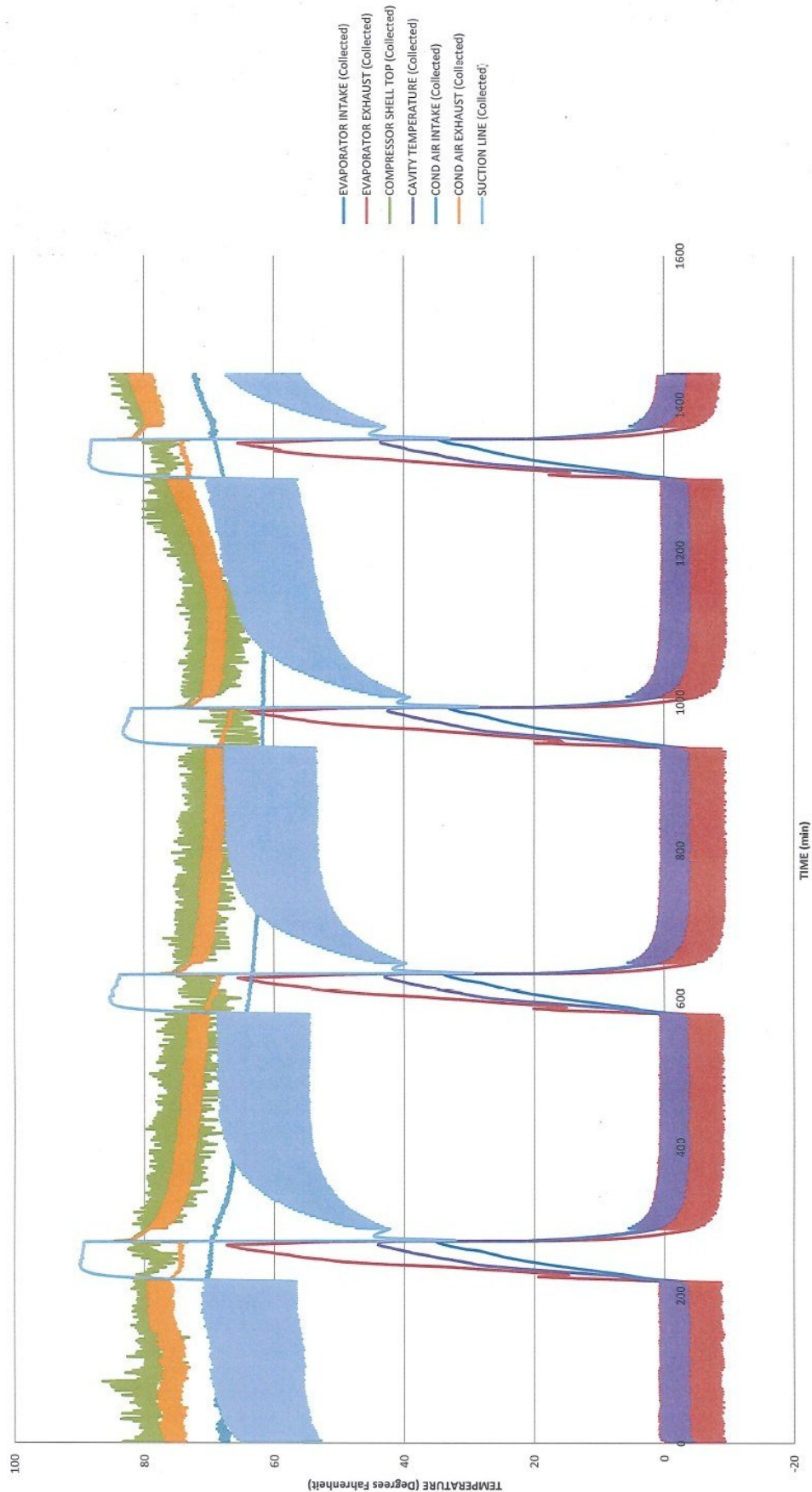
NOTE: Legs must be installed in specific locations and are not interchangeable

