Heat 45 & 55

User Instructions

FAN POWERED HIGH EFFICIENCY
MODULATING CONDENSING
GAS BOILER

CE/PI No. 86-CN-69
Heat 45 - GC No. 41-930-40
Heat 55 - GC No. 41-930-41

CE

These instructions must be left either with the user or next to the site gas meter.

Keston Heating
PO Box 103, National Avenue, Kingston Upon Hull, HU5 4JN
Tel. +44 (0) 1482 443005 Fax. +44 (0) 1482 467133
email : info@keston.co.uk web : www.keston.co.uk

COMPLIANT WITH BUILDING REGULATION PART L1 & L2

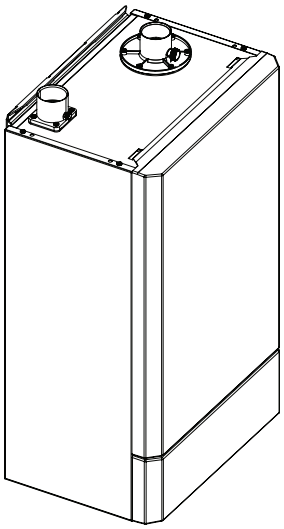
SEDBUK A RATED

benchmark

Keston Heat

45 & 55

Natural Gas
PI No. 86 CN 69
Destination Countries: GB, IE, RO



Introduction

The **Keston Heat** is a wall mounted, room sealed, super efficient condensing boiler featuring full sequence automatic spark ignition and fan assisted combustion.

Due to the very high efficiency, condensate is produced from the flue gases and this is drained to a suitable disposal point through the plastic waste pipe at the bottom of the boiler. A condensate 'plume' will also often be visible at the flue terminal.

Safety

Current Gas Safety (Installation & Use) Regulations or rules in force.

In your own interest, and that of safety, it is the law that this boiler must be installed and maintained by a Gas Safe Registered Engineer or in IE a competent person, in accordance with the above regulations.

The appliance should be serviced at least once a year by a Gas Safe Registered Engineer or in IE a competent person.

It is essential that the instructions in this booklet are strictly followed, for safe and economical operation of the boiler.

Electricity Supply

The appliance must be earthed.

Supply 230 V - 50 Hz. The fusing should be 5A.

This appliance is intended to be connected to the supply via a double-pole switch, having a 3mm contact separation in both poles, serving only the boiler and system controls. Alternatively, a 3-pin UNSWITCHED socket may be used.

Important Notes

- This appliance must not be operated without the casing correctly fitted and forming an adequate seal.
- If the boiler is installed in a compartment then the compartment MUST NOT be used for storage purposes.
- Do not store objects around or on the boiler, and keep access clear at all times.
- Do not obstruct ventilation ducts, grilles or openings in the boiler room, room space or compartment that the appliance is installed in, or the passage of combustion and ventilation to the boiler.
- Do not turn off the boiler if it is to be left unattended in frosty weather.
- If it is known or suspected that a fault exists on the boiler then it MUST NOT BE USED until the fault has been corrected by a Gas Safe Registered Engineer or in IE a competent person.
- Flammable materials must not be placed in close proximity to the appliance. Materials giving off flammable vapours must not be stored in the same room as the appliance.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision

In cases of repeated or continuous shutdown a Gas Safe Registered Engineer or in IE a competent person should be called to investigate and rectify the condition causing this and carry out an operational test after each intervention on the device. Only the manufacturers original parts should be used for replacement.

Minimum Clearances

Clearances of **300mm (12")** below, **25mm (1")** at the sides and **450mm (17 3/4**") at the front of the boiler casing must be allowed for servicing.

To light the boiler **(Refer to Frame 1)**

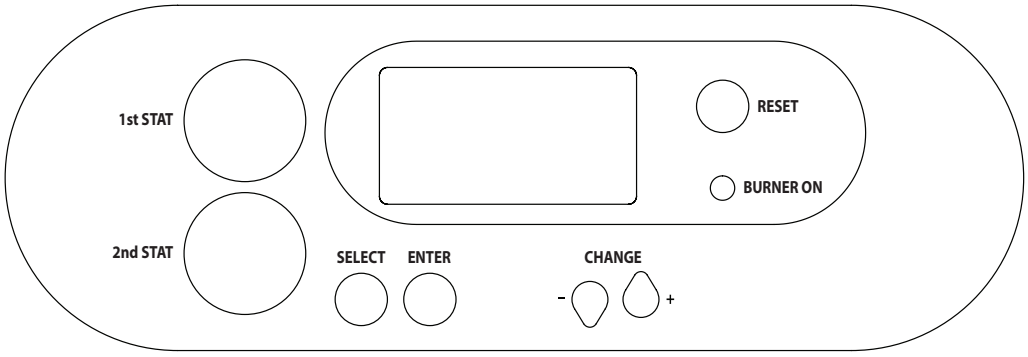
1. CHECK THAT THE ELECTRICITY SUPPLY TO THE BOILER IS OFF.
2. Set the boiler to standby.
3. Switch on the electricity supply to the boiler and check that all external controls, e.g. programmer, room thermostat, etc are on. Allow the boiler to carry out a self check.
4. Set the boiler to winter.

