

USER'S INFORMATION MANUAL

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 or use 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 performed by a qualified installer, service agency or the gas supplier.

1 - GENERAL

1.1 General

This boiler has few user serviceable parts. Maintenance and Service must be completed by qualified agency.

WARNING

Fire, explosion, asphyxiation and electrical shock hazard. Improper maintenance and service could result in death or serious injury. Read this manual and understand all requirements, including use of qualified agency where directed.

1.2 Become familiar with symbols identifying potential hazards.



This is the safety alert symbol. Symbol alerts you to potential personal injury hazards. Obey all safety messages following this symbol to avoid possible injury or death.

DANGER

Indicates a hazardous situation which, if not avoided, WILL result in death or serious injury

WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

Used to address practices not related to personal injury.

1.3 What To Do Should Overheating Occur

Do not turn off or disconnect electrical supply to boiler and pumps. Shut off gas supply at location external to appliance.

1.4 What To Do If Boiler Or Any Part Has Been Under Water

Do not use boiler if any part has been under water. Immediately call a qualified service technician to inspect boiler and to replace any part of control system and any gas control which has been under water.

2 - OPERATING INSTRUCTIONS

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.

- This appliance is equipped with an ignition device which automatically lights burner. **Do NOT try to light this burner by hand.**
- Before operating smell all around appliance area for gas. Be sure to smell next to floor because some gas is heavier than air and will settle to the floor.
- **Use only your hand to turn the gas shutoff valve.** Never use tools. If valve will not turn by hand, do not try to repair it, call a qualified service technician. Force or attempted repair may result in fire or explosion.
- **Do not use this appliance if any part has been under water.** Immediately call a qualified service technician to inspect appliance and to replace any part of control system and any gas control which has been under water.

10.1 OPERATING INSTRUCTIONS

Stop! Read Safety information above.

- Set thermostat to lowest setting.
- Turn "**OFF**" all electrical power to appliance.
- This appliance is equipped with an ignition device which automatically lights the burner. **Do not try to light burner by hand!**
- Turn gas shutoff valve  to closed position. Handle should be perpendicular to gas pipe.
- Wait 5 minutes for any gas to clear. Smell for gas, including near floor. If you smell gas, **STOP!** Follow instructions on this page: "**What To Do If You Smell Gas.**" If you do **not** smell gas, go to next step.
- Turn gas shutoff valve  to open position. Handle should be parallel to gas pipe.
- Turn "**ON**" electrical power to appliance.
- Set thermostat to desired setting.
- If the appliance will not operate, follow instructions TO TURN OFF GAS TO APPLIANCE and call your service technician or gas supplier.

⚠ CAUTION

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.

10.2 TO TURN OFF GAS TO APPLIANCE


- Set thermostat to lowest setting.
- Turn "**OFF**" all electric power to appliance if service is to be performed.
- Turn gas shutoff valve handle  to closed position. Handle should be perpendicular to gas pipe.

Figure 1 Gas Shutoff Valve - Open Position

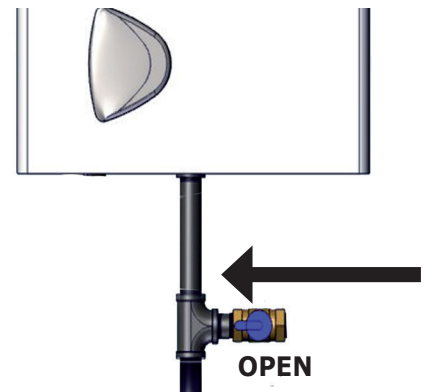
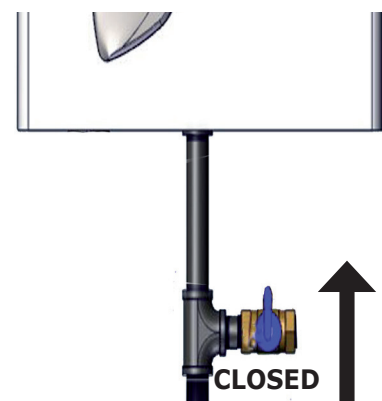


