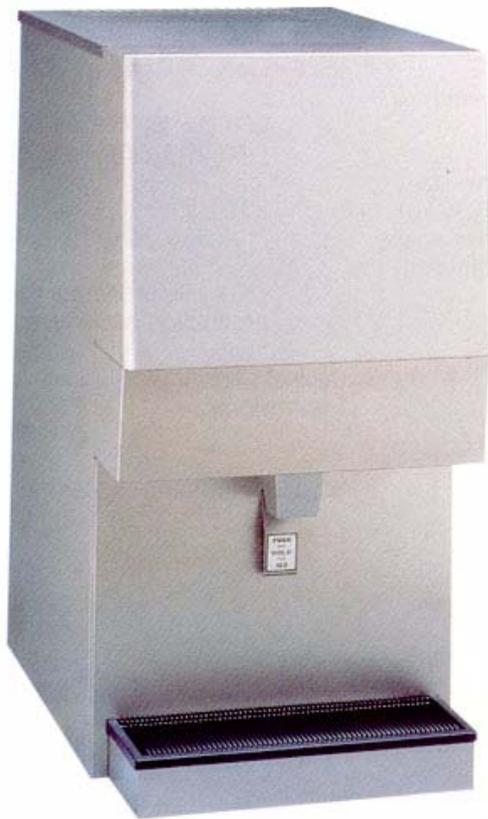




COUNTERTOP ICEMAKER

IMD Series

Installation Manual



Release Date: April 8, 2004

Publication Number: 638085277INS

Revision Date: February 16, 2009

Revision: C

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COUNTERTOP ICEMAKER IMD SERIES INSTALLATION MANUAL

The products, technical information, and instructions contained in this manual are subject to change without notice. These instructions are not intended to cover all details or variations of the equipment, nor to provide for every possible contingency in the installation, operation or maintenance of this equipment. This manual assumes that the person(s) working on the equipment have been trained and are skilled in working with electrical, plumbing, pneumatic, and mechanical equipment. It is assumed that appropriate safety precautions are taken and that all local safety and construction requirements are being met, in addition to the information contained in this manual.

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SAFETY

SAFETY INSTRUCTIONS

Read and Follow all Safety Instructions

Read and follow all safety instructions in this manual and on the machine (decals, labels, and laminated cards).

Read and understand all applicable OSHA (Occupation Safety and Health Administration) safety regulations before operating the machine.

Recognize Safety Alerts



This is the safety alert symbol. When you see it in this manual or on the machine be alert to the potential of personal injury or damage to the machine.

Different Types of Alerts

There are three types of safety alerts:



DANGER — Indicates an immediate hazardous situation which if not avoided WILL result in serious injury, death, or equipment damage.



WARNING — Indicates a potentially hazardous situation which, if not avoided, COULD result in serious injury, death, or equipment damage.



CAUTION — Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury or equipment damage.

SAFETY TIPS

- Carefully read all safety messages in this manual and safety signs on the machine.
- Keep safety signs in good condition and replace missing or damaged safety signs.
- Learn how to operate the machine and how to use the controls properly.
- Do not let anyone operate the machine without proper training. This appliance is not intended for use by very young children or infirm persons without supervision. Young children should be supervised to ensure that they do not play with the appliance.
- Keep your machine in proper working condition and do not allow unauthorized modifications to the machine.

CO₂ (CARBON DIOXIDE) WARNING



WARNING — CO₂ Displaces Oxygen. Strict Attention **must** be observed in the prevention of CO₂ gas leaks in the entire CO₂ and soft drink system. If a CO₂ gas leak is suspected, particularly in a small area, **immediately** ventilate the contaminated area before attempting to repair the leak. Personnel exposed to high concentration of CO₂ gas will experience tremors which are followed rapidly by loss of consciousness.

SHIPPING AND STORAGE

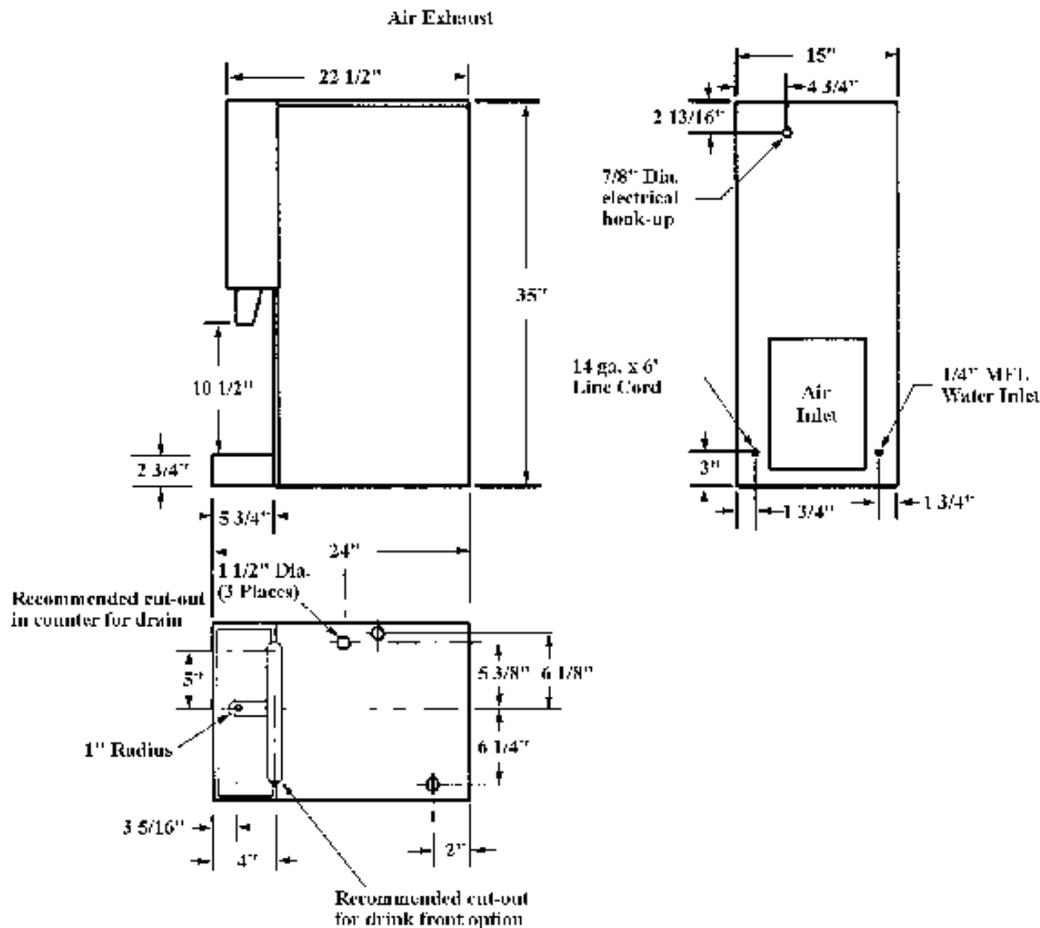


CAUTION — Before shipping, storing, or relocating the Unit, syrup systems must be sanitized and all sanitizing solution must be purged from the syrup systems. All liquids, after sanitizing, must be purged from the unit. A freezing ambient environment will cause residual sanitizing solution or water remaining inside the Unit to freeze resulting in damage to the internal components.

