

**KOLD-DRAFT®**

# Installation and Operation Manual for Kold-Draft Products

**ALL MODELS ARE INTENDED FOR INDOOR USE ONLY. DO NOT  
INSTALL THE EQUIPMENT IN UNPROTECTED OUTDOOR AREAS.  
DO NOT INSTALL THE EQUIPMENT IN WET AREAS.**

**GTX36X, GTX56X, GBX56X, GBX106X, T28X, AKD125,  
RC214, RC314**

**KOLD-DRAFT**

an Ali Group Company



The Spirit of Excellence

**NOTE!**

**CHECK FOR FREIGHT DAMAGE BEFORE PROCEEDING WITH THE EQUIPMENT INSTALLATION. BE SURE TO INSPECT THE EQUIPMENT CAREFULLY FOR ANY DAMAGE THAT MAY NOT HAVE BEEN EVIDENT ON THE OUTSIDE OF THE CARTON. CONTACT THE FREIGHT CARRIER IMMEDIATELY TO REPORT ANY DAMAGE AND FILE A CLAIM.**



**WARNINGS**

**DO NOT OPERATE EQUIPMENT THAT HAS BEEN DAMAGED.  
REFER ALL MAINTENANCE TO QUALIFIED PERSONNEL.  
NEVER OPERATE THE ICE MAKER WITH ANY COVERS, PANELS OR  
OTHER PARTS REMOVED OR NOT PROPERLY SECURED.  
INSTRUCT ALL PERSONNEL IN THE PROPER USE OF THE EQUIPMENT.  
CLEAN UP ANY SPILLAGE IMMEDIATELY.**

**CAUTION**

**FAILURE TO COMPLY WITH ALL KOLD-DRAFT INSTALLATION GUIDELINES MAY CAUSE PERSONAL INJURY, EQUIPMENT OR PROPERTY DAMAGE AND MAY VOID THE PRODUCT WARRANTY.**

**WARNING**

**ALWAYS INSTALL THE ICE MAKER ON A STABLE AND LEVEL SURFACE.  
ALWAYS SECURE THE ICE MAKER TO THE ICE STORAGE MEANS.  
ALL MODELS ARE INTENDED FOR INDOOR USE ONLY. DO NOT  
INSTALL THE EQUIPMENT IN UNPROTECTED OUTDOOR AREAS.  
DO NOT INSTALL THE EQUIPMENT IN WET AREAS.  
DO NOT LOCATE THE EQUIPMENT NEAR ANY HEAT SOURCE, IN DIRECT SUNLIGHT, IN HOT  
AMBIENT AREAS, OR WITHOUT PROPER CLEARANCE FOR VENTILATION. PLACING  
EQUIPMENT IN THESE LOCATIONS WILL RESULT IN REDUCED CAPACITIES, HIGH SYSTEM  
PRESSURES AND MAY CAUSE EQUIPMENT FAILURE.**

**AMBIENT OPERATING TEMPERATURES**

**Minimum 7°C (45°F) Maximum 32°C (90°F)**

**Ambient temperatures less than 15°C (60°F) may cause erratic bin level control operation.**

**Ambient temperatures higher than the maximum specification will result in reduced capacities and high system pressures, in air cooled models.**

## Table of Contents

KOLD-DRAFT GT & GB MODELS.....	5
EQUIPMENT CLEARANCE REQUIREMENTS .....	5
DRAINS .....	5
COOLING TOWER APPLICATION.....	5
POTABLE WATER SUPPLY.....	6
BRANCH CIRCUIT PROTECTION .....	6
VOLTAGE TOLERANCE .....	7
ASSEMBLY.....	7
START-UP .....	8
GT/GB SCHEMATICS.....	9
GT360 AIR & LIQUID WIRING DIAGRAM.....	9
GB/GB560 AIR & LIQUID WIRING DIAGRAM.....	10
GT/GB560 REMOTE WIRING DIAGRAM.....	11
GB1064 AIR & LIQUID WIRING DIAGRAM .....	12
GB1064 REMOTE WIRING DIAGRAM .....	13
KOLD-DRAFT REMOTE CONDENSERS.....	14
INSTALLATION .....	14
AMPACITY.....	15
BRANCH CIRCUIT PROTECTION .....	15
REMOTE PRE-CHARGED AIR COOLED CONDENSERS .....	16
ELECTRICAL INFORMATION.....	18
REMOVING FROM SERVICE .....	18
KOLD-DRAFT AKD ICE DISPENSER.....	19
INSTALLATION .....	20
INSTALLATION SPECIFICATIONS .....	23
DISPENSER MAINTENANCE .....	23
CLEANING.....	23
WIRING DIAGRAM.....	24
KOLD-DRAFT CRUSHER.....	25
CRUSHER INSTALLATION INSTRUCTIONS.....	25

INSTALLATION OF CRUSHER ABOVE BIN .....25  
OPERATION OF T281-T284 CRUSHER .....30  
SETTING T281-T284 to a CRUSH ONLY OPERATION .....30  
REMOVING FROM SERVICE .....31



# KOLD-DRAFT GT & GB MODELS

## EQUIPMENT CLEARANCE REQUIREMENTS

Clearance must be provided for ventilation and maintenance access. Ventilation is especially important for models with air cooled condensers. Failure to provide adequate clearance may result in reduced capacities and high system pressures. The minimum clearances for proper ventilation and access are:

	Left Side	Right Side	Rear	Top
GT360	4"	4"	4"	1"
GT560	4"	4"	4"	1"
GB560	4"	4"	4"	1"
GB1060	4"	4"	4"	1"

## DRAINS

- Separate drains must be provided for each evaporator section of each ice maker and ice bin. An additional condenser drain is required for any liquid cooled ice maker, when the condenser coolant will not be re-circulated.
- The size of the drain tubing must never be reduced along its length.
- Make sure that the building drain system can accommodate all the drain water from the ice machine operation.
- Individual drains must never be directly connected to a common manifold, drain or standpipe. If individual drains are to be discharged into a common manifold, drain or standpipe, a minimum 38mm (1.5") air gap must be provided at each connection. This is to prevent any backflow or back-siphonage of drain water into the ice maker or ice bin.
- Drain lines must be installed with a minimum drop of 2.5 cm per meter run (.3 inch drop per foot run).
- Ice machine and bin drains may be insulated to prevent condensation.

## COOLING TOWER APPLICATION

- The ice machine does not need to be modified for use with a cooling tower provided the cooling tower is properly designed for the application. Information regarding the amount of heat rejection, as well as the pressure drop through the condenser and liquid valves is required to properly design a cooling tower application for an ice machine.
- Coolant entering the condenser must not exceed 32.2°C (90°F).
- Coolant exiting the condenser must not exceed 43.3°C (110°F).

- Allow for a minimum pressure drop of 48 kPa (7 psig) between the liquid coolant inlet and outlet of the condenser.
- The condenser liquid control valve will regulate the flow of coolant through the condenser, thereby controlling the high side pressure in the ice machine.

## **POTABLE WATER SUPPLY**

There are no specific requirements for water treatment provided that the water is potable, not laden with sediment and does not exhibit residual chlorine level greater than 0.2 ppm. The use of water treatment, however, may increase the intervals between cleaning operations. Do not connect the ice machine to a hot water supply line. Insulate the water line from sources of heat or to prevent condensation.

**NOTE** - Purge all water supply lines before connecting them to the ice machine.



### CAUTION

**HIGH RESIDUAL CHLORINE (MORE THAN 0.2 PPM) CAN CAUSE CORROSION OF ICE MAKER COMPONENTS AND EVEN THE 300 SERIES STAINLESS STEEL FRAME AND SKIN PANELS. HIGH CHLORINE LEVELS MUST BE REDUCED, IN THE ICE MAKER WATER SUPPLY, TO PROTECT THE EQUIPMENT AND PRESERVE THE PRODUCT WARRANTY.**

Please contact your local water conditioning expert for recommendations, about your specific water supply, or consult the factory.

A minimum 0.2 MPa (30 psig) dynamic water supply pressure is required for proper operation of the ice maker water valve. Please note that on liquid cooled ice machines, where the same water supply is used for both condenser cooling and the potable water supply, the demand for condenser coolant may cause the supply pressure to drop. This is most notable at the time of peak load, at the beginning of the freeze cycle.

- Minimum water temperature 7°C (45°F) Maximum water temperature 32°C (90°F)
- Water temperatures higher than the recommended maximum will cause reduced capacity.
- Minimum water pressure 0.2 MPa (30 psig) Maximum water pressure 0.6 MPa (100 psig)
- If a water pressure regulator is used, the recommended setting is 0.2 MPa to 0.3 MPa (30 to 50 psig) dynamic.



### WARNING

**ALL KOLD-DRAFT MODELS ARE INTENDED TO BE INSTALLED WITH A PERMANENT CONNECTION TO THE FIELD ELECTRICAL SUPPLY. DROP CORD CONNECTIONS SHOULD NEVER BE USED WITH THIS EQUIPMENT.**

**ALWAYS BE SURE THE POWER SUPPLY IS THE SAME AS THE ICE MACHINE SPECIFICATION. SEE THE ICE MACHINE ELECTRICAL PLATE.**

## **BRANCH CIRCUIT PROTECTION**

**PROPER PROTECTION MUST BE PROVIDED BY THE USE OF FUSES OR HACR TYPE CIRCUIT BREAKERS. EACH ICE MAKER MUST BE CONNECTED TO A SEPARATE PROTECTED**

**CIRCUIT WITH NO OTHER LOADS. A FUSED DISCONNECT PROVIDED BY THE INSTALLER AND INSTALLED ADJACENT TO EACH ICE MAKER IS RECOMMENDED AND MAY BE REQUIRED BY LOCAL CODES.**

Minimum ampacity does not indicate typical running current value. Refer to the equipment electrical plate. Use the minimum ampacity value for sizing branch circuit conductors up to 8 meters (26 feet) in length. For conductor length over 8 meters, increase the wire gauge as required.

