



**Keston**

# **Combi 30 & 35**

User Guide

FAN POWERED HIGH EFFICIENCY  
MODULATING DOMESTIC CONDENSING  
GAS COMBINATION BOILER



Keston Heating

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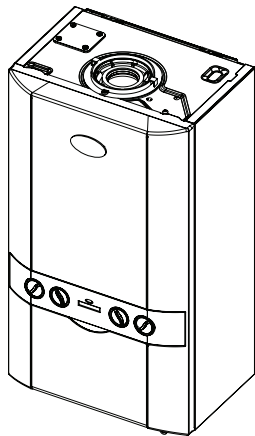
COMPLIANT WITH BUILDING REGULATION PART L1 & L2  
SEDBUK A RATED





# ***Keston Combi 30 & 35***

**(Natural Gas Only)**



30	G.C. Appliance No.	47-930-04
35	G.C. Appliance No.	47-930-05

**Keston** is a member of the Benchmark scheme and fully supports the aims of the programme. Benchmark has been introduced to improve the standards of installation and commissioning of central heating systems in the UK and to encourage the regular servicing of all central heating systems to ensure safety and efficiency.



**THE BENCHMARK SERVICE INTERVAL RECORD MUST BE COMPLETED AFTER EACH SERVICE**

**FOR ANY QUERIES PLEASE RING THE  
KESTON CONSUMER HELPLINE : 01482 443005**

**NOTE. BOILER RESET PROCEDURE -**

To reset boiler, turn mode knob to reset position and immediately turn knob back to required setting.  
The boiler will repeat the ignition sequence if a heat demand is present.

## **INTRODUCTION**

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

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

The **Keston Combi** is a combination boiler providing both central heating and instantaneous domestic hot water.

## **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 by a Gas Safe Registered Engineer, in accordance with the above regulations.

In IE, the installation must be carried out by a Registered Gas Installer (RGI) and installed in accordance with the current edition of I.S. 813 "Domestic Gas Installations", the current Building Regulations and reference should be made to the current ETCI rules for electrical installation.

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

## **ELECTRICITY SUPPLY**

This appliance must be earthed.

Supply: 230 V ~ 50 Hz. The fusing should be 3A.

### ***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.
- 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 Registered Gas Installer (RGII).
- Under **NO** circumstances should any of the sealed components on this appliance be used incorrectly or tampered with.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instructions concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.

In cases of repeated or continuous shutdown a Gas Safe Registered Engineer or in IE a Registered Gas Installer (RGII) should be called to investigate and rectify the condition causing this and carry out an operational test. Only the manufacturers original parts should be used for replacement.

## **MINIMUM CLEARANCES**

### **Top clearance**

Ensure **30mm (1¼")** clearance above the highest elbow off the boiler, **100mm (4")** below, **2.5mm (1/8")** at the sides and **450mm (17 3/4")** at the front of the boiler casing must be allowed for servicing.

### **Bottom clearance**

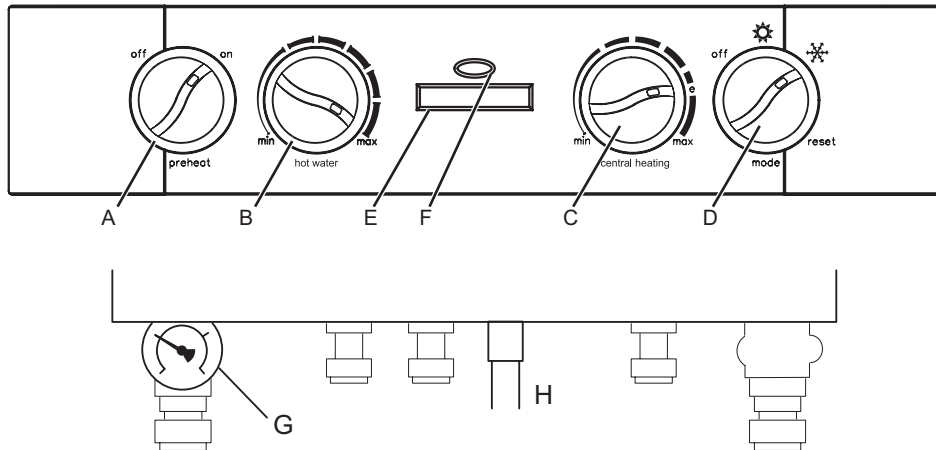
Bottom clearance after installation can be reduced to 5mm.

This must be obtained with an easily removable panel, to enable the consumer to view the system pressure gauge, and to provide the 100mm clearance required for servicing.

## BOILER CONTROLS


### LEGEND

- |    |                         |    |                       |
|----|-------------------------|----|-----------------------|
| A. | Pre-heat On/Off         | F. | Burner 'on' indicator |
| B. | DHW temperature control | G. | Pressure Gauge        |
| C. | CH temperature control  | H. | Condensate Drain      |
| D. | Mode Control            | J. | Economy Mode          |
| E. | Boiler Status           |    |                       |



## TO LIGHT THE BOILER. (REFER TO BOILER CONTROLS)

If a programmer is fitted refer to separate instructions for the programmer before continuing.

1. Check that the electricity supply to the boiler is off.
2. Set the mains Off/Summer/Winter control (D) to 'Off'.
3. Set the Domestic Hot Water temperature control (B) and Central Heating temperature control (C) to 'max'.
4. Set the preheat control (A) to 'on'.
5. Ensure that all hot water taps are turned off.
6. Switch ON electricity to the boiler and check that all external controls, e.g. programmer and room thermostat, are ON.
7. Set the Off/Summer/Winter control to winter (  ).

The boiler will commence the ignition sequence supplying heat to the central heating, if required.

**Note.** *In normal operation the boiler status display (E) will display messages (see pages 14 & 15).*

Boiler frost protection - boiler will fire if temperature is less than 5 degrees C.


During normal operation the burner on indicator (F) will remain illuminated when the burner is lit.

Note: If the boiler fails to light after five attempts the following fault messages will be displayed ***"Ignition Lockout" - "1 Check other gas appliances" - "2 Reset boiler" - "3 Contact Installer"***.

To reset boiler, turn mode knob to reset position and immediately turn knob back to required setting. The boiler will repeat the ignition sequence if a heat demand is present. If the boiler still fails to light consult a Registered Gas Installer or in IE a Registered Gas Installer (RGII).

## OPERATION

### Winter Mode - i.e. CH and DHW required.

Ensure the off/summer/winter control (D) is set to winter ()

The boiler will fire and supply heat to the radiators but will give priority to DHW on demand.

The DHW preheat will operate as described under 'Summer conditions' during periods when there is no call for CH.

### Summer Mode - i.e. DHW only required.

Set the mode knob control to Summer (  ).

Set the CH external controls to OFF.

Preheat will operate with the preheat switch (A) set to ON.

The boiler will fire periodically for a few seconds to maintain the DHW calorifier in a pre-heated condition. The average time period between firing is 90 minutes. This may vary considerably due to the surrounding ambient temperature of the boiler.

The boiler will fire whenever there is a demand for DHW.

The boiler preheat facility can be immobilised by turning the preheat switch (A) to OFF. This will stop the boiler operating for short periods. This facility is primarily provided for boiler installations in a sensitive area (i.e. bedroom etc.).

**Note.** *If the pump and diverter valve have not operated in the last 24 hours they will run briefly to ensure they do not become seized.*

## CONTROL OF WATER TEMPERATURE

### Domestic Hot Water

The DHW temperature is limited by the boiler controls to 64°C maximum at low draw-off rate, adjustable via the DHW temperature control (B).

Due to system variations and seasonal temperature fluctuations DHW flow rates/temperature rise will vary, requiring adjustment at the draw off tap : the lower the rate the higher the temperature, and vice versa.



## Central Heating

Without an outside sensor fitted the boiler controls the central heating radiator temperature to a maximum of 80°C, adjustable via the CH temperature control (C).

Approx. flow temperatures for the boiler thermostat settings are:

Knob Setting	Flow Temperature
Minimum	45°C (113°F)
Maximum	80°C (176°F)

The Keston Combi is a high efficiency combination boiler which is most efficient when operating in condensing mode.

The boiler will operate in this mode if the CH temperature control (C) is set to the 'e' position (economy mode) or below. This control should be set to a maximum for very cold periods.

With an outside sensor fitted the boiler flow temperature will be automatically controlled relative to the outside temperature to provide the desired room temperature. If the room temperature is too high, turn the CH knob anti-clockwise. If the room temperature is too low, turn the CH knob clockwise

### TO SHUT DOWN THE BOILER

Set the mode knob control to OFF.

