PROCESS WATER CHILLER
MODEL #8000, #8012

WARRANTY

PARTS: Unitrol warrants this chiller to be free of defects in *materials* that effect operation, for a period of one year from date of shipment from factory, if said equipment has not been altered or abused by customer and is being used for the purpose that the equipment was designed for. Parts will be shipped, FOB Northbrook, Illinois. Defective parts will be returned to Unitrol at customer's expense when so requested by Unitrol.

LABOR: Necessary warranty labor is covered for a period of 90 days from the date of shipment from factory, if said equipment has not been altered or abused by customer and is being used for the purpose that the equipment was designed for. Parts will be replaced or repaired, at manufacturer's option on any parts found to be defective. Unitrol shall not, without its prior written approval, be liable for any costs involved in field repairs. Transportation of equipment to or returning from Unitrol shall be at customer's expense.

Alternately, Unitrol may elect to send a local refrigeration contractor to do warranty service. In this case, Unitrol will pay contractor directly.

To be covered by this warranty, please follow the following procedure:

1. **Contact the Unitrol service department at 847-480-0115 to discuss the problem you are having with this chiller.**
2. **If Unitrol concurs that this is a warranty issue, and the chiller is <u>more</u> than 90 days from date of factory shipment, a Unitrol representative will either arrange to have a replacement part shipped, or authorize a locally purchased replacement at a pre-agreed price that will be reimbursed by Unitrol.**
3. **If Unitrol concurs that this is a warranty issue, and the chiller is <u>less</u> than 90 days from date of factory shipment, a Unitrol representative will have a factory approved service technician dispatched to make repairs under the above terms. Alternately, the Unitrol representative will direct that the chiller be returned to the factory for repairs.**

No other warranty, either written or implied, shall cover this equipment, and Unitrol shall not be liable for any damage caused to other equipment or personnel due to failure of this product. Unitrol reserves the right to change specifications at any time.

UNI*TROL* PROCESS WATER CHILLER

Thank you for purchasing this Unitrol process water chiller. It was manufactured with pride in our Northbrook, Illinois factory. Unitrol also manufactures the Unitrol line of RESISTANCE WELDING CONTROLS. This line includes controls that include safety systems to protect the welding machine operator, as well as quality control features that allow you to produce a large volume of weldments that will match the highest quality requirements.

This Unitrol water chiller has been designed to operate under the most severe industrial conditions. Please observe the installation instructions to be sure that this chiller will provide years of superior service.

MODEL NUMBER: 8012

NOMINAL CAPACITY: 6,000 BTU/HR

SERIAL NUMBER: **1121298**

DATE OF MANUFACTURE: **11/2021**

REFRIGERANT: **R134a**

PUMP: 1/3HP, 3GPM @35PSI Max.

SERVICE:

8000 = 115V. 16A

8012 = 115V, 20A

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UNITROL MODEL #8000, 8012 CHILLER

INSTALLATION

THIS CHILLER IS DESIGNED FOR INSIDE INSTALLATION. ONLY CHILLERS PURCHASED WITH THE –OS (OUTSIDE) KIT CAN BE INSTALLED OUTSIDE IN AREAS WHERE THE AIR TEMPERATURE CAN FALL BELOW 45ºF, AND SUCH INSTALLATION WILL VOID THE WARRANTY.

1. Carefully remove chiller from the shipping carton and inspect for external damage. If any damage is seen, do not continue until a representative of the freight company views the damage, and a claim to the freight company has been filed.
2. Install the chiller in a location that will keep the air intake (front of chiller with air filter) and air exhaust (back of chiller with expanded metal plate) **at least 36"** from the nearest wall. This is required to allow maximum air movement over the condenser coil.

FAILURE TO ALLOW MINIMUM WALL CLEARANCE WILL RESULT IN HIGH FREON TEMPERATURES AND WILL VOID WARRANTY.

3. Remove the water tank cover and **untie the water level switch float**. Leave the water tank cover off for now.
4. Locate two ¼" NPT bulkhead fittings at the back of the chiller. Install hose barbs and connect as marked to the welder. Use Teflon tape on fittings to prevent excessive force being required on installation and to make a better seal.