SPECIFICATION CHART

Models	Condensing Unit	VAC	Hz	Ph	Comp RLA	Fan Amps	Grmtr Amps	Refrigerant Oz.	Type	Circuit Fuse
IMD300-15A	Air Cooled	115	60	1	6	0.82	2	12	R134a	15
IMD302-15A	Air Cooled	220/240	50	1	3	.5	1.6	12	R134a	15
IMD300-30A	Air Cooled	115	60	1	10.1	1	2	28	R404A	20
IMD300-30W	Water Cooled	115	60	1	10.1	N/A	2	13	R404A	20
IMD301-30A	Air Cooled	208/230	60	1	5.7	1	1.6	28	R404A	20
IMD301-30W	Water Cooled	208/230	60	1	5.7	N/A	1.6	13	R404A	20
IMD302-30A	Air Cooled	220/240	50	1	5.3	0.5	1.6	28	R404A	20
IMD302-30W	Water Cooled	220/240	50	1	5.3	N/A	1.6	13	R404A	20
IMD600-30A	Air Cooled	115	60	1	12	1	2	28	R404A	20
IMD600-30A	Water Cooled	115	60	1	12	N/A	2	14	R404A	20
IMD601-30A	Air Cooled	208/230	60	1	7.7	1	1.6	28	R404A	20
IMD601-30W	Water Cooled	208/230	60	1	7.7	N/A	1.6	14	R404A	20
IMD602-30W	Water Cooled	220/240	50	1	8.2	N/A	1.6	14	R404A	20
IMD600-90A	Air Cooled	115	60	1	12	1	2	24	R404A	20
IMD600-90W	Water Cooled	115	60	1	12	N/A	2	14	R404A	20
IMD601-90A	Air Cooled	208/230	60	1	7.7	1	1.6	24	R404A	20
IMD601-90W	Water Cooled	208/230	60	1	7.7	N/A	1.6	14	R404A	20
IMD602-90A	Air Cooled	220/240	50	1	8.2	0.5	1.6	24	R404A	20
IMD602-90W	Water Cooled	220/240	50	1	8.2	N/A	1.6	14	R404A	20

NOTE: FOR UNITS NOT LISTED IN ABOVE CHART, REFER TO NAMEPLATE OR CONTACT FACTORY SERVICE.



SHIPPING WT. 189 LBS. (APPROX.)