ITEM	CVN78 Freezer #2	DWG #	92407-SHELVING
PROJECT	Technico - CVN78	REV. #	
DATE	08/01/12	SCALE	To Scale
		DWN. BY	DP
COSPOLICH, INC.			
NORCO, LOUISIANA			

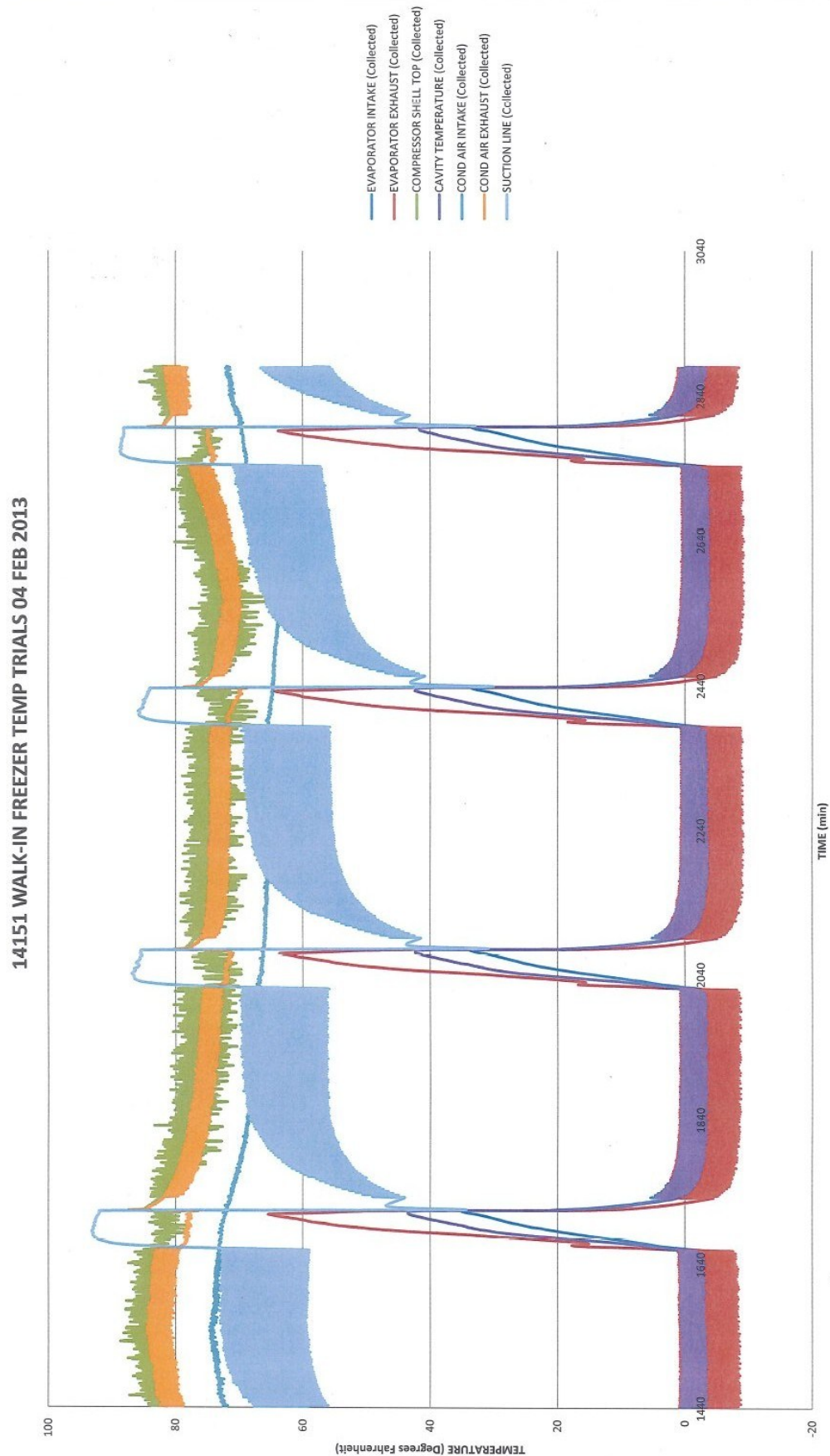
Freezer #2

Appendix VIII—Freeze Space Test Results, Page 1