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INSTALLATION

5. Fill stainless steel tank with tap water until it is about 1” below the top of the tank.
6. Plug the power line cord into a 20A 115V grounded outlet.

DO NOT ELIMINATE THE GROUND PIN ON THIS CORD. DO NOT OPERATE THIS CHILLER WITHOUT A PROPER GROUND THROUGH THE LINE CORD.

UNITROL MODEL #8000, 8012 CHILLER

INSTALLATION

INITIAL STARTUP

1. Before starting the chiller, have a source of water available to keep the tank filled during the first few minutes of operation.
2. Turn the control switch to the **ON** position. The temperature controller should turn on, and the water pump should start operating. Because you will be filling the outside hoses and machine internal piping with water, keep adding water until the level remains about 1" below the top of the tank.

DO NOT ALLOW THE PUMP TO GO DRY. OPERATING A CHILLER PUMP WITHOUT WATER WILL BURN THE PUMP OUT. CHECK TO BE SURE THAT THE WATER LEVEL FLOAT TURNS THE PUMP OFF AND SOUNDS THE ALARM WHEN PUSHED DOWN.

SETTING TEMPERATURE CONTROLLER

The temperature displayed on the temperature controller is the water tank temperature.

1. Push the **SEL** button on the TEMPERATURE CONTROLLER. The display will show **SV**.
2. Press the **SEL** button again and the SV value will be displayed.

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INSTALLATION

3. Push the ▲ or ▼ to select the desired turn-on temperature for the chiller. Note that this chiller has been factory set to allow a minimum temperature of 55ºF.
4. Push and release the **SEL** button. This will lock in the new setting.
5. Then push the ▼ button and **SEL** button at the same time.
6. Release both buttons. The display will briefly show 00, and then the tank temperature.

TEMPERATURE CONTROLLER OPERATION

1. When the water tank is at least 3ºF above the **SV** (customer set point), the compressor will start operating. At this time, a small red square light marked **OUT** located just above the **SEL** button on the controller will glow.
2. When the water tank temperature reaches the **SV** value, the compressor will turn off and the red **OUT** light will stop glowing.

If any problems are incurred during this installation, contact the Unitrol service department at 847-480-0115. Please have the model number and serial number ready.

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DIAGNOSTICS

When any of the following faults occur, the following will happens:

1. An alarm sounds
2. The water pump stops operating
3. The refrigeration system stops operating

LOW WATER LEVEL SWITCH:

The LOW WATER LEVEL SWITCH is located on the front wall of the water tank. It floats upward when water level is above a minimum level, and falls down when the water falls below the required minimum level.

WHY THE LOW WATER LEVEL SAFETY SWITCH IS IMPORTANT

If the water level in the tank falls below the factory minimum level, air will be sucked into the water pump and eventually allow it to operate dry. When this happens, the pump seals and vanes will burn out to destroy the pump head. Permanent damage can easily occur to the compressor at this point.

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DIAGNOSTICS

LOW FREON FAULT:

The Freon pressure in the sealed refrigeration system has fallen below the setting on the LOW FREON safety switch. When this switch trips, it is probable that it will start again for a few seconds, go to fault, etc. This indicates that the Freon level is low, but that Freon is present. This conditions is caused by a Freon leak within the sealed system.

Contact a **certified refrigeration technician** to check the system, find and repair the leak, and charge it properly.

HIGH FREON FAULT:

The Freon pressure in the sealed refrigeration system has gone above the setting on the HIGH FREON safety switch. When this switch trips, the chiller will reset in a few minutes.

This HIGH FREON FAULT can be caused by one of the following:

DIRTY AIR INTAKE FILTER: If the airflow across the condenser coil is below a minimum requirement, the ability for heat to be removed from this coil will be greatly reduced. The temperature of the Freon in this coil will continue to rise until the set pressure value has been exceeded. This filter should be cleaned with soapy water once per week for normal factory conditions, or more frequently for factories that have a large dust or grinding dust content in the air.

