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Planet Super 4 W.M.

Installation & Servicing Instructions



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

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 **sime**®

INSTALLER INSTRUCTIONS

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Planet Super Four W.M.:

Gas Council number 47-719-16



***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 COMBINATION 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, and the correct pressure showing on the pressure gauge?
- Are the Auto Air Vent open?
- Has the pump been rotated manually? (protect electrics if pump has to be freed)
- Is the gas supply working pressure correct?
- Is the boiler wired correctly? (See installation manual).
- Has the D.H.W. flow rate been set to the customer requirements?
- Has the customer been fully advised on the correct use of the boiler, system and controls?
- Has the log book provided been completed?

1 DESCRIPTION OF THE BOILER

1.1 INTRODUCTION

The "PLANET SUPER 4 W.M." wall hung boilers with D.H.W. storage tank allow a variety of requests to be met thanks to the abundance of water which the capacious tank unit (with optional secondary circula-

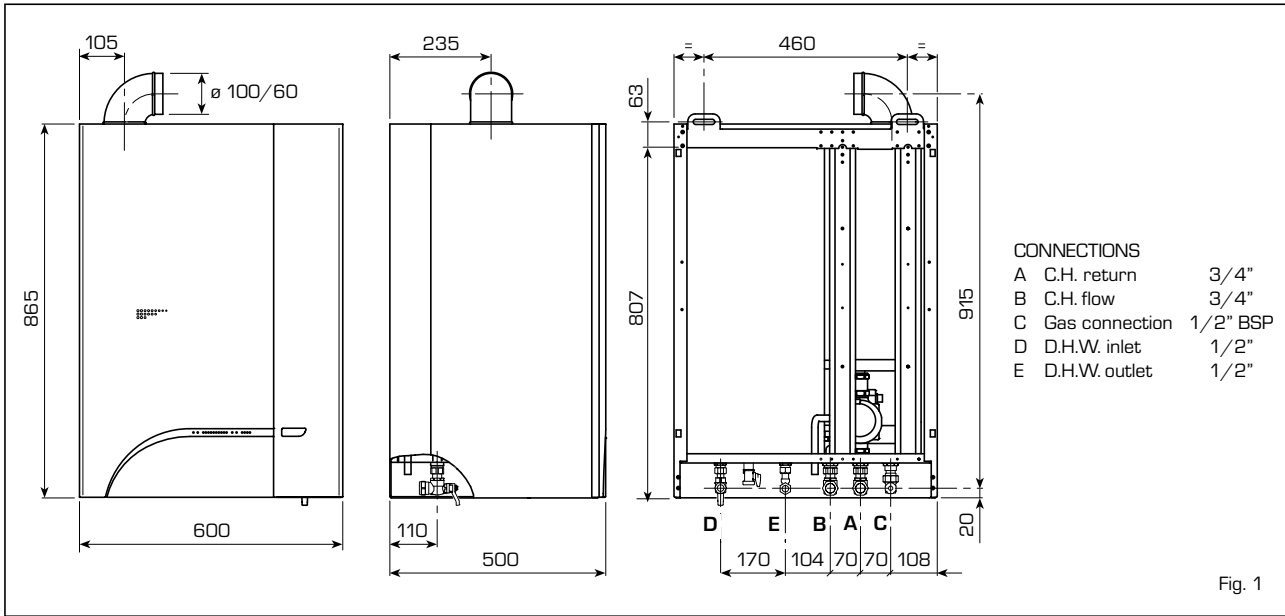
tion, see fig. xx) makes available and thanks also to an electronic management and control system via a microprocessor:

They are designed and built in compliance with European directives 90/396/EEC, 89/336/EEC, 73/23/EEC, 92/42/EEC and the European norms EN 483 - EN 625.

They may be fuelled by natural gas (methane) and butane gas (G30) or propane (G31).

Follow the instructions given in this manual for the correct installation and perfect functioning of the apparatus.

1.2 DIMENSIONS



1.3 TECHNICAL FEATURES

SUPER 4 W.M.		
Heat output		
Nominal	kW	11,6÷29,5
	Btu/h	39.600÷100.650
Minimum	kW (Btu/h)	11,6 (39.600)
D.H.W. heat output		
Nominal	kW (Btu/h)	29,5 (100.650)
Heat input		
Nominal	kW	13,5÷31,6
	Btu/h	46.050÷107.800
Minimum	kW (Btu/h)	13,5 (46.050)
Water content	l	5
Expansion vessel		
Capacity	l	8
Preloading pressure	bar	1
C.H. setting range	°C	40÷80
D.H.W. setting range	°C	10÷60
D.H.W. production		
Tank unit capacity	l	60
D.H.W. flow rate EN 625*	l/min	15,7
Contin. D.H.W. flow rate (Δt 30°C)	l/h	845
D.H.W. expansion vessel	l	2,5
Tank unit maximum water head	bar	7
Recovery time from 25 to 55°C	min	4'30"
Absorbed power consumption	W	180

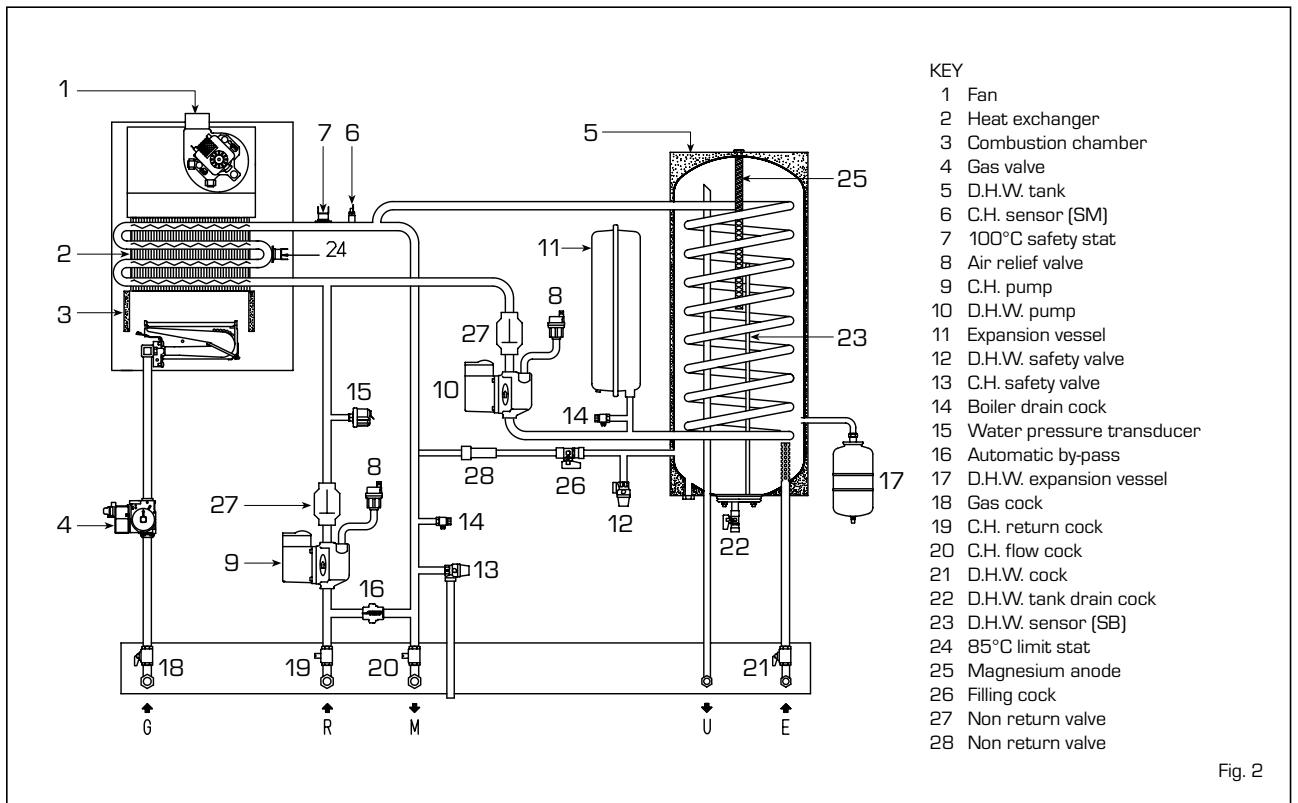
SUPER 4 W.M.		
Electrical protection grade		IP X4D
Maximum water head	bar	3
Maximum temperature	°C	85
Smokes temperature	°C	123
Smokes flow	gr/s	20,0
Category		II2H3+
Type		C12-32-42-52
Shipping weight	kg	99
Main gas nozzles		
Quantity	n°	15
Natural gas	ø mm	1,30
G30 - G31	ø mm	0,76
Gas flow **		
Natural gas	m³/h	3,34
Butane (G30)	kg/h	2,44
Propane (G31) LPG	kg/h	2,40
Burner gas pressure ***		
Natural gas	mbar	1,7÷11,3
Butane (G30)	mbar	4,7÷28,1
Propane (G31) LPG	mbar	4,7÷35,9
Gas supply pressure		
Natural gas	mbar	20
Butane (G30)	mbar	29
Propane (G31) LPG	mbar	37

* Flow calculated with a fixed temperature on the D.H.W. potentiometer of 60 °C for a maximum period of 10 minutes.

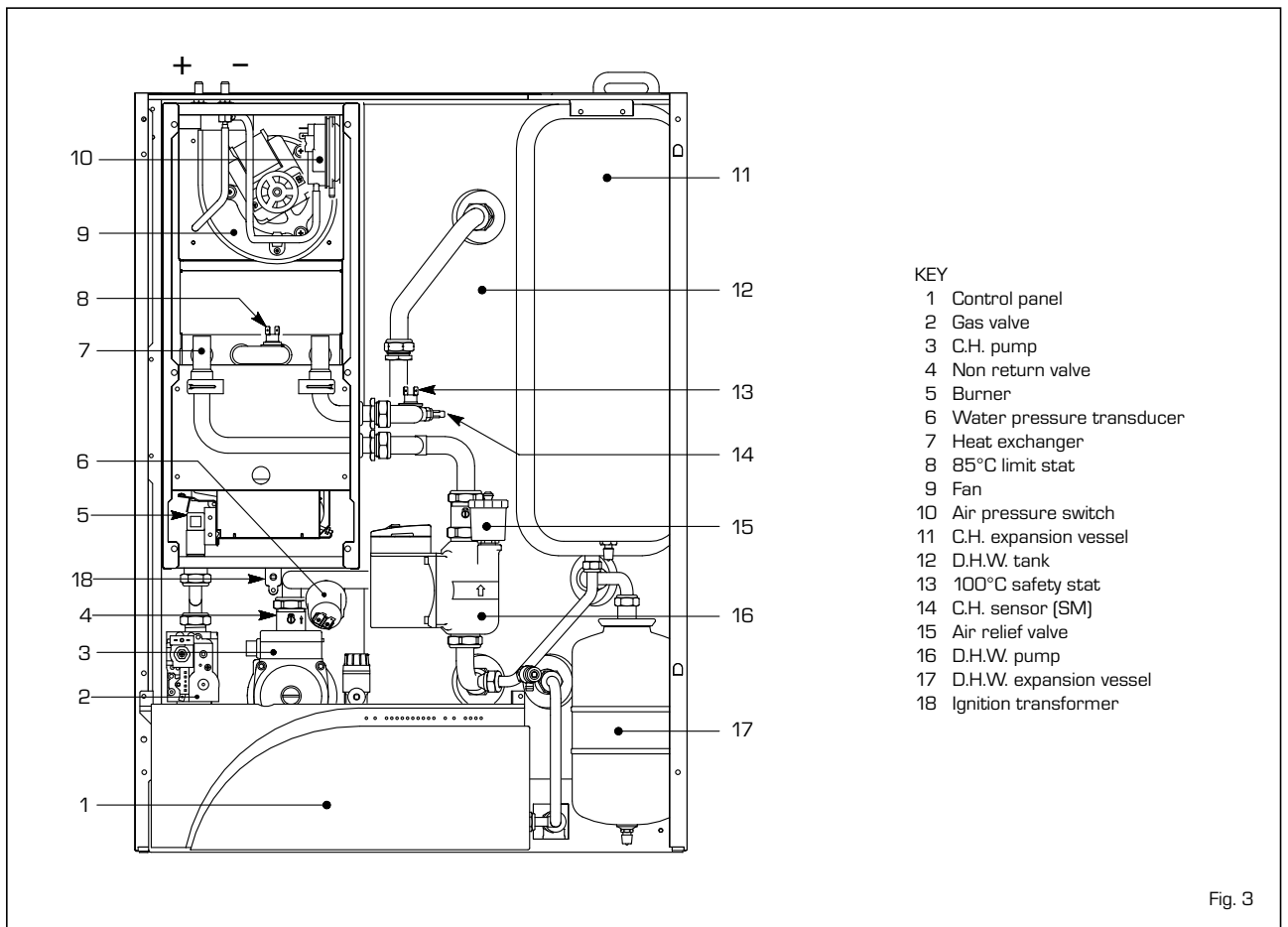
** The gas flow refers to the inferior calorific value in standard conditions of 15°C - 1013 mbar

*** Differential measure between the pressure upstream of the gas valve and the depression in sealed chamber.

1.4 FUNCTIONAL DIAGRAM



1.5 MAIN COMPONENTS



2 GENERAL REQUIREMENTS FOR INSTALLATION

2.1 STATUTORY REQUIREMENTS

GAS SAFETY (INSTALLATION AND USE) REGULATIONS (as amended). It is the law that all gas appliances are installed by a registered person, in accordance with the above regulations. 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 7671), 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 siting the combination 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 combination 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 combination boiler is to be fitted in a timber framed building it should be fitted in accordance with the British Gas publication Guide for Gas Installations In Timber Frame Housing, Reference DM2. 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 I.E.E. Wiring Regulations (BS 7671), and in Scotland the electrical provisions of the Building Regulations applicable in Scotland.
- 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. 4.
- If the terminal discharges into a pathway or passageway check that com-

bustion 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.

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.

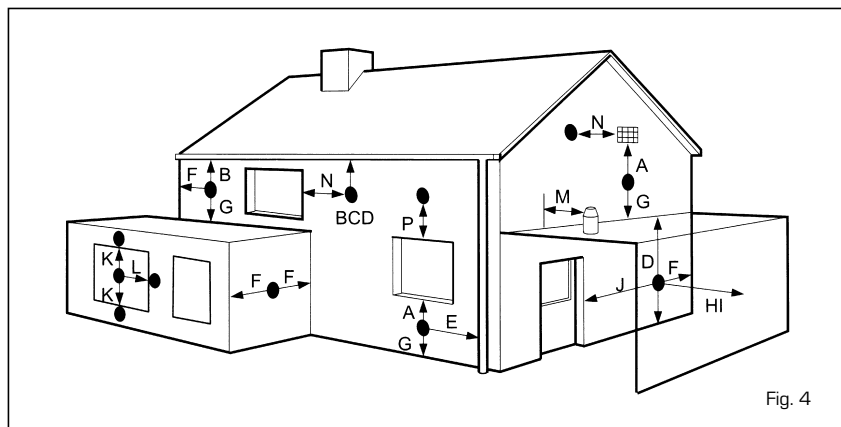


Fig. 4

TABLE 1

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.

2.5 GAS SUPPLY

- The gas installation should be in accordance with BS6891. The gas required for the boiler is specified in section 1.3.
- 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) for natural gas and 30 - 37 mbar (12 - 15 inwg) for LPG, 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 **230 V - 50 Hz single phase** is required. All external controls **MUST** be **LOW** voltage.

Wiring should be in 3 core PVC insulated cable NOT LESS than 0.75 mm² (24 x 0.2 mm) to BS6500, Table 16. Wiring external to the boiler **MUST** be in accordance with current I.E.E. 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 as per the original instructions. This connection should be readily accessible and be made adjacent to the boiler (except in the case of bathroom installations for domestic boilers where the point of connection to the mains **MUST** be outside of the bathroom).

2.7 WATER SYSTEMS - GENERAL

- This appliance is designed for connection to sealed central heating water systems.
- Check that the mains water pressure is sufficient to produce the required D.H.W. flow rate, but does not exceed the maximum D.H.W. pressure (*Table 4*). **Where mains pressure exceed 6 bar a pressure reducing valve must be fitted in the D.H.W. inlet.**

2.7.1 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.

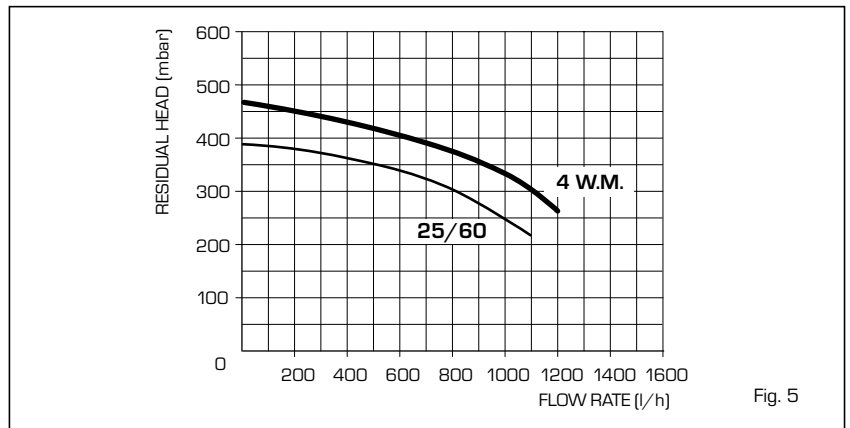


Fig. 5

- 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 REQUIREMENTS FOR SEALED WATER SYSTEMS

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

- The available pump head is given in fig. 5.
- The appliance is equipped with an internal by-pass that operates with system heads (H) greater than 3,5 m. If thermostatic radiator valves are to be

installed, at least one radiator should be without a thermostatic valve (usually the bathroom radiator).

- A sealed system must only be filled by a competent person. The system design should incorporate the connections appropriate to one of these methods.
- The following paragraphs outline the specifications of the items fitted to the boiler.

2.8.1 Pump

The available head shown in fig. 5 is that in excess of the appliance hydraulic resistance, i.e. that available for the system at any given heating load up to the maximum output in C.H. mode. Never reduce the pump speed below maximum as this will reduce D.H.W. output. The pump speed is indicated on the side of the pump speed selector switch (if fitted).

2.8.2 System volume (total water content)

The following Table gives the maximum system volume that the integral expansion vessel can sustain under different charge pressure conditions. If the system volume exceeds that shown, an additional expansion vessel must be fitted and connected to the heating system primary return pipe as close as possible to the appliance.

If an extra vessel is required, ensure that the total capacity of both vessels is adequate. Further details are available in the current issues of BS5449 and BS6798.

NOTE: If the pressure display indicates 2.5 bar when the appliance is at maximum

TABLE 2

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 using 8 l (1.76 gal)	l	87	64	44
capacity expansion vessel supplied with appliance	gal	19.1	14.0	9.7
For systems having a larger capacity multiply the total system capacity in litres (gal) by the factor to obtain the total minimum expansion vessel capacity required litres (gal)		.0833	.109	.156

temperature with all radiators in circulation an extra expansion vessel is required.

2.8.3 Pressure gauge

A led type pressure display is located on the appliance fascia panel.

2.8.4 Safety valve

A safety valve set at 3 bar (43.5 psi) is fitted to the appliance and a discharge pipe is routed to outside of the appliance.

This discharge pipe should be extended to terminate safely away from the appliance and where a discharge would not cause damage to persons or property but would be detected. The pipe should be able to withstand boiling water; be a minimum of 15 mm in diameter, and installed with a continuous fall.

2.9 D.H.W. SYSTEMS

- The authority of the local Water

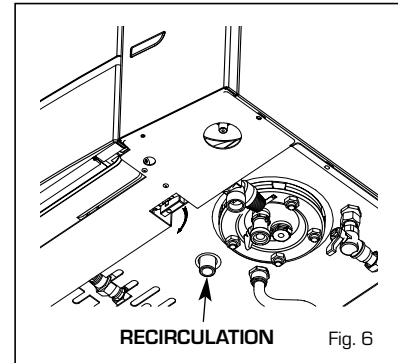
Company should be obtained before the appliance is connected to the cold water mains supply. Check that the mains supply pressure is within the prescribed limits [point 1.3].

If necessary, a pressure reducing valve should be fitted to the mains supply before the D.H.W. inlet connection.

- The final 600 mm (24 in) of the mains supply pipe to the boiler must be copper.
- If the appliance is installed in an area where the temporary hardness of the water supply is high, say over 150 ppm, the fitting of an in line scale inhibitor may be an advantage. Consult the Local Water Undertaking if in doubt.
- Devices capable of preventing the flow of expansion water: e.g. non return valves and/or loose-jumpered stop cocks should not be fitted unless separate arrangements are made for expansion water.
- For specific information relating to fittings (eg. Showers, washing machines etc.) suitable for connection in the D.H.W. circuit, consult the Local Water Undertaking, however the following information is given for guidance.

2.9.1 Optional secondary circulation

The boiler is equipped with a secondary return to be used for recirculation purposes [see fig. 6].



2.9.2 Domestic hot/cold water supply taps and mixing taps

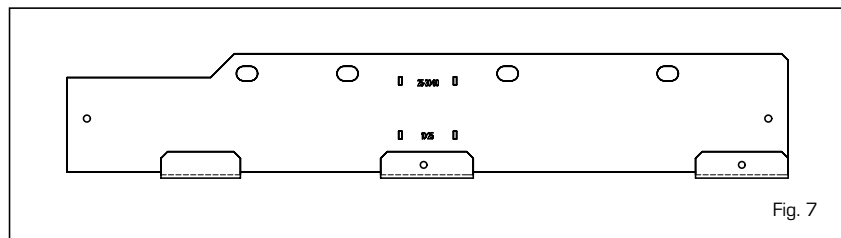
All equipment designed for use at mains water pressure is suitable.

3 INSTALLATION

3.1 BOILER SUPPORT BRACKET

For the mounting of the support bracket of the boiler, which is supplied, observe the following instructions (fig. 7):

- Fix the bracket to the wall with appropriate fastenings.
- Check with a spirit level that it is perfectly in horizontal plane.



3.2 CONNECTING UP SYSTEM

Before proceeding to connect up the boiler, you are recommended to make the air circulating in the piping in order to eliminate any foreign bodies that might be detrimental to the operating efficiency of the appliance.

When making the hydraulic connections, make sure that the dimensions indicated in fig. 1 are respected.

The discharge pipe of the safety valve must be connected to a collector funnel for channelling away any discharge if the safety valve is activated.

The gas connection must be made using seamless steel pipe (Mannesmann type), galvanized and with threaded joints provided with gaskets, excluding three-piece connections, except for initial and end connections. Where the piping has to pass through walls, a suitable insulating sleeve must be provided. When sizing gas piping, from the meter to the boiler, take into account both the vol-

ume flow rates (consumption) in m³/h and the relative density of the gas in question.

An adhesive data plate is located inside the front panel; it contains all the technical data identifying the boiler and the type of gas for which the boiler is arranged.

3.2.1 Filter on the gas pipe

The gas valve is supplied ex factory with an inlet filter, which, however, is not adequate to entrap all the impurities in the gas or in gas main pipes.

To prevent malfunctioning of the valve, or in certain cases even to cut out the safety device with which the valve is equipped, install an adequate filter on the gas pipe.

3.3 FLUE AND TERMINAL PREPARATION

If the wall thickness is less than 0.5 m (19

in) the flue/air duct may be fitted without access to the outside wall providing that the optional wall liner kit is used. [This consists of a steel pipe, 0.5 m long and 129 mm outside diameter with a 1 mm wall thickness].

3.3.1 Flue/air duct lengths

- Determine whether an extension duct is required with reference to the Z dimension shown in fig. 8.

Alternatively max. flue lengths information is given in *Table 3*.

Z Dimension UP TO 945 mm.

No extension duct required.

Z Dimension greater than 945 mm and up to 1,760 mm.

One extension duct kit required.

Z Dimension greater than 1,760 mm and up to 2,575 mm. Two extension duct kits required.

Z Dimension greater than 2,575 mm and up to 3,000 mm. Three extension

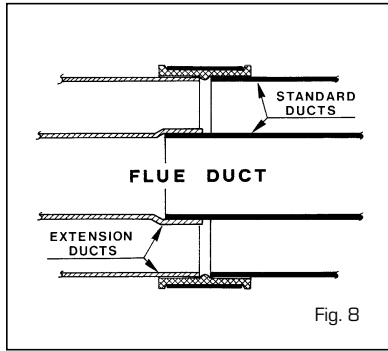


Fig. 8

duct kits required.
Z Dimension greater than 3,000 mm.
 NOT PERMITTED.

- If no extension ducts are required, proceed to 3.5.2.
- If an extension duct or ducts is/are to be used, 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. 8):
- 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.

3.3.2 Cutting the flue/air duct to the correct length

Rear flue outlet (fig. 9)

- Select the air duct (larger duct) and starting at the formed end, 'mark off' the length to be cut which is the wall thickness **X** + 165 mm (6 1/2 in).

Side flue outlet (fig. 9)

- Select the air duct (larger duct) and starting at the formed end, 'mark off' the length to be cut which is the wall thickness **X** + the clearance **Y** plus 155 mm (6 1/8 in).

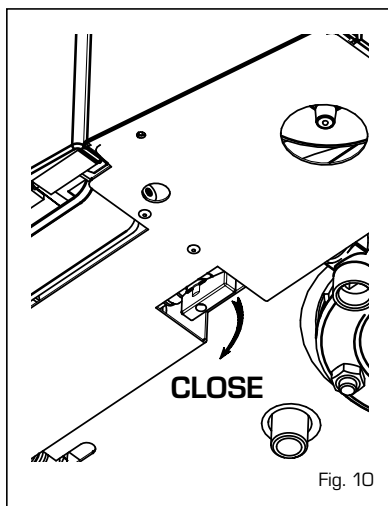


Fig. 10

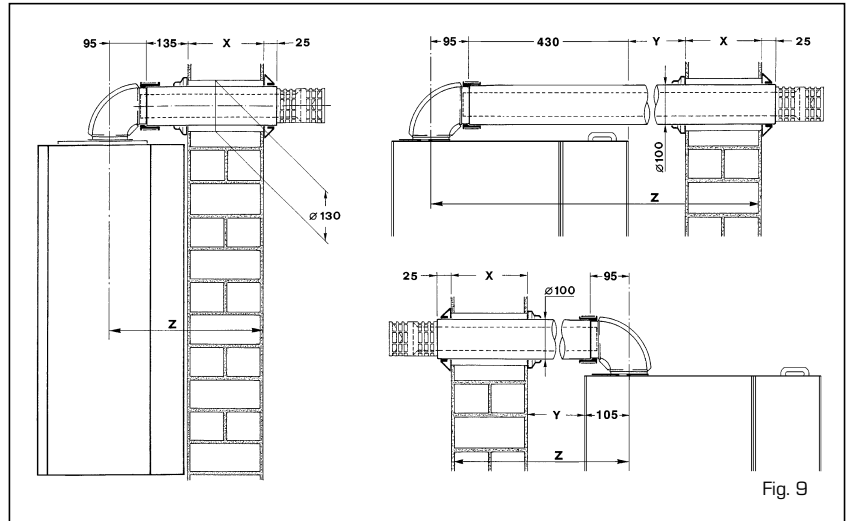


Fig. 9

TABLE 3 - Maximum flue lengths (measured from appliance casing to outside wall face)

	Rear outlet		R.H. side outlet		L.H. side outlet	
	mm	in	mm	in	mm	in
STANDARD FLUE KIT	710	28	415	16 1/4	835	32 3/4
WITH 1 EXTENSION KIT	1,525	60	1,230	48 1/2	1,650	65
WITH 2 EXTENSION KITS	2,340	92	2,045	80 1/2	2,465	97
WITH 2 1/2 EXTENSION KITS	2,765	108 3/4	2,475	97 1/2	2,895	114

3.4 CHARACTERISTICS OF FEEDWATER

IT IS ABSOLUTELY ESSENTIAL THAT THE WATER FOR THE CENTRAL HEATING SYSTEM IS TO BE TREATED IN THE FOLLOWING CASES:

- Very extensive system (with high contents of feedwater).
- Frequent addition of makeup water into the system.
- Should it be necessary to empty the system either partially or totally.

3.5 SYSTEM FILLING

The filling of the boiler and the system is

done by the filling cock located on the bottom of the boiler (fig. 10). The filling pressure of the system cold must be **1 bar**.

