

**HE-150
Coolant Recirculator**

Installation Instructions

SPECIFICATIONS

A. Pump Performance:

4 gallons per minute at 125 psi

B. Heat Exchanger Performance:

65,000 BTU/hr (Rating based on 100°F ambient air and 40°F difference between high and low coolant temperature)

C. Motor Power requirements:

1. Single Phase:

115 VAC - 60 Hz.

230 VAC - 60 Hz.

230 VAC - 50 Hz.

2. Three Phase:

230/460 VAC - 60 Hz.

230 VAC - 50 Hz.

D. Starter:

115 VAC - 60 Hz.

E. Operating Current:

15.8 Amps

F. Dimensions:

24.5 inches (High) x 32 inches (Wide) x 18 inches (Deep)

G. Weight:

120 lbs

INSTALLATION



Disconnect primary power before making electrical connections.

STEP 1:

Unpack equipment. Check red tag to be sure unit is connected for proper input operating voltage. If voltage is changed, motor connections must be changed (see diagram on motor housing) and if unit is equipped with a starter, the heater coils in the magnetic starter must be exchanged (alternate heater coils are supplied with unit).

STEP 2:

Motor connections are made by passing a 4-conductor 230/460 volt or a 3-conductor 115 volt cable through one of the strain relief fittings on the bottom of the Starter Box and connecting the leads to terminals L1, L2, L3 (for three-phase units) or to terminals L1 and L2 (for single-phase units). The ground (green) wire for both units must be grounded to the stud on the lower left side of the starter relay box.

If the unit is not equipped with starter proceed to Step 5.

STEP 3:

If the starter cable is not already connected, pass the Starter cable line through the strain relief fitting on the bottom left of starter box and connect the black wire lead to the left side of the coil and the white wire lead to the right side of the coil. Connect the ground (green) wire to the same ground stud mentioned above.

NOTE

Refer to Figure A for the correct motor and starter connections.

