

ELECTRIC INSTANTANEOUS WATER HEATER

INSTALLATION GUIDE AND OWNERS MANUAL

ANTHERMOSTATIC

MODELS COVERED:

EFT-5500-4-S-10	240V
EFT-6500-4-S-10	240V
EFT-7500-4-S-10	240V
EFT-9500-4-S-10	240V
EFT-8300-2-S-10	208V
EFT-6000-5-S-10	277V
EFT-8000-5-S-10	277V
EFT-9000-5-S-10	277V
EFT-10000-5-S-10	277V

READ THIS MANUAL CAREFULLY BEFORE ATTEMPTING TO INSTALL OR OPERATE THIS WATER HEATING UNIT. IF YOU DO NOT FOLLOW THE SAFETY RULES, THE UNIT WILL NOT OPERATE PROPERLY AND COULD CAUSE DEATH, SERIOUS BODILY INJURY AND OR PROPERTY DAMAGE.

READ ALSO THE ENCLOSED WARRANTY CARD. WARRANTY OF THIS WATER HEATING UNIT WILL DEPEND ON PROPER INSTALLATION AND OPERATION. THE WARRANTY SHALL BE VOID IF THE DESIGN HAS BEEN ALTERED IN ANY WAY WHATSOEVER. THE MANUFACTURER OF THIS UNIT WILL NOT BE LIABLE FOR ANY DAMAGES BECAUSE OF FAILURE TO COMPLY WITH THE INSTALLATION AND OPERATING OUTLINED ON THE FOLLOWING PAGES.

THE INSTALLATION MUST CONFIRM WITH THE INSTRUCTIONS IN THIS MANUAL; ELECTRIC COMPANY RULES; AND LOCAL CODES, OR IN THE ABSENCE OF LOCAL CODES, WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE. A COPY OF THE NATIONAL ELECTRICAL CODE IS AVAILABLE FROM UNDERWRITERS LABORATORIES, 333 PFINGSTEN ROAD, NORTHBROOK, IL, 60062.

IF ASSISTANCE IS REQUIRED OR ANY QUESTIONS ARISE RELATING TO THE INSTALLATION OR THE PERFORMANCE OF THIS UNIT, CONTACT TECHNICAL SERVICE DEPARTMENT TOLL FREE AT 1-800-334-3393.

HAVE THE INFORMATION LISTED BELOW BEFORE CALLING:

MODEL NO. _____ SERIAL NO. _____ INSTALL DATE _____.

GENERAL

This thermostat water heating unit is specifically designed to take in cold or pre-heated water and heat it to temperatures suitable for domestic usage up to a maximum of 140°F (60°C). To obtain optimum performance and energy savings. The unit should be located as near as possible to the point of use.

The unit is supplied with compression rings and nuts suitable for direct coupling to standard 1/2" (5/8" outside diameter) copper or plastic piping. There is no need for additional screwed fittings and under no circumstance shall a blow torch be used on the pipe while the pipe is connected to the unit (serious damage to the electronic flow switch will result).

Also, ensure that pipes are clear of installation debris before fitting to the unit.

THIS UNIT MUST HAVE ITS OWN INDEPENDENT CIRCUIT, USING CORRECTLY RATED WIRES AND CIRCUIT BREAKERS. THE CIRCUIT SHOULD BE PROVIDED WITH A GROUND FAULT INTERRUPTER WHERE REQUIRED BY LOCAL, STATE AND NATIONAL ELECTRICAL CODES.

FAILURE TO GROUND THIS UNIT MAY RESULT IN DEATH OR SERIOUS INJURY

MOUNTING THE UNIT

- 1) The unit should be mounted as close to the point of use as possible. For example, directly beneath a sink is ideal. Do not install the unit above a faucet as a siphoning effect will drain the unit causing heating element burn out.
- 2) This unit must only be mounted in a vertical position with the water fittings at the bottom of the unit. Mounting other than in the vertical position WILL cause heating element burn out.
- 3) The cold water inlet is on the right hand side and the hot water outlet is on the left hand side (as viewed from the front of the unit). Under NO circumstances can these be reversed.
- 4) Leave a minimum of 8" **ABOVE** the unit for easy replacement of the heating element.
- 5) The unit should be fixed to the wall using screws in the four mounting holes at each corner of the backplate.