Figure 2 Gas Shutoff Valve - Closed Position

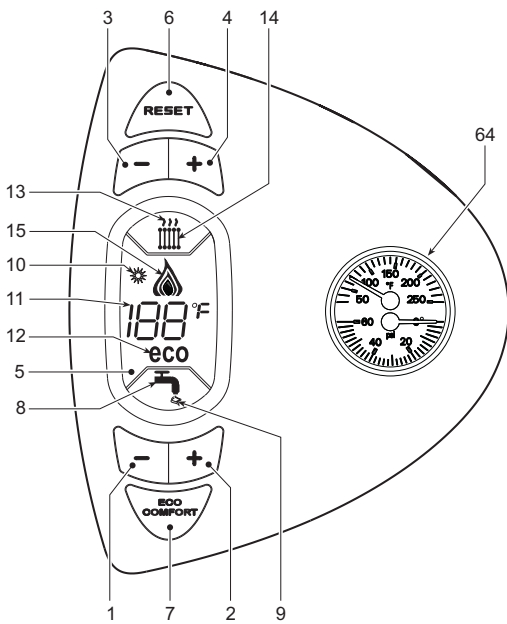


3 - CONTROL MODULE

Checks During Operation

- Boiler is arranged for connection to an external storage tank for hot water production (optional). All functions relevant to domestic hot water production are only active with the optional water tank connected.
- Check for leaks in piping systems. Correct immediately if found.
- Check the efficiency of the flue gases and combustion air ducts while the boiler is working.
- Check water is circulating between boiler and systems.
- Verify the gas valve modulates correctly in both heating and hot water production phases.
- Check proper ignition of the boiler by turning it on and off with the room thermostat.
- Check parameters are programmed correctly and perform any required customization (compensation curve, power, temperatures, etc.)

Control Panel



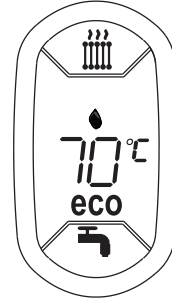
Key

- 1 = DHW temperature setting decrease button
- 2 = DHW temperature setting increase button
- 3 = Heating system temperature setting decrease button - CH
- 4 = Heating system temperature setting increase button - CH
- 5 = Display
- 6 = Summer/Winter mode selection - Reset button
- 7 = Unit On/Off - Economy/Comfort mode selection button
- 8 = DHW symbol
- 9 = DHW mode
- 10 = Summer mode
- 11 = Multifunction - Temperature
- 12 = Eco (Economy) mode
- 13 = Heating
- 14 = Heating symbol
- 15 = Burner On and actual power
- 64 = C.H. temperature pressure gauges

Indicator During Operation

Heating

Call for heat (generated by Room Thermostat) is indicated by hot air flashing above radiator symbol on the control.



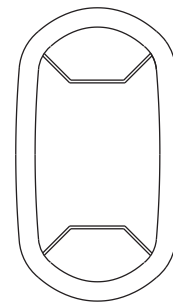
Hot water

Call for hot water is generated by Indirect tank sensor. Indicated by hot water flashing under the tap on the control. Only available when optional Indirect Sensor kit is installed.



Turning on and off

NO electrical power to the boiler

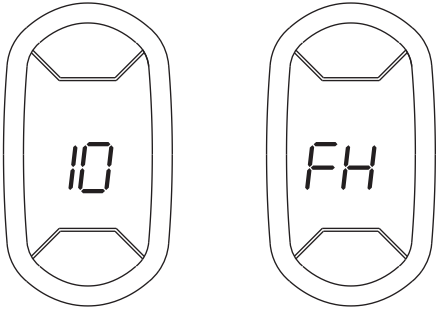


The antifreeze system does not work when power and/or gas to the unit are turned off. To avoid damage caused by freezing during long idle periods in winter, it is advisable to drain all water from the boiler, DHW circuit and system; or drain just the DHW circuit and add a suitable antifreeze to the heating system. See Section 5.2 page 11 of Installation Operation and Maintenance Manual.

3 - CONTROL MODULE

Boiler Ignition

Supply unit with electricity.



Boiler ignition

For 120 seconds display will show FH which identifies the air venting cycle for the heating system.