The boiler will commence the ignition sequence, supplying heat to the system when required.

All **Gas Safe Registered Engineers** carry a Gas Safe Register ID card, and have a registration number.
Both should be recorded in your Log Book. You can check your installer by calling Gas Safe Register direct on 0800 4085500.

CAUTION. To avoid the possibility of injury during the installation, servicing or cleaning of this appliance care should be taken when handling edges of sheet steel components.

1 BOILER CONTROLS / DISPLAY



Standby Mode
If the boiler has been switched to Standby Mode the following screen will be displayed
No Boiler operation will take place with this setting. See Frame 36 to change to Summer or Winter setting

Standby Mode
For Central Heating
select Winter Mode
For Hot Water
select Summer or Winter

Summer Mode
If the boiler has been switched to Summer Mode a screen similar to the following will be displayed (line 5 may vary depending on setup)
Domestic Hot Water operation will take place with this setting but Central Heating will not.
See Frame 36 to enable Central Heating by changing to Winter setting

Summer Mode	
For Central Heating	
select Winter Mode	
No Hot Water Demand	
Switched Live	Off

Winter Mode
If there is no current Heat Demand a screen similar to the following will be displayed (line 5 may vary depending on setup)
Line 5 indicates “Switched Live” or “OpenTherm” or “0-10V” depending on which controls are connected to the boiler

Winter Mode	
No Central Heating	
Demand	
No Hot Water Demand	
Switched Live	Off

Domestic Hot Water Mode (DHW Thermostat)
If there is an ongoing Domestic Hot Water Demand using a DHW Thermostat screens similar to the following will be displayed
Line 2 indicates whether Switched Live or OpenTherm is controlling the boiler
Line 3 indicates the current operating State (Pre-Purge or Ignition or Burner On or Pump Overrun)
Burner Power and Flow Temperature will vary as the boiler operates

DHW 230V Operation	
Switched Live 2 On	
Burner On	
DHW Thermostat	
Flow Temp	80°C

DHW 230V Operation	
Burner Power	100%
Burner On	
DHW Thermostat	
Flow Temp	80°C

Central Heating Mode
If there is an ongoing Central Heating Demand screens similar to the following will be displayed
Line 2 indicates whether Switched Live or OpenTherm is controlling the boiler
Line 3 indicates the current operating State (Pre-Purge or Ignition or Burner On or Pump Overrun)
Outside temperature will only be shown if an outside sensor is connected to the boiler
Burner Power and Flow Temp will vary as the boiler operates
See Frame 36 for adjusting Flow Setpoint

CH 230V Operation	
CH Switched Live On	
Burner On	
Flow Setpoint	80°C
Flow Temp	80°C

CH 230V Operation	
Burner Power	100%
Outside Temp’	10°C
Flow Setpoint	80°C
Flow Temp	80°C

Boiler Frost Protection Mode
If the boiler flow temperature drops below 5°C screens similar to the following will be displayed
Line 3 indicates the current operating State (Pre-Purge or Ignition or Burner On or Pump Overrun)
Outside temperature will only be shown if an outside sensor is connected to the boiler
Burner Power and Flow Temp will vary as the boiler operates

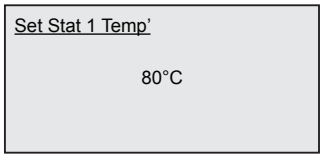
Boiler Frost Protect	
Burner Power	100%
Burner On	
Frost Setpoint	5°C
Flow Temp	80°C

Boiler Frost Protect	
Burner Power	100%
Outside Temp’	10°C
Frost Setpoint	5°C
Flow Temp	80°C

2 KESTON HEAT USER INTERFACE - BASIC OPERATING INSTRUCTIONS

SETTING STAT 1 TEMPERATURE

Rotate Stat 1 and the following screen will be displayed.