Normal protector size is based on rated voltage and operation at lower than extreme temperature limits. Branch circuit conductors may be sized to allow increasing the protector value up to the specified maximum. This may avoid nuisance protector opening under harsh operating conditions.

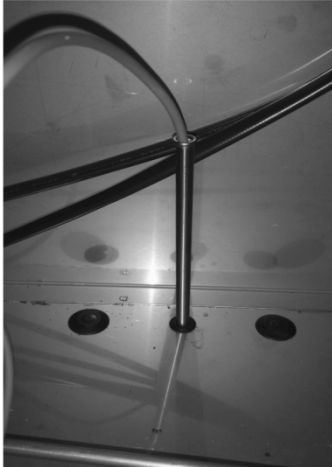
### VOLTAGE TOLERANCE

NOMINAL	NO-LOAD MAXIMUM	FULL-LOAD MINIMUM
115	126	104
208-230	252	198

### ASSEMBLY

- Remove the ice machine front-cover panel, top-cover panel and side-cover panels from the ice machine frame.
- The ice storage bin surface must be level. Use minimum 150 mm (6") ice storage bin leg adjusters, or seal the bin directly to the floor using shims as required. Use an NSF certified sealant to seal the bin to the floor. If there are gaps larger than 3 mm (1/8") install a cove molding around the bottom of the bin.
- If not provided, an opening must be cut in the bin top corresponding to the ice drop zone. Holes are provided in the ice machine frame for the purpose of attaching the ice machine to the ice storage bin. Use the fasteners provided or other suitable non-corroding fasteners for this purpose.
- Apply gasket material to the ice storage bin top. The gasket material must be positioned at the outside edge of the ice machine frame.
- Carefully lift the ice machine and position it on the ice storage bin. Attach the ice machine to the ice storage bin.
- Make all plumbing and electrical connections to the ice machine and ice storage bin.
- Remove all shipping materials from the ice machine including the water plate shipping strap.
- Install the bin level probe, into the ice storage bin. See the following images.

In order for the machines to make a solid cube some adjustments may be needed. If the ice being harvested is too light or does not have the right dimple size to make it solid, the entire probe will need to be raised slightly. This can be done by grabbing the probe at the top and pulling slightly. If the ice is too solid and there is no dimple for the ice cube then the probe needs to be lowered. Grabbing the probe at the top and pushing it in will lower it. Raise or lower the probe for right **ICE CUBE QUALITY**. Proper adjustment of the control stream and water level probes will produce ice cubes containing a **1/8" to 3/16" dimple**.



**GB1060**



**GT560**



**GT360**

### START-UP

- Be sure that the on-off switch is in the “OFF” position and the make ice-clean selector switch is in the “CLEAN” position.
- Turn on the water supply and the electrical power and check all supply lines for leaks.
- Make sure all pump and water tank hoses are connected, then pour .5 liter of clean potable water into the circulation system(s) to lubricate the pump seal.
- Move the on-off switch to the “ON” position and observe the water flowing from the distributor tube, filling the water tank. Also observe that the water pump is circulating water through the system. The water fill is complete when the top float is up against the ring. Observe that the water valve is de-energized at this time and there are no water leaks from the hoses or water tank into the drain pan.
- Pull down on the right side of the water plate, stretching the springs until the actuator motor rotates the cam arms counter-clockwise. Observe that the cam arms continue to turn, opening the water plate fully, dumping the water in the tank. At this point, the cam arm rotation will reverse and close the water plate. The cam arm rotation will stop when the water plate is fully closed and the water fill process will repeat.
- Move the ice-clean switch to the “ICE” position and observe that the compressor and the fan motor (air cooled only) begin to run. The refrigeration system operation should be checked and adjusted during the first few cycles.
- Test the bin level control operation by holding ice against the probe. The ice maker should read code 90 on the control board within 30 seconds then shut off after the cycle ends.
- **All adjustments and Service should be referred to a qualified technician who has the proper Service Manual.**
- Make sure that the drain pan, ice deflectors and stacking chute (GB1060 models and stacked ice machines only) are properly installed. Replace and secure all the cabinet panels.
- Discard all the ice from the start-up cycles, then clean and sanitize the ice storage bin according to the instructions provided with the bin.
- **Complete and mail the registration certificate to the factory. Leave all instructions with the owner/user.**
- **NOTE- Emphasize all cautionary information to prevent personal injury, property and/or**

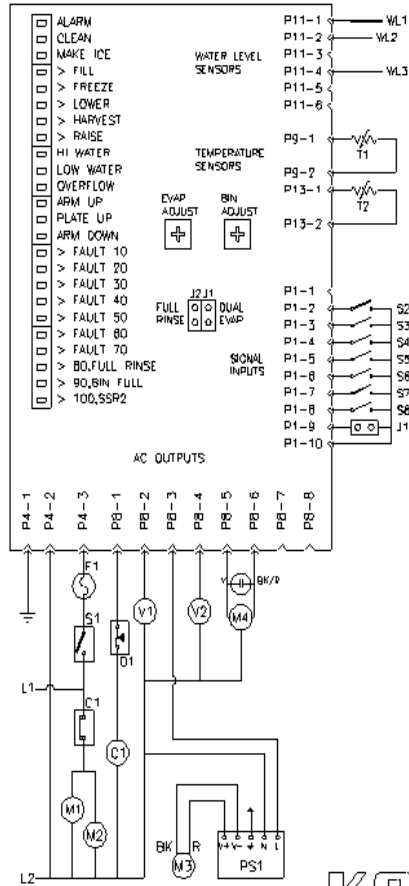


equipment damage.

## GT/GB SCHEMATICS

### GT360 AIR & LIQUID WIRING DIAGRAM

ITEM	DESCRIPTION
C1	CONTACTOR
D1	HIGH PRESSURE CUT-OFF
D2	LOW PRESSURE CUT-OFF (PUMP-DOWN)
F1	4A FASTBLOW FUSE
M1	COMPRESSOR
M2	CONDENSER FAN MOTOR (AIR COOLED)
M3	WATER PUMP
M4	ACTUATOR MOTOR
PS1	POWER SUPPLY
RC1	RUN CAPACITOR
S1	ON-OFF SWITCH
S2	ARMS UP SWITCH
S3	PLATE UP SWITCH
S4	ARMS DOWN SWITCH
S5	ICE-CLEAN SWITCH
SC1	START CAPACITOR
SR1	START RELAY
T1	EVAPORATOR THERMISTOR
T2	BIN THERMISTOR
V1	WATER VALVE
V2	DEFROST VALVE
V3	LIQUID LINE VALVE
WL1	WATER LEVEL PROBE-REFERENCE
WL2	WATER LEVEL SENSOR-HIGH
WL3	WATER LEVEL SENSOR-LOW



THE ELECTRONIC CONTROL WILL MONITOR FOR THE FOLLOWING CONDITIONS AND PREVENT THE ICE MACHINE FROM OPERATING AS REQUIRED TO PREVENT DAMAGE.

**LED 20-**  
WATER PLATE HAS RE-OPENED 13 CONSECUTIVE TIMES WITHOUT STARTING A FREEZE CYCLE

**LED 30-**  
FREEZE CYCLE EXCEEDS 35 MINUTES FLASHES AFTER 3 CONSECUTIVE 35-MINUTE CYCLES.

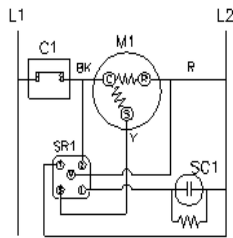
**LED 40-**  
FREEZE CYCLE SHORTER THAN 5 MINUTES FLASHES AFTER 3 CONSECUTIVE ATTEMPTS AND CIRCULATES WATER, SOLID AFTER 8 CONSECUTIVE ATTEMPTS

**LED 60-**  
FILL CYCLE EXCEEDS 3 MINUTES 3 CONSECUTIVE TIMES.

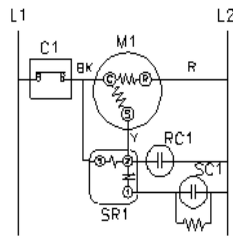
**LED 70-**  
CAM SWITCH FAULT-BOTH ARM-UP AND ARM-DOWN SWITCHES ARE ENGAGED AT THE SAME TIME.

**LED 80-**  
FULL RINSE ENABLED (NO JUMPER ON J2)

**LED 90-**  
BIN FULL-BIN PROBE'S TEMPERATURE IS LESS THAN THE BIN ADJUST'S SETPOINT



GT361



GT364/GT367

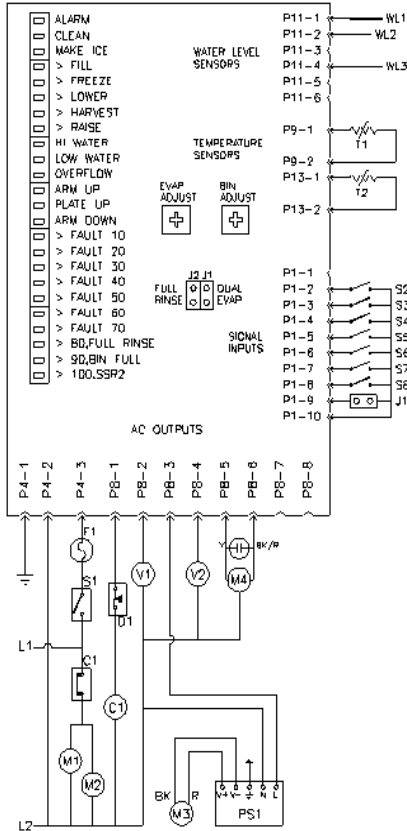
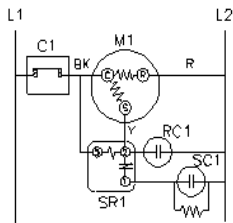
GT360 SERIES  
AIR & LIQUID

**KOLD-DRAFT**  
INTERNATIONAL, LLC

507 1087 01 REV D

# GB/GB560 AIR & LIQUID WIRING DIAGRAM

ITEM	DESCRIPTION
C1	CONTACTOR
D1	HIGH PRESSURE CUT-OFF
D2	LOW PRESSURE CUT-OFF (PUMP-DOWN)
F1	4A FASTBLOW FUSE
M1	COMPRESSOR
M2	CONDENSER FAN MOTOR (AIR COOLED)
M3	WATER PUMP
M4	ACTUATOR MOTOR
PS1	POWER SUPPLY
RC1	RUN CAPACITOR
S1	ON-OFF SWITCH
S2	ARMS UP SWITCH
S3	PLATE UP SWITCH
S4	ARMS DOWN SWITCH
S5	ICE-CLEAN SWITCH
SC1	START CAPACITOR
SR1	START RELAY
T1	EVAPORATOR THERMISTOR
T2	BIN THERMISTOR
V1	WATER VALVE
V2	DEFROST VALVE
V3	LIQUID LINE VALVE
WL1	WATER LEVEL PROBE-REFERENCE
WL2	WATER LEVEL SENSOR-HIGH
WL3	WATER LEVEL SENSOR-LOW



THE ELECTRONIC CONTROL WILL MONITOR FOR THE FOLLOWING CONDITIONS AND PREVENT THE ICE MACHINE FROM OPERATING AS REQUIRED TO PREVENT DAMAGE.

**LED 20-**  
WATER PLATE HAS RE-OPENED 13 CONSECUTIVE TIMES WITHOUT STARTING A FREEZE CYCLE.

**LED 30-**  
FREEZE CYCLE EXCEEDS 35 MINUTES FLASHES AFTER 3 CONSECUTIVE 35-MINUTE CYCLES.

**LED 40-**  
FREEZE CYCLE SHORTER THAN 5 MINUTES, FLASHES AFTER 3 CONSECUTIVE ATTEMPTS AND CIRCULATES WATER, SOLID AFTER 6 CONSECUTIVE ATTEMPTS.

**LED 50-**  
FILL CYCLE EXCEEDS 3 MINUTES 3 CONSECUTIVE TIMES

**LED 70-**  
DOWN SWITCH FAULT-BOTH ARM-UP AND ARM-DOWN SWITCHES ARE ENGAGED AT THE SAME TIME

**LED 80-**  
FULL RINSE ENABLED (NO JUMPER ON J2)

**LED 90-**  
BIN FULL-BIN PROBE'S TEMPERATURE IS LESS THAN THE BIN ADJUST'S SETPOINT

GT560 SERIES/GB560 SERIES  
AIR & LIQUID

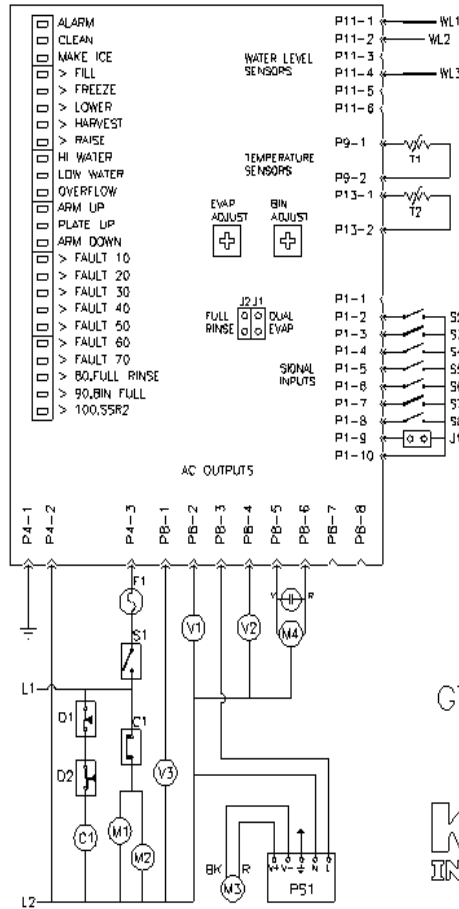
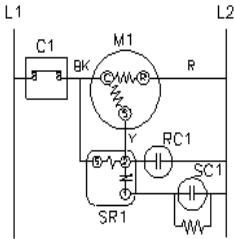
**KOLD-DRAFT**  
INTERNATIONAL, LLC

BRIDGE, PA 19008

507 1081 01 REV. F

# GT/GB560 REMOTE WIRING DIAGRAM

ITEM	DESCRIPTION
C1	CONTACTOR
D1	HIGH PRESSURE CUT-OFF
D2	LOW PRESSURE CUT-OFF (PUMP-DOWN)
F1	4A FASTBLOW FUSE
M1	COMPRESSOR
M2	CONDENSER FAN MOTOR (2) (AIR COOLED)
M3	WATER PUMP (2)
M4	ACTUATOR MOTOR-LOWER WATER PLATE
M5	ACTUATOR MOTOR-UPPER WATER PLATE
PS1	POWER SUPPLY
RC1	RUN CAPACITOR
S1	DN-OFF SWITCH
S2	ARMS UP SWITCH
S3	PLATE UP SWITCH
S4	ARMS DOWN SWITCH
S5	ICE-CLEAN SWITCH
SC1	START CAPACITOR
SR1	START RELAY
T1	EVAPORATOR THERMISTOR
T2	BIN THERMISTOR
V1	WATER VALVE
V2	DEFROST VALVE (2)
V3	LIQUID LINE VALVE
WL1	WATER LEVEL PROBE-REFERENCE
WL2	WATER LEVEL SENSOR-HIGH
WL3	WATER LEVEL SENSOR-LOW



THE ELECTRONIC CONTROL WILL MONITOR FOR THE FOLLOWING CONDITIONS AND PREVENT THE ICE MACHINE FROM OPERATING AS REQUIRED TO PREVENT DAMAGE

**LED 20-**  
WATER PLATE HAS RE-OPENED 13 CONSECUTIVE TIMES WITHOUT STARTING A FREEZE CYCLE.

**LED 30-**  
FREEZE CYCLE EXCEEDS 75 MINUTES. FLASHES AFTER 3 CONSECUTIVE 35-MINUTE CYCLES.

**LED 40-**  
FREEZE CYCLE SHORTER THAN 5 MINUTES. FLASHES AFTER 3 CONSECUTIVE ATTEMPTS AND CIRCULATES WATER SOLID AFTER 8 CONSECUTIVE ATTEMPTS.

**LED 80-**  
FILL CYCLE EXCEEDS 3 MINUTES 3 CONSECUTIVE TIMES.

**LED 70-**  
CAM SWITCH FAULT-BOTH ARM-UP AND ARM-DOWN SWITCHES ARE ENGAGED AT THE SAME TIME.

**LED 90-**  
FULL RINSE ENABLED (NO JUMPER ON J2)

**LED 90-**  
BIN FULL-BIN PROBE'S TEMPERATURE IS LESS THAN THE BIN ADJUST'S SETPOINT

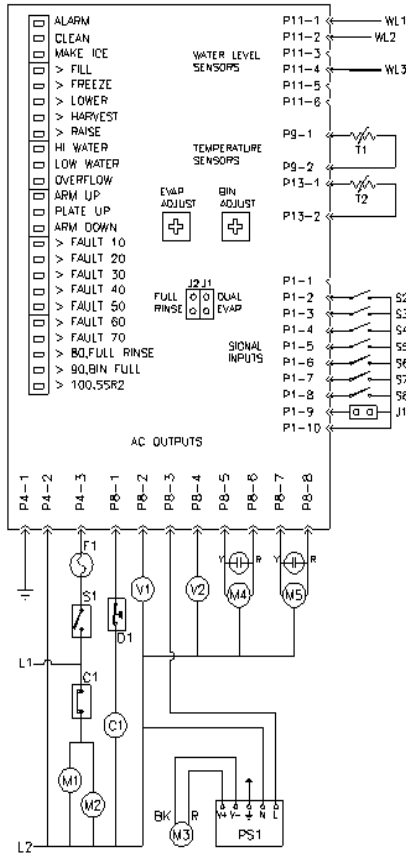
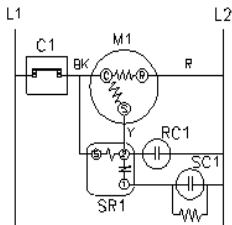
GT560 SERIES/GB560 SERIES  
REMOTE

**KOLD-DRAFT**  
INTERNATIONAL, LLC EXETER, PA USA

507 1092 01 REV. C

# GB1064 AIR & LIQUID WIRING DIAGRAM

ITEM	DESCRIPTION
C1	CONTACTOR
D1	HIGH PRESSURE CUT-OFF
D2	LOW PRESSURE CUT-OFF (PUMP-DOWN)
F1	4A FASTBLOW FUSE
M1	COMPRESSOR
M2	CONDENSER FAN MOTOR (2) (AIR COOLED)
M3	WATER PUMP (2)
M4	ACTUATOR MOTOR-LOWER WATER PLATE
M5	ACTUATOR MOTOR-UPPER WATER PLATE
PS1	POWER SUPPLY
RC1	RUN CAPACITOR
S1	ON-OFF SWITCH
S2	ARMS UP SWITCH
S3	PLATE UP SWITCH
S4	ARMS DOWN SWITCH
S5	ICE-CLEAN SWITCH
SC1	START CAPACITOR
SR1	START RELAY
T1	EVAPORATOR THERMISTOR
T2	BIN THERMISTOR
V1	WATER VALVE
V2	DEFROST VALVE (2)
V3	LIQUID LINE VALVE
WL1	WATER LEVEL PROBE-REFERENCE
WL2	WATER LEVEL SENSOR-HIGH
WL3	WATER LEVEL SENSOR-LOW



THE ELECTRONIC CONTROL WILL MONITOR FOR THE FOLLOWING CONDITIONS AND PREVENT THE ICE MACHINE FROM OPERATING AS REQUIRED TO PREVENT DAMAGE.

**LED 20-**  
WATER PLATE HAS RE-OPENED 13 CONSECUTIVE TIMES WITHOUT STARTING A FREEZE CYCLE.

**LED 30-**  
FREEZE CYCLE EXCEEDS 35 MINUTES. FLASHES AFTER 3 CONSECUTIVE 35-MINUTE CYCLES.

**LED 40-**  
FREEZE CYCLE SHORTER THAN 5 MINUTES. FLASHES AFTER 3 CONSECUTIVE ATTEMPTS AND CIRCULATES WATER. SOLID AFTER 8 CONSECUTIVE ATTEMPTS.

**LED 60-**  
FULL CYCLE EXCEEDS 3 MINUTES 3 CONSECUTIVE TIMES

**LED 70-**  
CAN SWITCH FAULT-BOTH ARM-UP AND ARM-DOWN SWITCHES ARE ENGAGED AT THE SAME TIME.

**LED 80-**  
FULL RINSE ENABLED (NO JUMPER ON J2)

**LED 90-**  
BIN FULL-BIN PROBE'S TEMPERATURE IS LESS THAN THE BIN ADJUST'S SETPOINT

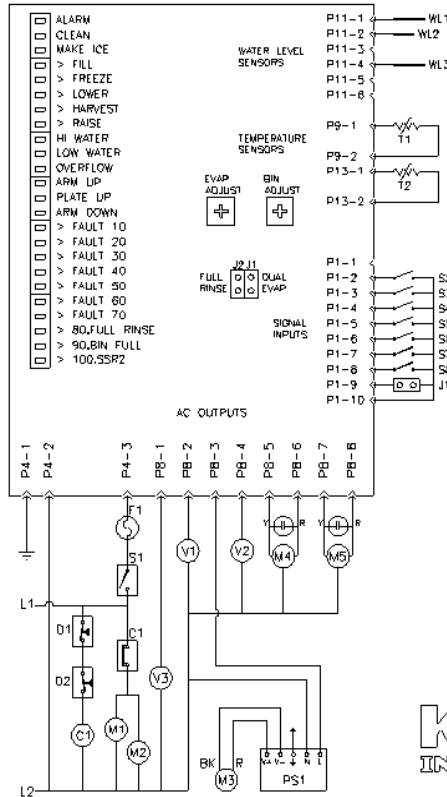
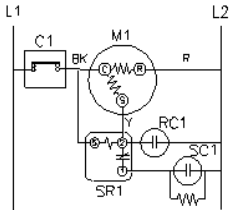
GB1064/GB1067  
AIR & LIQUID

**KOLD-DRAFT**  
INTERNATIONAL, LLC BRIDGEVILLE, PA U.S.A.

507 1082 01 REV. F

# GB1064 REMOTE WIRING DIAGRAM

ITEM	DESCRIPTION
C1	CONTACTOR
D1	HIGH PRESSURE CUT-OFF
D2	LOW PRESSURE CUT-OFF (PUMP-DOWN)
F1	4A FASTBLOW FUSE
M1	COMPRESSOR
M2	CONDENSER FAN MOTOR (2) (AIR COOLED)
M3	WATER PUMP (2)
M4	ACTUATOR MOTOR-LOWER WATER PLATE
M5	ACTUATOR MOTOR-UPPER WATER PLATE
PS1	POWER SUPPLY
RC1	RUN CAPACITOR
S1	ON-OFF SWITCH
S2	ARMS UP SWITCH
S3	PLATE UP SWITCH
S4	ARMS DOWN SWITCH
S5	ICE-CLEAN SWITCH
SC1	START CAPACITOR
SR1	START RELAY
T1	EVAPORATOR THERMISTOR
T2	BIN THERMISTOR
V1	WATER VALVE
V2	DEFROST VALVE (2)
V3	LIQUID LINE VALVE
VL1	WATER LEVEL PROBE-REFERENCE
VL2	WATER LEVEL SENSOR-HIGH
VL3	WATER LEVEL SENSOR-LOW



THE ELECTRONIC CONTROL WILL MONITOR FOR THE FOLLOWING CONDITIONS AND PREVENT THE ICE MACHINE FROM OPERATING AS REQUIRED TO PREVENT DAMAGE

**LED 20-**  
WATER PLATE HAS RE-OPENED 13 CONSECUTIVE TIMES WITHOUT STARTING A FREEZE CYCLE.

**LED 30-**  
FREEZE CYCLE EXCEEDS 35 MINUTES. FLASHES AFTER 3 CONSECUTIVE 35-MINUTE CYCLES

**LED 40-**  
FREEZE CYCLE SHORTER THAN 5 MINUTES FLASHES AFTER 3 CONSECUTIVE ATTEMPTS AND CIRCULATES WATER. SOLID AFTER 6 CONSECUTIVE ATTEMPTS.

**LED 80-**  
FULL CYCLE EXCEEDS 3 MINUTES 3 CONSECUTIVE TIMES

**LED 70-**  
DAM SWITCH FAULT-BOTH ARM-UP AND ARM-DOWN SWITCHES ARE ENGAGED AT THE SAME TIME.

**LED 80-**  
FULL RINSE ENABLED (NO JUMPER ON J2)

**LED 90-**  
BIN FULL-BIN PROBE'S TEMPERATURE IS LESS THAN THE BIN ADJUST'S SETPOINT

GB1064/GB1067  
REMOTE

**KOLD-DRAFT**  
INTERNATIONAL, LLC

507 1086 01 REV. E



# **KOLD-DRAFT REMOTE CONDENSERS**

## **INSTALLATION AND OPERATION INSTRUCTIONS FOR KOLD-DRAFT<sup>®</sup> REMOTE AIR-COOLED CONDENSERS**

**CHECK FOR FREIGHT DAMAGE BEFORE PROCEEDING:** Even though damage to the carton may not have been evident, check for hidden damage and contact freight carrier immediately if necessary to file a claim.

**THIS EQUIPMENT MUST BE INSTALLED IN COMPLIANCE WITH THE APPLICABLE FEDERAL, STATE/PROVINCE, AND/OR LOCAL PLUMBING, ELECTRICAL, AND HEALTH/SANITATION CODES AND REQUIREMENTS.**

### **CAUTION:**

- **RISK OF PERSONAL INJURY, PROPERTY DAMAGE, EQUIPMENT, FAILURE, OR FIRE.**
- **Refer all maintenance to qualified personnel.**
- **Never operate this equipment with covers, panels, or other parts removed or not properly secured.**
- **Warn all users to clean up spillage immediately, keep storage bin doors closed, and report any apparent leakage or unusual sounds to responsible maintenance personnel.**
- **If system components are modified or substituted for components not specified by KOLD-DRAFT, proper operation can be compromised to the point of system failure.**
- **KOLD-DRAFT reserves the right to disallow any warranty claims which result from the use of non KOLD-DRAFT condensers and/or line sets.**

### **INSTALLATION**

1. Unpack the condenser and install the mounting legs.

#### **CAUTION:**

- **RISK OF PERSONAL INJURY OR EQUIPMENT DAMAGE.**
  - **Use a suitable lifting means and be careful of sharp edges.**
2. Fasten the condenser to its mounting surface using whatever method will satisfy the building codes in your area. The condenser must **not** be lower than the receiver.
  3. The line sets are packed separately, with the quantity and length marked on the carton. Make sure that the lines are correct for your installation.
  4. A single circuit condenser installation, which uses one line set, will require a 1-3/4" dia. hole to pass the lines through a ceiling or wall. The lines for a 2 circuit condenser require a 2" dia. hole.
  5. Each line set consists of a 3/8" liquid line, and a 1/2" insulated discharge line. Connect

the 3/8" line to the lower (liquid) fitting on the condenser, and to the "**Refrigerant In**" on the ice maker. The 1/2" line connects to the upper (inlet) fitting on the condenser, and the "**Refrigerant Out**" on the ice maker.

6. Each fitting on the line sets, condenser and ice maker is self-sealing, and should be tightened 1/4 turn more than hand tight. **Always use a backup wrench to prevent tubing twist when tightening these fittings.**

7. The condenser fan motor requires power supply provisions that comply with all applicable code requirements. The Ice Maker is provided with wire connection pigtails that include an L1 **RED** wire for connection to the fan motor circuit along with L2 and Grounding conductors. **CAUTION:** For multiple-circuit installations fan power must be provided separately by a circuit that will not be interrupted so that the fan motor will run continuously.

8. The refrigerant lines should be routed inside the building or otherwise mechanically protected wherever possible.

## **AMPACITY**

Minimum ampacity does not indicate typical running current value. Refer to equipment NAME PLATE data. Use minimum ampacity value for sizing branch circuit conductors up to 25 feet length. For conductor length over 25 feet up to 100 feet, increase 1 AWG size. Over 100 feet requires 2 or more AWG size increase.

## **BRANCH CIRCUIT PROTECTION**

Proper protection must be provided by either fuse(s) or HACR type circuit breaker(s). Each ice maker must be provided with a separately protected circuit with no other load(s). A fused disconnect installed adjacent to each ice maker is recommended (must be supplied by the installer), and may be required by local codes. NORMAL protector size is based on rated voltage and operation at lower than extreme temperature limits. When branch circuit conductors are sized to permit, increasing the protector size (up to the specified maximum) may avoid nuisance protector opening under harsh operating conditions.

Remote condenser Ice Maker models from the factory are provided with adequate refrigerant charge to accommodate all acceptable condenser ambient temperatures and up to 50 ft. refrigerant lines. The Ice Maker Nameplate label on the rear of the cabinet indicates the factory charge amount, maximum total charge, and refrigerant type. Ice makers are provided with re-sealable refrigerant line connection couplings.

All Ice Maker models are intended FOR INDOOR USE ONLY with PERMANENT CONNECTION TO THE FIELD ELECTRICAL SUPPLY. The remotely-installed condensers supplied by **Kold-Draft**<sup>®</sup> may be installed outdoors.

Other operating condition requirements:

Ice maker ambient air temperature: MINIMUM 45°F and MAXIMUM 90°F.

Remote condenser ambient air temperature: 110° F MAXIMUM.