### TO RELIGHT THE BOILER

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

### FROST PROTECTION

If no frost protection is provided and frost is likely during a short absence from home, leave the heating controls (if fitted) at a reduced temperature setting. For longer periods, the entire system should be drained. If the system includes a frost thermostat then the timer can be left off (if fitted). The mains supply should be left switched ON, with the boiler thermostat left in the normal running position.

### BOILER OVERHEAT PROTECTION

The boiler controls will shut down the boiler in the event of overheating. Should this occur, a fault code ***“Overheat Lockout” - “1 Fill system to 1.0 bar” - “2 Bleed radiators” - “3 Check radiator valves open” - 4 Reset boiler” - “5 Contact Installer”*** will be displayed.

Reset boiler by turning the mode control knob (D) to reset position and immediately turn knob back to required setting. The boiler will relight. If the fault recurs, turn off the boiler and consult a Gas Safe Registered Engineer or in IE a Registered Gas Installer (RGI).

## LOSS OF SYSTEM WATER PRESSURE

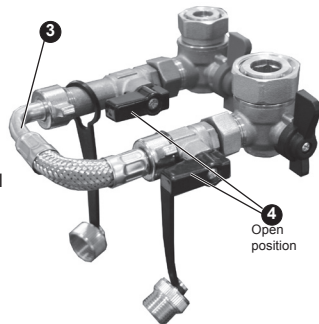
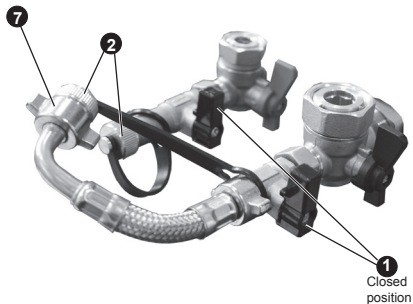
The gauge (G) indicates the central heating system pressure. If the pressure is seen to fall below the original installation pressure of 1-2 bar over a period of time then a water leak may be indicated. In this event conduct the re-pressurising procedure as shown below. If unable to do so or if the pressure continues to drop a Gas Safe Registered Engineer or in IE a Registered Gas Installer (RGI) should be consulted.

**THE BOILER WILL NOT OPERATE IF THE PRESSURE HAS REDUCED TO LESS THAN 0.3 BAR UNDER THIS CONDITION.**

In this case the boiler will display **“Low water pressure”** - **“1 fill system to 1.0 bar”** - **“2 Bleed radiators”** - **“3 Contact installer”**.

To re-pressurise:

1. Ensure filling loop isolation valves are closed.
2. Remove the left hand cap.
3. Attach on the filling loop.
4. Turn the filling loop isolation valves to the open position. The system will now fill.
5. Wait for pressure gauge to reach 1 to 1.5 bar.
6. Close the filling loop isolation valves.
7. Disconnect the filling loop at left hand side and angle upwards.
8. Replace cap.



## 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 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 15°C overnight or when unoccupied. (Return to normal after cold spell).

### SERVICE REQUEST FUNCTION

When the boiler has been installed for more than 1 year the following message will appear on screen "**12 month Service Interval Request Contact Installer**". Move the mode knob to the reset position for 3 seconds to clear.

### ESCAPE OF GAS

Should a gas leak or fault be suspected contact the National Gas Emergency Service without delay. **Telephone 0800 111 999**

***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, wipe with a damp cloth and finish off with a dry cloth. DO NOT use abrasive cleaning materials.

