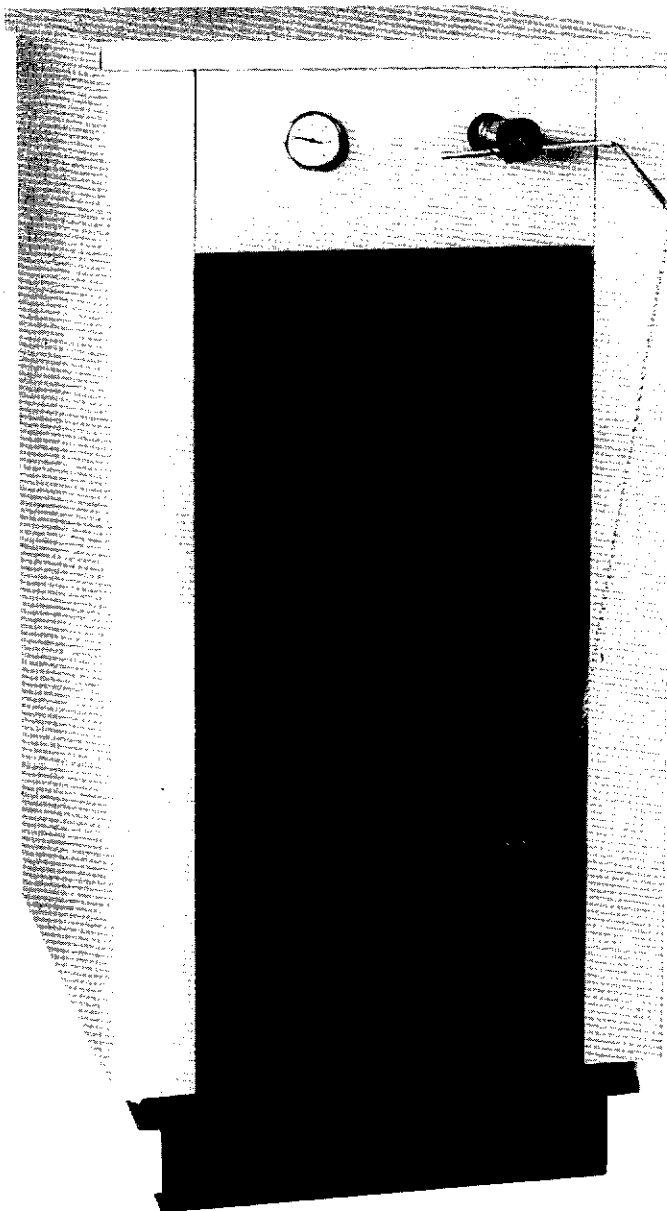


«LA CAMPAGNARDE» wood burning boiler

Model 93.18 (72,000 Btu/h)

Model 93.25 (100,000 Btu/h)

Model 93.35 (140,000 Btu/h)



Please read and understand thoroughly before commencing installation.

IMPORTANT ! FRANCO-BELGE recommends that the installation of all their products is undertaken only by qualified heating engineers who are experienced in solid fuel heating.

The installation must be in accordance with current building regulations and codes of practice.

TECHNICAL MANUAL



CONTENTS

I	Technical details	1
II	Description	
2 - 1	Description of the appliance	2 - 3
2 - 2	Operating principles	3
III	Assembly and installation	
3 - 1	Boiler room	3
3 - 2	Siting the boiler	3
3 - 3	The chimney	3
3 - 4	Assembling the doors of the boiler and the outer casing panels and fitting of the flue box	3 - 4
3 - 5	Assembling and installing the thermostat	5
3 - 6	Connecting the central heating circuit	5
3 - 7	Installation of the heat dissipator safety device	5
3 - 8	Positioning of the grates	6
IV	Operators instructions	
4 - 1	Fuel	6
4 - 2	Operating	6
	a) before lighting	6
	b) lighting	6
	c) heating	6
	d) operating tools	7
4 - 3	De-Ashing	7
4 - 4	Maintenance	7
4 - 5	Changing over back firebricks	7