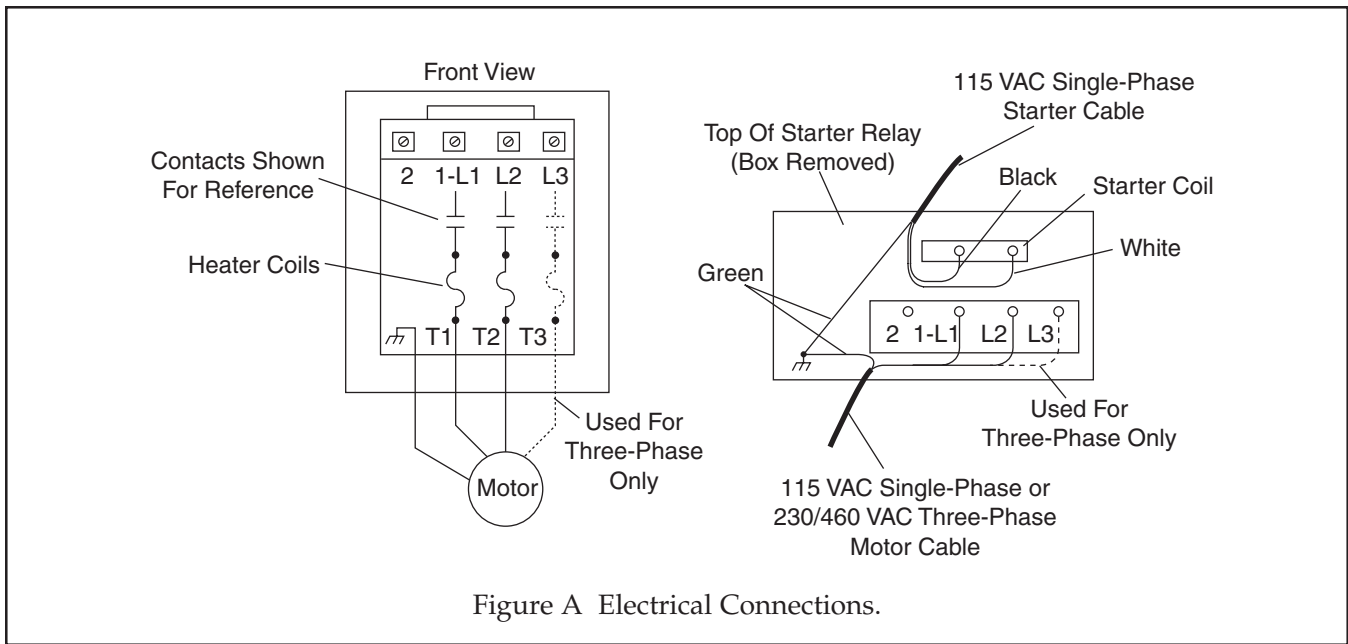


Figure A Electrical Connections.

STEP 4:

Replace the starter cover. Plug the starter cable into the twist-lock receptacle marked COOLANT RECIRCULATOR CONTROL on the torch control console or power supply.

STEP 5:

Remove the cover of the unit. Remove the temporary yellow cap from the coolant reservoir and fill with Thermal Arc Torch Coolant up to the level of the cross-wires.

NOTE

It is helpful to make a splash guard out of the yellow cap by cutting a hole (about 1/2 inch in diameter) in the center of it. Place it back in the tip of the reservoir to keep coolant from splashing out of the unit later on when removing the air from the system.

CAUTION

Always use Thermal Arc torch coolant. If not available use deionized water with conductivity of less than 0.1 megohm/cm.

Install the Reservoir Cap in place of the temporary yellow cap.

STEP 6:

Connect the coolant recirculator SUPPLY and RETURN to the proper fitting (COOLANT IN and COOLANT OUT) on the control console with two water hoses. Connect torch leads to the control console fittings.



WARNING

Do not use pipe or metal reinforced hose for this purpose. The fittings in the control console are electrically hot and depend on the hose for insulation.

CAUTION

If any additional fittings or connectors are used in the coolant system they must be made of brass or stainless steel. Other materials will contaminate the coolant.

STEP 7:

Check for leaks and loose hose connections. Tighten if necessary.

STEP 8:

Connect primary power cable to a suitable power source as required. Fuse the primary power for 15 amps/110 volts or 10 amps/220 volts. Close the external primary power disconnect switch. Turn the ON/OFF switch to ON (If the unit is not equipped with a starter, switch the coolant recirculator switch to ON).

If the unit is three-phase, check the motor for proper direction of rotation.

When facing the front of the unit, the fan blade should rotate to the left. This will blow air against the heat exchanger.

If the fan is rotating in reverse, blowing air in the opposite direction, then exchange the primary leads connections on L2 and L3 in the starter box.

The HE-150 should then start.



WARNING

Be sure any primary power is disconnected before changing any connections.

STEP 9:

Run the HE-100A for several minutes with the reservoir cap removed to remove air trapped in the lines. Turn the HE-100A off and remove the yellow cap. Add coolant up to the level of the cross-wires inside the reservoir neck, and install the cap/cartridge assembly supplied with the unit. Replace the cover and secure. The unit is now ready for operation.

MAINTENANCE

1. Coolant Level

The coolant level should be maintained at the level of the cross-wires. Always use Thermal Arc Torch Coolant (or deionized water with conductivity of less than 0.1 megohm/cm).

2. Coolant Pump

The pump will normally operate at approximately 60° C above the ambient temperature, quite hot to the touch.

The pressure and flow through the system should be checked periodically. The pressure may be adjusted by removing the brass acorn nut on the pump and turning the adjusting screw. Do not exceed 100 psi, as this will overload the pump motor.

NOTE

The pump itself should not be disassembled, as this voids the warranty.

3. Coolant Filter

The filter screen should be checked periodically, particularly if the pressure or flow drops off. To remove the filter screen unscrew the large nut on the bottom of the filter housing. The filter screen may be cleaned or replaced.

4. Motor

The electric motor bearings should be lubricated once a year, or approximately every two thousand hours of operation. There are oil holes at both ends of each motor. Add 30 drops of electric motor oil or SAE #10 lubricating oil.

