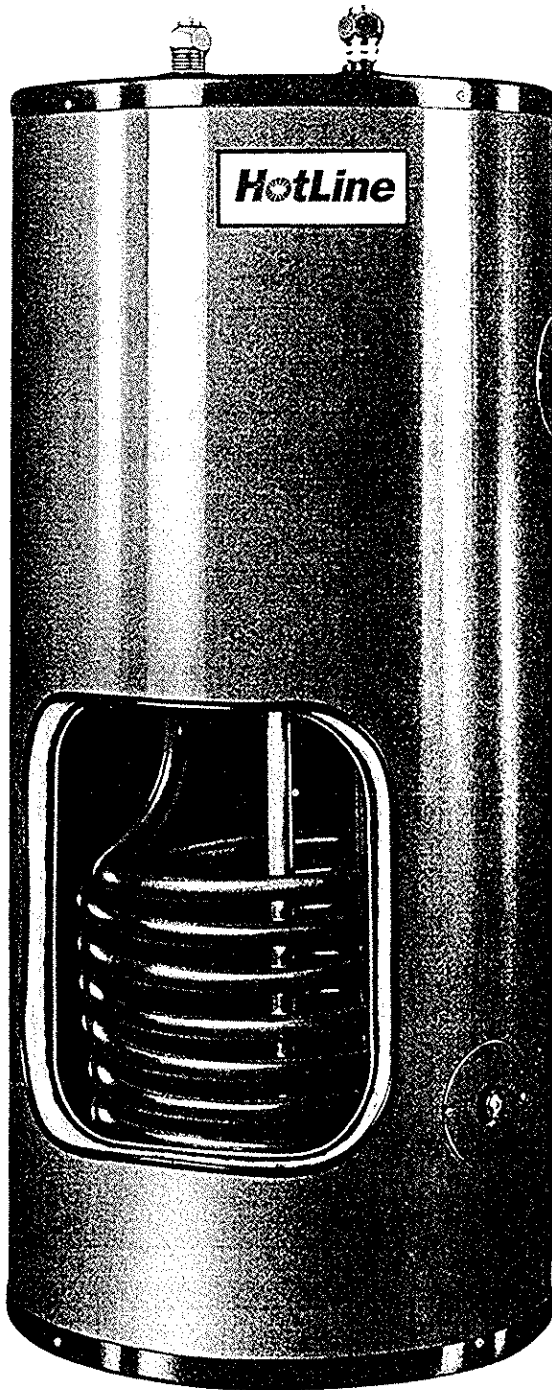


ECR International

HOT LINE INDIRECT WATER HEATER

MODELS HL30, HL40, HL50, HL80, HL119



SET-UP, OPERATING & MAINTENANCE INSTRUCTION MANUAL

- ✓ Twice the recovery of a standard gas-fired water heater *and four times* the recovery of an electric water heater.
- ✓ Counterflow design increases heat transfer by 50% for better temperature mixing.
- ✓ Unique, smooth tube heating coil resists lime buildup that commonly reduces the life of other indirect water heaters.
- ✓ Steel coil increases heat transfer for faster recovery and the luxury of never running out of hot water.
- ✓ Coils and tank lining are coated with the finest porcelain enamel available. Its extra cobalt makes our heaters highly resistant to damage from aggressive water.
- ✓ Two-inch layer of environmentally-friendly CFC-free foam insulation enhances efficiency and cuts fuel bills.
- ✓ Commercial quality at residential prices.

HotLine
WATER HEATERS **MADE IN THE U.S.A.**

ECR International

P.O. Box 4729 • Utica, NY 13504-4729

Phone: 315-797-1310 • Fax: 315-797-3762

LIMITED LIFETIME WARRANTY

GENERAL CONDITIONS

Hot Line Water Heaters, ECR International, warrants that the Hot Line tank shall be free of defects in material and workmanship during normal use and service for as long as the original residential purchaser owns the home in which the unit was originally installed. For the purposes of this Limited Warranty, residential purchaser is defined as the owner of a single family home in which the purchaser resides on a permanent basis.