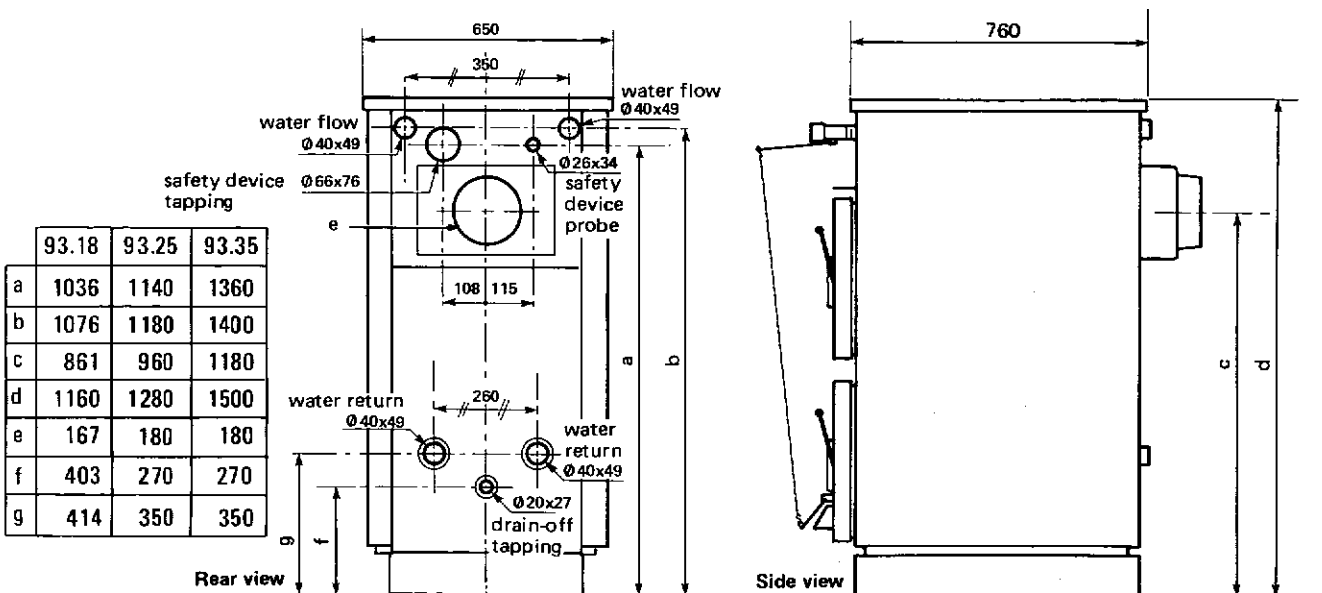
In order to constantly improve our products, our appliances are subject to modifications by our sales or technical services without any prior notice.

Guarantee :

The water-jacket of the «La Campagnarde» boiler is guaranteed for a period of five years from the date of purchase.

Damage due to low temperature corrosion will invalidate this guarantee. In order to avoid this, the appliance must be run so as to maintain the boiler water temperature at a minimum of 50°C ; a four-way mixer valve should be incorporated in the system (ensure that it cannot be set to close off the primary flow).

I - Technical details	model 93.18	model 93.25	model 93.35
Nominal heat out-put	72,000	100,000	140,000
Required flue draught	0.05-0.08	0.05-0.08	0.05-0.08
Floor Space : Width	650	650	650
Depth	760	760	760
Height	1160	1280	1500
Dimensions of the fire box : Width	376	376	376
Depth	550	550	550
Height	540	770	970
Rear Flue outlet O/D	167	180	180
Flow and return tapings (x 4)	40 x 49	40 x 49	40 x 49
Water content of water jacket	60	72	81
Maximum water pressure	3	3	3
Maximum water pressure of heat dissipator safety device	7	7	7
Weight packed (not including safety device)	365	405	445



II - Description.