## REMOTE PRE-CHARGED AIR COOLED CONDENSERS

MODEL NUMBER	VOLTAGE	DESCRIPTION	W" x D" x H"	Gross Wt. (Lbs)
RC214APV (GB564R/GT564R)	208- 230/60/1, 0.7 FLA	1 Circuit - 2 Ton - R/404a Pre-charged Remote Condenser	20-1/8 x 34-3/4 x 30 w/legs & guard	160
RC314APV (GB1064R)	208- 230/60/1, 0.7 FLA	1 Circuit - 2 Ton - R/404a Pre-charged Remote Condenser	20-1/8 x 34-3/4 x 30 w/legs & guard	160

**CAUTION: REFRIGERANT CHARGES MUST BE ACCURATELY WEIGHED.**

The factory charge in dual-evaporator models is 168 oz. (10.5 lb) R-404a.

The **MAXIMUM TOTAL** system charge for dual-evaporators is 208 oz. (13 lb) R-404a.

**Use the following information to calculate the MINIMUM TOTAL charge required:**

The basic charge for a dual-evaporator model is 3 lb R-404a.

To determine the total charge, add the following to the basic charge above:

1. For each 10 feet of 3/8" O.D. liquid return tubing add 6 oz. of R-404a.
2. For each 10 feet of 1/2" O.D. compressor discharge line >70° F add 1/2 oz. R-404a.
3. For each 10 feet of 1/2" O.D. compressor discharge line <70° F add 11 oz. R-404a (assume that at least 15' will be <70° F if not certain).
4. Use the following amounts of R-404a according to the condenser model and the MINIMUM ambient temperature expected at the condenser:

RC214APV	
+60° F	2.3 lb
+40° F	2.9 lb
+20° F	3.2 lb
0° F	3.3 lb
-20° F	3.5 lb

**EXAMPLE:** Calculate the MINIMUM TOTAL SYSTEM CHARGE for a GB1060R Cuber with an RC214APV (single-circuit, 2-ton) condenser and 30 feet of interconnecting tubing with -20° F minimum condenser ambient temperature.

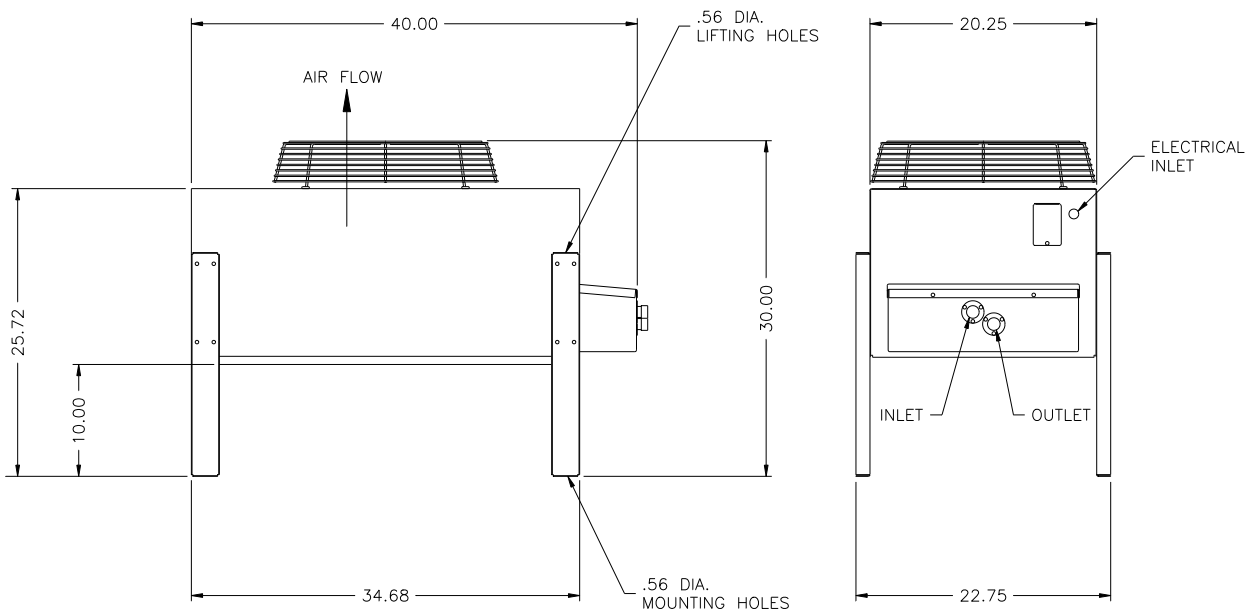
**CALCULATION:** (Basic charge) 3 lb + (15' of 1/2" O.D. discharge line at <70° F) 16.5 oz. + (15' of 1/2" O.D. discharge line at >70° F) 0.75 oz. + (flooded condenser at -20° F) 3.5 lb = 121.25



oz. (7.6 lb). The FACTORY CHARGE for GB1060R models is 10.5 lb.

**CAUTION: Do not exceed the specified MAXIMUM TOTAL SYSTEM CHARGE. INTERCONNECTING LINES OVER 50' ARE NOT RECOMMENDED.**

**Lines must be pitched UPWARD toward the condenser with no “drips” or traps.**

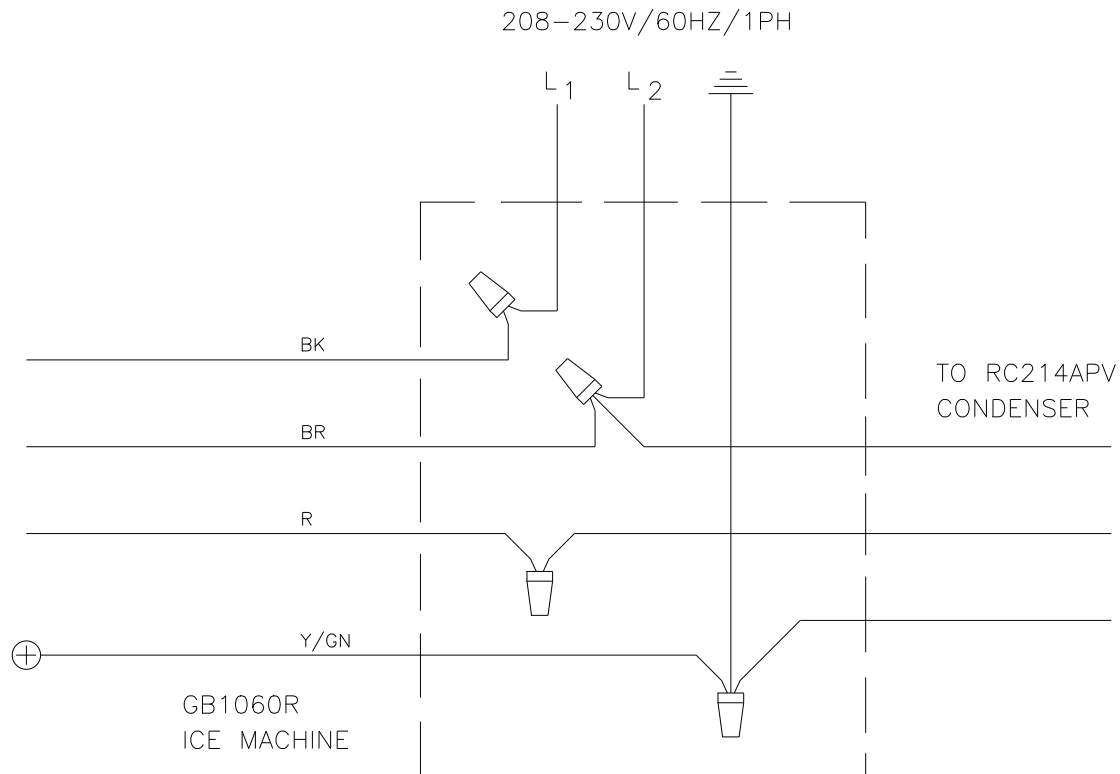


**NOTE:** The compressor will start immediately when power is applied, **regardless of the “ON-OFF” or the “MAKE ICE-CLEAN” switch positions**, if the low-side pressure is at or above the pump-down controller cut-in setting and the HIGH-PRESSURE CUTOUT is not open. Be sure that the compressor stops when the low-side pressure is between 5 and 15 psig.

## CAUTIONS

1. Try to keep the compressor warmer than the condenser. In most installations, the ice maker runs enough so that residual motor heat minimizes liquid migration to the crankcase. If the ice maker is in a cool location, or if it will be OFF for extended periods, a crankcase heater should be installed.
2. Avoid placing the condenser in the exhaust air stream of other equipment or within a distance equal to the width of the condenser from a wall or another piece of equipment. Stay away from kitchen exhaust fans to prevent grease accumulation on the fins. Use a curb, which extends above the deepest expected pond in the condenser area of the roof.

## ELECTRICAL INFORMATION



## REMOVING FROM SERVICE

When the ICE MAKER is determined to be no longer useable please be sure that it is rendered safe for storage or disposal. All applicable recycling measures should be exercised to avoid injury and harm to the environment.

The manufacturer and/or seller is/are not responsible for any harm to people, animals, property, and the environment caused by incorrect installation and/or disposal.