If at the time of a request for warranty the original residential purchaser can not provide a copy of the original sales receipt, deed, or equivalent document, then the warranty period for the Hot Line shall be seven (7) years from the date of manufacture of the unit. The Limited Warranty on the tank shall be reduced to a period of three (3) years if the purchaser is a business, partnership or corporation, or if the water heater is used for a commercial or multi-family residential property application.

Should a leak develop within this Limited Warranty period due to defective materials or workmanship and such leak having been verified by an authorized company representative, ECR International will repair the unit or furnish a replacement Hot Line heater or the nearest comparable model available at the time of replacement.

ECR International shall not be liable for any water damage arising directly or indirectly from any defect in the water heater or component part(s) or from the use thereof or any service call not involving malfunction or defects in materials or workmanship.

THIS WARRANTY IS VOID AND SHALL NOT APPLY IF:

- 1) The unit is not correctly installed according to the installation instructions provided with the unit.
- 2) The residential indirect-fired water heater is installed in buildings other than one or two family dwelling units, unless the buildings contain individual indirect-fired water heaters for each dwelling unit.
- 3) The indirect-fired water heater is operated at water temperatures of more than 125 degrees F. and water pressure of more than 150 PSI.
- 4) The failure or malfunction results from improper or negligent operation, accident, abuse (including freezing), misuse, unauthorized alteration, improper repair or maintenance, excessive pressure or leaks at water connections or any other similar cause.
- 5) The failure or malfunction results from failure to keep the unit full of potable water, free to circulate at all times; or failure due to water sediment or scale deposits.
- 6) The original serial number of the water heater cannot readily be determined.

7) ECR International Hot Line is installed outside of the United States or Canada.

8) ECR International Hot Line is repaired or altered without prior written approval of ECR International and this service adversely affects the product's reliability.

9) The malfunction or repairs result from the use of ECR International Hot Line for purposes other than that for which it was designed or any malfunction resulting from flood, fire, wind or lightning.

ECR International will provide, under the Limited Warranty, only a replacement water heater, repairs, or parts for defective units. The Limited Warranty does not cover any component of ECR International Hot Line that has to be replaced during the warranty period as a result of reasonable wear and tear, labor costs, shipping charges, delivery expenses, nor administrative fees incurred by the customer in removing or reinstalling the Hot Line.

In no event shall ECR International be liable for incidental or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

In order to gain coverage under this Limited Lifetime Warranty, the consumer is required to fill out and mail the Limited Warranty registration card provided with the unit by registered mail within 30 days of purchase.

To submit a warranty claim, contact the dealer who sold the Hot Line covered by this Limited Warranty. If the dealer cannot be located, contact ECR International at the address shown below. Whenever any inquiry or service request is made, please include the Hot Line model number, serial number, date of installation, and dealer's name.

No warranty, express or implied, other than the foregoing Limited Warranty is authorized by ECR International and no representative of ECR International or of the manufacturer of any component has the authority to amend, extend, modify, enlarge or contract the foregoing Limited Warranty and the disclaimers of the Limited Warranty in any manner whatsoever.

HotLine

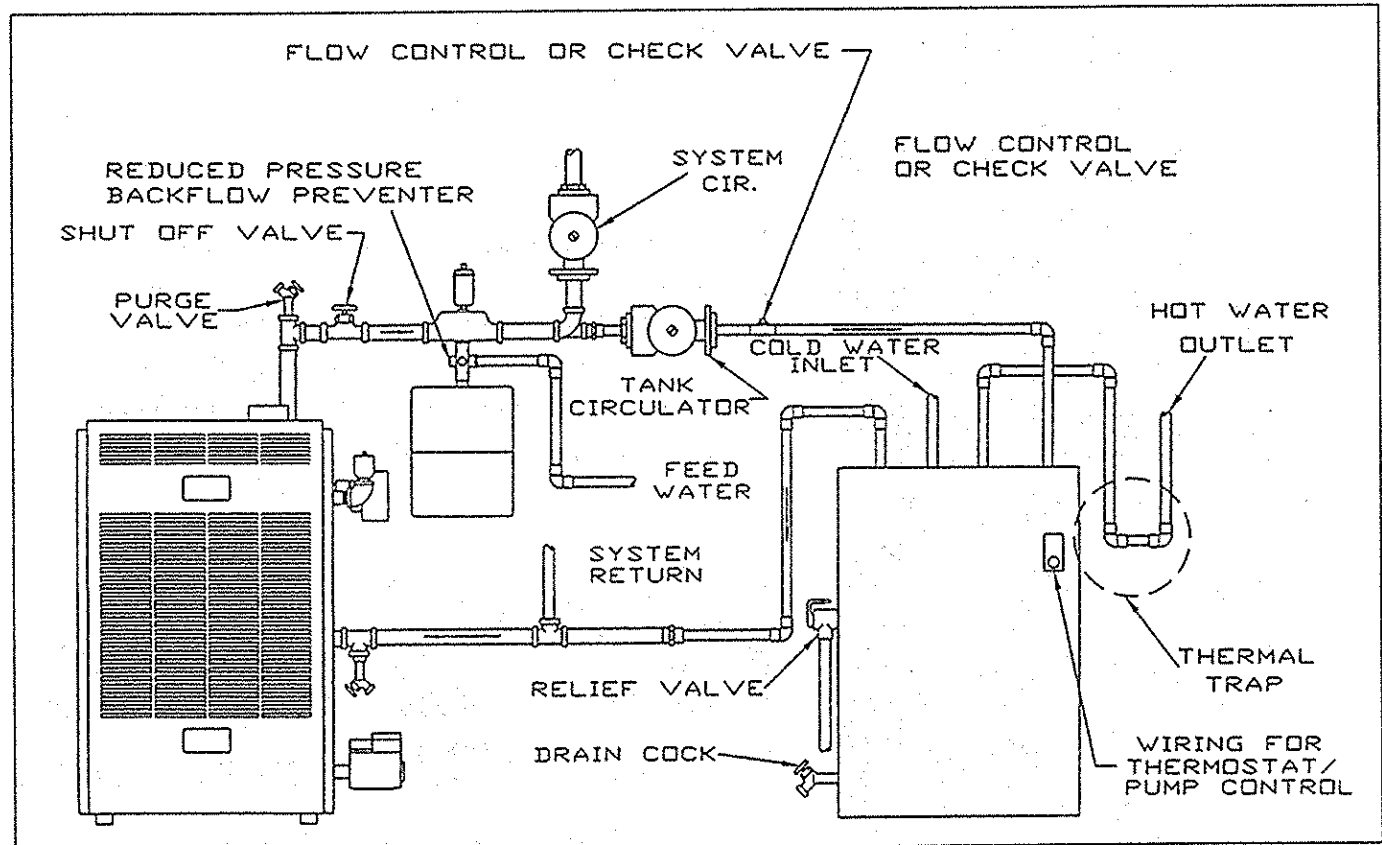
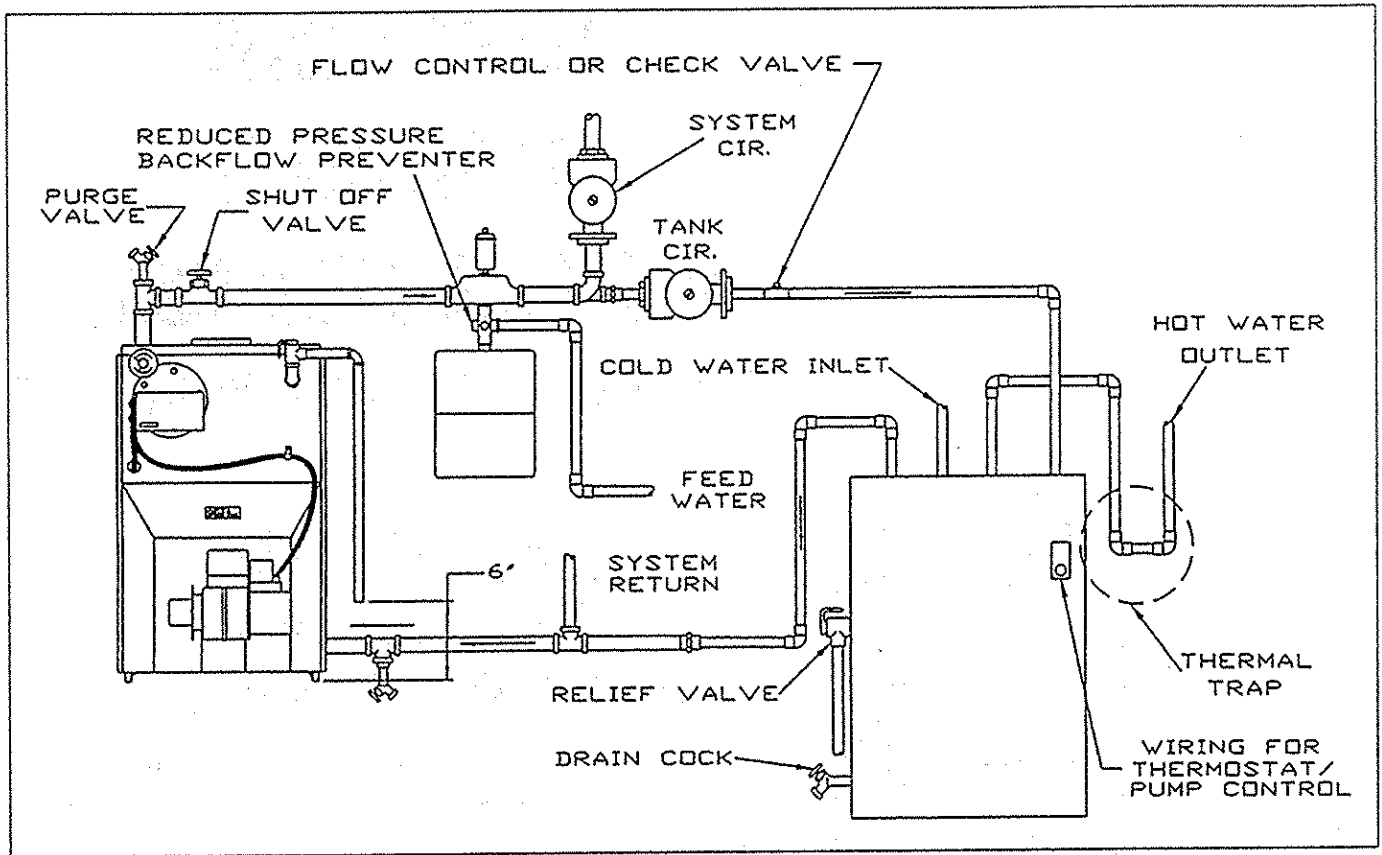
WATER HEATERS

MADE IN THE U.S.A.

ECR International

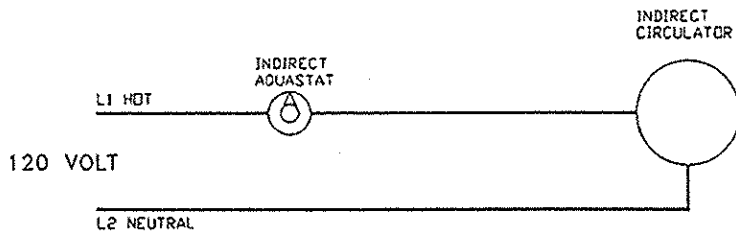
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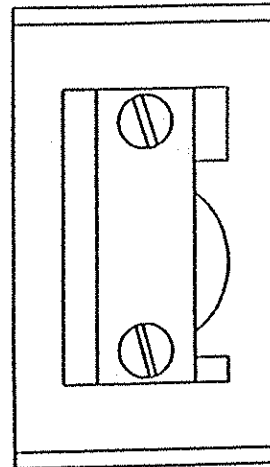


NOTE: When a steam boiler is used, supply to the circulator must be below both the boiler water line and the low water cutoff.

STANDARD WIRING: BOILER MAINTAINING 180°F

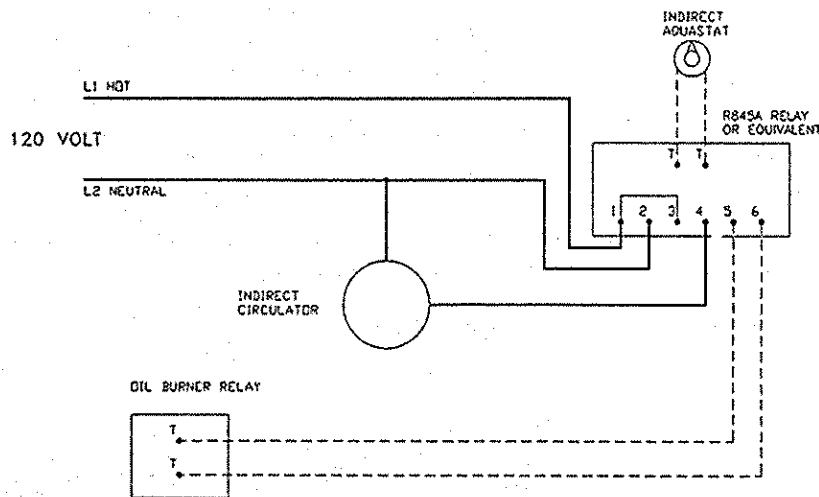


**PRIMARY IMMERSION CONTROL
30CT • 40CT • 50CT • 80CT • 119CT**



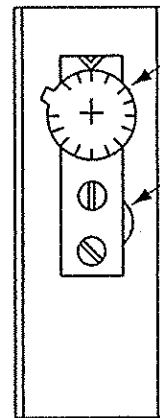
- TEMPERATURE SETTING: 120°F all models
- Fixed Differential: 8°

ALTERNATE WIRING USING A SWITCHING RELAY: COLD START BOILER



**Fig. (A)
ELECTRICAL GROUNDING
ALTERNATE CONTROL**

HL30 • HL40 • HL50 • HL80 • HL119



- Temperature setting: 120°F all models
- Differential setting: 5° all models

This equipment must be properly grounded to prevent a potential shock hazard and to reduce deterioration of the anode due to electrolysis. Refer to local electrical codes and ordinances.

Wiring Notes:

1. Dashed lines indicate low voltage (24 VAC)
2. Use jumper wire between terminal #1 and #3 on R845A relay

INDIRECT WATER HEATERS

TECHNICAL DATA

Model	HL30	HL40	HL50	HL80	HL119
Capacity	30 gallons	40 gallons	50 gallons	80 gallons	119 gallons
Maximum Working Pressure	150 PSI	150 PSI	150 PSI	150 PSI	150 PSI
Height	39"	47"	48"	59"	64¼"
Diameter	20"	20"	22"	24"	28"
Cold/Hot Water Connections	¾"	¾"	¾"	1½"	1½"
Heating Water Connections (Sweat Fittings)	¾"	¾"	¾"	1"	1"

INSTALLER RESPONSIBILITIES

Please read all instructions before installing or placing the heater into service. This unit must be installed by licensed or authorized installers, or technical personnel that service water heating equipment. The heater must be installed in accordance with all local codes and ordinances.

CAUTION: The recommended water temperature setting for normal residential use is 120°F/49°C. (Thermostat setting "A" is equivalent to approximately 120°F/49°C.)

HANDLING

Before uncrating, check for shipping damage. Report any damage to your carrier. Note damage on bill of lading or delivery receipt and file a claim.

LOCATION

The indirect heater should be located in a central location to the piping system, as close as possible to the boiler and in an area not subject to freezing temperatures. Leave sufficient space for servicing and maintaining the heater.

SUPPLY & DOMESTIC PIPING

All piping between the supply water source and the indirect heater should be new copper with a minimum size of ¾" ID (⅞" OD).

All piping to the inlet (cold) and outlet (hot) domestic water connections should be new copper with a minimum size of ½" ID.

All piping should conform with local codes and ordinances. Refer to IHLR 84 code as minimum if local codes are not in place.

It is recommended that all piping be adequately insulated with approved material to insure minimum heat loss.

Isolation valves should be installed to permit proper servicing.

TEMPERATURE CONTROL

Supply water temperature that exceeds 180°F/82°C may produce domestic water temperatures above the desired 120°F/49°C, in which case a tempering or anti-scald valve is recommended.

HL30, HL40, HL50, HL80, HL119: Water temperature is controlled by an immersion aquastat. Well assembly 121371B/PMW-35E 2.5. See Fig (A) on page 5.

CAUTION: HOT WATER IN EXCESS OF 120°F CAN CAUSE SCALDING!

It is recommended that a tempering valve or anti-scald valve be used and installed according to the manufacturer's directions. Many state and local codes now require installation of these devices.

CIRCULATOR

The circulator from the heat source to the indirect heater may be cast iron or bronze and should be capable of a minimum of 6 GPM (gallons per minute) at 11½' of head. It must be installed with flow towards the indirect heater and circulate boiler water through the indirect only. If a circulator is required for potable (domestic) hot water, a bronze or stainless steel circulator must be used. A circulator capable of a minimum of 12 GPM at 11½' of head is recommended for the HL80 and HL119 models. NOTE: Zone valves on the heat source supply to the indirect heater are *not* recommended and will drastically reduce performance.

TEMPERATURE AND PRESSURE RELIEF VALVE

The T&P valve is factory installed. A discharge drain tube must be installed (responsibility of the installer) and shall terminate plain, not threaded, six (6) inches above floor drain, with material approved for temperatures of 120°F (49°C) or greater, and pressure of 150 PSI or greater.

BACK-FLOW PREVENTOR (Closed Loop System)

Some local municipal codes and ordinances require the use of these devices on potable (domestic) water. Where back-flow preventors are required it will be necessary to install a thermal expansion tank (designed for use with potable water) in order to prevent pressure buildup in the indirect heater and associated piping, which could cause the T&P valve to discharge. (For every 10 gallons of stored water, the expansion tank must have a minimum capacity of one (1) gallon.)

NOTE: Working pressure of the water heater is 150 PSI. Do not exceed that pressure.

MAINTAINING THE HEATER

The indirect water heater is lined with porcelain enamel, has a two-inch layer of foam insulation and is equipped with a magnesium anode rod for protection against corrosion. Elements in the water such as lime, iron and other minerals may accumulate in the heater. It is recommended that the tank be drained and flushed thoroughly once a year to prevent buildup in the tank.

It is also recommended that the anode rod be inspected once a year. If the anode rod is worn (reduced in size by one-third of its original diameter of ¾") or shows signs of pitting, install a specified replacement anode rod before placing the heater back into service. The anode rod is specifically designed to help prevent premature tank failure due to electrolysis (stray current).

WATER TREATMENT/ FILTRATION

In areas where poor water conditions are suspected (i.e.: lime, iron and other minerals), it is essential that the water be tested and appropriate action taken to prevent damage to the indirect heater and insure the quality of the water.

ELECTRICAL GROUNDING

This equipment must be properly grounded to prevent a potential shock hazard, and to reduce deterioration of the anode rod due to electrolysis. Refer to local electrical codes and ordinances.

SPARE THE HEATER—CHANGE THE RODS

1. Shut off water supply.
 2. Open any faucet to relieve tank pressure.
 3. Remove caps on water heater top; push insulation aside.
 4. Take a 1½" six-sided socket wrench, a breaker bar, and snap hard to break the anode rod seal.
 5. Remove rod(s) and replace with new ones. NOTE: As of December 1988, all heaters having ¾" rods have a bigger head that is easier to grasp when removing.
 6. Turn water supply back on and leave faucet open until air is out of line.
 7. Turn faucet off and check that new rods don't leak.
 8. Snap caps back into place.
- Check rods for possible replacement six months after heater is installed. Replace when original diameter of new rod is two-thirds eroded. If not worn, check annually thereafter.