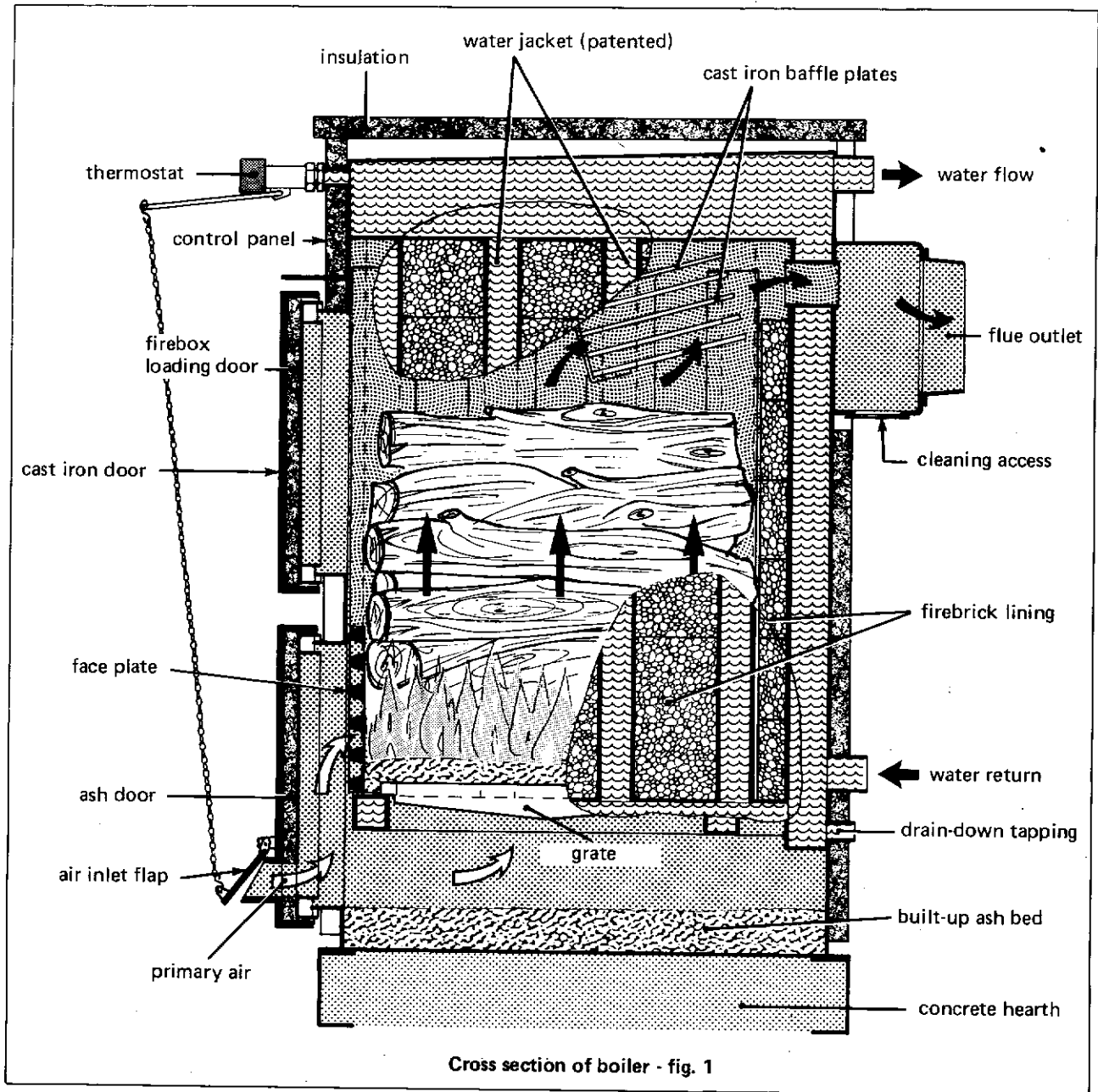
2 - 1 Description of the appliance.

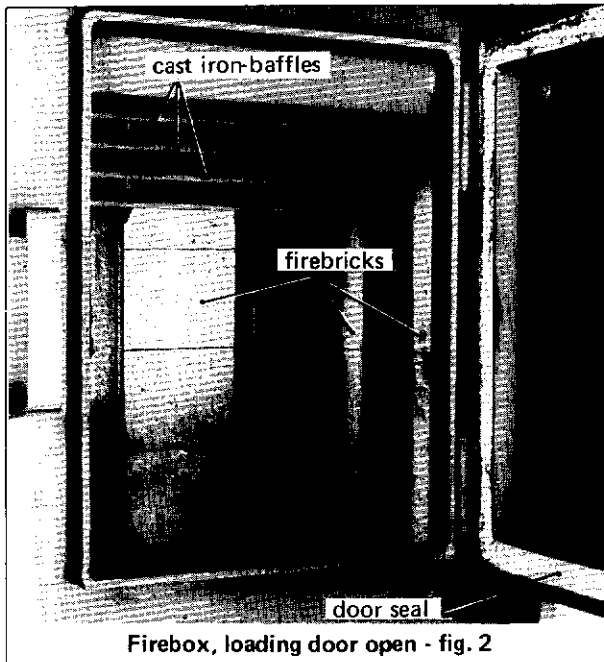
The «LA CAMPAGNARDE» boiler is designed specifically for burning wood : the design of the fire box helps to ensure a high temperature for maximum combustion of volatiles, thereby avoiding tar deposits.

The manufacture of the boiler is of a revolutionary concept , the water jacket is from 6 mm steel and is lined with fire bricks which are replaceable , the fire box is fitted with cast iron baffle plates which maintain a high temperature for maximum efficiency of combustion. The large loading door and large fire box allow the use of logs of up to 50 cms. long (see fig. 1 - 2)

A water temperature thermometer and a thermostat which activates the primary air-flap located on the lower part of the fire door, are included on the control panel as standard equipment.

The cleaning of both the fire box and the exchanger is simplified by the provision of easy access to all heat exchange spaces ; a cleaning trap allows access to the smoke box which is located at the back of the boiler (see fig. 1)





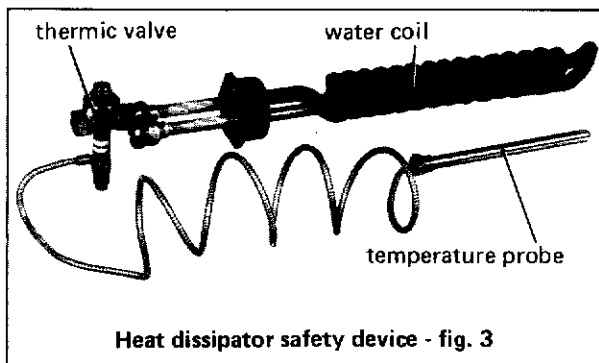
The appliance may be fitted with a heat dissipating safety device (optional extra) allowing the operation of the boiler without the necessity of a heating circuit thermosyphon (fig 3).

A coil and a thermic valve make up this thermal safety device. Should the boiler be in danger of overheating because of a failure of the circulating pump, the valve opens to introduce cold water into the coil which absorbs excess heat, so avoiding boiling.

2 - 2 Operating principles.

A water-sensing thermostat, automatically controls the burning rate of the boiler. When the water temperature falls the thermostat opens the primary air inlet to boost the fire and as soon as the selected water temperature is achieved, it closes the air inlet to stabilize the burning rate and continue to maintain a constant temperature.

The circulating pump, or in its absence, the gravity feed heating circuit, provides the circulation of the water between boiler and the radiators. Balancing the temperature between the central heating circuit and the primary circuit is achieved by use of the four way mixer valve.



III - Assembly and installation.

3 - 1 Boiler room

The room in which the boiler is to be fitted must comply with current building and fire regulations and should in particular have the appropriate ventilation requirements. A minimum fresh air inlet of 55 sq. ins is required for this boiler.

3 - 2 Siting the boiler

The boiler must be located so as to give easy access to all regulating controls and to the cleaning access door located at the back of the smoke box.

Sufficient room must also be left for chimney sweeping.

Use of any lifting device to site the boiler must take place prior to the fitting of the outer casing panels to avoid damaging them.

3 - 3 The chimney

The chimney must be in good condition and built to comply with current building regulations.

The chimney must be four to five metres high, the flue be airtight and impermeable so as to prevent absorption of moisture.

The cross section of the flue must be in the region of 50 sq. ins. ; a larger flue would have a poor draught.

The chimney must be sufficiently well insulated, otherwise thermal draught will be poor and condensation will form.

The chimney should be used for only one appliance or fire.

Note : In no circumstances should asbestos or flexible flue be used.

3 - 4 Assembling the doors of the boiler and the outer casing panels and fitting of the flue box.

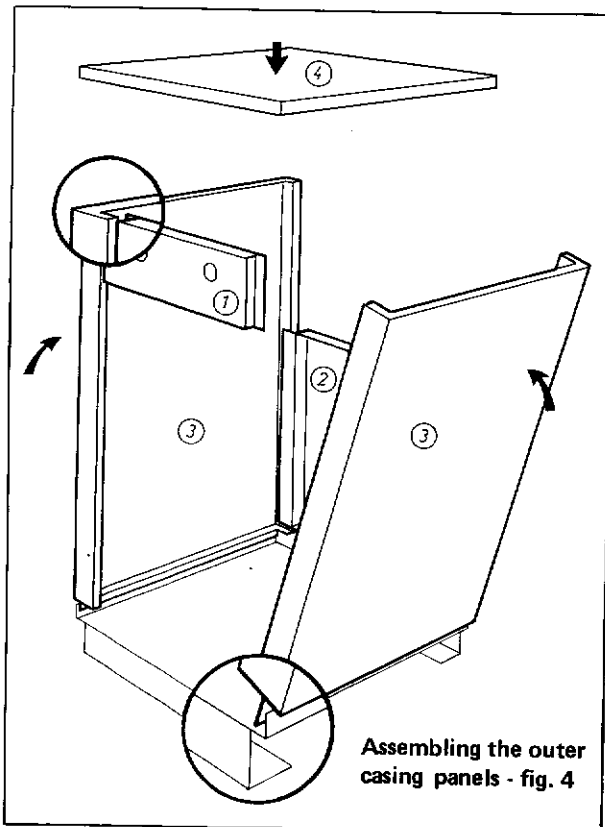
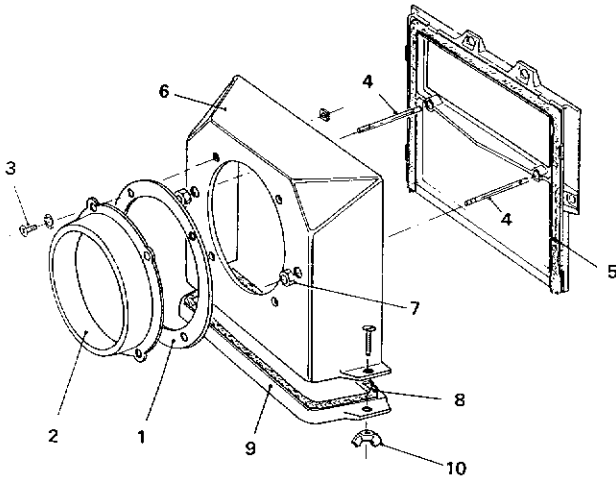
The outer casing panels should be fitted before making pipe connections to the boiler and also before inserting the thermostat on the control panel. Glass-wool insulation sheets are provided and these should be placed on the surface of the boiler prior to fitting the outer casings.

Fitting the Outer Casing Panels. (fig 4)

1. Position the upper fascia panel - ① (control panel) above the loading door. Install the thermostat (see section 3 - 5)
2. Locate the rear panel - ② on the lower rear edge of the boiler.
3. Locate the side panels - ③ by inserting them inside the flanges on each side of the base of the water jacket
4. Install the top panel - ④ over the side and fascia panels so that it holds them all together.

Fitting of the flue box

- remove the flue collar (2) and the gasket (1) and fit them in the correct position (four screws),
- put the asbestos rope (5) and screw up the two studs (4) on the rear bed-plate set on the boiler,
- fix the flue box (two nuts),
- put the asbestos rope (8) and fit the access cover (two nuts).



Assembly of the doors.

The cast iron panels and catches are placed inside the fire box during transit.

1. Attach the iron panels to the corresponding doors with the four screws provided.
2. Connect the latch catches ; the fixing nuts are located inside the door.

3 - 5 Assembling and installing the thermostat.

The Calorstat 80 Thermostat is designed to allow dismantling without having to drain down the installation ; the thermostat body slides into a sleeve.

The regulator knob is easily attached to the body by a screw thread in order to position it for use on the graduations 1 to 6 marked on the knob.

Assembly procedure

1. Ensure that the thermostat is fitted tightly in its sleeve ; note that it is tightened to the sleeve by a left handed thread.
2. Install the regulator into the outlet to the left hand side of the control panel using the adaptor. Screw in the regulator using a sealant (hemp and boss white). The screw thread is conical, and the regulator should be tightened until a watertight seal is obtained.
3. Turn the knob completely clockwise and then remove it by pulling it forwards. Reset the knob so that the figure 1 faces the white mark on the regulator shaft.
4. Turn the knob to position 3. Fit the right-angled rod lever into the underside of the thermostat body so that it is horizontal. Insert the fixing screw.
5. Install the chain between the lever and the air flap.

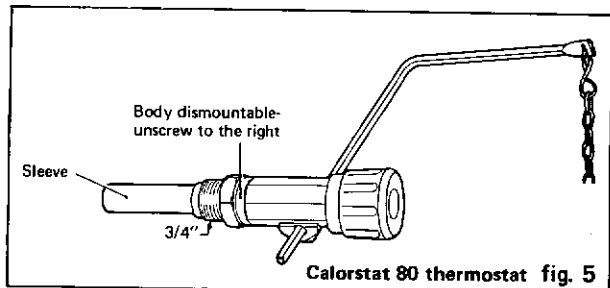
It will be necessary to adjust the length of the chain in order that the automatic draught operation functions correctly. However, this can only be done when the appliance is lit (see paragraph 4 - 2)

Adjustment of the thermostat.

Light up the boiler, leaving the ash-pan door open, and wait for the whole installation to heat up.

When the thermometer on the control board indicates 60°C, close the ash-pan door and after having turned the thermostat knob to position 3, adjust the chain so that air flap is open by approximately 1 mm. Cut off any excess chain.

When the water temperature falls, the thermostat arm will open the air inlet flap to let extra air in , when the selected temperature is reached the flap will close in order to stabilise the burning rate.



3 - 6 Connecting the central heating circuit.

Important : Ideally, to ensure the safe operation of the boiler, the circuit should be designed to allow natural gravity circulation.

If this is not possible, the thermal safety of the boiler should be protected by installing the special heat dissipator safety device (see paragraph 3 - 7)

So that the boiler is able to maintain a high water temperature, thus avoiding condensation, a four way mixing valve must be fitted (see conditions of the guarantee).

To avoid any mis-use by the user, this valve must be fitted so as to prevent the primary flow from being closed off.

The boiler must be connected to an expansion tank, open to the atmosphere, in accordance with Codes of Practice for installing solid fuel central heating appliances.

Example of installation : (fig 7)

Pumped central heating gravity, hot water cylinder, four way mixing valve.

Nota : Plumbing designs shown in the leaflet, whilst usual in France, are not suitable for the U.K. The circuit design must be in accordance with current Codes of Practice for installation of solid fuel appliances.

Important This boiler should be connected to only indirect hot water cylinders.

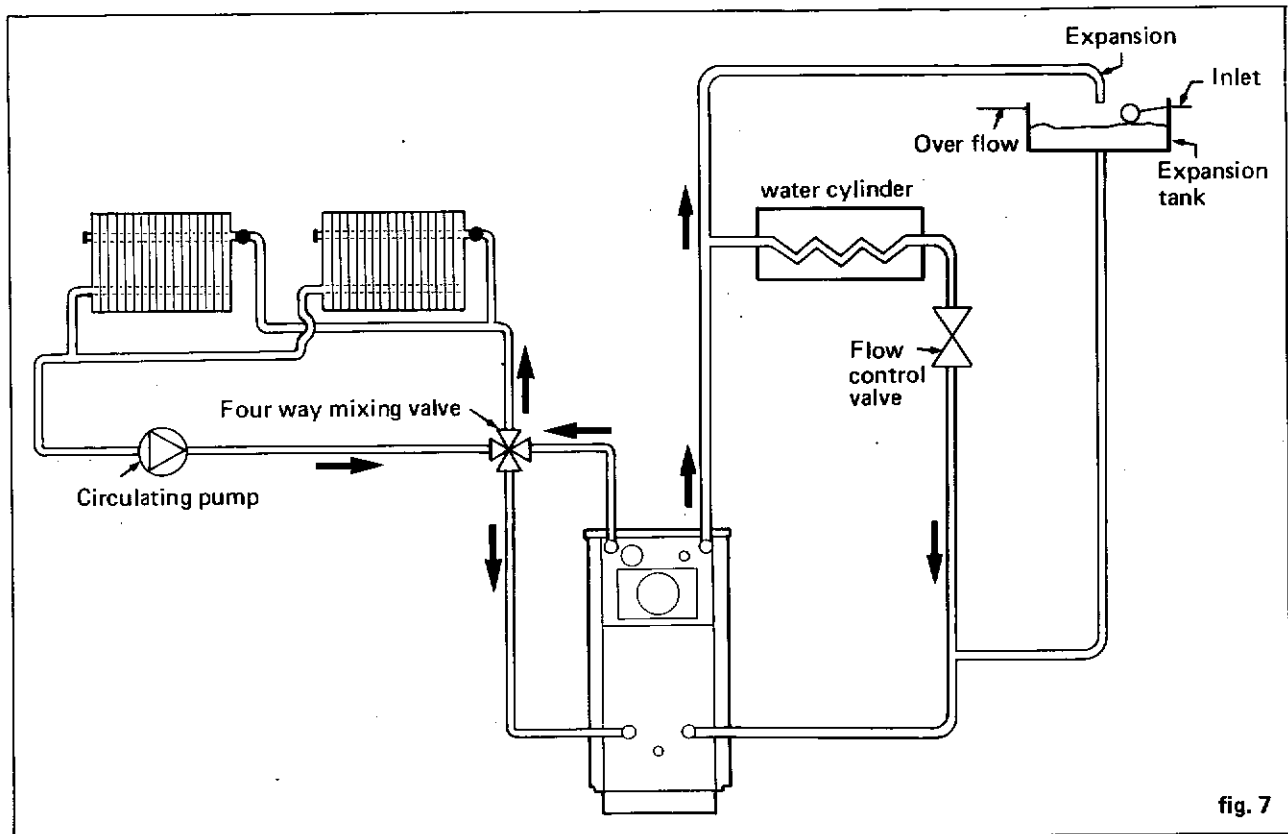
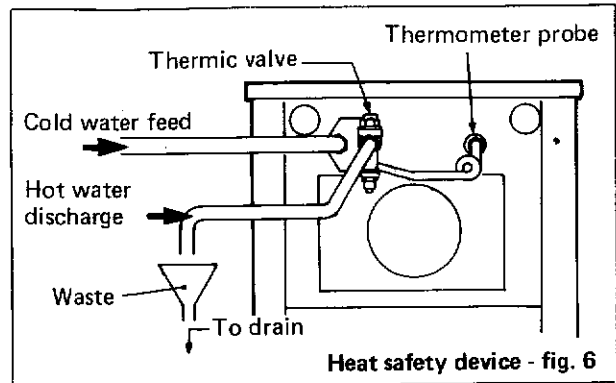
3 - 7 Installing the Heat Dissipator safety device (optional extra) fig. 6 & 8