## **KOLD-DRAFT AKD ICE DISPENSER**

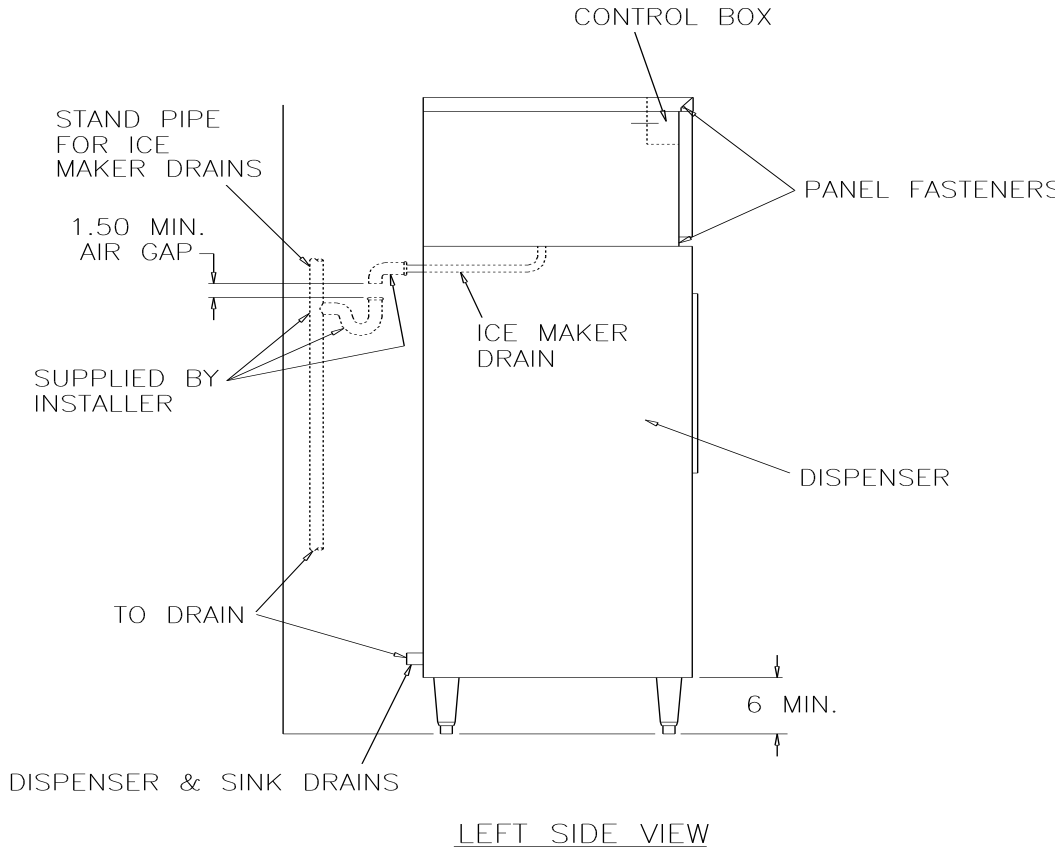
**CHECK FOR FREIGHT DAMAGE BEFORE PROCEEDING:** Even though damage to the carton may not have been evident, check for hidden damage and contact freight carrier immediately if necessary to file a claim.

**THIS EQUIPMENT MUST BE INSTALLED IN COMPLIANCE WITH THE APPLICABLE FEDERAL, STATE/PROVINCE AND/OR LOCAL PLUMBING, ELECTRICAL AND HEALTH/SANITATION CODES AND REQUIREMENTS.**

**CAUTION:**

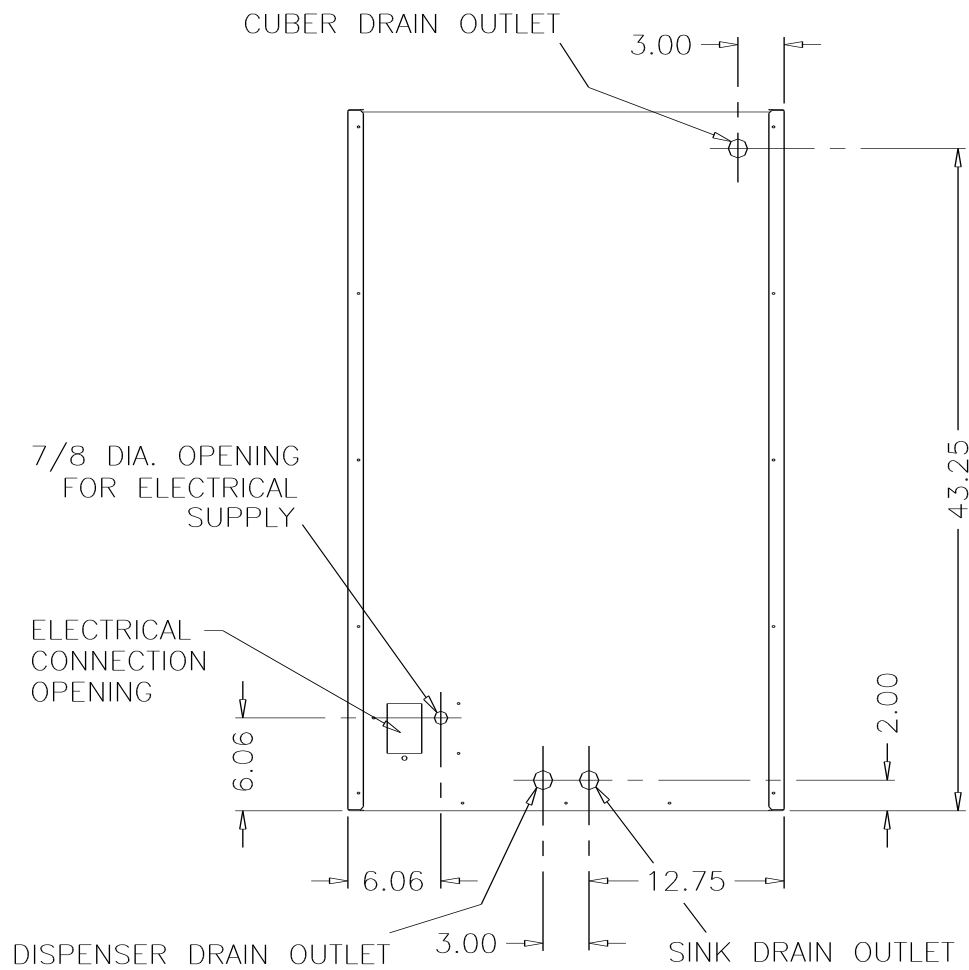
- RISK OF PERSONAL INJURY, PROPERTY DAMAGE, EQUIPMENT FAILURE OR FIRE.
- Refer all maintenance to qualified personnel.
- Never operate this equipment with covers, panels or other parts removed or not properly secured.
- Warn all users to clean up spillage immediately, and report any apparent leakage or unusual sounds to maintenance personnel.
- Proper installation must include **Kold-Draft®** GT Series Ice Cuber mounted above Dispenser.

## INSTALLATION



**NOTE:** Refer to ice cuber instructions before proceeding.

1. CAREFULLY remove the carton from the dispenser.
2. If the dispenser is to be mounted on the 6" legs provided, carefully place the unit on its back and install the legs in the threaded mounting holes.
3. Position the dispenser maintaining the minimum clearances specified in the cuber instructions.
4. Level the dispenser by adjusting the legs, or by shimming if the unit is to be sealed to the floor. If gaps due to shims are greater than 1/8 inch, install a cove molding around the dispenser bottom. Seal the dispenser or molding to the floor with NSF Certified RTV sealant (Dow-Corning RTV 732 or equal).
5. Electrical and drain locations are shown. All dimensions are in inches.



AKD-125 DISPENSER

6. Install gasket on top of dispenser. (See Illustration "A")

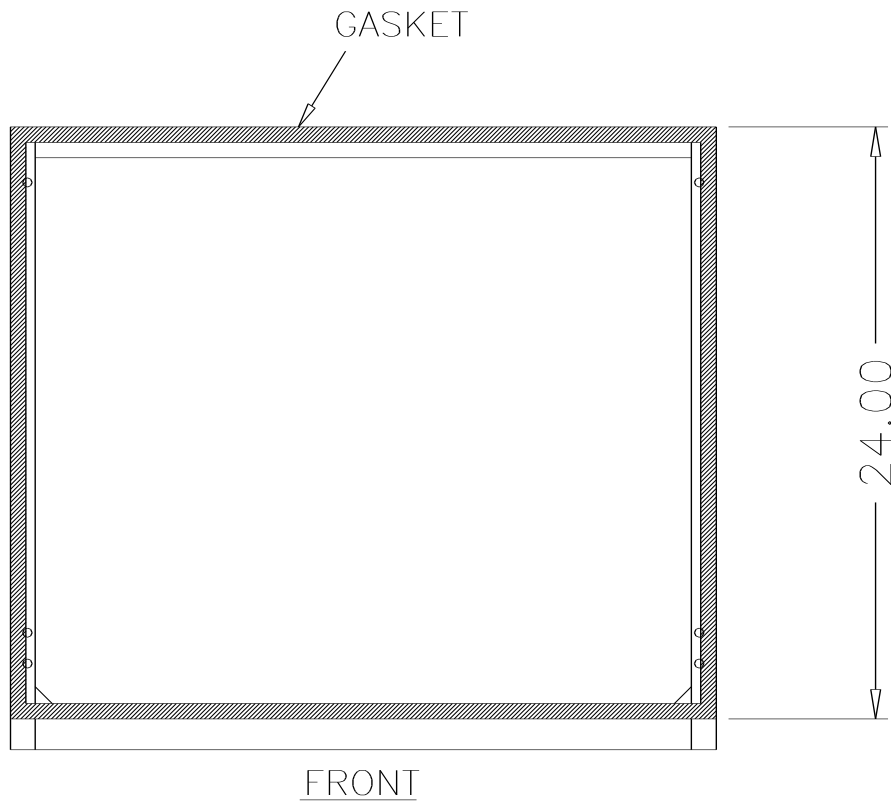


ILLUSTRATION "A"

7. Remove the cuber cabinet panels, lift and position cuber on top of gasketed dispenser and align mounting holes. Install cap screws and lock washers. **CAUTION:** support cuber until all fasteners are secured.
8. If the GT cuber that you are mounting on the AKD does not have the hole in the drain pan support, you must do the following:
  - A) Drill out the pop rivet, on the drain pan support that is nearest to the right side of the cuber, with a #27 (.144") drill.
  - B) Attach the bracket to the drain pan support with the S.M. screw provided.

## INSTALLATION SPECIFICATIONS

**CAUTION:** Risk of property damage, equipment failure or fire. Comply with all installation specifications for safe operation.

- The AKD-125 Ice Dispenser is designed for 115 volt 60 Hz. operation. The AKD-125-FF is designed for 230 volt 50 Hz. operation.
- Refer to equipment name plate data for current value and maximum fuse size. This unit must be provided with a separate, properly protected circuit with no other loads. A fused disconnect installed adjacent to the dispenser is recommended (to be supplied by installer), and may be required by local codes.
- This Dispenser is intended for indoor use only with permanent connection to a field electrical supply. This model is intended to be installed only in conjunction with a **Kold-Draft**<sup>®</sup> “GT” Series Ice Cuber.

