

KOLD-DRAFT®

Installation and Operation Manual

Automatic Ice Cube Makers

Models GT361, GT364, GT561, GT564

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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.

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"

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 noncorroding fasteners for this purpose.

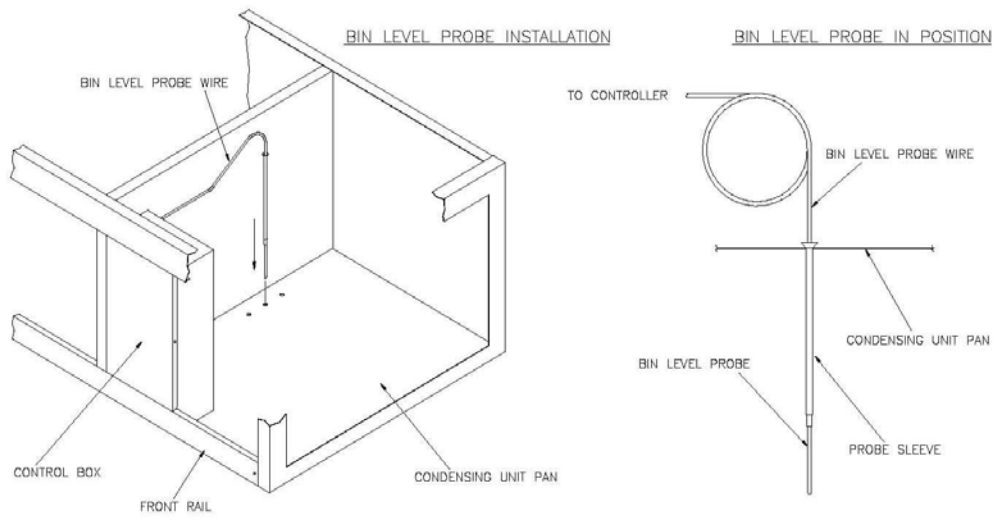
Apply gasket material to the ice storage bin top. The gasket material must be positioned at the outside edge of the ice machine frame.

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 illustration.



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 water level in the probe tube reaches the high-level probe. 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 shut off the within 30 seconds of contact between the ice and the probe tube.

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.

GT360 WIRING DIAGRAM

THE ELECTRONIC CONTROL WILL MONITOR FOR THE FOLLOWING CONDITIONS AND SHUT DOWN THE ICE MACHINE AS REQUIRED TO PREVENT DAMAGE TO THE EQUIPMENT.

LED 10—
EVAPORATOR TEMPERATURE HAS EXCEEDED 120°F.

LED 20—
WATER PLATE HAS RE-OPENED THREE TIMES WITHOUT STARTING A FREEZE CYCLE.

LED 30—
FREEZE CYCLE EXCEEDS 60 MINUTES.

LED 40—
FREEZE CYCLE LASTS LESS THAN 5 MINUTES, 3 CONSECUTIVE TIMES.

LED 50—
DEFROST CYCLE EXCEEDS 20 MINUTES.

LED 60—
FILL CYCLE EXCEEDS 5 MINUTES.

LED 70—
IF THE EVAPORATOR TEMPERATURE DROPS TO 31°F DURING THE WATER FILL CYCLE, THE DEFROST VALVE WILL BE ENERGIZED TEMPORARILY WITHOUT OPENING THE WATER PLATE. LED WILL BE ON WHILE VALVE IS ENERGIZED.

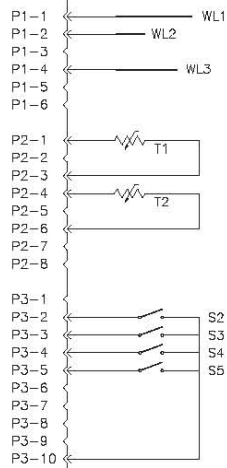
- ALARM
- CLEAN
- MAKE ICE
- > FILL
- > FREEZE
- > LOWER
- > HARVEST
- > RAISE
- HI WATER
- LOW WATER
- OVERFLOW
- ARMS UP
- PLATE UP
- ARMS DOWN
- > 10
- > 20
- > 30
- > 40
- > 50
- > 60
- > 70
- > 80
- > 90
- > 100