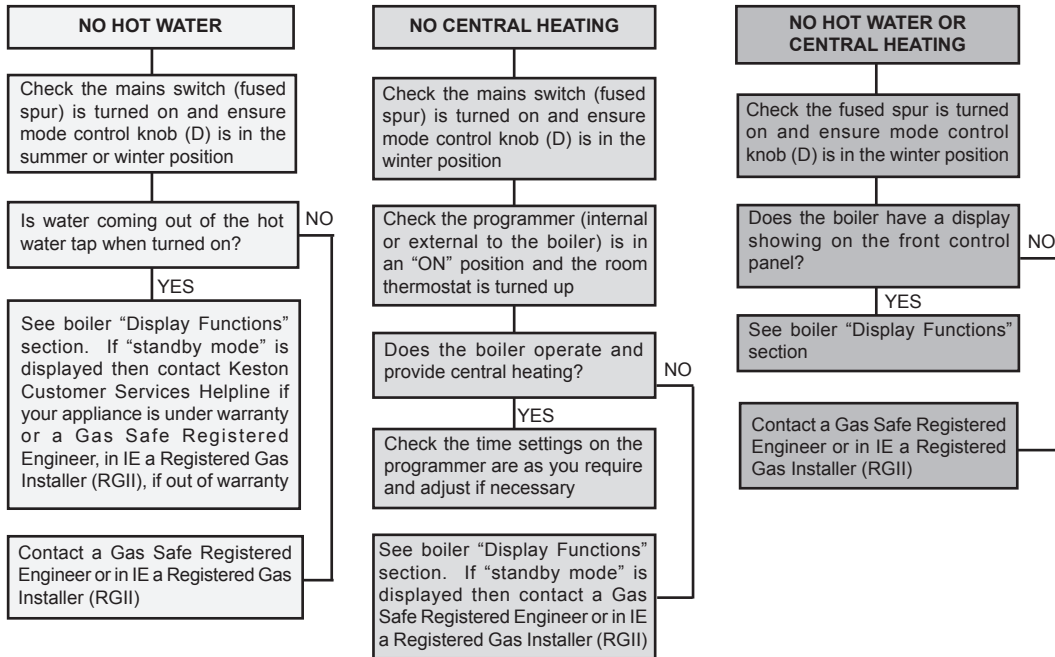
### MAINTENANCE

The appliance should be serviced at least once a year by a Gas Safe Registered Engineer or in IE a Registered Gas Installer (RGII).

## POINTS FOR THE BOILER USER

**Note.** *In line with our current warranty policy we would ask that you check through the following guide to identify any problems external to the boiler prior to requesting a service engineers visit. Should the problem be found to be other than with the appliance we reserve the right to levy a charge for the visit, or for any pre-arranged visit where access is not gained by the engineer.*

# TROUBLESHOOTING



## DISPLAY FUNCTIONS - NORMAL OPERATION MODE

*The display scrolls through a maximum of 3 messages under any operational condition, as shown below.*

*Note. The temperatures shown below are for illustration purposes only. The measured temperatures will be shown on the boiler.*

NORMAL OPERATION	MESSAGE 1	MESSAGE 2	MESSAGE 3
Mode knob in standby (off) position and no heat demand	Standby mode	For hot water turn mode knob clockwise	For central heating turn mode knob clockwise twice
Mode knob in summer (☀) position and no heat demand	Summer mode	For central heating turn mode knob clockwise	
Mode knob in winter (❄) position and no heat demand	Winter mode	Timer or room stat off	
Domestic hot water operation	Hot water	Temperature 64°C	High efficiency
Central heating operation	Central heating	Radiator Temp 80°C	High efficiency
Pre-heat operation	Pre heat	Temperature 59°C	High efficiency
Boiler frost protection	Boiler frost protection	Temperature 5°C	High efficiency
Pump overrun	Pump overrun		
Fan post-purge	Fan post-purge		
Service required	12 month service interval request	Contact Installer	Reset to clear

*Note. High efficiency will not be shown for central heating operation if the central heating flow temperature knob (c) is set to greater than 73°C.*

## DISPLAY FUNCTIONS - SETTINGS CHANGED

**Note.** The temperatures shown below are for illustration purposes only. The measured temperatures will be shown on the boiler.

NORMAL OPERATION	MESSAGE 1	MESSAGE 2	MESSAGE 3
Pre-heat knob moved to off position	Pre heat off		
Pre-heat knob moved to on position	Pre heat on		
DHW temperature knob moved	64°C DHW temp	Hot water temperature 64°C	May not be achieved for high flow rates in winter
CH temperature knob moved	80°C CH temp	Maximum radiator temperature 80°C	
Mode knob moved to standby (off) position	Standby mode	Central heating off	Hot water off
Mode knob moved to summer (☀) position	Summer mode	Central heating off	Hot water on
Mode knob moved to winter (❄) position	Winter mode	Central heating on	Hot water on
Mode knob moved to reset position	Reset		

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## DISPLAY FUNCTIONS - FAULT MESSAGES

BOILER DISPLAY MESSAGE	DESCRIPTION	ACTION
Outside Sensor Fault Contact Installer	Outside Sensor Failure	Reset the appliance - if the boiler fails to operate then please contact Keston (if under warranty) or alternatively a Gas Safe Registered Engineer if outside of the warranty period. In IE contact a Registered Gas Installer (RGI).
Low Mains Voltage Contact Electricity Provider	Low Mains Voltage	Contact a qualified electrician or your electricity provider.
PCB Fault Contact Installer	Unconfigured PCB	Unconfigured PCB. Please contact Keston (if under warranty) or alternatively a Gas Safe Registered Engineer if outside of the warranty period. In IE contact a Registered Gas Installer (RGI).
Too Many Resets Contact Installer	5 Boiler Resets in 15 Minutes	<ol style="list-style-type: none"><li>1. Turn power off and on at the fused spur.</li><li>2. If the boiler fails to operate please contact Keston (if under warranty) or alternatively a Gas Safe Registered Engineer if outside of the warranty period. In IE contact a Registered Gas Installer (RGI).</li></ol>
Lockout 6 Contact Installer	False Flame Lockout	Reset the appliance - if the boiler fails to operate then please contact Keston (if under warranty) or alternatively a Gas Safe Registered Engineer if outside of the warranty period. In IE contact a Registered Gas Installer (RGI).

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## DISPLAY FUNCTIONS - FAULT MESSAGES

BOILER DISPLAY MESSAGE	DESCRIPTION	ACTION
Boiler Type Card Fault Contact Installer	BCC Activation Fault	Reset the appliance - if the boiler fails to operate then please contact Keston (if under warranty) or alternatively a Gas Safe Registered Engineer if outside of the warranty period. In IE contact a Registered Gas Installer (RGII).
PCB Replacement Reset Boiler	BCC Fault	Reset the appliance - if the boiler fails to operate then please contact Keston (if under warranty) or alternatively a Gas Safe Registered Engineer if outside of the warranty period. In IE contact a Registered Gas Installer (RGII).
Low Water Pressure 1 Fill System to 1.0 Bar 2 Bleed Radiators 3 Contact Installer	Low Water Pressure	Check system pressure is between 1 & 1.5bar on the pressure gauge. If the fails to operate then please contact Keston (if under warranty) or alternatively a Gas Safe Registered Engineer if outside of the warranty period. In IE contact a Registered Gas Installer (RGII).
Overheat Lockout 1 Fill System to 1.0 Bar 2 Bleed Radiators 3 Check Radiator Valves Open 4 Reset Boiler 5 Contact Installer	Flow Temperature Overheat	Check system pressure is between 1 & 1.5bar on the pressure gauge. Reset the appliance. If the boiler fails to operate then please contact Keston (if under warranty) or alternatively a Gas Safe Registered Engineer if outside of the warranty period. In IE contact a Registered Gas Installer (RGII).

cont'd . . . . .

## DISPLAY FUNCTIONS - FAULT MESSAGES

BOILER DISPLAY MESSAGE	DESCRIPTION	ACTION
Flame Loss 1 Check Other Gas Appliances Work 2 Contact Installer	Flame Loss	1. Check other gas appliances in the house are working to confirm a supply is present in the property. 2. If other appliances do not work or there are no other appliances, check the gas supply is on at the meter and/or pre payment meter has credit. If the boiler fails to operate then please contact Keston (if under warranty) or alternatively a Gas Safe Registered Engineer if outside of the warranty period. In IE contact a Registered Gas Installer (RGII).
Ignition Lockout 1 Check Other Gas Appliances Work 2 Reset Boiler 3 Contact Installer		
Fan Fault Contact Installer	Fan Fault	Reset the appliance - if the boiler fails to operate then please contact Keston (if under warranty) or alternatively a Gas Safe Registered Engineer if outside of the warranty period. In IE contact a Registered Gas Installer (RGII).
Flow Thermistor Fault Contact Installer	Flow Thermistor	Reset the appliance - if the boiler fails to operate then please contact Keston (if under warranty) or alternatively a Gas Safe Registered Engineer if outside of the warranty period. In IE contact a Registered Gas Installer (RGII).
Return Thermistor Fault Contact Installer	Return Thermistor	Reset the appliance - if the boiler fails to operate then please contact Keston (if under warranty) or alternatively a Gas Safe Registered Engineer if outside of the warranty period. In IE contact a Registered Gas Installer (RGII).



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**Keston** pursues a policy of continuing improvement in the design and performance of its products. The right is therefore reserved to vary specification without notice.

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