5. Fan Belt

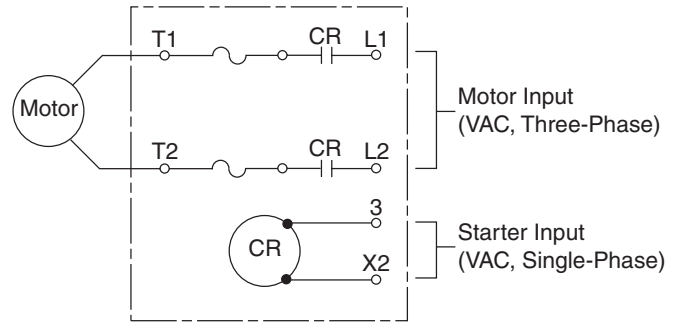
Fan belt tension should be such that moderate pressure on the belt gives about 1/2 inch deflection. The belt tension may be adjusted by adjusting the position of the motor.

REPLACEMENT PARTS LIST

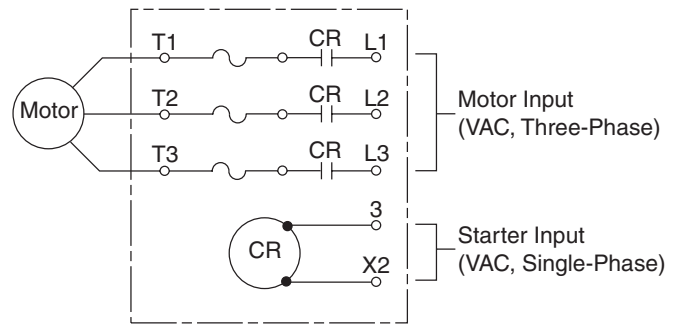
Parts listed are for three-phase coolant recirculator with starter. Motor and starter for single phase unit shown below by an asterisk.

Qty	Catalog #	Description
1	7-2850	Thermal Arc Coolant
1	8-1002	Replacement Filter Screen
1	8-1032	Filter
1	8-1328	Pump
1	8-1329	Fan Blade
1	8-1340	Fan Shaft
2	8-1344	Pillow Block
1	8-1346	Pulley (Pump)
1	8-1425	Pulley (For 60 Hz. Motor)
1	8-1426	Pulley (Fan)
1	8-1427	Fan Belt (50 Hz.)
1	8-1458	Pump Pulley Bushing
1	9-3618	Cap
1	9-2217	Reservoir Cap
1	9-2422	Starter
1	9-2423	Heater Coil for 460V Operation
1	9-2424	Heater Coil for 230V Operation
1	9-2469	Reservoir Assembly
1	9-2529	Fan Belt (60 Hz.)
1	9-2850	Pressure Gauge
1	9-2879	Motor
1	9-3893	Pulley (For 50 Hz. Motor)
1	9-3080	Crosswire
1	9-5022-25	Starter Cable - 25'
1	9-5022-50	Starter Cable - 50'
*	8-1327	Motor, 60 Hz.
*	9-2305	Motor, 50 Hz.
*	9-3894	Pulley, 50 Hz.
*	9-2522	Starter
*	8-1427	Fan Belt

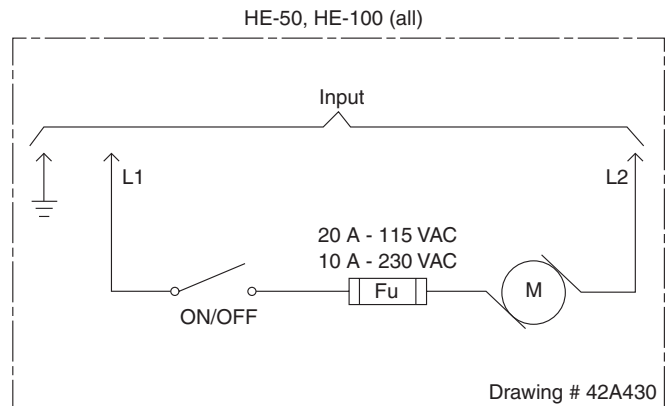
WIRING DIAGRAMS



Drawing # 42A426



Drawing # 42A425



Drawing # 42A430

NOTE

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