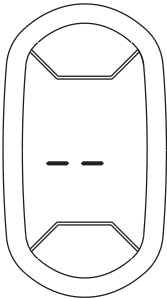
During the first 5 seconds the display will show the software release of the card also.

Open the gas valve before the boiler.

When FH vanishes, boiler is ready to automatically work whenever room thermostat or optional indirect tank sensor requests heating.

Turning the boiler off

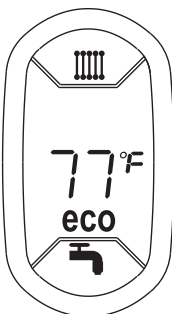
Press the button below (see item 7 on the control panel display) for 5 seconds.



When the boiler is turned off, the electronic board is still powered.

Domestic hot water and heating operation are disabled. The antifreeze system remains activated.

To re-light the boiler, press the button (see item 7 on the control panel display) again for 5 seconds.



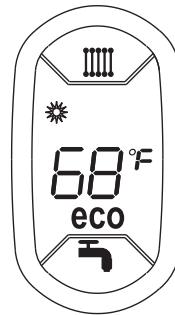
Boiler will be immediately ready to operate whenever domestic hot water is drawn or room thermostat demand.

Summer/Winter Switchover

NOTICE

Activating this button will keep your boiler from operating. Verify that boiler is not required to run Domestic Hot Water (DHW) needs.

Press the button for 2 seconds.



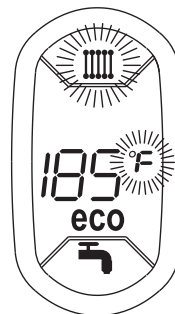
Display will activate Summer symbol (see item 10 on the control panel display).

Antifreeze system stays on.

To turn off Summer mode, press button again for 2 seconds.

Heating temperature setting

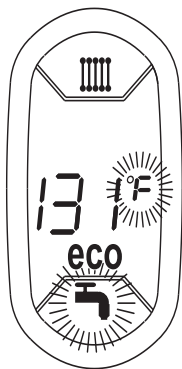
Use heating buttons (see items 3 and 4 on the control panel display) to change the temperature from minimum of 86°F (30C) to a maximum of 185°F (85C); it is advisable to not operate boiler below 113°F (45C).



Domestic hot water temperature adjustment

Operate DHW buttons (see items 1 and 2 on the control panel display) to vary the temperature from a minimum of 50°F (40C) to a maximum of 149°F (55C).

4 - CONTROL MODULE



ECO/COMFORT selection

The unit has a function that ensures a high domestic hot water delivery speed and maximum comfort for the user. When the device is activated (COMFORT mode), the water contained in the boiler remains hot, ensuring faster availability of domestic hot water.

Hot water tank exclusion (economy) The device can be deactivated by the user (ECO mode) by pressing the **eco/comfort** button (see item 7 on the control panel display). To activate the COMFORT mode, press the **eco/comfort** button (see item 7 on the control panel display) again.

Outdoor temperature

- When the optional external probe is installed, the boiler control system operates with "Sliding Temperature". In this mode, the temperature of the heating system is controlled according to the outside weather conditions, in order to ensure high comfort and energy saving throughout the year. As the outside temperature increases the system delivery temperature decreases according to a specific "compensation curve".
- With Outdoor Temperature adjustment, the temperature set with the heating buttons (see items 3 and 4 on the control panel display) becomes the maximum system delivery temperature. It is advisable to set the maximum value to allow system adjustment throughout its useful working range.
- The boiler must be adjusted at the time of installation by qualified personnel. Adjustments can in any case be made by the user to improve comfort.

5 - TROUBLE SHOOTING

Diagnostics

Boiler is equipped with advanced self-diagnosis system. In case of boiler fault, display will flash indicating the fault code. Faults that cause permanent shutdown (marked with letter "A"): to restore operation press the RESET button for 1 second or RESET; if boiler fails to start, it is necessary to first eliminate the fault.

Faults (marked with letter "F") cause temporary shutdowns that are automatically reset as soon as value returns within boiler's normal working range.