## DISPENSER MAINTENANCE

*Every 6 Months Minimum*

### **CAUTION:**

- Risk of personal injury, equipment damage or contamination of the dispenser bin.
- Do not use ammonia solutions or strong detergents in cleaning the dispenser.
- Never use appliance polishes, finish preservatives or cleaners in areas that contain ice.
- Disconnect power before cleaning or servicing the unit.

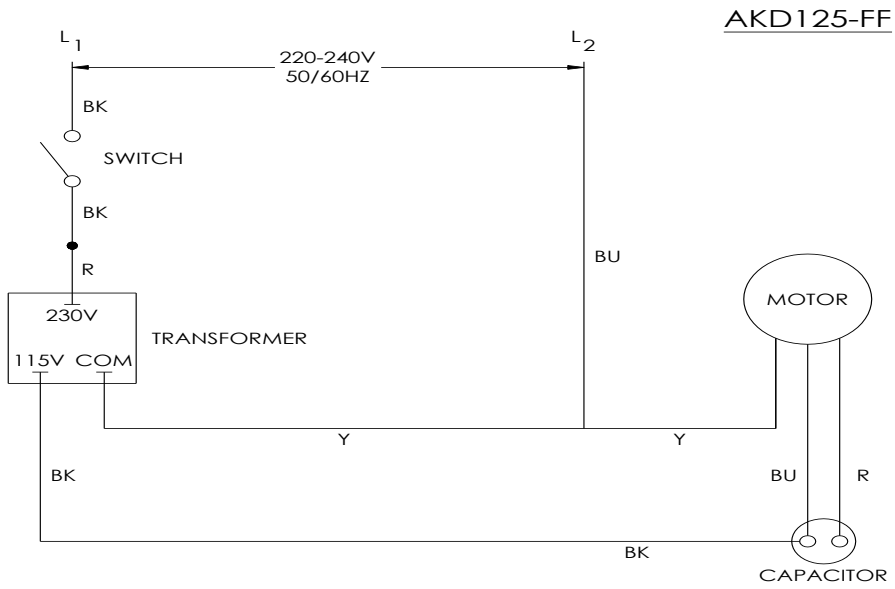
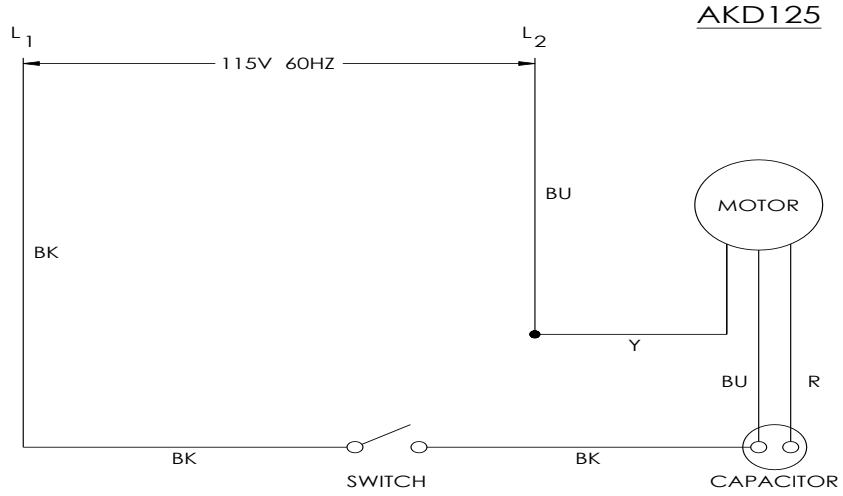
## CLEANING

Always clean the ice maker first, following the ice maker cleaning instructions.

Remove all ice from the dispenser before starting the cleaning procedure.

1. Remove ice maker top and front panels and drain pan/chute.
2. Loosen the wing nuts on the upper bearing clamp and pull it off to release the top of the auger.
3. Pull the auger up at least 1" on its axis to clear the lower drive mechanism and remove it through the front of the ice maker.
4. Wash the bin interior with a solution of 2 tablespoons of baking soda per quart of clean water (140<sup>°</sup> F. max.). The dispenser bin can be accessed through the front of the ice maker. Use a long handled brush to reach the bottom of the bin if needed.
5. Wash the sink interior with the baking soda solution and wipe dry with a clean cloth. **NOTE:** The spout and spout closure should be removed for thorough cleaning in the solution container and then replaced.
6. Rinse with clean tap water.
7. Replace the auger, making sure that it is fully engaged with the lower drive mechanism. Install the upper bearing clamp and tighten the wing nuts.
8. Sanitize all ice contact surfaces including the ice spout and spout closure with a solution of 1 teaspoon 5-1/4% sodium hypochlorite (chlorine bleach) per quart of clean tap water (minimum 100 PPM free chlorine). A spray bottle will facilitate this process. Pour the unused sanitizing solution over the auger and down the storage area drain.
9. Exterior surfaces may be cleaned by standard methods suitable to the stainless steel finish.
10. Replace the ice maker front and top panels before reconnecting the power supply.

# WIRING DIAGRAM



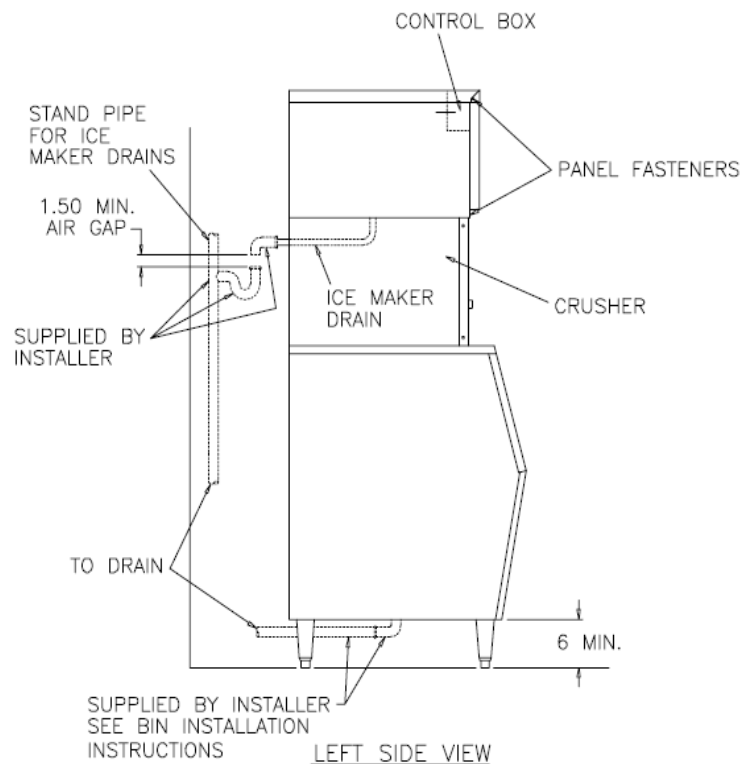




## KOLD-DRAFT CRUSHER

### CRUSHER INSTALLATION INSTRUCTIONS

The completion of installation should resemble the view shown below. There may be differences in height depending on the number of GB500s being stacked or if placing a GB1064 above the ice crusher.



### INSTALLATION OF CRUSHER ABOVE BIN

1. Line up the crusher to sit on the gasket above the bin. When all is lined up accordingly, remove the front panel to the crusher.
2. The probe plugged into “EVAP” is for the crush side of the bin and the probe plugged into “BIN” is for the cube side of the bin. There is a hole located behind the crusher motor for placement of the crush probe and the cube probe will be inserted in the right side of the crusher. Locations for probe placement are shown in **Figures 1 and 2**.

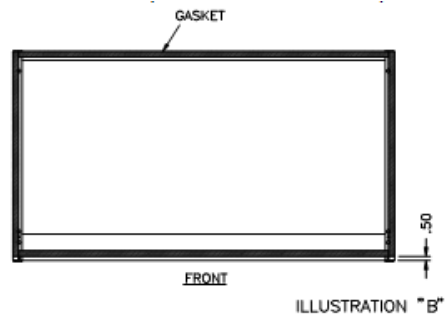


**Figure 1 1 Cube Probe Location**

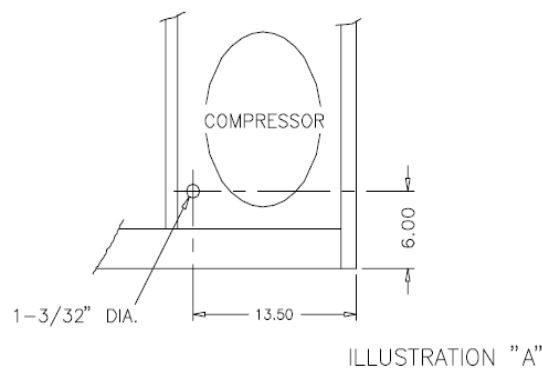


**Figure 2 Crusher Probe Location**

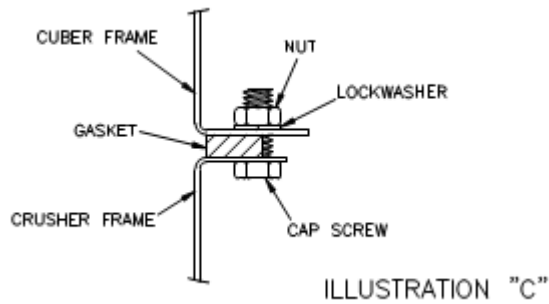
- Place the gasket around the top of the crusher before placing the ice machine above it. See “Illustration B”.



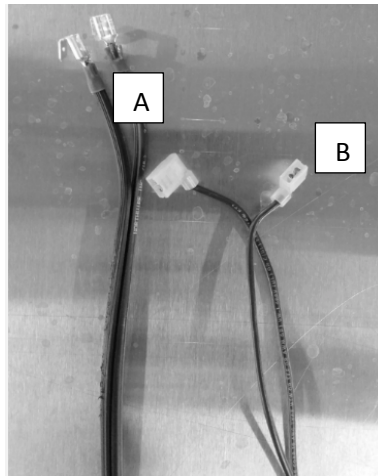
- Remove all panels to the ice machine. In order for defrost, safety switch, and bin probe wires to run to or from the crusher. The knockout hole in the compressor area of the ice machine needs to be removed. See “Illustration A”.