FIGURE 1. DIMENSION DRAWING (15 LB.) IMD 300-15

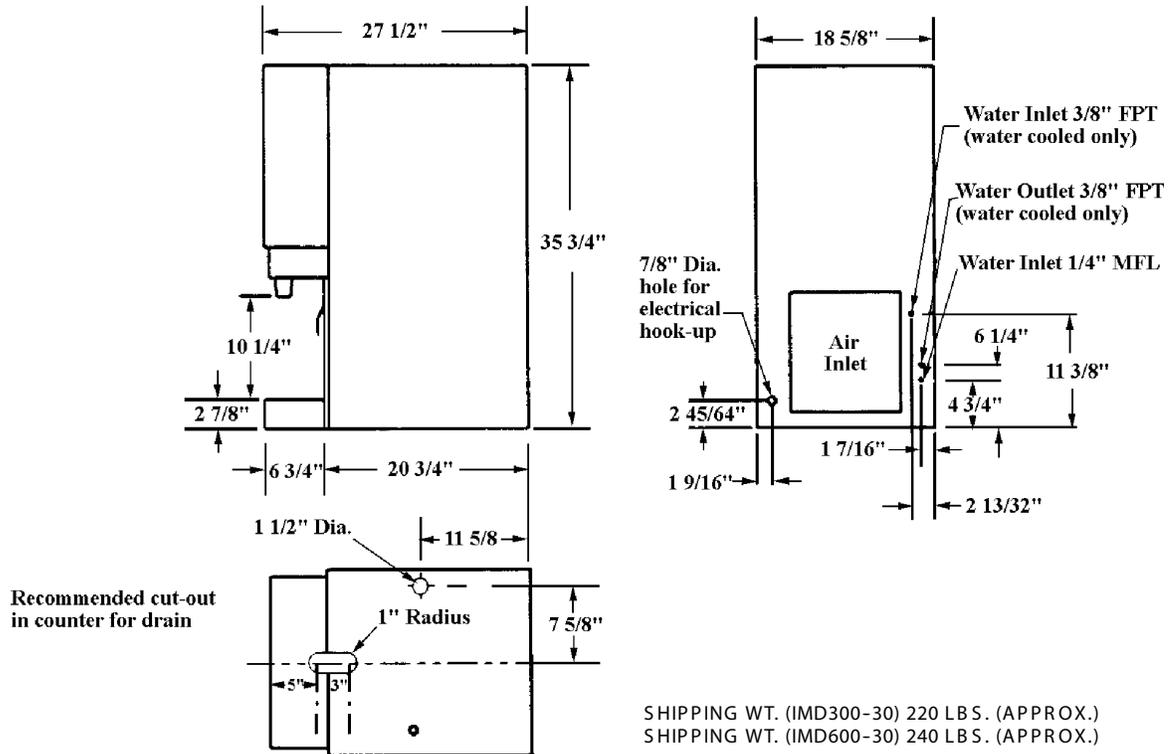


FIGURE 2. DIMENSION DRAWINGS (30 LBS.) IMD 300-30 AND IMD 600-30

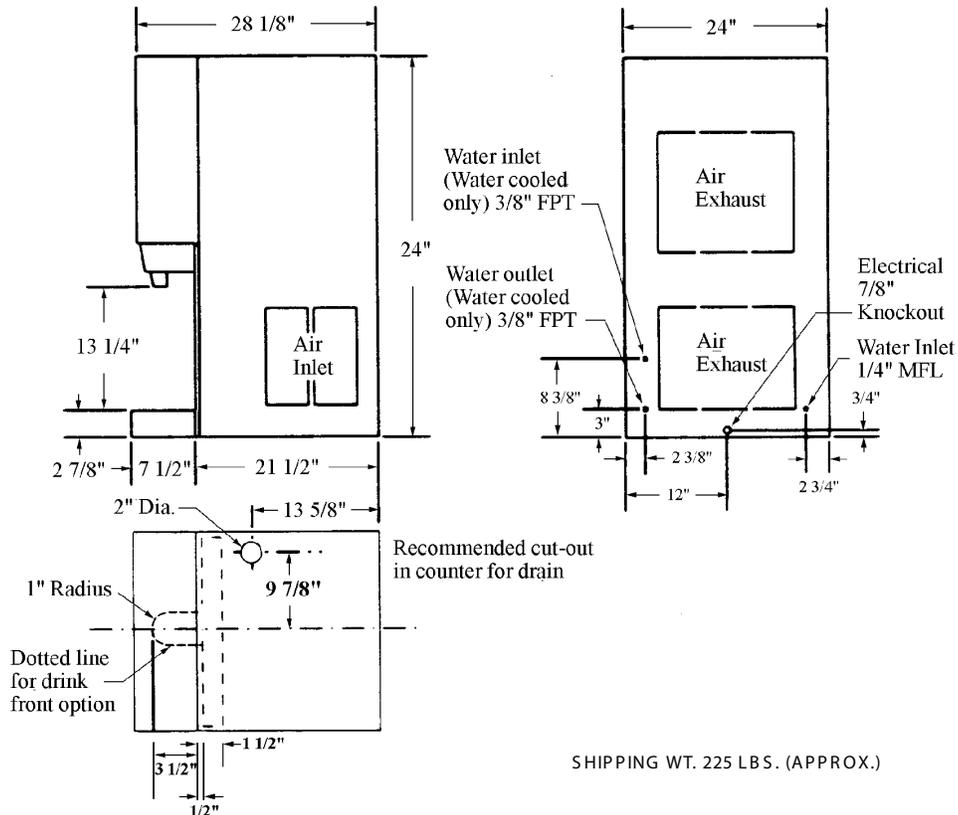


FIGURE 3. DIMENSION DRAWINGS (90 LBS.) IMD600-90

INSTALLATION INSTRUCTIONS

REMOVE ICEMAKER FROM CARTON

1. Keep unit in the upright position, remove carton and pallet from unit and inspect unit for damage. Upon inspection of unit, if any damage is found, file a claim with carrier immediately.
2. Locate Startup Card either on outside of container or on plastic liner. Fill in proper information and send one copy to factory, and other copy to Distributor. Postage is prepaid.

CABINET REMOVAL

1. Locate and remove the (2) screws from under the front cover. Lift cover forward and up to remove.
2. Lift up front edge of top cover. Slide back about 1/2 inch and remove.
3. Remove (6) screws from the front of the machine.
4. Remove side panels by sliding the front edge out and then back slightly to disengage.
5. Remove the front splash panel by lifting slightly to disengage the front, then tilt forward and remove.
6. Remove bin top and remove shipping insert.

PREPARATION OF INSTALLATION SITE

1. The refrigeration system on air cooled units requires airflow, so a well ventilated area should be chosen. A minimum of (6) inches must be maintained, free of any obstruction, for air intake. A minimum of (4) inches clearance is required of air exhaust.
2. With template provided make the necessary provisions in the counter for water, drain and the electrical hook-up. Provisions are available for rear and bottom connections of water and electrical. Use hole plugs provided to plug unused holes.

WATER INLET HOOK-UP

1. **Water Inlet** - Fitting is a 1/4" SAE male flare located at the rear of the unit. Connect water supply with a 1/4" or larger copper or flexible tubing.
2. **Water Pressure** - Unless otherwise specified, the unit is designed to operate on water pressures between 10 P.S.I. and 90 P.S.I. (NOTE: for pressures above 90 P.S.I. a regulator must be installed).
3. **Water Cooled Condensers**
 - A. Inlet to modulating valve uses 3/8" FPT. Use separate 3/8" or larger water line.
 - B. Outlet is 3/8" FPT.
4. Filter Conditioner are recommended on supply lines to icemakers. Never run the water supply to water cooled Condenser through Filter/Conditioner, it uses up the cartridge unnecessarily and a saturated cartridge can starve the icemaker causing premature component damage. Separate water supplies are recommended.

NOTE: Unit must be installed per local plumbing code.

ELECTRICAL SUPPLY

1. **Power Access** - Is provided by way of a 7/8" dia. hole in both the base and the rear panel. Route incoming power in conduit, to icemaker electrical control box. Make connections to wires provided in control box and ground lug/screw. Plug unused hole.
2. **Fused Line** - Should be a dedicated circuit checked and sized according to electrical rating shown on unit nameplate.

NOTE: Unit must be installed per local electrical code.

DRAIN CONNECTION

1. Install splash panel on machine and hold in place with (2) screws. Do not tighten at this time.
2. Remove drain tray mounting bracket from their shipping carton.
3. Clip the drain tray mounting bracket onto the bottom of the splash panel in the brackets provided.
4. Hook the drain tray into the splash panel and onto the mounting bracket.
5. Push the drain elbow securely onto the drain tray. Do not glue in place.
6. Complete drain hookup according to the instructions provided with unit.

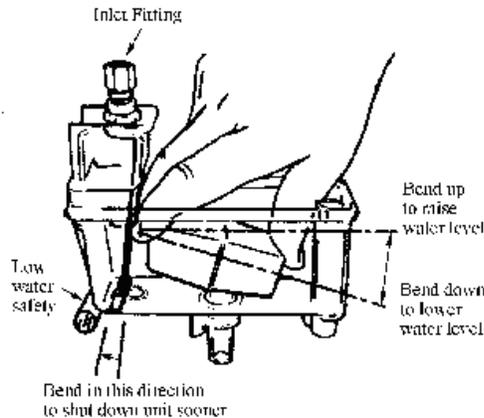


FIGURE 4. FLOAT ASSEMBLY

NOTE: Steps 7 and 8 to be completed only after all start up checks and adjustments are performed.

7. Replace side panels tightening all (6) screws (including splash panel screws left loose).
8. Replace top panel and front cover and secure with (2) screws.

NOTE: In those cases where the unit is base mounted and not on legs it should be sealed all around the base with NSF listed sealant. (IMI Wilshire P/N 04815-B).

AUGER ENGAGEMENT

Be certain that auger is fully engaged to lower drive and that extruding head is fully engaged to evaporator.

INITIAL START UP, CHECKS & ADJUSTMENT INSTRUCTIONS

NOTE: Do not start unit before completing above Installation Instructions.

Turn on water supply and main power switch (located on top of electric box). All IMD 30 lb. and 90 lb. series units are equipped with a 45 second delay timer. This means that the refrigeration system will not start until 45 seconds of dispense are accumulated in the timer. Start the refrigeration system by depressing the ice dispense button for 45 seconds. Make the following system checks:

NOTE: If unit will not start be sure water reservoir is full. Low water safety control must be properly adjusted to start and shut down unit. If water level drops below bottom of reservoir, unit must shut down. Adjustment is made by moving magnet up or down.

Water Level - If necessary adjust Float by bending float arm up or down as needed, push float assembly down until unit stops running. Release float and unit will restart. Keep water in reservoir at level line while unit is in operation. See FIGURE 4.



Low Water Safety Control - Adjust magnet by bending magnet arm as shown in FIGURE 4 to shut down unit if the water level drops below the line on the side of the reservoir.

Bin Control - Remove four screws from top of bin cover and lift cover so bin control plate can be manually lifted until unit shuts down. Release plate and unit will restart (On IMD300-30, IMD600-30, and IMD600-90 the dispense button must be depressed for 45 seconds before until will start). Replace screws.

Dispense Switch and Mechanism - By depressing the dispense switch, the dispense mechanism door on the storage bin will open, and chain, sprockets, and agitator will rotate counterclockwise.

NOTE: If any of these checks or adjustments cannot be achieved, refer to Troubleshooting Section of this manual or call our Technical Support Center for assistance at 1-800-238-3600.

GUIDE TO SERVICE

ICEMAKER CLEANING AND SANITIZING PROCEDURES

Do not use any of the ice made during cleaning operations.

Clean and sanitize ice storage area when cleaning icemaker.

1. Turn machine off.
2. Shut off water supply.
3. Remove ice from storage bin.
4. Mix approved cleaner (2 gallons as directed). **Recommended cleaner:** Calgon Corp. of Virginia Chemicals, ice machine cleaner. **Mixture:** 3-1/3 ounces per gallon of water. Do not use nickel safe cleaners.
5. Turn machine on and add cleaner solution to water level control (float reservoir) until 2 gallons have been used.
6. Turn on water supply and run machine for 15 minutes.
7. Turn off machine and remove and discard all ice.
8. Sanitize using household liquid bleach (50 ppm chlorine). **Mixture:** 1 fluid ounce per gallon room temperature water. 2 minute exposure time.
9. Sanitize pre-cleaned inside areas of storage bin liner, door frame, door, as well as exposed surfaces of the evaporator assembly and bin shutoff assembly with sanitizing solution and allow to air dry.

MAINTENANCE

Preventive maintenance can increase the trouble free life of your icemaker. Many authorized service agencies offer service contracts for your icemaker. Contact your local distributor for further information.

MONTHLY

1. Clean the condenser. Use a brush, vacuum cleaner or blow from inside with air or CO₂ gas. If unit is provided with an air filter, clean or replace.
2. Inspect water feed reservoir at least once a month until a definite pattern for cleaning and sanitizing has been established.

QUARTERLY

This is the maximum period of time between cleaning and sanitizing the icemaker. In addition to recommended monthly procedure, and if a more frequent cleaning and sanitizing pattern has not been established, unit must be cleaned and sanitized.

SEMI-ANNUALLY

Semi-Annually in addition to all previously established service procedures perform the following:

1. Check for water leaks in tube connections, water fittings, and lower icemaker water seal.
2. Check drain tubes for clogs and "aged" tubes. Replace if tubes are stained or brittle.
3. Check for signs of condensation. Clean where necessary and replace insulation properly.
4. Check safety circuits for proper operation.
5. Check refrigeration system.
6. Check unit for abnormal noise. Tighten machine and cabinet screws, if necessary.
7. Check white upper bearings on auger assembly. If bearings are less than 1/16" thick, replace. See FIGURE 5.

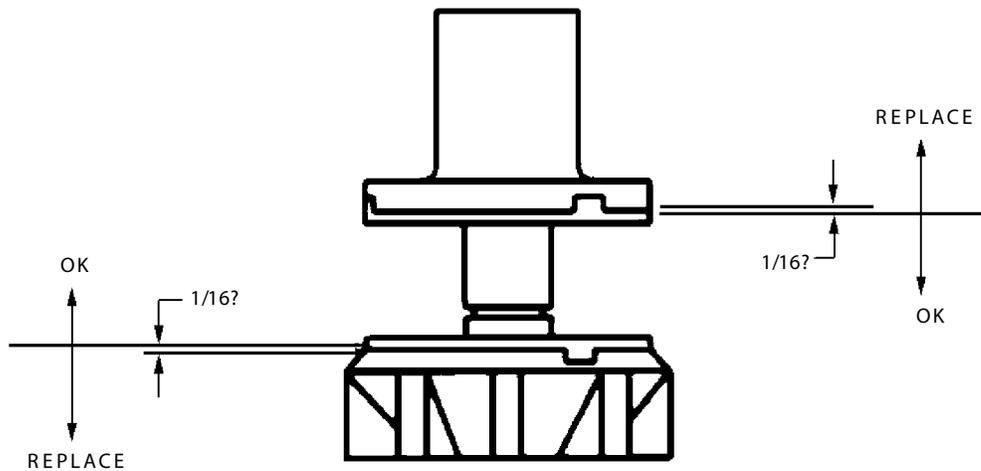


FIGURE 5. UPPER BEARING AND AUGER ASSEMBLY

NOTE: Preventive maintenance can increase the trouble-free life of your icemaker. Failure to perform preventive maintenance could void your equipment warranty.

WATER LEVEL CONTROL

HOW WATER LEVEL CONTROL WORKS

When water is introduced through the inlet fitting the float rises. The float pushes against a lever which in turn forces the poppet assembly against the inlet fitting valve seat which seals the water off, (see FIGURE 4). Before the water inlet is sealed the safety switch is operated. In the event of a water failure the float would drop down and operate the safety switch to shut off the machine.

If water level control will not shut off and seal at level as indicated, be sure inlet pressure does not exceed recommended factory operating range.

Under ordinary circumstances adjustment should not be necessary providing it was properly adjusted when unit was installed or relocated. If, however, the control becomes inoperative, repair or replace. See Start-Up Adjustment.

PURPOSE OF WATER LEVEL CONTROL

1. To automatically maintain proper water level in the evaporator when unit is running and making ice.
2. A safety switch is operated in the event of an interruption in water supply. The switch shuts off the electrical power to the icemaker and its refrigeration system. Switch will reset as soon as cause of water failure has been corrected and proper water level in icemaker has again been reached.
3. The transparent bowl not only provides a visible check of water level, but also is a good guide to the internal conditions which exist within the icemaker assembly itself. (See Cleaning Procedure).

TO REPLACE WATER LEVEL CONTROL

1. Shut off the water supply. Shut off the main power switch or unplug the ice dispenser from electrical outlet.
2. Remove the flexible tubing from bottom of water level control and drain water from water level control and evaporator.
3. Remove flexible tubing at bottom of water level bowl connected to the overflow.
4. Hold water inlet fitting with proper tool to prevent it from rotating when disconnecting the water inlet.
5. Remove wing nut holding water control to its mounting bracket. Control can be removed by lifting straight up.

TO REPLACE WATER LEVEL SAFETY SWITCH

1. Shut off main power switch or unplug the ice dispenser from electrical outlet.
2. Unplug molex connector connecting switch to electrical box.
3. Remove the 2 screws anchoring the water level safety switch to the bottom of the water level control mounting bracket.

ICE LEVEL CONTROL

The ice level control assembly is secured to the top of the ice storage container cover. The cover is secured to the storage container with four screws. The level control switch is operated by a plate assembly located beneath the diaphragm. When the plate assembly is down due to lack of ice in storage container, electrical impulse is sent to compressor, starting the ice making cycle. As ice level increases in storage container, the plate assembly is pushed up. When storage container is full, it de-actuates the switch, stopping the compressor and ice making cycle.

The operating positions of the switch are fixed, no adjustments are necessary. If switch replacement becomes necessary, simply disconnect cable at connector, remove wires from switch.

Temperature/Pressure Charts*

10 lbs. Discharge Pressure
Water Temperature

Air Temperature	IMD300-15			IMD300-30			IMD600-30 & IMD600-90		
	40°	65°	90°	40°	65°	90°	40°	65°	90°
50°	80	85	90	162	166	168	174	177	180
60°	92	97	102	188	192	194	202	205	208
70°	114	120	124	214	218	220	230	233	236
80°	124	120	147	245	249	251	265	269	272
90°	161	167	171	275	279	281	300	304	307
100°	187	193	195	309	313	315	328	334	340

NOTE: The thermostatic expansion valve is non-adjustable on all models.

REFRIGERATION SYSTEM ADJUSTMENTS

A complete understanding of the icemaker and hermetic refrigeration system is necessary before any adjustments are made. The refrigeration technician must use high and low side pressure readings, water, and air temperatures, plus general conditions of cleanliness to assess the refrigeration system status when making any adjustments.

All icemaker products are tested and adjusted at the factory prior to shipment where the ambient temperature ranges from 65°F to 90°F, depending on the season of the year.

Whenever a new icemaker is initially installed and started-up, it is imperative that the start-up operator make the following checks and readjustments for local conditions.

EXPANSION VALVE

You will find a thermal expansion valve on icemakers, which is used to control the amount of refrigerant flowing through the evaporator. Improperly installed or defective expansion valves may cause low production, soft ice, squeaking from evaporator and excessive load inside evaporator.

By using general refrigeration troubleshooting along with the pressure charts, you can easily determine whether or not the expansion valve is working properly.

ADJUSTMENT AND TROUBLESHOOTING

When troubleshooting the expansion valve, you must:

1. Be sure you have adequate water flowing into the evaporator, a clean and properly ventilated condenser, and the system is properly charged and free of any restrictions. Also be sure compressor is operating properly.
2. Take reservoir water temperature and air temperature from condenser inlet and determine at what pressure unit should be running. On machines equipped with thermostatic valve there is NO adjustment. If correct pressure cannot be obtained, be sure system has time to stabilize, 10-15 minutes.
3. Be sure sensing bulb is located at outlet side of evaporator about 3-4 inches away from evaporator and be sure to insulate well and clamp tightly to tubing. If system pressures are still not adequate, take a second water and air temperature reading and go over other parts of the system for possible problems. If proper charge is questionable evacuate and recharge to nameplate and leak check. If valve still malfunctions replace valve.

Use general refrigeration system practices when replacing and recharging unit. After new valve is in place, go through previous monitored adjustments and troubleshooting to be sure valve is functioning properly.

NOTE: On water cooled units adjust condenser modulating valve before troubleshooting expansion valve.

CAUTION: Very high discharge pressure is present in system. Quick disconnects on your gages will minimize Danger and loss of refrigerant. Comply with federal regulations for reclaiming refrigerant.

CONDENSER MODULATING VALVE

The reason for using a water modulating valve is to supply the correct amount of water to the condenser to maintain the proper operating pressure in the refrigeration system high side. The flow of water through the valve is increased as the high side pressure rises and decreases as high side pressure lowers.

To calibrate the amount of water flow with the refrigeration system high side pressure, turn adjustment screw located on end of valve opposite of bellows (see FIGURE 6). Turn screw counterclockwise to raise opening point. Opening point of valve should be set to maintain proper operating pressure in refrigeration system high side. Refer to Pressure Chart on Page 11. Closing point of valve should be set low enough to close valve during compressor stand by periods.

NOTE: Cold water will absorb more heat faster than warm water. The water flow will therefore automatically increase as inlet temperature increase.

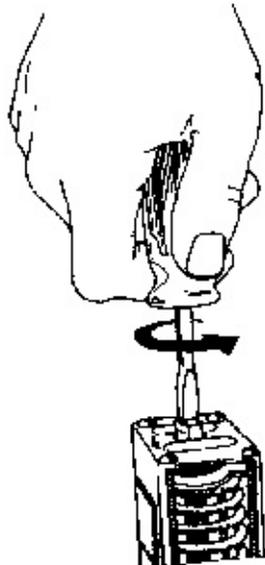


FIGURE 6. ADJUSTMENT SCREW

CONDENSER MODULATING VALVE REMOVAL

1. Disconnect power to unit, then shut off water supply to condenser and reclaim refrigerant from system.
2. Remove inlet water line from Condenser modulating Valve. Also remove tube from refrigerant high side line.
3. Remove Condenser Modulating Valve and bracket.
4. Remove valve from bracket.
5. Replace Condenser Modulating Valve by reversing Steps 2 thru 4.
6. Recharge unit with refrigerant per nameplate.
7. Turn power and water ON to unit.
8. With unit running adjust modulating valve to proper setting.
9. Go through a complete system check.

GEAR MOTOR

The gear motor is equipped with a start relay and a manual reset overload. When current is applied, the relay energizes and completes the circuit to the start winding. The motor reaches a predetermined speed and the relay drops out, disconnecting the start winding. The run winding remains in the circuit as long as current is applied.

The purpose of the overload is to automatically shut off the motor in the event of a mechanical bind of the transmission, an overload condition within the evaporator or an electrical malfunction. It does this by sensing amperage draw. If the motor stalls the start relay would energize and stay energized. The amperage would surge to 5 to 6 times greater than normal draw. In this event the overload would shut off the transmission in 4 to 8 seconds.

If the motor is subjected to an abnormal load, but does not reach stall condition, the overload will react, but over a greater period of time. The reaction time depends upon the amperage to which it is subjected.

The overload, through the safety circuit, also shuts off the compressor.

Refer to Troubleshooting Guide.

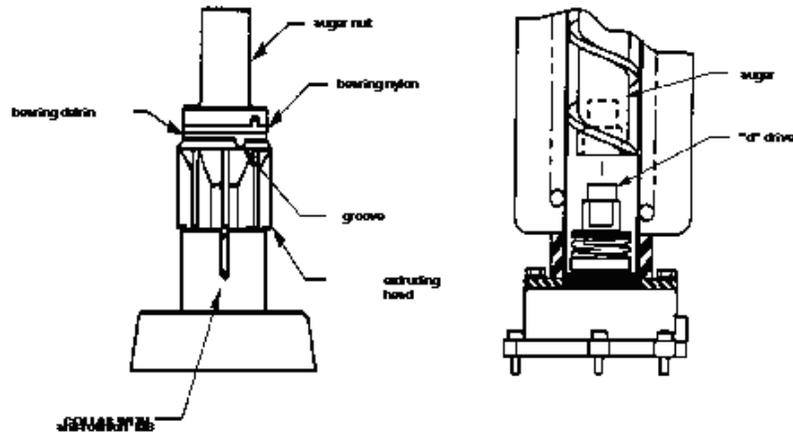
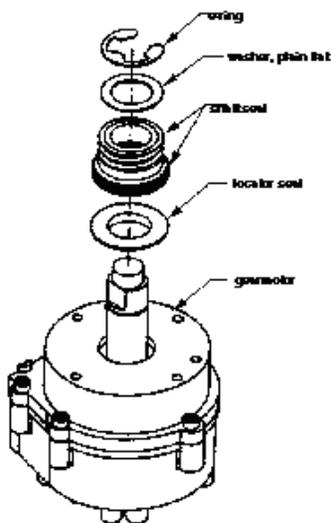


FIGURE 7. IMD 300 SHAFT SEAL

FIGURE 8. AUGER AND EXTRUDING HEAD REMOVAL

SHAFT SEAL INSTALLATION AND REPLACEMENT (FIGURE 7)

1. Place shaft seal locator seat over gear motor output shaft, embossed side down, and push down until shaft seal seat rests flush on top of gear motor.
2. Place rubber coated ceramic seal (important: ceramic face up) over output shaft and push down until seal rests on top of the shaft seal seat. (Lubricate rubber on ceramic seal with [#06195] rubber lubricant.)
3. Place shaft seal with carbon face down (spring up) over output shaft and push (gently) downward until seal rests on carbon face of output shaft seal.
4. Push down on the washer compressing the spring on the output shaft seal. While holding the seals (down) in place slide the E-ring into the groove on the output shaft.

AUGER & EXTRUDING HEAD REMOVAL

1. Disconnect unit from power supply.
2. Remove storage container cover and put aside.
3. Turn off water supply to icemaker.
4. After ice has melted from head take hold of the auger nut and lift straight up to disengage from icemaker.
5. When replacing the auger assembly, make certain that both the auger engages the output shaft drive and the extruding head ribs engage the evaporator tube collar. See FIGURE 8.

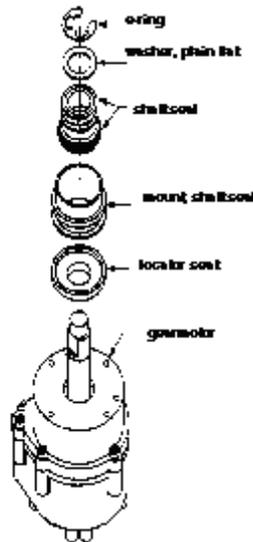


FIGURE 9. IMD 600 SHAFT SEAL

INSTALLATION AND SHAFT SEAL REPLACEMENT (FIGURE 9)

1. Place shaft seal locator seat over gear motor output shaft, embossed side down, and push down until shaft seal seat rests flush on top of gear motor.
2. Place rubber coated ceramic seal (important: ceramic face up) over output shaft and push down until seal rests on top of the shaft seal seat. (Lubricate rubber on ceramic seal with [#06195] rubber lubricant.)
3. Place shaft seal with carbon face down (spring up) over output shaft and push (gently) downward until seal rests on carbon face of the output shaft seal.
4. Place flat washer over output shaft and let rest on the output shaft seal. Push down on the washer compressing the spring on the output shaft seal. While holding the seals (down) in place slide the E-ring into the groove on the output shaft.

UPPER NUT AND BEARINGS

The upper bearings located on top of the auger is used to absorb the force between the auger and extruding head.

The bearings are 3/32" thick. When they wear below 1/16" they should be replaced. Bearings to be inspected for wear during quarterly maintenance. See FIGURE 8.

TO REPLACE BEARINGS

1. Dispense all ice from unit.
2. Disconnect unit from electrical power.
3. Remove panels.
4. Unplug Dispense Motor and Ice Level Switch.
5. Remove four screws holding dispense cover in place.
6. Remove dispense cover assembly.
7. Use an open end wrench on auger nut connected to bearing and turn and turn counterclockwise to remove assembly.
8. Remove worn bearings. Replace with new bearings and then reinstall assembly.

NOTE: If auger turns with nut, remove cover on top of gear motor stator and hold rotor while loosening nut.

9. Reconnect power to icemaker.

TROUBLESHOOTING COMPRESSOR

Basically the compressor problems can be narrowed down to three areas of checkout.

1. **THE COMPRESSOR WILL NOT RUN**
 - No voltage to the compressor terminals - check circuit.
 - Low voltage - below 90% of nameplate rated voltage.
 - Problems in the compressor electrical circuit. See Electrical Checkout Instructions.
2. **THE COMPRESSOR STARTS BUT TRIPS REPEATEDLY ON THE OVERLOAD PROTECTOR**
 - Check for proper fan operation and clean condenser.
 - Check the compressor suction and discharge pressures.
 - Voltage - The voltage should be within 10% of the rated nameplate voltage.
 - High compressor amperage draw, it should never exceed 120% of the rated nameplate amperage. See Electrical Checkout Instructions.
3. **THE COMPRESSOR RUNS BUT WILL NOT REFRIGERATE**
 - Check the compressor suction and discharge pressures. See Chart on Page 12.

ELECTRICAL CHECKOUT

1. Be sure the unit is disconnected from the power source. Remove the compressor electrical box cover. Check for obvious damage and loose wires.
2. Disconnect the fan motor leads. Since capacitors store energy, short the capacitor with a screwdriver. This will prevent shocks.
3. Disconnect the compressor terminal wires.

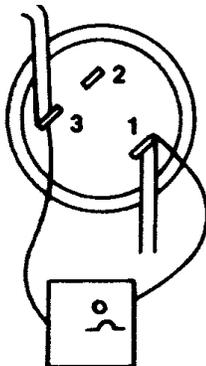


FIGURE 10. OVERLOAD CHECK

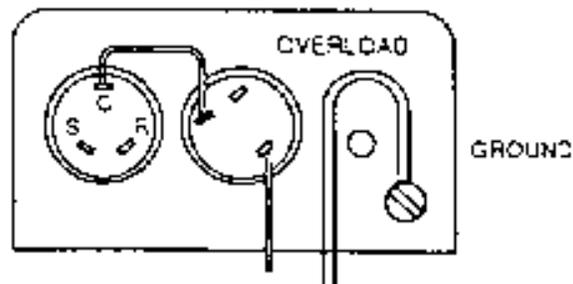


FIGURE 11. COMPRESSOR CHECK

OVERLOAD CHECK - FIGURE 10

4. Using a volt-ohm meter check the continuity across the overload, contacts #1 & #3. If none, wait for unit to cool down and try again. If still no continuity, the overload protector is defective and should be replaced.

COMPRESSOR CHECK - FIGURE 11

The resistance readings on the windings will be between 0.25 and 10.00 ohms, a meter capable of these low readings must be used.

5. Check between "C" & "R". Replace compressor if there is no continuity as the run windings are open.
6. Check between "C" & "S". Replace the compressor if there is no continuity as the start windings are open.
7. Check between "C" & "R", or "S" and shell of the compressor. If there is continuity replace the compressor as the motor is grounded.
8. Check between screw terminal on the overload and "C" on the compressor. Check and repair the lead or connections if there is no continuity.

CAPACITOR CHECK

9. Check or replace start capacitor, disconnect bleed resistor before checking for shorted capacitor.
10. Check or replace run capacitor (if supplied) check or shorted capacitor or either terminal grounded to case.

TROUBLESHOOTING GEAR MOTORS

Basically, Gear motor problems can be narrowed down to three areas of checkout.

The Gearmotor will not run

1. No voltage to the transmission terminals - check external circuit.
2. Low voltage - check supply.
3. Problems in the gear motor electrical circuit. See FIGURE 12.

The Gearmotor Starts but Trips Repeatedly on the Overload Protector

1. Voltage - high or low voltage can cause the overload to trip.
2. High Gear motor amperage draw, see Specification Chart for ratings and Troubleshooting Guide.

The Motor Runs but Output Shaft does not Rotate

1. Replace defective gear motor.

CAUTION: Be sure unit is disconnected from the power source. Disconnect the transmission cable.

Overload Check

1. Allow motor to cool and reset overload if necessary.
2. Remove motor end bell and stator, if necessary.
3. Check terminals 1 and 3 on overload. No continuity replace overload. Use a volt-ohm meter. See FIGURE 10 and FIGURE 11.

NOTE: Gear motor and related components can be checked from Pin Connector. See FIGURE 12.

Motor Check

The resistance readings on the windings will be between 5 to 25 ohms. A meter capable of these low readings must be used. The Start Relay cover must be removed.

If no continuity on start or run winding test, replace stator. If continuity on grounded motor test, replace stator.

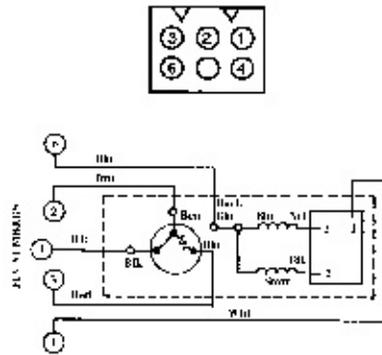


FIGURE 12. PIN NUMBERS

SAFETY CONTROLS

Your Icemaker unit has several safety and control devices incorporated into its design.