14151 WALK-IN FREEZER TEMP TRIALS 04 FEB 2013

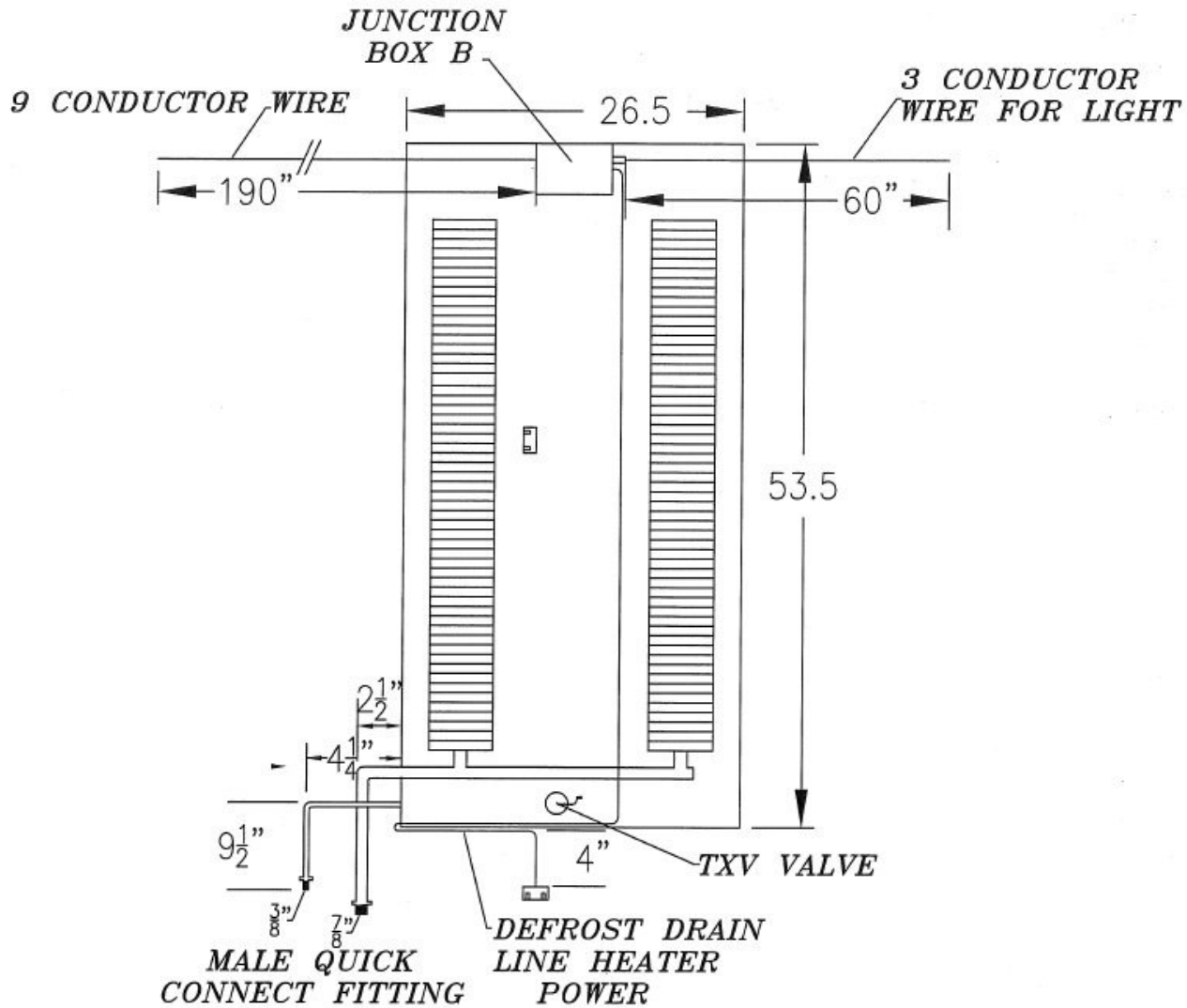


Appendix IX—Freeze Space Test Results, Page 2



Appendix X—Evaporator Coil

FREEZER #2 EVAP COIL - ACM090



DEFROST HEATERS