DIRTY CONDENSER COILS: If dirt has been trapped on the surfaces of the condenser coil's fins, the ability for these surfaces to transfer air to the passing air stream will be greatly reduced. See the maintenance section for coil cleaning directions.

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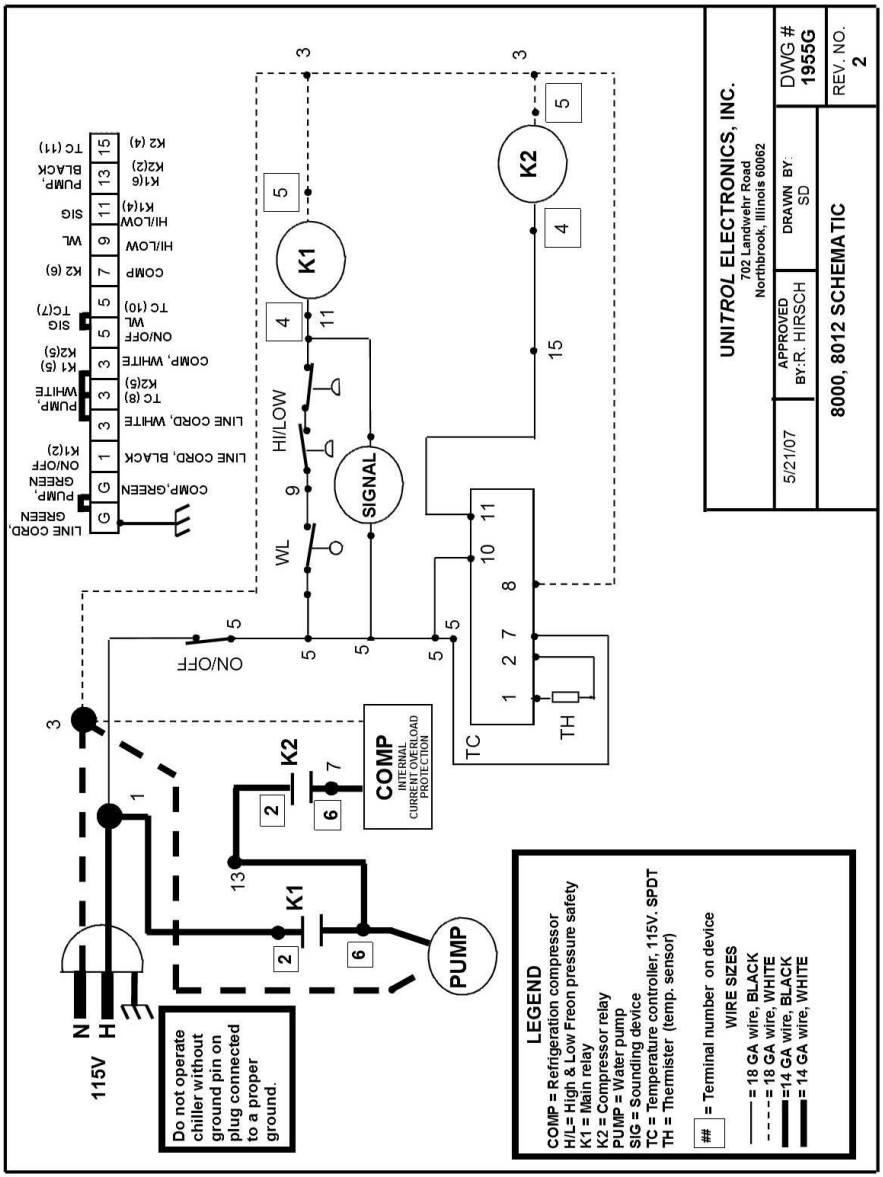
DIAGNOSTICS

LOW AIR FLOW ACROSS THE CONDENSER CAUSED BY INSTALLATION OF CHILLER TOO CLOSE TO A WALL: If the air intake (air intake filter) is less than 36” from a wall, or the air exhaust grill on the back of the chiller is less than 36” from a wall, air flow will be restricted and will reduce the ability of this air to remove heat from the condenser coil. The chiller has to be moved to eliminate this problem.

