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## INSTALLATION AND OPERATION

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1. Make sure unit is placed, on a flat, level, hard surface, in a location where adequate air circulation is provided; also allowing room for servicing. Do not place in a mezzanine, near a ceiling or in an enclosed room without consulting factory. Koolant Koolers brand chillers can be installed in a corner. The build-up of high ambient temperatures can cause compressor and or machine damage. As a general guideline, keep the unit at least 3 ft. away from walls and allow at least 8-ft. clearance above the unit. Do not vent exhaust air outdoors without consulting a ventilation professional, and contacting Dimplex Thermal Solutions for approval.
2. Connect the fluid lines to the proper piping marked "FLUID INLET TO CHILLER" and "FLUID OUTLET FROM CHILLER". Make sure that the flow of fluid to and from the unit can not be shut off or blocked while the chiller is in operation, and the pipe size is large enough to match pump flow conditions (if pump is applicable).
3. Check voltage to make sure it matches your power.
4. Connect power leads to main disconnect. Wiring should match chiller disconnect size and power requirements in accordance with local codes.

**CAUTION:** Chillers installed with a crankcase heater require the electrical enclosure disconnect to be in the "ON" position for **8 hours** before start up of unit. Leaving Disconnect in the "ON" position, maintains power to the compressor crankcase heater, preventing refrigerant migration and possible damage to system.

5. Units are shipped with refrigeration service valves in the open (back-seated) position.
6. Connect fluid supply to proper piping ports on chiller unit. If unit has a reservoir, it can be filled directly into the reservoir by an optional automatic make-up valve or manually through the sight glass. You will know it is properly filled when water level remains between the two black markers located on the sight glass.
7. Once chiller reservoir (if applicable) has been filled, proceed to turn the chiller unit on from the electrical controls provided. Chiller pump (if applicable) should start and an optional "POWER ON" indicator will light. Verify rotation agrees with the rotation arrow sticker located on housing of pump motor of units supplied with pump(s).
8. On single-phase models (115 or 230 volts) the rotation will be correct when it leaves the factory.
9. On three phase models, all motors are synchronized for correct rotation. If motors are rotating backwards, correct by switching 2 legs of three phase incoming power. Direction can be observed by viewing the motor shaft between the motor and the pump (if applicable). To check correct rotation of chiller units containing fans(s) or blowers(s), double-check air flow through fan(s) / blower(s) are venting air out to atmosphere.

10. Proceed to run chiller pump (if applicable) for about five minutes to allow any air in system to be vented. On cylindrical galvanized tanks, an air eliminator will vent the air and close off when the tank is full. Open tanks (rectangular type) will vent through an air breather.
11. Machines with compressors will start if the fluid temperature is at the programmed set point on the provided and installed temperature controller.
12. On models furnished with a heating function, the heater energizes with the fall of the fluid temperature.
13. The temperature controller if provided, can normally be adjusted up or down 10°F. Beyond this range, additional operational adjustments may have to be made by an authorized Dimplex Thermal Solutions representative or non-warranted damage to the refrigeration system may occur. For water systems, the set point must not be adjusted below 45°F without consulting the factory.

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## INSTALLATION OF REMOTE CONDENSER

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Models equipped with the optional remote air-cooled condenser must be installed by a refrigeration contractor.

Locate condenser where air inlet and outlet are not obstructed and where air outlet will not be reflected back into the air intake. Anchor the feet securely to prevent wind damage.

The condenser is shipped without a charge of refrigerant. The condenser and indoor chiller are charged with a nitrogen holding charge and must be evacuated. Do not open isolation valves until the field piping is completely installed and evacuated.

Use only refrigeration grade copper tubing (type ACR), properly sealed against contamination. Water tubing often contains wax and other troublesome contaminants.

For vertical riser in discharge lines, oil traps are required for each 12 feet of pipe to insure proper oil movement. Install an inverted trap at the top of the riser to prevent oil from draining back towards the compressor. Slope horizontal piping down towards the condenser one inch for every twelve feet to promote oil transport to the condenser. Traps are not necessary in the liquid line (smaller pipe returning to the chiller).

When brazing refrigerant lines, an inert gas should be passed through at low pressure to prevent scaling and oxidation inside the tubing: dry nitrogen is preferred. Use only suitable silver solder alloy.

After all lines are connected, the entire system must be leak tested. The complete system should be pressurized to 100-175 psig with dry nitrogen. Add a small amount of refrigerant to allow the use of an electronic type leak detector, this is highly recommended because of its greater sensitivity to small leaks compared to bubble checks.

Once the system is leak tight, proceed to evacuate the chiller, condenser and interconnecting piping to remove any moisture.

The liquid line should be insulated if it runs through an area where the ambient is above 100°F. The discharge line can reach temperatures as high as 225°F and should be insulated or guarded if the pipe runs through an occupied area to prevent accidental contact burns.

Charge the system with the type and amount of refrigerant shown on the data tag located on the main electrical enclosure door. Installations with long piping runs to the remote condenser may require additional refrigerant charge. Refrigerant should be added according to the chart on the chiller piping schematic. If necessary add additional charge to clear sight glass of bubbling during compressor operation.

Connect power supply to condensing unit and check fan rotation. To reverse rotation, disconnect power and change two legs of the incoming three-phase power.

Under normal system operation the fan(s) should cycle on with the compressor. The fan nearest the condenser coil header will modulate to maintain a steady head pressure. Systems with multiple fans will cycle the remaining fans on as ambient and system loading increases. If fans cycle more than once per minute the controls are out of adjustment and the factory service should be contacted.