USER MANUAL

1. INTRODUCTION

The QUANTUM HEATSAVER is a high efficiency, condensing boiler. Therefore, up to 92% of heat available from the gas will be used for the heating of radiators and hot water.

Water vapour is produced during the combustion of gases. Some of this water vapour, called condensate, must be drained to outside the building in a plastic pipe.

The exhaust from the boiler is relatively low temperature (approx. 40°C to 80°C) white plume. This plume is caused by water vapour in the flue products and occurs during the normal operation of the boiler, especially during cold weather.

The QUANTUM HEATSAVER uses an electric spark to light the gas in the burner each time the boiler is required for heating. The lighting and operation of the boiler are fully automatic.

The boiler uses a low N0x, premix burner. This burner produces extremely low levels of N0x in comparison to conventional boilers.

2. IMPORTANT INFORMATION

- The law stipulates that all gas appliances should be installed in accordance with the gas safety (Installation and Use) regulations 1984 (as amended), by a competent person.
- In the event of a suspected gas leak or fault, switch off the boiler and isolate the gas supply. Contact your local regional British Gas or your service engineer.
- The QUANTUM HEATSAVER requires very little maintenance. However, we recommend that the boiler be serviced at regular intervals by a competent person to maintain the high efficiency operation. Once per year is adequate.
- Keep flame and heat sources clear of the plastic air and flue pipes.
- The boiler contains an inner enclosure inside the main door of the boiler. Do not attempt to gain access to this enclosure.
- For the efficient use of the Quantum Heatsaver we recommend that it be controlled with a time clock and a room thermostat.

3. MINIMUM CLEARANCES

The following minimum clearance spaces must be allowed around the boiler:

TOP: 200mm – (7.9”)
BOTTOM: 200mm – (7.9”)
LEFT SIDE: 15mm – (0.6”)
RIGHT SIDE: 15mm – “0.6”)
FRONT: 520mm – (20.5”)

These clearances must be provided for safe operation and subsequent servicing of the appliance.

4. GENERAL CHECKS

- Ensure that any purpose provided for safe operation and subsequent servicing of the appliance.
- If boiler is installed in a compartment, do not use the compartment for storage purposes.
- Periodically check that the air inlet and flue outlet terminals, outside the building are not obstructed.
- If accessible, ensure that the condensate drain exit is kept clear of obstruction.

5. CHECK CARD

The check lights (located on the front of the check card) are located on the front of the electrical component box. They are labelled “Power In”, “Thermostats”, “Gas/Air Flow”, “Water Flow”, “Flame” and “Pre-purge/Lockout”. Their purpose is to show whether the boiler runs through its correct start up sequence. If the boiler fails to fire (and locks out) then the check lights indicate the location of the fault.

- The “Power In” light indicates that there is power to the boiler.
- The “Thermostats” light indicates whether there is power through the thermostats on the boiler.

The “Gas/Air Flow” light indicates whether the boiler is receiving the correct airflow on the 50 and 60 models and on the 80 and 100 models indicates that the boiler has sufficient gas pressure and airflow.

- The “Water Flow” light indicates whether there is sufficient water flow through the boiler.
- The “Flame” light indicates whether the boiler has fired.
- The “Pre-purge/Lockout” light comes on for a few seconds while the boiler pre-purges. If this is a fault with the boiler this light stays on.

6. TO START THE BOILER

The following procedure should be followed to start the boiler:

1. Open the main door of the boiler.
2. Ensure that the gas and water supplies to the boiler are open.
3. Ensure that the external controls are calling for the heat. Setting the room thermostat to its highest setting to ensure that there is power to the boiler can do this. The thermostat can then be adjusted to its normal setting (approx. 18 - 21°C).
4. Switch on the boiler by turning the thermostat knob fully anti-clockwise to position 4.

5. After approximately 4 to 8 seconds the burner will fire and the “Pre-Purge/Lockout” light will go out. Check light “Flame” will light up indicating that the boiler has fired and is producing a flame.

7. BOILER FAILS TO LIGHT

- If the boiler fails to light and only the “Power In” light is on, firstly try resetting the red button (flue overheat thermostat) under the electrical box.
- If the burner fails to light and the boiler goes to ‘lockout’ then check “Pre-purge/Lockout” will be on.
- If this happens turn the boiler thermostat knob to 0, wait for 10 seconds before turning it back to 4.
- If the burner fails to light after several attempts switch off the boiler and turn off the gas supply. Contact your local Quantum installer and let them know which of the check lights are on and which are off. Do not attempt to use the appliance until the fault has been corrected.

7.1 LOCKOUT

Lockout will occur:

1. If there is an appliance our heating fault.
2. Possibly when lighting up after a long period without use. In this case simply repeat the lighting procedure until the burner fires.

If the burner fires and again goes to lockout, provided routine (i.e. once per year) maintenance is made, this should not normally occur except in the following cases:

1. The flue or airways become obstructed causing the airflow to the boiler to become restricted. This is identified by the “Gas/Air Flow” check light. The boiler firing sequence automatically stops at this time.
2. The water flow to the boiler becomes restricted. This can be caused by water leak. It is indicated by the failure of the “Water Flow” light. The boiler firing sequence automatically stops at this time.

As the user you can ensure that the flue and air pipe terminals are not obstructed and that the system is full of water. To check the water in the system:

1. On sealed system, check the reading on the pressure gauge. This should read between 0.5 bar and 2.5 bar. If not, check for leaks and recharge the heating system.
2. On open systems, check that there is water in the top up tank. If not, check for leaks and top up the tank.

When checked and rectified if necessary, and if lockout persists then turf off the electricity supply and call the service engineer. Identify the status of the check lights.

IMPORTANT

As well as any external controls such as room thermostats, the boiler incorporates two thermostatic controls. These controls turn the boiler on or off to match the heating demand. However, rapid cycling on and off indicates that the heating system may be incorrectly adjusted. While this is not a fault in itself we recommend that your installer investigate it.

8. SHUTTING DOWN THE BOILER

8.1 Shutting down for short periods of time

- Turn the boiler thermostat to 0.

8.1 Shutting down for long periods of time

- Turn the boiler thermostat to 0.
- Turn off the gas.

9. FROST PRECAUTIONS

During cold periods your boiler and system must be protected against frost if the boiler is to be out of use for long periods. Precautions against frost, which may be considered, include:

1. Installing a frost thermostat. A frost thermostat will fire the boiler to prevent freezing when the temperature drops below a certain level.
2. Leaving the boiler on, with the thermostat at a low setting.
3. Leaving the boiler control thermostat at its normal setting and adjusting the room thermostat to its lowest setting.
4. Turning off the electricity and gas supplies and draining the entire system, i.e. central heating and hot water, all systems must be refilled by a competent person.

In many dwellings setting back the boiler thermostat or room thermostat or the effective lagging of the pipework will suffice for short periods of absence. However, the effect of freezing of any wet central heating system can be expensive and we recommend that a frost thermostat be installed. Your installer should be able to provide further advice.

Your heating system should contain an additive for component protection, which must be added each time the system is refilled. Constant draining and refilling is not desirable.

10. THERMOSTAT CONTROL

The thermostat control knob fixes the maximum temperature at which the water will return to the boiler. The desired setting will become apparent with use, but generally setting 3 or 4 (providing higher return water temperatures) should be used in cold weather conditions.

In general, the lower the setting on the boiler thermostat the higher the boiler efficiency will be. However, if the setting is to low, the domestic hot water temperatures may be to low.

11. CLEANING

The outer casing can be cleaned using a soft, clean damp cloth.

12. ELECTRICAL SUPPLY

WARNING: THIS APPLIANCE MUST BE EARTHED

The appliance must be connected to a 230 Volts, 50Hz ~ supply, externally fused at 3A. It is recommended that the boiler be connected to external controls (e.g. timeclocks, room thermostats, etc.) an on/off switch, or a 3-pin plug complying with BS 1363, fused at 3A.