USE OF AN INTAKE AIR FILTER DURING EXTREMELY HOT DAYS: If the room temperature exceeds 95ºF, it is possible that the small reduction caused by even a clean intake air filter will cause the system to overheat and trip the HIGH FREON safety switch. Remove the air filter and replace it when air temperature falls below 90ºF.

THE NEED FOR MORE AIR FLOW OVER THE CONDENSER COIL: In extreme cases of high room temperature and restricted air flow around the chiller, it might be necessary to use an additional fan to force air across the condenser coil. This can be done using a commercial fan blowing air into the front of the coil (where air filter is located), or by installing a factory fan booster kit. Consult the Unitrol service department on this.

UNITROL MODEL #8000, 8012
CHILLER
SCHEMATIC



UNITROL MODEL #8000, 8012 CHILLER

MAINTENANCE

ONLY A CERTIFIED REFRIGERATION TECHNICIAN SHOULD BE ALLOWED TO SERVICE THE SEALED REFRIGERATION SECTION OF THIS CHILLER

CLEAN THE CONDENSER: Inspect the evaporator coil fins (behind the air intake filter) every 3 months of operation. If there is evidence of dirt or grease buildup, clean the evaporator fins using a water hose from the outside. Flush as much of the trapped debris as possible from between the fins.

If there is too much buildup for reasonable cleaning, use a commercially available aluminum fin spray solvent such as Nonacid condenser coil cleaner, W.W. Grainger #5W403. Follow directions on the product label.

WATER TANK CLEANING: Remove the cover of the water tank once every 6 months and inspect to see if there is a large buildup of material in the water. Remove as much material as possible.

OTHER MAINTENANCE:

Bearings on the water pump are sealed and do not require periodic oil or grease.

There are no other periodic service components in the system.

UNITROL MODEL #8000 CHILLER MAINTENANCE RECORD

DIRECTION BOOK: 8000-50= Direction book

WATER COMPONENTS:

800P-01 = Water pump and motor, 1/3HP
8000-01D = Water Pump and clamp only (no motor)
8000-01B = Water pump motor only (no pump), 1/3HP
8000-01C = Pump coupler
8000-05 = Water pressure dump valve

ELECTRICAL COMPONENTS:

8000-02A = Temperature controller, 115V
8000-03 = Control relay (2 in chiller)
8000-04 = Fault signal
8000-06 = Low water safety switch
8000-07 = ON/OFF switch
8000-08= Line cord with plug
8000-FR = Air intake filter

UNITROL MODEL #8000 CHILLER MAINTENANCE RECORD

Note: Unitrol will only sell refrigeration components to certified refrigeration technicians

REFRIGERATION COMPONENTS:

COMPRESSOR:
80RF-01 = Replacement compressor for model 8000
80RF-01/.5=Replacement compressor for model 8012
80RF-01A= Complete condenser with compressor, receive, and fan for model 8000.
80RF-01A/.5 = Complete condenser with compressor, receiver, and fan for model 8012

EVAPORATOR:
80RF-30 = Brazed plate only for model 8000 and 8012
80RF-30A =Brazed plate assembly with expansion valve and equalizer tube brazed for model 8000
80RF-30A/.5 =Brazed plate assembly with expansion valve and equalizer tube brazed for model 8012

EXPANSION VALVES:
80RF-40 = Expansion valve for model 8000
80RF-40/.5 = Expansion valve for model 8012

REFRIGERATION LIQUID LINE FILTER/DRIER:
80RF-50 = Sealed, for standard installation
80RF-50A= Replicable core, for burn-out installation, includes 2 cores

REFRIGERATION SIGHT GLASS: 80RF-60

UNITROL MODEL #8000 CHILLER
MAINTENANCE RECORD

DATE	PROBLEM	RESOLUTION

UNI*TROL* ELECTRONICS, INC.
702 LANDWEHR ROAD
NORTHBROOK, ILLINOIS
60062

847-480-0115

techsupport@unitrol-electronics.com