WARNING: None of the below described devices should ever be “bypassed” to allow the unit to function.

The safety and control system shut-off devices are:

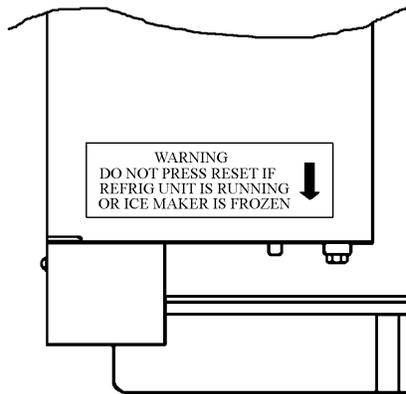


FIGURE 13.

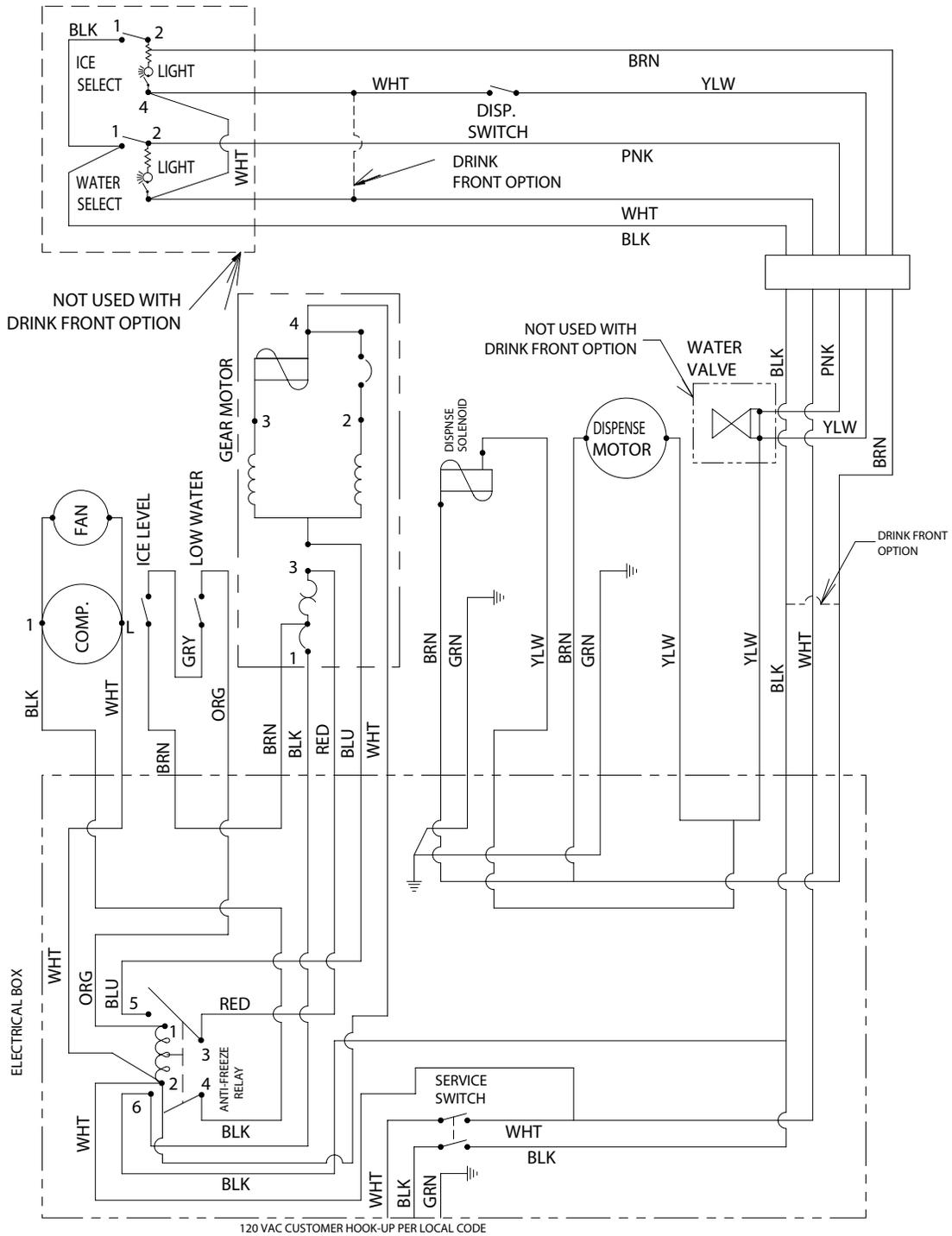
1. Low water shut off reed switch located in icemaker float assembly. (Automatic reset type).
2. Gear motor thermal overload, manual reset type (red button on motor). See FIGURE 13.
3. Compressor thermal overload, automatic reset type.
4. Main service switch located on top of the control box.
5. Hopper shut-off.
6. High pressure cut out (water cooled only).



WARNING: Do not reset gear motor overload if ice is present in the evaporator.

GUIDE TO GOOD ICE

CUSTOMER COMMENTS	CHECK ICEMAKER LOCATION CONDITIONS FIRST	CHECK ICEMAKER
"It runs but the ice is too soft."	<ul style="list-style-type: none"> • Proper air flow for condensing system. 	<ul style="list-style-type: none"> • Use gauges for checking suction and head pressures. See manual for correct reading and conditions. Check frost line and sight glass.
"The icemaker is not producing enough ice."	<ul style="list-style-type: none"> • Location too close to high units such as coffee urns, deep fryers, grills, etc. • Supply water conditions 	<ul style="list-style-type: none"> • Check water level for proper adjustment and restrictions. See Manual.
"The ice is too wet."	<p>Water too warm (above 90°F.</p> <p>Water artificially softened above 262 ppm sodium chloride.</p> <p>Normal water supply too high in total dissolved solids (above 500 PPM).</p>	<ul style="list-style-type: none"> • Check evaporator assembly for worn parts, bearings, scored evaporator and auger, bad expansion valve, ect.
OVER COMPRESSION	<ul style="list-style-type: none"> • Check to see if noise objection is normal fan and air flow noise. • Supply water conditions. <p>Water too cold (below 50°F). (Possibly running from pre-cooler.)</p> <ul style="list-style-type: none"> • Obstructions partially blocking ice exit from top of evaporator. • Check fan and fan shroud. 	<ul style="list-style-type: none"> • Check for loose parts and screws rattling. • Check evaporator assembly for worn parts, bearings, scored evaporator and auger, bad expansion valve, etc.
"It makes too much noise." (With this comment the ice is usually extremely hard and larger than normal.)		



