

# *User's Instructions*

## **Alpha 500E**

**Wall Mounted, Fan Assisted, Room Sealed, Gas Fired  
Combination Boiler with Unvented Hot Water Storage**

For Technical help or for Service call ...

**ALPHA HELPLINE**

**Tel: (01322) 669443**

*Alpha*  
BOILERS

Goldsel Road,  
Swanley, Kent BR8 8EX  
Fax: (01322) 615017

**British Gas**  
*Service Listed*



Alpha 500E

G.C. No. 47 532 07

**WRc**

Building Regulations  
Certificate No. ETC 00795



**For use with Natural Gas only**

Leave these instructions with the User

## 1 DESCRIPTION

The Alpha 500E boiler is a wall mounted, fan assisted room-sealed combination boiler incorporating an unvented hot water storage cylinder. It provides both central heating and domestic hot water at mains pressure.

As supplied, the boiler is suitable for central heating systems requiring between 10.4 and 28.0 kW (35 500 and 95 550 Btu/h). It will provide central heating (as required) during the 'on' times set on your clock (if fitted). Hot water is always available whenever a hot tap is opened.

## 2 USER CONTROLS

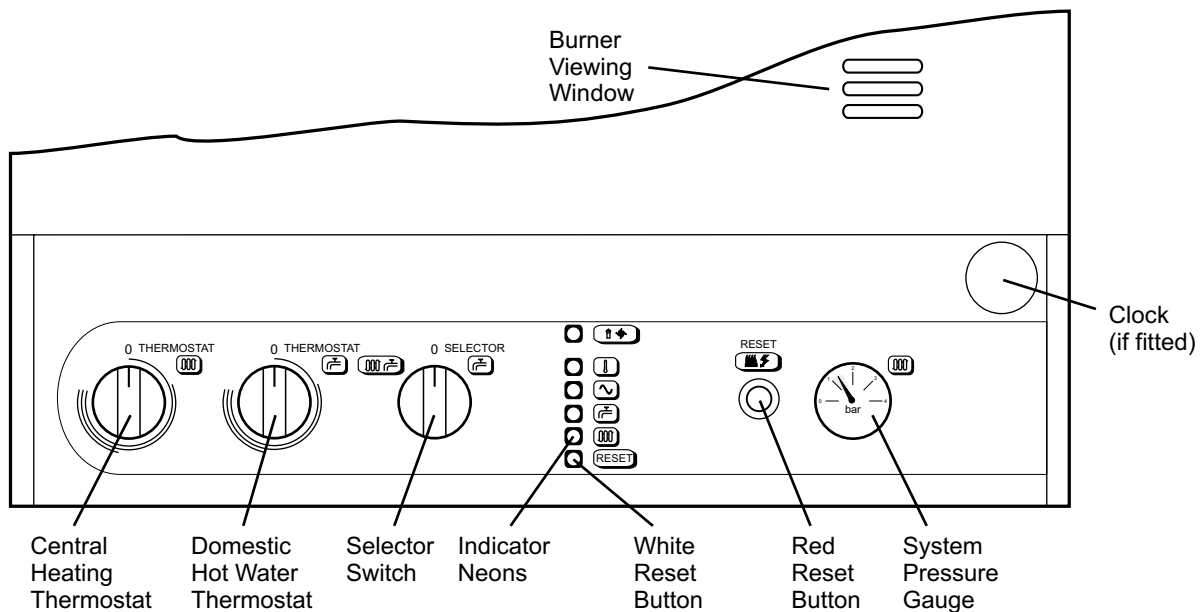


Fig. 1

## 3 BOILER CONTROLS

### 1. CENTRAL HEATING THERMOSTAT

This thermostat controls the temperature of the water leaving the boiler for the heating system. For maximum output from the radiators the thermostat should be left at maximum. If lower heating temperatures are required, turn the thermostat anti-clockwise.

### 2. DOMESTIC HOT WATER THERMOSTAT

This thermostat controls the temperature of the domestic hot water leaving the boiler. For maximum hot water temperatures the thermostat should be left at maximum. If lower temperatures are required, turn the thermostat anti-clockwise.

### 3. SELECTOR SWITCH

This control allows the boiler to provide central heating and hot water or hot water only. The '0' position will turn the boiler off.






### 4. PRESSURE GAUGE


This indicates the central heating system pressure. It should always be within the green band when cold, increasing slightly when hot.

If the pressure falls below the green band, ie red area, the system needs re-pressurising. Contact your Installer to have the system checked and pressurised.


## 5. INDICATOR NEONS

When illuminated, the following conditions apply:-

-  Warning light (continuously on) - blocked flue or fan fault, contact your Service Engineer.
-  Overheat thermostat has operated - press **white** reset button (see Fig. 1) to reset.
-  Electrical supply to the boiler is on.
-  Boiler is supplying hot water.
-  Boiler is supplying central heating.

When the red reset button (  ) is illuminated it indicates that the burner has failed to light - Press the **red** reset button (see Fig. 1) and the ignition sequence will restart.


## 6. OVERHEAT THERMOSTAT

This thermostat automatically switches the boiler off in the unlikely event of the boiler overheating. When the thermostat operates, the  neon is illuminated. Press the white reset button (see Fig. 1) and the ignition sequence will restart. If this continually happens, contact your Service Engineer.

## 7. PRESSURE RELIEF VALVES




If the central heating or hot water system overheats and steam or water is discharged from the pipe connected to the valve or from the tundish, turn the boiler off and contact your Service Engineer. Your Installer should have told you where these pipes terminate.

## 8. FROST THERMOSTAT


The boiler has a built-in frost thermostat, which automatically operates the boiler if the water temperature falls below 5°C, providing the electrical supply neon  is illuminated.

# 4 LIGHTING INSTRUCTIONS

Refer to Fig. 1 for boiler controls.

1. Ensure the following:-
  - a. Electrical supply to the boiler is off.
  - b. All heating controls and thermostats are set to OFF or minimum position.
  - c. All isolation valves at the bottom of the boiler are in the open position (flats on the spindle in line with the valves).
  - d. The gas and water supplies are on at the mains.
  - e. The heating system pressure is within the green band as shown on the pressure gauge.
2. Turn the heating and hot water thermostats fully anticlockwise to 0 and set the selector switch to 0.
3. Switch on the electrical supply to the boiler.
4. Set any room thermostats to maximum and ensure that any clock is in an 'on' position. Refer to section 8, if a clock is fitted in the boiler control panel.
5. Set the selector switch to  (hot water only). The  neon will illuminate, indicating the electrical supply to the boiler is on.
6. Turn the hot water thermostat fully clockwise. The main burner will light and the hot water storage cylinder will be heated. After approximately 12 minutes (from cold) the boiler will be ready to provide hot water and the burner will go out.
7. Set the selector switch to  (central heating and hot water) and turn the heating thermostat fully clockwise. The main burner will light and the boiler will provide central heating.
8. Set the boiler and all other controls, ie room thermostat etc, to the desired positions.


**To turn the central heating off i.e. in Summer:-** Set the selector switch to  (hot water only).


**To turn the boiler off for short periods:-** Set the selector switch to  (hot water only).

**Note:** In this position the pump will automatically operate for 5 minutes in every 24 hours. If the water temperature falls below 5°C, the built-in frost thermostat will operate the boiler automatically until the temperature of the water in the heating system has been raised.

**To turn the boiler off for longer periods:-** Set the selector switch to 0. Switch off the electrical supply to the boiler. If required, all supplies i.e. gas, water and electricity may be turned off at the mains. If there is any possibility of the boiler being left during frost conditions, then the boiler and system should be drained and a label attached to the boiler drawing attention that the system has been drained. If this is required, contact your Service Engineer.

## 5 BOILER OPERATION

The operating sequence of the boiler is controlled by the selector switch on the control panel. With the switch set to  (hot water only) the boiler will only operate to provide domestic hot water, ideal for Summer use when central heating is not required.

Setting the selector switch to  (central heating and hot water) the boiler will operate to provide both central heating and hot water.

If the boiler is operating to provide central heating and a hot water tap is opened, the boiler will give priority to provide hot water. Such an interruption in the central heating should not be noticed by any reduction in room temperature.

**Note:** If a clock is fitted to the boiler, it will only control the operating times of the central heating. Hot water will always be available when a tap is opened.

When the boiler is set to provide both central heating and hot water, it will respond to a demand for heat in the following sequence:-  
The pump will start, the fan will start and the main burner will light.

The output of the burner is automatically controlled to suit the system demand.

When the temperature of the heating system water in the boiler reaches that set by the thermostat or the room thermostat is satisfied, the main burner is turned off and the fan stops. The pump will continue to run for 3 minutes to remove any residual heat from the boiler.

When a hot tap is opened, hot water is provided instantly. When the temperature of the water in the storage cylinder falls to below that set by the thermostat, the pump will start, the fan will start and the main burner will light to reheat the water in the storage cylinder.

The supply of hot water is instantaneous at the boiler, but the time taken to reach a tap will depend on the length of the pipe between the tap and the boiler.

The flow of water to the hot taps will depend on the mains water pressure.

## 6 IMPORTANT NOTES

### 1. BOILER LOCATION

Always ensure the following clearances are available around the boiler:-

Top: 200 mm, Bottom: 250 mm, L/H side: 20 mm, R/H side: 5 mm, Front: 450 mm

If the boiler is installed in a cupboard or compartment, ensure that all ventilation openings are clear. Do not store any other articles in the cupboard containing the boiler and never place any clothing or combustible material on or near the boiler or flue pipe.

### 2. FLUE TERMINAL

The terminal on the outside wall must not be allowed to be obstructed. If it is damaged, in any way, turn the boiler off and contact your Service Engineer.

In cold weather, steam may be emitted from the terminal. This is quite normal.

### 3. MAINS FAILURE

In the event of an electrical supply failure the boiler will not operate. When the supply is restored, the boiler will return to normal operation. Remember to reset the clock when the supply is restored.

If the mains water supply fails, there will be no hot water from the taps. The boiler will continue to provide central heating.

### 4. ADDITIONAL BATHROOM FITTINGS

Any equipment such as mixing valves, showers, bidets etc. must be designed to operate at mains water pressure. Contact your local Water Authority for advice when considering purchasing such items.

### 5. CLEANING

Use only a damp cloth and mild detergent to clean the boiler outer casing. Do not use abrasive cleaners.

### 6. SERVICING

To maintain efficient and safe operation of your boiler, routine annual servicing is essential.

For advice on servicing contact:-

The Alpha Helpline: 01322 669443 or your local Gas Region.

## 7. GAS LEAK

If a fault or gas leak is suspected, turn off the gas supply. Do not touch any electrical switches, do not smoke and extinguish all naked flames. Contact your local Gas Region immediately.

## 8. ELECTRICAL SUPPLY

The boiler requires a 230/240 V ~ 50 Hz supply, fused at 3 A if a 13 A 3-pin plug is used or a 5 A fuse if any other type of plug is used.

### To connect a plug:-

The colour of the wires in the mains lead of the boiler may not correspond with the coloured markings identifying the terminals in your plug. In this case proceed as follows:-

The wire coloured green and yellow must be connected to the terminal in the plug that is marked with the letter **E**, or by the earth symbol  $\perp$ , or coloured green or green and yellow.

The blue wire must be connected to the terminal which is marked with either the letter **N** or coloured black.

The brown wire must be connected to the terminal which is marked with the letter **L** or coloured red.

**THE APPLIANCE MUST BE EARTHED.**

## 7 GAS SAFETY REGULATIONS

Gas Safety (Installation and Use) Regulations 1984 (as amended):-

It is the law that all gas appliances are installed and serviced by a competent person, ie CORGI registered personnel. Failure to install or service appliances correctly could lead to prosecution. It is in your interest and that of safety to ensure compliance with the law. The manufacturer's instructions must not be taken in any way as over-riding statutory obligations.

The Benchmark Log Book must be fully completed by the installer on installation of the boiler. All CORGI registered installers carry a CORGI ID card and have a registration number. Both should be recorded in your central heating Log Book. You can check your installer is CORGI registered by calling CORGI on 01256 372300.

## 8 CLOCK (if fitted)

The clock allows you to set the times at which the boiler will operate to provide central heating. It does not affect the supply of domestic hot water, which is always available.

### 1. TO SET THE TIME

Turn the outer dial clockwise to set the clock hands to the correct time.

(Ensure the time indicator corresponds with the correct time on the 24hr dial as shown in Fig. 2, e.g. 3.00pm = 15 not 3).

**NOTE: Do not rotate the dial anti-clockwise**

### 2. TO SET THE ON/OFF PERIODS

Select the ON times by pushing the tappets to the outside.

Select the OFF times by pushing the tappets to the inside.

Fig. 2 shows the clock set as follows:-

ON	3.00pm	to	10.00pm (15 - 22)
OFF	10.00pm	to	5.00am (22 - 5)
ON	5.00am	to	8.00am (5 - 8)
OFF	8.00am	to	3.00pm (8 - 15)

### 3. MANUAL SWITCH

The clock has a manual On/Off switch which operates as follows:-

Mid position	Heating On/Off as set by the tappets
Position I (right)	Heating On continuously
Position 0 (left)	Heating Off continuously

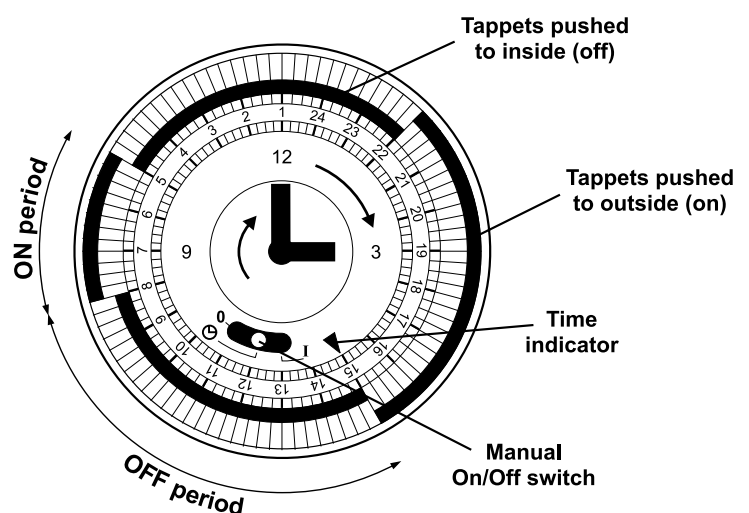
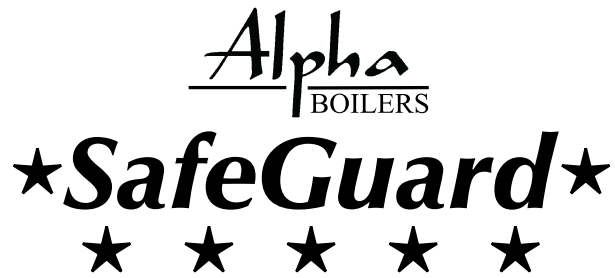


Fig. 2





## Your optional Extended Cover Plan for 'second year' peace of mind

Details of this special extended cover plan for your Alpha 500E boiler are included on a separate leaflet which was in the envelope attached to the front of the boiler.

However, sometimes this can get lost or mislaid. If this is the case, all you need to do is telephone (01322) 669443 and ask for further details.



Alpha Therm Limited.  
Goldsel Road, Swanley, Kent BR8 8EX  
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*These instructions have been carefully prepared but we reserve the right to alter the specification at any time in the interest of product improvement.*  
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