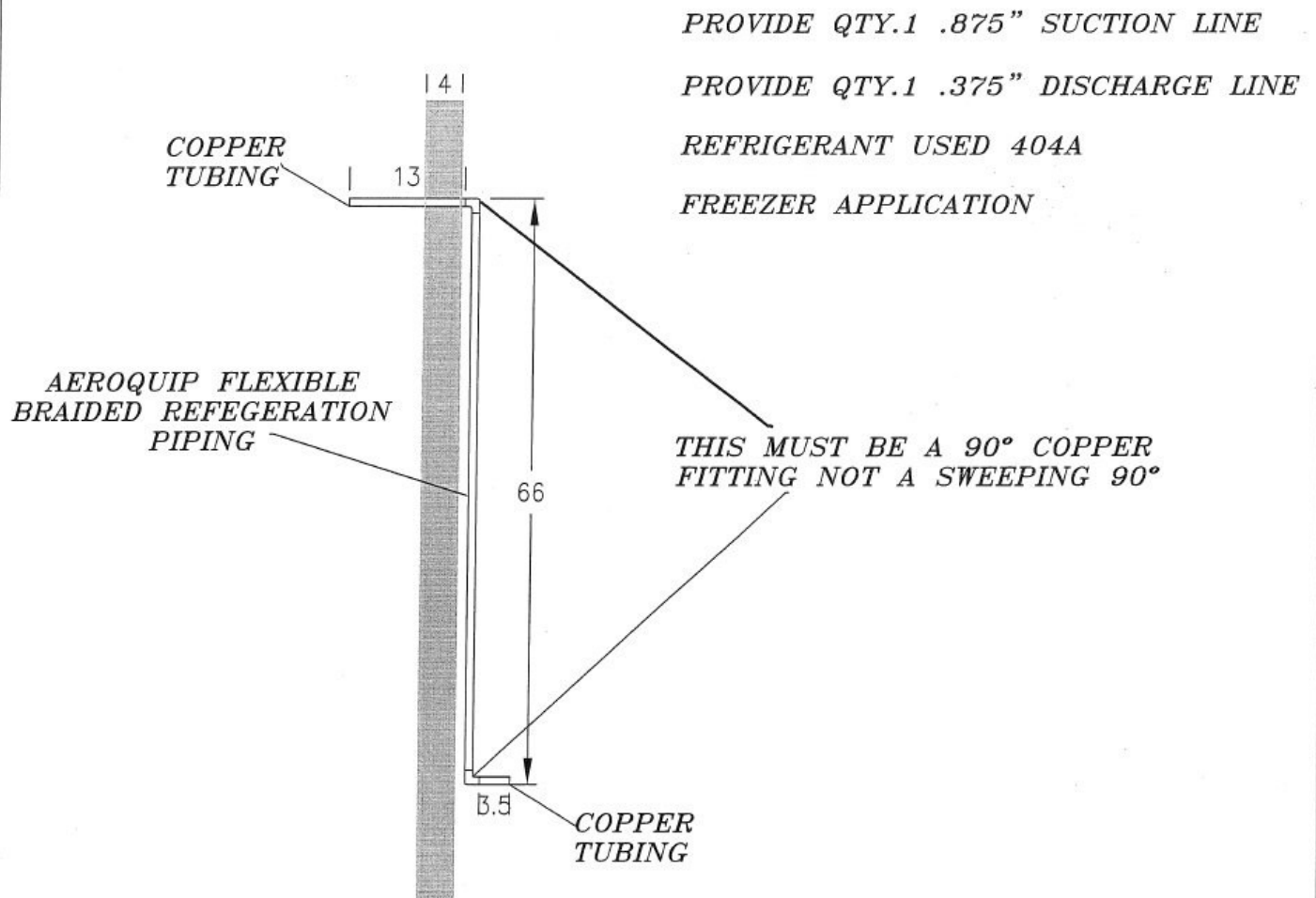
Part # RWE118
100" 115V 1000W QTY. 2

TXV VALVE

Part # RWEV58

ITEM	CVN78 Freezer #2	DWG #	92407-EVAP COIL
PROJECT	Tecnic - CVN78	REV. #	
DATE	02/20/13	SCALE	To Scale
		DWN. BY	DP
COSPOLICH, INC.			
NORCO, LOUISIANA			

