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# Superior Ci

## *Installation & Servicing Instructions*



*The code of practice for the installation,  
commissioning & servicing for central heating systems*

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The Sime logo graphic, consisting of a stylized, curved arrow or wing shape pointing to the right, rendered in a light gray color.  
**sime**<sup>®</sup>

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***The code of practice for the installation,  
commissioning & servicing for central heating systems***

Please refer to commissioning instructions for filling in the log book

Note: All CORGI registered installers carry a CORGI ID Card.  
You can check your installer is CORGI Registered by calling 01256 372300

## **SIME BOILERS Installer checklist**

Please remember to carry out the following checks after installation. This will achieve complete customer satisfaction, and avoid unnecessary service calls. A charge will be made for a service visit where the fault is not due to a manufacturing defect.

- Has a correct by-pass been fitted and adjusted?
- Has the system been flushed in accordance with the guidelines given in BS7593 "Treatment of water in domestic hot water central heating systems"?
- Is the system and boiler full of water?
- Is the gas supply working pressure correct?
- Is the boiler wired correctly? (See installation manual).
- Has the customer been fully advised on the correct use of the boiler, system and controls?
- Has the log book provided been completed?

# 1 TECHNICAL FEATURES AND DIMENSIONS

## 1.1 INTRODUCTION

The Sime "SUPERIOR Ci" is a range of wall mounted cast iron boilers. The combustion system is fan assisted and has a small balanced telescopic flue.

The appliance is supplied suitable for use with natural gas and incorporated a direct burner ignition system.

The appliance is supplied with a concentric air and flue duct suitable or wall thickness up to 425 mm [16 3/4 in] although extension duct kits are available and may be used up to a total

flue length of 3 m [118 in].

The combined flue and air duct can exit the boiler from either side or from the rear of the appliance.

A vertical extension and additional flue elbow may be fitted.

The boiler is designed for use with sealed and gravity primary water systems and is supplied fully assembled and complete with compression joints for simple connection to the heating system.

The boiler can be used with a 230V room thermostat [class II according to EN 60730.1].

## 1.2 DIMENSIONAL DETAILS

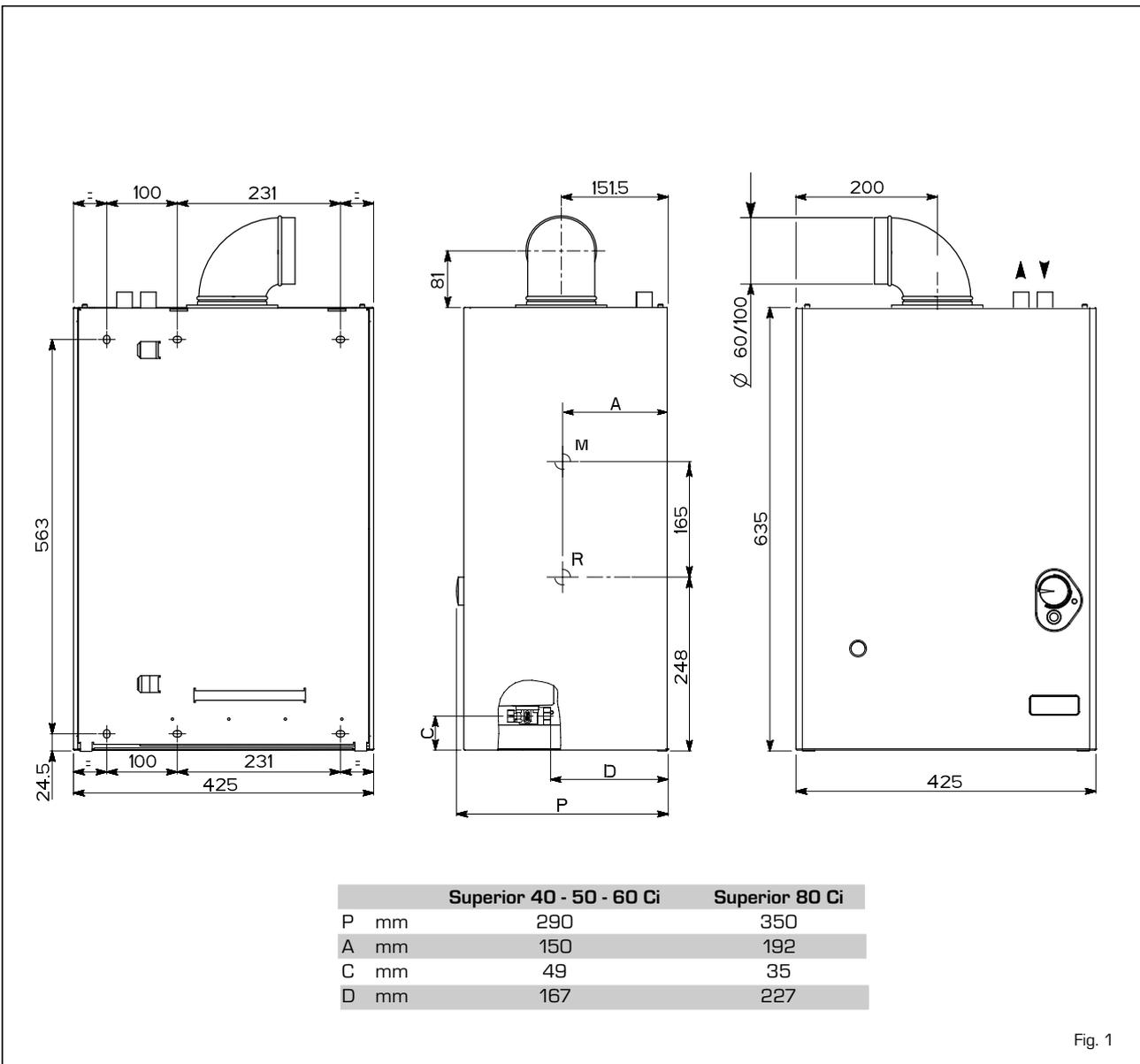


Fig. 1

TABLE 1 - Connections

M1	CH Flow (Pumped)	22 mm	Compression
R1	CH Return (Pumped)	22 mm	Compression
M	Gravity flow	28 mm	Compression
R	Gravity return	28 mm	Compression
G	Gas	Rc 1/2"	1/2" in BSP female

TABLE 2 - Minimum clearances

<b>ABOVE THE APPLIANCE CASING</b>	200 mm	8 in
<b>AT THE R.H.S.</b>	15 mm	5/8 in
<b>AT THE L.H.S.</b>	15 mm	5/8 in
<b>BELOW THE APPLIANCE CASING</b>	200 mm	7 7/8 in
<b>IN FRONT OF THE APPLIANCE</b>	500 mm	19 3/4 in

### 1.3 GENERAL DATA

**TABLE 3a - Nominal boiler ratings (2 minutes after lighting) for Superior 40 Ci**

MODE	OUTPUT		INPUT (N.C.V.)		INPUT (G.C.V.)		BURNER PRESSURE	
	kW	Btu/h	kW	kW	Btu/h	mbar	inwg	
CENTRAL HEATING RANGE	8.8	30,000	10.0	11.1	37,800	5.4	2.2	
	9.1	31,000	10.3	11.4	38,900	6.0	2.4	
	9.4	32,000	10.6	11.8	40,100	6.4	2.6	
	9.7	33,000	10.9	12.1	41,200	6.7	2.7	
	10.0	34,000	11.2	12.4	42,300	7.1	2.9	
	10.3	35,100	11.5	12.8	43,500	7.5	3.0	
	10.6	36,100	11.8	13.1	44,600	7.9	3.2	
	10.9	37,100	12.1	13.4	45,700	8.3	3.3	
	11.2	38,100	12.4	13.8	46,900	8.7	3.5	
	11.5	39,200	12.7	14.1	48,000	9.2	3.7	
	X*	11.8	40,200	13.0	14.4	49,100	9.6	3.9

\*Factory setting

**TABLE 3b - Nominal boiler ratings (2 minutes after lighting) for Superior 50 Ci**

MODE	OUTPUT		INPUT (N.C.V.)		INPUT (G.C.V.)		BURNER PRESSURE	
	kW	Btu/h	kW	kW	Btu/h	mbar	inwg	
CENTRAL HEATING RANGE	11.9	40,500	13.2	14.7	49,900	9.7	3.9	
	12.2	41,500	13.5	15.0	51,000	10.2	4.1	
	12.5	42,600	13.8	15.3	52,200	10.7	4.3	
	12.8	43,600	14.1	15.7	53,300	11.3	4.5	
	13.1	44,600	14.5	16.1	54,800	11.9	4.8	
	13.4	45,600	14.8	16.4	55,900	12.5	5.0	
	13.7	46,700	15.1	16.7	57,100	13.0	5.2	
	14.0	47,700	15.4	17.1	58,200	13.6	5.5	
	14.3	48,700	15.7	17.4	59,300	14.1	5.7	
	X*	14.6	49,700	16.0	17.8	60,500	14.7	5.9

\*Factory setting

**TABLE 3c - Nominal boiler ratings (2 minutes after lighting) for Superior 60 Ci**

MODE	OUTPUT		INPUT (N.C.V.)		INPUT (G.C.V.)		BURNER PRESSURE	
	kW	Btu/h	kW	kW	Btu/h	mbar	inwg	
CENTRAL HEATING RANGE	14.7	50,000	16.4	18.2	62,000	10.4	4.2	
	15.0	51,000	16.7	18.5	63,100	10.8	4.3	
	15.3	52,100	17.0	18.9	64,300	11.2	4.5	
	15.6	53,100	17.3	19.2	65,400	11.6	4.7	
	15.9	54,100	17.6	19.5	66,500	12.0	4.8	
	16.2	55,200	17.9	19.9	67,700	12.5	5.0	
	16.5	56,200	18.3	20.3	69,200	13.0	5.2	
	16.8	57,200	18.7	20.8	70,700	13.6	5.5	
	17.1	58,200	19.0	21.1	71,800	14.1	5.7	
	X*	17.5	59,600	19.4	21.5	73,300	14.7	5.9

\*Factory setting

**TABLE 3d - Nominal boiler ratings (2 minutes after lighting) for Superior 80 Ci**

MODE	OUTPUT		INPUT (N.C.V.)		INPUT (G.C.V.)		BURNER PRESSURE	
	kW	Btu/h	kW	kW	Btu/h	mbar	inwg	
CENTRAL HEATING RANGE	17.6	59,900	19.9	22.1	75,200	8.5	3.4	
	18.2	62,000	20.5	22.8	77,500	9.0	3.6	
	18.8	64,000	21.2	23.5	80,100	9.6	3.9	
	19.3	65,700	21.7	24.1	82,000	10.2	4.1	
	19.9	67,800	22.3	24.8	84,300	10.8	4.3	
	20.5	69,800	22.9	25.4	86,600	11.4	4.6	
	21.1	71,900	23.6	26.2	89,200	12.2	4.9	
	21.7	73,900	24.2	26.9	91,500	12.8	5.1	
	22.2	75,600	24.7	27.4	93,400	13.4	5.4	
	22.8	77,600	25.3	28.1	95,600	14.0	5.6	
	X*	23.4	79,700	26.0	28.9	98,300	14.7	5.9

\*Factory setting

**TABLE 4 - General specifications**

			40 Ci	50 Ci	60 Ci	80 Ci
<b>Burner</b>	Injector			1		
		ø mm	3.25	3.25	3.55	4.10
<b>Max. gas consumpt.</b>		m <sup>3</sup> /h	1,38	1,69	2,05	2,75
<b>System Press</b>	min	bar	0.12	0.12	0.12	0.12
	max	bar	3	3	3	3
<b>Adjustable Flow Temp</b>	Pump mode min	°C	50 on - 60 off			
	Pump mode max	°C	72 on - 84 off			
<b>Safety stat</b>		°C	105	105	105	105
<b>Re-Start Delay</b>		Seconds	180	180	180	180
<b>Anti-Inertia Temp.</b>		°C	90 off - 95 on			
<b>Max. working temp.</b>		°C	84	84	84	84
<b>Boiler pressure drop</b>	Δt 11°C	mbar	100	150	220	330
<b>Electricity Supply</b>	230V/50Hz					
<b>Internal Fuse</b>	F 2A					
<b>Power Consumption</b>		W	55	55	60	65
<b>Weight</b>		kg	46	46	46	57