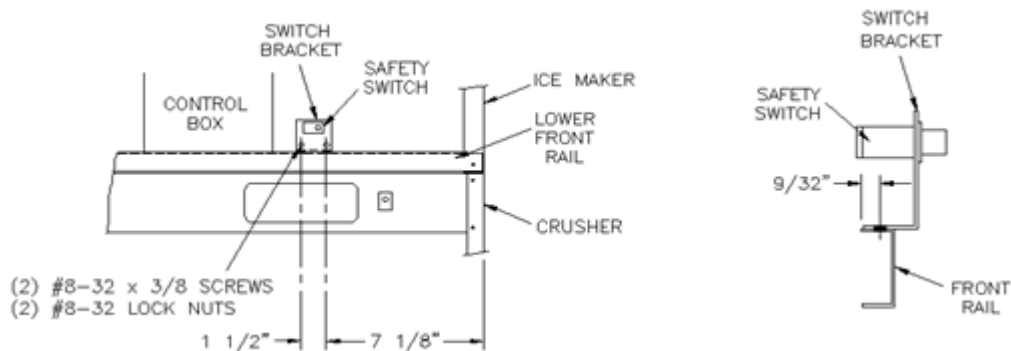
- Lift and place the ice machine above the crusher. Fasten the machine to the crusher as shown in “Illustration C”.



6. Locate the defrost wires and safety switch wires that are coming from behind the crusher control box. They should resemble the wires shown in **Figure 3**.



**Figure 3 Defrost (A) and Safety Switch Wires (B)**



The wires will run up to the ice machine compressor area (**Figure 4**) going through the knockout hole and the defrost wires will piggyback on the defrost valve (**Figure 5**). The result should resemble **Figure 6**. The safety switch wires will need to be connected to the terminals behind the safety switch. Terminals (**NO**) and (**COM**) will be used for proper operation.



**Figure 4**



**Figure 5**



**Figure 6**

7. The crusher will come with a bin thermostat attached to the PC board you will run this green wire up to the ice maker control board remove the bin thermostat that is on the PC board and put this one into the icemaker PC board you may discard the bin thermostat from the ice machine.

If you were installing a second ice machine you would take it's bin thermostat and run it down to the crusher PC board cut the tip off stripped the wires and put the ends opposite of the one that's from your first ice machine on the relay.

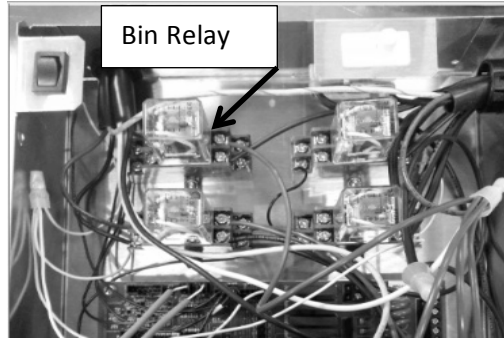


Figure 7

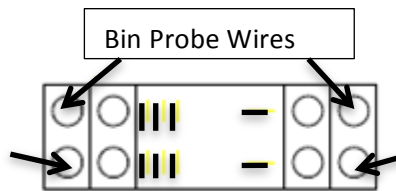


Figure 8 (Bottom arrows are for 2<sup>nd</sup> machine if needed)

8. The drain for the ice machine above the crusher will need to be placed underneath the drain pan and exit through the hole located at the back panel of the crusher behind the motor. The drain should look like the one shown in **Figure 9**.



Figure 9

9. The installation for the crusher and ice machine(s) should be complete. Place the panels back onto the ice machine. If the crusher is needed for a crush only operation, do not put the crusher panels back on yet.

## OPERATION OF T281-T284 CRUSHER

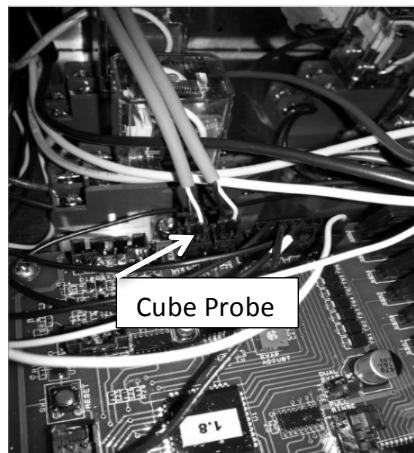
1. The crusher operates by using the switch located behind the front panel and selecting what side of the bin you want to fill first.
2. If Crush is selected the crush will move the flapper to allow crushed ice into the crush side of the bin until that side is full determined by the bin probe.
3. If Cube is selected then the flapper moves to allow cubed ice fall into the right side of the bin until that becomes full.
4. Once any side is full the flapper will automatically move to the opposite side and will remain there until that side becomes full. The operation will automatically continue like this until both sides are full.
5. If both sides become full the ice machine(s) will shut down and remain like this until one side calls for ice at which point the machine will turn back on and fill said side.

## SETTING T281-T284 to a CRUSH ONLY OPERATION

1. In order to create a crush only operation for the crusher you must remove the cube side probe located at the crusher control box.

**NOTE: Before removing or replacing the probe disconnect power to the crusher.**

2. The cube side probe is located on the control box and is labeled EVAP (Left Side). The location is shown in **Figure 10**.



**Figure 10**

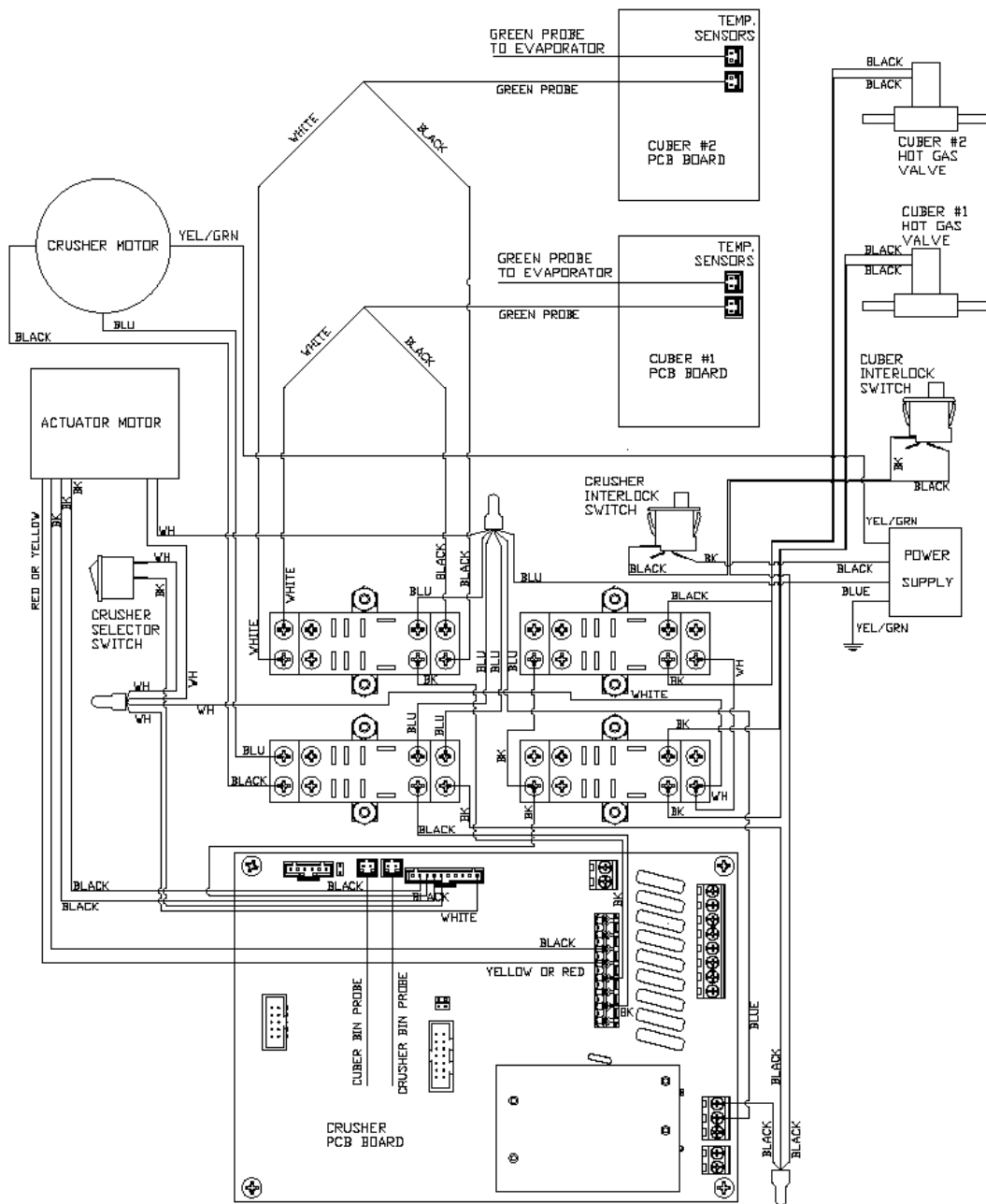
3. After removing the cube probe from its port the panels can be placed back on and power connected. The position of the switch will not matter once the probe is removed. This will create a crush only operation and continue until the crush side is

full. After the crush side becomes full the machine(s) will shut down until it calls for more crushed ice. Returning to the normal operation is possible by placing the probe back into the correct port.

## REMOVING FROM SERVICE

When the ice maker is determined to be no longer useable please be sure that it is rendered safe for storage or disposal. All applicable recycling measures should be exercised to avoid injury and harm to the environment.

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**KOLD-DRAFT**

101 Corporate Woods Parkway  
Vernon Hills, IL 60061

USA

847-215-4500

800-726-8762

FAX: 847-541-1759

[www.kold-draft.com](http://www.kold-draft.com)

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