Appendix XI—Hose Assembly



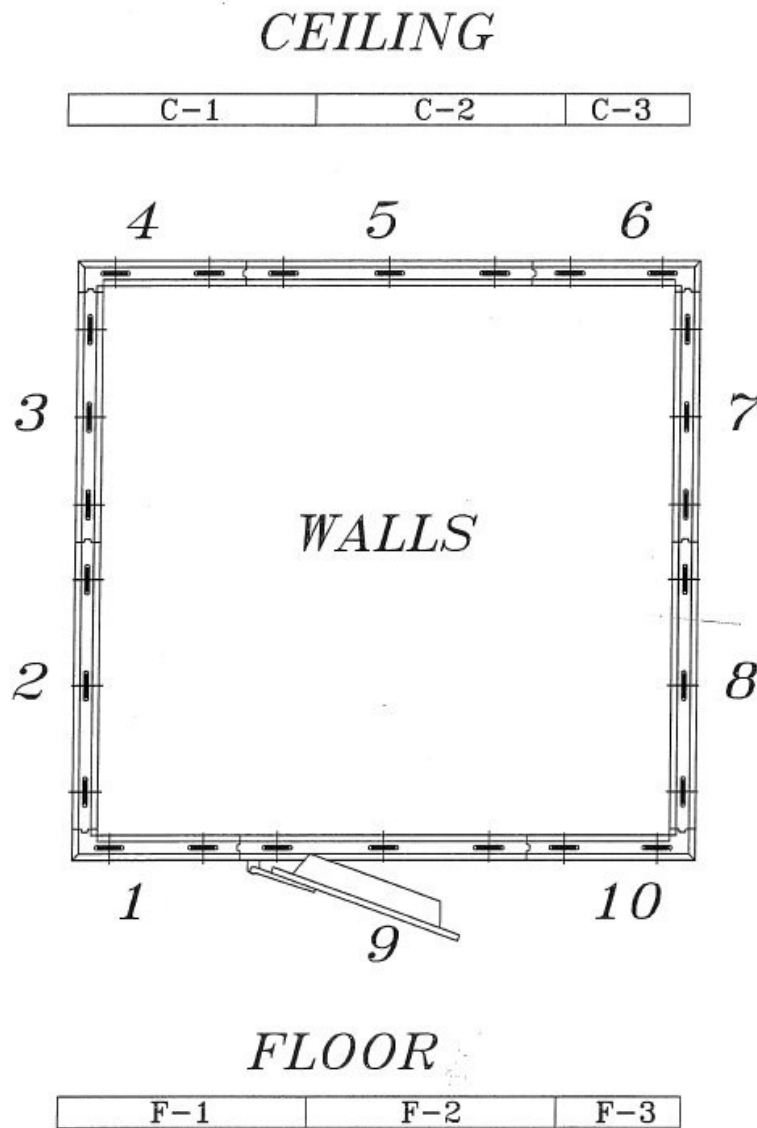
MATERIAL USED: AEROQUIP FLEXIBLE BRAIDED REFREGARATION PIPING

USED ON JOBS 14150 AND 14151

ITEM	CVN78 Freezer - Refer Piping	DWG # 92407 - Hose Assembly
PROJECT		REV. #
DATE	09/17/12	SCALE To Scale
		DWN. BY DP
COSPOLICH, INC.		NORCO, LOUISIANA

Appendix XII – Panel Layout

PANEL LAYOUT – FREEZER #2



– INSTALL PANELS IN
NUMERICAL ORDER AS LABELED

Appendix XIII—Revision History

[illegible]