**1.4 INTERNAL VIEW**

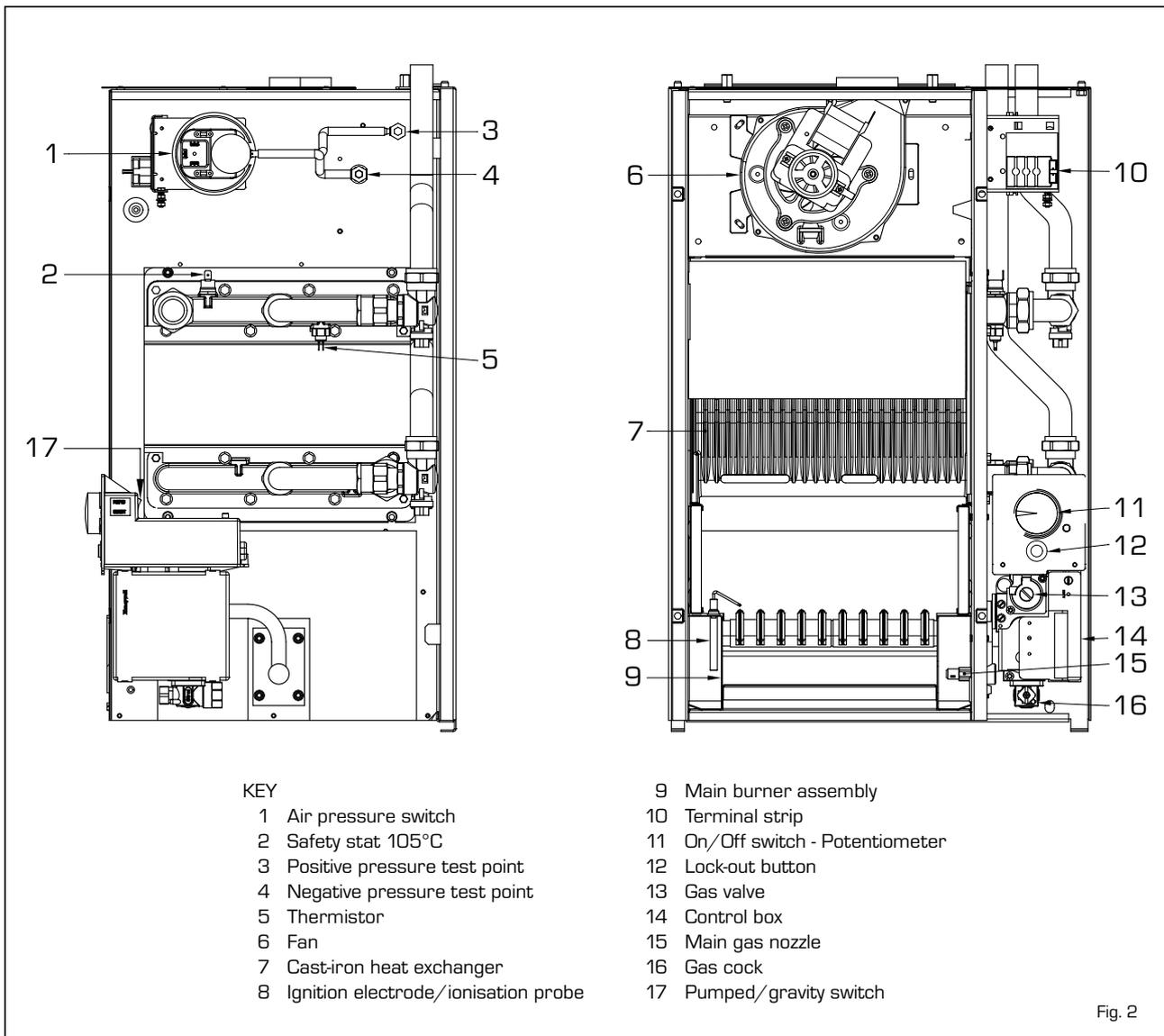


Fig. 2

## 2 GENERAL REQUIREMENTS FOR INSTALLATION

### 2.1 STATUTORY REQUIREMENTS

**GAS SAFETY** [INSTALLATION AND USE REGULATIONS [as amended]. It is the law that a registered person, in accordance with the above regulations, installs all gas appliances. Failure to install appliances correctly could lead to prosecution. It is in your own interest, and that of safety, to ensure that the law is complied with.

In addition to the above regulations, this appliance must be installed in accordance with the current IEE Wiring Regulations [BS 7871], Local Building Regulations, the Building Standards [Scotland] [Consolidation] Regulations, Byelaws of the local water undertaking, and Health and Safety Document No 635 'The Electricity at Work Regulations 1989'. It should also be in accordance with the relevant recommendations in the current editions of the following British Standards and Codes of Practice: BS5449, BS5546, BS5440: 1, BS5440:2, BS6798, BS6891, and BG.DM2, BS7074, and BS5482 for propane installations.

**Manufacturer's instructions must NOT be taken in any way as over-riding statutory obligations.**

### 2.2 BOILER POSITION

In sighting the boiler, the following limitations MUST be observed:

- The boiler is not suitable for external installation. The position selected for installation should be within the building, unless otherwise protected by a suitable enclosure, and MUST allow adequate space for installation, servicing, and operation of the appliance, and for air circulation around it [section 2.4].
- This position MUST allow for a suitable flue termination to be made. The boiler must be installed on a flat vertical wall which is capable of supporting the weight of the appliance, and any ancillary equipment.
- If the boiler is to be fitted in a timber framed building it should be fitted in accordance with the Institute of Gas Engineers document for Gas Installations In Timber Frame Housing, Reference 1SF UP 7:1998. If in doubt, advice must be sought from the gas supplier.
- If the appliance is installed in a room containing a bath or shower, any electrical switch or control utilising mains electricity must be so situated that it cannot be touched by a person using the bath or shower. Attention is drawn to the requirements of the current IEE. Wiring Regulations [BS7871], and in Scotland the electrical provisions of the Building Regulations applicable in Scotland.

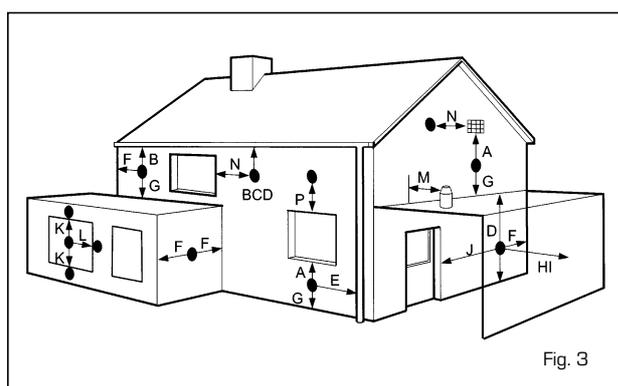


Fig. 3

- A compartment used to enclose the appliance MUST be designed and constructed specifically for this purpose. An existing cupboard, or compartment, may be used provided it is modified accordingly.
- Where installation will be in an unusual location, special procedures may be necessary. BS6798 gives detailed guidance on this aspect.

### 2.3 FLUE TERMINAL POSITION

Detailed recommendations for flue installation are given in BS5440: 1. The following notes are for general guidance:

- The boiler MUST be installed so that the terminal is exposed to the external air.
- It is important that the position of the terminal allows free passage of air across it at all times.
- It is ESSENTIAL TO ENSURE, in practice that products of combustion discharging from the terminal cannot re-enter the building, or any other adjacent building, through ventilators, windows, doors, other sources of natural air infiltration, or forced ventilation air conditioning. If this does occur, the appliance MUST be turned OFF IMMEDIATELY and the gas supplier consulted.
- The minimum acceptable dimensions from the terminal to obstructions and ventilation openings are specified in fig. 3.
- If the terminal discharges into a pathway or passageway check that combustion products will not cause nuisance and that the terminal will not obstruct the passageway.
- Where the lowest part of the terminal is fitted less than 2 m [78 in] above ground, above a balcony or above a flat roof to which people have access, the terminal MUST be protected by a purpose designed guard.
- Where the terminal is fitted within 850 mm [34 in] of a plastic or painted gutter or 450 mm [18 in] of painted eaves, an aluminium shield at least 1,500 mm [59 in] long must be fitted to the underside of the painted surface.
- The air inlet outlet flue duct MUST NOT be closer than 25 mm [1 in] to combustible material.
- In certain weather conditions the terminal may emit a plume of steam. This is normal but positions where this would cause a nuisance should be avoided.

TABLE 5

Terminal position	Minimum spacing in mm
A Directly below an openable window, air vent or any other ventilation opening	300
B Below guttering, drain pipes or soil pipes	25*
C/D Below eaves, balconies or carport roof	25*
E From vertical drain pipes or soil pipes	75
F From internal or external corners	25
G Above adjacent ground, roof or balcony level	300
H From a surface facing the terminal	600
I From a terminal facing the terminal	1,200
J From an opening in the carport (e.g. door, window into dwelling)	1,200
K Vertically from a terminal on the same wall	1,500
L Horizontally from a terminal on the same wall	300
M Horizontally from a vertical terminal to a wall	300
N Horizontally from an openable window or other opening	300
P Above an openable window or other opening	300

\* With "heat shield" installed in accordance to BS 5440 Pt1.

## 2.4 VENTILATION REQUIREMENTS

Detailed recommendations for air supply are given in BS5440: 2.

The following notes are for general guidance:

- It is not necessary to have a purpose provided air vent in the room or compartment in which the appliance is installed.

## 2.5 GAS SUPPLY

- The gas installation should be in accordance with BS6891. The gas required for the boiler is specified in *Table 4*.
- Ensure that the pipework from the meter to the appliance is of adequate size.
- The governor at the meter must give a constant outlet pressure of 20 mbar (8 inwg) when the appliance is running.
- The gas supply line should be purged.

**NOTE: Before purging open all doors and windows, also extinguish any cigarettes, pipes, and any other naked flames.**

- The complete installation must be tested for gas soundness.

## 2.6 ELECTRICITY SUPPLY

**The appliance MUST be earthed. A mains supply of 230V - 50 Hz single phase is required.**

**All external controls and wiring MUST be suitable for mains voltage.**

Wiring should be in 3-core PVC insulated cable NOT LESS than 0.75 mm [24 x 0.2 mm] to BS6500, Table 16. Wiring external to the boiler MUST be in accordance with current IEE Wiring Regulations [BS 7671] and local regulations. The supply connection to the flying lead provided MUST be made to a fused double pole switch, having a 3 mm [1/8 in] contact separation in both poles, serving only the boiler and system controls; the fuse rating should be 3 amp. This connection should be readily accessible and be made adjacent to the boiler. All fuses must be ASTA approved to BS 1362.

## 2.7 EXTERNAL CONTROLS AND COMPONENTS

The boiler is intended for use with a 230 V room thermostat. The appliance requires a live feed from this to operate the appliance and external circulating pump.

The pump MUST be wired to the appliance.

The connection is made to the terminal block as described in section 3.7.1

## 2.8 WATER SYSTEMS

### 2.8.1 General

This appliance is designed for connection to the following types of indirect domestic systems:

- Fully pumped, sealed central heating systems.
- Fully pumped, open vented central heating systems.
- Combined, gravity domestic hot water and pumped central heating systems.

The domestic hot water cylinder must be of the indirect type with a separate feed and vent pipes. Single feed cylinders must not be used.

The pump, including isolation valves, should be fitted in the heating flow pipe from the appliance.

The pump should provide suitable flow to maintain an 11°C temperature rise between the pumped flow and return pipes connected to the appliance. Details of the appliance pressure drop are provided in Table 4.

System drain cocks should be fitted at the lowest points in the system in order to provide adequate drain points. BS5442 provides information for the protection of the boiler due to freezing. A frost thermostat should be fitted to the system controls.

### 2.8.2 Treatment of Water Circulating Systems

- All recirculatory systems will be subject to corrosion unless an appropriate water treatment is applied. This means that the efficiency of the system will deteriorate as corrosion sludge accumulates within the system, risking damage to pump and valves, boiler noise and circulation problems.
- For optimum performance after installation this boiler and its associated central heating system must be flushed in accordance with the guidelines given in BS 7593 "Treatment of water in domestic hot water central heating systems".
- This must involve the use of a proprietary cleanser; such as BetzDearborn Sentinel X300 or X400, or Fernox Superfloc. Full instructions are supplied with the products, but for immediate information please contact BetzDearborn (0151 420 9563) or Fernox (01799 550 811) directly.
- For long term protection against corrosion and scale, after flushing it is recommended that an inhibitor such as BetzDearborn Sentinel X100, or Fernox MB-1 or Copal is dosed in accordance with the guidelines given in BS 7593.  
**Failure to flush and add inhibitor to the system may invalidate the appliance warranty.**
- It is important to check the inhibitor concentration after installation, system modification and at every service in accordance with the manufacturer's instructions. (Test kits are available from inhibitor stockists).

### 2.8.3 Requirements for open vented systems

A 22 mm copper vent pipe must be connected to the top of the boiler flow pipe and terminate above the cold feed/expansion tank. It must be suitably positioned to allow any discharge into the cold feed tank/expansion and must be on a continuous rise from the boiler flow pipe where it is connected.

The cold feed/expansion tank must have a capacity of at least 22 litres. The cold feed pipe from the cold feed/expansion tank should be 15 mm copper.

The cold feed/expansion tank should have a lid. The bottom cold feed/expansion tank must be no less than 1.2 m (one-point-two) and no more than 30 m above the top of the appliance.

### 2.8.4 Requirements for sealed water systems

A sealed system must only be filled by a competent person using one of the approved methods shown in fig. 4.

