

Planet Super 4 f.s.

Installation & Servicing Instructions



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



INSTALLER INSTRUCTIONS

CONTENTS

| | | |
|---|---|---------|
| 1 | DESCRIPTION OF THE BOILER | page 1 |
| 2 | GENERAL REQUIREMENTS FOR INSTALLATION | page 3 |
| 3 | INSTALLATION | page 5 |
| 4 | CHARACTERISTICS | page 13 |
| 5 | USE AND MAINTENANCE | page 16 |
| 6 | REPLACEMENT OF PARTS | page 20 |
| 7 | COMMISSIONING | page 21 |
| 8 | EXPLODED VIEWS | page 22 |

Planet Super 4 F.S.: ***Gas Council number 47-719-17***



***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 and boiler been flushed?
- 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 F.S." 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 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

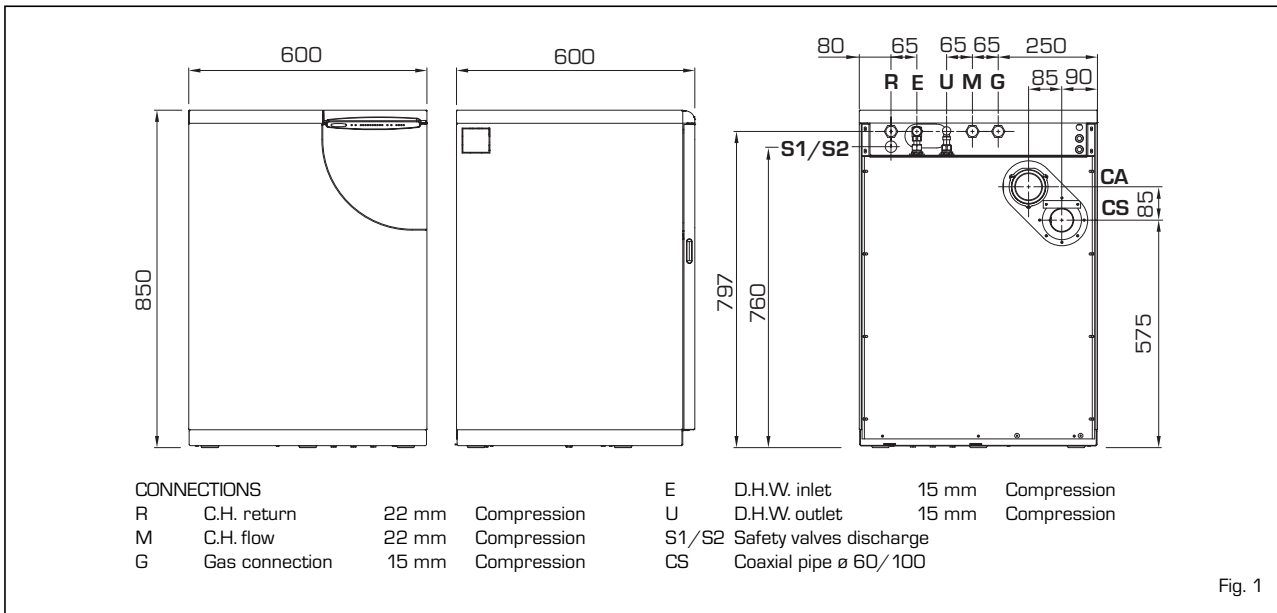


Fig. 1

1.3 TECHNICAL FEATURES

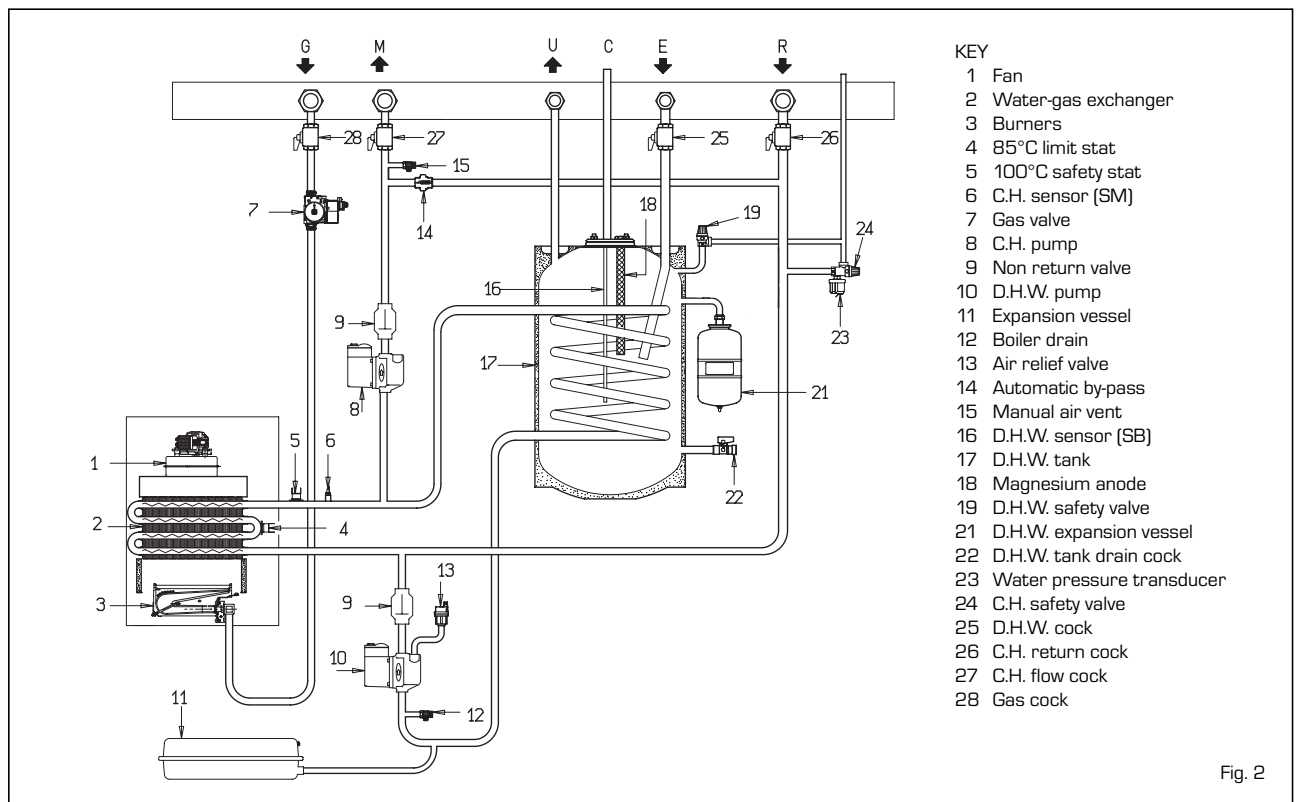
| 4 F.S. | | |
|------------------------------------|------------|---------------|
| Heat output | | |
| Nominal | kW | 29.0 |
| | Btu/h | 98,950 |
| Minimum | kW (Btu/h) | 11.4 (38,900) |
| D.H.W. heat output | | |
| Nominal | kW (Btu/h) | 29.0 (98,950) |
| Heat input | | |
| Nominal | kW | 31.6 |
| | Btu/h | 107,800 |
| Minimum | kW (Btu/h) | 13.5 (46,050) |
| Class NOx | | 3 |
| Water content | l | 13 |
| Expansion vessel | | |
| Capacity/Preloading pressure | l/bar | 8/1 |
| C.H. setting range | °C | 40÷80 |
| D.H.W. setting range | °C | 10÷60 |
| D.H.W. production | | |
| Tank unit capacity | l | 50 |
| D.H.W. flow rate EN 625 * | l/min | 15.6 |
| Contin. D.H.W. flow rate (Δt 30°C) | l/h | 810 |
| D.H.W. expansion vessel | l | 2.5 |
| Tank unit maximum water head | bar | 7 |
| Recovery time from 25 to 55°C | min | 3'40" |
| Absorbed power consumption | W | 180 |

| 4 F.S. | | |
|------------------------------------|------|-----------------|
| Electrical protection grade | | |
| | | IP X4D |
| Maximum water head | bar | 3 |
| Maximum temperature | °C | 85 |
| Smokes temperature | °C | 138 |
| Smokes flow | gr/s | 17.9 |
| Category | | II2H3+ |
| Type | | C12-32-42-52-82 |
| Shipping weight | kg | 104 |
| 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 | 2.49 |
| Propane (G31) LPG | kg/h | 2.45 |
| Burner gas pressure | | |
| Natural gas | mbar | 2.2÷11.3 |
| Butane (G30) | mbar | 5.5÷28.9 |
| Propane (G31) LPG | mbar | 7.3÷36.2 |
| Gas supply pressure | | |
| Natural gas | mbar | 20 |
| Butane (G30) | mbar | 30 |
| Propane (G31) LPG | mbar | 37 |

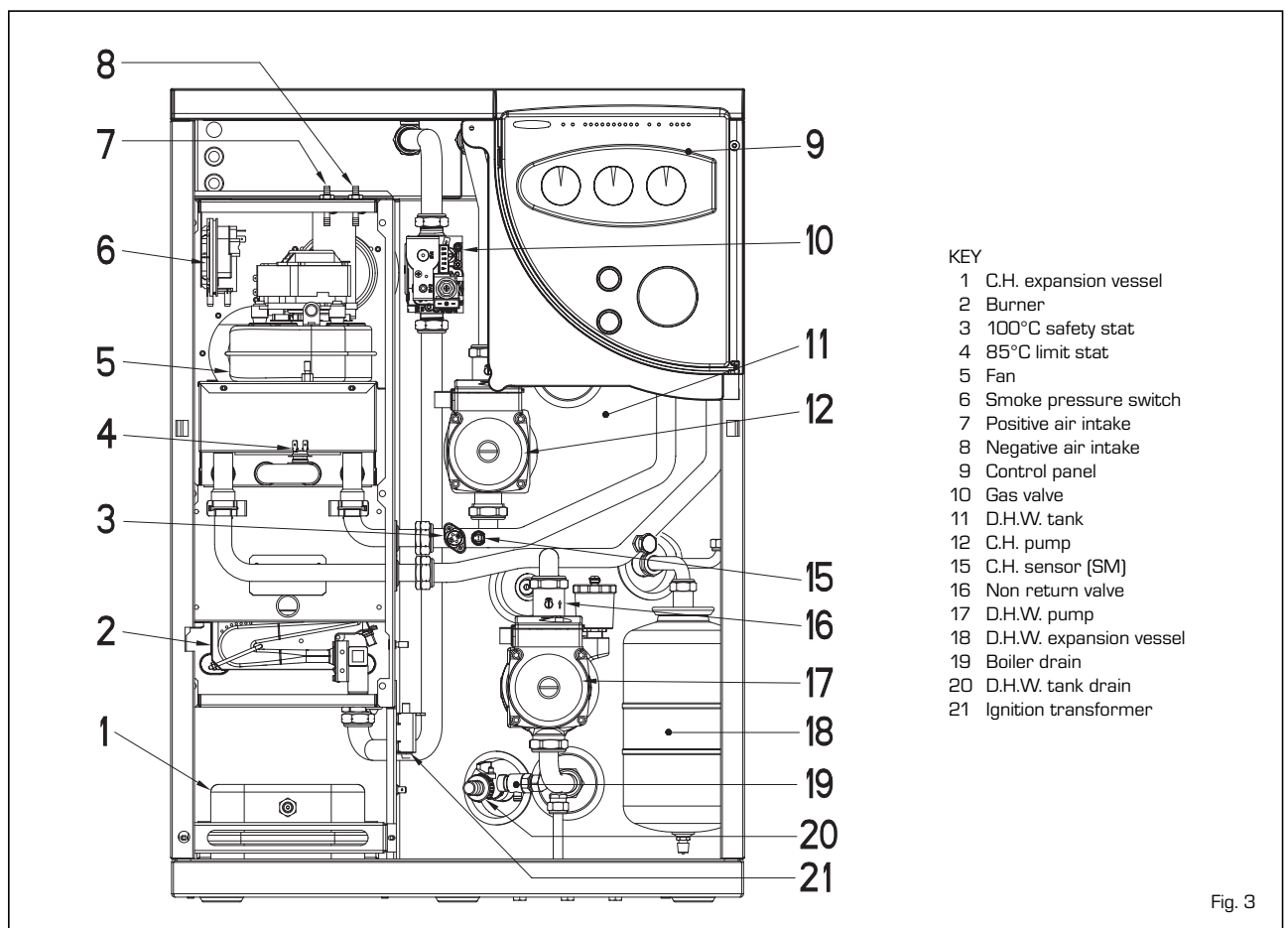
* Flow calculated with a fixed temperature on the D.H.W. potentiometer of 60 °C for a maximum period of 10 minutes.

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

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 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. Terminal guards are available from Quinell, Barrett, and Quinell, Old Kent Road, London. State model C2, (G.C. Part No 382946).
- 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

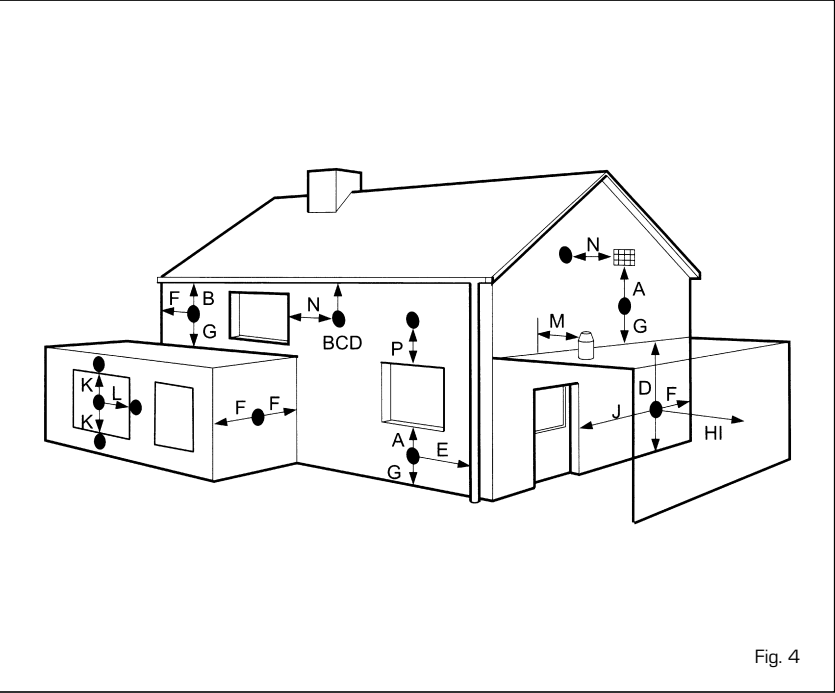


Fig. 4

TABLE 1

| Terminal position | | Minimum spacing | |
|-------------------|--|-----------------|-------|
| A | Directly below an openable window, air vent or any other ventilation opening | 300 mm | 12 in |
| B | Below guttering, drain pipes or soil pipes | 75 mm | 3 in |
| C/D | Below eaves, balconies or carport roof | 200 mm | 8 in |
| E | From vertical drain pipes or soil pipes | 75 mm | 3 in |
| F | From internal or external corners | 300 mm | 12 in |
| G | Above adjacent ground, roof or balcony level | 300 mm | 12 in |
| H | From a surface facing the terminal | 600 mm | 24 in |
| I | From a terminal facing the terminal | 1,200 mm | 48 in |
| J | From an opening in the carport (eg door, window into dwelling) | 1,200 mm | 48 in |
| K | Vertically from a terminal on the same wall | 1,500 mm | 60 in |
| L | Horizontally from a terminal on the same wall | 300 mm | 12 in |
| M | Adjacent to opening | 300 mm | 12 in |

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 internal space in which the appliance is installed.

2.5 GAS SUPPLY

- The gas supplier should be consulted at the installation planning stage in order to establish the availability of an adequate supply of gas.
- An existing service pipe **MUST NOT** be used without prior consultation with the gas supplier.
- A gas meter can only be connected by the gas supplier or their contractor.
- An existing meter should be of sufficient size to carry the maximum boiler input plus the demand of any other installed appliance. (BS6891:1988). The gas required for the boiler is specified in the point 1.3.
- The governor at the meter must give a constant outlet pressure of 20 mbar (8 inwg) for natural gas 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 lights.

- The complete installation must be tested for gas soundness.
- It is important to assure an adequate gas supply to the appliance. No more than 3 m of 15 mm pipe should be used. Where the supply exceeds 3 m the pipe should be suitably sized only reducing to 15 mm for the last 3 m prior to the appliance.

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

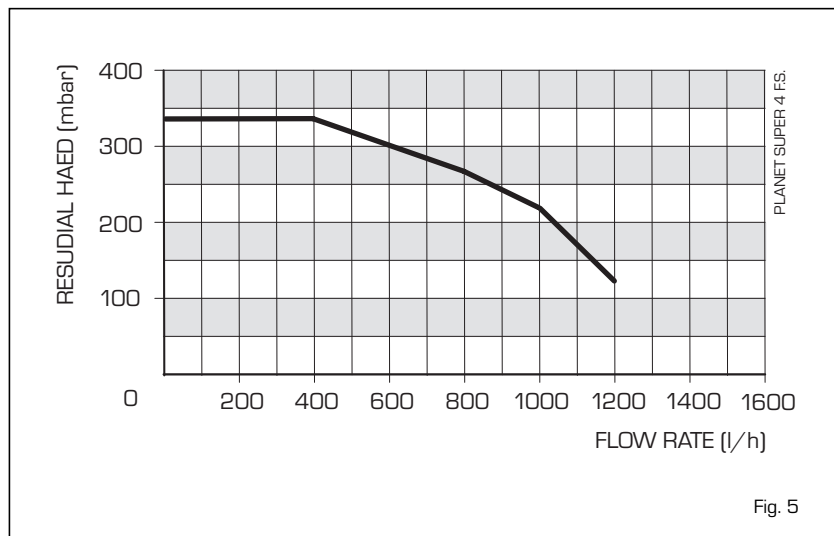


Fig. 5

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 (point 1.3). If necessary, a pressure reducing valve must be fitted to the mains supply before the D.H.W. inlet connection.

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).

d) A sealed system must only be filled by a competent person. The system design should incorporate the connections appropriate to one of these methods.

e) 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.

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 |

NOTE: If the pressure gauge indicates 2.65 bar or greater when the appliance is at maximum 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 not include any horizontal runs prone to freezing.

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 Domestic hot/cold water supply taps and mixing taps

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

3 INSTALLATION

3.1 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 goes into action.

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 volume flow rates (consumption) in m³/h and

the relative density of the gas in question. The sections of the piping making up the system must be such as to guarantee a supply of gas sufficient to cover the maximum demand, limiting pressure loss between the gas meter and any apparatus being used to not greater than:

- 1.0 mbar for family II gases (natural gas);
- 2.0 mbar for family III gases (butane or propane).

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.

3.1.1 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.

3.2 FLUE AND TERMINAL PREPARATION

The telescopic air inlet-smoke outlet assembly ø 60/100 is supplied in kit code 8098602 and comes with an instruction sheet for the assembly.

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.

3.2.1 Flue/air duct lengths

- Determine whether an extension duct is required with reference to the flue lengths information given in *Table 3*.
- If no extension ducts are required, proceed to 3.3.
- 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.

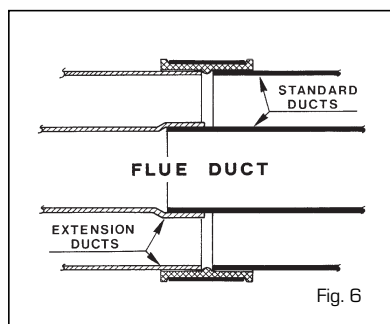


Fig. 6

The extension ducts should be joined to each other and to the standard ducts using the following procedure (fig. 6):

- For the flue ducts in turn, push the plain end of the standard and (if using two 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.

3.2.2 Cutting the flue/air duct to the correct length

- Select the air duct (larger duct) and starting at the formed end, 'mark off' the length to be cut.
- Cut the air duct square to the mark and remove all burrs and sharp edges.
- Hold the air duct at the plain end, and slide the flue duct (small duct) inside the air duct (terminal first) until it stops against the terminal, then mark off the length to be cut which leaves 20 mm protruding flue duct.
- Remove and cut the flue duct square to the mark and remove all burrs and sharp edges.

3.3 FLUE AND TERMINAL INSTALLATION

3.3.1 Installations from inside the room

Wall thicknesses up to 0.5 m (19 in) only, Hole diameter sufficient to accept wall liner

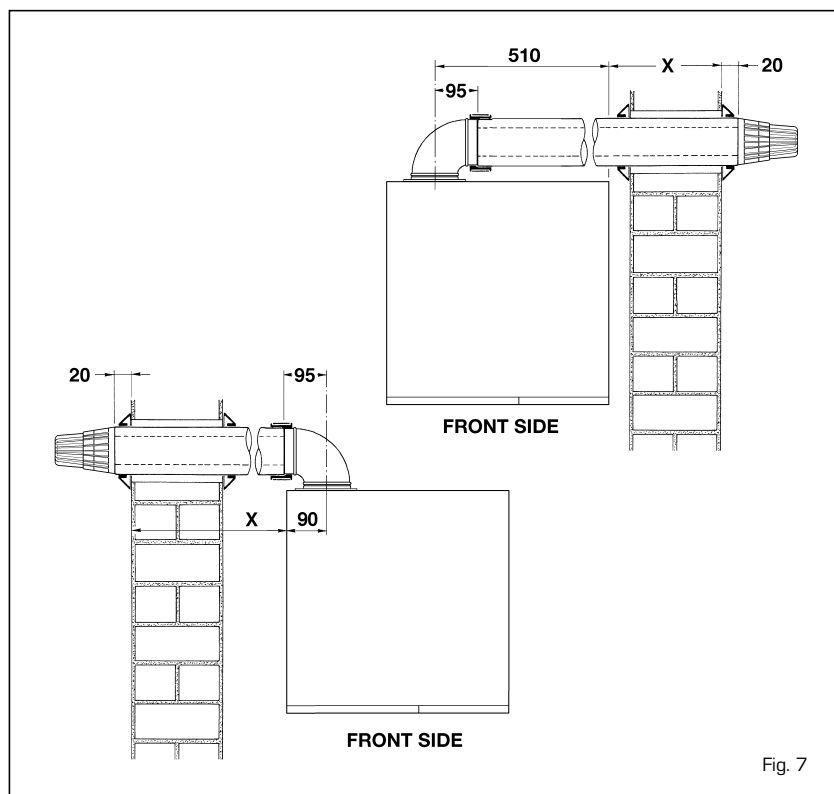


Fig. 7

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

| | R.H. side outlet | | L.H. side outlet | |
|------------------------------|------------------|--------------------------------|------------------|--------------------------------|
| | mm | in | mm | in |
| STANDARD FLUE KIT | 290 | 11 ³ / ₈ | 720 | 28 ³ / ₈ |
| WITH 1 EXTENSION KIT | 1,110 | 43 ³ / ₄ | 1,540 | 60 ⁵ / ₈ |
| WITH 2 EXTENSION KITS | 1,930 | 76 | 2,360 | 92 ⁷ / ₈ |

130 mm (5 ¹/₄ in) if optional kit is used.

- A wall liner; 127 mm (5 in) internal diameter, 500 mm (19 in) long is available as an optional extra for use when fitting the flue/air duct from inside the building. (or where it is required to seal the hole through a cavity wall). Cut the liner to the wall thickness, insert into the hole, and seal with mortar at inner and outer wall faces. Access to the outside can be made by inserting one's hand through the liner.

- Fit the rubber sealing ring into the swaged groove in the duct as shown in fig. 8. Ensure that it is the correct way around and spray the outside surface with talcum powder or soap solution to reduce friction.
- From inside the building slide the duct assembly into the wall liner until the sealing ring passes completely through the wall, then pull the air duct back until the ring is pulled up to the wall surface.
- Proceed to section 3.3.3.

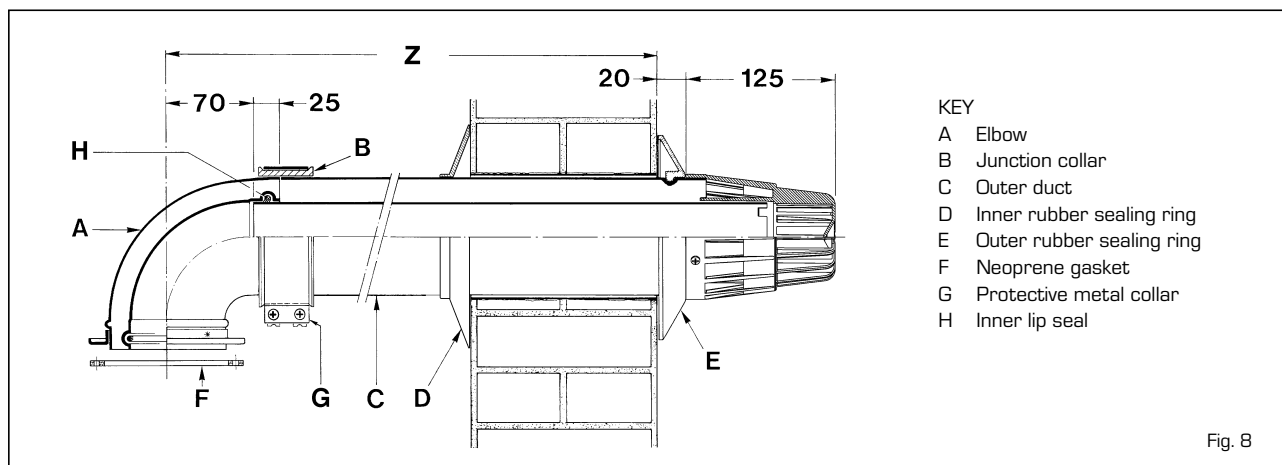


Fig. 8

3.3.2 Installations from outside the building only (Hole diameter 100 mm - 4 in)

- 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.
- Fit the rubber sealing ring into the swaged groove in the air duct as shown in fig. 8. Ensure that it is the correct way around.

3.3.3 Connecting the duct assembly All installations

- With reference to fig. 8, slide on the rubber ring (D), check that the rubber sealing ring (E) is pulled up to the wall and that the duct assembly is horizontal.
- 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 protective metal collar (G) over the junction collar.
- Place the gasket (F) under the flange of the elbow and fit the elbow onto the air smoke manifold, taking care to ensure that the silicon seal on the elbow correctly engages and forms a seal at its joint with the manifold.
- Secure the elbow onto the air/smoke manifold using the four screws provided.

3.4 SEPARATE DUCTS (Optional alternative twin pipe system)

When installing the separate ducts, comply with the requirements of the current standards, as well as the following practical pointers:

- With direct intake from outside, when the pipe is longer than 1 m, you are recommended to insulate the piping so as to prevent formation of dew on the outside of the piping during particularly cold periods of the year.
- With the outlet pipe outside the building or in cold indoor environments, insulation is necessary to prevent burner ignition failure. In such cases, provide for condensate drainage.
- 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 must not be greater than 10.5 mm H₂O.

For head losses in the fittings, refer to Table 4.

3.4.1 Separate flue accessories

Part No 8089904 is supplied for this purpose. The sectored diaphragm is to be used according to the maximum head loss allowed in both pipes, as given in fig. 11.

3.4.2 Use of air intake (fig. 12)

To use the air intake in this type of outlet you must perform the following operations:

- Remove the base of the air intake, using a

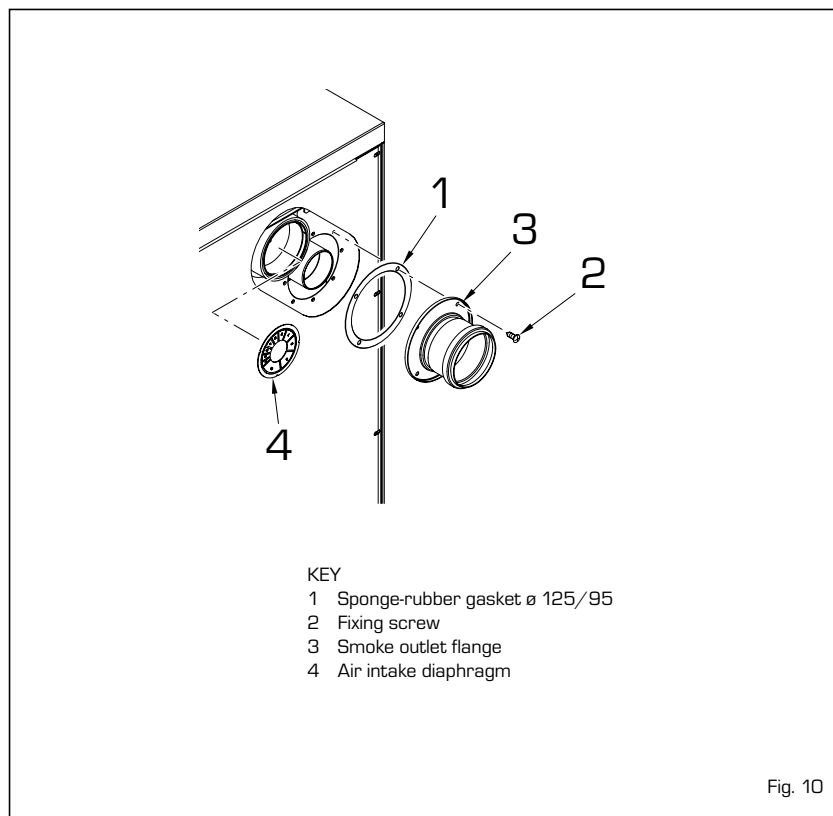


Fig. 10

TABLE 4

| Accessories ø 80 | Head loss (mm H ₂ O) | | |
|--------------------------------|---------------------------------|--------|-------------|
| | Inlet | Outlet | Roof outlet |
| 90° elbow MF | 0.30 | 0.50 | - |
| 45° elbow MF | 0.20 | 0.40 | - |
| Extension L. 1000 (horizontal) | 0.20 | 0.40 | - |
| Extension L. 1000 (vertical) | 0.30 | 0.30 | - |
| Outlet terminal | - | 0.40 | - |
| Inlet terminal | 0.10 | - | - |
| Doubler fitting | 0.50 | 1.80 | - |
| Roof outlet terminal L.1240 | - | - | 0.60 |
| Tee condensation outlet | - | 1.10 | - |

Example of allowable installation calculation in that the sum of the head losses of the single fittings is less than 10.5 mm H₂O:

| | Inlet | Outlet |
|-------------------------------------|-------|----------------------------------|
| 7 meter horizontal pipe ø 80 x 0,20 | 1.40 | - |
| 7 meter horizontal pipe ø 80 x 0,30 | - | 2.80 |
| n° 2 90° elbows ø 80 x 0,30 | 0.60 | - |
| n° 2 90° elbows ø 80 x 0,40 | - | 1.00 |
| n° 1 terminal ø 80 | 0.10 | 0.40 |
| Total head loss | 2.10 | + 4.20 = 6.3 mm H ₂ O |

With this total head loss, remove the segments from no. 1 to no. 7 from the diaphragm in the inlet pipe.

| N° segments to remove | Total head loss | |
|--------------------------|---------------------|----------|
| | mm H ₂ O | Pa |
| none | 0 ÷ 1 | 0 ÷ 10 |
| n° 1 | 1 ÷ 2 | 10 ÷ 20 |
| from n° 1 to 2 | 2 ÷ 3 | 20 ÷ 29 |
| from n° 1 to 3 | 3 ÷ 4 | 29 ÷ 39 |
| from n° 1 to 4 | 4 ÷ 5 | 39 ÷ 49 |
| from n° 1 to 5 | 5 ÷ 6 | 49 ÷ 59 |
| from n° 1 to 6 | 6 ÷ 7 | 59 ÷ 69 |
| from n° 1 to 7 | 7 ÷ 8 | 69 ÷ 78 |
| from n° 1 to 8 | 8 ÷ 9 | 78 ÷ 88 |
| from n° 1 to 9 | 9 ÷ 10 | 88 ÷ 98 |
| from n° 1 to 10 | 10 ÷ 11 | 98 ÷ 108 |

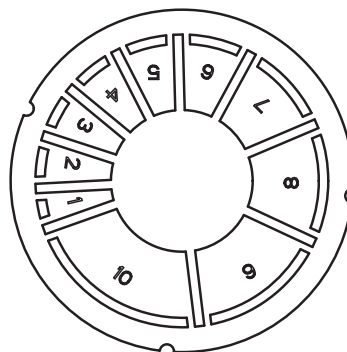


Fig. 11

tool to cut it off (a);

- Overturn the air intake (b) and replace the seal (5) with the seal supplied in the kit code 8089904;
- Insert the intake diaphragm supplied in the kit code 8089904, pushing it in until it is in contact with the beat;

You can now insert the extension or curve in its housing to complete the intake (you need not use any seal or sealant).

3.5 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.

3.6 SYSTEM FILLING

- Open the flow and return valves (25 - 26 fig. 2).
- Loosen the automatic air vent cap (13 fig. 2).
- Open all radiator valves and system air vents.
Fill the system with water using one of the approved methods to about 0.5 bar greater than the system design pressure. Close all air vents. Do not close the A.A.V. near the pump!
- Check the system for water soundness.
- Completely drain the appliance and heating system, thoroughly flush the system, and refill the system design pressure.

3.7 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

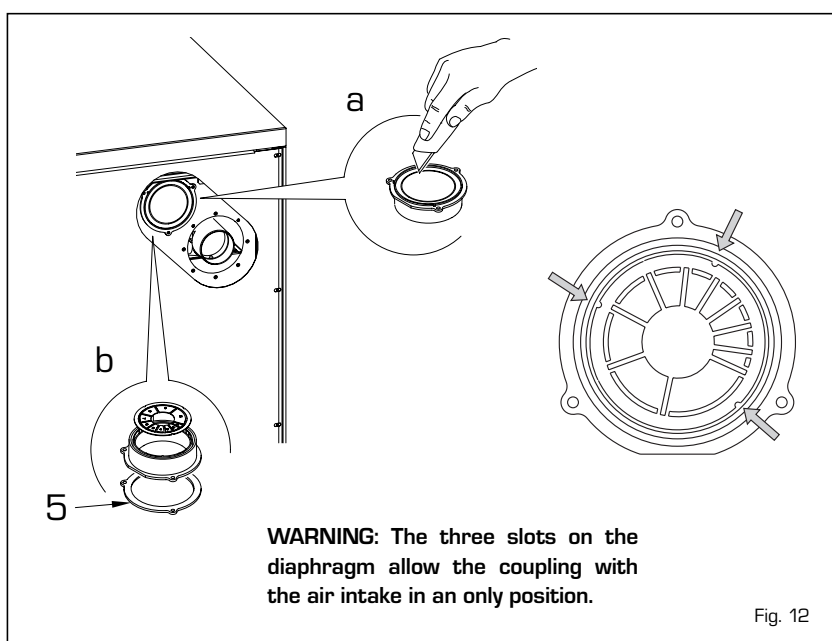


Fig. 12

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.

NOTE: SIME declines all responsibility for injury or damage to persons, animals or things, resulting from the failure to provide for proper earthing of the appliance.

3.7.1 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. 14). 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.

3.7.2 Connection "Logica Remote Control" (fig. 14 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. The telereducer of the telephone with a contact of zero potential or a win-

3.9.4 Wiring diagram

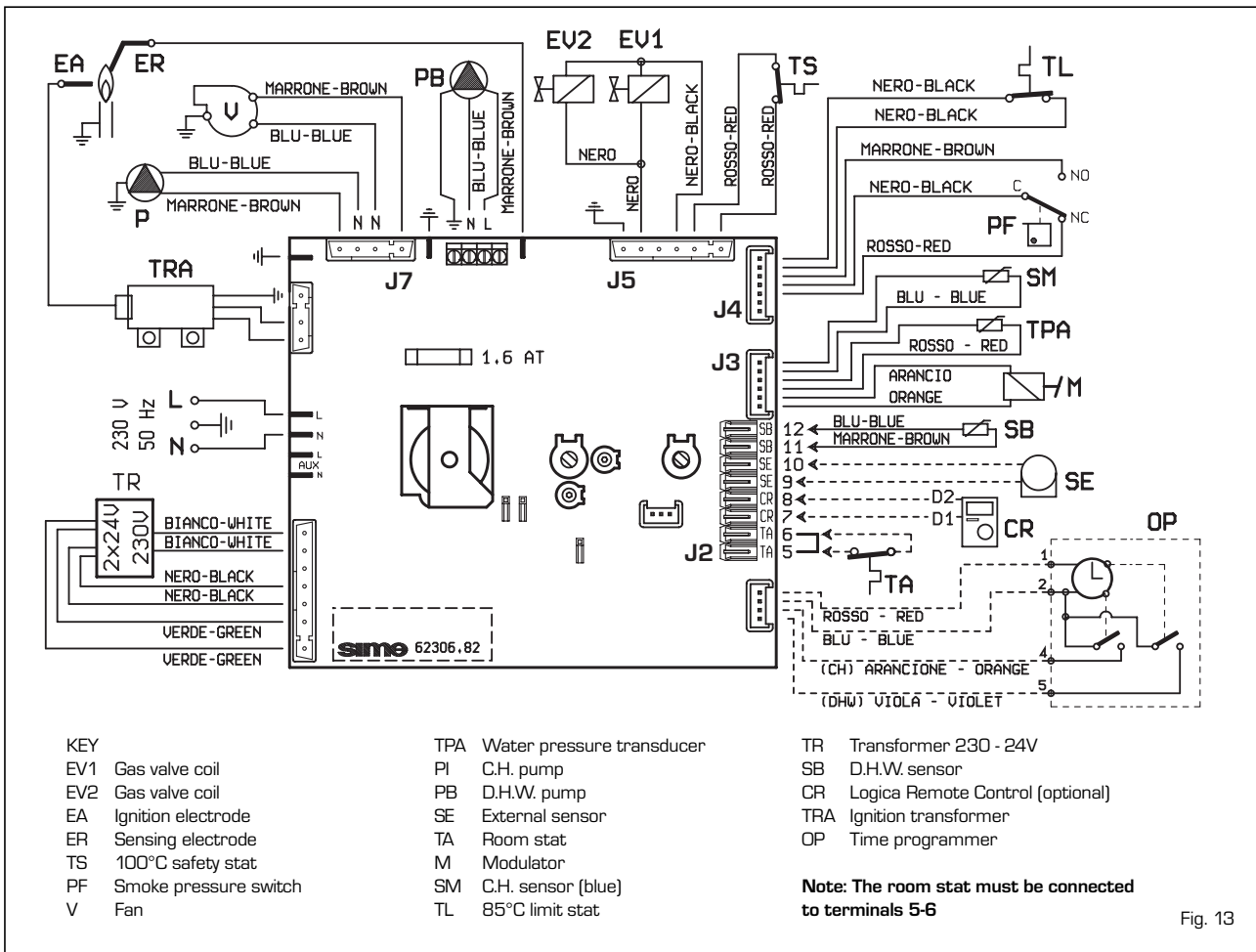


Fig. 13

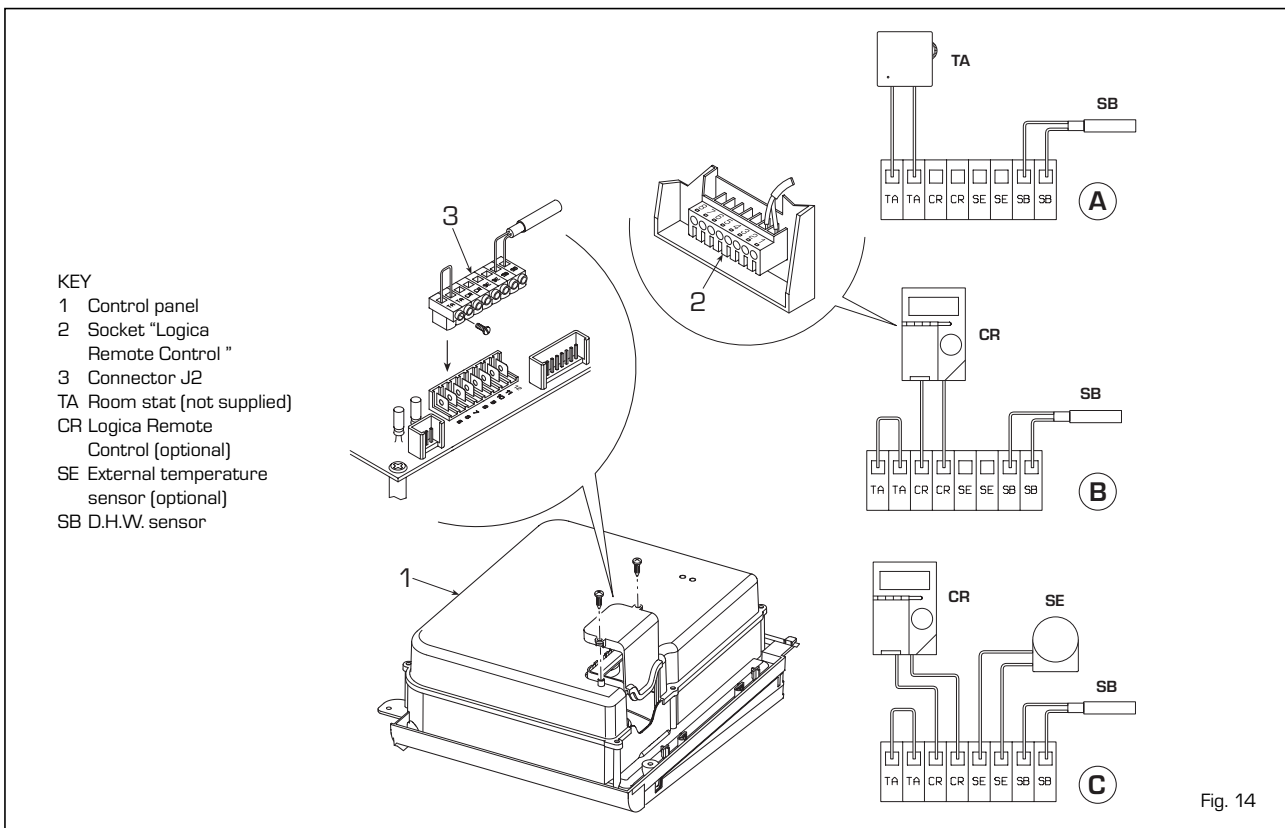


Fig. 14

down contact can be connected to terminals 3-4.

A type of electronic apparatus for the control of civil plants via a telephone line that can be pointed out is the model TEL 30.4 LANDIS & STAFA.

3.7.3 Connection external temperature sensor (fig. 14 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 have access to the connector of the boiler (3) remove the cover of the control panel and electrically connect the external temperature sensor to the terminals SE (8-9).

3.8 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.

3.8.1 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 3.8.2). If there is a thermostatic radiator valve fitted, this must be set to maximum.

3.8.2 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  at 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 .

3.8.3 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

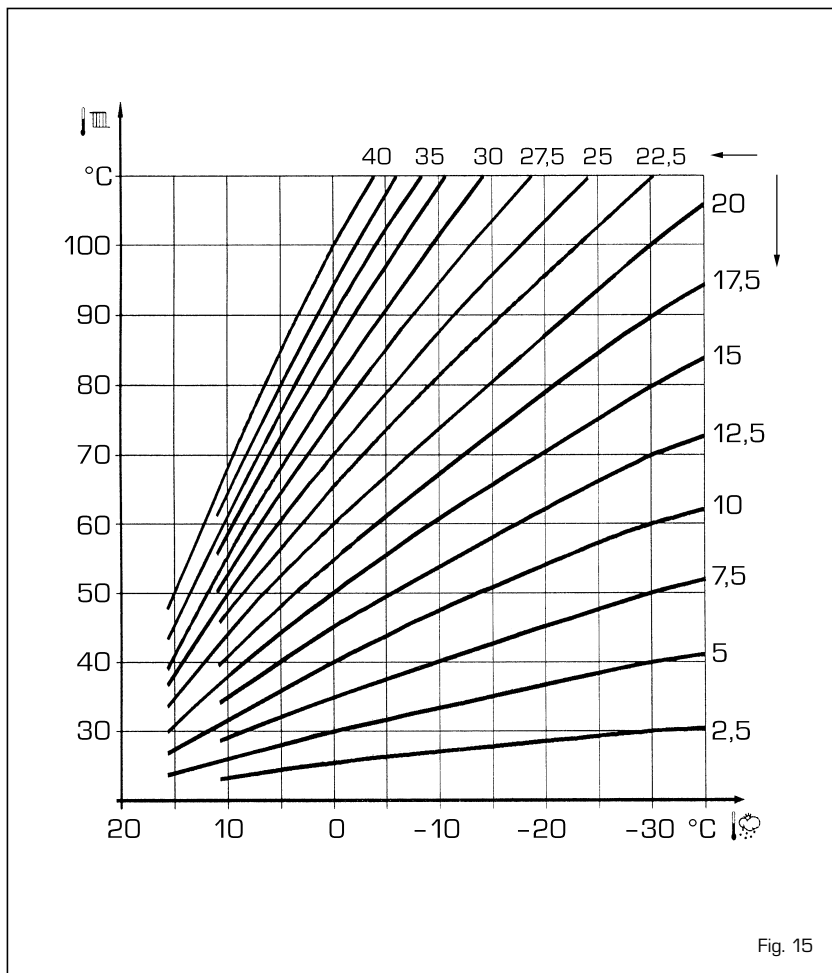


Fig. 15

in the drawing of fig. 20, 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.

3.9 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.







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 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. <div> 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 </div> OO means that the switch-on time has not been pre-set (function disabled). |
| Presetting switch-off time (OO = 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 | <p>0 = 24 hours/ day - Hot water is always available at the temperature set with user parameter n°3.</p> <p>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.</p> <p>2 = service disconnected</p> <p>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.</p> |

SERVICE VALUES

| | | | | | | | | |
|--|---------------------------------------|---|----------|---------------------------------------|-------|--|------------------------------------|-------|
| Final user level 2 programming block | 63 | <p>This block {1} can be activated to display all the parameters without modifying them. Pressing buttons  or  displays "OFF".</p> <p>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.</p> | | | | | | |
| Entrance function terminal 3-4 | 64 | <p>The freely programmable input (terminals 3 and 4 of the socket) allows three different functions to be activated. The parameter has the following significance:</p> <p>1 = If an external sensor is connected, the display will show the temperature of the external sensor (_ _ = no sensor connected, function disabled).</p> <p>2 = With an external contact, it is possible to switch-over to "reduced pre-set value of the ambient temperature".</p> <p>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.</p> | | | | | | |
| Operating mode of external contact | 65 | <p>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.</p> <table> <tr> <td>Display:</td><td>Operating mode closed (short circuit)</td><td>0 0 0</td></tr> <tr> <td></td><td>Operating mode open (interruption)</td><td>_ _ _</td></tr> </table> | Display: | Operating mode closed (short circuit) | 0 0 0 | | Operating mode open (interruption) | _ _ _ |
| Display: | Operating mode closed (short circuit) | 0 0 0 | | | | | | |
| | Operating mode open (interruption) | _ _ _ | | | | | | |
| External and ambient sensor influence | 66 | <p>Determines the mix ratio between the internal and external ambient sensor when parameter 64 = 1.</p> <p>0 % = internal sensor only active (0% external - 100% internal)</p> <p>50 % = mean value of external + internal sensor</p> <p>100 % = external sensor only active</p> <p>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.</p> | | | | | | |
| Anti-bacterial function | 69 | <p>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.</p> <p>0 = not active 1 = active</p> | | | | | | |

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. 16.

4.1.2 Devices

The electronic panel has the following devices:

- **Trimmer "POT. RISC."** (10 fig. 17)
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. 17)
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.

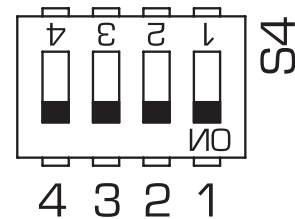
The level of pressure of slow ignition is able to be set during the first 5 seconds from the starting of the burner. After having established the level of pressure at ignition (STEP) according to the type of gas, check that the heating gas pressure is still on the value set beforehand.

- **Connector "MET-GPL"** (7 fig. 17)
With the connector disconnected, the boiler is ready to function with METHANE; with the connector connected with LPG.
- **Connector "ANN. RIT."** (5 fig. 17)
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. 17)
Ensure that the riders are inserted in the position shown in order for the boiler to work:



- **Connector "Modureg Sel."** (14 fig. 17)
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.

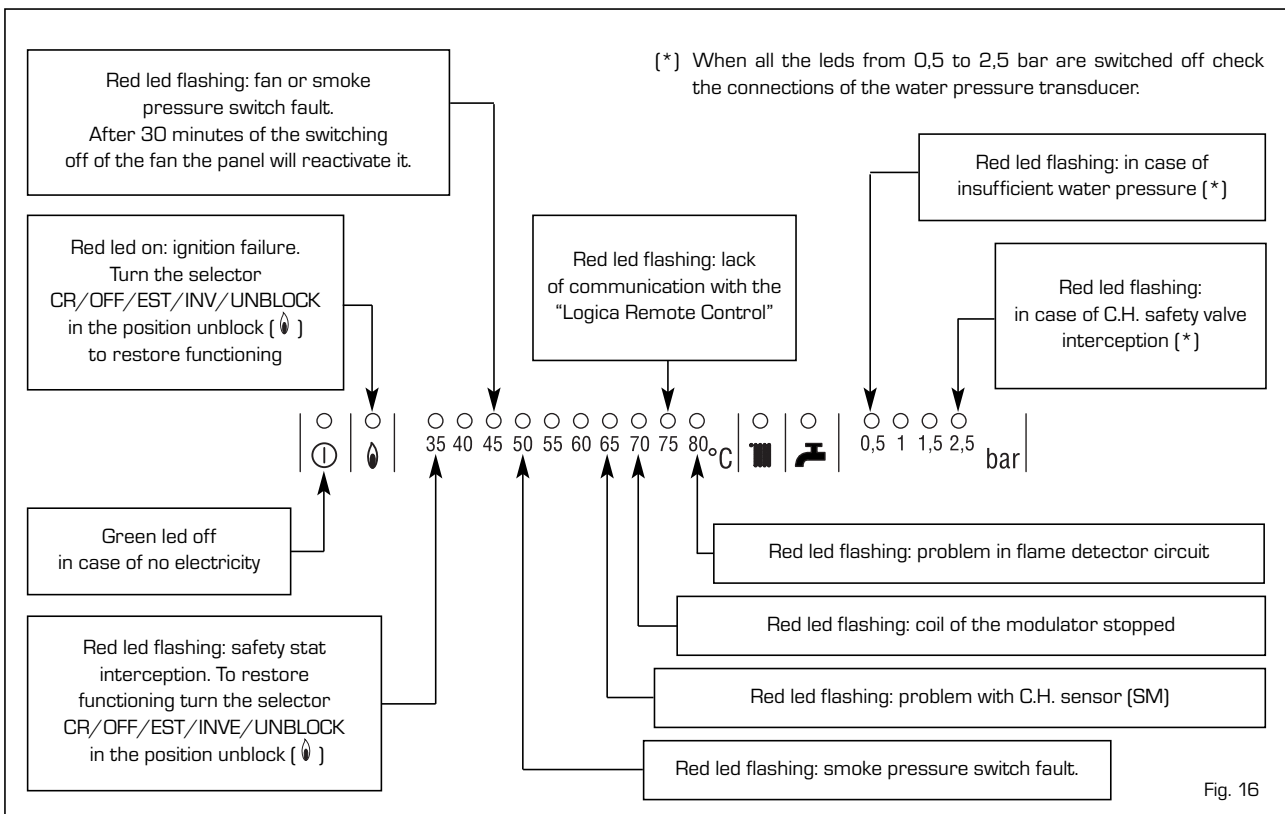


Fig. 16

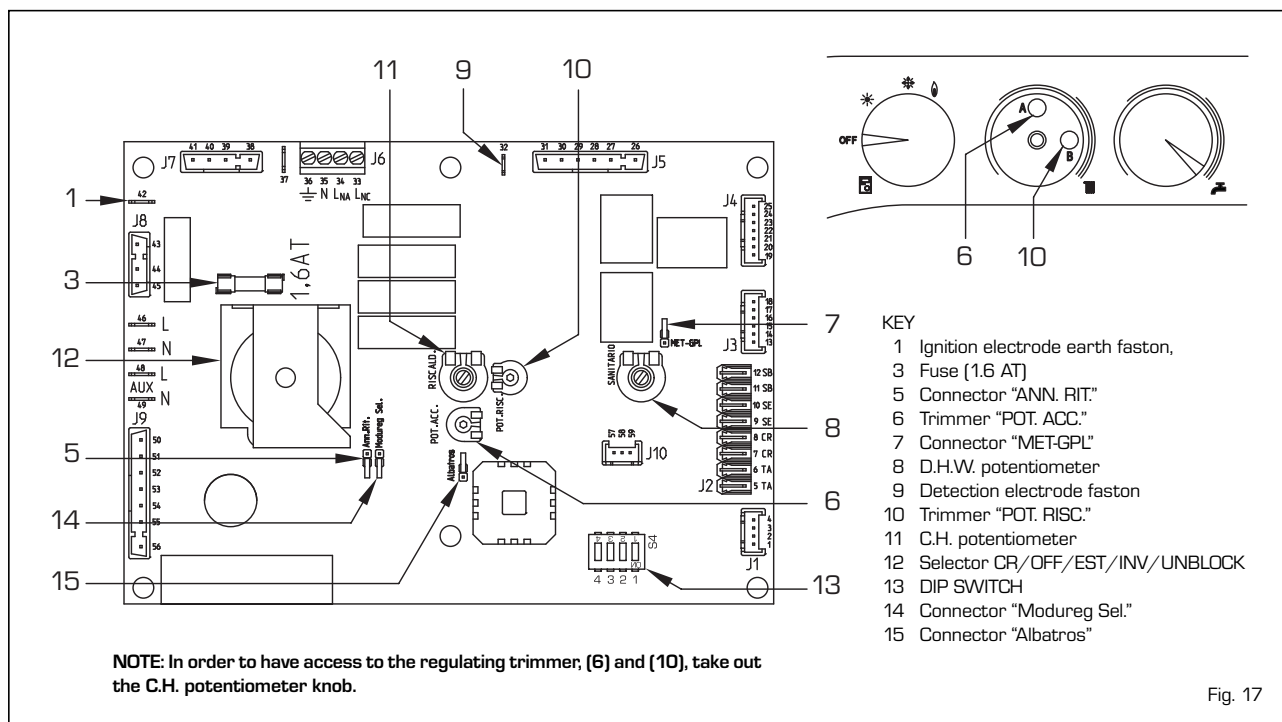


Fig. 17

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 ($^{\circ}\text{C}$) | 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

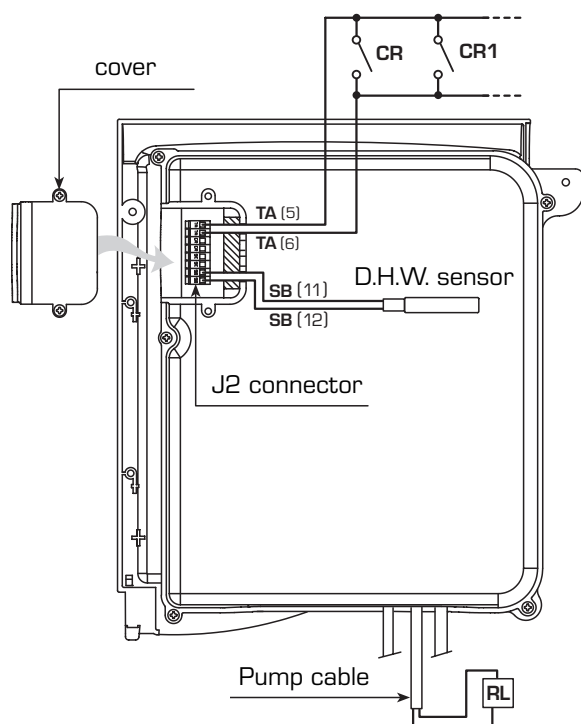
The switch with a fixed setting 3.5-4.5 mm H_2O , is able to guarantee the functioning of the boiler with inlet and outlet pipes at the maximum limit length allowed.

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

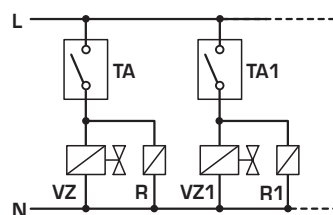
Use a separate electric line to link up the room stats and relative zone valves or pumps.

The connection of the micros or the relay contacts is carried out on the connector of control board (J2) after having removed the existing bridge (fig. 18).



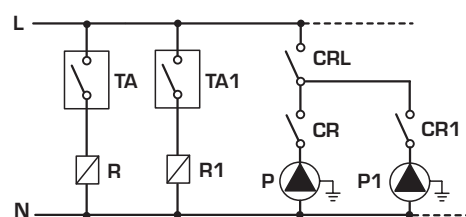
| | |
|------------|-----------------------------------|
| KEY | |
| TA - TA1 | Zone room stat |
| VZ - VZ1 | Zone valve |
| R - R1 | Zone relay |
| CR - CR1 | Relay contact or zone micro valve |
| RL | Power relay |
| CRL | Power relay contact |
| P-P1 | Zone pump |

1 CIRCUIT WITH ZONE VALVES



NOTE: Relays are used only if the zone valves have no microswitches.

2 CIRCUIT WITH ZONE PUMPS



NOTE: Replace the C.H. pump with the optional connecting pipe, code 8094001. Connect the pump cable to a power relay (RL).

Fig. 18

4.6 TIME-CLOCK

The **PLANET SUPER 4 F.S.** boiler is set up for connection with a time clock, to be inserted on the instrument panel after removing

the cover on its housing. Refer to the diagram in fig. 13 for wiring.

The boiler has a 4 pole wired connector for connection with a programming clock with two channels.

On request, Sime can supply two wired time clocks complete with instruction booklets:

- mechanical daily time clock, code 8092205
- digital weekly time clock, code 8092206.

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. 19) and HONEYWELL VK 8105N gas valve (fig. 19/a).

NOTE: In case of replacement of the SIT gas valve to HONEYWELL or vice-versa, set properly the Modureg connector of electronic panel (14 fig. 17 - point 4.1.2). With the jumper inserted the boiler is set for the SIT gas valve; with the jumper removed the boiler is set for the HONEYWELL gas valve.

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 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: first the MAXIMUM and then the MINIMUM.

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. 21):

- Connect the differential manometer as shown in fig. 20.
- Remove the plastic cap of the modulator (1).
- Place the D.H.W. potentiometer knob on the maximum value.

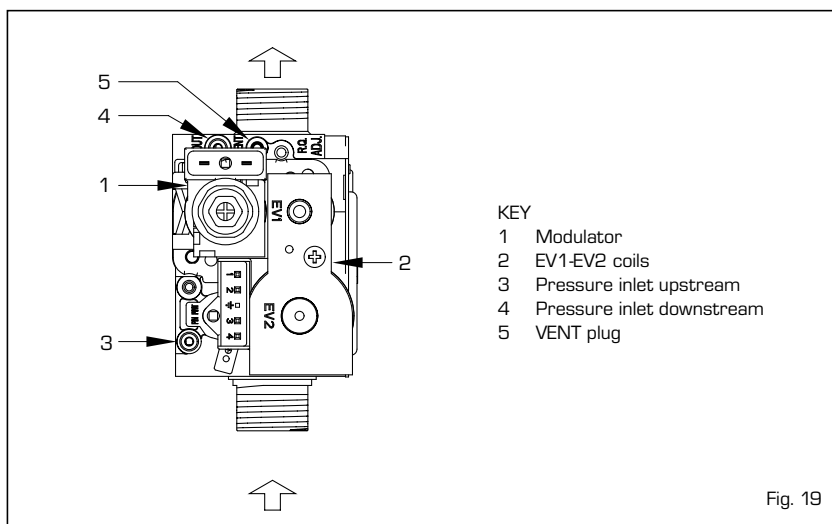


Fig. 19

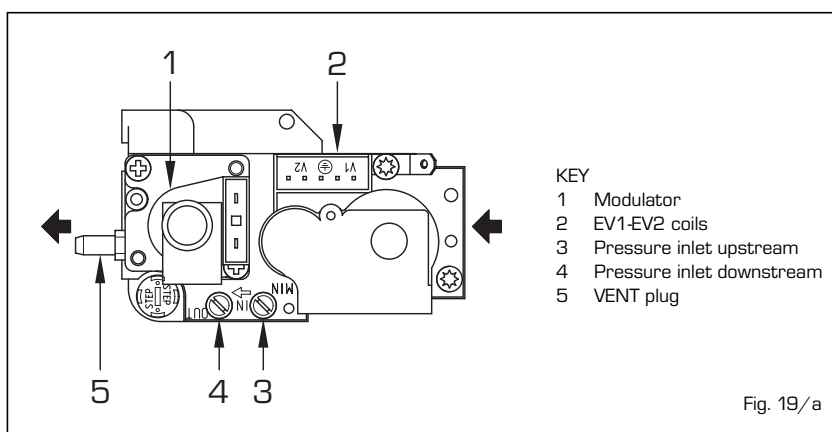


Fig. 19/a

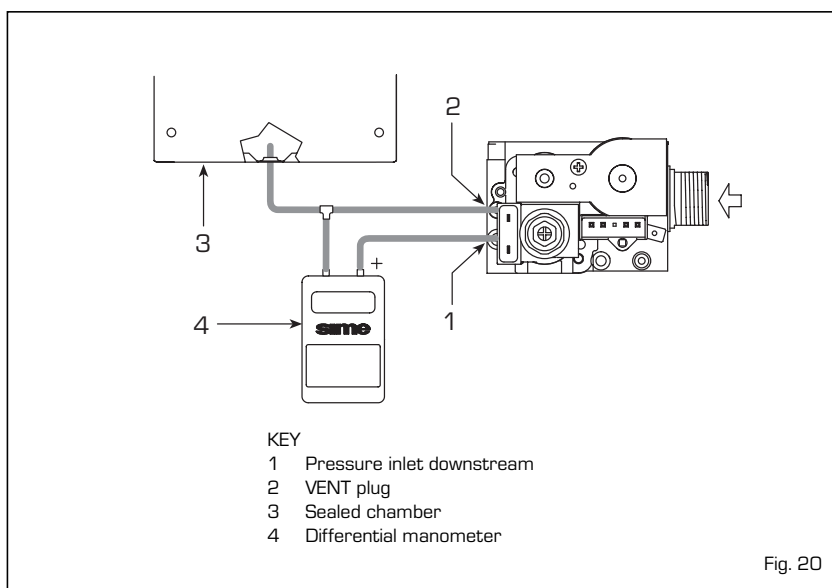
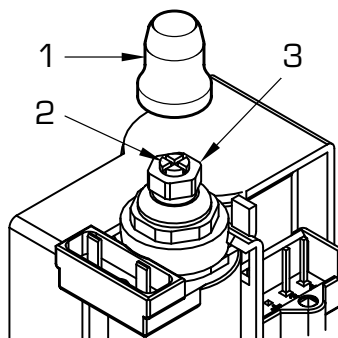


Fig. 20

TABLE 6

| Gas type | Burner max. pressure mbar | Modulator current mA | Burner min. pressure mbar | Modulator current mA |
|---------------|---------------------------------|----------------------------|---------------------------------|----------------------------|
| Methane (G20) | 11.3 | 130 | 2.2 | 0 |
| Butane (G30) | 28.9 | 165 | 5.5 | 0 |
| Propane (G31) | 36.2 | 165 | 7.3 | 0 |



KEY
1 Plastic cap
2 Minimum pressure adjusting screws
3 Maximum pressure adjusting nut

Fig. 21

- 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. 21):

- 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 Maximum and minimum pressure adjustment HONEYWELL VK 8105N

For the setting of the maximum pressure proceed in the following way (fig. 21/a):

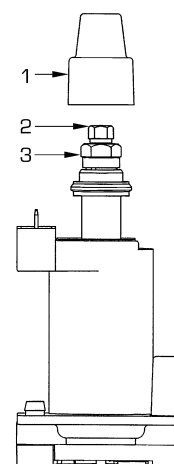
- Connect the differential manometer as shown in fig. 20.
- Remove the plastic cap of the modulator (1).
- Place the D.H.W. potentiometer knob on the maximum value.
- Start the boiler and open the hot water cock.
- Using a $\varnothing 9$ wrench turn the nut (3) to find the maximum pressure as shown in *Table 6*: to reduce the pressure turn the nut anti-clockwise, to increase the pres-

sure 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 set the maximum pressure, for the setting of the minimum pressure proceed in the following way (fig. 21/a):

- 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, using a $\varnothing 7$ wrench turn the nut (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 burner a few times whilst keeping the hot water cock constantly open and verify that the pressure corresponds to the values of *Table 6*.
- Reconnect the electric supply of the



KEY
1 Plastic cap
2 Minimum pressure adjusting nut
3 Maximum pressure adjusting nut

Fig. 21/a

modulator:

- Replace the plastic cap (1).

5.3 REGULATION OF HEATING POWER

To regulate the heating power, modifying the factory settings whose power value is around 22 kW, it is necessary to work with a screwdriver on the trimmer of the heating power (10 fig. 17).

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

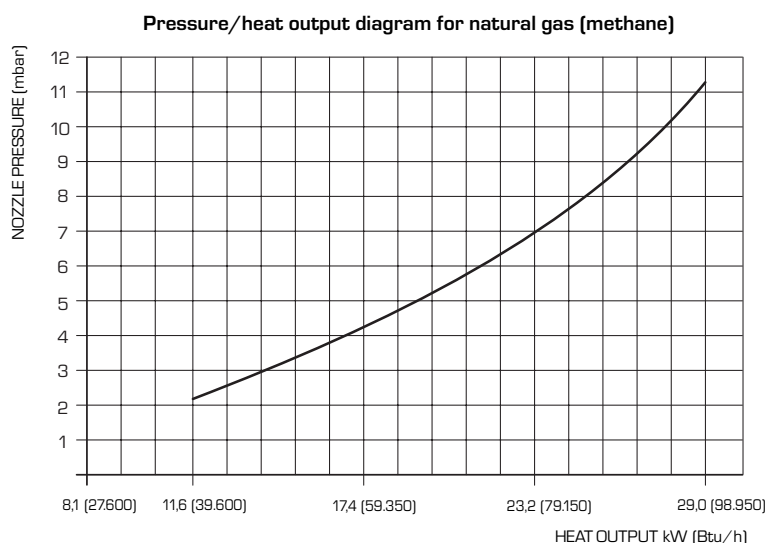
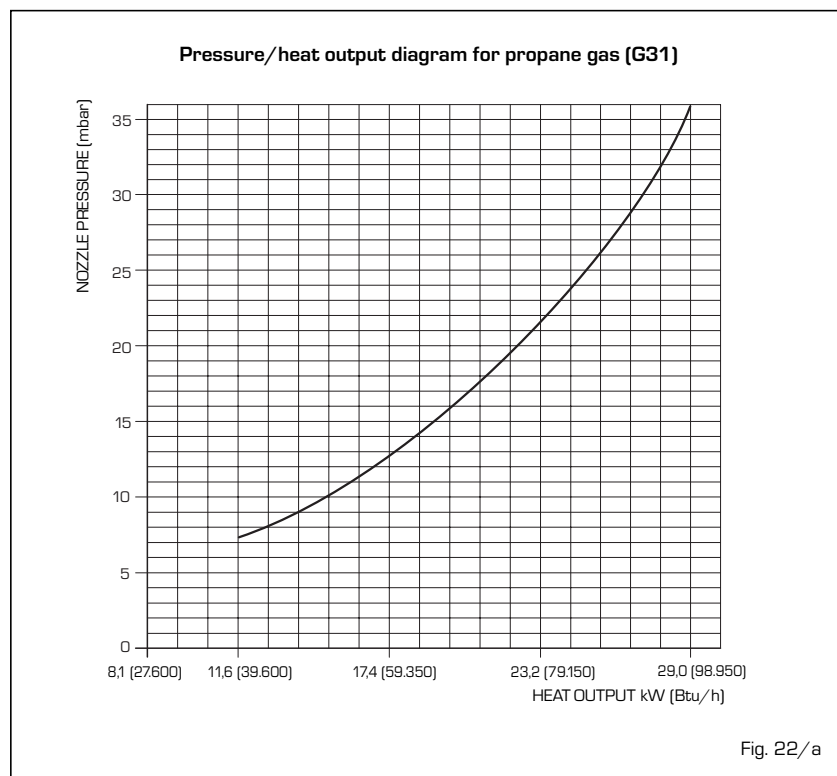


Fig. 22



the heat output see the pressure/heat output diagrams for natural gas (methane) and butane or propane gas are available (fig. 22 - 22/a).

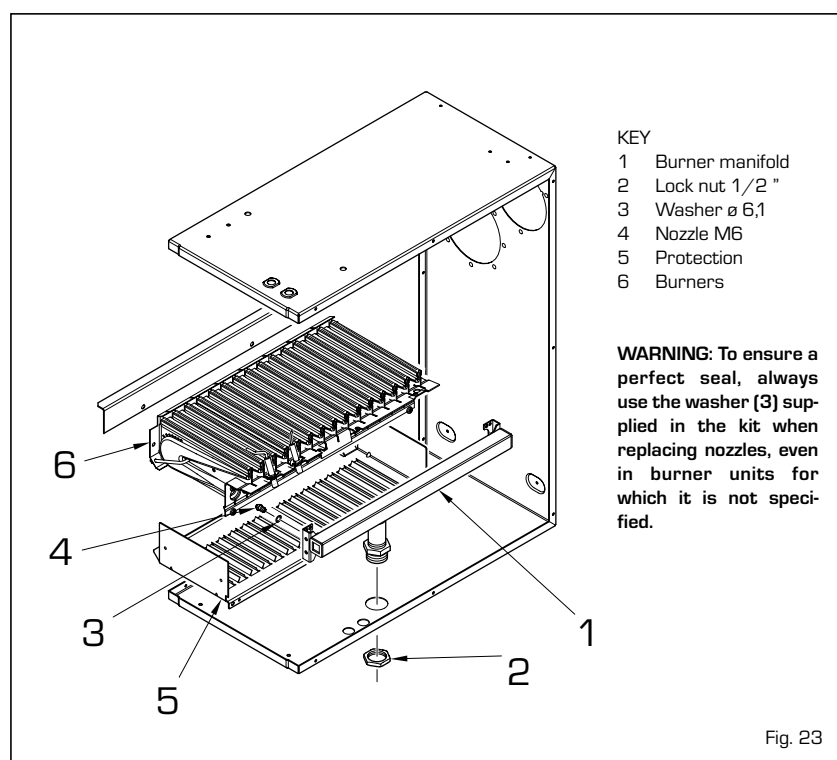
5.4 CONVERSION TO ANOTHER GAS

For the functioning with propane (G31) gas,

a kit with that needed for the conversion is supplied.

To convert from one gas to another carry out the following operations (fig. 23):

- Close the gas cock.
- Undo the burner group
- Replace the main nozzles (4) supplied in kit, and placing the copper washer (3); to carry out this operation use a $\varnothing 7$ wrench.
- Insert the bridge of the "GPL-MET" con-



ductor of the electronic panel onto the "GPL" position (7 fig. 17).

- 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 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 burner - gas manifold group (fig. 23).
- 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.

5.6.1 Casing cover and control panel dismantling (fig. 24)

To dismantle the casing cover remove the screws [1 - 2] that fix it to the control panel.

To facilitate the maintenance operations place the "A" side of the bracket located on the R.H. side of the casing so that the control panel can be hooked on it.

5.6.2 Chimney sweep function

To carry out the verification of combustion in the boiler, turn the selector and stop on the position (☼) until the yellow led (■) starts to flash intermittently (fig. 25).

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 (☼).

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.

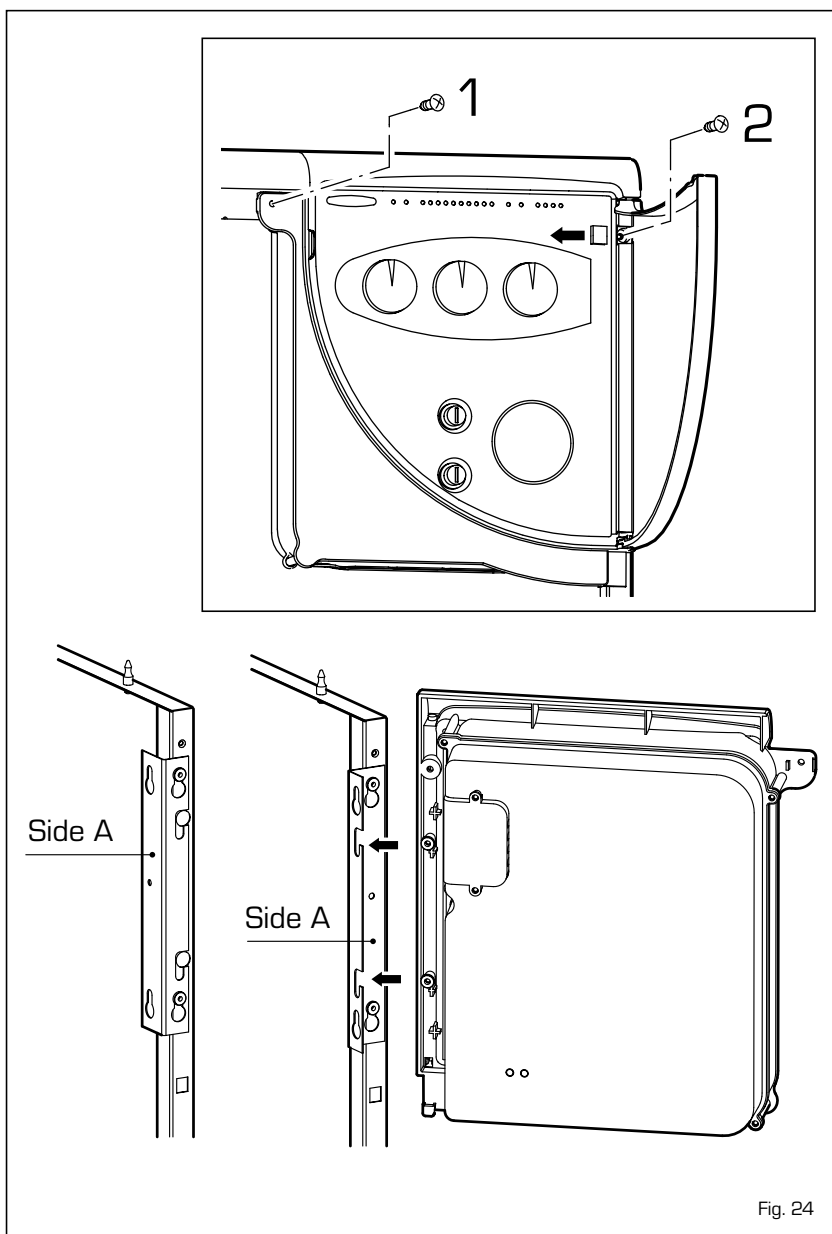


Fig. 24

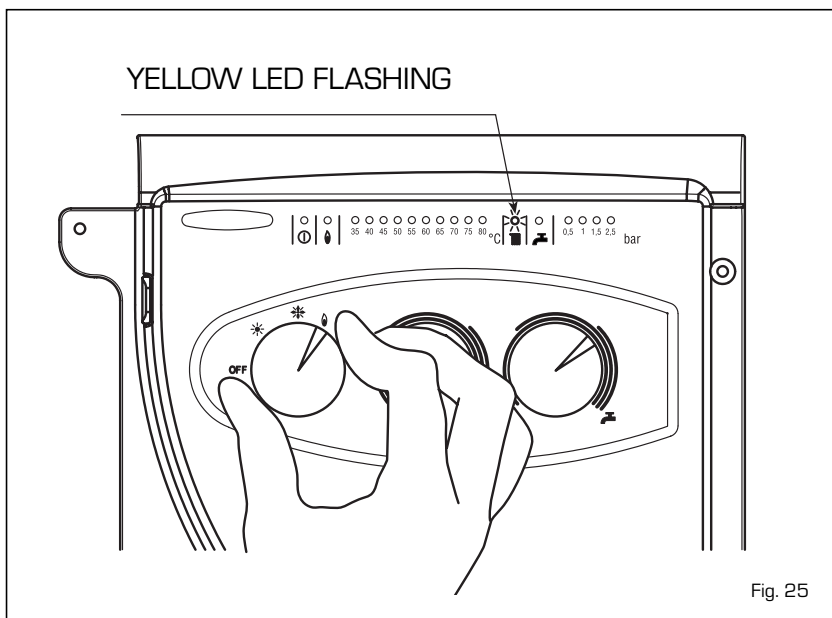


Fig. 25

6 REPLACEMENT OF PARTS

6.1 Heat Exchanger

Isolate flow and return valves
Turn off power supply
Drain boiler using manual drain vents
Remove fan as described in 6.2
Remove AP switch assembly as described in 6.6
Remove smoke chamber
Disconnect limit stat
Remove 2 spring clips securing connection to heat exchanger
Lift out heat exchanger
Transfer limit stat to new heat exchanger
Refit in reverse order
Refill system and recommission

6.2 Fan Assy

Turn off power supply
Remove sealed chamber front cover
Disconnect APS sensing tube from smoke chamber
Disconnect fan wiring
Remove fan plate fixing screws
Remove fan assy from sealed chamber
Remove fan from fan mounting plate
Refit in reverse order

6.3 Main Burner

Turn off power supply
Isolate gas supply
Remove sealed chamber cover
Remove combustion chamber cover
Remove combustion chamber front panel
Remove pipe connection main burner to gas valve
Remove main burner securing nut
Remove burner support screw
Disconnect ignition electrode from ignition transformer
Disconnect Ionisation electrode at joint close to control panel
Manoeuvre main burner forward of sealed chamber whilst feeding ignition and ionisation leads into sealed chamber
Refit in reverse and recommission as described

6.4 Ignition & Ionisation Electrodes

Remove main burner as described in 6.3
Remove electrode securing screw
Replace electrode ensuring correct gap (4mm +/- 0.5mm)
Refit in reverse order

6.5 Gas Valve

Isolate gas supply
Turn off power supply
Disconnect modulator coil
Disconnect gas valve wiring (note plug orientation)
Disconnect and remove gas valve
Refit using new washers
Reassemble in reverse order
Recommission boiler resetting gas pressures
Check for soundness
Set gas valve as described in 5.2.1 – 5.2.2

6.6 Air Pressure Switch

Isolate power supply
Remove sealed chamber cover
Disconnect sensing tube from APS, noting position
Disconnect APS wiring, noting connections

Remove APS assembly
Remove APS from bracket
Refit in reverse order, ensuring correct connection of sensing tube and wiring

6.7 Overheat Stat

(The overheat stat is situated to the RHS of the sealed chamber)
Isolate power supply
Disconnect the two wires
Undo fixing screws
Refit in reverse order having spread heat sink paste to base of new thermostat (polarity is immaterial)

6.8 Thermistor

(Situated to RHS of sealed chamber)
Isolate power supply
Isolate CH flow and return
Drain boiler using drain plug
Disconnect thermistor wiring
Unscrew thermistor
Replace the thermistor and reassemble in reverse order
Table shows resistance values obtained at the sensor as the temperature varies

| Temp °C | Resistance |
|---------|------------|
| 20 | 12,090 |
| 30 | 8,313 |
| 40 | 5,828 |
| 50 | 4,161 |
| 60 | 3,021 |
| 70 | 2,229 |
| 80 | 1,669 |

6.9 Printed Circuit Board

Re hang control panel as described in 5.6.1
Remove control panel cover
Pull of the potentiometer knobs
Remove all connections to PCB and remove 6 PCB screws
Ensure links and switches on new PCB are set correctly
Transfer potentiometer spindles and trimmer spindles
Refit in reverse order
Recommission, ensuring CH output is set correctly (see section 5.3)

6.10 Pumps

Isolate power supply
Isolate flow and return valves
Drain boiler using drain vent
Disconnect pump wiring plug
Remove pump complete with non return valve
Inspect non return valve for correct operation
Transfer to new pump using new washers
Transfer auto air vent if required
Refit pump in reverse order
Recommission

6.11 Central Heating Expansion Vessel

Isolate power supply
Isolate CH flow and return
Drain boiler using drain vent
Remove expansion vessel connection pipe
Remove expansion vessel fixing bracket
Remove expansion vessel
Ensure new vessel has correct pressure (1 bar)

Refit in reverse order using new washers
Recommission boiler

6.12 DHW Expansion Vessel

Isolate power supply
Isolate DW supply
Drain cylinder using drain cock
Remove expansion vessel
Ensure new vessel has correct pressure (3 bar)
Refit in reverse order using new washers
Recommission boiler

6.13 Safety Valves

3 Bar Safety Valve (System)
Isolate power supply
Isolate CH flow and return valves
Drain boiler using drain vent
Disconnect 3 bar valve from pipe work
Transfer drain vent to new 3 bar valve
Refit in reverse order using new washers
Recommission boiler
7 Bar Safety Valve (Cylinder)
Isolate power supply
Isolate Domestic water supply
Drain some water from the cylinder
Remove 7 bar valve
Refit in reverse order using new washers
Recommission boiler

6.14 Auto Air Vents

Isolate power supply
Isolate CH flow and return valves
Drain boiler using drain vents
Remove auto air vent from pump
Refit in reverse order

6.15 Timer (if fitted)

Turn off power supply
Remove PCB cover as described in 6.9
Unplug timer from PCB
Remove timer fixing screws
Remove timer
Transfer wiring to new timer ensuring correct connection
Refit in reverse
Recommission boiler

6.16 Magnesium Anode Inspection

Isolate power supply
Turn off domestic water supply
Drain some water from cylinder using drain cock
Remove anode
Replace if required
Refit in reverse
Recommission boiler

6.17 Gas Conversion

Remove burner as described in 6.3
Remove burner bar
Replace the main nozzles with ones supplied in kit (5185403 Nat Gas or 5144708 LPG)
Remove control board cover as described in 6.9
Refit link 7 (fig 17) if converting to LPG
Remove link 7 (fig 17) if converting to Nat Gas
Reset gas valve pressures as per table 6
Check for gas soundness
Affix correct sticker to data plate showing gas used

7 COMMISSIONING

SIME SUPPORT THE BENCHMARK INITIATIVE

All relevant sections of the log book must be filled in at the time of installation and thereafter service information on the back page of the log book. Commissioning of the boiler is not complete until the log book 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 gas service cock is turned on, the electricity supply is isolated and that the DHW and CH isolation valves are in the closed position.

7.1 Filling

Open CH flow and return valves
Loosen both auto air vent caps (on each pump)
Open both non-return valves (one on each pump)
Open all radiator valves and system air vents
Fill the system using the filling loop
Check for water soundness
Completely drain the boiler and system
Thoroughly flush the system and refill, adding inhibitor
Close both non-return valves (one on each pump)
Open the DHW isolation valve and fill the cylinder
Open a hot tap to clear the air from DHW pipe work
Check for water soundness

7.2 Commissioning

Turn the rotary switch to the summer position
Check gas pressures as described in 5.2
Allow cylinder to achieve temperature

7.3 Setting CH Input

Turn the rotary switch to the winter position
Allow the boiler to run for at least 5 minutes and check burner pressure as described in 5.3, adjust if required

7.4 Ignition Gas Pressure

(See fig 17.10)
Adjust trimmer to vary the burner pressure at ignition
According to type of gas with which the boiler is equipped, the trimmer must be regulated so as to obtain a pressure of approx 3 mbar at the burner for methane and 7 mbar for butane and propane.
This adjustment can be made in the first 10 seconds following ignition.
After setting the ignition pressure, confirm that CH pressure is unchanged.

7.5 Setting DHW Flow Rate

No restrictor is fitted to the boiler.
Adjustment of flow rate (if required) can be achieved by partial closure of DHW supply cock.
To achieve continuous flow at 35° above incoming water temperature, set flow rate at 14.5 l/min
For 30° set at 15.6 l/min.

7.6 Final Checks

Check for gas soundness
Check for water soundness
Advise user of controls i.e. Logica/Time Clock
Complete Benchmark Booklet
Ensure user instructions are left with customer
Stress importance of annual checks by a registered engineer

8 EXPLODED VIEWS

8.1 HYDRAULIC CIRCUIT

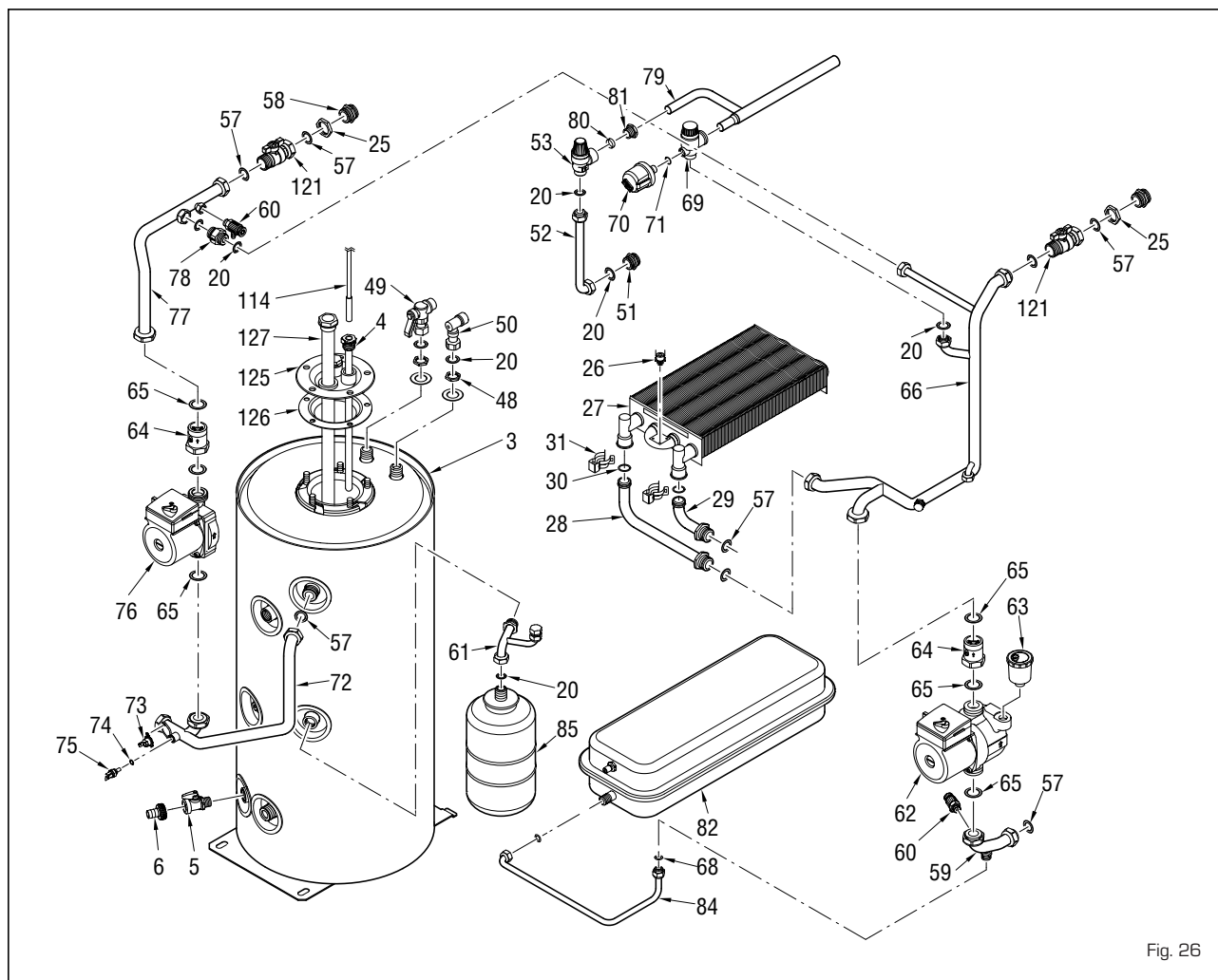


Fig. 26

| Position | Code | Description |
|----------|-----------|---------------------------------------|
| 3 | • 5167704 | D.H.W. storage tank |
| 4 | 5002403 | Bulb holder 1/2" Ø 7,5x8,5x360 |
| 5 | 6179102 | Drain cock 1/2" |
| 6 | 6179200 | Holder complete with locking nut |
| 20 | 2030227 | Gasket Ø 12x18x2 |
| 25 | 6146302 | Brass nut 3/4" |
| 26 | • 6146711 | Limit stat 80°C |
| 27 | • 6174225 | Heat exchanger |
| 28 | • 6265102 | Heat exchanger inlet pipe |
| 29 | • 6265103 | Heat exchanger outlet pipe |
| 30 | • 6226412 | O-ring 3068 |
| 31 | • 6226601 | Spring for heat exchanger connection |
| 48 | 6146301 | Brass nut 1/2" |
| 49 | 6177503 | Ball cock 1/2"M x 1/2"F |
| 50 | 6142331 | Quarter bend 1/2"M x 1/2"F |
| 51 | 6120501 | Nipple 1/2"x1/2" OT |
| 52 | 6153803 | Pipe connecting pressure relief valve |
| 53 | • 6029000 | Pressure relief valve 1/2" - 7 bar |
| 57 | 2030228 | Gasket Ø 17x24x2 |
| 58 | 6120511 | Nipple 3/4"x3/4" OT |
| 59 | 6216008 | D.H.W. storage tank outlet pipe |
| 60 | • 6017210 | Manual air vent 1/4" |
| 61 | 6227614 | Pipe connecting D.H.W. expans. vessel |
| 62 | • 6124808 | Circulating pump Grundfos UPS 15-50 |
| 63 | • 6013100 | Automatic air vent 3/8" |
| 64 | • 6238303 | Non return valve 1"Mx1"F |
| 65 | • 2030229 | Gasket Ø 22x30x2 |
| 66 | 6215621 | C.H. return pipe |

| Position | Code | Description |
|----------|-----------|--|
| 69 | • 6042201 | Pressure relief valve 1/2" - 3 bar |
| 70 | • 6273601 | Water pressure transducer |
| 71 | 2030225 | Gasket Ø 5,5x11x2 |
| 72 | 6215808 | C.H.+D.H.W. tank flow pipe |
| 73 | • 6146701 | 100°C safety stat |
| 74 | • 6022010 | Sensor gasket |
| 75 | • 6231351 | Plunged sensor |
| 76 | • 6254605 | Grundfos circulating pump UPS 15-60 |
| 77 | 6216226 | C.H. flow pipe |
| 78 | 6270900 | By-pass |
| 79 | 6157614 | Pressure relief valve drain pipe |
| 80 | 6100202 | Ogive for pipe Ø 15 |
| 81 | 6168401 | Locking nut for pipe Ø 15 |
| 82 | • 5183700 | Rectangular expansion vessel 8 l. 3/8" |
| 84 | 6227647 | Pipe connecting expansion vessel |
| 85 | • 6245102 | Sanitary D.H.W. tank - 2.5 L. |
| 114 | • 6231330 | Temperature sensor L=1120 |
| 121 | 6177515 | Ball cock 3/4" |
| 125 | 6192905 | D.H.W. cylinder flange Ø 138 |
| 126 | • 6193000 | Rubber gasket Ø 130 |
| 127 | • 6072700 | Magnesium anode Ø 22 L=400 |

• Recommended stock parts

8.2 COMBUSTION CIRCUIT

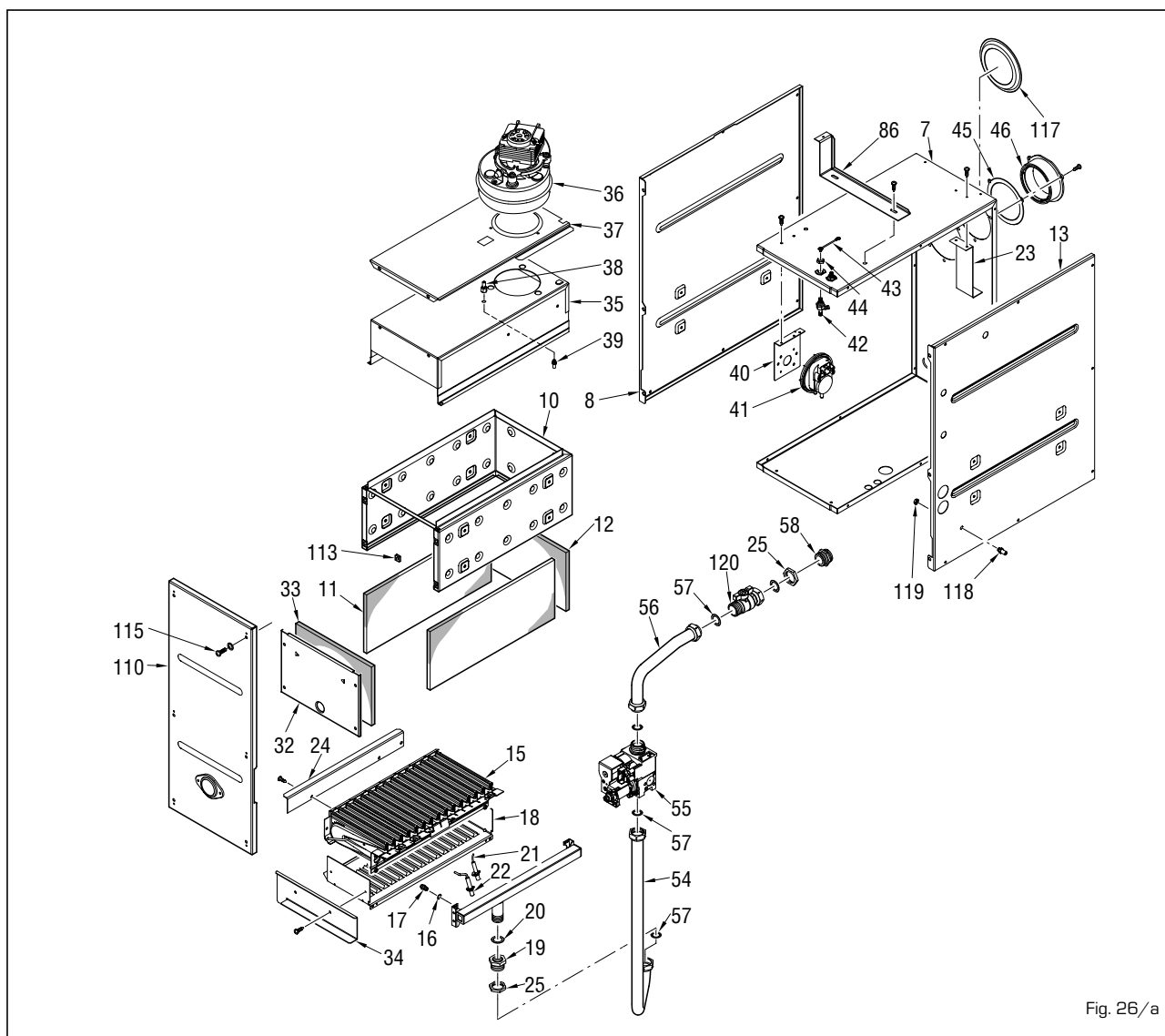


Fig. 26/a

| Position | Code | Description |
|----------|-----------|---------------------------------------|
| 7 | 6266060 | Sealed chamber rear panel |
| 8 | 6266140 | Sealed chamber left hand side panel |
| 10 | 6213604 | Combustion chamber |
| 11 | 6139723 | Combustion chamber side insulation |
| 12 | 6139724 | Combustion chamber rear insulation |
| 13 | 6266130 | Sealed chamber right hand side panel |
| 15 | 5172720 | Main burner assembly |
| 16 | 6022004 | Copper washer Ø 6 |
| 17 | 6154402 | Main burner nozzle NP 130 natural gas |
| 17 A | 6154411 | Main burner nozzle NP 76 M6 LPG |
| 18 | 6175104 | Protecting shield |
| 19 | 6070803 | M.F. reducer 3/4"x1/2" OT |
| 20 | 2030227 | Gasket Ø 12x18x2 |
| 21 | • 6235930 | Ignition electrode |
| 22 | • 6235916 | Ionisation electrode |
| 23 | 6257515 | Rear air deflector |
| 24 | 6009561 | Burner side bracket |
| 25 | 6146302 | Brass nut 3/4" |
| 32 | 6229007 | Combustion chamber front panel |
| 33 | 6139760 | Combustion chamber front insulation |
| 34 | 6257516 | Burner front deflector |
| 35 | 5172309 | Smoke chamber assembly |
| 36 | • 6225615 | Fan |
| 37 | 6229220 | Fan mounting plate |