IMD-15 WIRING DIAGRAM

FIGURE 14. SCHEMATIC IMD 300-15

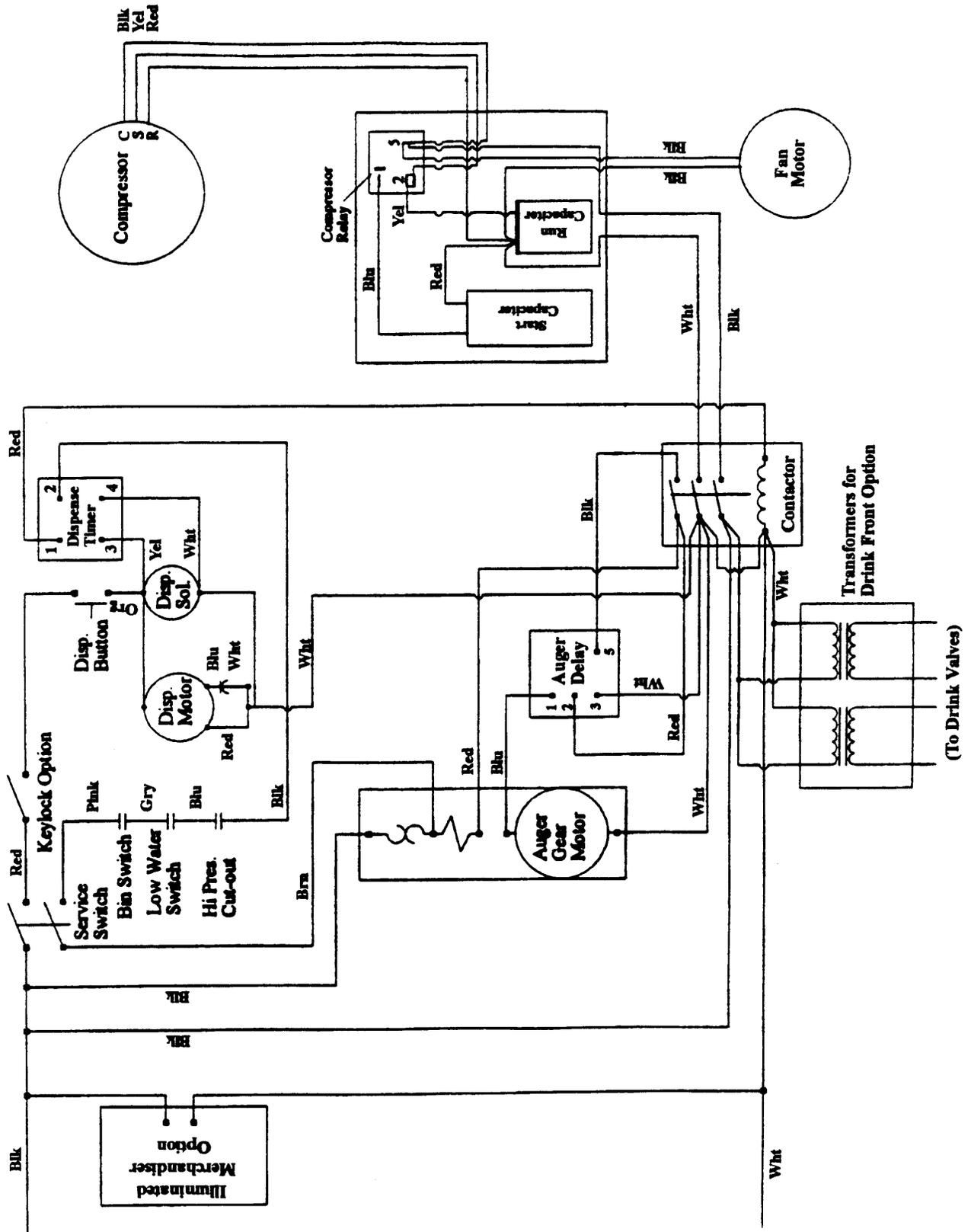


FIGURE 15. SCHEMATIC IMD 300-30, IMD 600-30, IMD 601-30, IMD 600-90, AND IMD 601-90

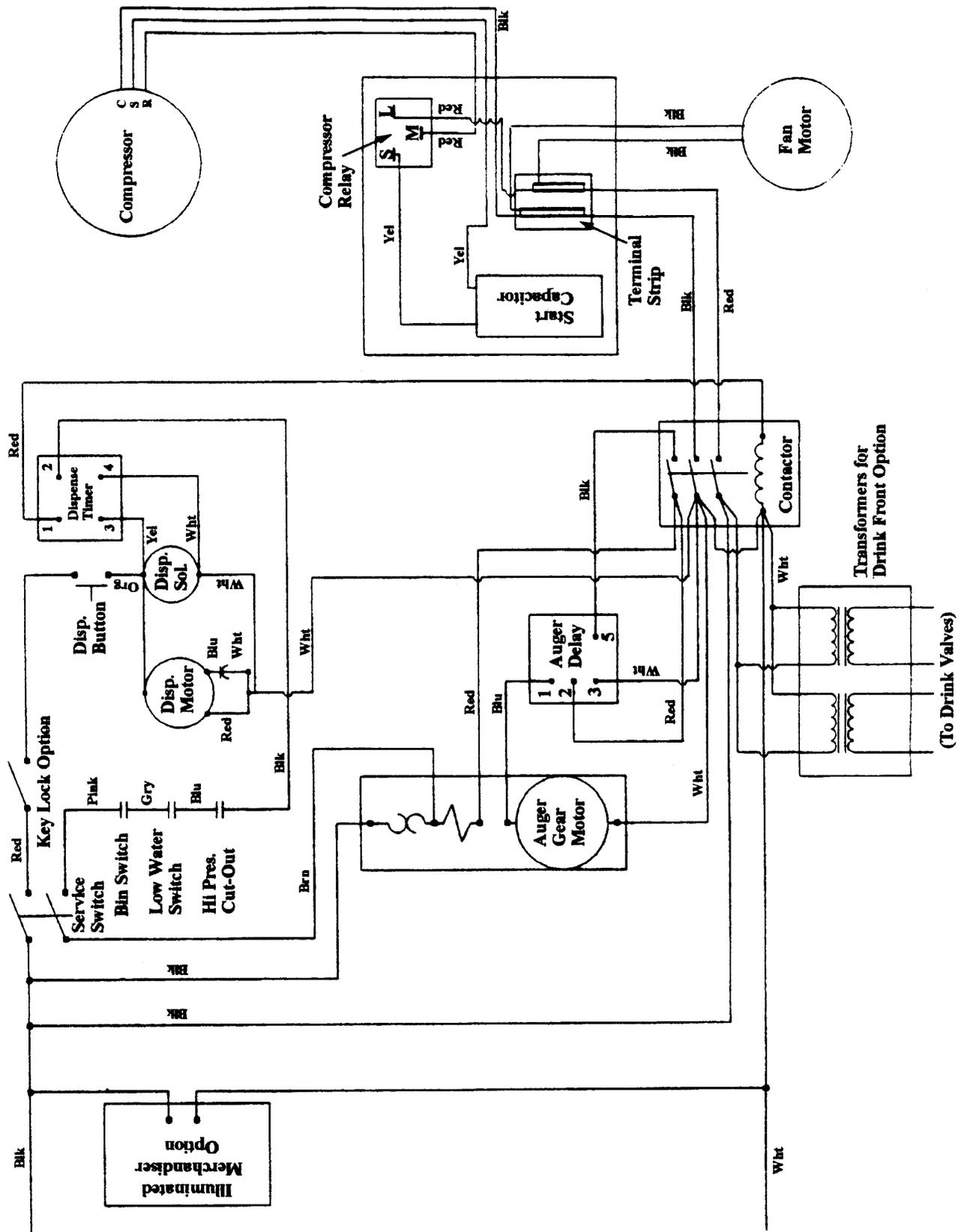


FIGURE 16. SCHEMATIC IMD 302-30, IMD 602-30, AND IMD 602-90

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