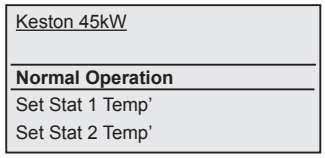


Rotate the knob until the desired temperature is shown and then press ENTER to store

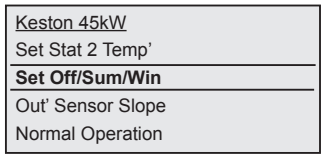
SETTING SUMMER, WINTER AND STANDBY OPERATION

Note that Standby Mode will disable Domestic Hot Water and Central Heating, Summer Mode will disable Central Heating

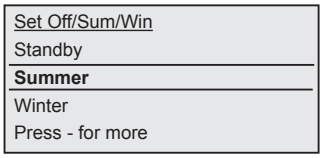
Press SELECT and a screen similar to the following will be displayed The kW output number in the 1st line will vary depending the maximum output of the boiler



Rotate 1st stat clockwise until a screen similar to following is displayed



Press SELECT and a screen similar to the following will be displayed



Press + and - to change to required setting, press ENTER to store

Rotate the KNOB anti-clockwise until Normal Operation is highlighted again and press SELECT to return to normal operation

To shut Down the Boiler

1. **For short periods**

   Set the external controls to OFF. Wait 4 minutes and then isolate the mains supply to the boiler.

2. **For longer periods**

   Set the external controls to OFF. Switch the electricity supply to OFF. For longer periods the entire system should be drained, including the domestic hot water supply.

To Relight the Boiler

Refill the system if it has been drained, taking care to ensure no air is in the boiler or system.

Repeat the procedure detailed in 'To light the boiler'.

Frost Protection

The Keston Heat boiler has built into its control system the facility to protect the boiler only against freezing.

Note.

This may not protect remote parts of the system, in which case a separate frost thermostat should be fitted.

Boiler Overheat Thermostat

Boiler overheating is detected by electrical sensors connected to the boiler control module. If the boiler overheats it will shut down and the display will show Overheat Lockout. Press the reset button and the boiler will relight. If the fault recurs turn off the boiler and consult a Gas Safe Registered Engineer or in IE a competent person.

Condensate Drain

This appliance is fitted with a siphonic condensate trap system that reduces the risk of the appliance condensate from freezing. However should the condensate pipe to this appliance freeze, please follow these instructions:

a. If you do not feel competent to carry out the defrosting instructions below please call your local Gas Safe Registered installer for assistance.

b. If you do feel competent to carry out the following instructions please do so with care when handling hot utensils. Do not attempt to thaw pipework above ground level.

If this appliance develops a blockage in its condensate pipe, its condensate will build up to a point where it will make a gurgling noise prior to locking out displaying "Ignition Lockout" on the display. If the appliance is reset it will make a gurgling noise prior to it locking out displaying "Ignition Lockout" on the display.

To unblock a frozen condensate pipe;

1. Follow the routing of the plastic pipe from its exit point on the appliance, through its route to its termination point.

   Locate the frozen blockage. It is likely that the pipe is frozen at the most exposed point external to the building or where there is some obstruction to flow. This could be at the open end of the pipe, at a bend or elbow, or where there is a dip in the pipe in which condensate can collect. The location of the blockage should be identified as closely as possible before taking further action.

2. Apply a hot water bottle, microwaveable heat pack or a warm damp cloth to the frozen blockage area. Several applications may have to be made before it fully defrosts. Warm water can also be poured onto the pipe from a watering can or similar. DO NOT use boiling water.

3. Caution when using warm water as this may freeze and cause other localised hazards.

4. Once the blockage is removed and the condensate can flow freely, reset the appliance. (Refer to "To Light the boiler")

5. If the appliance fails to ignite, call your Gas Safe Registered engineer.

Preventative solutions

During cold weather, set the boiler stat to maximum, (Must return to original setting once cold spell is over)

Place the heating on continuous and turn the room stat down to 15ºC overnight or when unoccupied. (Return to normal after cold spell).

Escape of Gas

Should a gas leak or fault be suspected contact your local gas supplier without delay.

Do NOT search for gas leaks with a naked flame.

Cleaning

For normal cleaning simply dust with a dry cloth.

To remove stubborn marks and stains use a damp cloth and mild detergent.

DO NOT use abrasive cleaning materials.

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