Table of faults

- List of faults

Fault code	Fault	Possible cause	Cure
A01	No burner ignition	No gas	Check the regular gas flow to the boiler and that the air has been eliminated from the pipes
		Ignition/detection electrode fault	Check the wiring of the electrode and that it is correctly positioned and free of any deposits
		Faulty gas valve	Check the gas valve and replace it is necessary
		Ignition power too low	Adjust the ignition power
A02	Flame present signal with burner off	Electrode fault	Check the ionisation electrode wiring
		Card fault	Check the card
A03	Overtemperature protection activation	Heating sensor damaged	Check correct heating sensor positioning and operation
		No water circulation in the system	Check the circulating pump
		Air in the system	Vent the system
F05	The air pressure transducer does not receive a sufficient minimum value within 25 seconds	Incorrect air pressure transducer wiring	Check the wiring
		Flue not correctly sized or obstructed	Check the length of flue and that it is clean
A06	No flame after the ignition stage	Low pressure in the gas system	Check the gas pressure
		Burner minimum pressure setting	Check the pressures
F10	Delivery sensor 1 fault	Sensor damaged	Check the wiring or replace the sensor
		Wiring shorted	
		Wiring disconnected	
F11	DHW sensor fault	Sensor damaged	Check the wiring or replace the sensor
		Wiring shorted	
		Wiring disconnected	
F14	Delivery sensor 2 fault	Sensor damaged	Check the wiring or replace the sensor
		Wiring shorted	
		Wiring disconnected	
A15	Air signal protection activation	Fault F05 generated 5 times in the last 15 minutes	See fault F05
F34	Supply voltage under 170V.	Electric mains trouble	Check the electrical system
F35	Faulty mains frequency	Electric mains trouble	Check the electrical system
F37	Incorrect system water pressure	Pressure too low	Fill the system
		Sensor damaged	Check the sensor
F39	External probe fault	Probe damaged or wiring short circuit	Check the wiring or replace the sensor
		Probe disconnected after activating the sliding temperature	Reconnect the external probe or disable the sliding temperature
A41	Sensor positioning	Delivery sensor detached from the pipe	Check correct heating sensor positioning and operation
F42	Heating sensor fault	Sensor damaged	Replace the sensor
F43	Exchanger protection activation.	No system H ₂ O circulation	Check the circulating pump
		Air in the system	Vent the system
A44	DHW sensor disconnected	Sensor disconnected	Check the correct positioning and operation of the DHW sensor.
A48	Air signal protection activation	Fault F05 for 150 seconds	See Fault F05
F50	Modulation regulator fault	Wiring disconnected	Check the wiring
F51	Low water cutoff warning	Pressure too low	Fill the system
		Low water cutoff damaged	Check the contact

6 - GENERAL MAINTENANCE AND CLEANING

Beginning of Each Heating Season

- Check boiler area is free from combustible materials, gasoline, and other flammable vapors and liquids.
- Visually inspect combustion air and vent piping for proper operation. Check for and remove any obstruction to flow of combustion air or vent gases. Contact qualified agency, as necessary.
- Test safety relief valve for proper operation. Refer to valve manufacturer's instructions packaged with relief valve.
- Circulator pump and combustion air blower motor furnished with boiler are permanently lubricated from factory and require no further lubrication. Lubricate field sourced pumps and/or motors according to pump and/or motor manufacturer's instruction.
- Check following components are operating properly and are free of blockages or obstructions:
 - Check air vent(s) for leakage.
 - Check air inlet for blockage and clean as required;
 - Inspect system piping for leaks. Contact qualified agency, as necessary.
 - Check heating system expansion tank.
 - Check the Air pressure tubing

Annual Shut Down Procedure

- Follow instructions "To Turn Off Gas To Appliance" unless boiler is also used to supply domestic hot water. See section 2, page 3.
- Drain system completely if system does not have antifreeze when heating system is to remain out of service during freezing weather.

WARNING

Following service procedures must be performed by qualified service agent. Boiler owner shall not attempt these steps. Failure to do so could result in death or serious injury.

11.3 Annual Inspection and Cleaning of Boiler Components

- Burner and heat exchanger inspection and cleaning.
 - Remove any remaining loosened sediment using shop vacuum with snorkel attachment.

Installer Information

Name:	
Address:	
Phone:	Email: