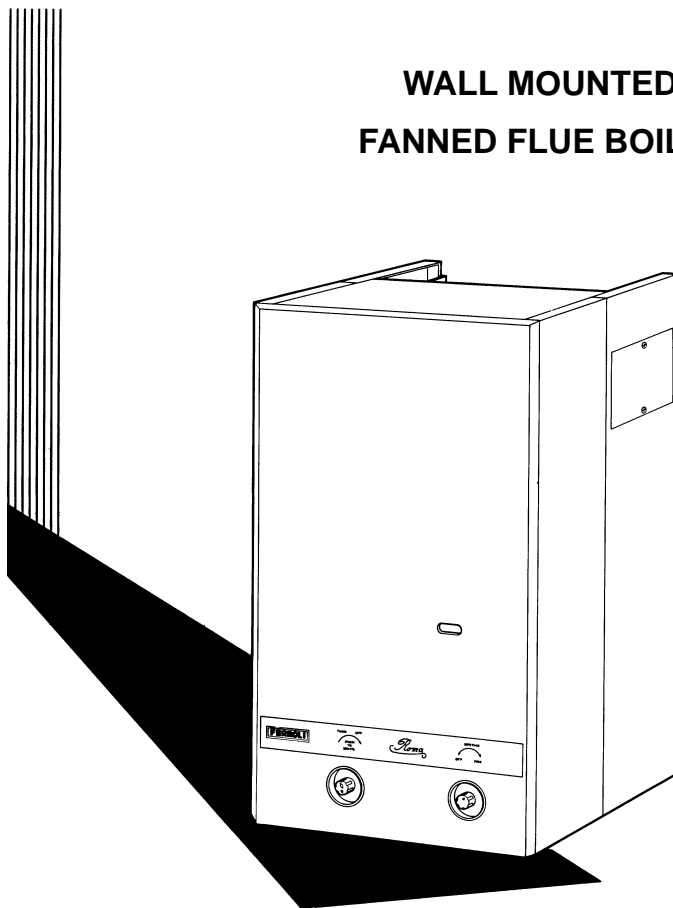




FERROLI ROMA 55 FF

WALL MOUNTED,
FANNED FLUE BOILER



INSTALLATION & SERVICING INSTRUCTIONS

G.C. Appliance No. 4126705
Please read these Instructions
thoroughly before using
the appliance

Phone numbers:

Installer _____

Service Engineer _____

Serial N° _____

FERROLI HELPINE
FOR SERVICE INFORMATION OR
HELP TELEPHONE: 0121 313 1030
ALWAYS QUOTE SERIAL NUMBER
FOR IMMEDIATE ASSISTANCE

These Instructions are to be left with the User or adjacent to the gas meter.



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1. General description and information

1.1 Information

1. Installation must be carried out by a competent person, and in accordance with the relevant requirements of the current issues of:

- A. Gas Safety (Installation & Use) Regulations.
- B. Building Regulations.
- C. Building Standards (Scotland) Regulations.
- D. I.E.E. Wiring Regulations.
- E. Bye-laws of the local water undertaking.

Guidance on Installation is provided in this booklet, but due account must be taken of the detailed recommendations of the current issues of:

- BS 5440 Part 1:** Flues.
- BS 5440 Part 2:** Ventilations.
- BS 6798:** Installation.
- BS 5449:** Pumped systems.
- BS 5546:** Domestic hot water.
- BS 6700:** Water supply.
- BS 6891:** Gas supply.
- BS 7074 Part 1:** Expansion vessels.

For installation in timber framed buildings, refer to the British Gas Publication **Guide for gas installation in timber framed housing - REF DM2**.

2. It is essential that the boiler be installed strictly in accordance with these Instructions and the documents, detailed above.

3. To avoid the possibility of injury, care must be taken when handling sheet metal componets.

1.2 General description

The **ROMA 55 FF** is a wall mounted fanned flue boiler, suitable for connection to sealed or open vented water systems, supplying central heating and/or indirect (stored) domestic hot water.

A balanced flue system is supplied, suitable for horizontal and vertical termination only, but which can, if desired, be taken from the rear, sides or top of the boiler*.

NOTE

* Side exit or vertical exit requires the optional side / vertical flue turret.

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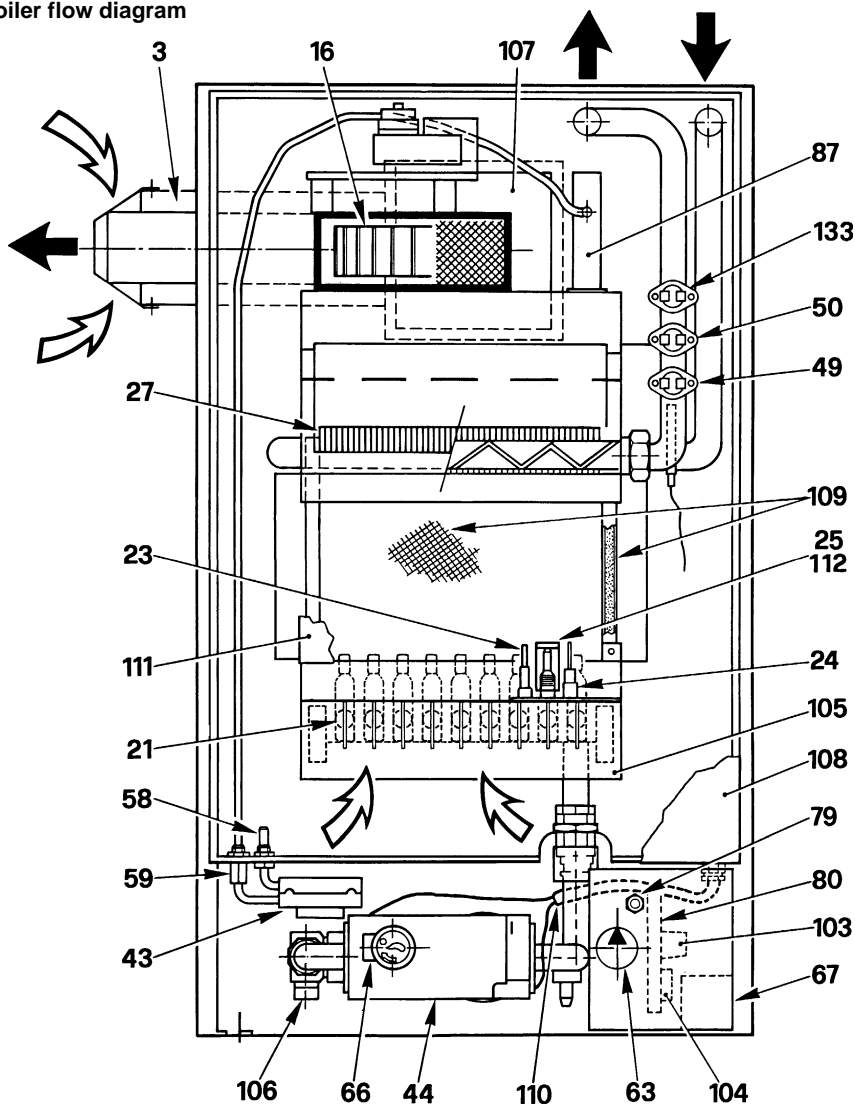
2. Technical data

GAS	MAXIMUN OF RANGE		MINIMUM OF RANGE	
HEAT INPUT	20 kW	68,200 Btu/h	10 kW	34,100 Btu/h
HEAT OUTPUT	16 kW	55,000 Btu/h	7.3 kW	25,000 Btu/h
BURNER PRESSURE	12 mbar	4.7 in wg	2.4 mbar	1.0 in wg
GAS RATE - AFTER 10 MINUTES	1.9 m³/h	66 ft³/H	0.95 m³/h	33 ft³/h
GAS CONNECTION SIZE / POSITION	1/2" Bsp / left hand side, rear base			

WATER	OPEN VENTED		SEALED	
MAXIMUN HEAD OR PRESSURE	30 m	43.5 psi	3.0 bar	43.5 psi
MINIMUM HEAD OR PRESSURE	0.2 m	8"	0.8 bar	11.6 psi
	if pressurised type			
MAXIMUM FLOW TEMPERATURE	85° C		85° C	
TEMPERATURE DIFFERENTIAL	11° C between flow and return connections, recommended			
MINIMUM WATER FLOW RATE	0.36 m³/h		12.7 ft³/h	
WATER CONTENT	0.5 litres		0.11 gal.	
CONNECTIONS	22 mm compression, right hand side, rear, top			

ELECTRICAL	
SUPPLY	Mains supply 230 V ~ 50 Hz fused 3 Amp.
POWER CONSUMPTION	50 Watt (without pump)
CONNECTIONS MAINS / CONTROL	5 wire electrical lead
	Brown - Live
	Blue - Neutral
	Green/Yellow - Earth
	Black - Switched Live from external controls
CONNECTIONS PUMP	Red - Live to external controls
	3 wire electrical lead
	Brown - Live
	Blue - Neutral
	Green/Yellow - Earth

3. Boiler flow diagram





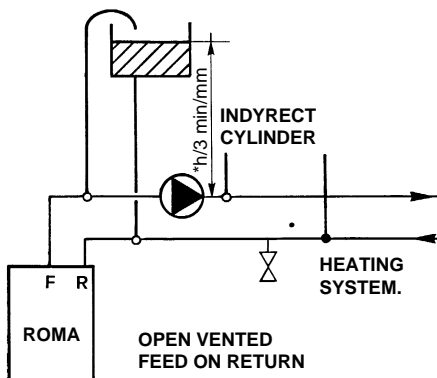
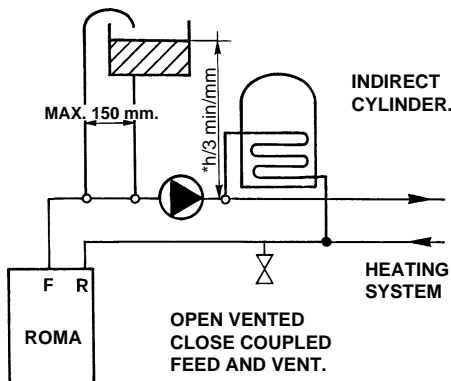
4. Key boiler flow diagram

POS.	G.C. No.	DESCRIPTION	Q.ty
3.		Flue/air intake (side outlet)	1
16.		Complete fan RL 85/0034A1 3025LH 422	1
21a.		Main injector N.G. 1.25	9
21b.		Main injector L.P.G. 0.72	9
23.		Thermocouple	1
24.		Complete spark electrode	1
25.		Pilot	1
27.		Copper heat exchanger	1
43.		Air pressure switch	1
44.		Combination gas valve V4600C 1193	1
49.		Overheat cut/off thermostat	1
50.		Central heating limit thermostat	1
58.		Combustion chamber pressure test point (+)	1
59.		Flue outlet pressure test point (-)	1
63.		C.H. boiler thermostat	1
66.		Microswitch combination gas valve	1
67.		Ignition transformer (CAST)	1
79.		Capacitor fan IMF	1
80.		Complete P.C.B. VF.1	1
87.		Venturi flue testpoint	1
103.		Relay	1
104.		Fuse 2A	1
105.		Complete burner set	1
106.		Gascock	1
107.		Flue/air intake flange rear outlet	1
108.		Combustion chamber outlet cover	1
109.		Combustion chamber insulation, back and sides	1
110.		Eco split wire	1
111.		Combustion chamber front panel	1
112.		Pilot injector N.G. 0.27	1
112b.		Pilot injector L.P.G. 0.22	1
133.		Pump overrun thermostat	1



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5. Installation data



* h = maximum head developed by pump.

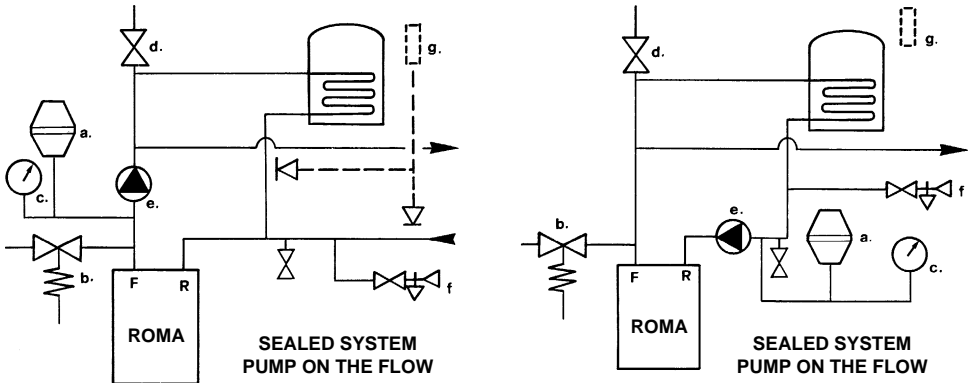
5.1 Water System

General

1. The **ROMA 55 FF** will supply central heating and, via an indirect cylinder, stored hot water.
2. All water systems must be in accordance with the Bye-Laws of the Local Water Undertaking.
3. Only fully pumped systems can be used.
4. Two pipe heating systems are recommended.
5. Systems can be either of the open (vented) or sealed type.

5.2 Open (Vented) System

1. Further guidance: BS 5449, BS 6798 and British Gas Publications.
2. Two typical systems are shown above. Note that close coupled or combined feed and vents are permitted.
3. Cold Feed: Minimum 15 mm copper but minimum 22 mm if combined with open vent.
4. Open Vnd: Minimum 22 mm copper.
5. No valves between the boiler and the open vent.
6. A Bypass must be fitted which allows a minimum flow of 6 litres/min. (1.3 gal/min.)



5.3 Sealed System

1. Further guidance: BS 5449, BS 6798, BS 7074 Part 1, British Gas Publications.

2. Two typical sealed systems are shown, above.

3. COMPONENTS:

a) EXPANSION VESSEL.

To BS 4814. Sized according to BS 5449 and/or BS 7074 Part 1. Positioned on the inlet to the pump.

b) SAFETY VALVE.

Always on the flow and next to the boiler. Non adjustable and set to 3 bar. Routed direct to drain in an area not susceptible to freezing, nor where it is hazardous. Do not reduce pipe size from that on the valve.

c) PRESSURE GAUGE (May incorporate a temperature gauge).

Must have a fill pressure indicator, and be readily visible to the User. Range 0 to 4 bar.

d) AIR VENT. Highest point of the system.

e) PUMP. Suitable for the system. See 5.4.

f) FILLING POINT.

Shall be at low level, in accordance with local Water Authority requirement, and generally have a stop valve to BS 1010, as well as a double check valve. Filling can be achieved either by means of a temporary hose or via a cistern used for no other purpose, with a minimum static head of 300 mm to the highest point of system.

g) SYSTEM MAKE UP.

Can be achieved either automatically - from an independent cistern used for no other purpose, or from a manually filled top up bottle through a double check valve, OR manually, by a temporary hose connection.

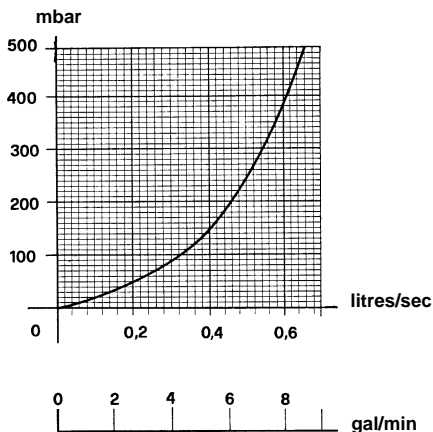
IMPORTANT

Any method of filling and of make up MUST comply with Regulations of the Local Water Authority.



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Boiler pressure loss



5.4 Pump selection

Suitable pump should be fitted taking due account of the pressure loss across the boiler. Pump to comply with BS 1394. A minimum flow rate of 6 litres/min (1.3 gal/min) is required.

5.5 Drain points

Must be provided to enable the system to be drained - taps to BS 2879.

5.6 Hot water storage cylinder

Must be either of the indirect coil type or a direct cylinder suitably adapted by fitment of an immersion calorifier. Direct cylinders must not be used.

5.7 Quality of components

All components, fittings, and joint must be suitable for temperatures up to 110°C and, for sealed systems, pressures up to 3 bar.

5.8 Flushing

Any system, new or old, must be flushed in accordance with the Commissioning Instructions. It is essential that as much residual sludge and debris be removed as is possible.

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5.9 Flue system

1. Further guidance: BS 5440 Part 1.
2. Flue types: Fanned. Balanced, and hence appliance is room sealed.
3. Termination: Outside. Horizontal. Vertical.
4. Direction: From boiler, to rear, either side and vertical (side & vertical required optional flue turret).
5. Maximum length: Two separate flue kits are available.

KIT	Part No.	MAXIMUM LENGTH mm	
		Rear - Inner to outer wallface	Side - Boiler side to outer wallface
A (1 m)	3980221	820	808
B (2m)	3980222	Not Permitted	1808
Vertical & Side flue turret part No. 3980220			
Vertical terminal part No. 39800570			

Order one kit only - joining of flue kits is not permitted.
With vertical termination maximum flue length is 2 metres.

5.10 Se duct termination

Termination in the Se Duct is exactly as termination on an outside wall. No adaptation of the flue system is required. Simply ensure that the plastic air duct is flush the inside face of the Se Duct.

Do not remove the terminal.

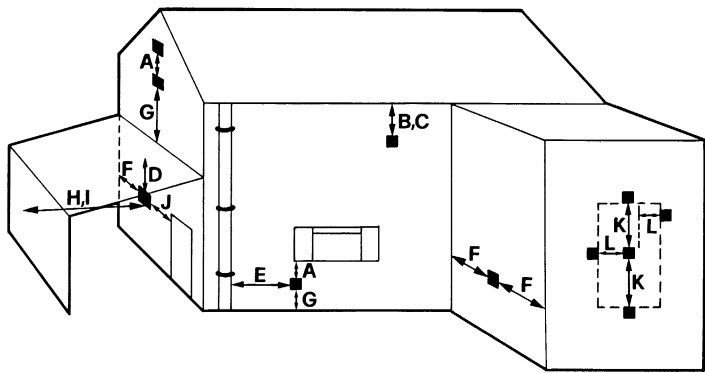
Don't forget that on Se Duct you will need an adequate width inside to push the flue system through any obstructions before entering the Se Duct. See section 7 (page 13).

5.11 Ventilation

1. Further guidance: BS 5440, Part 2.
2. Ventilation for a room or space: None Required - This is a room sealed appliance.
3. Ventilation for a compartment: Cooling air is required:

MINIMUM AIR VENT FREE AREA. COMPARTMENTS		
VENT POSITION	Compartment ventilated to:	
	Room or space	Direct to outside
HIGH LEVEL	180 cm ²	90 cm ²
LOW LEVEL	180 cm ²	90 cm ²

6. Terminal position (outside)



A Quinnell Barratt and Quinnell guard (part. no. C2) should be screwed to the wall centrally over the terminal, when the distance is less than 2 m above a balcony, above ground or above a flat roof to which people have access.

6.01 Terminal position

Minimum Clearances (mm)

POS.	mm	TERMINAL POSITION
A	300	Directly below an opening
B	75	Below gutters, soil and drain pipes
C	200	Below eaves
D	200	Below balconies, car port roof
E	75	From vertical drain or soil pipe
F	300	From internal or external corner
G	300	Above ground, roof, or balcony
H	600	From surface facing the terminal
I	1200	From terminal facing the terminal
J	1200	From opening in car port, to dwelling
K	1500	Vertically from a terminal on same wall
L	300	Horizontally from a terminal on same wall
1000		<ul style="list-style-type: none"> • Below plastic gutter • Below painted eaves etc. }
500		

Otherwise protect with suitable shield at least 1 m long

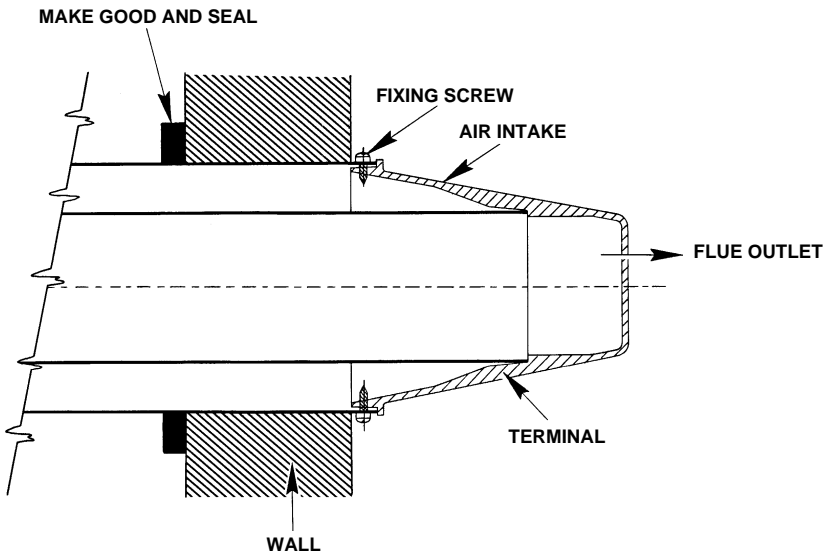


7. Terminal position horizontal, seduct, u duct

Standard se duct or u duct

Terminal position - The terminal must be situated relative to the Seduct or U Duct as shown.
Horizontal Only.

Flue lengths - Two lengths are available.



Part No. / Item	Rear Flues Wall Thickness (Max)	Side Flues Wall Thickness + Distance from side wall (Max)
3980221	820 mm	808 mm
3980222	not permitted	1808 mm

Installation - The exposed wall face **MUST** be made good and **SEALED**.
Note that the air duct **MUST** be retained by screws at the appliance. Further guidance BS 5440: Part 1.



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8. Location

1. Further guidance: BS 6798.
2. **Not** suitable for external installation.
3. **Must** be mounted on a suitable load bearing flat wall.
4. **Combustable walls** are not suitable.
5. **Dimensions** of the boiler.

WEIGHT EMPTY	30 kg	66 lb
WEIGHT FULL	30.5 kg	67 lb
HEIGHT	655 mm	26.8 in
WIDTH	370 mm	14.6 in
DEPTH	300 mm	11.7 in
CLEARANCES		
IN FRONT	600 mm	24.0 in
TO SIDES	5 mm	0.2 in
ABOVE	100 mm	4.0 in
BELOW	150 mm	6.0 in

6. The space for installation will need to take into account **minimum clearances** required for safe operation and subsequent Servicing. Note that the minimum clearance at the front can be via an openable door.

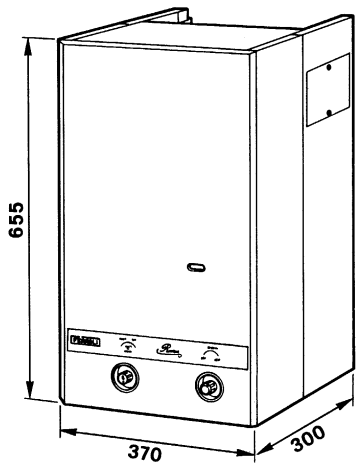
* A top clearance of at least 150 mm (6 in) is desirable at installation.

7. The boiler may be installed in any room or internal space, although particular attention is drawn to the requirements of the current I.E.E. Wiring Regulations, and, in Scotland, the electrical provisions of the Building Regulation applicable in Scotland, with respect to the installation of the boiler in a room or internal space containing a bath or shower. When this boiler is installed in a room containing a bath or shower, any electrical switch or appliance control, utilising mains electricity should be so situated that it cannot be touched by a person using the bath or shower.

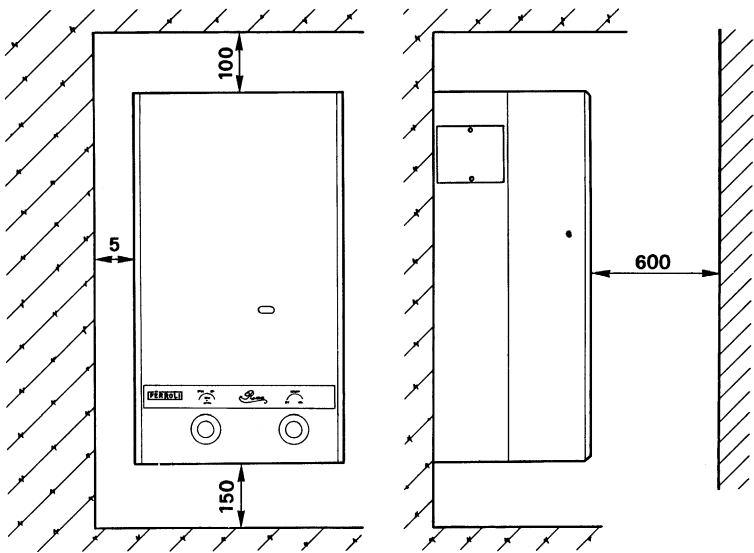
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8.1 Boiler location Dimensions (mm)



Minimum Clearances (mm)

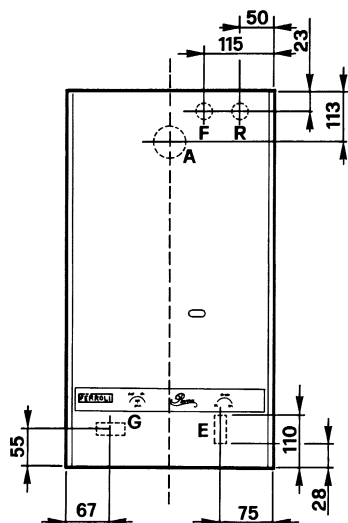




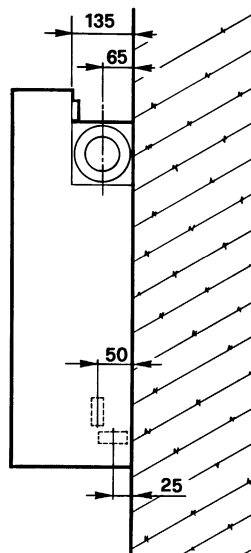
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9. Boiler connections

Gas, Water and Electrical



Front View. All Connections at rear.



Side View.
(with optional side flue turret)

- | | | |
|----|-----------------------------|---------------------|
| A. | Air pipe for flue System | 4" (100 mm) PLASTIC |
| G. | Gas Service Cock Connection | 1/2" BSP FEMALE |
| F. | Flow | 22 mm compression |
| R. | Return | 22 mm compression |

9.1 Gas supply

1. Further guidance: BS 6891, BS 6798, Gas Safety (Installation and Use) Regulations.
2. Ensure the supply pipe is at least the size of the boiler connection (1/2 in BSP or 15 mm copper), and the gas meter and existing and/or new pipework will serve the maximum gas rate of all the appliance served by the meter.
3. An inlet working pressure of 20 mbar will be required at the boiler.
4. Always test for soundness of gas supply pipes in accordance with BS 6891.

10. Electricity supply and connections

All electrical installation work must be carried out by a qualified electrician, and all work shall be in accordance with the current issue of the IEE wiring regulations.

Supplied for use on 230 V ~ 50 Hz supply, protected by a 3 Amp fuse.

The boiler must be earthed.

The method of connection to the mains supply must allow complete isolation from that supply either by:

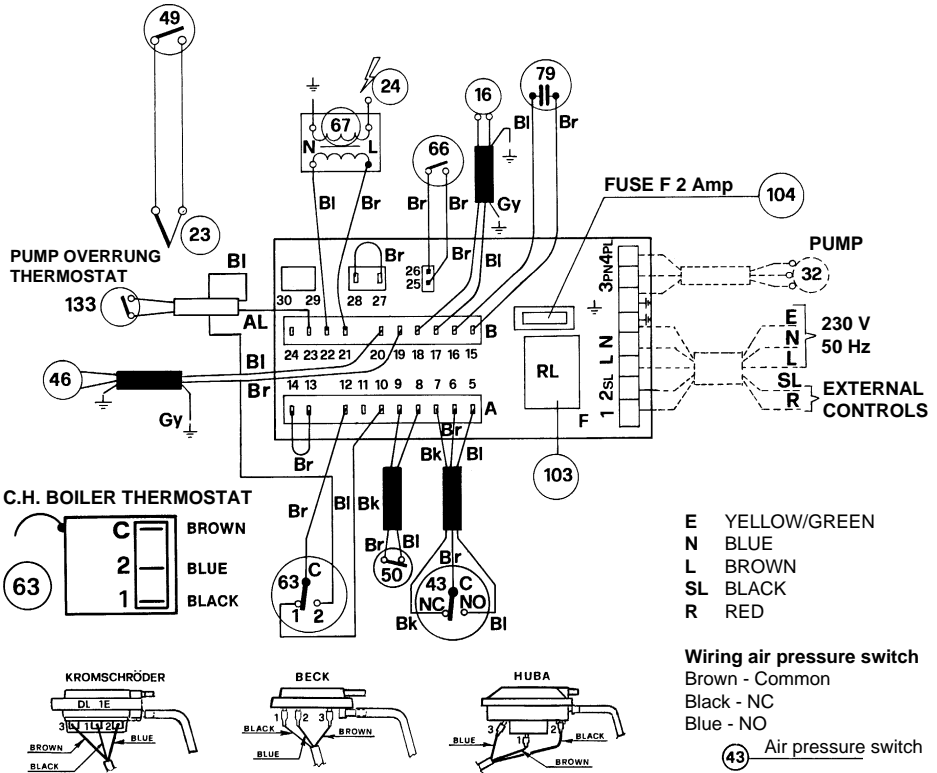
a) Use of 3 A fused double pole switch having a contact separation of at least 3 mm. Such a switch must supply the appliance and immediate control circuits **only** (eg room thermostat, programmer etc.)

OR

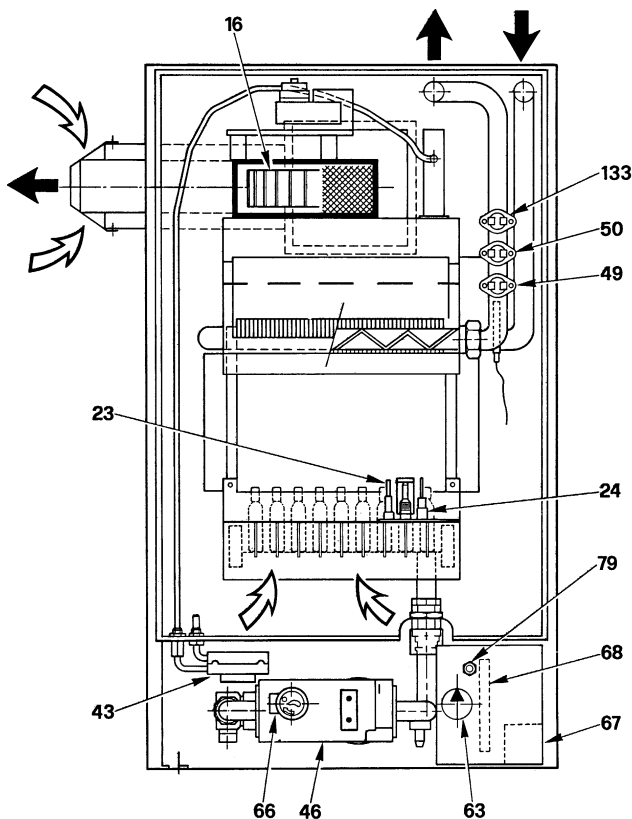
b) Use of an unswitched shuttered socket outlet and 3 A fused 3 pin plug both complying with BS 1363.

All external cables must be suitable for mains voltage and should be PVC insulated cable at least 0.75 mm² (24/0.2 mm), to BS 6500.

All external circuits for the control of the boiler must be wired and isolated from the same isolator as that which serves the boiler.



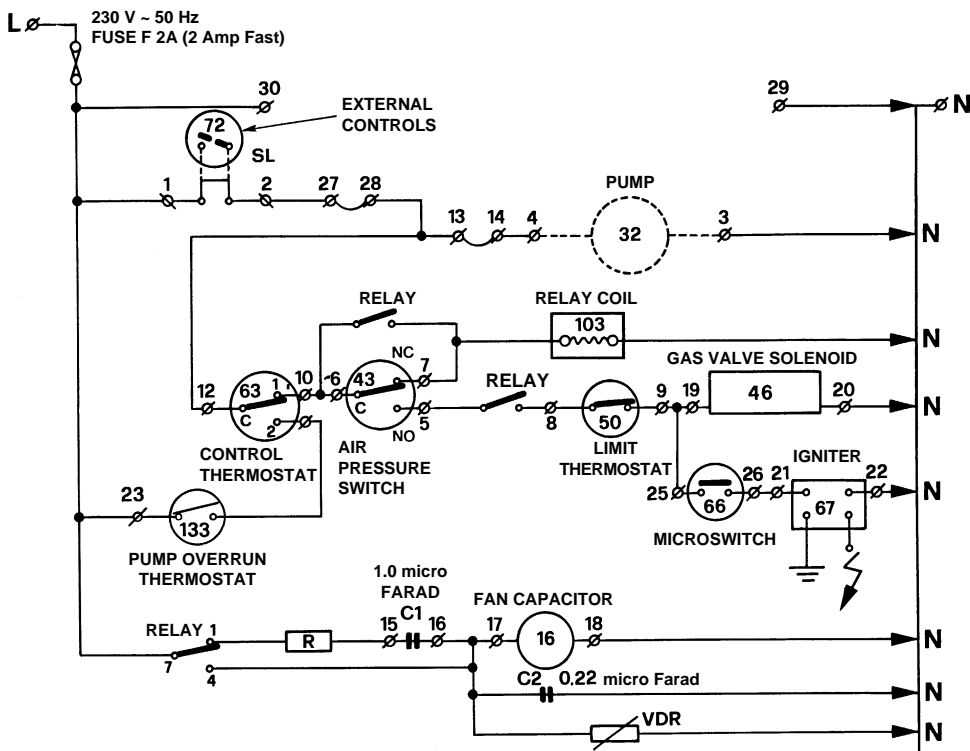
11. Boiler flow diagram



Key

- | | |
|-------------------------------------|---------------------------------------|
| 16. Fan | 63. C.H. boiler thermostat |
| 23. Thermocouple | 66. Microswitch combination gas valve |
| 24. Spark electrode | 67. Ignition transformer |
| 32. Pump (not fitted) | 68. Control box with P.C.B. |
| 43. Air pressure switch | 79. Capacitor |
| 46. Solenoid gas valve | 103. Relay |
| 49. Overheat cut-off thermostat | 104. Fuse |
| 50. Heat exchanger limit thermostat | 133. Pump overrun thermostat |

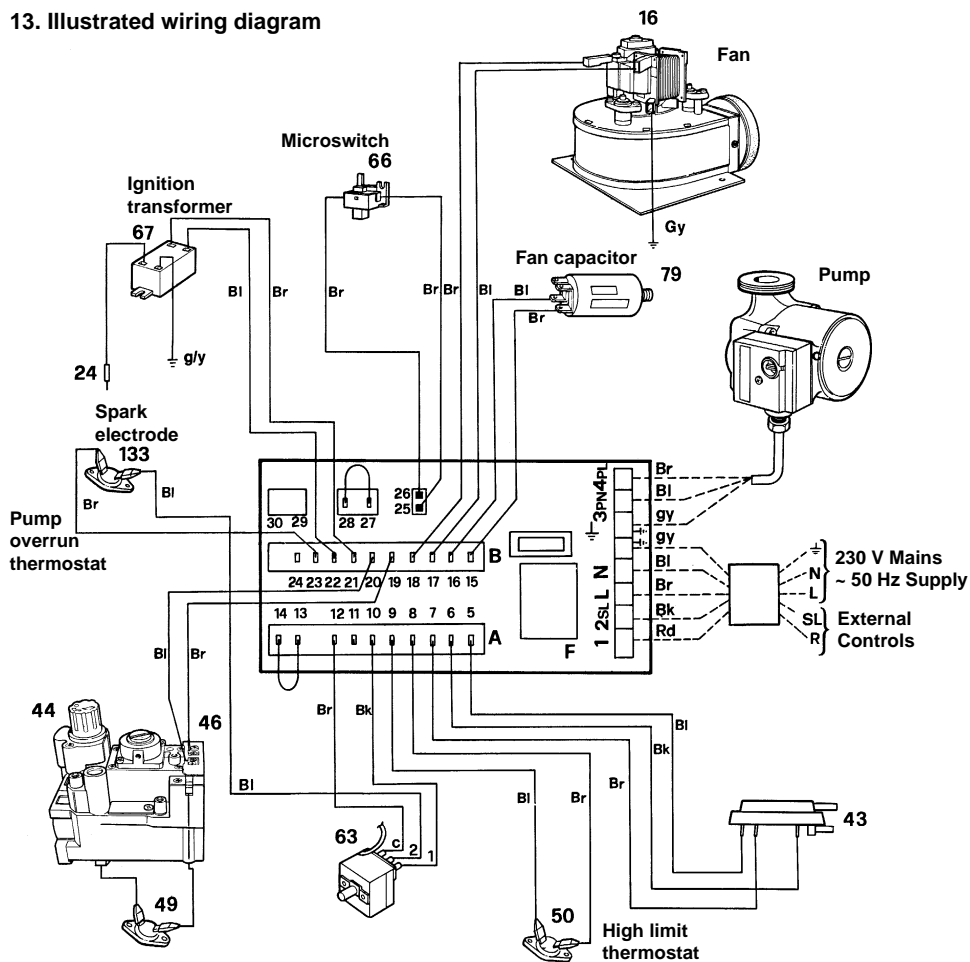
12. Electrical functional drawing



Key

- | | |
|-------------------------------------|---------------------------------------|
| 16. Fan | 66. Microswitch combination gas valve |
| 23. Thermocouple | 67. Ignition transformer |
| 24. Spark electrode | 68. Control box with P.C.B. |
| 32. Pump (not fitted) | 72. External controls |
| 43. Air pressure switch | 79. Capacitor |
| 46. Solenoid gas valve | 103. Relay |
| 49. Overheat cut-off thermostat | 104. Fuse |
| 50. Heat exchanger limit thermostat | 133. Pump overrun thermostat |
| 63. C.H. boiler thermostat | |

13. Illustrated wiring diagram



Key

- | | |
|---------------------------------|---------------------------------------|
| 16. Fan | 50. Heat exchanger limit thermostat |
| 24. Spark electrode | 63. C.H. boiler thermostat |
| 43. Air pressure switch | 66. Microswitch combination gas valve |
| 44. Combination gas valve | 67. Ignition transformer |
| 46. Solenoid gas valve | 79. Capacitor |
| 49. Overheat cut-off thermostat | 133. Pump overrun thermostat |

14. Installation procedure

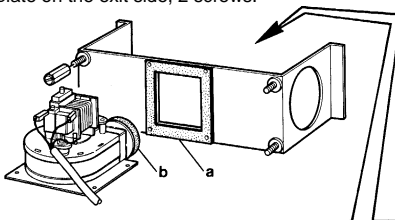
In most cases it will be easy and desirable to install the boiler with only the front section of the outer case and the lower cover removed. However, if it is wished to install the flue system without the boiler on the wall, the upper rear frame is easily detached from the boiler, the framed fixed to the wall, and the flue system fully assembled to the frame. Only when there is a clearance of less than 50 mm from the side wall through which the side exit flue is to pass or if the top clearance is less than 150 mm is this method essential.

14.1 Unpacking

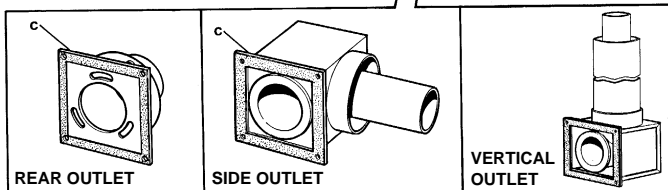
1. Unpack the boiler and separate flue pack.
2. Check the contents of the boiler pack:
 - 1 x Boiler.
 - 1 x Rear flue socket.
 - 1 x Air sealing sleeve.
 - 1 x Ancillaries pack containing wood screws and self tapping screws.
3. Check the contents of the flue pack:
 - 1 x Flue pipe (metal).
 - 1 x Air pipe (plastic) complete with terminal.
4. If ordered, unpack the optional side flue turret.

14.2 Prepare the boiler

1. Remove the outer case and lower cover (section 17.2.1 & 3).
If the boiler is to be mounted complete with the upper frame, go to 4 below.
2. Remove the inner case (section 17.2.2).
3. Remove four extended hexagon nuts securing the upper frame.
4. Push the foam gasket onto the rear boiler spigot.
5. For vertical flue go to 14.5.
6. For rear flues fit the rear flue socket to the upper frame using the fibre gasket and 4 self tapping screws provided.
For side flues fit the side flue turret, facing the appropriate direction of exit. Use the fibre gasket. Discard the rear flue socket.
7. For left hand side exit flues, interchange the two rear side panels, 1 screw each top and bottom.
8. For side exit flues, remove the infill plate on the exit side, 2 screws.

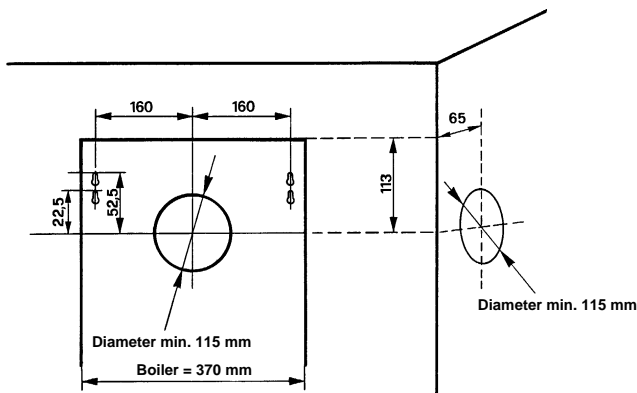
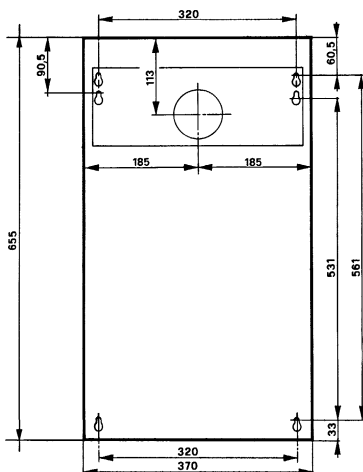


- a) seal air inlet
b) seal fan outlet
c) gasket





1. Using the template provided decide upon the position of the boiler.
2. Mark and drill four holes 10 mm diameter 60 mm deep.
3. Insert wall plugs provided and screw in the hexagon headed screws provided into the upper holes to within about 5 mm of the wall face.
4. For rear exit flues, mark the centre of the flue hole on the rear flue. Go to step 6.
5. For side exit flues, extend the centre of the flue hole marked on the rear wall, horizontally to the side wall, and mark, as shown.
6. Drill a 115 mm diameter hole, horizontally through the exit wall. A slight decline away from the boiler is acceptable. An incline is not.



14.4 Prepare the flue and air pipes rear and side flue outlet

1. Measure the wall thickness, W .

2. For rear flues; cut the plastic air pipes to length:

$W + 125 + 100$ mm including terminal;

cut the metal flue pipe to length: $W + 120 + 60$ mm.

This allows for expansion. Go to Step 4.

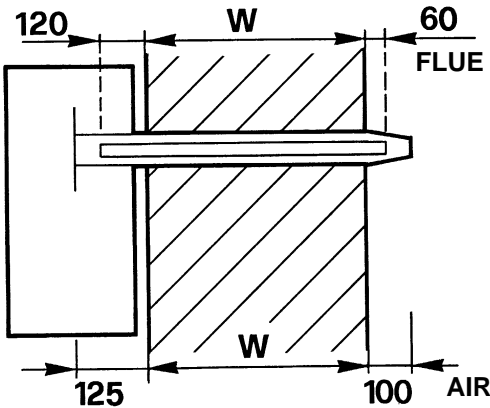
3. For side flues; cut the plastic air pipe to length:

$W + C + 137 + 100$ mm Including terminal;

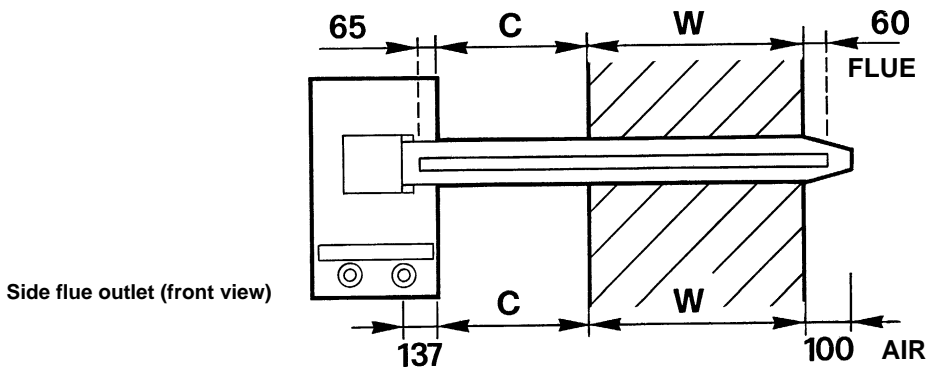
cut the metal flue pipe to length: $W + C + 65 + 60$ mm.

This allows for expansion.

4. Locate the flue pipe fully into the terminal and place the assembly into the wall (from outside if internal space is not sufficient). Ensure the assembly cannot fall outside.



Rear flue outlet (side view)



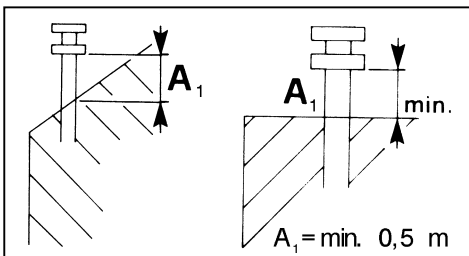
Side flue outlet (front view)



ROMA 55 FF

14.5 Vertical flue

1. Fit the side vertical flue turret bend (facing upwards) to the upper frame, using the fibre gasket and four self tapping screws provided. Discard the rear flue socket.
2. Measure the length for the plastic air pipe vertically from the appliance turret inner stop to the base of proposed terminal position (See drawing for minimum height).



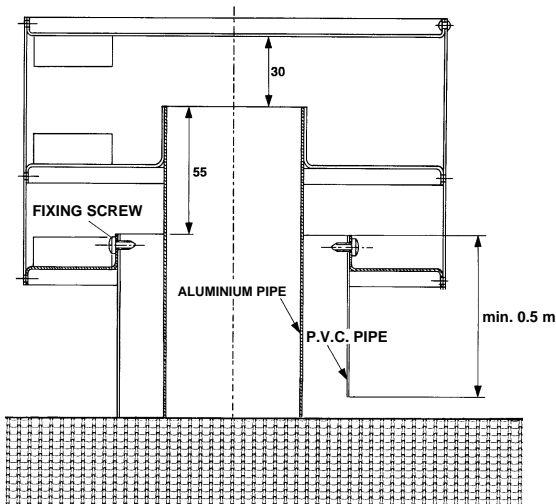
Maximum length of two metre allowed for flue. Ensure terminal position is a minimum distance of 0.3 m from a vertical wall surface or parapet.

3. Cut the plastic air pipe to required length.
4. Cut the inner aluminium metal pipe 35 mm (1" 1/2) shorter than the plastic air pipe.
5. Remove the two screws which retain the outside cage (terminal) on the standard flue pipe assembly. Fit the vertical rain cowl in its place using the two same two screws.
6. Locate the metal flue and the plastic air pipe onto the flue turret bend on the boiler making sure that when all is assembled that the metal inner flue protrudes and locates 50 mm (2") into the external rain cowl.
7. For weather sealing between flue and roof use dektite pipe flashing:-

Pitched roof - T F L 104

Flat roof - D F 504

Available from: - John Dek's (UK) Ltd
(0582) 882058



14.6 Mounting the boiler / completing the flue system

Note - If access is restricted, then pre-plumb the boiler flow and return connections at this stage.

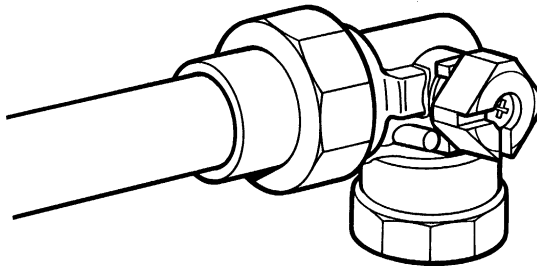
1. Lift the boiler or upper frame only if removed, and locate the upper key hole slots in the back panel over the upper mounting screws, and gently lower onto the screws.
2. Tighten the hex head screw.
3. Pull the metal pipe towards the upper frame and engage fully into the socket.
4. Now pull the plastic air pipe towards the upper frame and engage fully into the appliance socket.
5. Drill (3 mm) through the hole in the socket, into the plastic air pipe only, **not** into the flue pipe. If there is insufficient access to drill a hole through the air socket, mark the air pipe through the hole in the socket, disengage the air and flue pipes, remove the flue assembly and drill the hole reassemble and continue.
6. Secure the air pipe using a self tapping screw provided.
7. Check that the flue pipe protrudes into the terminal and that the terminal is clear of the outer wall face.
8. Make good around the air pipe at the external and internal wall faces.
9. Insert and tighten the lower fixing screws.
10. If detached, refit the boiler to the upper frame, securing with 4 extended nuts. Refit the inner case.

14.7 Connection services

1. Connected the gas supply to the gas service cock, ensuring the cock is off.
2. Connected the water flow and return.
3. Electrical connections - 5 wire electrical lead.

Brown - Live	}	Permanent
Blue - Neutral		mains supply
Green/yellow - Earth		230 V ~

Red - Live to external controls
Black - Switched Live from external controls



**GAS COCK IS SHOWN
IN AN OPEN POSITION**



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The pump is connected as follows (3 wire electrical lead).

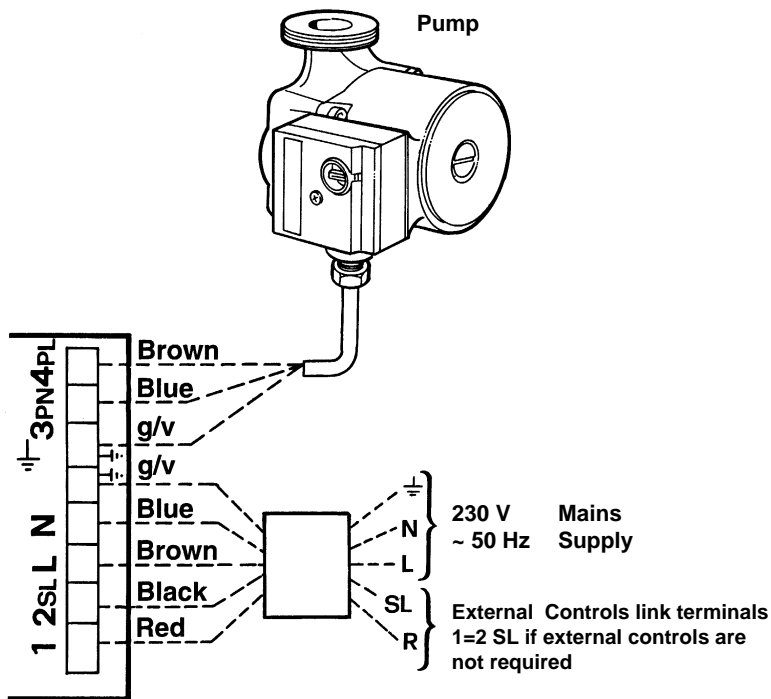
Brown - Live

Blue - Neutral

Green/yellow - Earth

If external controls are not required remove the supplied 5 core electrical lead and replace with a 3 core lead to supply the permanent 230 V live supply to the appliance. Link out terminals 1 and 2 SL on the appliance connection box.

Important: the pump must be supplied from the appliance and not from an independent source.





15. Commissioning

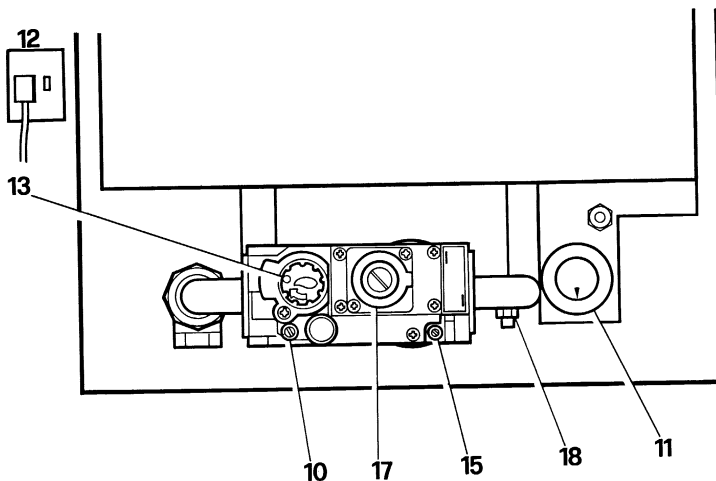
Carry out preliminary electrical system checks i.e. EARTH CONTINUITY, RESISTANCE TO EARTH, SHORT CIRCUIT AND POLARITY using a suitable test meter.

1. Remove the outer case and lower cover (17.2.1 & 3).
2. Test for gas soundness up to the boiler service cock - BS 6891.
3. Flush the system cold, without the boiler and pump in circuit.
4. Fill the complete circuit and vent the system. For sealed systems, fill to about a=1.5 bar at this stage.
5. Check the system for water soundness, rectifying any leaks.
6. For sealed systems, reduce the pressure to the approximate initial design pressure.
7. Open all radiator valves.
8. Loosen the screw within the pressure test point on the burner supply pipe and attach a suitable pressure gauge.
9. Open the boiler service cock.
10. Open all doors and windows, loosen the screw in the inlet pressure test point, and purge the gas supply BS 6891. Retighten the screw. Allow gas to disperse.
11. Set any external control to an **ON** condition, and turn the thermostat knob to maximum.
12. Turn on the electricity supply. Check that the pump runs.
13. Fully depress the gas control valve knob.
A continuous spark will light the pilot (viewed through window).
14. Continue to hold the control valve knob for about 15 seconds after the pilot is lit, then release. The pilot should remain alight and the main burner will light. If the pilot fails to remain alight, twist the control knob clockwise, and release. Wait 3 minutes and repeat steps 13 and 14, holding in the knob a little longer after the pilot has lit.
15. To check the pilot length, simply turn off the electrical supply, extinguishing the main burner and/or preventing its firing. Refer to section 17.4 for details of pilot length. Access can be improved by removing the inner case. Always replace the inner case before firing the main burner. The pilot rate is factory set and should not need adjustment. However, the adjustment screw can be used if needed (clockwise to decrease).
The normal thermocouple outputs is 10 - 18 mV.
16. Turn the thermostat knob to maximum, and set any external controls to **ON**. The main burner will light.
17. Heat Input Adjustment. The Input is pre-set to 16.0 kW but can be adjusted to any value in the range quoted in Technical Data - the burner pressure must always be checked anyway.
Remove the cap from the adjustment screw.

CH	HEAT INPUT		BURNER PRESSURE		CH set to	HEAT OUTPUT	
	kW	Btu/h	mbar	in w.g.		kW	Btu/h
MAX	20.0	68,200	12.0	4.7	—	16.1	55,000
	16.7	57,000	8.1	3.2	—	13.2	45,000
MED	15.2	52,000	6.6	2.6	—	11.7	40,000
	13.7	46,700	5.2	2.1	—	10.3	35,000
MIN	10.0	34,100	2.4	1.0	—	7.3	25,000



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Key

- | | |
|-------------------------------|--|
| 10. Inlet pressure test point | 15. Pilot adjustment screw clockwise to decrease |
| 11. Thermostat knob | 17. Adjustment screw burner pressure clockwise to increase |
| 12. Electricity supply | 18. Burner pressure test point |
| 13. Control valve knob | |
18. After 10 minutes, adjust the heat input to the required value. (Anticlockwise to decrease).
Replace the cap.
19. **NOTE** - If the required pressure cannot be obtained, the inlet working pressure should be checked - 20 mbar is required.
20. Allow the system to reach heated equilibrium. On sealed systems check that the pressure does not exceed 2.65 bar (in which case a larger expansion vessel will be needed).
21. Twist the control valve knob clockwise to turn off.
22. Flush the system whilst hot, and refill.
23. Remove the pressure gauge, tighten the screw.
24. Relight and check for gas soundness.
25. Mark the Data Badge to indicate the set heat input.
26. Replace the lower cover and outer case.
27. Adjust the thermostat control knob to the required setting.
28. Hand over to the user:
- Explain the function and control of the boiler, including any external controls.
 - Advise against obstruction of purpose provided ventilation, and of the flue terminal.
 - Give advice on frost protection of parts.
 - Advise arrangement of an annual Service Contract.
 - Hand all Instructions and literature to the user.
 - If electricity supply is interrupted manual resetting of the gas controls may be required, i.e. re-light pilot etc. when the electricity supply has been restored.

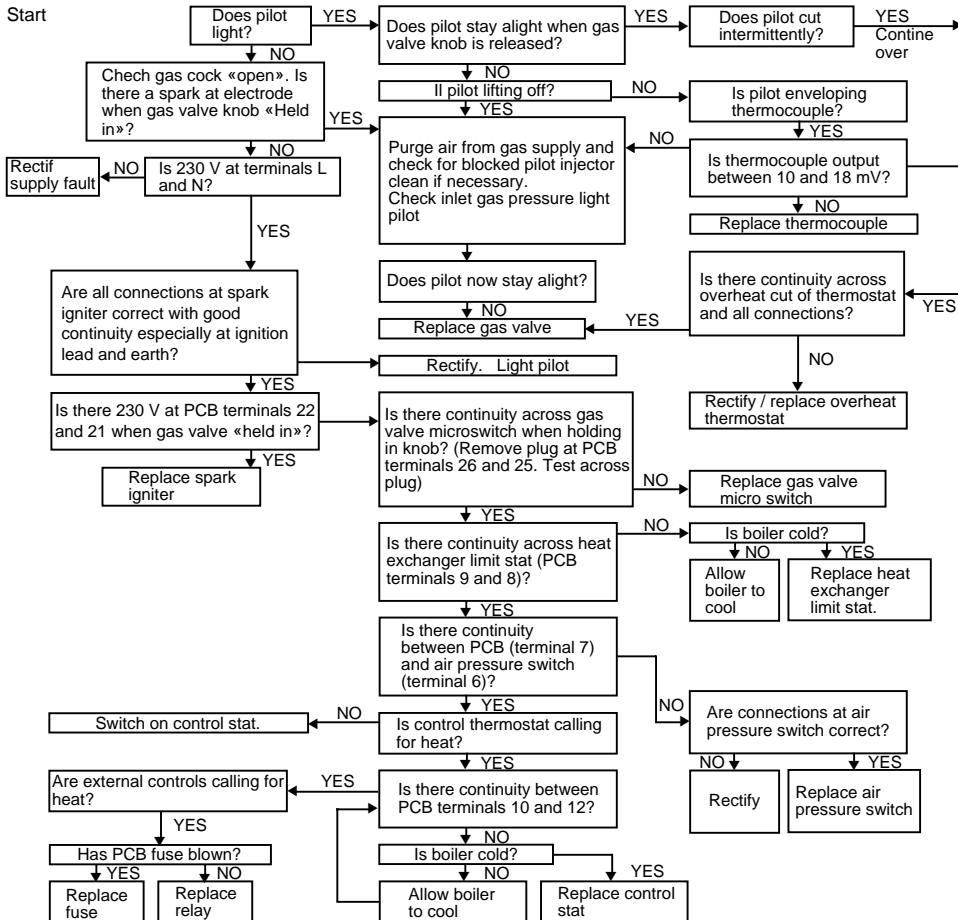
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16. Fault finding

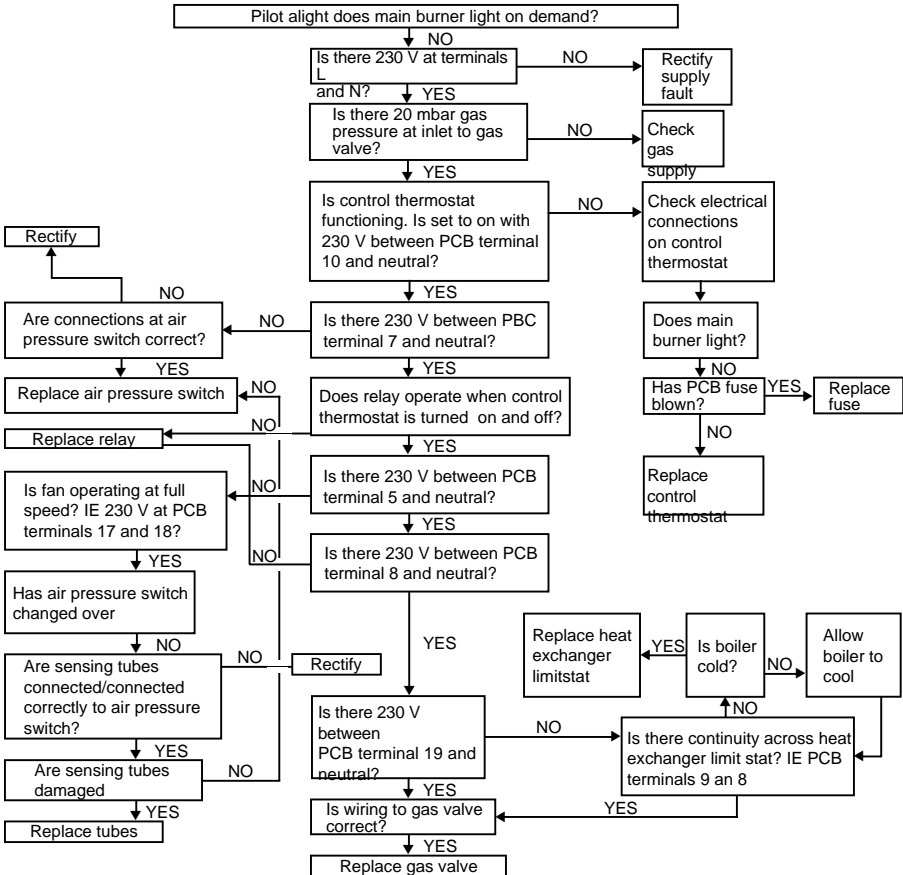
Carry out initial fault finding checks i.e. check that gas, water and electrical supplies are available at the boiler. Before starting, carry out preliminary electrical system checks i.e. earth continuity, resistance to earth, short circuit and polarity with a suitable test meter.

On completion of any servicing/fault finding these electrical checks must be repeated.

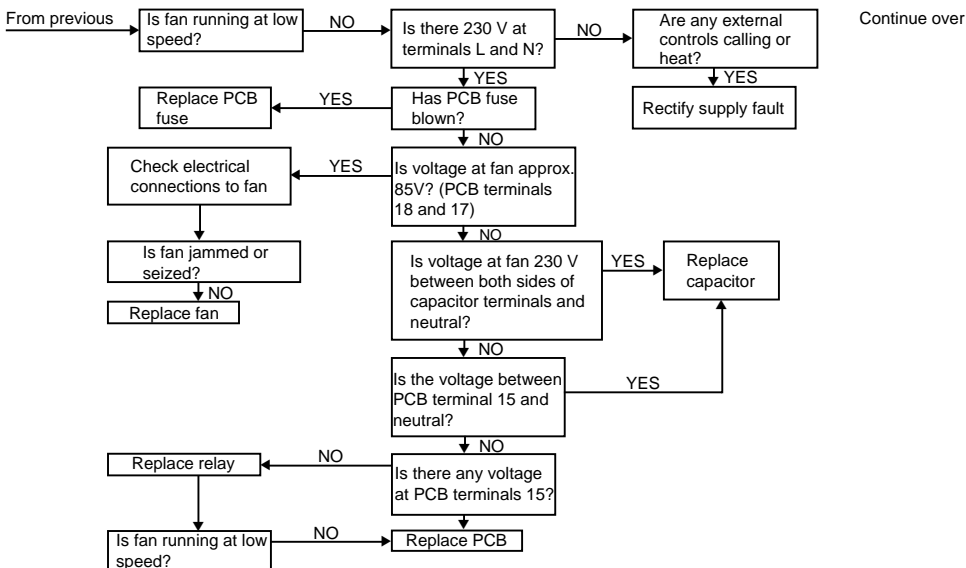
NOTE - When carrying out continuity tests ensure electrical supply is isolated (and also before any servicing or replacement of parts). Ensure all external controls are calling for heat and check the external and PCB fuses.



16.1 Fault finding



16.2 Fault finding



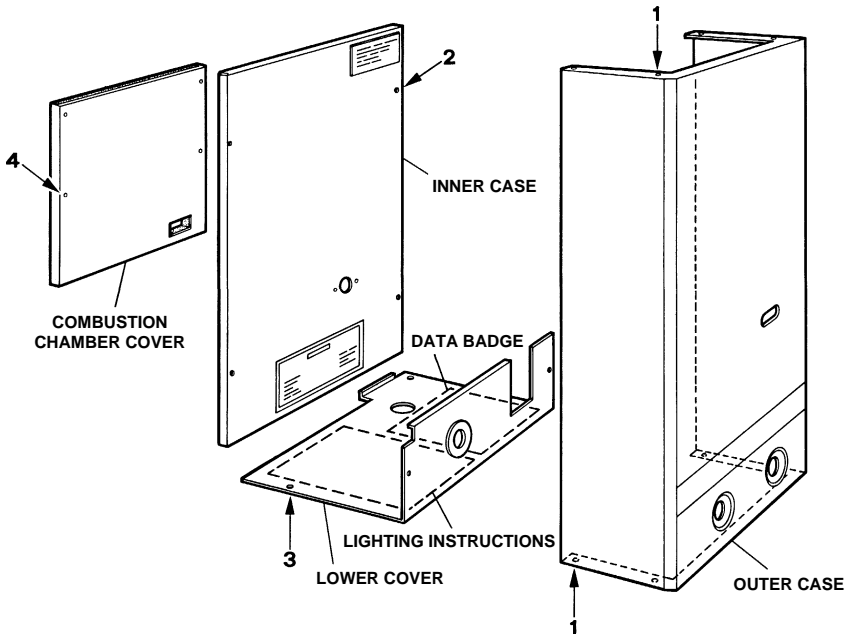
17. Replacement of parts

17.1 General procedures and notes

1. Replacement of parts must be out by a competent person.
2. Isolate the electrical supply and turn off the gas supply (gas service cock).
3. Upon completion always:
 - Check for gas soundness of joints broken
 - Afeter water drainage, refill the system in accordance with Commissioning Instructions, Sec. 15, and check for water soundness.
4. Replacement is in reverse order to dismantling unless otherwise stated.

17.2 Access

1. All procedures - remove the outer case, 8 screws, pull off.
2. Combustion chamber and heat exchanger components - remove the inner case, 4 screws, pull off.
3. Control components - remove the lower cover, 4 screws, pull off.
4. Combustion chamber components - remove chamber cover, 3 screws, lift and pull off.
5. Control box components - remove the box, 1 screw withdraw box and allow to suspend from wire provided.





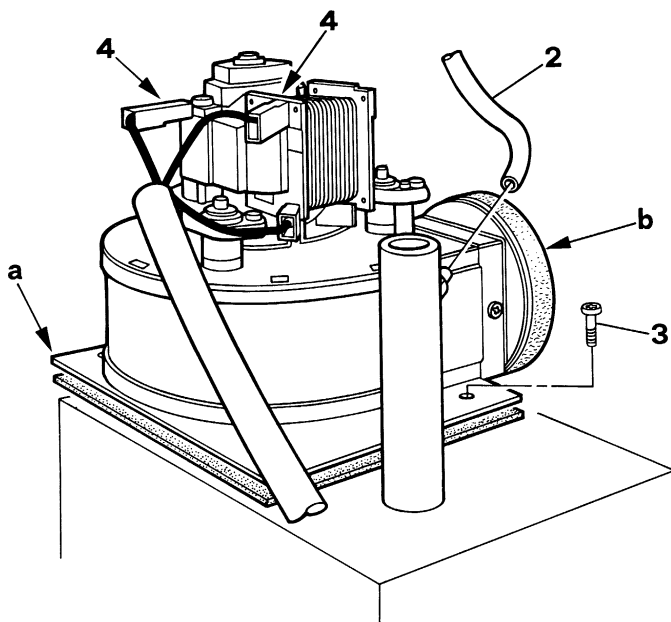
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17.3 Fan

1. Refer to 17.1, then remove the outer and inner cases (17.2, 1 & 2).
2. Disconnect the pressure sensing tube.
3. Withdraw fan complete with collector hood then remove 4 screws.
4. Disconnect 3 electrical leads.

Replacement:

- Ensure that gaskets a. and b. are transferred and are undamaged.
- Refer to wiring diagram for lead reconnection (fig. section 13).

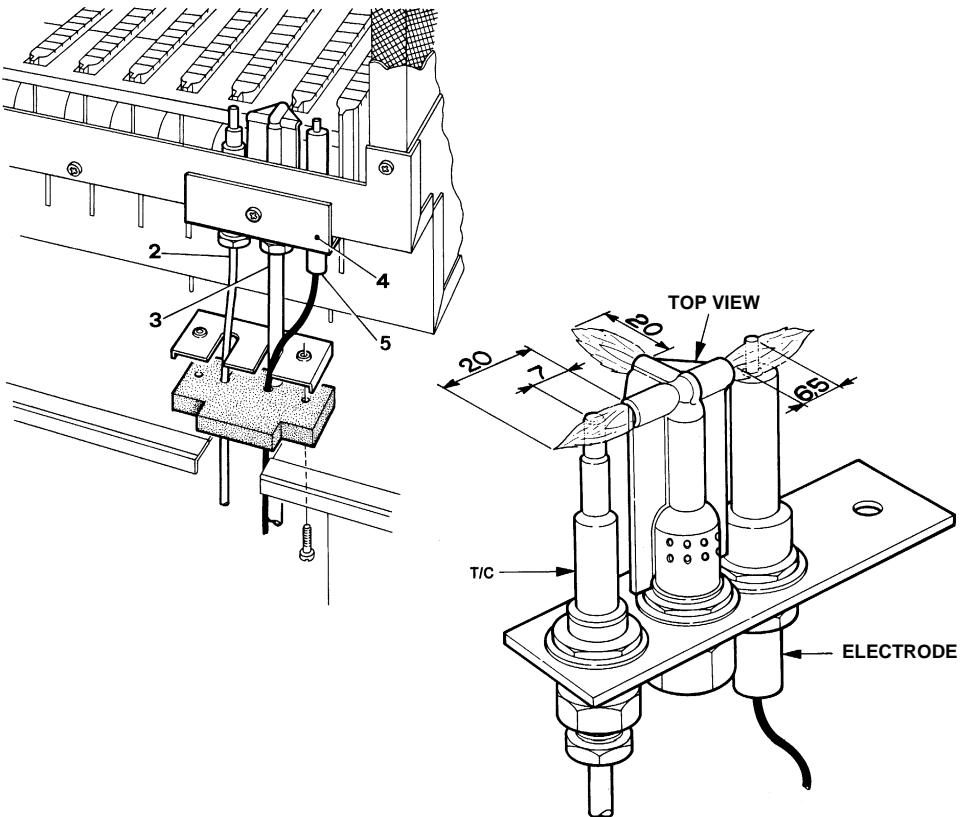


17.4 Pilot burner assembly

1. Refer to 17.1, then remove the outer and inner cases, the lower cover, and the combustion chamber front cover (17.2.1 to 4).
2. Disconnect the thermocouple and withdraw.
3. Unscrew the pilot pipe at **both ends**, and withdraw the pipe from the burner (the injector may fall out).
4. Remove the retention bracket, 1 screw, withdraw assembly.
5. Disconnect electrode lead.

Replacement:

- Transfer the electrode.
- Check the thermocouple to pilot burner to electrode relationship as shown.
- Ensure the pilot length is correct (15.15).





17.5 Electrode

1. Refer to 17.1, then remove the outer and inner cases, and the combustion chamber front cover. (17.2.1, 2 & 4).
2. Disconnect the electrode lead at the PCB and remove the bush from control box. Unscrew the electrode and withdraw the lead (item 5). Replacement: Check the electrode gap/

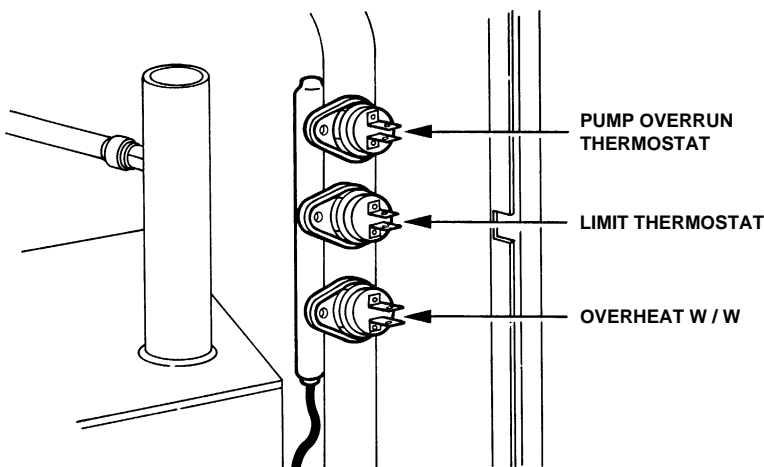
17.6 Thermocouple

1. Refer to 17.1, then remove the outer and inner cases, the combustion chamber front cover, and the lower cover (17.2.1 to 4).
2. Disconnect the thermocouple at both ends.
3. Remove the sealing plate and seal in the base of the sealed chamber, 2 screws.
Replacement:
 - Ensure foam seal and plate are correctly replaced.
 - Check thermocouple to pilot burner relationship.

17.7 Thermostats

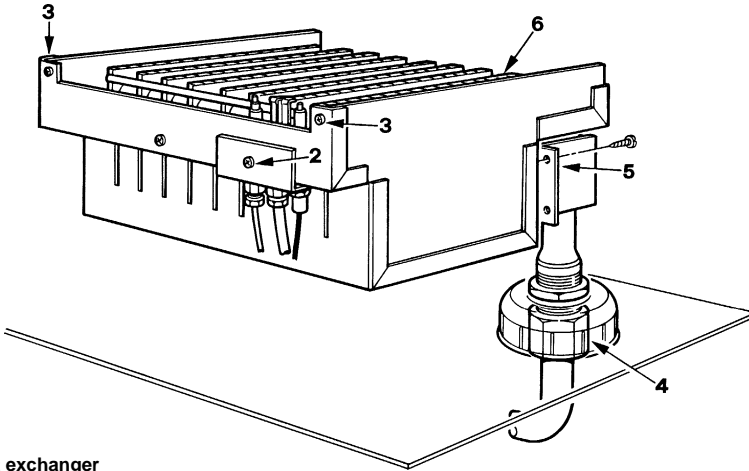
There are three such thermostats fitted to the flow pipe of the boiler; an overheat, pump overrun, and also a limit thermostat. Replacement procedures are identical.

1. Refer to 17.01, then remove the outer and inner cases (17.2 & 2).
2. Remove 2 retaining springs from the faulty thermostat holder with draw thermostat, disconnect leads.
Replacement:
 - Use heat sink compound.
 - Ensure springs are located fully home.
 - Polarity is immaterial.



17.8 Main burner / injectors

1. Refer to 17.1, then remove the outer and inner cases, the lower cover, the combustion chamber front cover, and the control box (17.2.1 to 5).
 2. Remove the pilot burner assembly (17.4.2 to 4).
 3. Remove the burner from the chamber side panels, 2 screws.
 4. Disconnect the burner gas supply union - access is improved by first removing the pressure switch.
 5. Injectors may be replaced individually or, alternatively, as a complete manifold set, 4 screws.
- Replacement: Ensure the locknut, is fully tightened on the plastic dome.



17.9 Heat exchanger

1. Refer to 17.1 then remove the outer and inner cases and the combustion chamber cover (17.2.1 & 4).
 2. Drain the system to below the level of the heat exchanger.
 3. Disconnect the pressure sensing tube (item 2 fig. section 17.3)/
 4. Withdraw the complete fan/collector hood assembly.
 5. Disconnect 3 electrical leads (item 4 fig. section 17.3).
 6. Undo 2 unions on the right hand side and remove the heat exchanger.
- Replacement: Use new union washers.

17.10 Combustion chamber insulation

A. SIDE and REAR

1. Remove the heat exchanger (17.9).
2. Remove two side, then the rear, panels. Replacement: Use new heat exchanger union washers.

B. FRONT

1. Refer to 17.1, then remove the outer and inner cases, and the combustion chamber cover. (17.2.1, 2 & 4).
 2. Bend back three retaining tags and remove panel (careful not to damage the viewing window).
- Replacement: Ensure the viewing window is correctly positioned and is tight.

17.11 Viewing window (combustion chamber cover)

Remove the front combustion chamber insulation panel (17.10 B).

Replacement: Ensure the viewing window is correctly positioned and is tight.

17.12 Pressure switch

Note - Any of 3 alternative pressure switches can be used (fig. section 10).

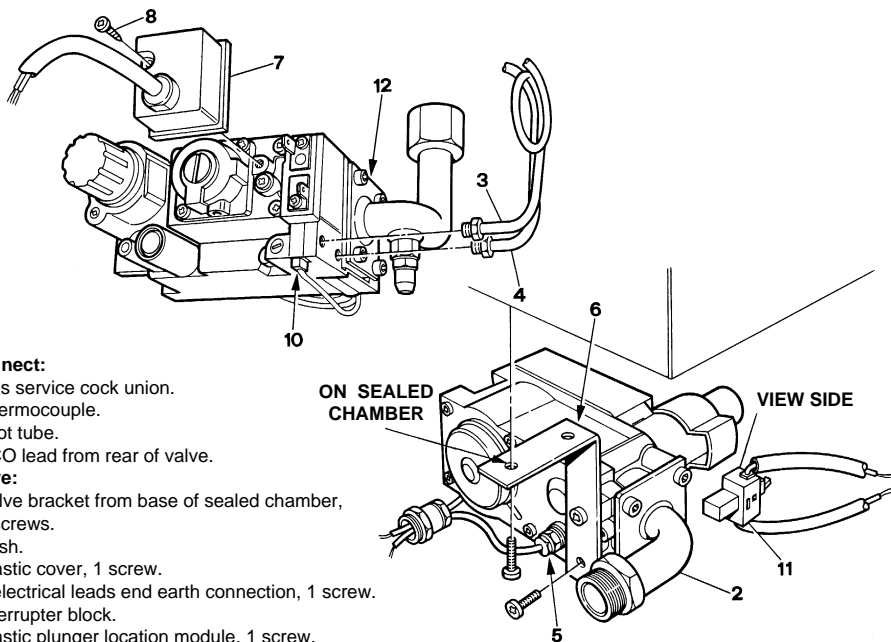
1. Refer to 17.1, then remove the outer case and lower cover (17.2.1 & 3).
2. Remove the switch complete with bracket, 1 screw.
3. Disconnect 3 electrical leads and 2 pressure tubes.

Replacement:

- Transfer the bracket to the new switch.
- Rewire in accordance with wiring diagram (fig. section 13).
- Pressure tube connection is red to red.

17.13 Gas control valve

1. Refer to 17.1 then remove the outer case and lower cover (17.2.1. & 3).



Disconnect:

2. Gas service cock union.
3. Thermocouple.
4. Pilot tube.
5. ECO lead from rear of valve.

Remove:

6. Valve bracket from base of sealed chamber, 2 screws.
7. Bush.
8. Plastic cover, 1 screw.
9. 2 electrical leads end earth connection, 1 screw.
10. Interrupter block.
11. Plastic plunger location module, 1 screw.
12. 4 allen screws from right hand flange to free the valve.

Replacement:

- Transfer the left hand flange and the fixing bracket to the new valve.
- Use new 'O' rings at the flanges.
- Rewire in accordance with the wiring diagram (fig. section 13).

17.14 Viewing window (inner case)

If cracked then the complete inner case front panel must be renewed to retain the integrity of the sealed chamber (17.2.2).

17.15 Control box components

1. Refer to 17.1, then remove the outer case, the lower cover and the control box (17.2.1, 3 & 5).

A. CAPACITOR

2. Remove nut and washer.

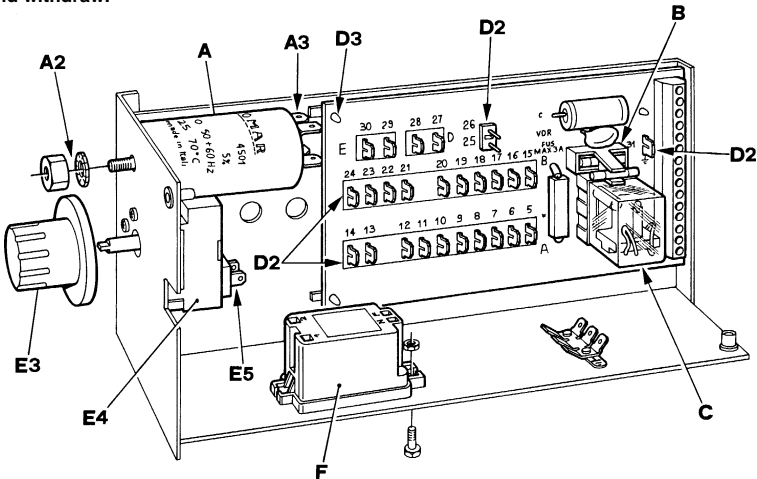
3. Disconnect 2 leads. Replacement: Polarity is immaterial.

B. FUSE

2. Pull from holder. Replacement: A spare is provided.

C. RELAY

2. Unclip and withdraw.



D. PCB

2. Remove four plugs.

3. Pull the board from its pins.

4. Transfer relay fuse and remaining connections to new PCB.

E. CONTROL THERMOSTAT

2. Remove the condenser A above, but do not disconnect leads.

3. Pull off the control knob.

4. Remove 2 screws securing thermostat.

5. Withdraw backwards, remove electrical leads.

6. Remove inner case (17.2.2).

7. Remove the retaining clip and withdraw the phial.

8. Unscrew nut at base of sealed chamber and withdraw the capillary and phial.

Replacement:

- A rubber seal within the steel bush must be correctly replaced to form a seal.

- Correct orientation - electrical connections are at the bottom.

F. IGNITER

2. Remove 2 screws from the base of the control box.

3. Pull off the electrode and earth leads.

4. Withdraw the igniter and disconnect remaining 2 leads.

5. Refer to wiring diagram (fig. section 13) when reconnecting.



18. Routine servicing

18.1 General

To ensure the continued, safe operation of the boiler, it is recommended that it is checked and serviced as necessary at regular intervals. Frequency will depend upon particular installation conditions and usage, but in general once a year should be adequate. It is the law that servicing be carried out by a competent person, such as a Service Engineer.

18.2 Pre-service check

Operate the boiler at full output and note any aspects which will require special attention during Servicing.

18.3 Service procedures

For Routine Servicing, procedures will be restricted to those of the following deemed necessary.

1. Always isolate the electrical supply and turn off the gas supply (service cock).

2. Remove the outer and inner cases and the combustion chamber cover (17.2.1, 2 & 3).

3. Clean the heat exchanger:

- Disconnect the pressure sensing tube (fig. section 17.3).

- Withdraw the complete fan/collector hood assembly.

- Disconnect 3 electrical leads.

NOW EITHER:

- Undo 2 unions on the right hand side and remove the heat exchanger to clean.

OR

- Cover the main burner and clean the heat exchanger in situ.

4. Using new washers replace the heat exchanger if removed.

5. Check that the fan impellor rotates freely and refit the assembly.

6. If required, the main burner can be removed, to allow cleaning of both the burner and injector manifold (17.8).

Otherwise simply brush away any debris.

7. Check the thermocouple to pilot burner to electrode relationship (fig. section 17.4).

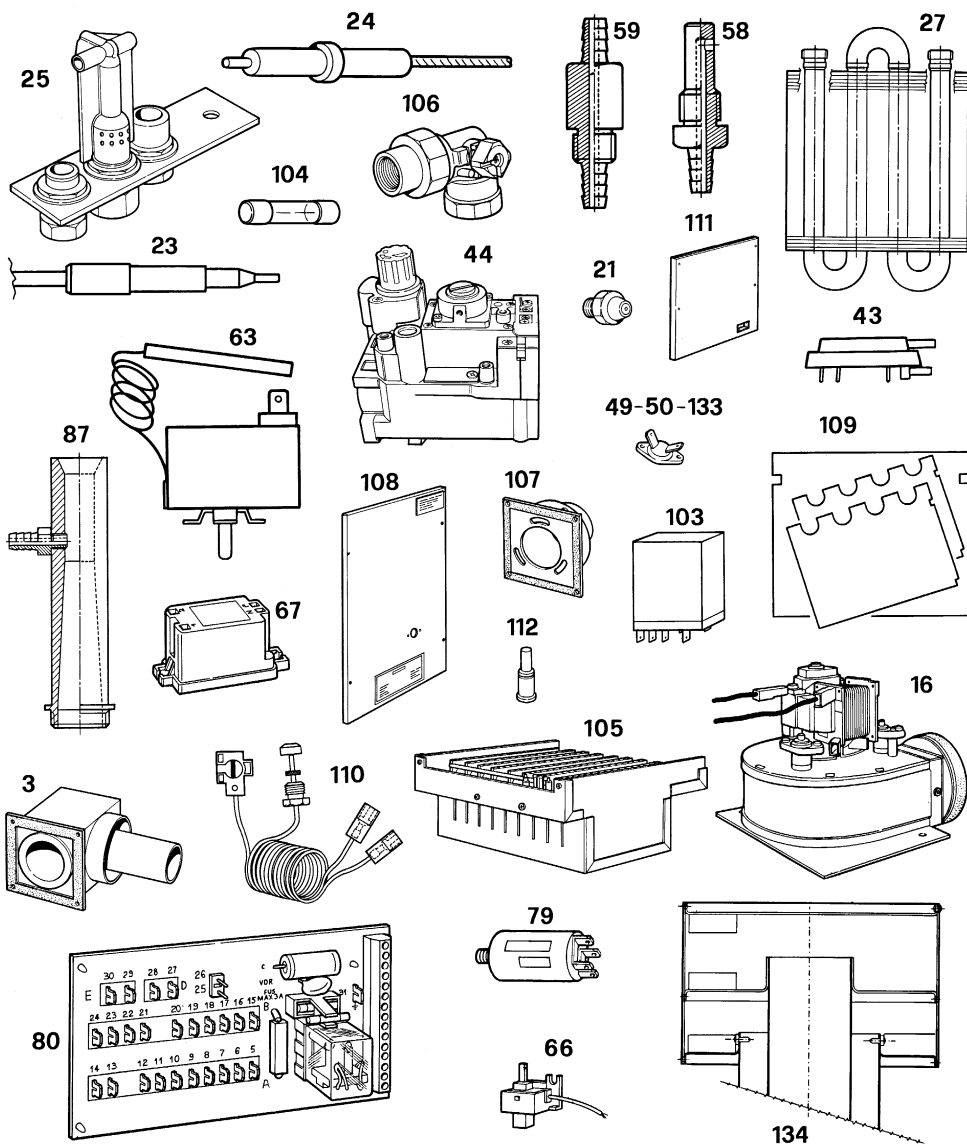
18.4 Reassembly

1. Always reassembly in reverse order, using the wiring diagram where necessary.

2. Test for soundness any joints broken or disturbed, on the gas route.

Any components requiring replacement are covered in Section 17.

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20. Parts list

POS.	G.C. No.	DESCRIPTION	Q.ty	MAKERS Part No.
3.		Flue/air intake hood side vertical outlet (opt)	1	3980220
16.	372368	Complete fan RL 85/0034A1 3025LH 422	1	3980224
21a.	386174	Main injector N.G. 1.25	9	3980146
21b.	386175	Main injector L.P.G. 0.72	9	3980148
23.	372369	Thermocouple	1	3980149
24.	372370	Spark electrode (complete with cable)	1	3980150
25.	372371	Pilot	1	3980151
27.		Copper heat exchanger	1	3980226
43.	381691	Air pressure switch	1	3980014
44.	386170	Combination gas valve	1	3980228
49.	386179	Overheat cut/off thermostat	1	3980124
50.	386180	Central heating limit thermostat	1	3980016
58.		Fan air outlet pressure test point	1	3980152
59.		Flue outlet pressure test point	1	3980153
63.	386171	C.H. boiler thermostat	1	3980229
66.	386813	Microswitch combination gas valve	1	3980154
67.	386172	Ignition transformer (CAST)	1	3980115
79.	386176	Capacitor far 1 micro farad	1	3980156
80.	372372	Complete P.C.B. VF. 1	1	3980230
87.		Venturi flue test point	1	3980157
103.	386173	Relay	1	3980158
104.		Fuse 2A	1	3980138
105.		Complete burner set	1	3980231
106.		Gascock	1	3980159
107.		Flue/air intake flange rear outlet	1	3980232
108.		Combustion chamber outlet cover	1	3980233
109.		Comb. chamber ins. back + sidee panels	1	3980234
110.		Eco split wire	1	3980160
111.		Combustion chamber front panel	1	3980235
112a.	386177	Pilot injector N.G. 0.27	1	3980161
112b.	386178	Pilot injector L.P.G. 0.22	1	3980147
133.		Pump overrun thermostat	1	3980171
134.		Vertical flue terminal	1	3980094

Phone numbers:

Installer _____

Service Engineer _____

**BECAUSE OF OUR CONSTANT ENDEAVOUR FOR IMPROVEMENT DETAILS
MAY VARY SLIGHTLY FROM THOSE QUOTED IN THESE INSTRUCTIONS.**

Cod. 3540632/0 - 01/96



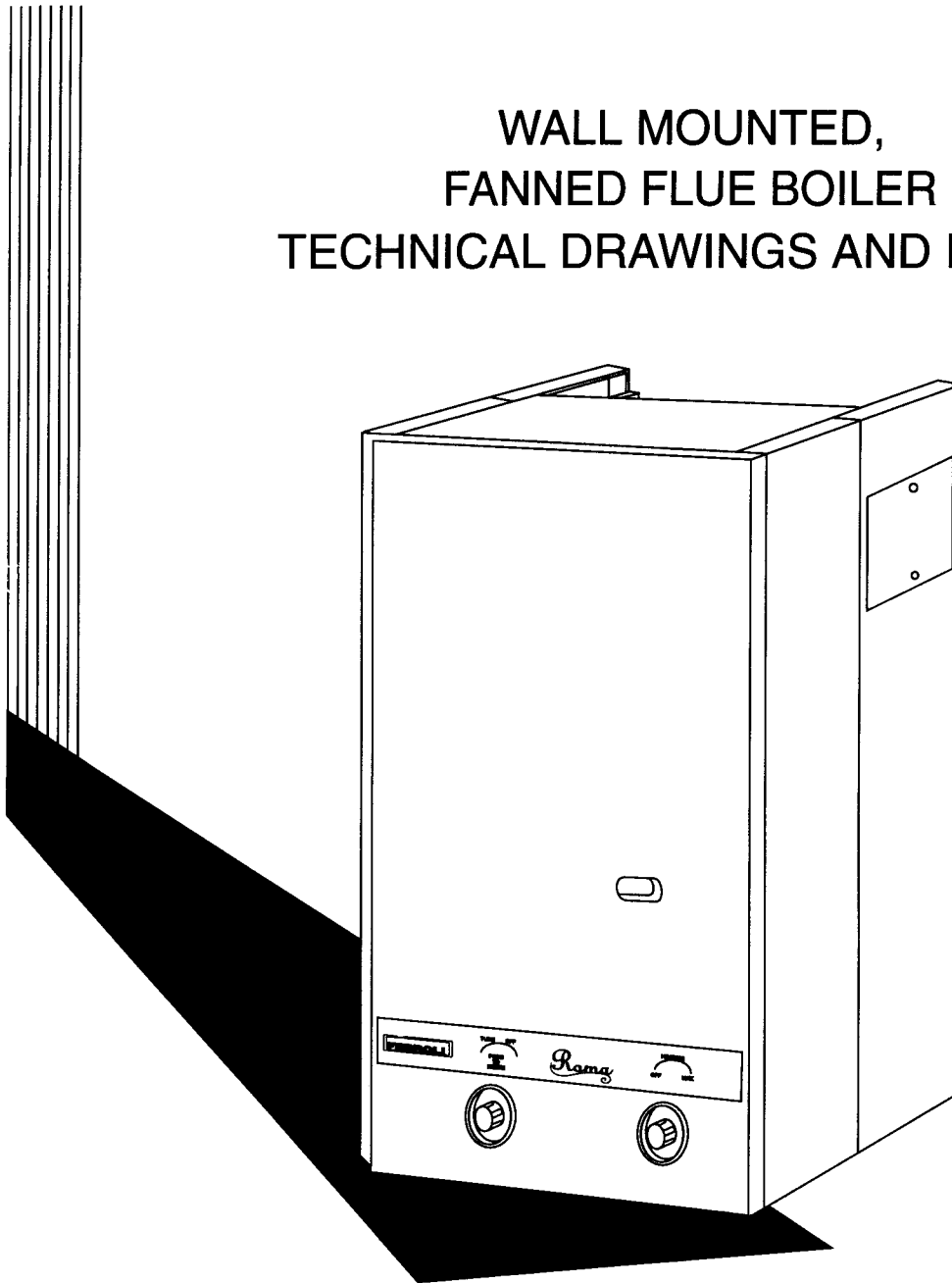
ALL SPECIFICATIONS SUBJECT TO CHANGE

Stock Close, Minworth Industrial Park, Minworth, Sutton Coldfield, West Midlands B76 8DH
Sales: 0121/313 2030 Service: 0121/313 1030 Fax 0121/313 2319



FERROLI ROMA 55 FF/92

WALL MOUNTED, FANNED FLUE BOILER TECHNICAL DRAWINGS AND PARTS LIST

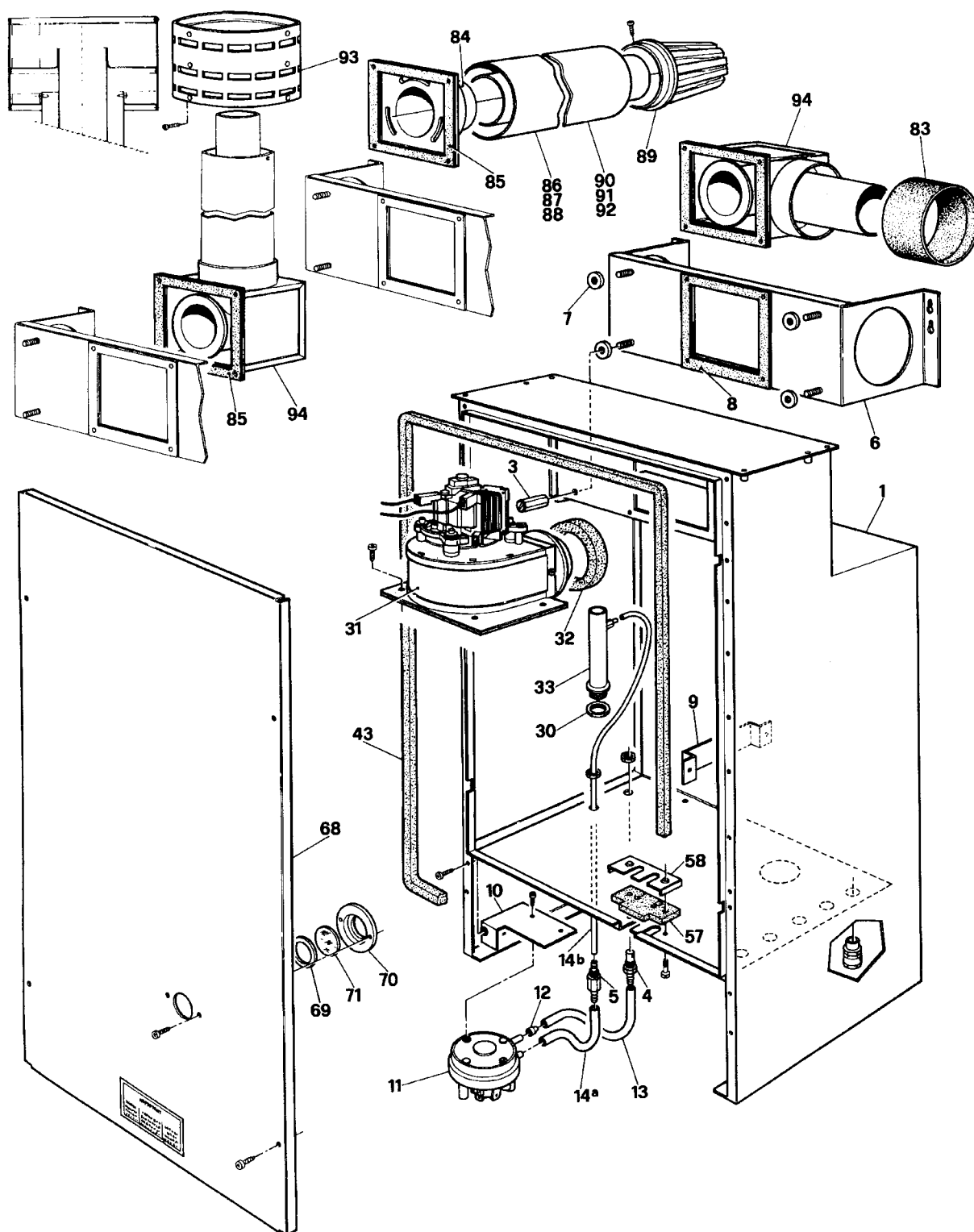


This appliance has been Tested
and Certified by British Gas plc
G.C. Appliance No 41-267-05



ALL SPECIFICATIONS SUBJECT TO CHANGE

ROOM SEALED COMPARTMENT AND FLUE

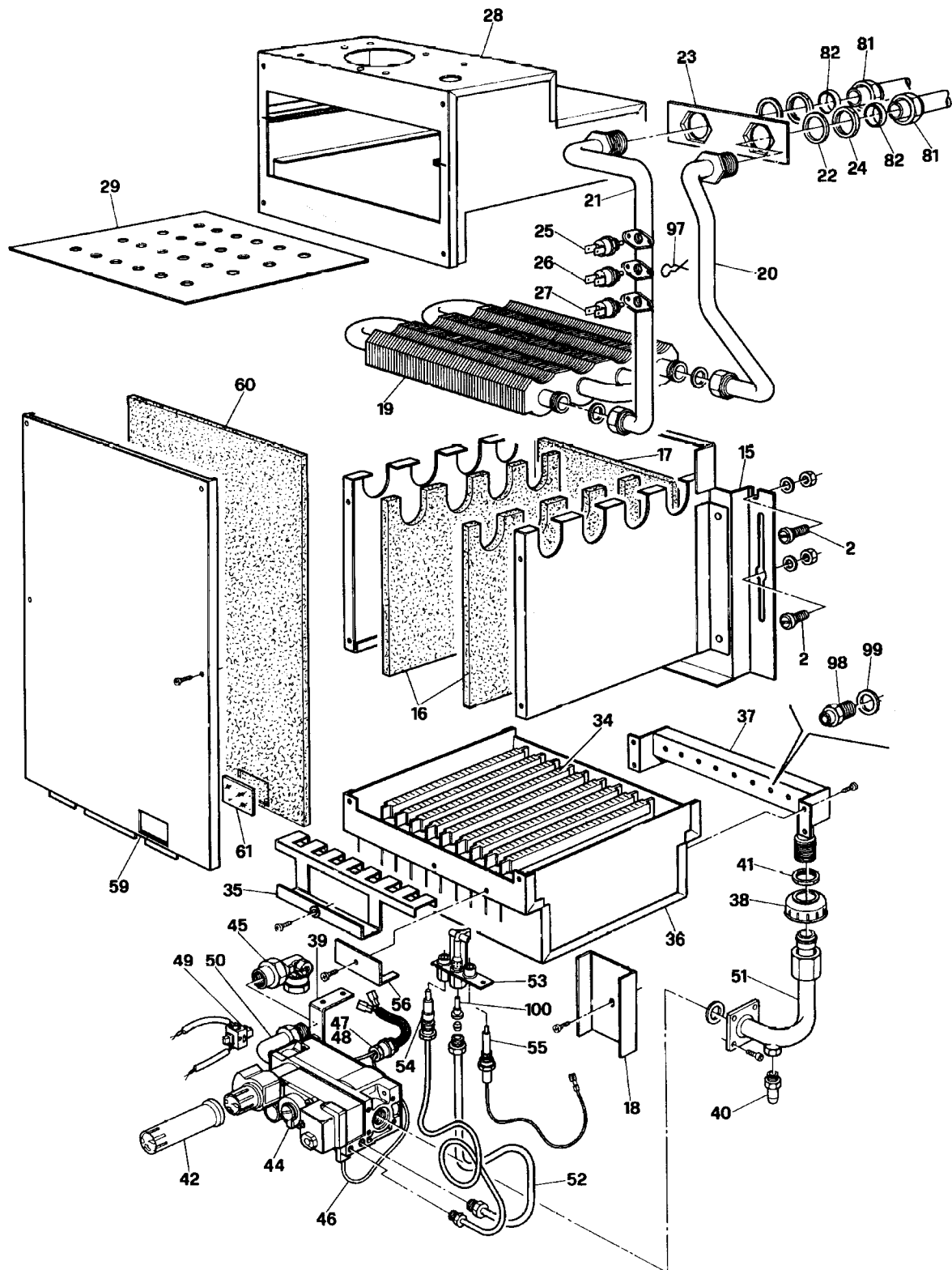


ROOM SEALED COMPARTMENT AND FLUE

Key G.C. No. Description

1	372 376	Room sealed compartment	811 500
3	372 377	Nut - special	810 190
4	372 378	Fan air outlet pressure test point	810 240
5	372 379	Flue outlet pressure test point	810 250
6	372 380	Jig bracket	815 030
7	372 381	Washers	811 200
8	372 382	Flue gasket - 124 x 124 x 6 flue outlet duct	812 710
9	372 383	Bracket - cable fastening	818 170
10	372 384	Bracket - pressure switch	815 080
11A	381 691	Pressure switch - Walter Beck 911.80	800 140
11B	378 168	Pressure switch - Kromschroder - DL.01.E	811 400
11C	378 167	Pressure switch - Huba 602.99.146	812 620
12	372 252	Pressure switch injector - 0.65 diameter	818 770
13	297 015	Silicon pipe - 7mm - external	814 950
14A	297 016	Silicon pipe - 7mm	815 210
14B	297 016	Silicon pipe - 7mm	815 210
30	372 192	Nut - ½"	817 880
31	378 169	Fan - S.E.L. - RL 85/0034 A1 - complete	802 240
32	297 020	Gasket - 75mm diameter - silicone Sp.12mm	810 700
33	297 021	Venturi flue - complete	812 200
43	297 006	Case seal - Maxgomma type POR 304	811 004
57	372 247	Packing	811 750
58	372 246	Plate - for pilot gas tube and thermocouple	817 270
68	372 392	Inner case	811 520
69	297 031	Gasket - 30.5mm diameter - spy glass	810 540
70	372 256	Flange - spy glass	810 430
71	372 255	Spy glass	815 240
75	372 395	Data badge	814 750
83	372 321	Sealing sleeve	810 620
84	297 002	Flue/air intake flange - rear outlet	811 610
85	297 003	Flue/air intake flange gasket	816 240
86	372 272	Outer air intake duct - 100 x 690mm long	810 013
87	372 273	Outer air intake duct - 100 x 2000mm long	810 014
89	372 278	Flue terminal	800 570
90	372 275	Inner flue duct - 60 x 750mm long	810 010
91	372 276	Inner flue duct - 60 x 2000mm long	810 011
93	297 004	Flue terminal - vertical	825 110
94	297 005	Flu/air intake hood side/vertical outlet	825 120

GAS TRAIN AND COMBUSTION CHAMBER

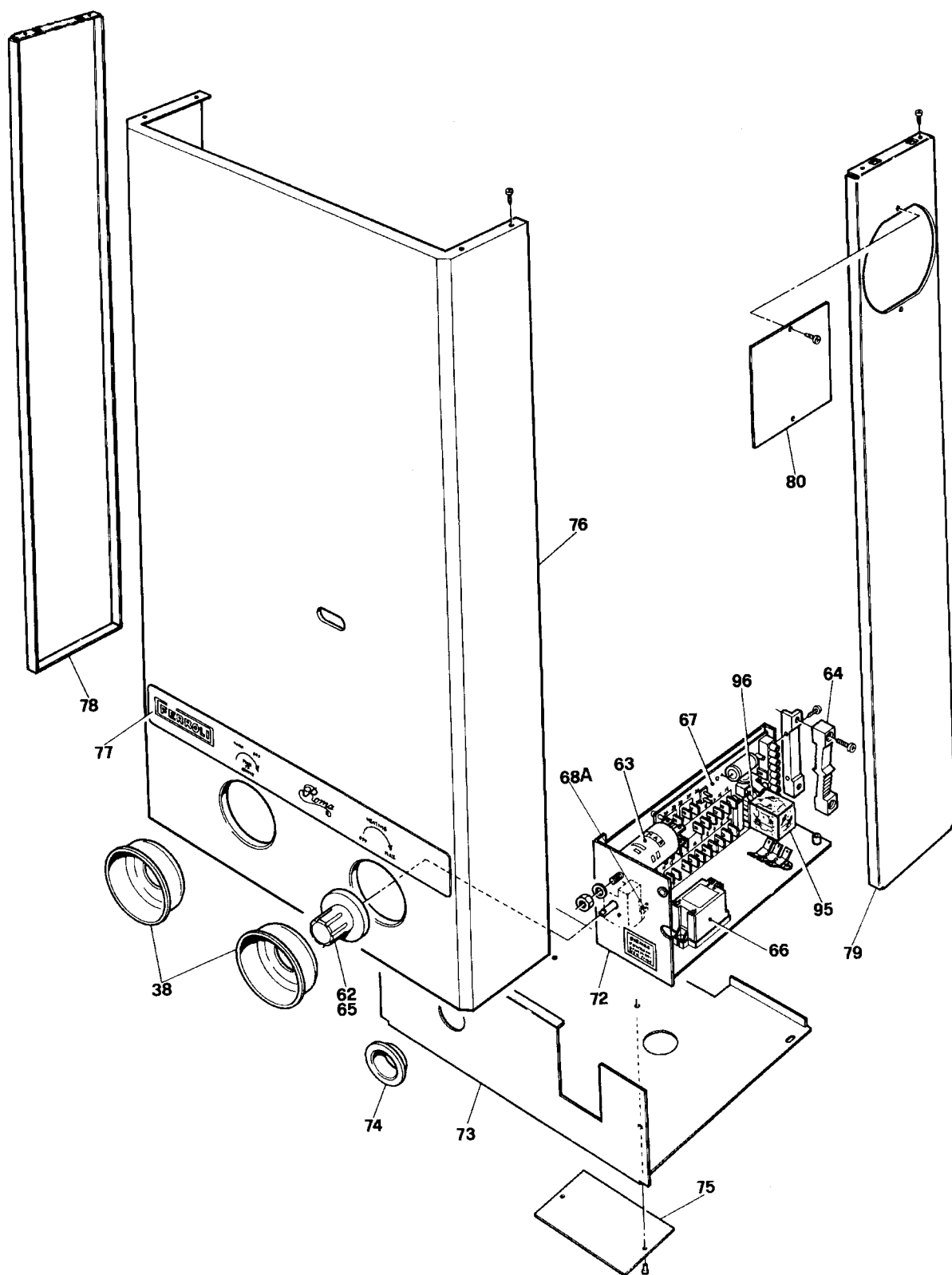


GAS TRAIN AND COMBUSTION CHAMBER

Key G.C. No. Description

2	372 299	Support pin	810 030
15	372 385	Combustion chamber - complete - upper	812 450
16	372 386	Insulation - side	814 010
17	372 387	Insulation - back	817 210
18	297 009	Combustion chamber support	818 880
19	297 010	Heat exchanger	802 260
20	297 011	Pipe - return	812 160
21	297 012	Pipe - inlet	812 170
22	297 013	Gasket washer - internal diameter 28mm	812 880
23	297 014	Pipe support plate	818 950
24	297 017	Nut - 1 1/8" hexagon	810 130
25	386 828	Frost thermostat - Elmwood L14C98/703-398	* 800 180
26	386 577	Central heating thermostat - Elmwood 2455R	800 160
27	378 159	Overheat cut-off thermostat - Elmwood 2455RT	801 240
28	297 018	Draft diverter	811 510
29	297 019	Draft diverter deflector	819 260
34	378 170	Main burner - Furigas 271.004.001	812 240
35	297 022	Burner front frame	812 900
36	297 023	Combustion chamber - bottom	815 860
37	378 171	Gas manifold - Furigas 271.007.000 - complete	813 240
38	372 318	Cap gasket - Plastic shroud	810 650
39	372 388	Support plate - gas valve	817 890
40	372 232	Test points on boiler	810 280
41	372 193	Nut - 3/4"	817 430
42	372 290	Extension knob - gas valve	811 840
44	386 170	Combination gas valve 1/2" - V4600C 1193	802 280
45	397 814	Gas clock - Siral 1256 - 1/2"	812 230
46	297 024	Complete ECO split wire	801 600
47	297 007	Cable sleeve - PG 9	811 690
48	297 008	Cable clamp - PG 9	812 500
49	386 813	Microswitch - Honeywell Q640A 1002	801 540
50	297 025	Inlet gas pipe to gas valve	812 250
51	372 389	Pipe - gas valve to burner	812 260
52	372 390	Pipe - 6 x 1 diameter - pilot burner	810 800
53	378 160	Pilot burner - Polidor PA 667/27.2	812 870
54	378 161	Thermocouple - Catoba 1 - 712.209	801 490
55	372 370	Spark electrode assembly - complete	801 500
56	372 391	Fixing plate - pilot burner	818 900
59	297 026	Combustion chamber cover	811 460
60	297 027	Insulation - combustion chamber cover	816 230
61	297 028	Spy glass - 50 x 30 x 3.3	815 250
81	297 032	Nut for olive	810 170
82	297 033	Olive - 22 diameter	810 180
97	372 322	Spring	810 290
98	378 172	Main injector 1.25 - Polidoro NP 125 - NG	819 470
99	372 259	Gasket - injector - 15mm diameter	810 480
100	386 177	Pilot injector 0.27 - Polidoro G27.2 - NG	801 610 . 810 820
*		(Later models) pump overrun thermostat	801 710

CASING ASSEMBLY AND CONTROL BOX



CASING ASSEMBLY AND CONTROL BOX

Key G.C. No. Description

38	372 318	Cap gasket - plastic shroud	810 650
62	372 220	Selector knob	811 800
63	386 176	Capacitor - IMIT 1MF 450V RS 470K	801 560
64	297 029	Double cable clamp	813 630
65	297 030	Knob stop	811 910
66	372 309	Transformer - Cast 697252/78	801 150
67	372 372	Printed circuit board VF 1 complete - special	802 300
68A	376 171	Thermostat boiler	802 290
72	372 393	Electric box	813 890
73	372 394	Lower case	819 000
74	372 211	Bush	811 830
75	372 395	Data badge	814 750
76	372 396	Outer case	817 550
77	372 397	Boiler front logo	812 610
78	372 398	Jacket side - without hole	813 260
79	372 399	Jacket side - with hole	813 290
80	297 000	Cover plate	819 070
95	386 173	Relay switch - FINDER 55.338240 5A	801 580
96	297 001	Fuse - 2A	814 620