NOTE: The unit should be installed below the level of all hot water outlets serviced by this unit.

NOTE: PRESSURE AND TEMPERATURE RELIEF VALVE

This unit is not required to have a Pressure and Temperature safety relief valve (PTPV). Consult local codes to find out if one is required in your area. If local codes require the use of a temperature and pressure valve one should be installed on the hot water outlet pipe, before the ball valve

Plumbing Connections

NOTE:
**ALL MOUNTING AND PLUMBING MUST BE COMPLETED BEFORE PROCEEDING
WITH THE ELECTRICAL HOOK-UP.**

**TEST THE INSTALLATION FOR LEAKS BEFORE CONNECTING THE ELECTRICAL
SUPPLY.**

1) This unit is supplied with compression fittings, USE THESE; DO NOT USE TAPERED THREAD PIPE FITTINGS AND DO NOT SOLDER PIPE TO THE INLET OR OUTLET(SEE FIGURE 1).

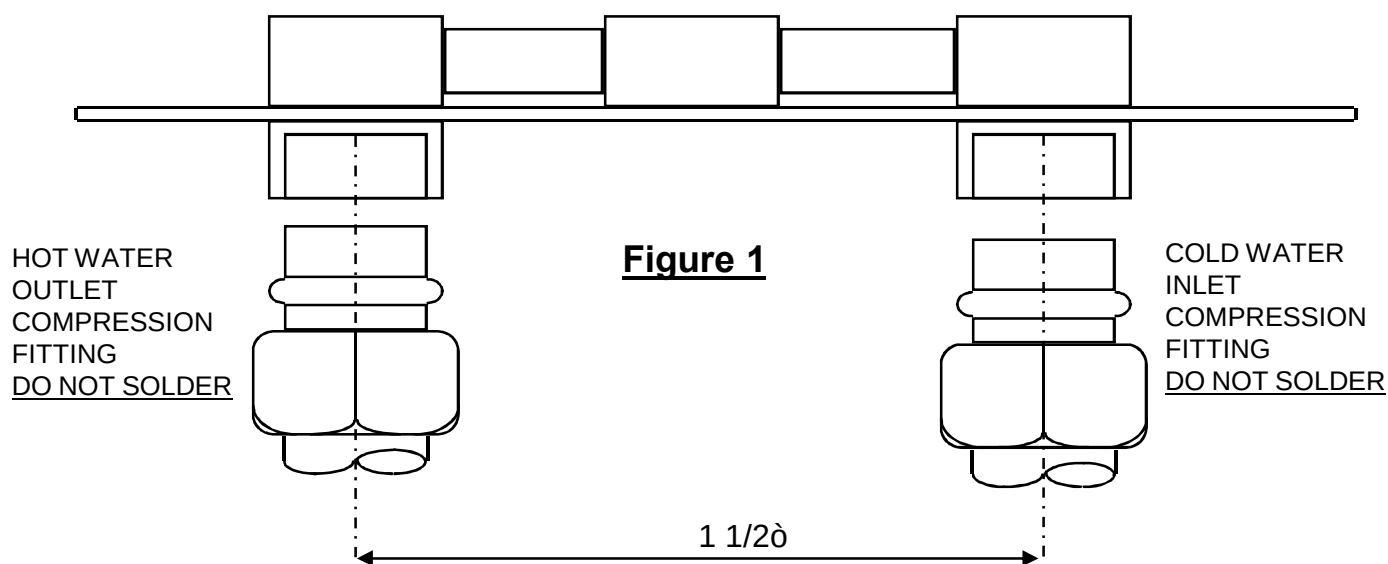
2) Ensure that the pipes are correctly aligned with the inlet and outlet bosses in order to avoid excessive stress on the heater body molding.