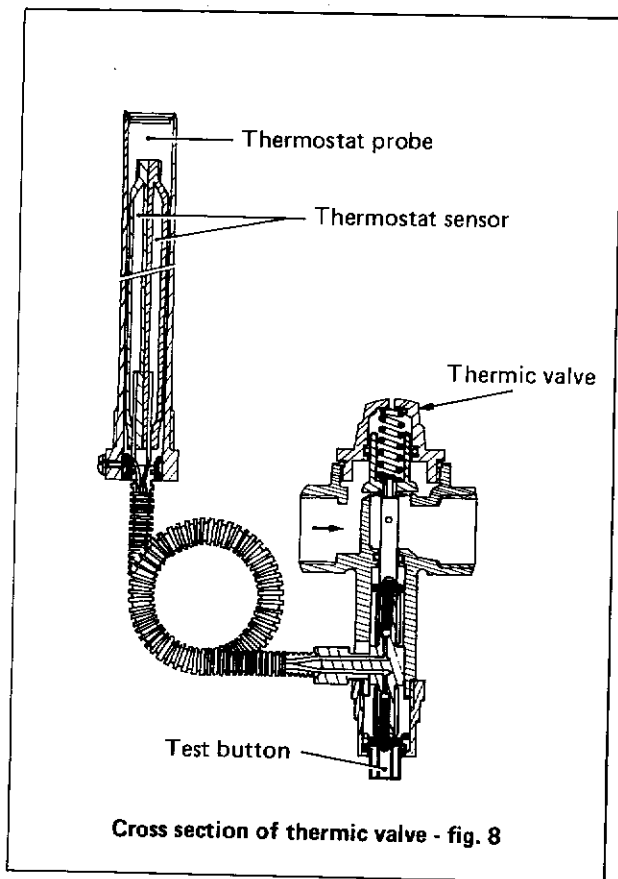
The use of a heat dissipator safety device is made necessary when the central heating circuit cannot circulate by natural gravity, so as to ensure that the temperature of the boiler is maintained at a safe level should the circulating pump fail (fig. 3 and 8).

The coil must be positioned in the special tapping which is located at the rear of the unit, after removing the plug.

The temperature sensor must be screwed into the outlet of the boiler.

The coil must be connected directly to the cold water main and a waste pipe must be provided to take away the water from the safety device outlet (fig 6)





3 - 8 Positioning of the grates. (fig. 9)

Position the 11 grate sections at the base of the firebox. They must be placed the correct way up with the tapering section towards the bottom.

Place the face grate in the four fittings provided at the ash pan door frame.

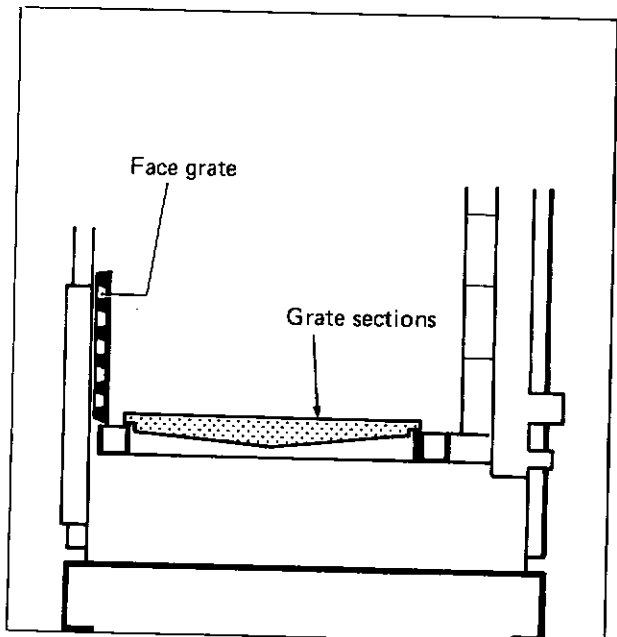


fig. 9

IV - Operators instructions.

4 - 1 Fuel

Use logs of up to 50 cms long and only well seasoned dry wood. Serious damage to the boiler can occur by using wet wood.

Caution : When loading the firebox, don't hit its inner walls to avoid damaging the firebricks.

4 - 2 Operating.

a) Before lighting

Before lighting a fire in the boiler, check the following points :

- be sure that your installer has tested the water circuit,
- the flue draught is within the limits stated,
- the cleaning trap is closed. It is located on the smoke-box at the back of the boiler,
- all the grates are in their correct positions,
- the doors and the outer casing panels are correctly fitted to the boiler,
- the air-inlet flap operated by the thermostat moves freely.

b) lighting

The boiler is lit exactly like an ordinary fire, with paper and kindling. Open the ash pan door to facilitate this operation.

Once the fire is burning well, the boiler can be stoked with fuel.

When the boiler is well alight and the flue is warm, close the ash pan door and leave the thermostat to regulate.

When the fire is first lit, some condensation may appear in the heat exchanger because of the drying of the firebricks.

Do not allow the fire to get too hot during the first week to ensure the free expansion of all the inner parts.

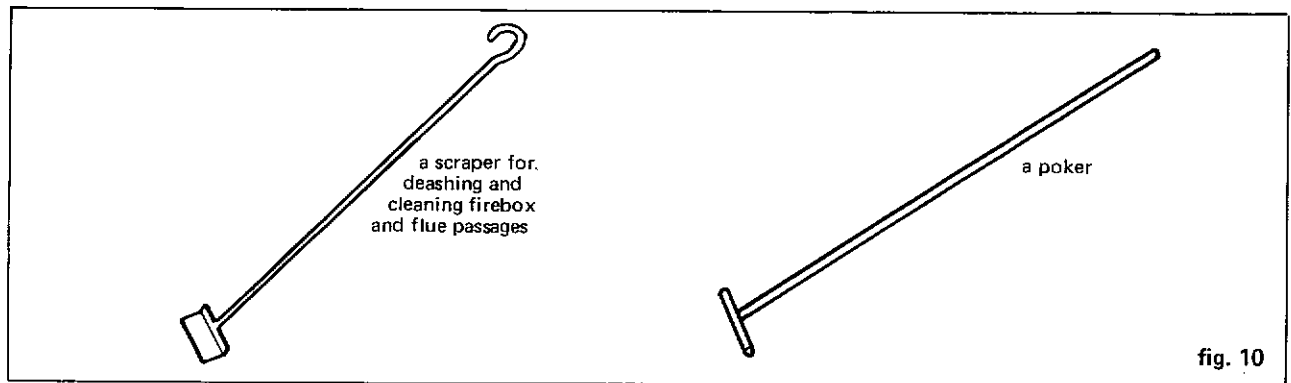
Remark : It is normal for a quantity of black water to leak from the unit as a result of condensation when the fire is first lit. Do not be concerned about this, but do take precautions to ensure that none of this liquid damages any furnishings. If this condensation persists, it is most likely that the return water is too cold and some radiators should be turned off to allow the heat to build-up in the heating circuit. The radiators can be turned on again gradually. The water jacket is tested in the factory, and there is no chance of a leak occurring. If condensation persists after a 48 hours period, consult your installer.

c) heating

The automatic thermostat control should be set to the water temperature required. Provided that the fire is stoked and the ash pan door is closed the thermostat will automatically control the burning rate of the fire and produce the required temperature.

Caution : All the doors must be closed during operation to prevent over-firing.

d) operating tools (fig. 10)

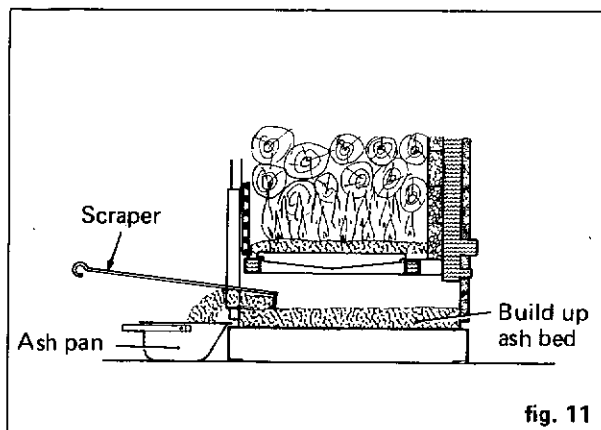


4 - 3 De-Ashing (fig. 11)

It is necessary to allow build up of ashes in the bottom of the boiler to maintain a high temperature in the firebox.

For de-ashing, use the scraper and operate as shown in figure 11.

Remarks : The ash pan is not designed to be placed in the boiler.



4 - 4 Maintenance

The boiler is most efficient when all surfaces of the heat exchanger and the flue passages are perfectly cleaned.

Before cleaning, have a roaring fire for a short period to burn off tar.

Use the scraper to clean the sides of the heat exchanger and the smokebox by the rear cleaning access.

Also take the cast iron baffle plates out and clean them.

Recommendations.

- Both the chimney and the boiler must be cleaned regularly.
- Any abnormal smell of fumes must be reported at once to your installer. As a precaution, put the fire out until an examination has been made.

4 - 5 Changing over back firebricks.

The back firebricks are fitted with wooden slots at the back. After lit, these slots burn off in order to give clearance to remove damaged firebricks.

To replace a damaged back firebrick, remove the cast iron baffle plates. Then remove the firebricks by pushing towards the top. Change over the damaged one and remount all the parts.