



# Elite Fire Tube Combi

## Floor and Wall Mount Models



## USER'S INFORMATION MANUAL

Models  
EFTC-140F / 199F  
EFTC-140W / 199W



**NOTICE:** HTP reserves the right to make product changes or updates without notice and will not be held liable for typographical errors in literature.

**NOTE TO CONSUMER: PLEASE KEEP ALL INSTRUCTIONS FOR FUTURE REFERENCE.**

### **⚠ WARNING**

**IF THE INFORMATION IN THIS MANUAL IS NOT FOLLOWED EXACTLY, A FIRE OR EXPLOSION MAY RESULT, CAUSING PROPERTY DAMAGE, PERSONAL INJURY, OR LOSS OF LIFE. DO NOT STORE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.**

#### **WHAT TO DO IF YOU SMELL GAS**

- Do not try to light any appliance.
- Do not touch any electrical switch.
- Do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department. Installation and service must be provided by a qualified installer, service agency, or the gas supplier.

## FOR YOUR SAFETY READ BEFORE OPERATING

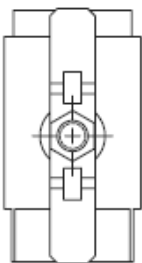
**WARNING: If you do not follow these instructions exactly, a fire or explosion may result, causing property damage, personal injury or loss of life.**

- A. This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
- B. BEFORE OPERATING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.
- WHAT TO DO IF YOU SMELL GAS
- Do not try to light any appliance
  - Do not touch any electric switch; do not use any phone in your building
  - Immediately call your gas supplier from a neighbor's phone. Follow the gas suppliers' instructions.
- If you cannot reach your gas supplier, call the fire department.
- C. Use only your hand to turn the gas control knob. Never use tools. If the handle will not turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.
- D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

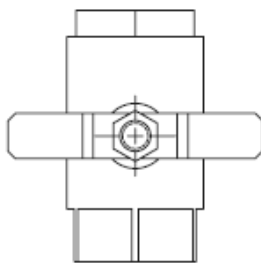
## OPERATING INSTRUCTIONS

1. STOP! Read the safety information above.
2. Set the thermostat to lowest setting.
3. Turn off all electric power to the appliance.
4. This appliance is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
5. Remove front cover.
6. Turn gas shutoff valve to "off". Handle will be across the piping, do not force.
7. Wait five (5) minutes to clear out any gas. If you then smell gas, STOP! Follow "B" in the safety information above on this label. If you don't smell gas, go to next step.
8. Turn gas shutoff valve to "on". Handle will be in line with piping.
9. Install Front Cover.
10. Turn on all electric power to appliance.
11. Set thermostat to desired setting.
12. If the appliance will not operate, follow the instructions "To Turn Off Gas To Appliance" and call your service technician or gas supplier.

GAS VALVE  
ON



GAS VALVE  
OFF



## TO TURN OFF GAS TO APPLIANCE

1. Set the thermostat to lowest setting.
2. Turn off all electric power to the appliance if service is to be performed.
3. Remove Front Cover.
4. Turn gas shutoff valve to "off". Handle will be across the piping. Do not force.
5. Install Front Cover.

## SPECIAL ATTENTION BOXES

The following defined terms are used throughout this manual to bring attention to the presence of hazards of various risk levels, or to important product information.

### ⚠ DANGER

**DANGER** indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

### ⚠ WARNING

**WARNING** indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

### ⚠ CAUTION



**CAUTION** indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

### CAUTION

**CAUTION** used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

### NOTICE

**NOTICE** is used to address practices not related to personal injury.

<div style="text-align: center; border-bottom: 1px solid black; padding-bottom: 5px;"> <span style="font-size: 2em;">⚠</span> <b style="font-size: 1.5em;">DANGER</b> </div>  <div style="padding: 5px;"> <p><b>⚠ Vapors from flammable liquids will explode and catch fire causing death or severe burns.</b> Do not use or store flammable products such as gasoline, solvents or adhesives in the same room or area near the water heater.</p> <p><b>Keep flammable products:</b></p> <ol style="list-style-type: none"> <li>1. far away from heater,</li> <li>2. in approved containers,</li> <li>3. tightly closed and</li> <li>4. out of children's reach.</li> </ol> <p><b>Water heater has a main burner and pilot flame. The pilot flame:</b></p> <ol style="list-style-type: none"> <li>1. which can come on at any time and</li> <li>2. will ignite flammable vapors.</li> </ol> <p><b>Vapors:</b></p> <ol style="list-style-type: none"> <li>1. cannot be seen,</li> <li>2. are heavier than air,</li> <li>3. go a long way on the floor and</li> <li>4. can be carried from other rooms to the pilot flame by air currents.</li> </ol> <hr style="width: 50%; margin: 5px auto;"/> <p><b>Installation:</b> Do not install water heater where flammable products will be stored or used unless the main burner and pilot flames are at least 18" above the floor. This will reduce, but not eliminate, the risk of vapors being ignited by the main burner or pilot flame.</p> <p>Read and follow water heater warnings and instructions. If owners manual is missing, contact the retailer or manufacturer.</p> </div>	<div style="text-align: center; border-bottom: 1px solid black; padding-bottom: 5px;"> <span style="font-size: 2em;">⚠</span> <b style="font-size: 1.5em;">DANGER</b> </div>  <div style="padding: 5px;"> <p><b>Water temperature over 125°F can cause severe burns instantly or death from scalds. Children, disabled and elderly are at highest risk of being scalded.</b></p> <p><b>See instruction manual before setting temperature at water heater.</b></p> <p><b>Feel water before bathing or showering.</b></p> <p><b>Temperature limiting valves are available, see manual.</b></p> </div>
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**PART 1 – PRODUCT AND SAFETY INFORMATION**

<b>⚠ WARNING</b>
<b>USER</b> – Have this appliance serviced/inspected by a qualified service technician annually.
<b>TO TURN OFF GAS TO THE APPLIANCE</b>
<ol style="list-style-type: none"> <li>1. Set the thermostat to the lowest setting.</li> <li>2. Turn off all electrical power to the appliance.</li> <li>3. Turn manual gas shutoff valve to “OFF”.</li> </ol>
Proper care of this appliance is the user’s / owner’s responsibility. The user / owner should carefully read and understand the Operating Information in this manual before operating this appliance.
It is the user / owner’s responsibility to know the location of the gas shut-off valve and how to operate it. Immediately close the gas shut-off valve if the appliance is subjected to fire, overheating, flood, physical damage, or any other damaging condition that might affect the operation of the unit. Have the appliance checked by a qualified technician before resuming operation.
DO NOT use this appliance if ANY part has been under water. Immediately call a qualified technician to inspect the appliance and replace any part of the control system or gas control which has been under water.
DO NOT power up the appliance unless the gas and water supply valves are fully opened. Make sure the fresh air intake pipe and exhaust vents are open and functional.
DO NOT attempt to install, repair, or service this appliance. Contact a qualified technician if the appliance needs repair or maintenance. Ask your gas supplier for a list of qualified service providers.
DO NOT use spray paint, hair spray, or any other flammable sprays near the appliance or near the exterior fresh air intake pipe termination. DO NOT place any items in or around the exterior exhaust vent termination and/or fresh air intake pipe that could restrict or block the flow in or out of the vent system.
All safety devices must be tested by the installer / service technician after the appliance is installed.
Always verify proper appliance operation with the service technician after servicing.
The gas ignition system components must be protected from water (dripping, spraying, rain, etc.) during appliance operation and service (circulator replacement, condensate trap, control replacement, etc.)
The Er:80 code will display when there is no water in the appliance. Ensure the appliance is full of water and all air has been purged from the system. Then manually reset the appliance to resume operation. If the Er:80 code displays again, call a qualified service technician to inspect the appliance.
This appliance features a factory installed overheating prevention device. This limit provides appliance shutdown in the event that the appliance water temperature exceeds the set point of the limit control. Certain local codes require additional water temperature limiting devices.
<b>FAILURE TO ADHERE TO THE GUIDELINES IN THIS MANUAL CAN RESULT IN SUBSTANTIAL PROPERTY DAMAGE, SEVERE PERSONAL INJURY, OR DEATH.</b>

**A. BEFORE OPERATION**

## 1. Check the Gas Type (NG/LP)

When operating the appliance for the first time, ensure the connected gas type matches that of the gas type of the appliance. Check whether the gas supplied is NG or LP. The appliance gas type is indicated on the rating plate on the side of the appliance.

**⚠ CAUTION**

Attempting to operate this appliance on a gas supply other than specified on the rating plate will result in improper appliance operation, and could result in property damage or personal injury.

## 2. Check the Power (120V 60Hz)

Ensure the appliance is connected to a properly rated power supply.

## 3. Check the Cold Water Inlet Valve

Ensure the cold water inlet valve to the domestic hot water (DHW) loop is open and providing the proper pressure. The appliance will not operate if there is insufficient water supply.

## 4. Check the Automatic Feed Valve

Ensure the automatic feed valve to the appliance is providing the proper pressure to the central heating (CH) loop.

## 5. Check the Gas Shut-Off Valve

Ensure the manual gas shut-off valve is open. The appliance will not operate unless it is supplied with gas.

## 6. Check the Area around the Appliance

Remove any combustible or flammable materials from the area around the appliance and do not hang anything from the exhaust vent pipe.

**⚠ DANGER**

Do not operate the appliance if its combustion air intake is located in or near one of the areas or in the vicinity of products listed in Table 1. These areas will always contain hazardous contaminants that can form strong acids while passing through the burner and vent system. These acids will corrode the appliance's heat exchanger, burner components and vent system, resulting in flue gas spillage and/or water leakage, possible substantial property damage, severe personal injury, or death. If the appliance combustion air intake is located in any area likely to cause or contain contamination, or if products which would contaminate the air cannot be removed, the intake must be re-piped and terminated to another location.

**DO NOT** re-pipe the combustion ventilation system on your own. Call a qualified service provider for assistance.

PRODUCTS TO AVOID	AREAS LIKELY TO HAVE CONTAMINANTS
Spray cans containing fluorocarbons	Dry cleaning/laundry areas and establishments
Permanent wave solutions	Swimming pools
Chlorinated waxes/cleaners	Metal fabrication plants
Chlorine-based swimming pool chemicals	Beauty shops
Calcium chloride used for thawing	Refrigeration repair shops
Sodium chloride used for water softening	Photo processing plants
Refrigerant leaks	Auto body shops
Paint or varnish removers	Plastic manufacturing plants
Hydrochloric or Muriatic acid	Furniture refinishing areas and establishments
Cements and glues	New building construction
Antistatic fabric softeners used in clothes dryers	Remodeling areas
Chlorine-type bleaches, laundry detergents, and cleaning solvents	Garages and workshops
Adhesives used to fasten building products	

**Table 1**

**B. DURING OPERATION**

## 1. Check for Gas Leaks

Frequently check the gas pipe and connections for leaks with a soapy solution. If air bubbles appear during the test, gas is leaking. Close the gas supply valve and call your gas supplier for inspection.

**⚠ WARNING**

After any repair of the gas pipeline or replacement of the gas regulator, call a qualified service technician to observe the installation and replacement before restoring power to the appliance. Failure to do so could result in a fire or explosion, substantial property damage, severe personal injury, or death.

2. Check Exhaust Vent and Intake Pipe for Proper Ventilation  
Ensure there is sufficient ventilation while operating the appliance. Improper ventilation could result in premature appliance failure. Such failures ARE NOT covered by appliance warranty.

### **⚠ WARNING**

Exhaust gas entering the living space can cause carbon monoxide poisoning. If exhaust gas should leak into the living space:

- Shut down the appliance.
- Close the gas valve.
- Open windows for ventilation.
- Ensure that the CO detectors are operating properly.


Immediately call a qualified service technician to inspect the appliance and exhaust vent pipe. Any damages to the exhaust vent pipe should be repaired immediately. Failure to do so could result in substantial property damage, severe personal injury, or death.

3. Burn Warning

Take caution when inspecting the appliance and its internal components, exhaust vent, and/or water pipes. These components can get extremely hot during appliance operation.

4. Combustibles and Flammable Material Warning

Do not store combustibles or flammable materials in the vicinity of this appliance. Do not hang anything from the exhaust pipe.

<b>⚠ WARNING</b>	
<b>Breathing Hazard - Carbon Monoxide Gas</b>	
	<ul style="list-style-type: none"> <li>• Do not operate heater if flood damaged.</li> <li>• Install vent system in accordance with local codes and manufacturers installation instructions.</li> <li>• Do not obstruct heater air intake or exhaust. Support all vent piping per manufacturers installation instructions.</li> <li>• Do not place chemical vapor emitting products near unit.</li> <li>• According to NFPA 720, carbon monoxide detectors should be installed outside each sleeping area.</li> <li>• Never operate the heater unless it is vented to the outdoors.</li> <li>• Analyze the entire vent system to make sure that condensate will not become trapped in a section of vent pipe and therefore reduce the open cross sectional area of the vent.</li> </ul>
<p><b>Breathing carbon monoxide can cause brain damage or death. Always read and understand instruction manual.</b></p>	
<small>LP-304 4/28/09</small>	

### **⚠ WARNING**

Storing flammable or combustible materials near this appliance could result in a fire or explosion, substantial property damage, severe personal injury, or death.

5. Check for Water Leaks

- Do not attempt to clean the heating system. Call a qualified service technician for service.
- If you notice any leaks, immediately call a qualified service technician. Leaks in appliance or piping must be repaired at once.

### **C. TROUBLESHOOTING AND GENERAL CAUTIONARY STATEMENTS**

DO NOT use this appliance for any purposes other than those specifically described by HTP, Inc (to provide central heating and domestic hot water). Using this appliance for unapproved purposes WILL VOID the warranty, and could result in property damage, serious personal injury, or death.

### **CAUTION**

Ensure each zone valve connected to the appliance is open while the appliance is operating. Doing so ensures proper heating system operation.

### **⚠ WARNING**

DO NOT wipe the appliance or control panel with a wet cloth. Doing so may result in an electric shock, substantial property damage, premature appliance failure, severe personal injury, or death.

### **⚠ WARNING**

Ensure the exposed water pipes are thermally insulated to prevent damage due to freezing conditions. If the appliance is not to be used for a period of time during freezing conditions, leave the zone valves open. The circulation pump will keep water circulating and provide some freeze protection. If the appliance is not to be used for an extended period of time during freezing conditions, consider shutting down the system and draining it of water.

If the water pipes should freeze thaw the pipes with a hair dryer or other electric heating device. If this does not work, call a qualified service technician.

Failure to provide freeze protection could result in substantial property damage due to burst pipes, personal injury, or death.

## **WARNING**

Hydronic systems that use glycol as heat transfer fluid must be serviced periodically. Glycol can break down over time, become acidic, and attack gaskets and seals in appliances. This can result in property damage, severe personal injury, or death.

Each glycol manufacturer has different recommendations for testing and replacement. Do not test glycol quality yourself. Have your qualified service technician check glycol quality during annual servicing. If you are unsure when your glycol was last tested, call a qualified service technician to test and replace glycol, if necessary.

If the appliance is not to be used for an extended period of time during freezing conditions, consider shutting down the system and draining it of water. Shut off the gas and cold water supply valves.

## **WARNING**

DO NOT attempt to disassemble this appliance. Doing so could result in improper appliance operation or premature appliance failure, substantial property damage, and/or severe personal injury or death due to electric shock, fire, or explosion. If repairs are required, contact a qualified service technician.

## **CAUTION**

DO NOT touch the exhaust vent pipe. Doing so could result in substantial personal injury.

## **DANGER**

Be careful when opening a hot water faucet or draining water from the appliance. Water temperature over 125°F can instantly cause severe burns, or death, from scalds. Children, disabled, and elderly are at the highest risk of being scalded. See instruction manual before setting temperature at appliance. Feel water before bathing or showering!

### APPROXIMATE TIME / TEMPERATURE RELATIONSHIPS IN SCALDS

120°F	More than 5 minutes
125°F	1 ½ to 2 minutes
130°F	About 30 seconds
135°F	About 10 seconds
140°F	Less than 5 seconds
145°F	Less than 3 seconds
150°F	About 1 ½ seconds
155°F	About 1 second

## **PART 2 – MAINTENANCE**

### **A. SERVICE TECHNICIAN**

The following maintenance should be performed by a qualified service technician annually:

#### **General**

- Attend to any reported problems.
- Inspect the interior of the appliance cabinet area; clean and vacuum if necessary.
- Clean the condensate trap and fill with fresh water.
- If applicable, check the condensate neutralizer and ensure it is full of condensate neutralizing marble chips.
- Check for leaks: Water, gas, flue and condensate.
- Verify exhaust vent and intake piping are in good condition and sealed tight.
- Check exhaust vent and intake pipe bracing. Ensure bracing is undamaged and in good condition.
- Check appliance water pressure, piping and expansion tank.
- Check control settings.
- Check ignition electrode. Sand off any white oxide. Clean and reposition.
- Check ignition and ground wiring.
- Check all control wiring and connections.
- Check burner flame pattern (stable and uniform).

#### **Additional Items if Combustion or Performance is Poor**

- Clean heat exchanger and flue ways.
- Remove burner assembly and clean burner head using compressed air only.

Once the maintenance items are completed, the service technician should review service with the owner.

### **B. OWNER MAINTENANCE**

#### **Periodically**

- Check area around the appliance.

- Check and remove any blockage from the outdoor exhaust vent and intake pipe terminations. **DO NOT** perform this maintenance if exhaust vent and intake pipe terminations are in difficult to reach locations.
- Check the CH and DHW loop pressure gauges. Normal CH pressure will range from 15 – 30 psi. Normal DHW pressure will range from 20 – 150 psi. Appliance will not operate if pressure is lower than 15 psi.

#### Monthly

- Check exhaust vent and intake piping.
- Check exhaust vent and intake pipe bracing. Ensure bracing is undamaged and in good condition.
- Check the pressure relief valve.
- Check the condensate drain system.
- If applicable, check the condensate neutralizer and ensure it is full of condensate neutralizing marble chips.

#### Every 6 Months

Check appliance piping and gas supply piping for corrosion or signs of potential leakage.

## PART 3 – MAINTENANCE PROCEDURES

### DANGER

The appliance must be inspected and serviced annually, preferably at the start of the heating season, by a qualified service technician. In addition, the maintenance and care of the appliance as outlined in this manual must be performed by the user/owner to assure maximum efficiency and reliability. Follow the maintenance procedures given throughout this manual. Failure to perform the service and maintenance or follow the directions in this manual could damage the appliance or system components, resulting in substantial property damage, severe personal injury, or death.

#### A. DAILY MAINTENANCE – TO BE PERFORMED BY OWNER

##### Check the Surrounding Area

### DANGER

To prevent the potential of substantial property damage, severe personal injury, or death, eliminate all the materials listed in Table 1 from the area surrounding the appliance and the vicinity of the combustion air intake. If contaminants are found:

- Remove products immediately from area.
- If contaminants have been there for an extended period, call a qualified service technician to inspect the appliance for possible damage from acid corrosion.

If products cannot be removed, immediately call a qualified service technician to re-pipe the combustion air intake piping away from the contaminated areas.

##### Combustible/Flammable Materials

Do not store combustible materials, gasoline, or other flammable vapors or liquids near the appliance. If found, remove these materials immediately.

##### Air Contaminates

If allowed to contaminate combustion air, products containing chlorine or fluorine will produce acidic condensate that will cause significant damage to the appliance. Read the list of potential contaminants and areas likely to have these contaminants in Table 1. If any of these contaminants are in the room where the appliance is located, or combustion air is taken from one of the areas listed, the contaminants must be removed immediately or the intake pipe must be relocated to another area.

##### Ensure the Appliance Cabinet is Closed

Ensure the appliance cabinet is closed. Tighten the upper screw to secure it. The cabinet must be closed while the appliance is running.

##### Check the Power Source

Make sure the power cord is properly connected. The main power line is connected to the manual switch box inside the appliance.

##### Check the Status of the Control Panel

Observe the Control Panel to ensure the appliance is powered on, and to check for any error codes. Clear any debris from the panel.

##### Check Exhaust Vent and Intake Pipe Terminations

Verify that the appliance exhaust vent and intake pipe terminations are clean and free of obstructions. Remove any debris from the exhaust vent or intake pipe openings. If removing the debris does not allow the appliance to operate correctly, contact your qualified service technician to inspect the appliance and the vent system.



**Check Pressure Gauges**

- Check the CH and DHW loop pressure gauges.
- Normal CH pressure will range from 15 – 30 psi.
- Normal DHW pressure will range from 20 – 150 psi.
- Appliance will not operate if pressure is lower than 15 psi.
- Higher pressure readings may indicate a problem with the expansion tank.
- Contact a qualified service technician if pressures are low or high, or there is an issue with appliance operation.

**B. MONTHLY MAINTENANCE – TO BE PERFORMED BY OWNER****Check Exhaust Vent and Intake Piping**

Visually inspect the exhaust vent for any signs of blockage, leakage, or deterioration of the piping. Inspect the exhaust vent bracing. Ensure bracing is undamaged and in good condition. Notify a qualified service technician immediately if any problems are found.

** WARNING**

Failure to inspect the venting system and have it repaired by a qualified service technician can result in vent system failure, causing severe personal injury or death.

Visually inspect the intake piping for any signs of blockage. Inspect the entire length of the intake pipe to ensure piping is intact and all joints are properly sealed. Inspect the intake pipe bracing. Ensure bracing is undamaged and in good condition. Notify a qualified service technician if any problems are found.

**Check Pressure Relief Valves**

- Visually inspect the primary pressure relief valves and discharge pipes for signs of weeping or leakage.
- If pressure relief valves often weep, the expansion tank may not be operating properly. Immediately contact a qualified service technician to inspect the appliance and system.

**Check Vent Condensate Drain System**

- While the appliance is running, check the discharge end of the condensate drain tubing. Ensure no flue gas is leaking from the condensate drain tubing by holding your fingers near the opening.
- If you notice flue gas leaking from the opening, this indicates a dry condensate drain trap. If problem persists, contact a qualified service technician to inspect the appliance and condensate line and refill the condensate trap.
- If applicable, check the condensate neutralizer and ensure it is full of condensate neutralizing marble chips.

**C. 6 MONTH MAINTENANCE – TO BE PERFORMED BY OWNER****Check Primary and Gas Piping**

- Remove the appliance cover and perform a gas leak inspection following Operating Instructions, page 2, this manual. If gas odor or leak is detected, follow procedures on page 2. Call a qualified service technician.
- Visually inspect for leaks around the internal appliance water connections and around the heat exchanger. Visually inspect the external system piping, circulators, and system components and fittings. Immediately call a qualified service technician to repair any leaks.

** WARNING**

Have leaks fixed at once by a qualified service technician. Failure to comply could result in substantial property damage, severe personal injury, or death.

**Operate Pressure Relief Valves**

- Before proceeding, verify that the relief valve outlets have been piped to a safe place of discharge, avoiding any possibility of scalding from hot water.

** WARNING**

To avoid water damage or scalding due to relief valve operation, a discharge line must be connected to the valve outlet and directed to a safe place of disposal. This discharge line must be installed by a qualified service technician or heating/plumbing installer in accordance with the appliance installation manual. The discharge line must be terminated so as to eliminate possibility of severe burns or property damage should the valve discharge.

- Read the pressure gauges to ensure the system is pressurized. Check the CH and DHW loop pressure gauges. Normal CH pressure will range from 15 – 30 psi. Normal DHW pressure will range from 20 – 150 psi. Appliance will not operate if pressure is lower than 15 psi.
- Lift the relief valve top lever slightly, allowing water to relieve through the valve and discharge piping.
- If water flows freely, release the lever on the pressure relief valve and allow the valve to seat. Watch the end of the relief valve discharge pipe to ensure that the valve does not weep after the line has had time to drain. If the valve weeps, lift the lever

- again to attempt to clean the valve seat. If the valve does not properly seat and continues to weep, contact a qualified service technician to inspect the valve and system.
- Repeat the process on the other valve.
  - If water does not flow from the valve when you completely lift the lever, the valve or discharge line may be blocked. Immediately shut the appliance down per instructions on page 2 and call a qualified service technician to inspect the valve and system.

**D. ANNUAL MAINTENANCE – ONLY TO BE PERFORMED BY A QUALIFIED SERVICE TECHNICIAN**

**Flushing the Appliance**

Flushing the appliance heat exchanger and CH/DHW loops are complicated procedures that should only be performed by a qualified service technician.

**NOTE:** Improper maintenance WILL VOID appliance warranty.

**PART 4 – TROUBLESHOOTING**

To save time and money, review the following initial diagnostic steps before calling for service.

TROUBLESHOOTING CHART		
PROBLEM	POSSIBLE CAUSES	POSSIBLE REMEDIES
No electrical power to the appliance	<ol style="list-style-type: none"> <li>1. Is the plug on the power supply cord unplugged from the electrical outlet?</li> <li>2. Is electrical panel’s 15 Amp circuit breaker tripped?</li> <li>3. Is the fuse on the circuit board good?</li> <li>4. Is there a power outage to the home?</li> </ol>	<ol style="list-style-type: none"> <li>1. Reset the plug.</li> <li>2. Reset the circuit breaker.</li> <li>3. If the display panel is blank, unplug the unit or contact an authorized service technician.</li> <li>4. Contact the power company.</li> </ol>
No water available when a faucet is opened	<ol style="list-style-type: none"> <li>1. Is the water supply valve shut off at the meter (do cold water faucets work)?</li> <li>2. Is the water supply valve near the unit open?</li> <li>3. Is the water pipe frozen?</li> <li>4. Is an error code flashing on the display panel (leak detected)?</li> </ol>	<ol style="list-style-type: none"> <li>1. Open the closed supply valve.</li> <li>2. Open the water supply valve.</li> <li>3. Turn OFF the unit, close all water valves and the gas valve. Contact an authorized service technician.</li> <li>4. Refer to error code information and contact an authorized service technician.</li> </ol>
Hot water is not available when the faucet is opened.	<ol style="list-style-type: none"> <li>1. Does the appliance have power (plugged in)?</li> <li>2. Is the appliance turned ON?</li> <li>3. Is an error code flashing on the display panel?</li> <li>4. Is the gas supply valve open or shut off at the meter (do other gas devices work)?</li> </ol>	<ol style="list-style-type: none"> <li>1. Restore electrical power to the unit.</li> <li>2. Press and hold the <b>Power</b> button to turn the unit ON.</li> <li>3. Refer to the Diagnostic and Error Codes section in this manual.</li> <li>4. Open the gas supply valve.</li> </ol>
The water temperature is not hot enough or turns cold during use.	<ol style="list-style-type: none"> <li>1. Is the faucet open enough to draw at least 0.6 gallons (2.3L) per minute through the appliance?</li> <li>2. Is an error code flashing on the display panel?</li> <li>3. Is the outlet water temperature set too low?</li> </ol>	<ol style="list-style-type: none"> <li>1. Open the faucet to allow more water flow.</li> <li>2. Refer to the Diagnostic and Error Codes section in this manual.</li> <li>3. Adjust the outlet water temperature.</li> </ol>
It takes a long time before hot water flows from the faucet.	Is the faucet some distance from the appliance?	<ol style="list-style-type: none"> <li>a. Allow time for the cold water already in the pipes to flow from the faucet.</li> <li>b. Have recirculation valves and/or plumbing return line(s) installed and program the unit for recirculation mode.</li> </ol>
The water at the faucet is too hot.	Is the water temperature set too high?	Adjust the temperature setting.
A fan can be heard even when the unit is not operating.	<ol style="list-style-type: none"> <li>1. The fan continues to operate for one minute after the burner shuts off to clear the exhaust vent of combustion gases.</li> <li>2. The fan may run to help prevent freezing.</li> </ol>	<ol style="list-style-type: none"> <li>1. This is normal operation – no action is required.</li> <li>2. Protect the appliance from freezing temperatures or shut off and drain the unit.</li> </ol>
White “smoke” can be seen coming out of the exterior exhaust gas vent.	Depending on the outside temperature, water vapor can be produced as the exhaust is vented.	This is normal operation – no action is required.

**Table 2 – Troubleshooting Chart**

** WARNING**

This appliance is equipped with a blocked vent shutoff system. If Error Codes Er:20, Er:29, or Er:41 occur, turn off the gas valve at the manual shutoff. Check the vent terminations for obstructions. If no obstructions are found, reset the appliance by pressing the power button. If the error continues to occur, call a qualified service technician or the gas supplier to check the appliance. Failure to follow these instructions could result in property damage, personal injury, or death.