NOTE: When soldering pipe joints, remove the unit from the wall. Serious damage can occur if any soldering is done while pipes are connected to the unit. Run water through the supply pipe to remove all debris from the pipe before connecting the unit. Failure to do so could cause damage to the flow switch.

3) Install isolating valves (full flow ball valve type) in both the inlet and outlet lines. This allows the unit to be isolated for maintenance (figure 2).

4) When all plumbing is complete, inspect the system for water leaks at all the plumbing connections. If a water leak is present take corrective action. If a water leak is at the compression fitting, slowly tighten compression nut until it the water leak ceases.. Fully open both inlet and outlet BALL VALVES.

Run all hot water outlets fed by this unit, one at a time until the water flow is continuous and free from gulping and all visible air pockets.



ELECTRICAL CONNECTIONS

WARNING

BEFORE BEGINNING ANY WORK ON THE INSTALLATION BE SURE THAT SWITCH AT MAIN BREAKER PANEL IS “OFF” TO AVOID ANY DANGER OF ELECTRICAL SHOCK.

DANGER

FAILURE TO GROUND THE SYSTEM MAY RESULT IN DEATH OR SERIOUS INJURY.

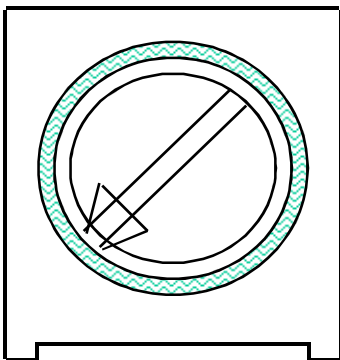
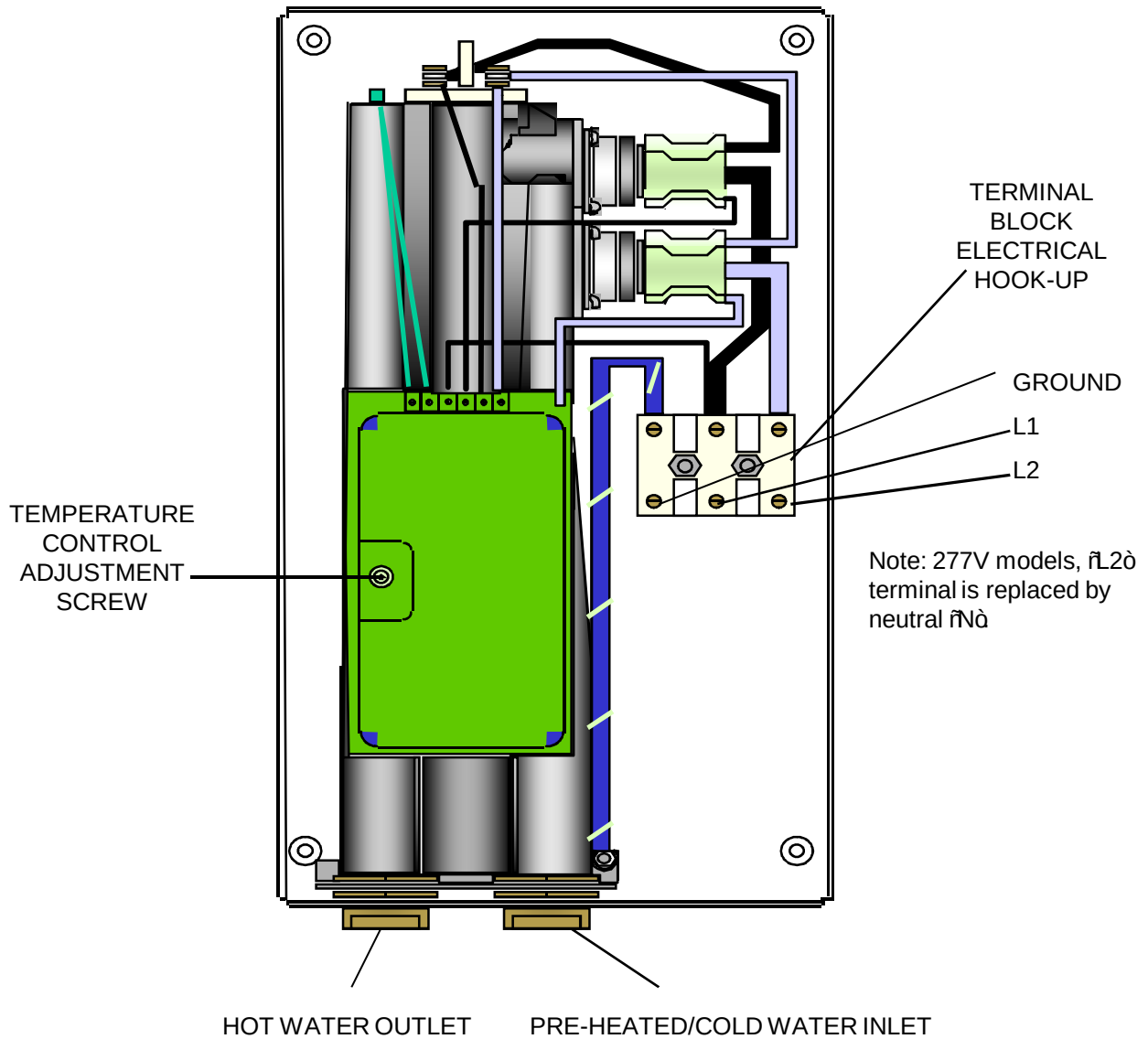
This ãThermostaticòwater heating unit must be wired on an independent circuit using insulated, UL listed, 3 wire cable of the appropriate size protected by the correctly rated DOUBLE POLE circuit breaker. Refer to Rating chart below for the required breaker and wire size

RATINGS OF “EFT” UNITS

Model	Voltage (V)	Max. Output (W)	Amps Drawn	Temp. Rise (°F) at:	
				1gpm	1.5gpm
EFT-5500-4-S-10	240	5500	23	38	25
EFT-6500-4-S-10	240	6500	27	44	30
EFT-7500-4-S-10	240	7500	32	51	34
EFT-9500-4-S-10	240	9500	40	65	43
EFT-8300-2-S-10	208	8300	39	55	36
EFT-6000-5-S-10	277	6000	22	41	27
EFT-8000-5-S-10	277	8000	29	54	36
EFT-9000-5-S-10	277	9000	32	61	41
EFT-10000-5-S-10	277	10000	36	86	46

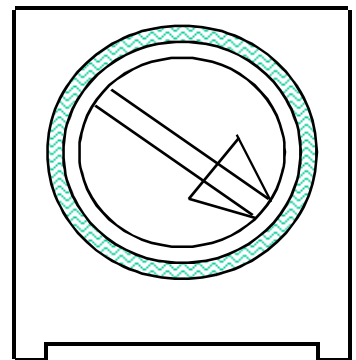
Units rated at 240 volts can operate at 208V or 220V with reduced output.

- 1) Wire entry into the unit should be made through the lower right hand corner of the backplate via one of the ãknockoutòholes provided.
- 2) The ãmainsòwires should be connected to the slots in the terminal block marked L1 and L2(N). Ground lead must be connected to slot marked GND.



MINIMUM
SETTING

THE TEMPERATURE CONTROLLING POTENTIOMETER IS A PRECISION COMPONENT. ADJUST GENTLY AND DO NOT TURN BEYOND THE MIN. AND MAX. STOP POINTS



MAXIMUM SETTING

OPERATION

WARNING

HOUSEHOLDS WITH SMALL CHILDREN OR ELDERLY PERSONS MAY REQUIRE WATER TEMPERATURES OF 125°F OR LOWER TO PREVENT ACCIDENTAL SCALDING FROM CONTACT WITH THE WATER.

- 1) Completely open both the inlet and outlet ball valves at the unit.
- 2) Open all hot water outlet serviced by the unit. If the outlet is a mixer type adjust to the hottest position. Run water until flow is continuous at all outlets.
- 3) Switch on electric supply at the circuit breaker panel. The power indicator light on the unit should now illuminate. **NOTE:** Water temperature may not be hot at this time.
- 4) Using the outlet BALL VALVE, slowly reduce the water flow until the desired water temperature is achieved at the hot water outlet. This should be 120°F to 140°F without mixing with cold water.
- 5) Turn the temperature adjustment screw counter-clockwise about 1/8 of a turn. Wait 10-15 seconds for the indicator light to begin pulsing. If the indicator does not pulse, turn the temperature adjustment screw counter-clockwise another 1/8 of a turn. Again, wait 10-15 seconds for the indicator light to begin pulsing. Repeat until the indicator light is pulsing regularly. This indicates that the temperature has stabilized at the set temperature. Check that the water temperature is sufficient for the application. The thermostat is now set and the water temperature will remain constant when the indicator light is pulsing.
- 6) Check the performance of the flow switch by opening and closing the faucet a few times. THE POWER, INDICATOR LIGHT SHOULD ONLY ILLUMINATE WHEN WATER IS FLOWING THROUGH THE UNIT.
- 7) For accurate water temperature control at a mixer type faucet (single spout), the cold water supply to the faucet should be restricted to give approximately the same flow rate of cold water to the faucet as the hot water exiting the unit. The simplest method of achieving this is by partially closing the cold water valve under the sink.
- 8) Drawing off cold water at comparatively high rates of flow elsewhere in the building while unit is heating water may starve the unit of supply water. This may result in premature element failure. Care should be taken not to starve the unit of cold water. To prevent this from happening, open fully the main valve in the cold water supply to the building and throttle back the control valves to the other cold water outlets.

SYMPTOM	POSSIBLE CAUSE	SOLUTION
NO HEAT - INDICATOR LIGHT OFF	A) ELECTRICAL SUPPLY OFF	TURN ON MAIN CIRCUIT BREAKER
	B) NO OR LOW WATER FLOW	MINIMUM WATER FLOW TO TURN ON UNIT IS 0.7 GALLON PER MINUTE. INCREASE FLOW TO AT LEAST THIS LEVEL.
	C) WATER CONNECTION REVERSED	COLD WATER INLET-RIGHT SIDE. HOT WATER OUTLET - LEFT SIDE. REFER TO FIG. 1
	D) ELEMENT BURNED OUT	1) <u>TURN MAIN BREAKER OFF</u> 2) USING AN OHMMETER TEST RESISTENCE OF THE HEATING ELEMENT AT TWO TERMINATION RODS ON THE TOP OF ELEMENT. SEE FIGURE BELOW. 3) OHMMETER SHOULD READ AS FOLLOWS: - 6-7 OHMS - 7-8 OHMS - 10-11 OHMS IF RESISTENCE OF THE ELEMENT IS MUCH GREATER THAN THESE READINGS - CALL TECHNICAL SUPPORT.
NO HEAT OR LOW TEMPERATURE INDICATOR LIGHT ON	A) WATER FLOW TOO HIGH	REDUCE WATER FLOW BY USING OUTLET BALL VALVE. SEE "RATINGS OF UNITS" TABLE 1- FOR TEMPERATURE RISE @ 1 GPM.
	B) 110 VOLT POWER SUPPLY INSTEAD OF 240 VOLTS	UNIT MUST BE CONNECTED TO 240 VOLT POWER SUPPLY. SEE ELECTRICAL CONNECTIONS SECTION OF MANUAL.
	C) ELEMENT BURNED OUT	1) <u>TURN MAIN BREAKER OFF</u> 2) USING AN OHMMETER TEST RESISTENCE OF THE HEATING ELEMENT AT TWO TERMINATION RODS ON THE TOP OF ELEMENT. SEE FIGURE AT LEFT. 3) OHMMETER SHOULD READ AS FOLLOWS: - 6-7 OHMS - 7-8 OHMS - 10-11 OHMS IF RESISTENCE OF THE ELEMENT IS MUCH GREATER THAN THESE READINGS - CALL TECHNICAL SUPPORT.

