



DATE 03-02-88
 CUSTOMER Freezing Systems, Inc.
 17625 130th Ave. N.E.
 Woodinville, WA 98072
 P.O. NO. 7-20-39-MB
 B.A.C. NO. 88600678
 MODEL NO. TSU-290E
 PROJECT: Karen's Kitchen/Ft. Wayne, IN
 ENGINEER: Marlin Bennett
 B.A.C. REP.: Campbell/Seattle, WA

TS ICE CHILLER™

Complete Unit Coils Only
 CAPACITY: 22,000 (Ton - hours, pounds of ice) full storage compressor-aided
 BUILD: 266 (Ton - hours, pounds of ice) in 12 hours build time, 2 in. ice thickness
 USING: 22.16 tons of refrigeration at 19 °F nom. evap. temp., R-717 refrigerant
 plus gpm of % e.g., °F in, °F out.
 (ton-hours, pounds of ice), compressor-aided capacity over operating hours.
 AIR PUMP: (1) 1.5 hp, 460 volts, 60 hertz, 3 phase, TEFC type, 12 cfm
 4 psig discharge by others

Submittal Data: 6 copies For Approval For Record

ITEM	DWG NO.
<input checked="" type="checkbox"/> Unit Dimensions <input checked="" type="checkbox"/> Specifications <input checked="" type="checkbox"/> Air Pump <input type="checkbox"/> Refrigerant Feed <input type="checkbox"/> By B.A.C. <input checked="" type="checkbox"/> By Others <input type="checkbox"/> Direct Expansion (DX) (Condensing Press, psig) <input type="checkbox"/> Gravity Flooded <input checked="" type="checkbox"/> Pump Recirculation: HP V HZ PH <input checked="" type="checkbox"/> Top Feed <input type="checkbox"/> Bottom Feed <input type="checkbox"/> Air Distribution Piping (Coil Only)	BAC-7058 B Sheet BAC 7575A BAC-7574A

x ICE LOGIC™ ICE THICKNESS CONTROL BAC-7587B

As previously requested, we will require approved copies from you through our representative, G.J. Campbell. Please keep in mind our current shipping schedule for this equipment is approximately 11-13 weeks from receipt of a firm release.

MECHANICAL SPECIFICATIONSBALTIMORE AIRCOIL ICE CHILLER™ THERMAL STORAGE UNIT

PROJECT Karen's Kitchen/Ft. Wayne, TN
 CUSTOMER Freezing Systems/Woodinville, WA P.O. 7-20-39-MB
 B.A.C. SERIAL NO. 88600678 ENGINEER Marlin Bennett

UNIT CONSTRUCTION

TANK LINER Heavy gauge hot-dip galvanized steel, reinforced with full length structural angles underneath and on all four sides. All joints are fully welded. A protective coating of Zinc-Rich Compound is applied to all exposed edges and welds.

INSULATION Expanded polystyrene insulation. 3 inches thick (R-13) on tank sides and ends plus 2 inches thick (R-8) on bottom and inside the covers.

EXTERIOR PANELS Hot-dip galvanized steel with BALTIBOND® Corrosion Protection System.

COVERS Hot-dip galvanized steel with the BALTIBOND® Corrosion Protection System. Insulated with 2 inch thick expanded polystyrene.

COIL Continuous 1.05" O.D. all prime surface steel tubing encased in a steel framework with entire assembly hot-dip galvanized after fabrication. Tested at 350 psig air pressure under water.

AIR PUMP Centrifugal regenerative blower for field mounting to supply low pressure air for agitation of the water. Pump is complete with a weather protected inlet air filter, flexible discharge coupling, inlet silencer, mounting brackets and is suitable for outdoor applications.

AIR DISTRIBUTOR Perforated Schedule 40 PVC pipe.

ICE INVENTORY CONTROL Ice Inventory control shall be solid-state, electronic resistivity type. Control shall be adjustable for 20, 40, 60, 80 or 100 percent of design storage capacity. Control shall be installed in a NEMA 4 box and mounted, pre-set and tested at the factory. Includes light, indicating desired build complete.

WATER QUALITY Water quality is important for assuring proper operation of the ICE CHILLER™ Thermal Storage Unit and Ice Thickness Control. The following guidelines must be met;

pH	6.5-9.0
Chlorides	100 ppm maximum
Sulfate	250 ppm maximum
Total Alkalinity	500 ppm
Maximum Conductivity	600 micro ohms/cm

If water treatments are implemented, in addition to standard guidelines, make sure not to depress the freezing point.

REFRIGERANT FEEDPUMP RECIRCULATION

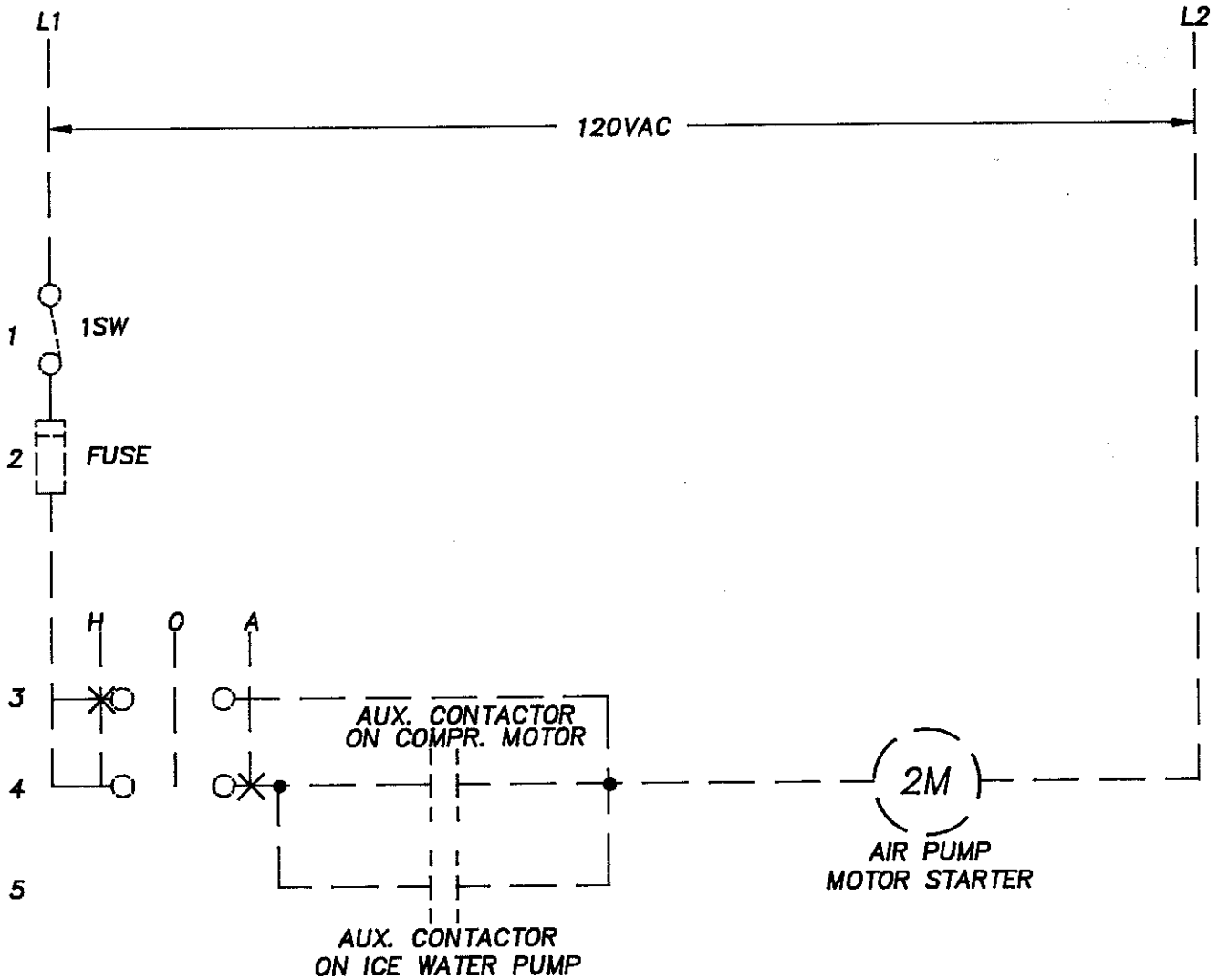
Includes primary pump, stand-by pump, accumulator, inlet solenoid valve (with float switch), inlet hand expansion valve, high/low level alarm, dual pressure relief valve, liquid/suction hand stop valve, liquid line strainer, and oil return system.

GRAVITY FLOODED FEED

Includes surge drum, inlet solenoid valve (with float switch), inlet expansion valve, high level float switch, dual pressure relief valve, and liquid line strainer.

NOTES:

1. BROKEN LINES INDICATE COMPONENTS AND WIRING TO BE SUPPLIED BY OTHERS.
2. CONTACTOR, FUSE PROTECTION AND POWER SUPPLY WIRING ARE TO BE SIZED TO MATCH HEATER REQUIREMENTS. WIRING MUST COMPLY TO APPLICABLE CODES AND ORDINANCES.



REV. B: UPDATED 1/21/88
 REV. A: UPDATED 11/11/87

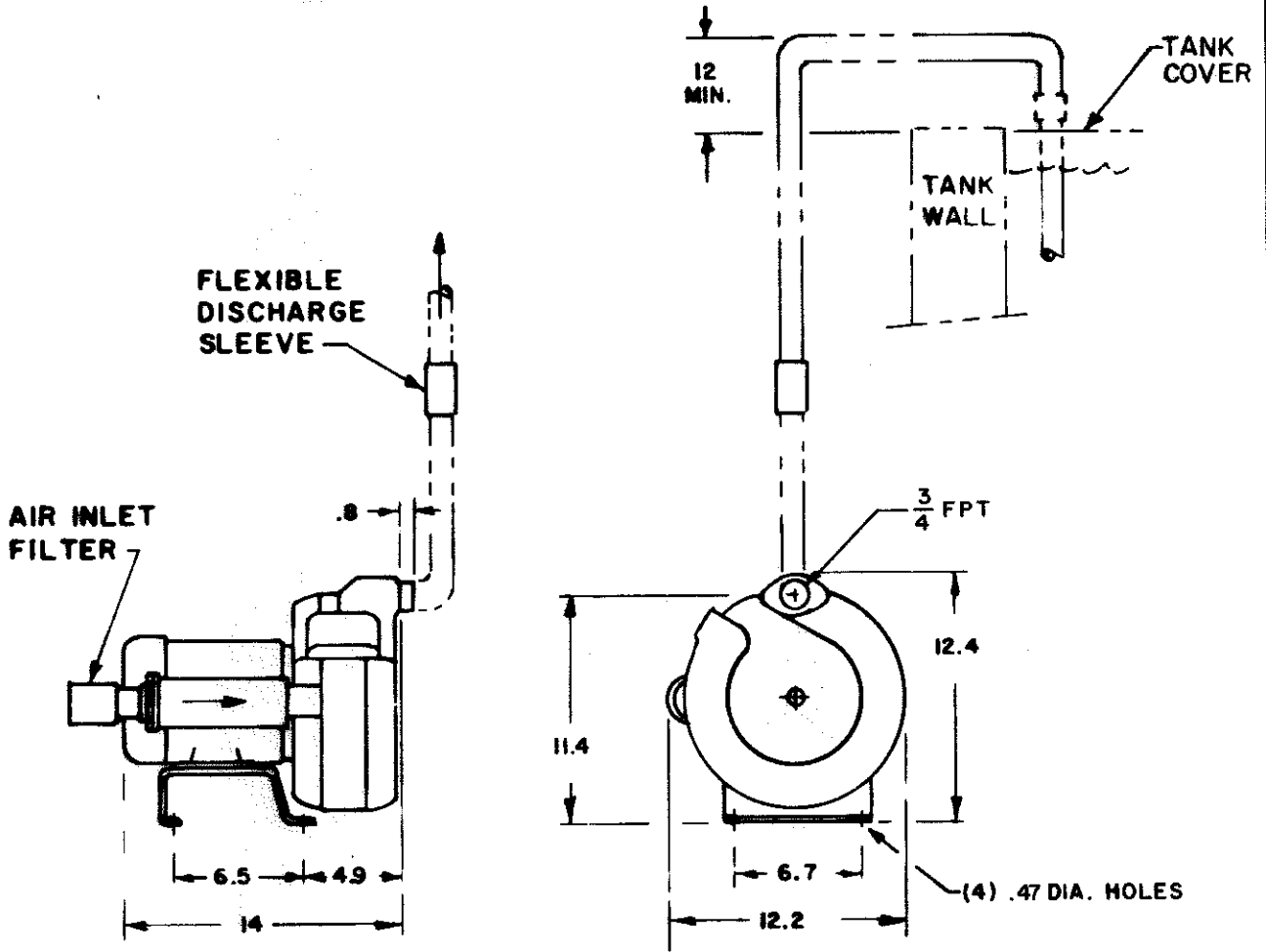
B.A.C. ORDER NO: 88600678

DATE: 03-02-88

BALTIMORE AIRCOIL

GENERAL CONTROL CIRCUIT WIRING
 SCHEMATIC FOR AIR PUMP OPERATION

DWG. NO: BAC-7574A



MODEL: 2322D2 HP: 1/2 WEIGHT: 53 LBS
 VOLTS: 230/460 FLA: 5.2/2.6
 ALL DIMENSIONS ARE IN INCHES
 1" DISCHARGE PIPE BY OTHERS
 MAXIMUM LENGTH 50 FT

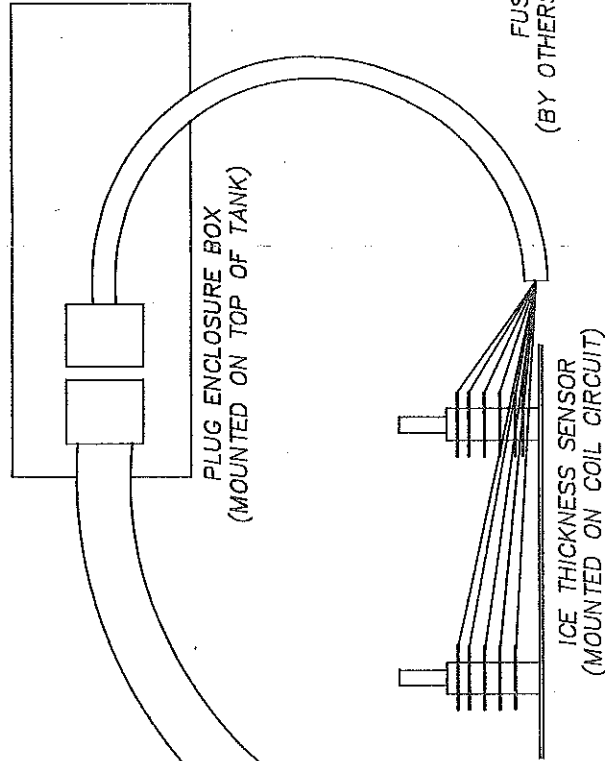
BAC ORDER NO. 88600678	BALTIMORE AIRCOIL	TITLE AIR PUMP
DATE 03-02-88	FOR: TSU-120 C THRU TSU-400 C TSU-105 B THRU TSU-350 B	DWG. NO. BAC 7575A

NOTE 1:

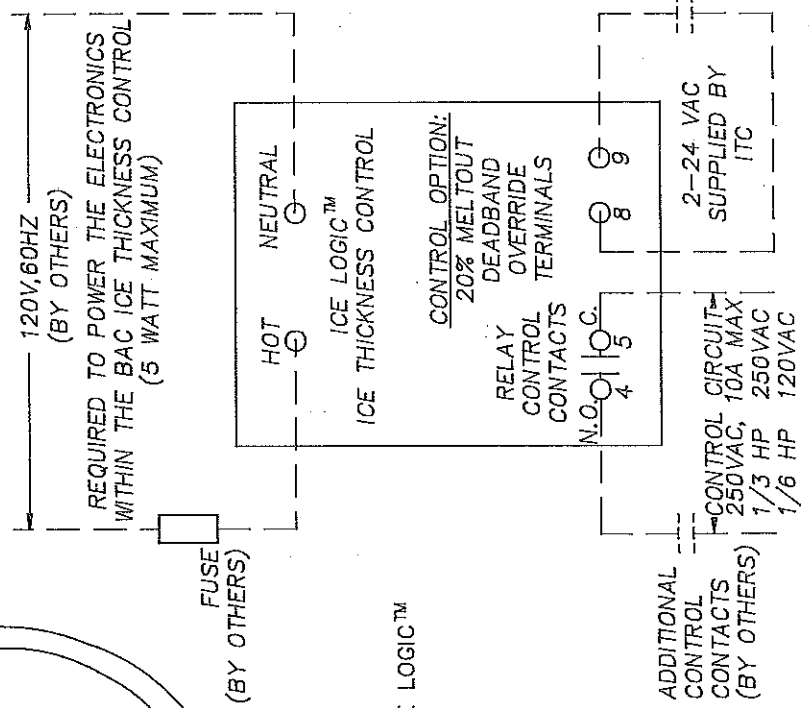
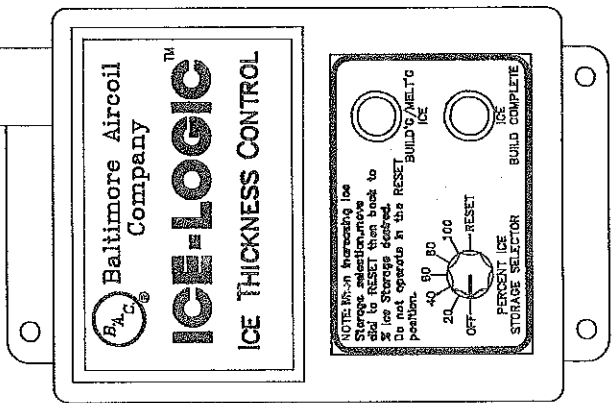
RELAY N.O. CONTACT CLOSES WHEN THE CONTROLLER SENSES THE NEED FOR ICE. N.O. CONTACT OPENS WHEN ICE BUILD IS COMPLETE.

NOTE 2:

OPTIONAL: DURING COMPRESSOR AIDED OPERATION, THE 20% MELTOUT DEADBAND CAN BE OVERRIDDEN BY CLOSING THE CIRCUIT BETWEEN TERMINALS 8 & 9. THE CIRCUIT APPLIES TO MELTOUT CYCLE ONLY.



NOTE: FOR PROPER OPERATION OF THE ICE LOGIC™ ICE THICKNESS CONTROLLER, WATER CONDUCTIVITY MUST NOT EXCEED 700 MICROMHOS/CM AT 32F.



ICE CHILLER INSPECTION RECORD

Inspected By M. AKIA Date: 8-25-88

Model: TSU- 290E

Serial No: 88600678

Customer: Freezing Systems

Tank

- Side panels single weld
- Bottom panels double weld
- Hood located over water-in connection.

Dye penetrant test mechanic MK, GS, RA, RH

Date tested: 8-17-88

Coil

2 Welder SG, J.M. Release No _____

Connection	Quantity	Size	Type
Water In	1	6"	BFW
Water Out	1	6"	BFW
Water Fill	1	2"	MPT
Overflow	1	2"	MPT
Drain	1	2"	MPT
Refrig. IN	2	2"	capped
Refrig. OUT	2	2 1/2"	capped
Air	1	1"	MPT PVC

Header Type	Top	Bottom
Plain	/	
Perfrlg. Distributor		
Orifice		
Oil Purge		

Evacuated and charged to 15 PSI:
Actual PSI 15

Air Distribution

- Bubbler Yes No Installed
- Check Valve Yes No Installed
- Quantity 1 : Air Pump Yes No Installed

Mfr Spencer Turbine HP 1 1/2 HZ 60
 Model # 2322D2 Volts 200-230/460 Amps 6-5.1/2.6
 Serial # U46048 Phase 3 CFM 36

- Pressure Relief Valve
- Inlet Filter
- Exhaust Muffler
- Noise Silencer

Ice Thickness Control

Quantity 1 Installed Yes No
 Actual Distance from tube top to sensor bottom 2"
 Mfr BAC Model No 310280
 Serial No _____

Other

Shipping Method: Fully Assembled
 Air Pump: _____ Mounted and Piped Ship Loose
 Covers: Quantity 12 Banded on Unit