WATER LEVEL SENSORS

TEMPERATURE SENSORS

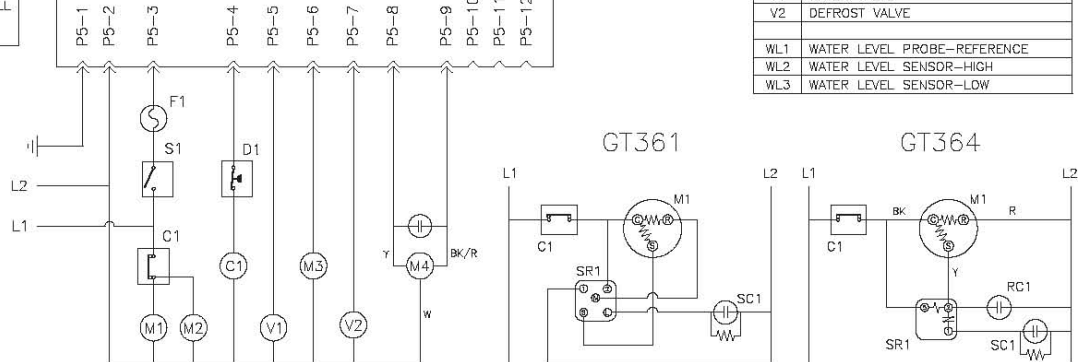
SIGNAL INPUTS

AC OUTPUTS

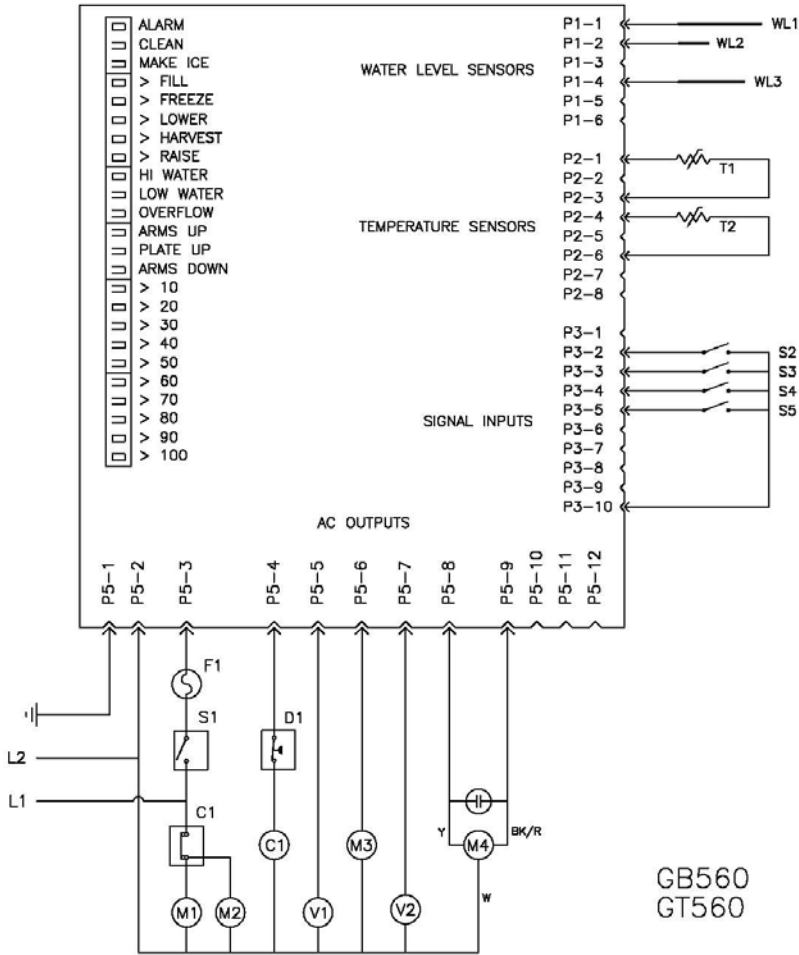


ITEM	DESCRIPTION
C1	CONTACTOR
D1	HIGH PRESSURE CUT-OFF
F1	4A FASTBLOW FUSE
M1	COMPRESSOR
M2	CONDENSER FAN MOTOR (AIR COOLED)
M3	WATER PUMP
M4	ACTUATOR MOTOR
RC1	RUN CAPACITOR (GT364 ONLY)
S1	ON-OFF SWITCH
S2	ARMS UP SWITCH
S3	PLATE UP SWITCH
S4	ARMS DOWN SWITCH
S5	ICE-CLEAN SWITCH
SC1	START CAPACITOR
SR1	START RELAY
T1	EVAPORATOR THERMOSTAT
T2	BIN THERMOSTAT
V1	WATER VALVE
V2	DEFROST VALVE
WL1	WATER LEVEL PROBE-REFERENCE
WL2	WATER LEVEL SENSOR-HIGH
WL3	WATER LEVEL SENSOR-LOW

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GT560 WIRING DIAGRAM



GB560
GT560

ITEM	DESCRIPTION
C1	CONTACTOR
D1	HIGH PRESSURE CUT-OFF
F1	4A FASTBLOW FUSE
M1	COMPRESSOR
M2	CONDENSER FAN MOTOR (AIR COOLED)
M3	WATER PUMP
M4	ACTUATOR MOTOR
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 THERMOSTAT
T2	BIN THERMOSTAT
V1	WATER VALVE
V2	DEFROST VALVE
WL1	WATER LEVEL PROBE-REFERENCE
WL2	WATER LEVEL SENSOR-HIGH
WL3	WATER LEVEL SENSOR-LOW