The system design should incorporate the connections appro-

### ALTERNATIVE METHODS OF FILLING A SEALED SYSTEM

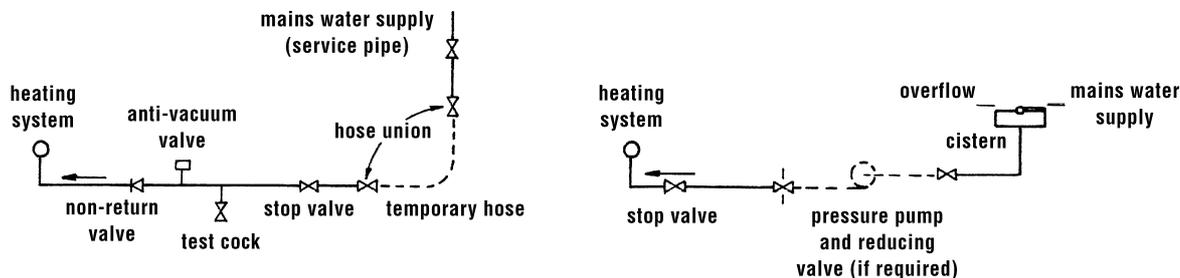


Fig. 4

priate to one of these methods. The system pressure must not be less than the static head of the system.

A **safety valve** set at 3 bar must be fitted to the flow pipe exiting the appliance. It should be as close to the appliance as practical and there shall be no restrictions between it and the appliance. It should be connected above or to the side of the pipe centre line in a position that is accessible for testing. The outlet from the valve should be routed so that any discharge, water or steam, does not cause a hazardous condition.

A **pressure gauge** must be fitted to allow the person filling the system to see it to control the fill pressure. A gauge with

a range of 0 to 5 bar, or similar, is suitable.

A suitable **expansion vessel** must be fitted to the system. It should be connected close to the inlet side of the circulating pump. Its size must be calculated in accordance with BS 5449: pt1: 1997.

TABLE 6

Vessel charge and initial system pressure	bar	0.5	1.0	1.5
	psi	7.3	14.5	21.8
Total water content of system if using an 8 l (1.76 gal) expansion vessel is used	l	87	64	44
	gal	19.1	14.0	9.7
To size the expansion vessel for other system capacities multiply		.0833	.109	.156
				the system volume by:

The **hot water cylinder** must be an indirect type and be suitable to operate at pressure of 0.35 bar over the pressure at that of the safety valve, (3.35 bar minimum).

A single feed cylinder must not be used. A low level filling point must be provided which incorporates a stopcock.

Provision should be made to replace system water losses by either pre-pressurising the system or fitting a make up vessel at the highest point of the system. BS 5376: pt2: 1976.

### 2.8.5 Fully pumped

The heating system design should be based on the following information:

The appliance pressure drop details are given in Table 4.

A minimum flow rate corresponding to a heating differential of 11°C must be obtained at all times.

A heating by-pass should be fitted to ensure the previous condition is satisfied.

If thermostatic radiator valves are to be installed, at least one radiator should be installed without a thermostatic valve [usually the bathroom radiator].

The combined flow pipe (heating & hot water) should be connected to the 22 mm flow pipe, which exits the appliance at the rear, top right of the case (top manifold).

The combined return pipe (heating & hot water) should be connected to the 22 mm return pipe, which enters the appliance at the rear, top right of the case (bottom manifold).

### SEALED WATER SYSTEM

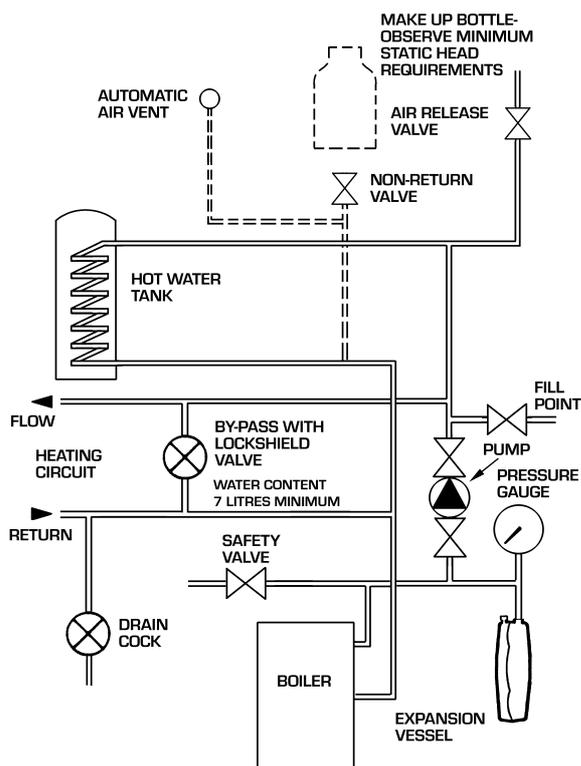


Fig. 5

**TYPICAL SYSTEM DESIGN, FULLY PUMPED, OPEN VENTED.**

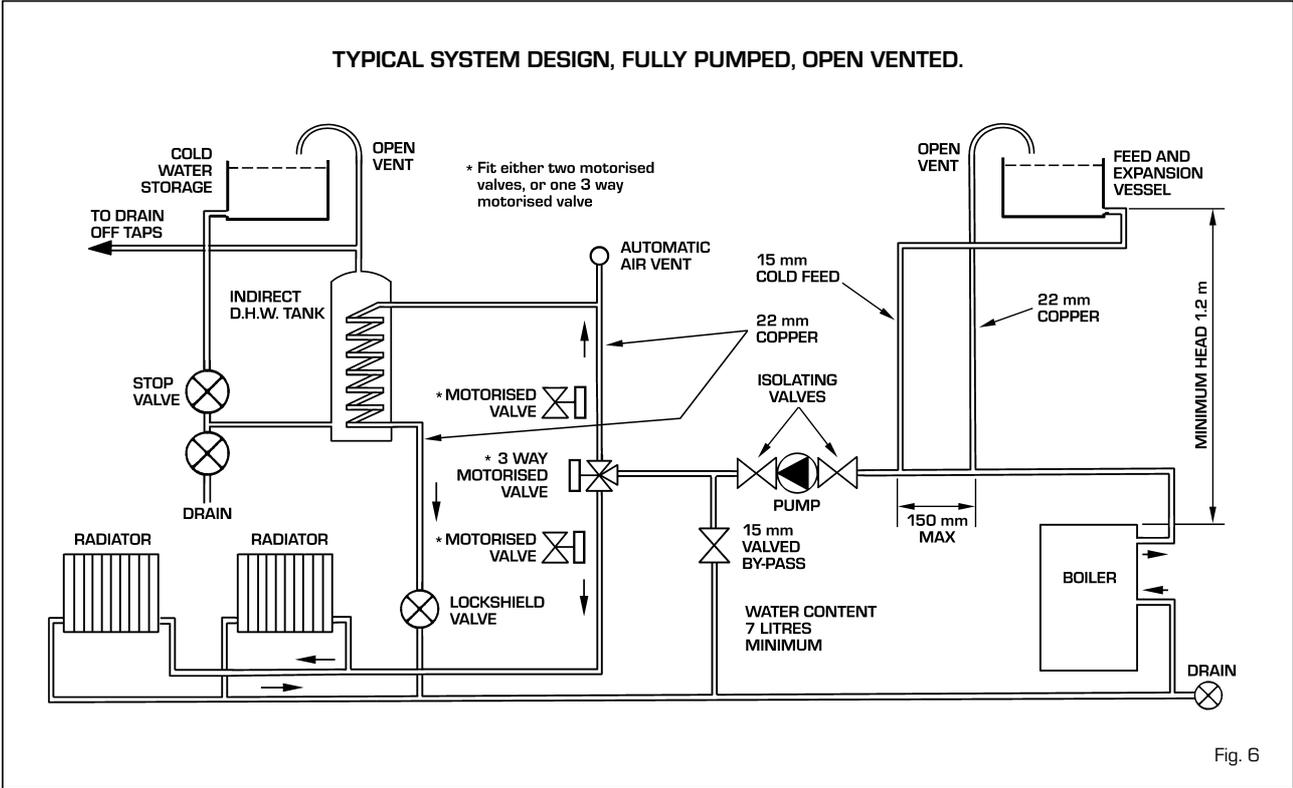


Fig. 6

**2.8.6 Combined pumped C.H. & Gravity D.H.W. systems**

When this option of system is chosen:  
 The gravity hot water pipes to the indirect hot water cylinder must be 28 mm diameter and be connected to each of the 28 mm connections on the flow and return manifold.  
 The pumped central heating pipes should be 22 mm diame-

ter and be connected to each of the 22 mm connections on the flow and return manifolds. A gravity system requires a minimum circulating head of 1 m assuming there is no horizontal pipe run. If horizontal pipe runs are required then an increase in head of 0,5 m is required for every additional 1 m of horizontal pipe. Further details are available in the current issues of BS5449 and BS6798.

**COMBINED PUMPED C.H. & GRAVITY D.H.W. SYSTEM**

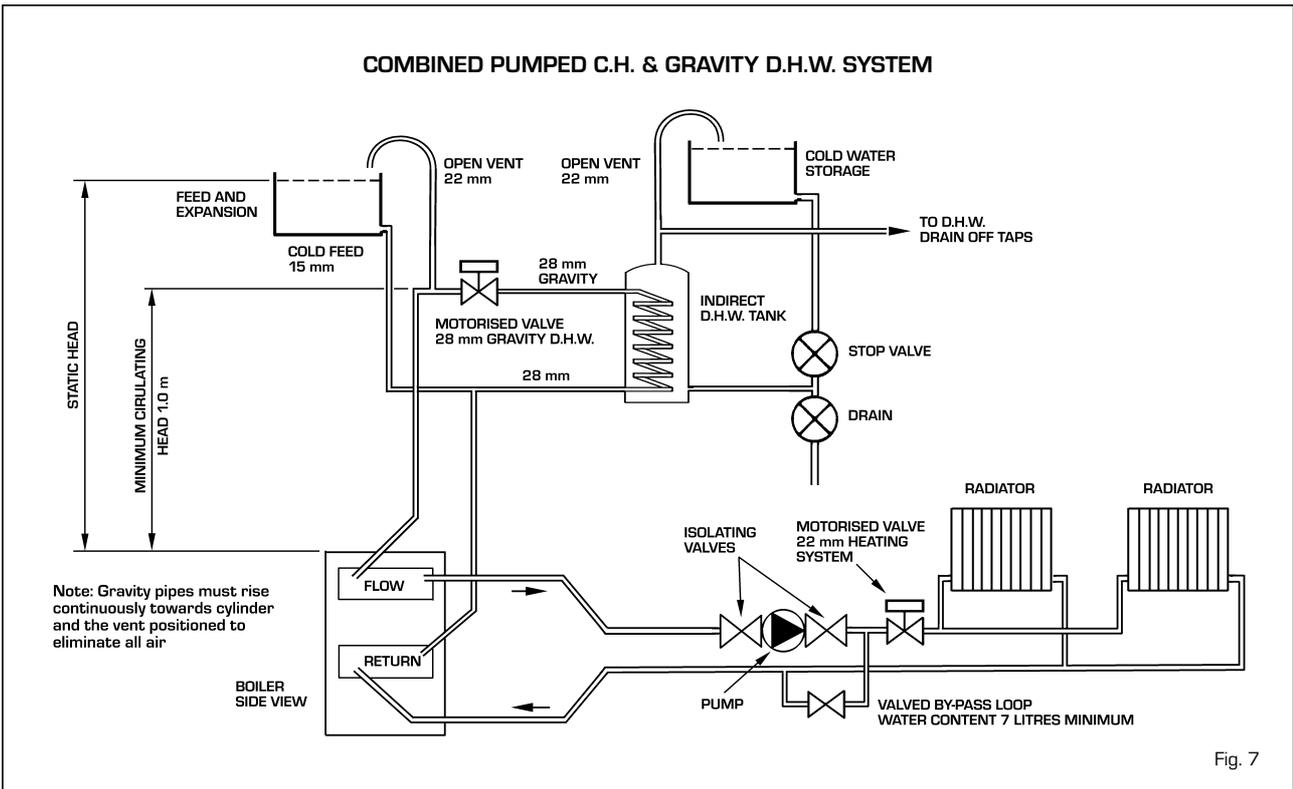


Fig. 7

## 3 INSTALLING THE BOILER

### Appliance package:

- Boiler (appliance + mounting frame)
- Installation, servicing and User instructions
- Wall template
- Fixing screws with wall plugs and washers
- 2x28 mm olives part no. 6100204
- 2x22 mm olives part no. 6100203

### 3.1 PREPARING THE WALL

Before installing the appliance ensure that the chosen location is suitable [section 2.2] and the requirements for flue position [section 2.3], and minimum clearances, [Table 2 ] are satisfied. These minimum clearances are essential to provide access for servicing. Fix the template to the wall in the chosen position. Mark the position of the two upper fixing holes, the two lower fixing holes and the flue air duct hole on the appropriate wall. For side flue options it will be necessary to project a horizontal centre line along the rear wall to the side wall. Drill the top two fixing holes using a 8 mm masonry drill. Fit the plastic plugs provided. Cut the hole in the wall for the flue air duct. The diameter should not be less than 100 mm [4 in] and must be horizontal. Drill the lower two fixing holes using a 8 mm masonry drill. Fit the plastic plugs provided.

### 3.2 HANGING THE BOILER

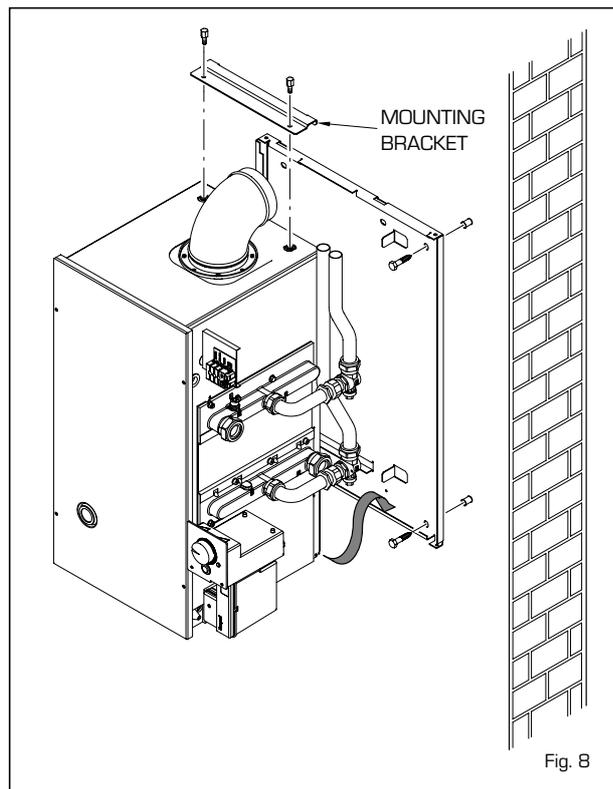
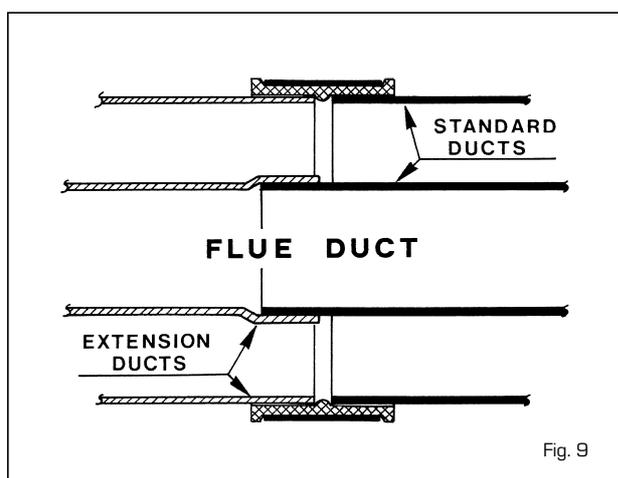
Remove the outer case securing screws, located at the bottom rear of the boiler, and lift the case off the appliance. Remove the mounting bracket unscrewing the two screws and separate the sealed chamber from the boiler frame. Fix the frame to the wall through the screws supplied and replace the sealed chamber and casing in position.

### 3.3 FLUE AND TERMINAL PREPARATION

#### 3.3.1 Cutting & Setting To The Correct Length

Determine whether an extension duct (code 8084804) is required with reference to the Z dimension shown in figs. 10-13.

- If any extensions are required the flue and air ducts should be joined before proceeding to the next section. The extension ducts should be joined to each other and to the standard ducts using the following procedure (fig. 9);



- For the flue ducts in turn, push the plain end of the standard and (if using two or three extensions) extension duct into the swaged end of the extension duct[s].
- Push an air duct in to the clamp. Join the air ducts (larger ducts) and tighten the screws on the clamp to connect them.
- Insert the inner flue ducts and ensure the 'O' ring seals are correctly located.
- If the correct length cannot be achieved with the telescopic action of the flue, the end of the extension duct [air and flue] should be cut shorter. The telescopic action of the flue can then be used to achieve the overall correct length.

### 3.4 FLUE AND TERMINAL INSTALLATION

#### 3.4.1 Coaxial duct diaphragm

The boiler is supplied with a diaphragm to be used in relation to the maximum horizontal or vertical length of the coaxial duct and without additional elbows. See fig. 12 for positioning.

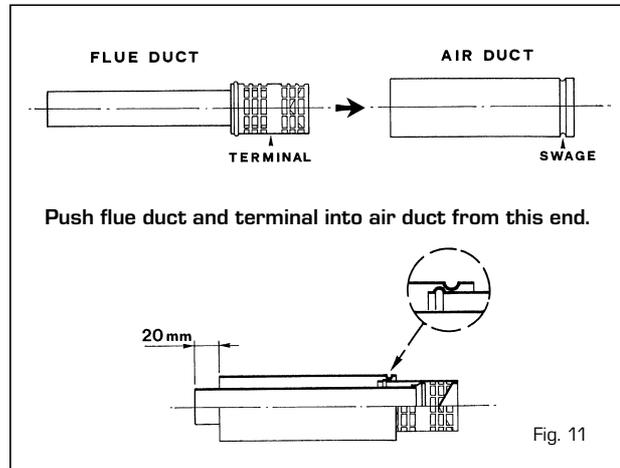
#### 3.4.2 Telescopic flue

- Fit the rubber-sealing ring onto the largest diameter of the plastic terminal as shown in fig. 10. Ensure that it is the correct way around.
- Remove the turret from the flue assembly.
- Slide the duct assembly into the wall until the sealing ring forms a good seal against the outside wall.
- From inside the building and with reference to fig. 10 slide on the second rubber-sealing ring. Check that the outer rubber-sealing ring is pulled up to the wall and that the duct assembly is horizontal, and then adjust the inner rubber-sealing ring to the correct position to retain the flue assembly in position.

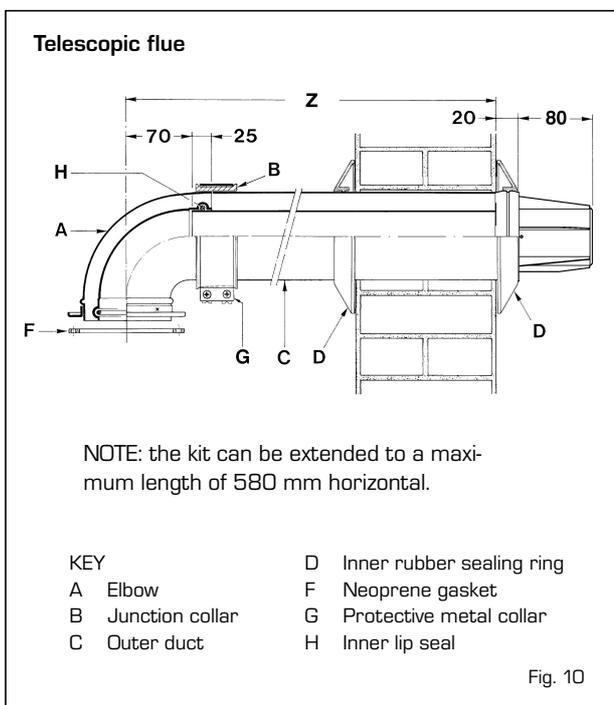
- Fit the two red 'O' rings into the grooves in each end of the flue turret.
- Engage the flue turret into the air duct assembly, ensuring the 'O' ring is correctly located and the air duct meets up to the external swage on the turret.
- Secure together with the junction collar and clamp provided.
- Remove the five fixing screws securing the sealed chamber front panel then remove the panel.
- Place the gasket under the flange of the elbow and fit the elbow unto the top of the appliance, taking care to ensure that the 'O' ring seal is correctly located. This must be checked from inside the sealed chamber.
- Secure the elbow onto the top of the appliance using the four screws provided.
- Refit the sealed chamber front panel.

### 3.4.3 Standard flue

- Push the flue duct assembly into the air duct until the external swaged ring on the flue terminal stops against the internal swage on the air duct (fig. 11).



- Fit the rubber sealing ring into the swaged groove in the air duct as shown in fig. 13. Ensure that it is the correct way around.
- From inside or outside the building, slide the duct assembly into the wall until the sealing ring forms a good seal against the outside wall.
- With reference to fig. 13, slide on the aluminium retention ring (D), check that the rubber sealing ring (E) is pulled up to the wall and that the duct assembly is horizontal, then secure the aluminium retention ring to the air duct using the two screws (H) provided. Do not overtighten the screws.
- Push the junction collar (B) over the air duct until the air duct touches the inner part of the collar where the diameter becomes smaller.
- Push the elbow socket into the junction collar and onto the flue duct.
- Fit the jointing clamp (I) over the junction collar.



**TABLE 7**

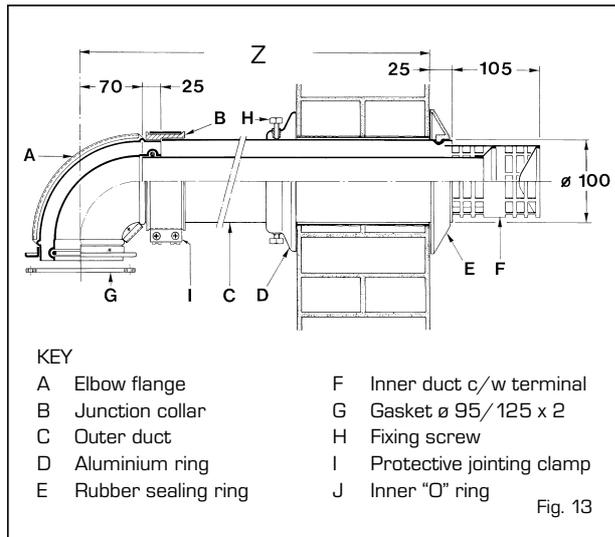
	Horizontal coaxial duct length (Z fig. 10-13)		
	from 380 to 580 mm Standard diaphragm	from 580 to 1500 mm Optional diaphragm	from 1500 to 3000 mm Diaphragm
Superior 40 Ci	Ø 79	Ø 84 (Code 6028622)	-
Superior 50 Ci	Ø 81	Ø 84 (Code 6028622)	-
Superior 60 Ci	Ø 81	Ø 84 (Code 6028622)	-
Superior 80 Ci	Ø 84	Ø 87,5 (Code 6028624)	-

	Vertical coaxial duct length	
	from 1300 to 2500 mm Standard diaphragm	from 2500 to 4000 mm Optional diaphragm
Superior 40 Ci	Ø 79	Ø 84 (Code 6028622)
Superior 50 Ci	Ø 81	Ø 84 (Code 6028622)
Superior 60 Ci	Ø 81	Ø 84 (Code 6028622)
Superior 80 Ci	Ø 84	Ø 87,5 (Code 6028624)

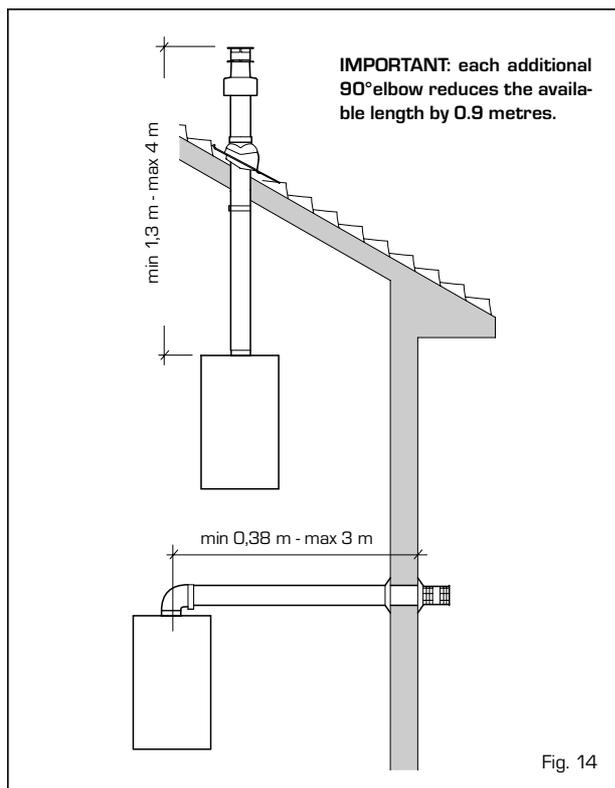
Fig. 12

- Remove the six fixing screws securing the sealed chamber front panel then remove the panel.
- Place the gasket [G] under the flange of the elbow and fit the elbow onto the top of the appliance, taking care to ensure that the silicon seal on the fan outlet correctly engages and forms a seal at its joint with the elbow. This must be checked from inside the sealed chamber.
- Secure the elbow onto the top of the appliance using the four screws and washers provided, and refit the sealed chamber front panel.



### 3.4.4 Coaxial flue specifications

The maximum length of the flue must not exceed the measures specified in fig. 14.



### 3.5 GAS CONNECTIONS

The gas service cock is located at the bottom right hand side of the appliance. Connect the gas supply pipe to the Rc 1/2" connection using a suitable jointing compound.

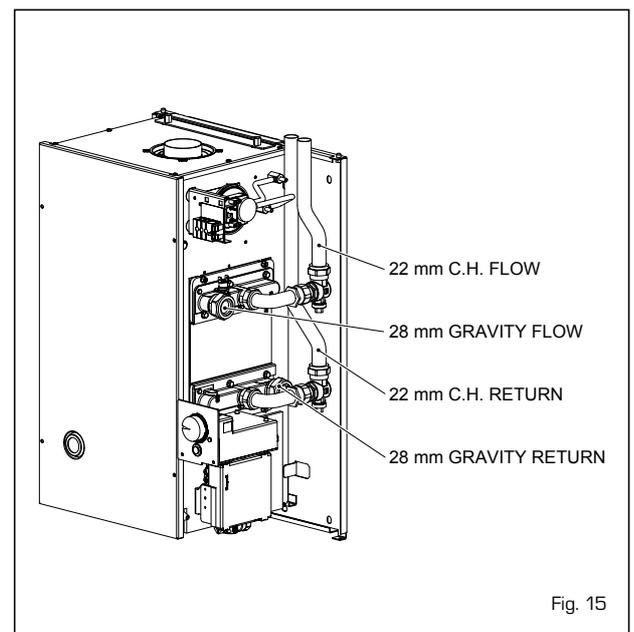
The pipe should be routed to the rear of the appliance prior to exiting downwards. This is to clear the decorative case. Fig. 16 shows the gas service cock.

### 3.6 WATER CONNECTIONS

Detailed information is given in section 2.8

The appliance is supplied with a flow and return pipe [each 22 mm copper] exiting the case at the top, rear right hand corner. These are for the pumped side of a combined system or a fully pumped system.

If the appliance is to be installed on a combined system, the two 28 mm connections must be used for the gravity flow and return; the system may be connected directly to the 28 mm compression fittings on the boiler manifolds by means of the olives provided. Street elbows should be used immediately into the manifolds.



### 3.7 WIRING INSTRUCTIONS

#### 3.7.1 Boiler connections

The appliance electrical connections are situated at the top right hand side. This is a covered and fused terminal block with five connections. All installations require all connections to be used (fig. 16).

Live	This should be a permanent live supply to the appliance
Earth	
Neutral	
Heat Demand	This should be the switched live supply to the appliance
Pump Live	The live supply to the pump must be connected to this.

**Fully pumped or combined pumped and gravity operation**  
 The appliance is supplied ready for installation within a fully pumped heating/hot water system. If the appliance is to be

installed within a combined pumped and gravity system, the switch on the rear of the control box should be set to gravity [see fig. 16].

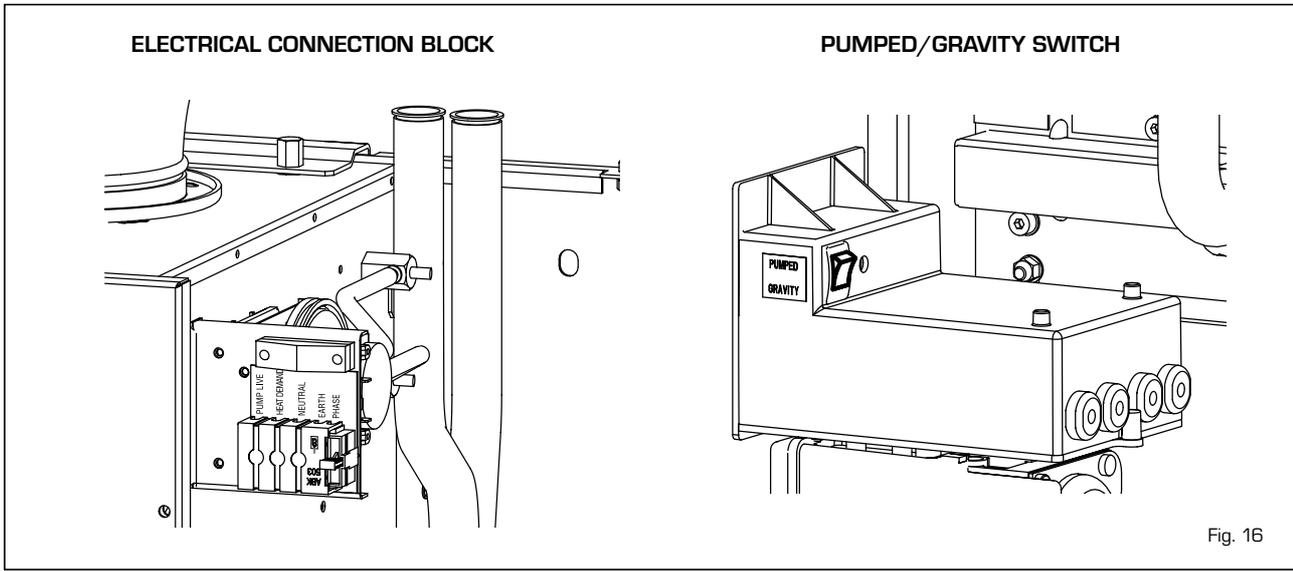


Fig. 16

**3.7.2 Schematic system wiring diagrams**

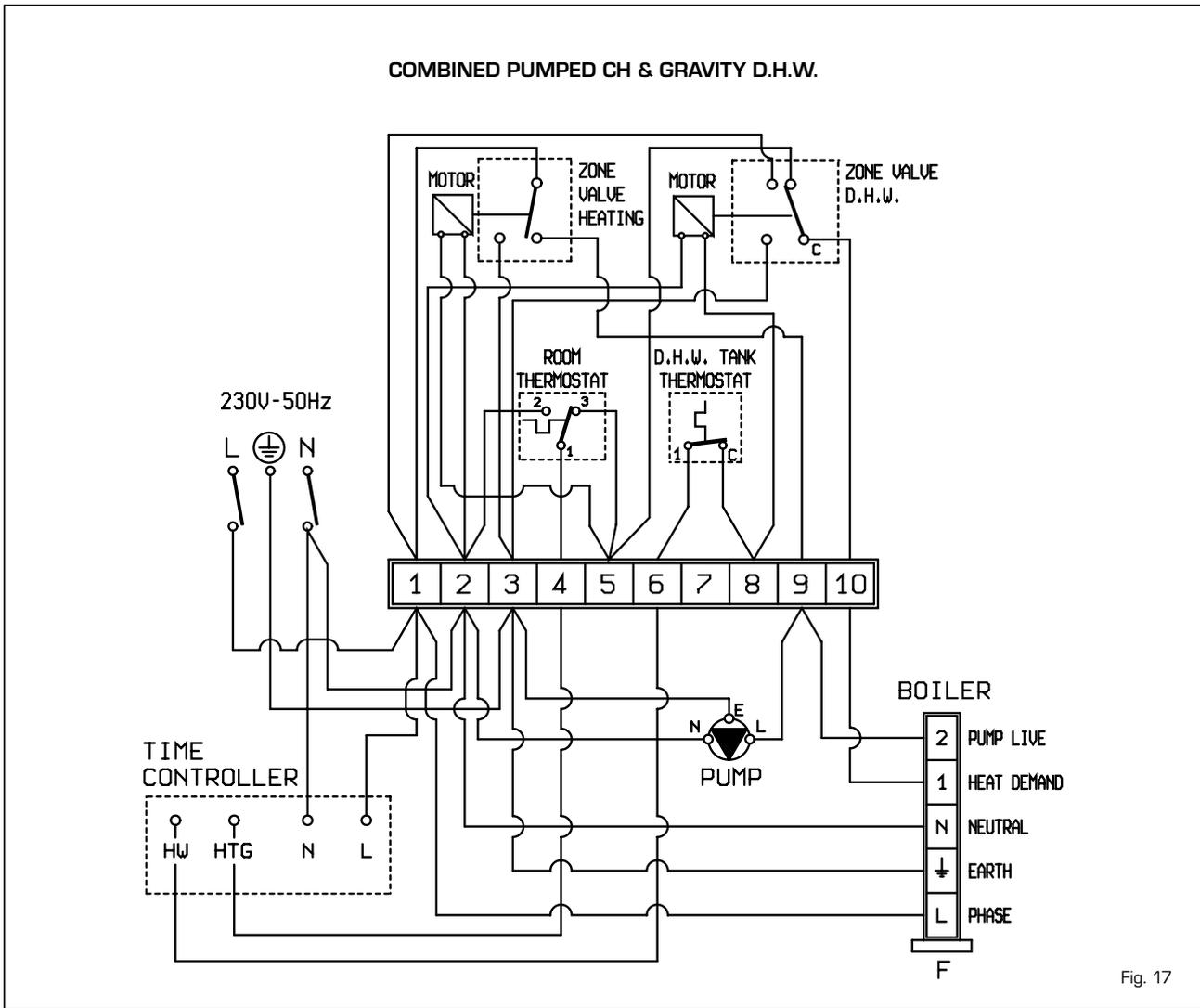


Fig. 17

FULLY PUMPED SYSTEM USING TWO ZONE VALVES

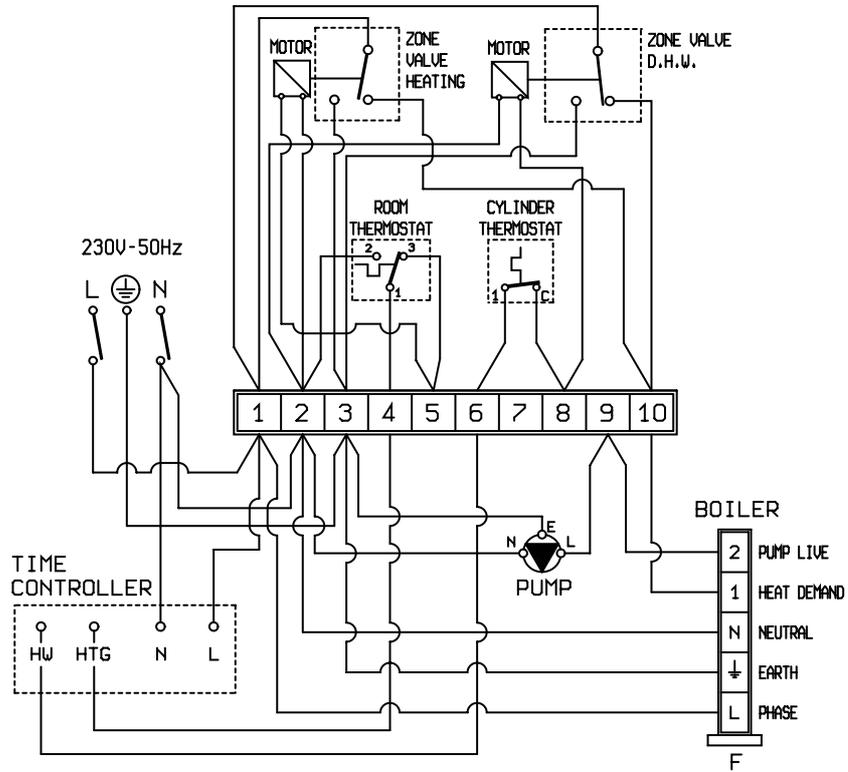


Fig. 18

FULLY PUMPED SYSTEM USING MID POSITION ZONE VALVE

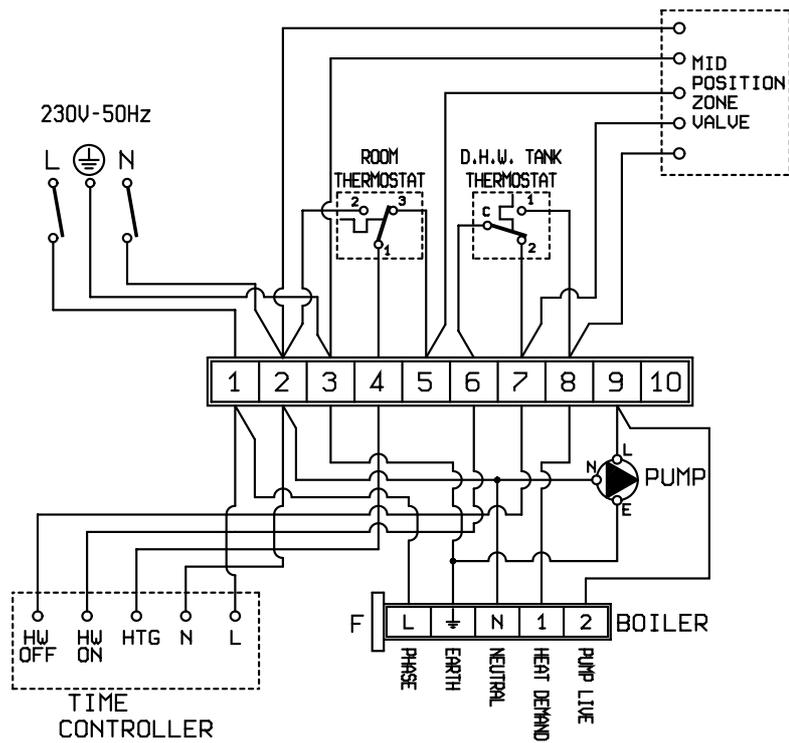


Fig. 19

## 4 COMMISSIONING AND TESTING

### SIME SUPPORT THE BENCHMARK INITIATIVE

All relevant sections of the logbook must be filled in at the time of installation and thereafter service information on the back page of the logbook. Commissioning of the boiler is not complete until the logbook is filled in.

Before commissioning the appliance, the whole gas installation including the meter **MUST** be purged and tested for gas soundness in accordance with BS6891.

**IMPORTANT:** open all doors and windows, extinguish naked lights, and **DO NOT SMOKE** whilst purging the gas line.

Before commencing the commissioning procedure, ensure that the electricity supply is isolated and the gas service cock is turned on.

#### 4.1 INITIAL WATER FILL AND LIGHTING THE APPLIANCE

- Open all the valves in the system and ensure the system and boiler are thoroughly flushed (BS 7593).
- Refill and vent the complete system and boiler and check for water leaks. Ensure all valves are open to complete this.
- Connect a suitable pressure test gauge to the test point, located on the gas valve.
- Set all external controls to on and turn on the electrical supply.
- Turn the boiler control to maximum and check the pump is operating correctly and water is circulating.
- After a short period the ignition lockout indicator will be illuminated, Press the reset button and turn off the boiler control.
- Turn on the gas supply.
- Turn the boiler control to maximum and check the boiler lights.
- Allow the boiler to operate for at least 2 minutes and check the burner pressure is in accordance with that specified on the data label.
- If adjustment is required, remove the cover from the top of the governor on the gas valve and adjust the burner pressure.
- Replace the cover and turn off the appliance.
- Remove the pressure test gauge and refit the sealing screw. Check for gas soundness with leak detection fluid.
- Make sure the external controls are fully operational and the complete system is controlled correctly. Balance the flow rates through the boiler, radiators and hot water cylinder. The complete system should now be allowed to heat

- to maximum and a final check completed.
- Turn off the system and drain for the final time.
- Refill and vent the system completely.
- Set the boiler and external controls to a suitable setting.

#### 4.2 ADDITIONAL OPERATIONS FOR SEALED SYSTEMS

Whilst the system is empty and cold, check the expansion valve is pre-charged to the desired pressure. This can be done using a tyre pressure gauge. Increase or reduce the pre-charge as required.

Following the Hot drain down, flush the system thoroughly and refill the system to a pressure of 1.5 bar.

Check the operation of the safety valve and check for leaks. Whilst still cold, adjust the system pressure to that required. Set the pointer on the gauge to indicate the set pressure.

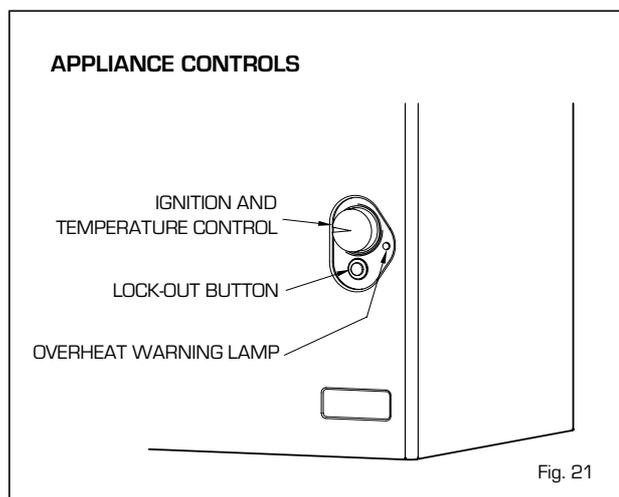
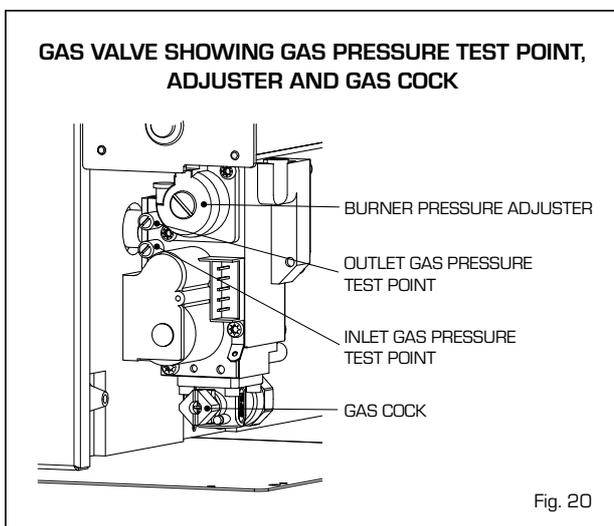
#### 4.3 FINAL CHECKS

- Re-light and test for gas soundness.
- Re-fit the white outer casing and secure it at the bottom with the two screws provided.

#### 4.4 USER'S INSTRUCTIONS

Upon completion of commissioning and testing the system, the installer should:

- Give the 'Users instructions' to the householder and emphasise their responsibilities under the Gas Safety [Installation and Use] Regulations 1998 (as amended) Explain and demonstrate the lighting and shutdown procedures.
- Advise the householder on the efficient use of the system, including the use and adjustment of all system controls.
- Advise the user of the precautions necessary to prevent damage to the system, and to the building, in the event of the system remaining inoperative during frost conditions.
- Explain the function of the boiler overheat control, and how to reset it.
- Emphasise that if cut out persists, the boiler should be turned off and the installer or service engineer consulted.
- Stress the importance of an annual service, by a corgi reg. heating engineer.



## 5 ROUTINE SERVICING INSTRUCTIONS

To ensure continued efficient operation of the appliance, it is recommended that it is checked and serviced as necessary at regular intervals.

The frequency of servicing will depend upon the particular installation conditions and usage but in general once a year should be adequate. It is the law that any service work must be carried out by registered person [C.O.R.G.I.].

Before commencing any service operation, ISOLATE the mains electrical supply, and TURN OFF the gas supply at the main service cock. Service the appliance by following the full procedure detailed below.

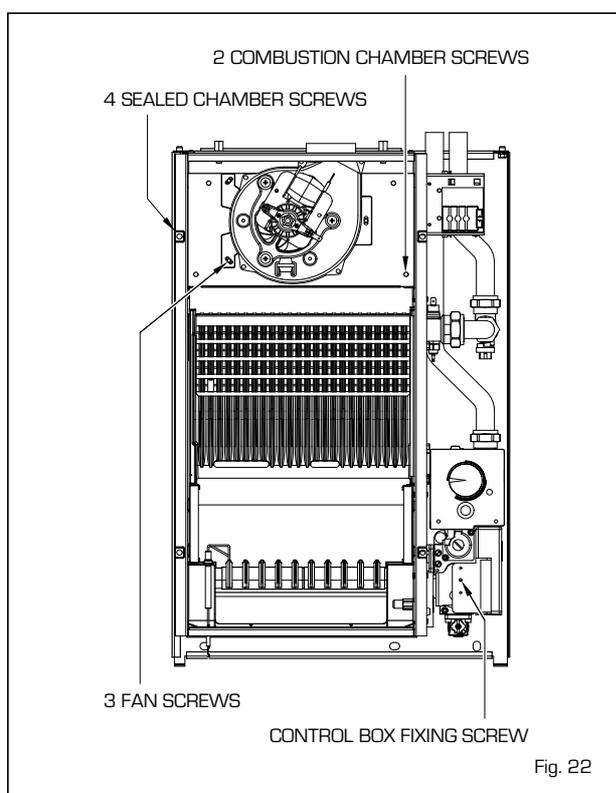
A flue products sampling point is located to the right hand side of the appliance.

This may be used to check the performance of the appliance prior to/instead of servicing.

It is the lower of the two fittings to which the air pressure switch is connected. The test equipment should be connected but not switched on before the appliance is in operation.

### 5.1 MAIN BURNER ASSEMBLY

- Remove the casing by unscrewing the retaining screws at bottom rear of the appliance and pulling the panel forwards, lifting it off the two pins at the top two corners (fig. 24).
- Refer to fig. 22. Remove the 4 fixing screws securing the sealed chamber front panel then remove the panel.



- Unscrew the 2 screws securing the combustion chamber front panel and remove the panel, taking care not to damage the insulation.
- Remove the red ignition control box from the gas valve, 1 screw.
- Unplug the ignition and detection leads from the ignition box, taking note of their respective position.
- Slide the burner forwards and at the same time feed the two wires through the grommet in the sealed chamber. Remove the burner complete with the electrodes and leads.
- Inspect and if necessary clean the electrodes and the main burner bars.
- Inspect the main injector for any signs of damage or debris and clean if necessary.

### 5.2 FAN ASSEMBLY

- Disconnect the electrical connections to the fan. Note the position of the earth conductor.
- Whilst supporting the fan, remove the three screws securing the fan to the mounting plate.
- Slide the fan downwards and once disengaged from the flue turret, remove it forwards
- Inspect the fan and clean if necessary.

### 5.3 HEAT EXCHANGER

- Remove the fan mounting plate, 2 screws.
- Remove each of the flue baffles by lifting them upwards, clear of the heat exchanger and clean if necessary.
- Inspect the heat exchanger and clean if necessary with a soft brush.

### 5.4 RE-ASSEMBLY

- Re-assemble all the components in reverse order.
- Check that the fan earth connection is correctly re-fitted. Note that the fan polarity [Line and Neutral] is immaterial.
- Ensure the ignition wires are correctly fitted and connected to the ignition control.
- Ensure that all seals are correctly fitted.
- Fit the sealed chamber front panel
- Check for gas soundness before fitting the white casing.

### 5.5 RE-COMMISSIONING

- Turn on the gas supply, and check for gas soundness.
- Check the operation of the appliance and all the external controls.
- The burner pressure should be checked after at least 10 minutes running. The data label on the appliance states the details.
- Adjust if necessary as described in section 4.

---

## 6 FAULT FINDING

When any service or replacement of electrical components which has required the breaking and re-making of electrical connections has taken place, the following tests must be repeated:

- Earth continuity
- Short circuit
- Polarity
- Resistance to earth

### 6.1 EARTH CONTINUITY CHECK

Appliances must be electrically disconnected the meter set on  $\Omega$  [ohm] x 1 scale and adjust the zero if necessary. Tests leads from any appliance earth point [e.g. inside control box] see wiring diagrams [section 7] to earth pin on the plug or mains inlet point. Resistance should be less than  $1\Omega$  [ohm]. If turn resistance is greater than  $1\Omega$  [ohm], check all earth wires for continuity and all contacts are clean and tight. If the resistance to earth is still greater than  $1\Omega$  [ohm] then this should be investigated further.

### 6.2 SHORT CIRCUIT CHECK

Switches turned FULL ON meter set on  $\Omega$  [ohm] x 1 scale and adjust the zero if necessary. Test leads from L to N on appliance terminal block, if meter reads 0 then there is a short circuit. Meters set on  $\Omega$  [ohm] x 100 scale and adjust the zero if necessary. Repeat it with leads from L to E. If meter reads less than infinity [ $\infty$ ] there is a fault.

**NOTE: Should it be found that the fuse has failed but no fault is indicated, a detailed continuity check [i.e. by discon-**

**necting and checking each component] is required to trace the faulty component.**

It is possible that a fault could occur as a result of local burning/arcing but no fault could be found under test. However, a detailed visual inspection should reveal evidence of burning around the fault.

### 6.3 POLARITY CHECK

Appliance reconnected to mains supply and meter set on 300 V ac scale. Test at appliance terminal block:

- Test leads from L to N meter reads approx. 230 V ac.
- Test leads from L to E meter reads approx. 230 V ac.
- Test leads from N to E meter reads from 0 to 15 V ac.

### 6.4 RESISTANCE TO EARTH CHECK

Appliance must be disconnected from main supply and meter set on  $\Omega$  [ohm] x 100 scale and adjust the zero if necessary. All switches including thermostat on test leads from L to E - if meter reads other than infinity [ $\infty$ ] there us a fault, which should be isolated. A detailed continuity check is required to trace the faulty component.

**IMPORTANT: These series of checks are the first electrical checks to be carried out during a faultfinding procedure. On completion of the service/fault finding task which has required the breaking and remaking of electrical connections then the checks 6.1 Earth continuity, 6.3 Polarity and 6.4 Resistance to earth must be repeated.**

## 6.5 FAULT FINDING

Before proceeding through this fault finding guide:

- 1) ensure all connections to the electronic circuit board and the 12 way connector to the ignition device are correctly fitted.
- 2) Position the temperature control completely anticlockwise.

- 3) Turn ON external gas and electricity supplies.
- 4) Ensure there is 230 V at the permanent live "PHASE" on the installation terminal block.
- 5) Ensure there is 230 V at the switched live "HEAT DEMAND" on the installation terminal block. A link between terminals "PHASE" and "HEAT DEMAND" will simulate the external controls being ON.



# 7 WIRING DIAGRAM AND INTERNAL VIEW

## 7.1 FUNCTIONAL FLOW WIRING DIAGRAM

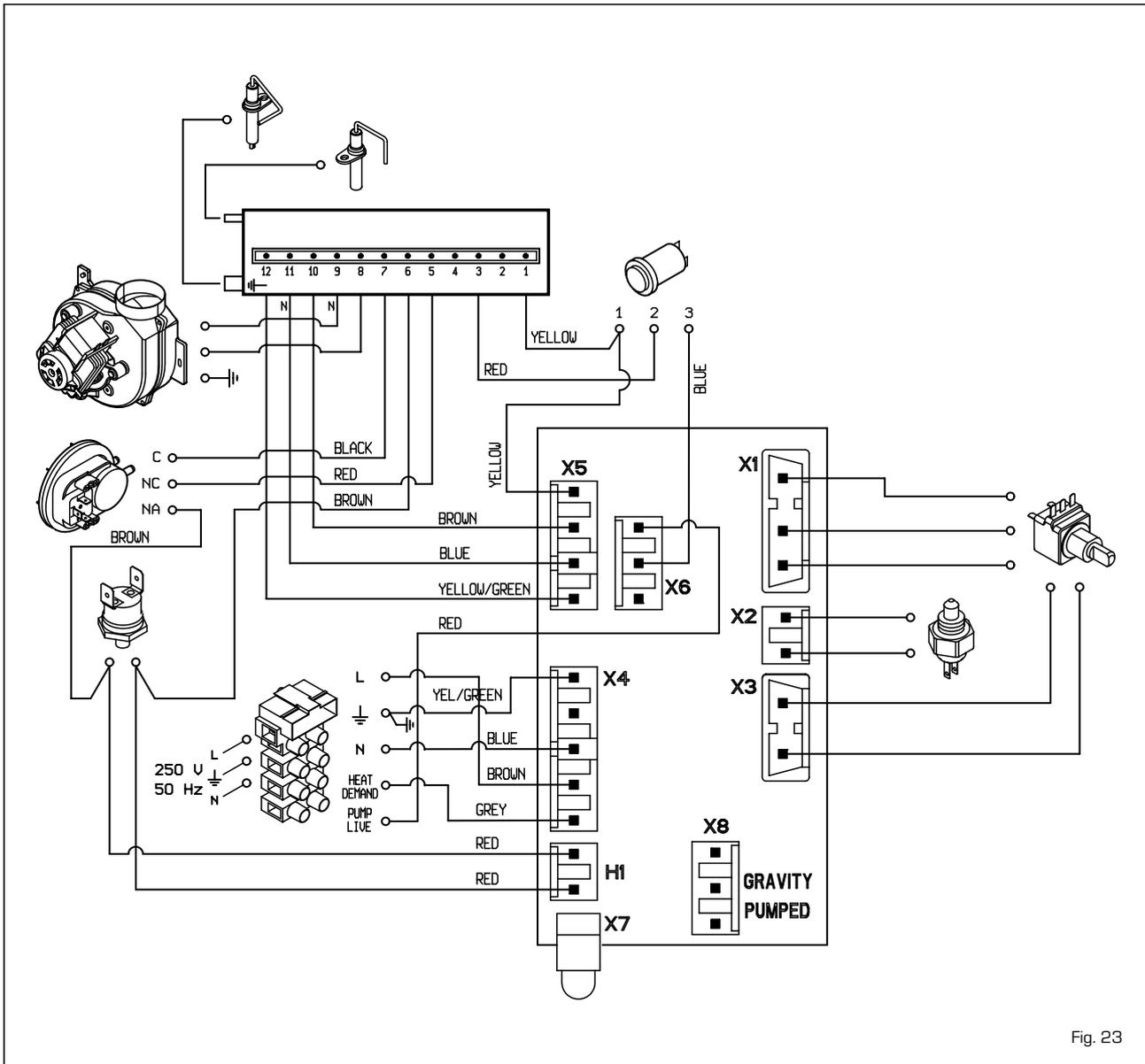
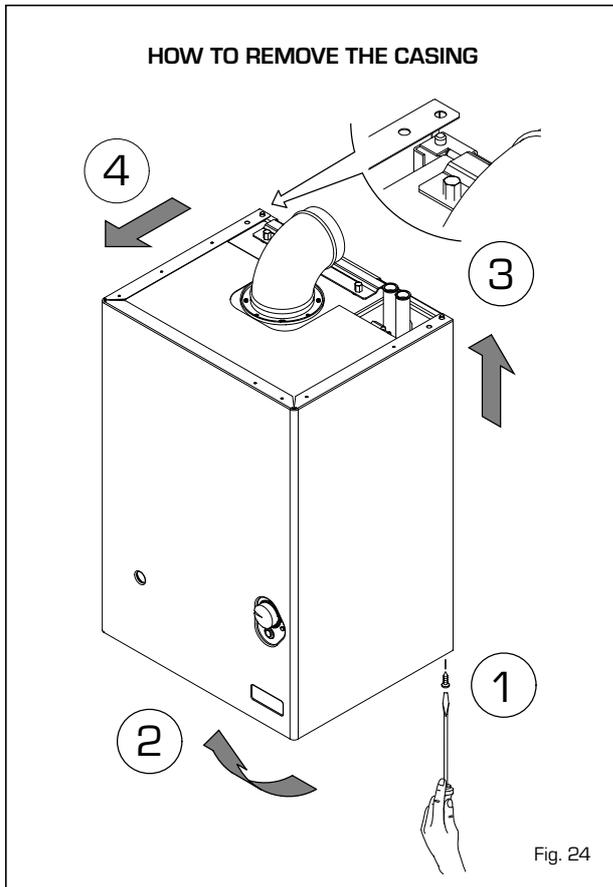


Fig. 23

## 8 REPLACEMENT OF PARTS

Before commencing any service operation, ISOLATE the mains electrical supply, and TURN OFF the gas supply at the main service cock. It is the law that any service work must be carried out by registered person [C.O.R.G.I.].

Following the replacement of any components the appliance should be re-commissioned as detailed in section 4.



### 8.1 AIR PRESSURE SWITCH

- Remove the casing by unscrewing the retaining screws at bottom rear of the appliance and pulling the panel forwards, lifting it off the two pins at the top two corners.
- Disconnect the three wires from the air pressure switch, noting their position.
- Pull off the two sensing tubes.
- Unscrew the two screws retaining the air pressure switch and its bracket and remove the assembly.
- Remove the air pressure switch from its mounting bracket, 2 screws.
- Replace the air pressure switch and re-assemble in reverse order. Ensure the sensing tubes and electrical connections are correctly fitted.

### 8.2 LIMIT THERMOSTAT

- Remove the casing by unscrewing the retaining screws at bottom rear of the appliance and pulling the panel forwards, lifting it off the two pins at the top two corners.
- Disconnect the two wires from the thermostat.
- Unscrew the thermostat from the manifold.
- Replace the thermostat and re-assemble in reverse order.

### 8.3 CONTROL TEMPERATURE SENSOR

- Remove the casing by unscrewing the retaining screws at bottom rear of the appliance and pulling the panel forwards, lifting it off the two pins at the top two corners.
- Disconnect the two wires from the control sensor.
- Unscrew the control sensor from the manifold.
- Replace the control sensor and re-assemble in reverse order.

### 8.4 IGNITION CONTROL BOX

- Remove the casing by unscrewing the retaining screws at bottom rear of the appliance and pulling the panel forwards, lifting it off the two pins at the top two corners.
- Unscrew the screw retaining the cover of the control box, unplug the connector and remove the control box.
- Replace it and re-assemble in reverse order.

### 8.5 ELECTRONIC PCB

- Remove the casing by unscrewing the retaining screws at bottom rear of the appliance and pulling the panel forwards, lifting it off the two pins at the top two corners.
- Remove the cover of the control panel by unscrewing the rear screw, lift it off the two front pins and turn upside-down to gain access to the electronic PCB.
- Unplug the connectors and remove the PCB by unscrewing the retaining screws.
- Replace the electronic PCB and re-assemble in reverse order.

### 8.6 GAS VALVE

- Remove the casing by unscrewing the retaining screws at bottom rear of the appliance and pulling the panel forwards, lifting it off the two pins at the top two corners.
- Remove the cover of the control panel by unscrewing the rear screw, lift it off the two front pins to gain access to the screws blocking the lower support of the control panel; unscrew them to remove the control panel.
- Remove the ignition control box from the gas valve, 1 screw (see fig. 22).
- Close the gas cock under the gas valve; disconnect it from the valve (4 screws) and disconnect the pipe connecting the gas valve to the sealed chamber (4 screws).
- Replace the gas valve and re-assemble in reverse order.

### 8.7 MAIN BURNER

- Remove the casing by unscrewing the retaining screws at bottom rear of the appliance and pulling the panel forwards, lifting it off the two pins at the top two corners.
- Remove the 4 fixing screws securing the sealed chamber front panel then remove the panel.
- Unscrew the 2 screws securing the combustion chamber front panel and remove the panel, taking care not to damage the insulation.
- Remove the red ignition control box from the gas valve, 1 screw.
- Unplug the ignition and detection leads from the ignition

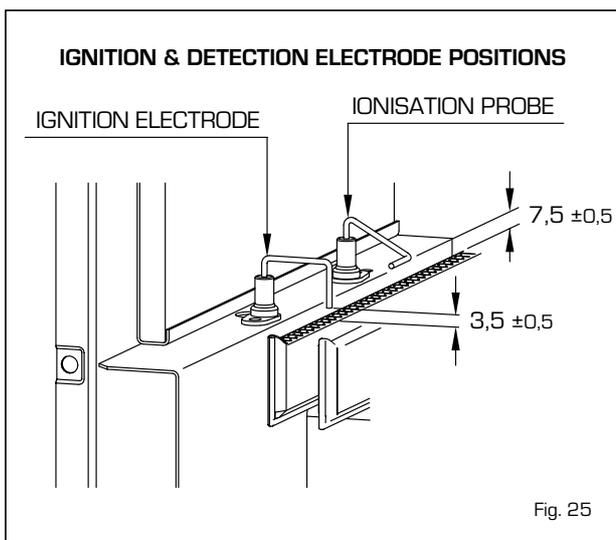
- box, taking note of their respective position.
- Slide the burner forwards and at the same time feed the two wires through the grommet in the sealed chamber. Remove the burner complete with the electrodes and leads.
  - Unscrew and remove each electrode
  - Fit the existing electrodes to the new burner, ensuring their correct position.
  - Re-assemble all the components in reverse order.

### 8.8 IGNITION ELECTRODE

- Remove the ignition electrode [front] as detailed in section 8.7.
- Replace the ignition electrode and re-assemble in reverse order.

### 8.9 DETECTION ELECTRODE

- Remove the ionisation electrode [front] as detailed in section 8.7.
- Replace the detection electrode and re-assemble in reverse order.



### 8.10 MAIN BURNER INJECTOR

- Remove the main burner as detailed in section 8.7, without removing the electrodes from the burner
- Unscrew and remove the injector from the gas manifold, working from within the sealed chamber.
- Replace the injector and re-assemble in reverse order.

### 8.11 COMBUSTION FAN

- Remove the casing by unscrewing the retaining

screws at bottom rear of the appliance and pulling the panel forwards, lifting it off the two pins at the top two corners.

- Remove the 4 fixing screws securing the sealed chamber front panel then remove the panel.
- Unscrew the 2 screws securing the combustion chamber front panel and remove the panel, taking care not to damage the insulation.
- Disconnect the electrical connections to the fan. Note the position of the earth conductor.
- Whilst supporting the fan, remove the three screws securing the fan to the mounting plate.
- Slide the fan downwards and once disengaged from the flue turret, remove it forwards.
- Replace the fan and re-assemble in reverse order.

### 8.12 BURNER VIEWING WINDOW

- Remove the casing by unscrewing the retaining screws at bottom rear of the appliance and pulling the panel forwards, lifting it off the two pins at the top two corners.
- Remove the 4 fixing screws securing the sealed chamber front panel then remove the panel.
- Push out the broken viewing window from the inside of the front panel.
- Remove all debris from the retaining seal.
- Replace the viewing window and re-assemble in reverse order.

### 8.13 COMBUSTION CHAMBER INSULATION

The design of this appliance is such that the rear insulation panels do not normally require replacement unless mechanically damaged.

#### IMPORTANT:

**When handling insulation panels, take care to avoid producing or inhaling dust particles. When removing old panels. Dampen with water to minimise dust.**

- Remove the casing by unscrewing the retaining screws at bottom rear of the appliance and pulling the panel forwards, lifting it off the two pins at the top two corners.
- Remove the 4 fixing screws securing the sealed chamber front panel then remove the panel.
- Unscrew the 2 screws securing the combustion chamber front panel and remove the panel.
- Replace the front panel insulation panel.
- The side insulation panels may be replaced by sliding them forwards, clear of their retaining metalwork.
- Re-assemble the components in reverse order. If the rear insulation panels are to be removed, the fan, fan mounting plate, heat exchanger baffles and air pressure sensing probe should be removed first.
- The rear panels can now be removed.
- Replace, fitting the lower piece from the bottom and the upper two from the top.

## 9 EXPLODED VIEWS

### 9.1 COMBUSTION CIRCUIT

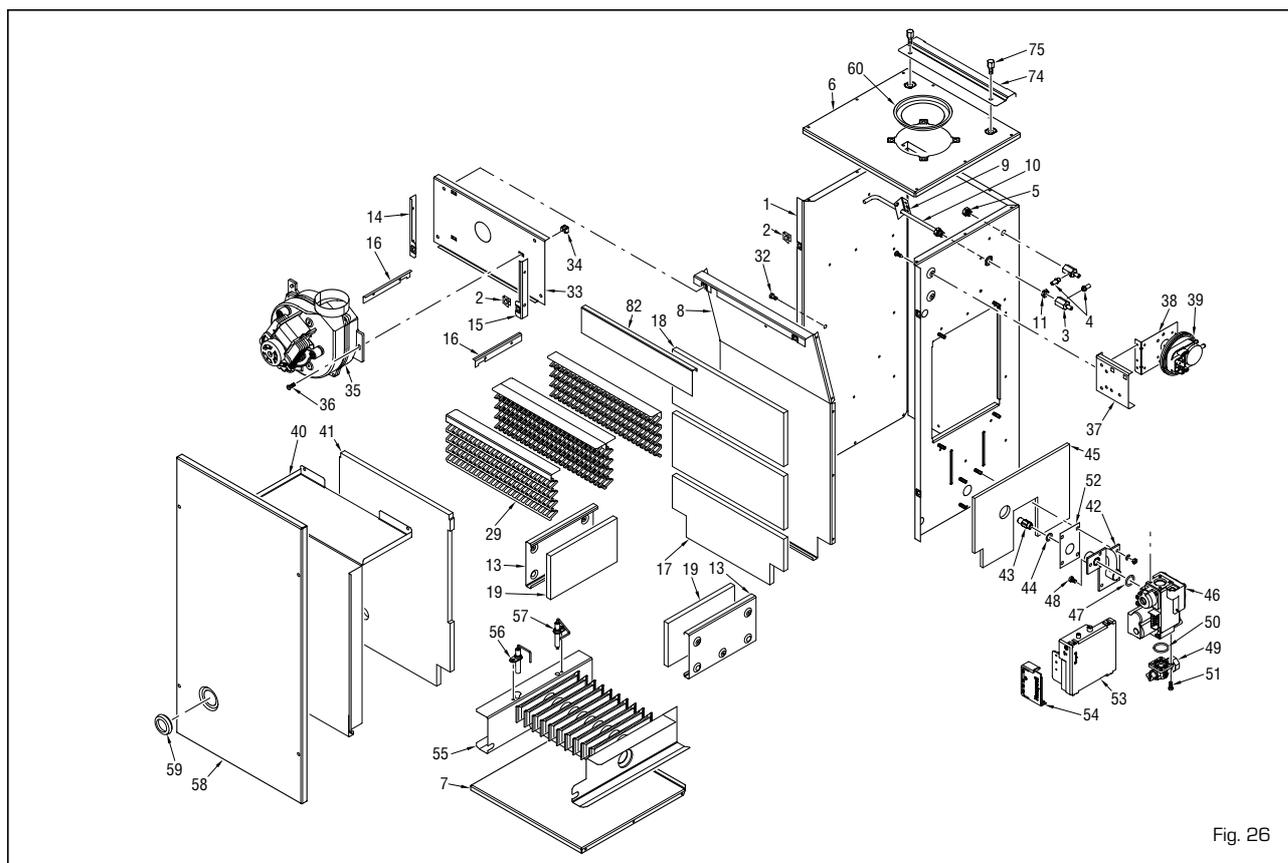


Fig. 26

Position	Code	Description	Model
1	6266050	Sealed chamber rear panel	40-50-60
1 A	6266052	Sealed chamber rear panel	80
2	• 2013302	Fastener for self tapping screw	
3	6247700	Three ways junction	
4	6235801	Pressure test nipple M6	
5	6168802	Junction 1/8"	
6	6246310	Sealed chamber upper panel	40-50-60
6 A	6246311	Sealed chamber upper panel	80
7	6246210	Sealed chamber lower panel	40-50-60
7 A	6246211	Sealed chamber lower panel	80
8	6285300	Sealed chamber rear panel	40-50-60
8 A	6285301	Sealed chamber rear panel	80
9	6009579	Intake pipe fixing bracket	
10	6263904	Air intake pipe	
11	6146303	Brass Nut 1/8"	
13	6285400	Combustion chamber side panel	40-50-60
13 A	6285401	Combustion chamber side panel	80
14	6285501	Fan plate rear left angle bar	
15	6285500	Fan plate rear right angle bar	
16	6285502	Comb. chamber door support. angle bar	40-50-60
16 A	6285503	Comb. chamber door support. angle bar	80
17	6139764	Combustion chamber rear lower insul.	40-50-60
17 A	6139768	Combustion chamber rear lower insul.	80
18	6139765	Combustion chamber rear insulation	
19	6139766	Combustion chamber side insulation	40-50-60
19 A	6139767	Combustion chamber side insulation	80
29	6285810	Baffle for cast iron section	
32	2005000	Self threading screw Hex.H. M5x10	
33	6229213	Fan mounting plate	40-50
33 A	6229215	Fan mounting plate	60
33 B	6229214	Fan mounting plate	80
34	2016020	Locked nut M4	
35	• 6225617	Fan	40-50
35 A	• 6225618	Fan	60
35 B	• 6225619	Fan	80
36	2000705	Screw M4x12	
37	6229103	Terminal strip bracket	

Position	Code	Description	Model
38	6229101	Smoke pressure switch bracket	
39	• 6225713	Air pressure switch	40-50
39 A	• 6225715	Air pressure switch	60-80
40	6285600	Combustion chamber front panel	40-50-60
40 A	6285602	Combustion chamber front panel	80
41	6139778	Combustion chamber front insulation	
42	6286300	Gas manifold	40-50-60
42 A	6286301	Gas manifold	80
43	6050265	Nozzle Ø 3,25	40-50
43 A	6050232	Nozzle Ø 3,55	60
43 B	6050286	Nozzle Ø 4,10	80
44	6022001	Aluminium washer Ø 10	
45	6283908	Sealed chamber side insulation	40-50-60
45 A	6283909	Sealed chamber side insulation	80
46	• 6243815	Honeywell gas valve type VK4105C	
47	6226429	O-ring 121	
48	• 2000702	Screw TCB M5x8 ZnCr	
49	• 6177580	Angle ball cock	
50	• 6226407	O-ring 130 ø 22,22x2,62 XP70	
51	2000203	Screw TCEI M4x12	
52	6162411	Gasket for gas manifold	
53	6210207	Control box Honeywell S4565CF1086	
54	6174504	Honeywell control box cover	
55	5189801	Main burner	40-50-60
55 A	5189802	Main burner	80
56	• 6235926	Ignition electrode	
57	• 6235925	Ionisation electrode	
58	6285700	Sealed chamber door	40-50-60
58 A	6285703	Sealed chamber door	80
59	6001210	Peephole	
60	6028621	Air diaphragm Ø 79	40
60 A	6028620	Air diaphragm Ø 81	50-60
60 B	6028622	Air diaphragm Ø 84	80
74	6285504	Sealed chamber upper fixing bracket	
75	6242603	Screw M6x1	
82	6041110	Rear deflector	

• Recommended stock parts

## 9.2 HYDRAULIC CIRCUIT

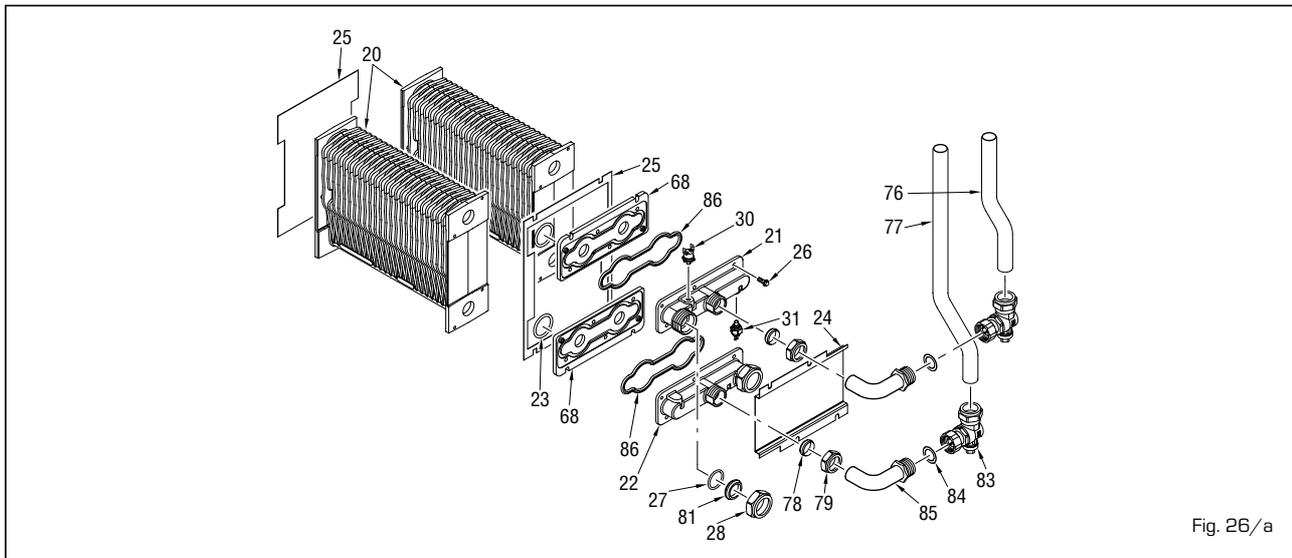


Fig. 26/a

Position Code	Description	Model
20	6286102 Cast iron exchanger	
21	6291300 Flow manifold	40-50-60
21 A	6291301 Flow manifold	80
22	6291320 Return manifold	40-50-60
22 A	6291321 Return manifold	80
23	• 6226431 O-ring 4125	
24	6285902 Manifold fixing plate	40-50-60
24 A	6285903 Manifold fixing plate	80
25	6174850 Gasket for cast iron section	40-50-60
25 A	6174851 Gasket for cast iron section	80
26	2000580 Screw Hex. H. M5x16	
27	6226433 O-ring ø 27x2	
28	6229513 Locking nut 1-3/8"	
30	• 6146716 105°C safety stat	
31	• 6231354 Plunged sensor	

Position Code	Description	Model
68	6291400 Manifold flange	40-50-60
68 A	6291401 Manifold flange	80
76	6289723 Lower inlet pipe	
77	6289722 Upper inlet pipe	
78	• 6100203 Copper ogive for pipe Ø 22 mm	
79	6229512 Locking nut 1-1/8"	
81	6100204 Ogive for pipe Ø 28	
83	6177505 Ball cock 3/4" x 22	
84	2030228 Gasket Ø 17x24x2	
85	6289720 Pipe connecting manifold-cock	40-50-60
85 A	6289721 Pipe connecting manifold-cock	80
86	6291500 Gasket for manifold flange	40-50-60
86 A	6291501 Gasket for manifold flange	80

• Recommended stock parts

## 9.3 STRUCTURAL COMPONENTS AND CONTROL & REGULATIONS

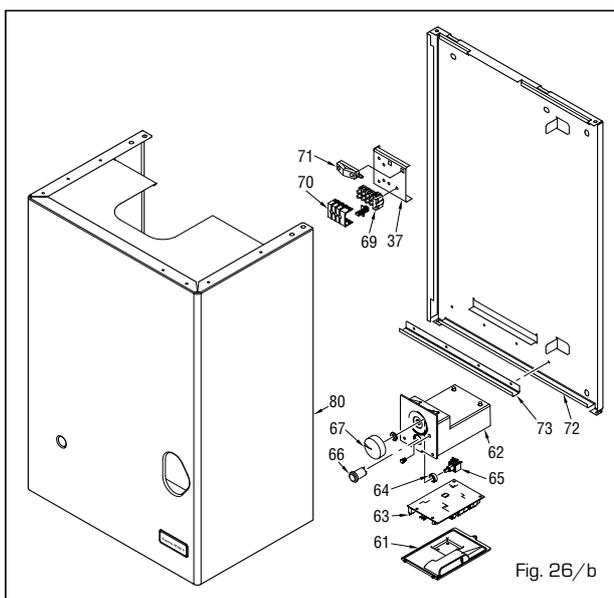


Fig. 26/b

Position Code	Description	Model
37	6229103 Terminal strip bracket	
61	6286901 Control panel lower part	
62	6286801 Control panel	
63	• 6230640 Control board	
64	2213201 Spacer Ø 15x5	
65	• 6278657 Potentiometer c/w cable connector	
66	• 6070410 Red pushing button	
67	6230921 Knob Ø 40	
69	6145050 Terminal strip	
70	6145004 Terminal strip cover	
71	2214200 Cable clamp	
72	6287000 Frame rear part	
73	6009584 Sealed chamber supporting bracket	40-50-60
80	5191300 Casing	40-50-60
80 A	5191301 Casing	80

• Recommended stock parts

All descriptions and illustrations provided in this manual have been carefully prepared but we reserve the right to make changes and improvements in our products that may affect the accuracy of the information contained in this manual.



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