Once the filling has been completed, close the filling cock.

3.6 HOW TO FIT C.H. AND D.H.W. VALVES AND GAS COCK

- C.H. CONNECTIONS (A & B)
Fit the two valves (10) using the gasket supplied (6).
- D.H.W. CONNECTION (E & D)
Fit the isolation valve (5) to the cold water inlet (D) using the gasket supplied (1).

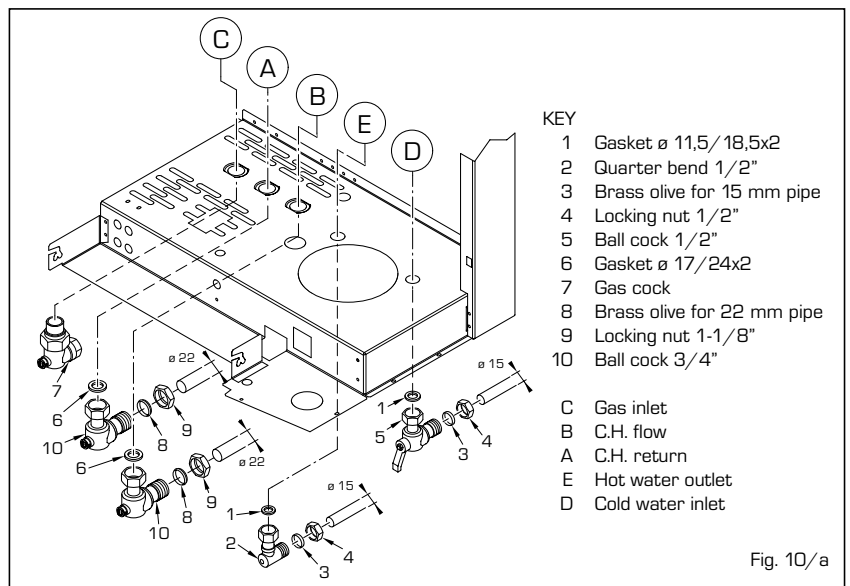


Fig. 10/a

- Fit the quarter bend (2) to the hot water outlet (E) using the gasket supplied (1).
- GAS CONNECTION (C)
- Fit the gas cock (7) to the gas connection.

3.7 COAXIAL DUCT

The air inlet-exhaust assembly \varnothing 60/100 is supplied in kit code 8084808 and comes with an instruction sheet for the assembly.

3.7.1 Diaphragm installation

The diaphragm is supplied together with the boiler. See figure 10 for the positioning. **ATTENTION: Install the diaphragm only when the length of the \varnothing 60/100 coaxial duct is less than 1 m.**

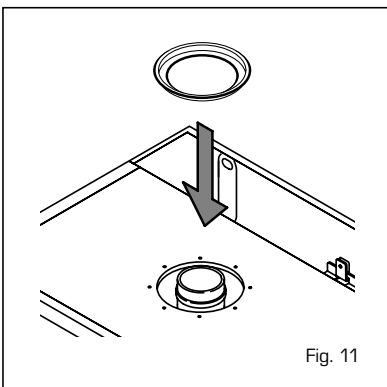
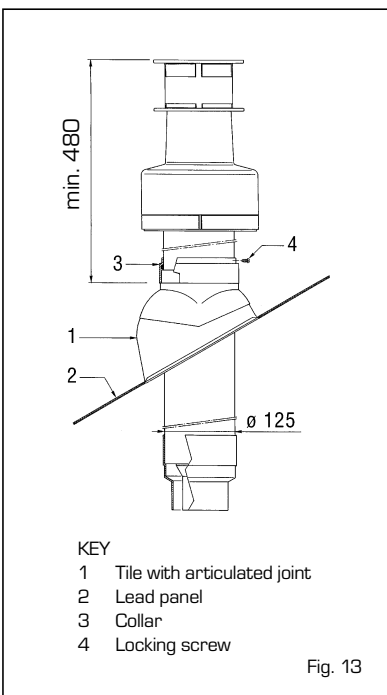


Fig. 11

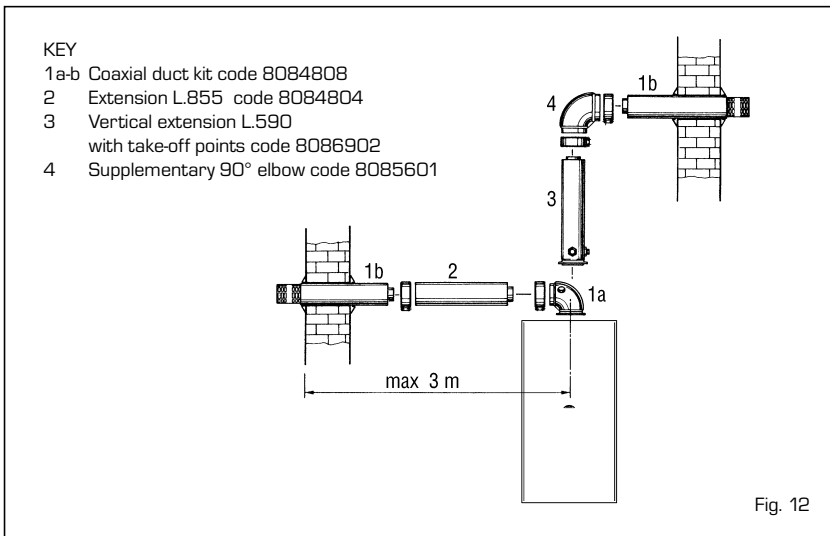
3.7.2 Coaxial duct accessories

The accessories required for various horizontal terminations are shown in fig. 12. **With the elbow supplied in the kit the**



- KEY
- 1 Tile with articulated joint
 - 2 Lead panel
 - 3 Collar
 - 4 Locking screw

Fig. 13



- KEY
- 1a-b Coaxial duct kit code 8084808
 - 2 Extension L.855 code 8084804
 - 3 Vertical extension L.590 with take-off points code 8086902
 - 4 Supplementary 90° elbow code 8085601

Fig. 12

maximum length of the duct should not be greater than 3 metres.

If the extra elbow cod. 8085601 is used the duct could reach the maximum length of 1.6 metres.

With the use of the vertical extension cod. 8086902 the end of the duct must always have an horizontal outlet.

3.7.3 Roof outlet coaxial duct

The roof outlet terminal L.1280 cannot be shortened and the positioning of the tile distances must be no less than 600 mm from the discharge terminal outlet (fig. 13). The accessories required for this type of installa-

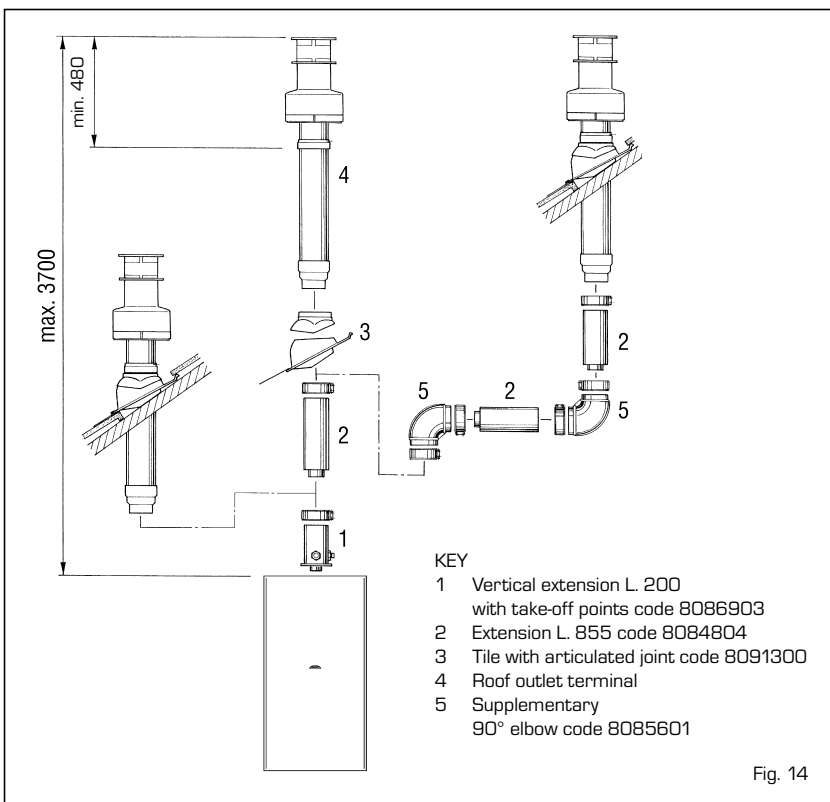
tion and some of the connecting systems that can be used are shown in fig. 14.

Up to a maximum of three extensions can be added to reach a rectilinear length of 3.7 metres. If it proves necessary to provide for two changes of direction in the duct, the maximum length must not be greater than 2 metres.

3.8 SEPARATE DUCTS (Optional alternative twin pipe system)

In the installation it is best to observe the directions requested by the Norms and a few practical considerations:

- With direct external suction, when the



- KEY
- 1 Vertical extension L. 200 with take-off points code 8086903
 - 2 Extension L. 855 code 8084804
 - 3 Tile with articulated joint code 8091300
 - 4 Roof outlet terminal
 - 5 Supplementary 90° elbow code 8085601

Fig. 14

duct is greater than 1 m in length, insulation is recommended in order to avoid, in particularly cold periods, the formation of condensation on the outside of the tubing.

- With discharge duct positioned on the outside of the building, or in cold environments, insulation is necessary to avoid starting failures of the burner. In such cases, a system for the collection of condensation must be fitted.
- If a segment of the flue passes through a flammable wall, this segment must be insulated with a glass wool pipe insulator 30 mm thick, with a density of 50 kg/m³.

The maximum overall length of the intake and exhaust ducts depends on the head losses of the single fittings installed (excluding the adaptors) and can reach approximately the measure of 30 m. For the load losses of the fittings refer to Table 4.

TABLE 4

Twin flue accessories ø 80	Head loss metres
90° elbow MF	1.5
45° elbow MF	0.7
Extension L. 1000 (horizontal)	1.0
Extension L. 1000 (vertical)	1.0
Outlet terminal	1.0
Intake terminal	0.3
Junction twin/concentric	0.7
Roof outlet terminal L.1240	2.0
Tee condensation outlet	4.0

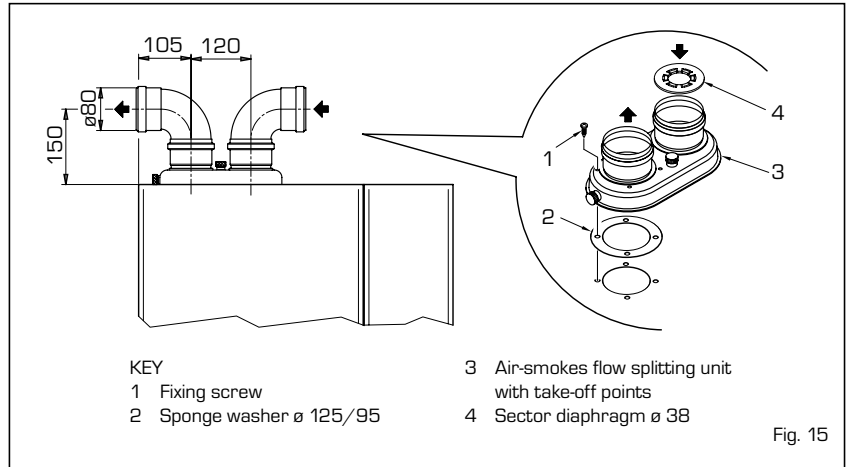
3.8.1 Separate ducts accessories

For the connecting of this type of discharge a kit cod. 8093000 (fig. 15) is required. The sector diaphragm in the kit, must be used according to the maximum load loss allowed in both ducts, as indicated in fig. 15/a. The complete range of accessories necessary for each type of installation are given in fig. 16.

3.8.2 Roof outlet separate ducts

The roof outlet terminal L. 1240 cannot be shortened and in the positioning of the tile the distance from the discharge outlet of the terminal must not be less than 480 mm (fig. 17). The accessories necessary for this type of discharge and some of the other type of systems that it is possible to use are shown in fig. 16.

By utilising the junction twin/concentric (7 fig. 18) it is possible to have a concentric discharge. In these cases, during assembly, it is necessary to get the washer in silicon used on the reduction of the terminal (5 fig. 16) to be substituted with the junction twin/concentric and place it in the housing of the same doubler. To calculate the load losses of the single fittings attached refer to Table 4.



- KEY
- 1 Fixing screw
 - 2 Sponge washer ø 125/95
 - 3 Air-smokes flow splitting unit with take-off points
 - 4 Sector diaphragm ø 38

Fig. 15

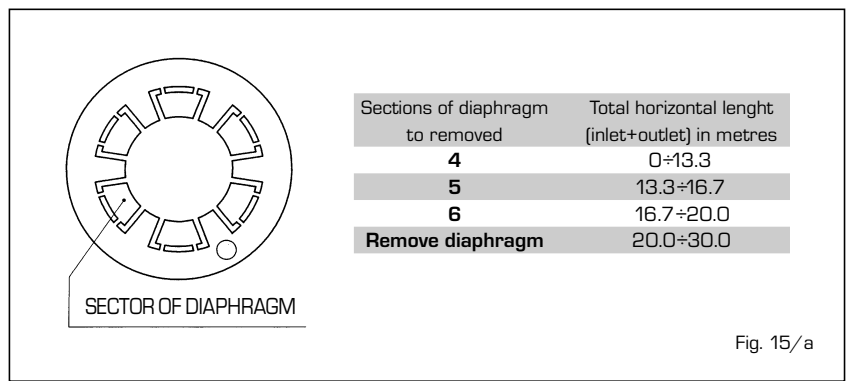
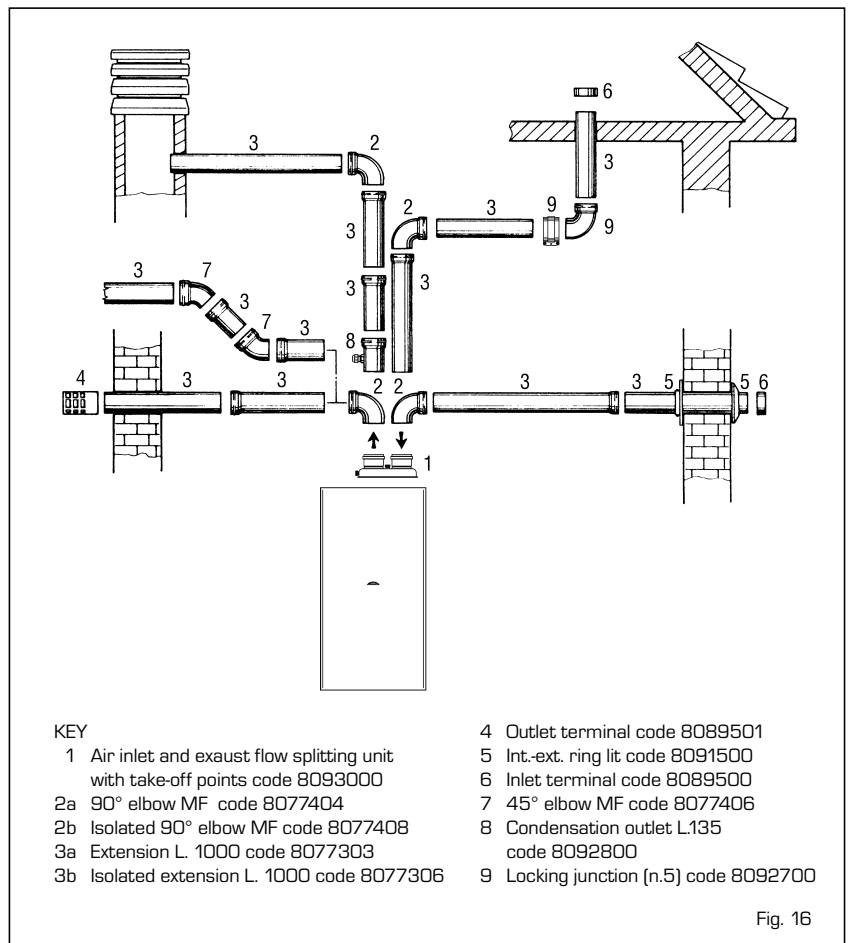


Fig. 15/a



- KEY
- 1 Air inlet and exhaust flow splitting unit with take-off points code 8093000
 - 2a 90° elbow MF code 8077404
 - 2b Isolated 90° elbow MF code 8077408
 - 3a Extension L. 1000 code 8077303
 - 3b Isolated extension L. 1000 code 8077306
 - 4 Outlet terminal code 8089501
 - 5 Int.-ext. ring lit code 8091500
 - 6 Inlet terminal code 8089500
 - 7 45° elbow MF code 8077406
 - 8 Condensation outlet L.135 code 8092800
 - 9 Locking junction (n.5) code 8092700

Fig. 16

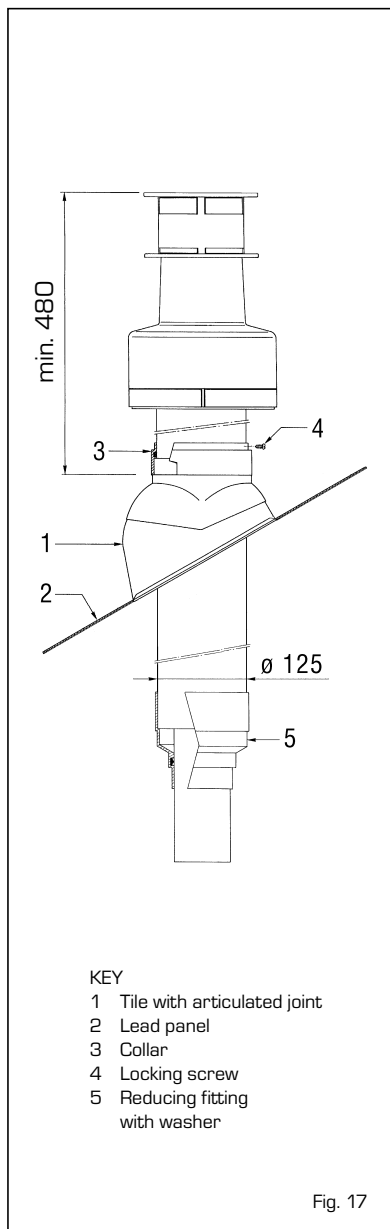


Fig. 17

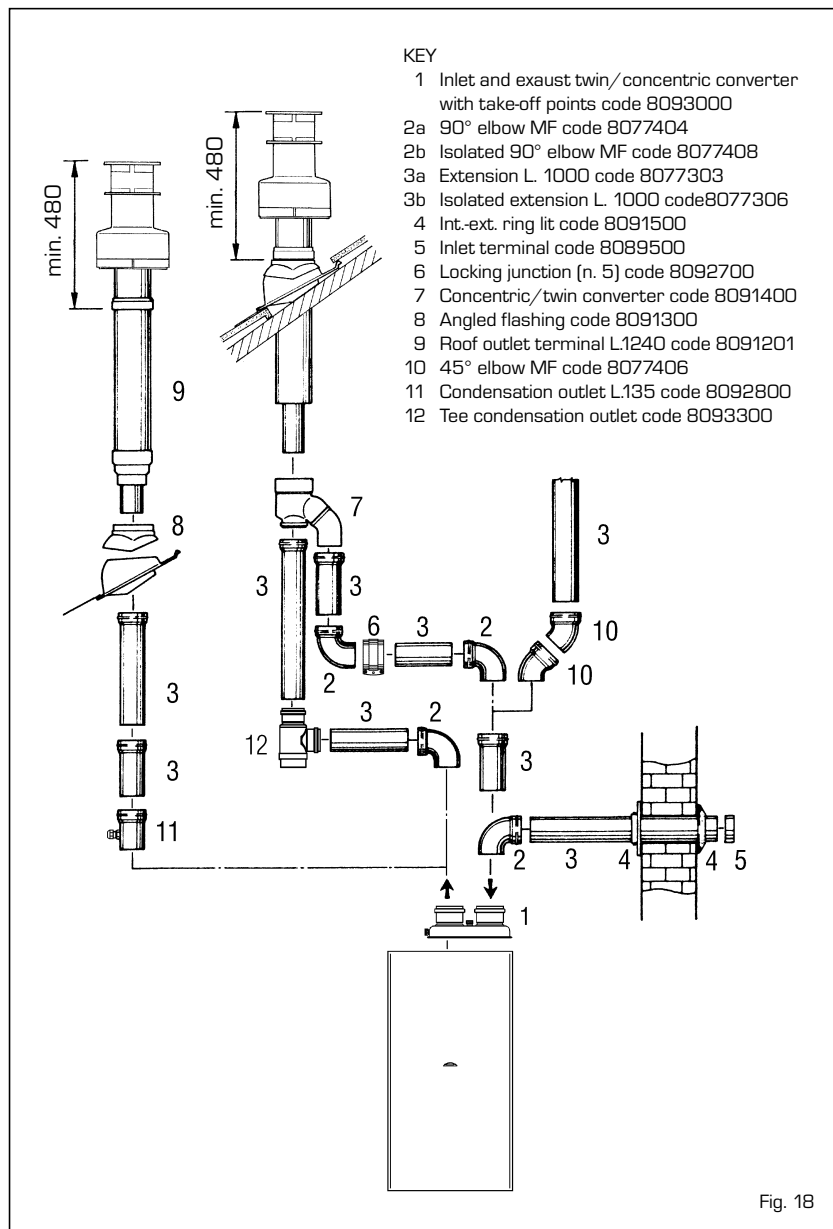


Fig. 18

3.9 ELECTRICAL CONNECTION

The boiler is supplied with an electric cable. Should this require replacement, it must be purchased exclusively from SIME.

The electric power supply to the boiler must be 230V - 50 Hz single-phase through a fused main switch, with at least 3 mm spacing between contacts. Respect the L and N polarities and the earth connection.

3.9.1 Room stat connection

To gain access to the TA-CR-SE-SB [J2] electronic board connector, remove the control panel cover and connect the room stat to the terminals 5-6 after having removed the jumper (fig. 19).

The thermostat or timer-thermostat, recommended for better room temperature control, must be class II as specified by

standard EN 60730.1 (clean contact).

Warning: Applying mains voltage to the terminals of board TA-CR-SE-SB will irreparably damage the control board. Make sure that any connections to be made are not carrying mains voltage.

3.9.2 Connection "Logica Remote Control" (fig. 19 pos. B)

The electrical plants must be in compliance with local norms and cables must be laid observing the safety low voltage specifications EN 60730.

For lengths up to 25 m use cables with sections of 0.25 square mm and for lengths greater than 50 m use cables with sections of 0.5 square mm. First of all assemble and cable the socket (2) and then insert the apparatus that will start as soon as it receives electricity.

To have access to the connector (3) remove the cover of the control panel and electrically connect the climate regulator to the terminals CR (6-7).

ATTENTION: External electricity cannot be connected to terminals 1-2-3-4 of the socket.

3.9.3 Connection external temperature sensor (fig. 19 pos. C)

The cables must be laid observing the safety low voltage specifications EN 60730. For lengths up to 25 m use cables with sections of 0.25 square mm and for lengths greater than 50 m use cables with sections of 0.5 square mm. To gain access to the connector (3) of the boiler remove the cover of the control panel and electrically connect the external temperature sensor to the terminals SE (8-9).

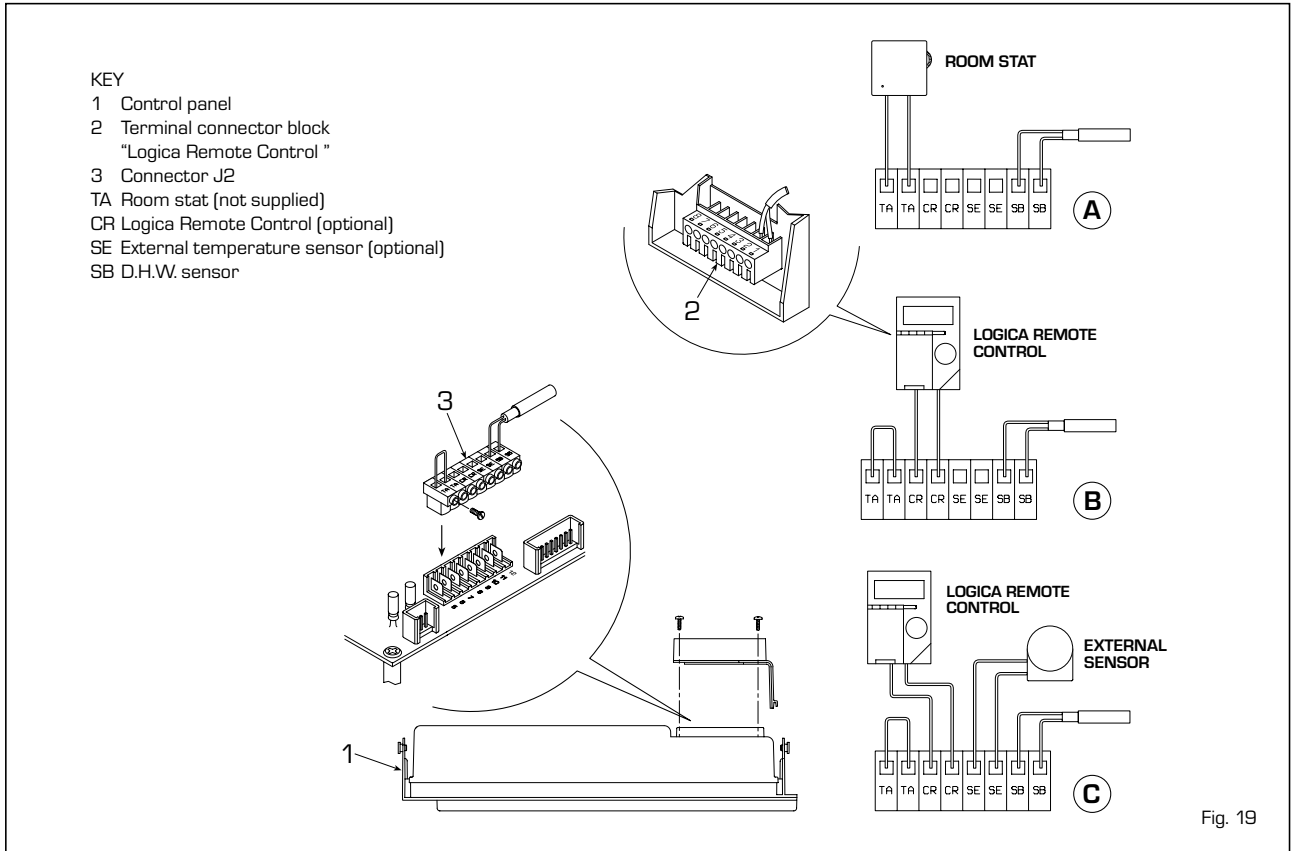


Fig. 19

3.9.4 Wiring diagram

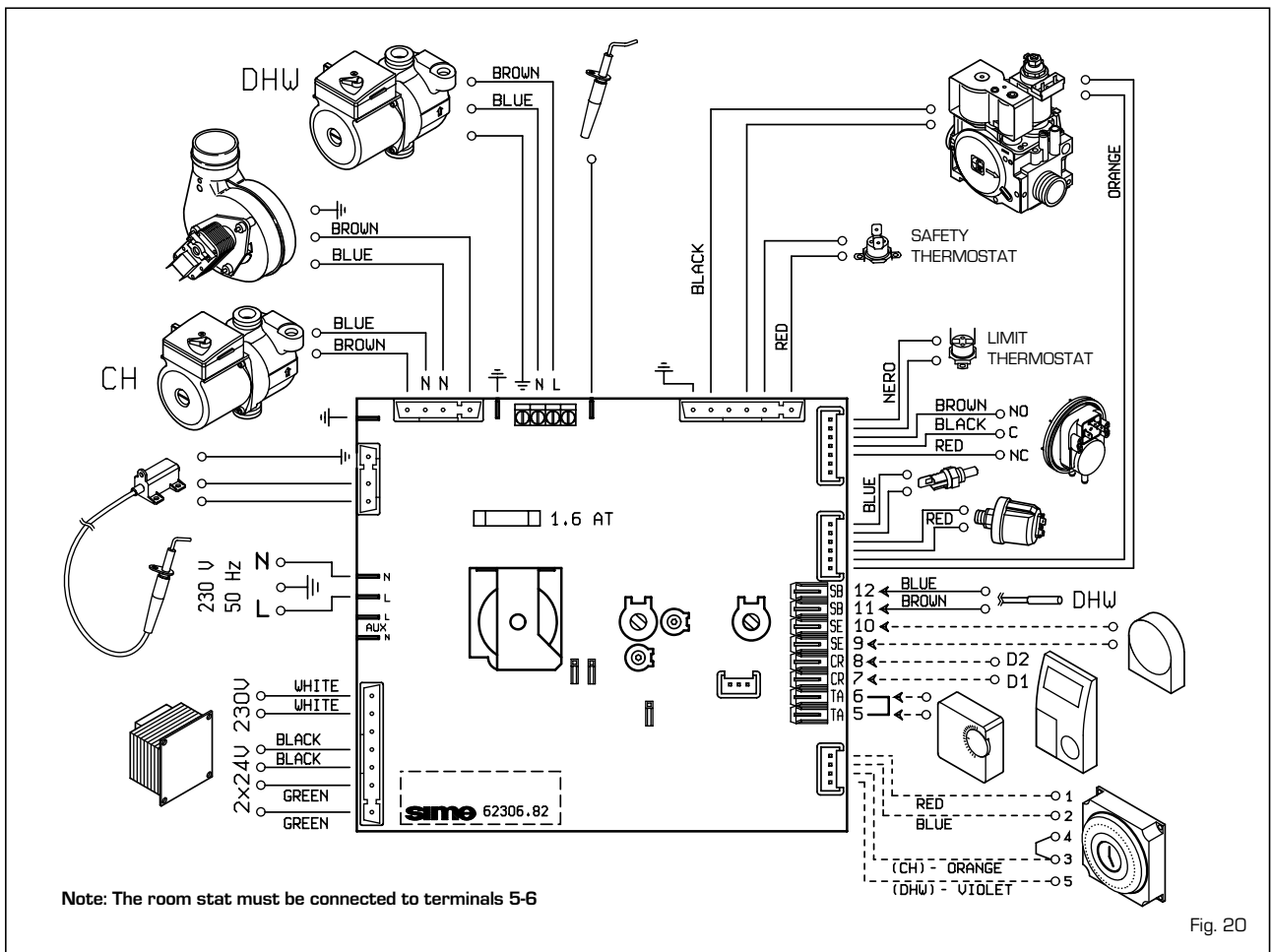


Fig. 20

3.10 LOGICA REMOTE CONTROL

All the boiler's functions can be managed by a optional digital multifunctional device code 8092204 for the remote of the boiler itself and for regulating room climatic conditions with an operational reserve of 12 hours. The heating circuit is controlled by the room temperature sensor built-in the equipment or by the atmospheric conditions, with or without environmental inflow, if the boiler is connected to an external sensor:

Characteristics:

- Ergonomic control unit divided according to function (control levels).
- Clear division of basic functions:
 - operating regime, correction of set value and presence button are directly accessible;
 - Different real current values are accessible through the "info" button;
 - other functions can be programmed after the cover has been opened;
 - special service level with protected access;
- Each setting or modification is displayed and confirmed.
- Tome setting (special line for changing BST/CET).
- Heating programme with max. 3 heating periods per day, individually selectable.
- Copy function for easy transfer of heating programme to the next or previous day.


- Holiday programme: the programme is interrupted for the holiday period and automatically restarted on returning home.
- Option to return the heating program to default values.
- Programming lock (child safety).

Functions:





- Delivery temperature control guided by the atmospheric conditions, taking into account the dynamics of the building.
- Delivery temperature control guided by atmospheric conditions with influence of ambient temperature.
- Ambient temperature control only.
- Adjustable influence of ambient temperature shift .
- Switch-on and switch-off optimisation.
- Rapid lowering.
- ECO functions (daily heating limiter; automatic summer/winter switch-over).
- Controllable maximum C.H. flow temperature limit (specifically for floor plants).
- Limitation of increase in pre-set C.H. flow temperature.
- Anti-freeze protection for buildings.
- Hourly programming of the tank unit temperature on two levels: comfort and reduced.
- Domestic hot water control with nominal value requirement and enable.
- Connection to room sensor or switching of operating regime through the telephone system with external contact or

- through a window contact.
- Anti-bacterial.

3.10.1 Installation

The unit must be installed in the main living room. For installation, follow the assembly instructions inserted in the package. At this point, with the selector knob on (), the installer can adjust the basic parameters settings according to the individual needs (point 3.10.2). **If there is a thermostatic radiator valve fitted, this must be set to maximum.**

3.10.2 Installation settings

The settings for the basic operating parameters for individual needs are reported in the instruction leaflet supplied with the "Logica Remote Control" and in the section reserved for the user in this manual. For further adjustments which can be carried out by the installer, the "Logica Remote Control" offers a level of service and parameterising which can only be accessed through a special combination of buttons. To activate this level of service or parameterising press buttons  and  least 5 seconds. This will activate the parameterising level. Then use the same arrow buttons to select the individual input lines and adjust the values with  or  .

SETTINGS THE HEATING CIRCUIT PARAMETERS

Antifreeze protection "Pre-set ambient temperature value"	51	Heating takes place up to this pre-set value if the plant is activated in standby (e.g. holidays). In this way, the building antifreeze function is active, preventing an excessive lowering of the ambient.
Summer/Winter switch-over temperature	52	This parameter regulates the temperature of the automatic summer/winter switch-over.
Type of control: 0 = with ambient influence 1 = without ambient influence	53	This parameter de-activates the ambient influence and as a result all the optimisations and adaptations. If a valid external temperature is not transmitted, the controller switches to the pure ambient control guide variable.
Influence of ambient temperature	54	If the ambient controller is used only as a remote control (placed in the reference room and without an external sensor connected), the value must be set at 0 (zero). If the change in ambient temperature from the pre-set value remains high during the entire day, the influence must be increased. If the ambient temperature is around the pre-set value (control oscillation), the influence must be reduced. Note: If the ambient temperature influence constant is set at 0, the adaptation of the heating curve is deactivated. In this case, parameter 57 will have no effect at all.
Maximum limit of C.H. flow temperature	55	The C.H. flow temperature is limited to the maximum set value.
Variation of the maximum speed of the C.H. flow temperature	56	The increase per minute of the prescribed C.H. flow temperature value sent in °C is limited to the imposed value.

Activation of adaptation**57**

With the activation of the adaptation, the pre-set value transmitted to the boiler regulator is adapted to the effective heat need.
The adaptation functions with both the atmospheric guide with ambient influence and with pure ambient control.
If the "Logica Remote Control" is set as a remote control only, the adaptation must be is deactivated.

Optimisation of switch-on time**58**

If the switch-on time optimisation is active, the "Logica Remote Control" modifies the heating gradient until it finds the optimum heating point
0 = OFF 1 = ON

Heating gradient**59**

The "Logica Remote Control" selects the switch-on time such that the set value has more or less been reached at the start of the usage time.
The more severe the night-time cooling, the earlier the heating time starts.

Example: Current ambient temperature	18.5°C
Nominal ambient temperature	20°C
Heating gradient	30 min/K
Presetting of switch-on time:	
1.5 K x 30 min/K =	45 minutes

00 means that the switch-o time has not been pre-set (function disabled).

Presetting switch-off time (00 = off)**60**

If the switch-off time optimisation is active (value > 0), the "Logica Remote Control" modifies the pre-set time until it finds the optimum switch-off time.

SETTING THE D.H.W. PARAMETERS

Reduced D.H.W. temperature value**61**



The hot water may be set to a reduced temperature value, such as 40°C, which is outside the comfort zone, such as 60°C (daily programme 8).

D.H.W. filling**62**





0 = 24 hours/ day - Hot water is always available at the temperature set with user parameter n°3.
1 = standard - Hot water according to the daily heating programme.
In the comfort areas of heating the temperature of the D.H.W. tank is regulated to the value set with user parameter n° 3.
In the reduced areas of heating the temperature of the D.H.W. tank is regulated to the value set with parameter n° 61 of the service level.
2 = service disconnected
3 = second daily programme (8) - Every day of the week the temperature of the hot water is set according to programme 8. In this case there is a single programming for all the days of the week and three time zones are available. In the time spans set the temperature of the D.H.W. tank is regulated according to that set in parameter n°3. In the remaining hours the D.H.W. tank is controlled to the temperature set with parameter n° 61 the of service level.

SERVICE VALUES

Final user level 2 programming block**63**

This block (1) can be activated to display all the parameters without modifying them. Pressing buttons  or  displays "OFF".

WARNING:

The activation block can be deactivated temporarily by pressing buttons  and  simultaneously; a confirmation sign appears on the display. At this point press simultaneously the buttons  and  for at least 5 seconds. To permanently remove the activation block, set parameter 63 on 0.

Entrance function terminal 3-4**64**

The freely programmable input (terminals 3 and 4 of the socket) allows three different functions to be activated. The parameter has the following significance:

- 1** = If an external sensor is connected, the display will show the temperature of the external sensor (_ _ = no sensor connected, function disabled).
- 2** = With an external contact, it is possible to switch-over to "reduced pre-set value of the ambient temperature".
- 3** = With an external contact, it is possible to switch-over to "reduced pre-set value of the antifreeze ambient temperature" (short circuit 0 0 0 or interruption _ _ _). The display shows the current status of the external contact.

Operating mode of external contact

65

If the entrance (terminals 3 and 4 of the socket) is connected to a zero potential external contact (parameter 64 = 2 or 3), the operating mode of the contact can be determined (remote telephone switch or window contact). The operating mode specifies the status of the contact in which the required function is active.

Display: Operating mode closed (short circuit) 0 0 0
Operating mode open (interruption) ---

External and ambient sensor influence

66

Determines the mix ratio between the internal and external ambient sensor when parameter 64 = 1.

0 % = internal sensor only active (0% external - 100% internal)
50 % = mean value of external + internal sensor
100 % = external sensor only active

The set mix is used for ambient control and display.
If the external sensor is short circuited or interrupted, the operation continues with the internal sensor.

Anti-bacterial function

69

This function allows the hot water to be brought to a high temperature once a week in order to eliminate eventual pathogenic agents. It is active every Monday for a maximum duration of 2.5 hours at a delivery temperature of 65°C.

0 = not active 1 = active

3.10.3 Gradient of the characteristic heating curve

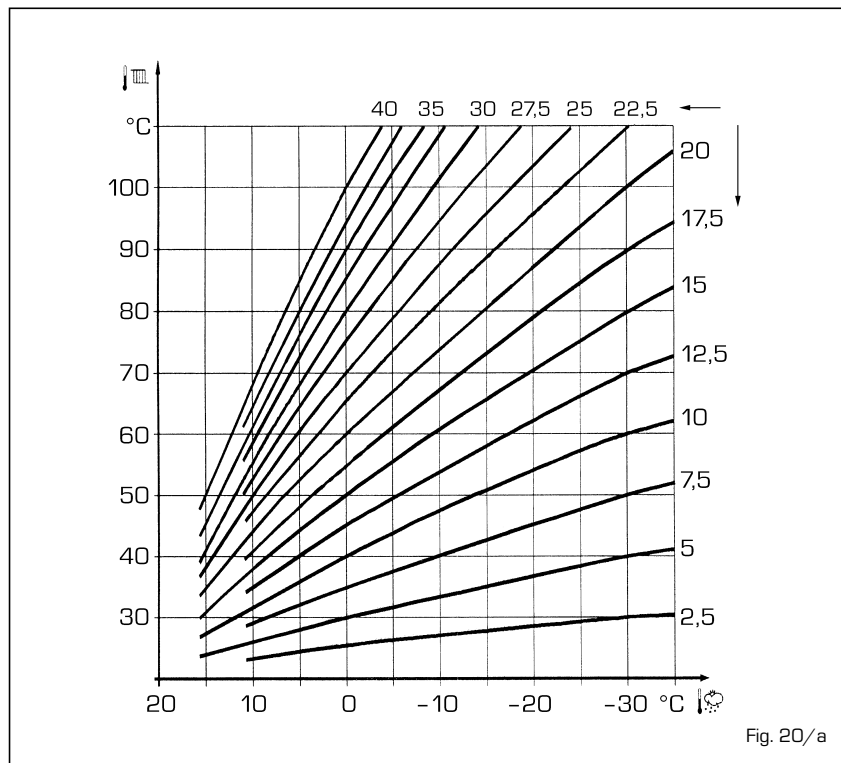
The gradient of the characteristic heating curve is imposed on the current value "15" of Logica. Increasing the gradient as shown in the drawing of fig. 20/a, the C.H. flow temperature increases in correspondence to the outside temperature.

EXAMPLE: Choosing a gradient of 15 with an outside temperature of -10°C we shall have a C.H. flow temperature of 60°C.

3.11 EXTERNAL TEMPERATURE SENSOR

The "Logica Remote Control" can be connected to an external temperature sensor available as an optional extra (code 8094100). This configuration ensures and maintains the required temperature constant in the room. The ambient temperature is, in fact, indicated and evaluated as the calculated mean of the value measured inside and outside the dwelling.

For installation, follow the assembly instructions inserted in the package.



4 CHARACTERISTICS

4.1 ELECTRONIC PANEL

Made in accordance with the Low Voltage EEC directive 73/23, supplied with 230 Volt; via a transformer it sends 24 Volt to the following components: gas valve, safety stat, C.H. and D.H.W. sensors, external temperature sensor (optional), modulator, water pressure transducer, smoke stat, room stat or "Logica Remote Control". An automatic and continuous modulating system allows the boiler to adjust the power to the various plant or user demands. The electronic components are guaranteed to work in a temperature range between 0 and +60 °C.

4.1.1 Functioning faults

The leds that show an irregular and/or incorrect functioning of the apparatus are shown in fig. 21.

4.1.2 Devices

The electronic panel has the following devices:

- **Trimmer "POT. RISC."** (10 fig. 22)
It regulates the maximum value of heating power. To increase the value turn the trimmer in a clockwise direction and to decrease it turn the trimmer in an anti-clockwise direction.
- **Trimmer "POT. ACC."** (6 fig. 22)
Trimmer for the changing of the ignition

pressure level (STEP) of the gas valve. According to the type of gas for which the boiler is predisposed, the trimmer must be regulated so as to provide the burner with a pressure of around 3 mbar for methane gas or 7 mbar for butane gas (G30) and propane gas (G31). To increase the pressure turn the trimmer in a clockwise direction, to decrease it turn the trimmer in an anti-clockwise direction.

The level of pressure of slow ignition is able to be set during the first 5 seconds from the starting of the burner.

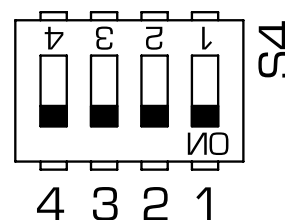
After having established the level of pressure at ignition (STEP) according to the type of gas, check that the heating gas pressure is still on the value set beforehand.

- **Connector "MET-GPL"** (7 fig. 22)
With the connector disconnected, the boiler is ready to function with METHANE; with the connector connected with LPG.
- **Connector "ANN. RIT."** (5 fig. 22)
The electronic panel is programmed, in heating phase, with a technical pause by the burner of around 90 seconds, both at the beginning when the plant is cold and in the subsequent startings. This is so to avoid ignitions and switching off with very short intervals, that may in particular be found in plants with high losses. At every restarting, following the period of slow ignition, the boiler will position itself for around 1 minute to the minimum modulating pressure to then

return to the set value of heating pressure. With the insertion of the bridge both the technical pause programmed and the period of functioning at minimum pressure in the ignition phase will be eliminated.

In such a case, the time that runs between the switching off and the next ignition will be in function of a variance of 5°C, as shown by the C.H. sensor (SM).

- **DIP SWITCH** (13 fig. 22)
Ensure that the riders are inserted in the position shown in order for the boiler to work:



- **Connector "Modureg Sel."** (14 fig. 22)
With the bridge disconnected the boiler is predisposed to function with the SIT gas valve, and with the bridge connected it is predisposed to function with the HONEYWELL gas valve.

ATTENTION:

All of the operations described above must be carried out by authorised personnel.

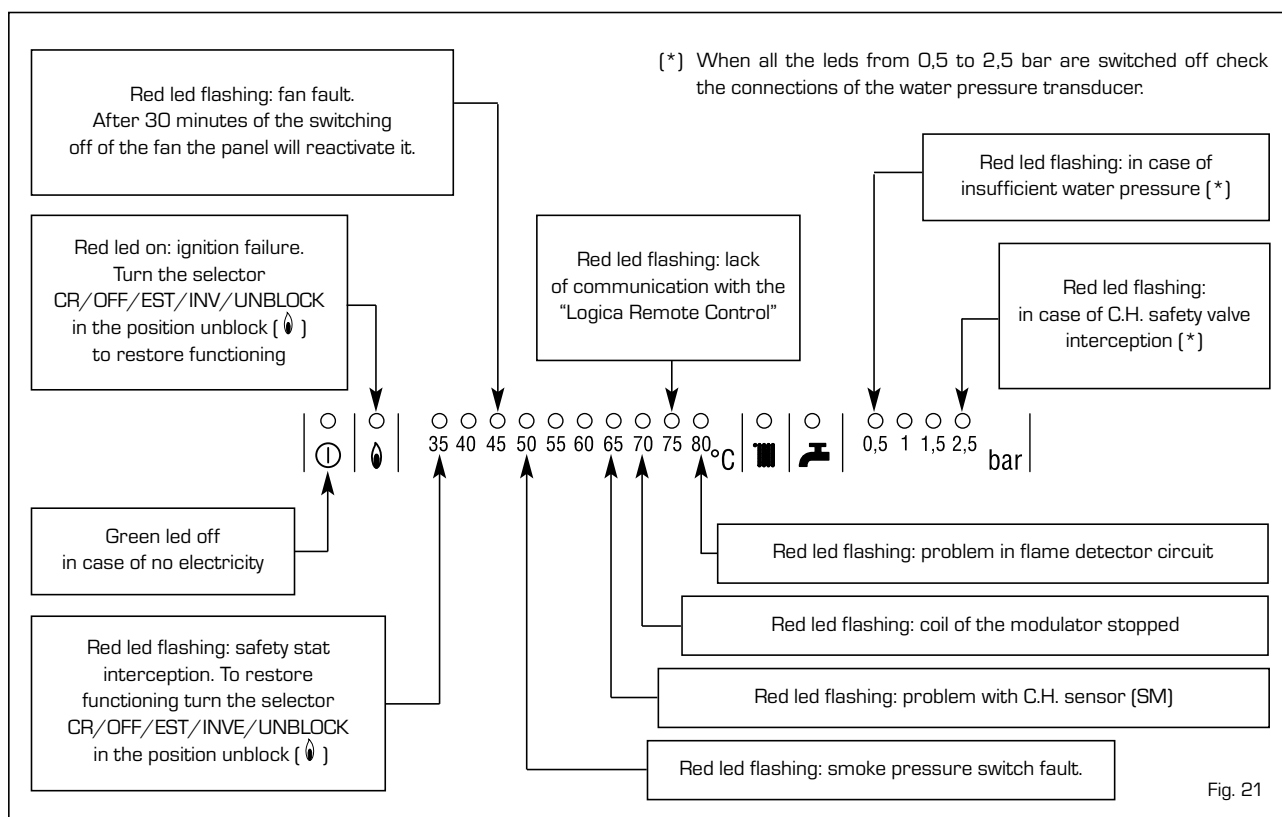
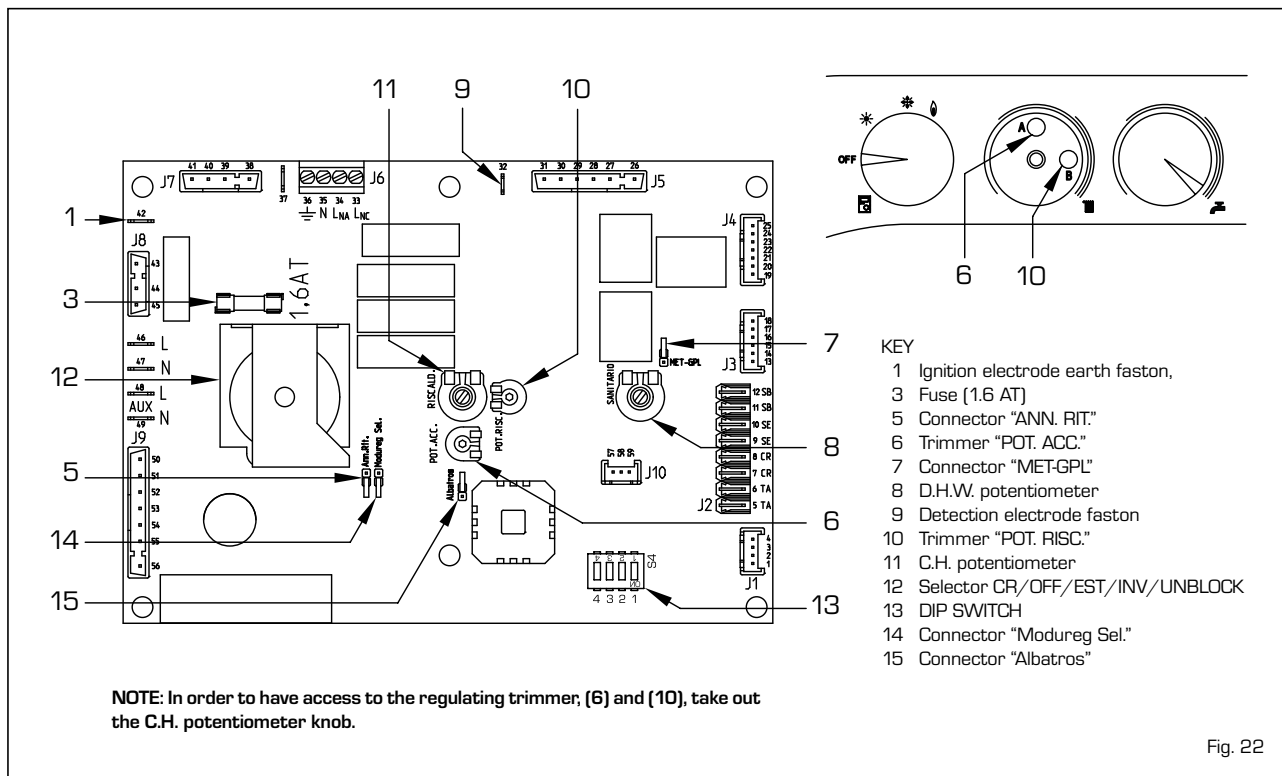


Fig. 21



4.2 TEMPERATURE SENSORS AND WATER PRESSURE TRANSDUCER

Tables 5 - 5/a show the resistance values (Ω) that are obtained on the sensors as the temperature varies and the transducer when the pressure varies.

With the C.H. sensor (SM) interrupted the boiler will not function with both services. With the D.H.W. sensor (SB) interrupted the boiler functions only with heating.

TABLE 5 (Sensors)

Temperature (°C)	Resistance (Ω)
20	12.090
30	8.313
40	5.828
50	4.161
60	3.021
70	2.229
80	1.669

TABLE 5/a (Transducer)

Pressure (bar)	Resistance (Ω)	
	min	max
0	297	320
0,5	260	269
1	222	228
1,5	195	200
2	167	173
2,5	137	143
3	108	113
3,5	90	94

4.3 ELECTRONIC IGNITION

The ignition and flame sensing are controlled by two electrodes that guarantee the maximum safety, with a time of intervention of one second for accidental switching off or lack of gas.

4.3.1 Functioning cycle

Turn the selector knob to summer or winter and note, from the lighting up of the green led (①), whether electricity is present. The starting up of the burner should take place within a maximum of 10 seconds. We can summarise the manifestations of a failure to start, with consequent activation of the failure signal as follows:

- Gas failure

The ignition electrode continues to spark for a maximum of 10 seconds, the pilot burner does not start, the blockage indicator lights up.

This may occur at the first ignition attempt or after long periods of inactivity with the presence of air in the tubing. May be due to the gas cock being closed or a break in the valve coil, which do not allow opening.

- The ignition electrode does not give a jump spark

In the boiler only the gas opening to the burner is noted, after 10 seconds the block signal lights up.

May be due to the fact that the cable of the electrode is interrupted or is not well fixed to the terminal of the ignition transformer.

- The flame is not detected

From the time of the ignition a continuous jump spark from the electrode is noted despite the burner being lit. After 10 seconds the sparking stops, the burner goes off and the block signal lights up.

The cable of the detector electrode is interrupted or the electrode itself is earthed; the electrode is very worn and needs to be replaced.

The control board is faulty.

Due to a sudden fall in electricity the burner is immediately arrested, once the electricity is restored, the boiler will automatically restart.

4.4 SMOKE PRESSURE SWITCH

The switch with a fixed setting 3.5-4.5 mm H₂O, is able to guarantee the functioning of the boiler with inlet and outlet pipes at the maximum limit length allowed. The value of the smoke pressure switch signal is measured with a special instrument connected to the positive and negative pressure plugs on the upper part of the sealed chamber.

4.5 MAINS ELECTRICITY CONNECTION

Use a separate electric line to link up the room stats and relative zone valves or pumps. The connection of the micros on the relay contacts is carried out on the connector of control board (J2) after having removed the existing bridge (fig. 23).

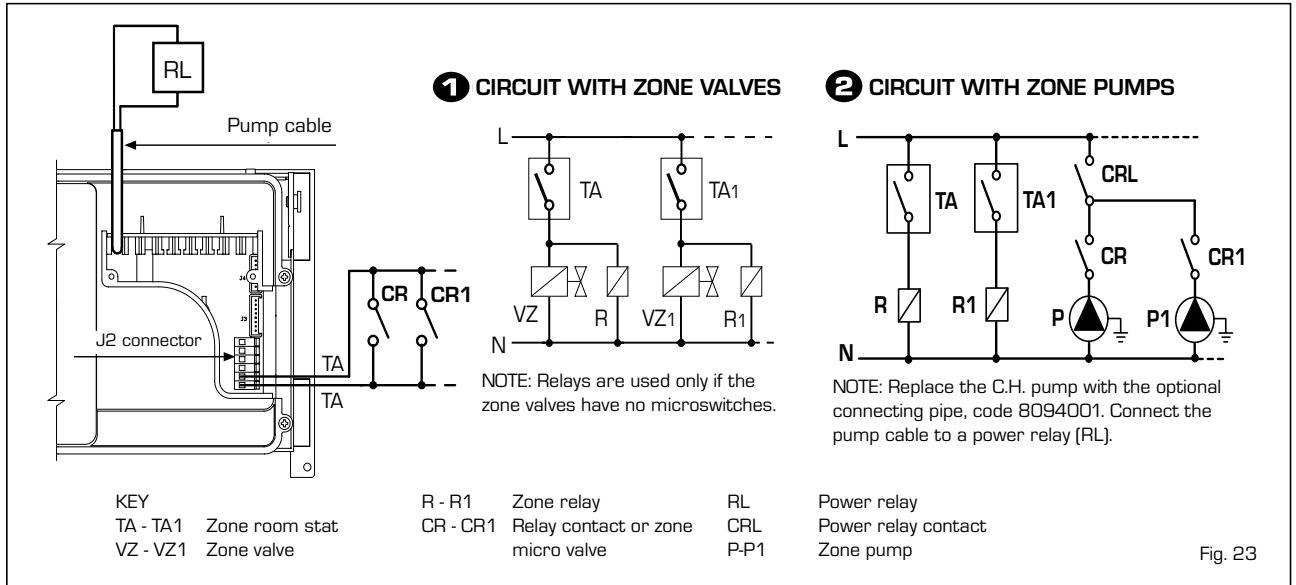


Fig. 23

5 USE AND MAINTENANCE

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.

5.1 D.H.W. PRODUCTION

The preparation of hot water is guaranteed by the glass enamelled tank unit with magnesium anode for the protection of the tank and inspection flange for its control and cleaning. The magnesium anode must be checked annually and substituted when it is worn. If the boiler does not produce hot water, make sure that the air has been released by pressing on the manual vents after having switched off the main switch.

5.2 GAS VALVE

The boiler is produced with SIT 845 SIGMA gas valve (fig. 24) and HONEYWELL VK 8105N gas valve (fig. 24/a).

NOTE: In case of replacement of the SIT gas valve to HONEYWELL or vice-versa, press on the Modureg connector of electronic panel (14 fig. 22 - point 4.1.2).

The gas valve is set at two pressure values: maximum and minimum, that correspond, according to the type of gas, to the values indicated in Table 6. The setting of the gas

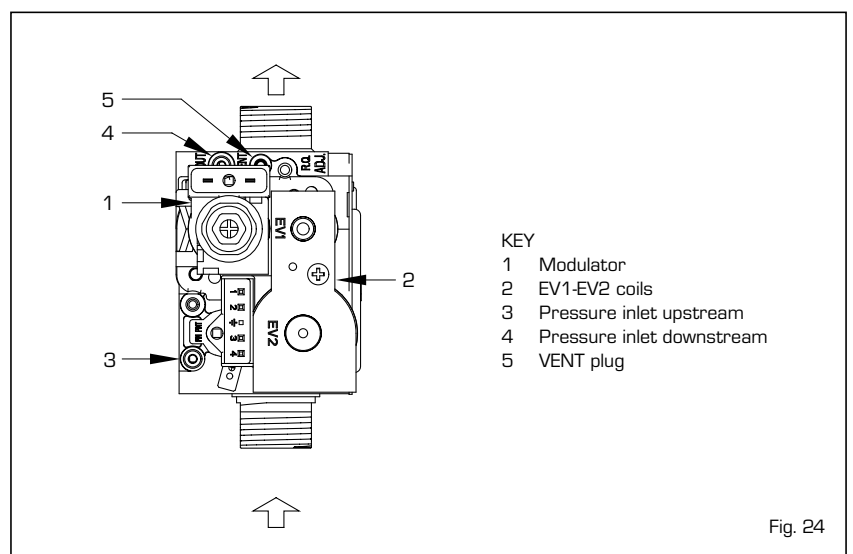


Fig. 24

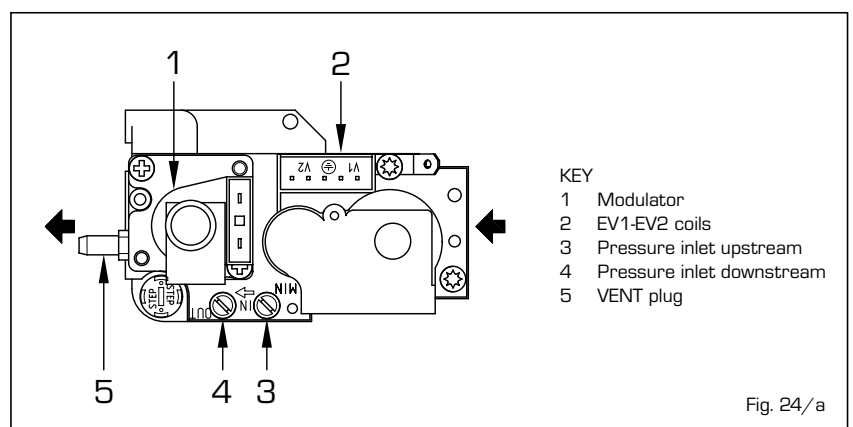


Fig. 24/a

pressure at minimum and maximum values is carried out by SIME: variations are discouraged. Only in the passing from one type of gas supply (methane) to another (butane or propane) is a change in the working pressure allowed.

It is essential that this operation is carried out by authorised personnel.

Once the change in working pressure has been carried out, seal the regulators.

When proceeding with the setting of the pressure, it is necessary to follow a pre-established order, according to the type of gas valve:

- **SIT 845 SIGMA** first the MAXIMUM and then the MINIMUM
- **HONEYWELL VK 8105N** first the MINIMUM and then the MAXIMUM

5.2.1 Maximum and minimum pressure adjustment SIT 845 SIGMA

In order to carry out the setting of the maximum pressure proceed in the following way (fig. 25):

- Connect the differential manometer as shown in fig. 24/b.
- Remove the plastic cap of the modulator (1).
- Place the D.H.W. potentiometer knob on the maximum value.
- Start the boiler by pressing the rotary switch and open the hot water cock.
- Using a \varnothing 10 wrench turn the nut (3) to find the maximum pressure as shown in *Table 6*: to reduce the pressure turn the nut anti-clockwise, to increase the pressure turn the nut clockwise.
- Turn off and turn on the boiler a few times whilst keeping the hot water cock constantly open to verify that the pressure corresponds to the values given in *Table 6*.

After having regulated the maximum pressure, proceed with the setting of the minimum pressure (fig. 25):

- Disconnect the electric supply of the modulator.
- With the D.H.W. potentiometer knob on the maximum value, the hot water cock open and the burner alight, holding the nut (3) blocked, turn the screw (2) to find the minimum pressure value as shown in *Table 6*: to decrease the pressure turn the nut anti-clockwise and to increase the pressure turn the nut clockwise.
- Turn on and turn off the boiler a few times whilst keeping the hot water cock constantly open and verify that the pressure corresponds to the values fixed.
- Reconnect the electrical supply of the modulator.
- Replace the plastic cap (1).

5.2.2 Minimum and maximum pressure adjustment HONEYWELL VK 8105N

For the setting of the minimum pressure

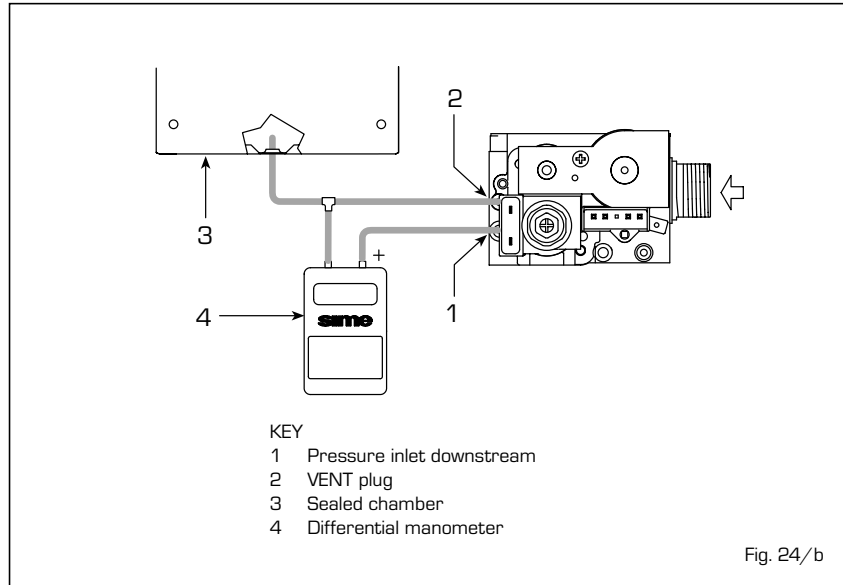


Fig. 24/b

TABLE 6

Gas type	Burner max. pressure	Modulator current	Burner min. pressure	Modulator current
	mbar	mA	mbar	mA
Methane (G20)	11	130	2	0
Butane (G30)	28	165	5	0
Propane (G31)	35 - 36	165	5	0

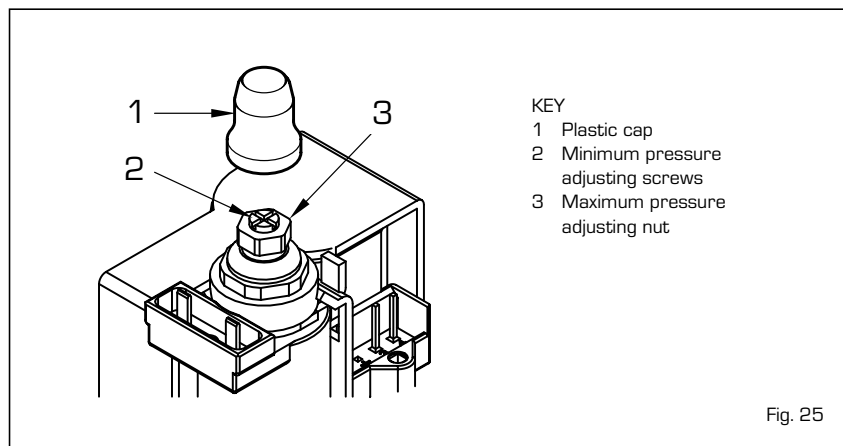


Fig. 25

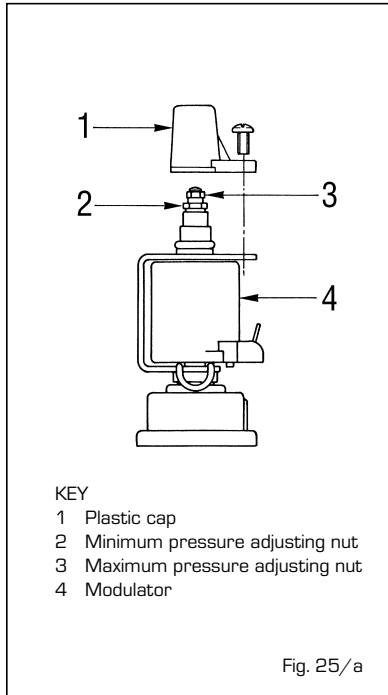
proceed in the following way (fig. 25/a):

- Connect the differential manometer as shown in fig. 24/b.
- Disconnect the electricity supply and remove the plastic cap of the modulator (1).
- Place the D.H.W. potentiometer knob on the maximum value.
- Start the boiler and open the hot water cock.
- Using a \varnothing 9 wrench turn the nut (2) to find the minimum pressure as shown in *Table 6*: to reduce the pressure turn the nut anti-clockwise, to increase the pressure turn the nut clockwise.
- Turn off and turn on the boiler a few times whilst keeping the hot water cock constantly open to verify that the pressure corresponds to the values given in *Table 6*.

- Reconnect the electric supply of the modulator.

After having set the minimum pressure, for the setting of the maximum pressure proceed in the following way (fig. 25/a):

- With the D.H.W. potentiometer knob on the maximum value, the hot water cock open and the burner alight, using a \varnothing 7 wrench turn the nut (3) to find the maximum pressure value as shown in *Table 6*: to decrease the pressure turn the nut anti-clockwise and to increase the pressure turn the nut clockwise.
- Turn on and turn off the burner a few times whilst keeping the hot water cock constantly open and verify that the pressure corresponds to the values of *Table 6*.



5.3 REGULATION OF HEATING POWER

To regulate the heating power, modifying the factory settings whose power value is around 16 kW, it is necessary to work with a screwdriver on the trimmer of the heating power (10 fig. 22).

To increase the operating pressure turn the trimmer in a clockwise direction, to decrease the pressure turn the trimmer in an anti-clockwise direction.

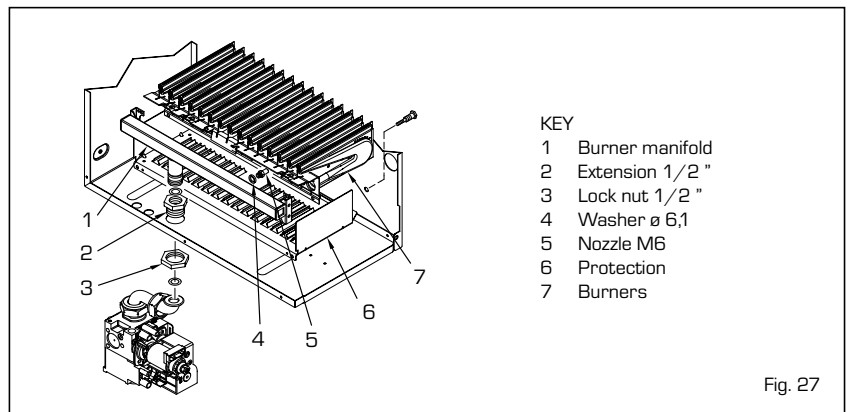
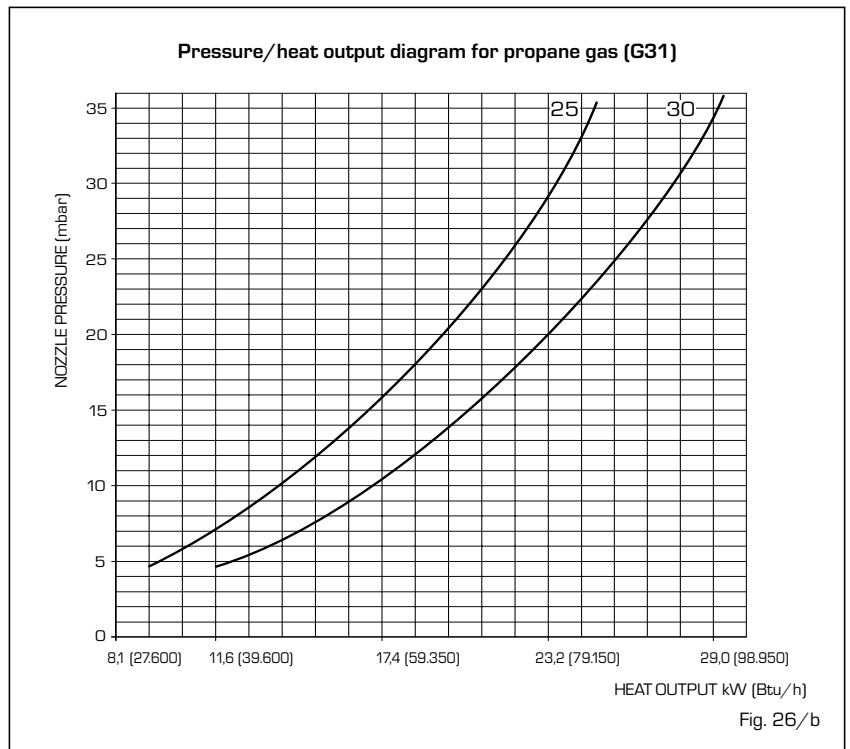
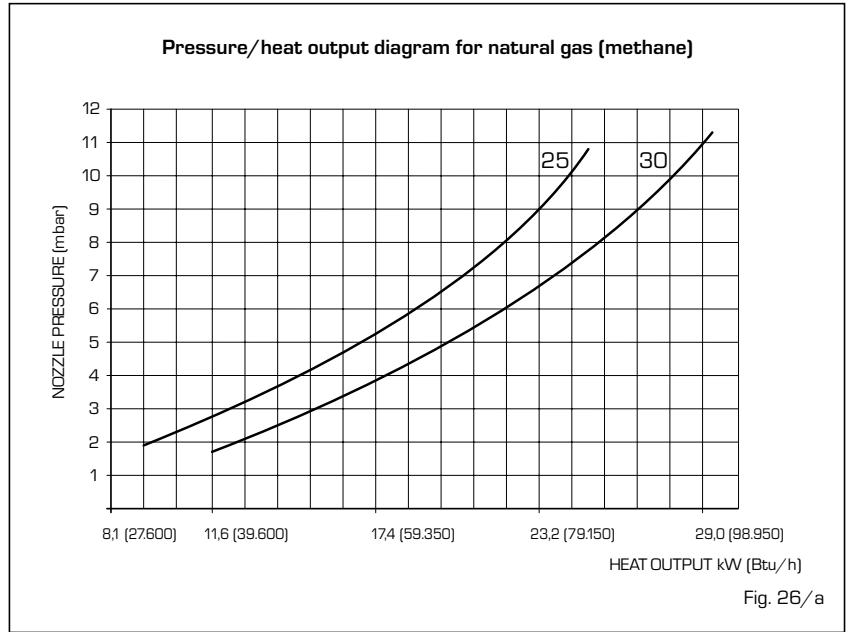
To facilitate the search for the adjusting of the heat output see the pressure/heat output diagrams for natural gas (methane) and butane or propane gas are available (fig. 26/a - 26/b).

5.4 CONVERSION TO ANOTHER GAS

For the functioning with propane (G31) gas, a conversion kit is required.

To convert from one gas to another carry out the following operations (fig. 27):

- Close the gas cock.
- Undo the burner group
- Replace the main nozzles (5) supplied in kit, and placing the copper washer (4); to carry out this operation use a $\varnothing 7$ wrench.
- Insert the bridge of the "GPL-MET" connector of the electronic panel onto the "GPL" position (11 fig. 22).
- For the setting of the values of the maximum gas pressure and the minimum follow the indications as specified in point 5.2. **Once the operating pressure changes have been carried out seal the regulators.**
- The supply pressure must never be greater than 50 mbar.
- Once the operations have been finished



cover, with the label supplied, the gas pre-setting data on the data tag.

NOTE: After assembly the sealing capacity of all the gas connections must be tested, using special products, and avoiding the use of naked flames. The conversion must be carried out only by authorised personnel.

5.5 DISASSEMBLY OF EXPANSION VESSEL

For disassemble the expansion vessel proceed in the following way:

- Make sure that the boiler has been emptied of water
- Unscrew the union that connects the expansion vessel and the screw that release it from its bracket.

Before beginning to fill the system, make sure that the expansion vessel is pre-filled to a pressure of $0.8 \div 1$ bar.

5.6 REMOVAL OF OUTER CASING

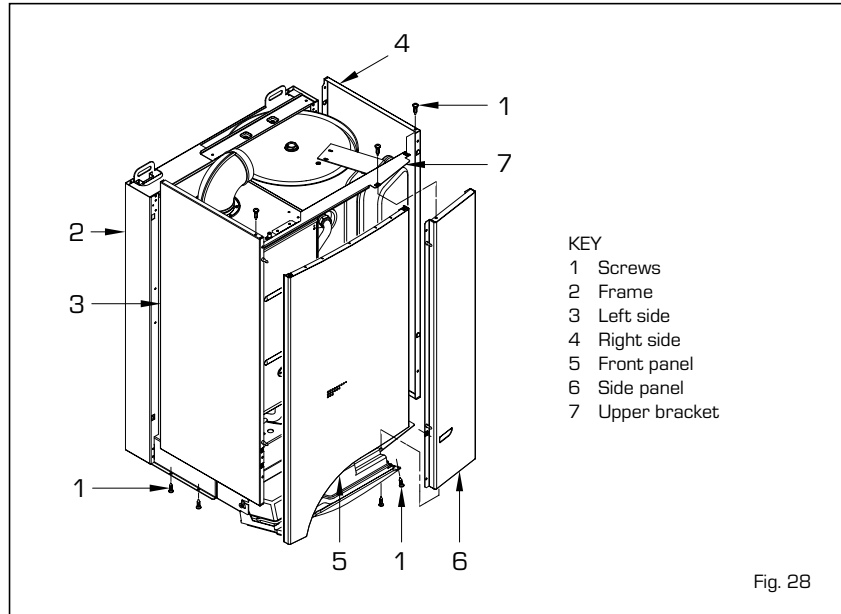
For easy maintenance of the boiler it is possible to completely dismantle the casing following these simple instructions (fig. 28):

- Pull the front panel (5) fixed with pin clutches forward.
- Unscrew the two screws that fix the control panel to the casing.
- Remove the side panel (6) by unscrewing the two screws that fix it to the upper bracket (7) and to the support of the control panel. Push upwards to free it from the notches in the right side.
- Unscrew the four lower screws that fix the sides to the support of the control panel and the two screws that fix it to the upper bracket (7). Push the sides (3) and (4) upwards freeing them from the notches in the frame (2).

5.7 CLEANING AND MAINTENANCE

Carry out the cleaning of the generator in the following way:

- Remove the electricity supply to the boiler and close the gas supply cock.
- Dismantle the casing as described in point 5.6.
- Dismantle the burner - gas manifold group (fig. 27).
- To clean direct a stream of air towards the inner part of the burner to blow out any dust that has accumulated.
- Then clean the heat exchanger removing dust and combustion deposits.
- In cleaning the heat exchanger and that of the burner, chemical products or steel brushes must never be used.
- Make sure that the top perforated part of the burners is free of encrustations.
- During the assembly and disassembly of the burner it is recommended that



attention be paid to the ignition and detection electrodes.

- Reassemble the parts removed from the boiler, observing the succession of the phases.
- Check the functioning of the main burner.
- After the assembly all the gas connections must be checked for the seal, using soapy water or specific products, avoiding the use of naked flames.

The programmed maintenance of the generator is carried out annually.

4.7.1 Chimney sweep function

To carry out the verification of combustion in the boiler, turn the selector and stop on the position (OFF) until the yellow led (LED) starts to flash intermittently (fig. 29).

From that moment the boiler will start functioning in heating mode at the maximum power, with switching off at 80°C and restarting at 70°C.

Before activating the chimney sweep function make sure that the radiator valves or eventual zone valves are open.

The test may be carried out also during hot water functioning.

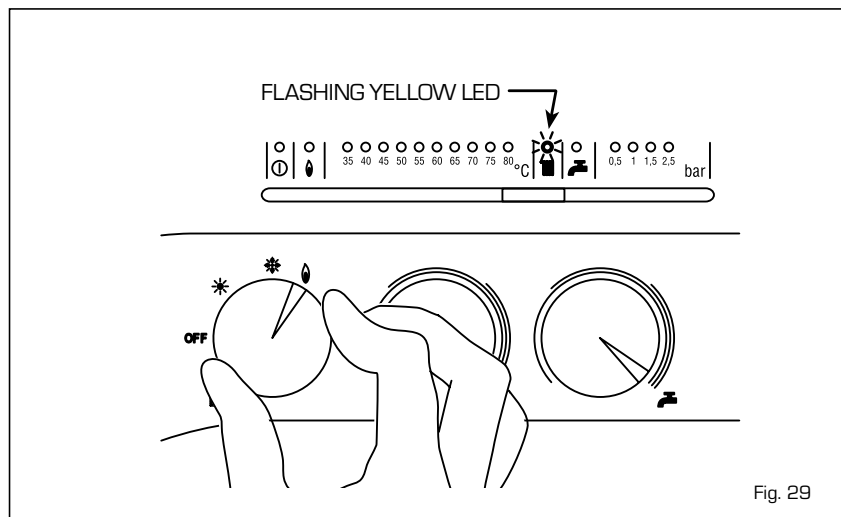
To do so it is enough, after having activated the chimney sweep function, to take some hot water from one or more cocks; after a few minutes the request of the D.H.W. sensor is activated and it automatically switches on the led (LED).

Even in this condition the boiler functions at the maximum temperature always with the primary controlled between 80°C and 70°C. During the entire duration of the testing the hot water cocks must remain open.

After verifying the combustion the boiler should be switched off by placing the selector on the OFF position; then return the selector to the desired function.

ATTENTION:

After about 15 minutes the chimney sweep function automatically deactivates.



6 STANDARD SETTINGS OF THE “LOGICA REMOTE CONTROL”

C.H. WITHOUT ZONE				MULTI-ZONE C.H.			
WITH EXTERNAL TEMPERAT. SENSOR		WITHOUT EXTERNAL TEMPERAT. SENSOR		WITH EXTERNAL TEMPERAT. SENSOR		WITHOUT EXTERNAL TEMPERAT. SENSOR	
Function	Value	Function	Value	Function	Value	Function	Value
15	20 - 25°C	-	-	15	20 - 22°C	-	-
51	5 - 6°C	51	5 - 6°C	51	5 - 6°C	51	5 - 6°C
52	15 - 16°C	52	15 - 16°C	52	15 - 16°C	52	15 - 16°C
53	0	53	0	53	1	53	1
54	14 - 15	54	14 - 15	54	0	54	0
55	70 - 80°C	55	70 - 80°C	55	70 - 80°C	55	70 - 80°C
56	7,5°C/min.	56	7,5°C/min.	56	7,5°C/min.	56	7,5°C/min.
57	1	57	0	57	1	57	0
58	0	58	0	58	0	58	0
59	0	59	0	59	0	59	0
60	0	60	0	60	0	60	0
61	N/A	61	N/A	61	N/A	61	N/A
62	0	62	0	62	0	62	0
63	0	63	0	63	0	63	0
64	1	64	1	64	1	64	1
65	0 0 0	65	0 0 0	65	0 0 0	65	0 0 0
66	N/A	66	N/A	66	N/A	66	N/A

7 SHORT LIST OF PARTS

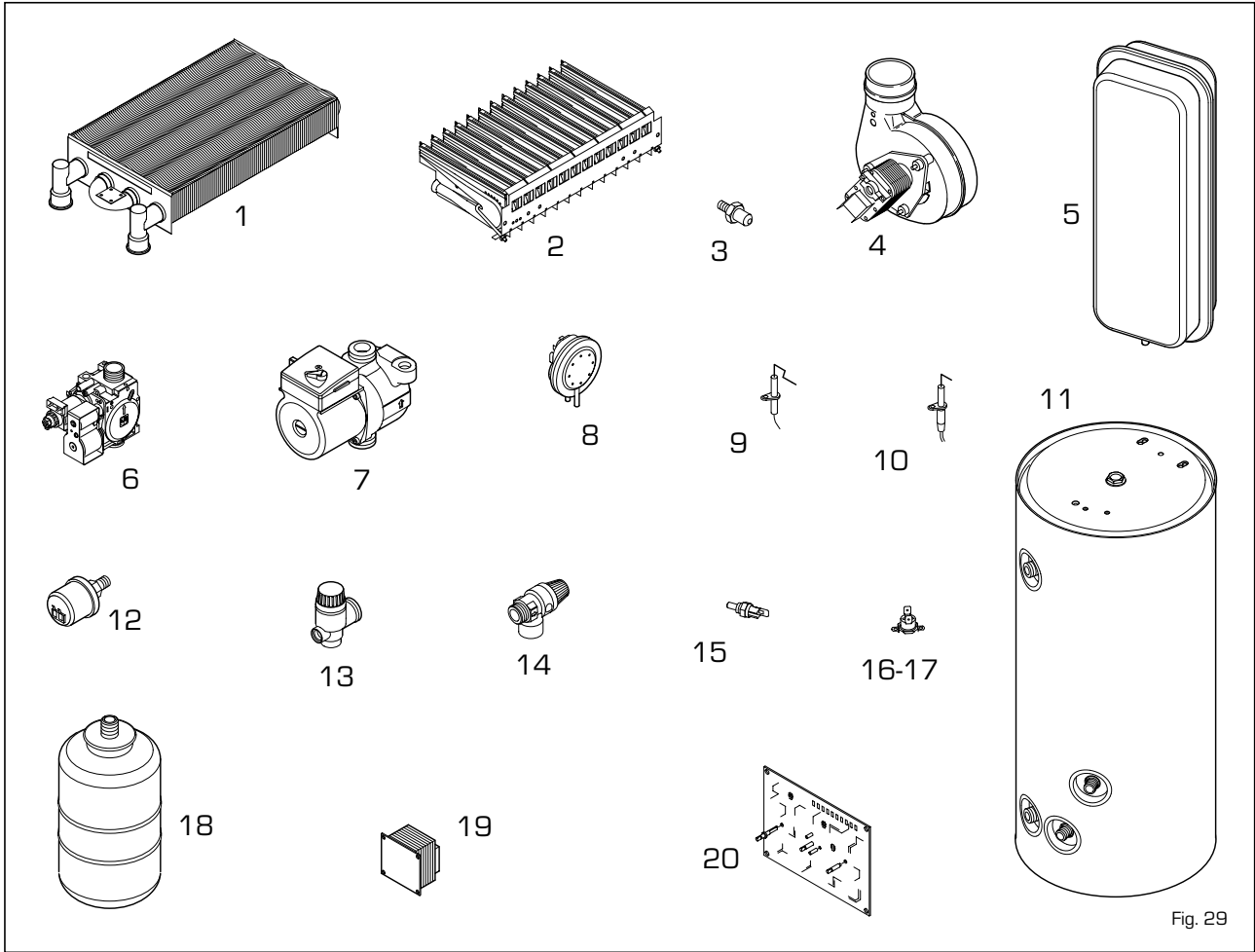


Fig. 29

KEY	DESCRIPTION	MAKER'S PT NO	KEY	DESCRIPTION	MAKER'S PT NO
1	Water/gas heat exchanger	6174225	11	D.H.W. tank	5167705
2	Burner	5172720	12	Water pressure transducer	6273601
3	Main injector \varnothing 1.30	6154402	13	Safety valve 3 bar C.H.	6042201
4	Fan	6225615	14	Safety valve 7 bar D.H.W.	6029000
5	C.H. expansion vessel	5183700	15	Thermistor	6231351
6	Sit gas valve 845 Sigma	6243811	16	Limit thermostat	6146711
7	Circulating pump UPS 15-50 (D.H.W.)	6124808	17	Overheat thermostat	6146701
7	Circulating pump UPS 15-60 (C.H.)	6124806	18	D.H.W. expansion vessel	6245102
8	Air pressure switch	6225710	19	Transformer	6240703
9	Sensing electrode	6235916	20	Main driver PCB	6230682
10	Ignition electrode	6235915			



Sime Ltd

Unit D2 Enterprise Way, Bradford Road, Idle, Bradford BD10 8EW

Tel. 0870 9911114 - Fax 0870 9911115

www.sime.ltd.uk - e-mail: enquiries@sime.ltd.uk