| Position | Code | Description |
|----------|-----------|---------------------------------------|
| 38 | 6235800 | Venturi pressure nipple |
| 39 | 6235804 | Pressure test nipple M6 |
| 40 | 6229101 | Smoke pressure switch bracket |
| 41 | • 6225710 | Air pressure switch |
| 42 | 6280500 | 3-ways junct. with press. test nipple |
| 43 | 6280550 | Cap for 3-ways junction |
| 44 | 6146303 | Brass Nut 1/8" |
| 45 | 6028707 | Air intake gasket |
| 46 | 6288000 | Air intake |
| 54 | 6258201 | Pipe connecting gas valve-main burner |
| 55 | • 6243811 | SIT gas valve type 845 SIGMA |
| 56 | 6226819 | Gas inlet pipe |
| 57 | 2030228 | Gasket Ø 17x24x2 |
| 58 | 6120511 | Nipple 3/4"x3/4" OT |
| 86 | 6009573 | Casing panel fixing bracket |
| 110 | 6228882 | Sealed chamber front panel |
| 113 | • 2013302 | Fastener for self tapping screw |
| 115 | 2004180 | Self-tapping screw TCB 8SPx3/4" |
| 117 | 6028620 | Air diaphragm Ø 81 |
| 117 A | 6028621 | Air diaphragm Ø 79 |
| 118 | 6235801 | Pressure test nipple M6 |
| 119 | 2010118 | Nut M6 |
| 120 | • 6177516 | Gas cock 3/4" |
| | | • Recommended stock parts |

8.3 STRUCTURAL COMPONENTS AND CONTROL & REGULATIONS

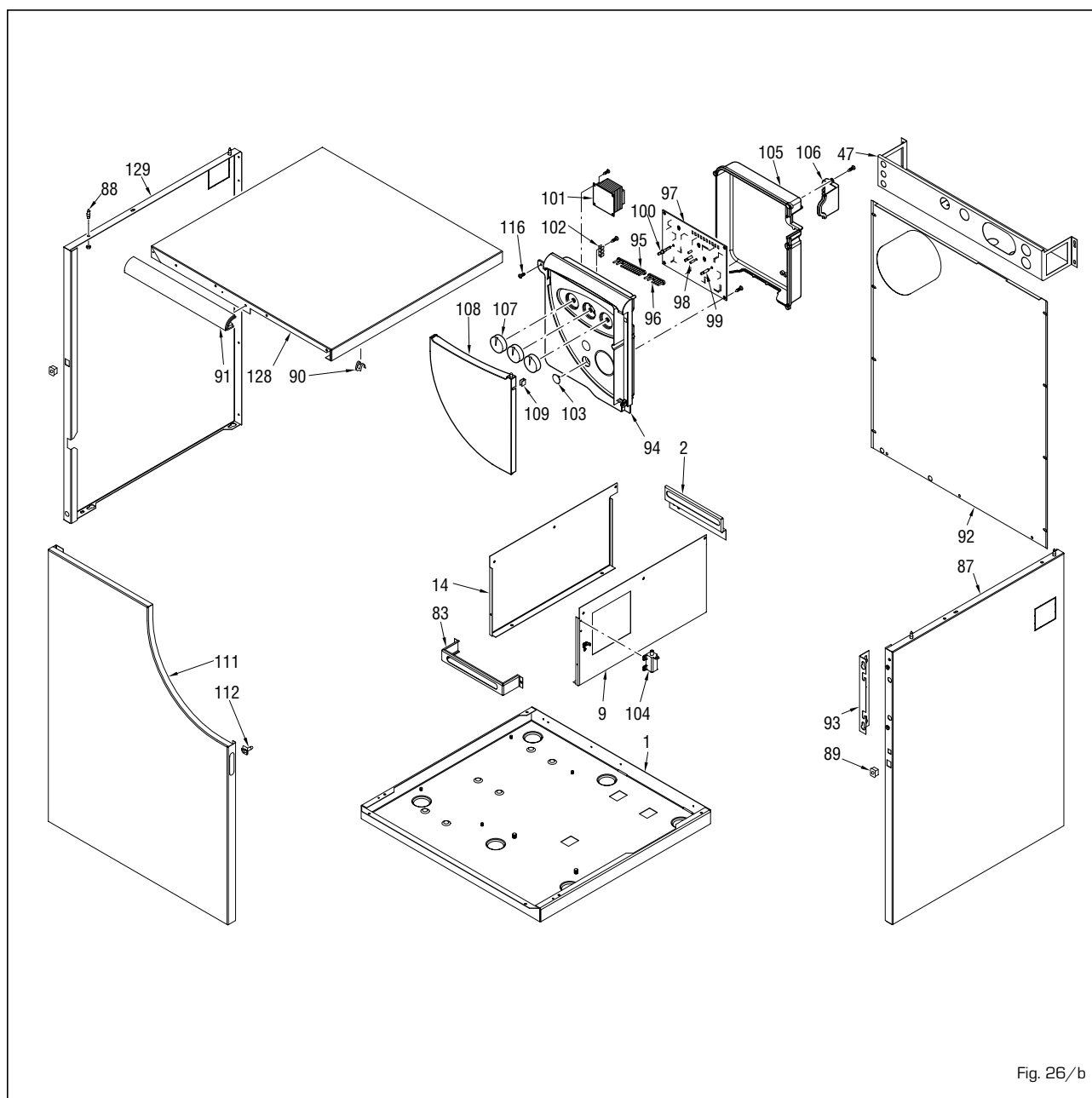


Fig. 26/b

| Position | Code | Description |
|----------|-----------|-------------------------------------|
| 1 | 6251943 | Tray |
| 2 | 6073311 | Expansion vessel supporting bracket |
| 9 | 6258610 | Sealed chamber RH side support |
| 14 | 6258611 | Sealed chamber LH side support |
| 47 | 6258508 | Rear upper jig |
| 83 | 6073310 | Expansion vessel fixing bracket |
| 87 | 6280911 | Casing right hand side panel |
| 88 | 2003000 | Pin M5 Zn |
| 89 | 6258850 | White plastic spring |
| 90 | 2015000 | Spring clip M0/AB |
| 91 | 6282103 | Section for casing top cover L=337 |
| 92 | 6281320 | Rear panel |
| 93 | 6267102 | Control panel supporting bracket |
| 94 | 6281600 | Control panel |
| 95 | 6273200 | Guidelight - 12 ways out |
| 96 | 6273201 | Guidelight - 6 ways out |
| 97 | • 6230682 | Main PCB with ignition |
| 98 | • 6201501 | Trimmer spindle Ø 5 |

| Position | Code | Description |
|---------------------------|-----------|-----------------------------------|
| 99 | • 6201502 | Trimmer spindle Ø 6 |
| 100 | • 6201503 | Selector spindle |
| 101 | • 6240703 | Transformer 230/24V |
| 102 | 2211610 | Earth faston |
| 103 | 6119343 | Cap for stat hole |
| 104 | • 6098305 | Ignition transformer |
| 105 | 6281800 | Control panel protecting cover |
| 106 | 6281900 | Room stat cover |
| 107 | 6230921 | Knob Ø 40 |
| 108 | 6281700 | Flap door |
| 109 | 6282000 | Flap door tap |
| 111 | 6280861 | Casing front door |
| 112 | 6258800 | Plastic pin |
| 116 | 2004110 | Self tapping screw TCB 8Px1/2" Zn |
| 128 | 6287820 | Casing top cover |
| 129 | 6293600 | Casing left hand side panel |
| • Recommended stock parts | | |



Sime Ltd

Unit D2 Enterprise Way, Bradford Road, Bradford, West Yorkshire, BD10 8EW

Tel. 0870 9911114 - Fax 0870 9911115

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

Planet Super 4 f.s.

User Instructions



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



USER INSTRUCTIONS

VERY IMPORTANT!

PLEASE MAKE SURE YOUR LOG BOOK ENCLOSED IS FILLED IN CORRECTLY.

ALL CORGI REGISTERED INSTALLERS CARRY A CORGI ID CARD.

BOTH SHOULD BE RECORDED IN YOUR CENTRAL HEATING LOG BOOK.

YOU CAN CHECK YOUR INSTALLER IS CORGI REGISTERED

BY CALLING ON 01256 372300

LIGHTING AND OPERATION

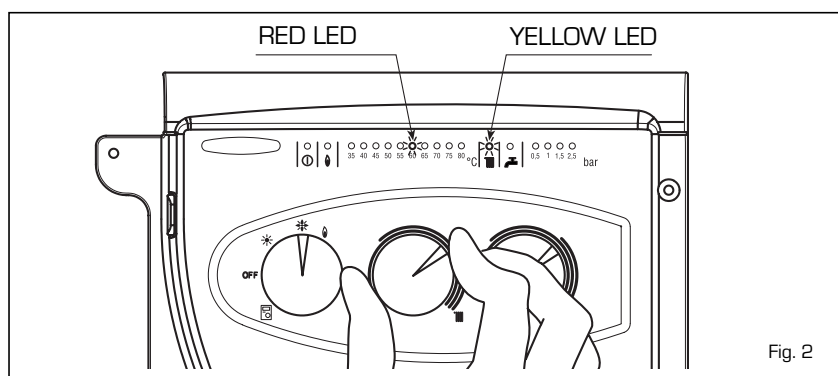
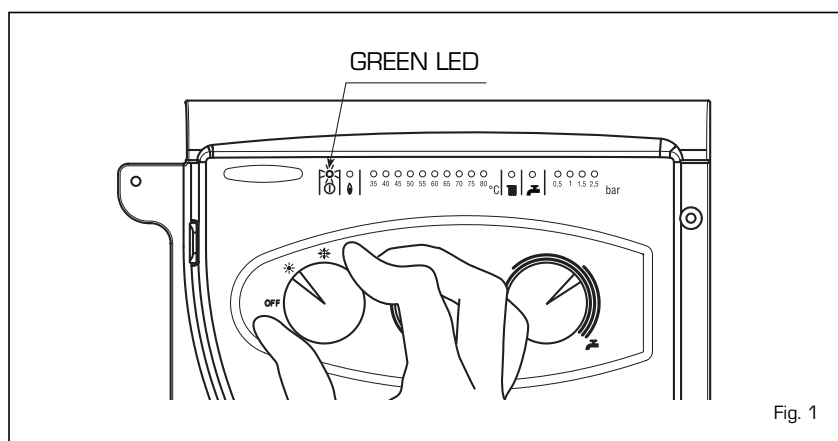
BOILER IGNITION (fig. 1)

Open the gas cock, lower the cover of the control and activate the boiler by turning the selector knob to the summer (☀) position. When the green led (⓪) lights up, electricity is present in the boiler.

- With the selector knob on the summer (☀) position, the boiler works to take the temperature of the hot water to the

fixed value.

- With the selector knob on the winter position (❄) the boiler, once it has reached the temperature set on the heating potentiometer, will begin to modulate automatically in order to supply the system with the effective power requested. The boiler will stop functioning if the room stat or "Logica Remote Control" intercede.



TEMPERATURES ADJUSTMENT (fig. 2)

The panel of the red leds is graduated from 40÷80 °C and shows the temperature in the D.H.W. tank when the two service leds (⓪) are off; it shows the temperature of the primary circuit when one of the two leds is lit up.

- Regulation of the D.H.W. temperature is carried out by acting on the hot-water service knob (⓪). The set temperature is displayed on the scale of the red leds from 40 ÷80 °C.
 - Regulation of the C.H. temperature is carried out by acting on the heating knob (⓪). The set temperature is shown on the scale of the red leds from 40÷80 °C.
- To guarantee an always optimal output from the generator it is advised not to go below a minimum operating temperature of 50 °C.

TURNING OFF BOILER (fig. 1)

To turn the boiler off place the selector knob on the **OFF** position.

IF THE BOILER IS NOT GOING TO BE USED FOR A LENGTHY PERIOD IT IS ADVISED TO TURN OFF THE ELECTRICITY SUPPLY, CLOSE THE GAS COCK, AND IF LOW TEMPERATURES ARE FORESEEN, EMPTY THE BOILER AND THE HYDRAULIC SYSTEM TO AVOID BREAKAGE IN THE TUBES DUE TO THE FREEZING OF THE WATER.

CLEANING AND MAINTENANCE

The programmed maintenance of the appliance must be carried out annually by authorised technical staff.

FAULTS FINDING

- Ignition failure (fig. 3)

If the burner fails to start the red led will light up (☹).

To attempt starting it again, the selector knob must be turned to the position (☹) and released soon after, returning to the summer (☼) or winter (❄) position.

If the failure should occur again, call the authorised technical staff for assistance.

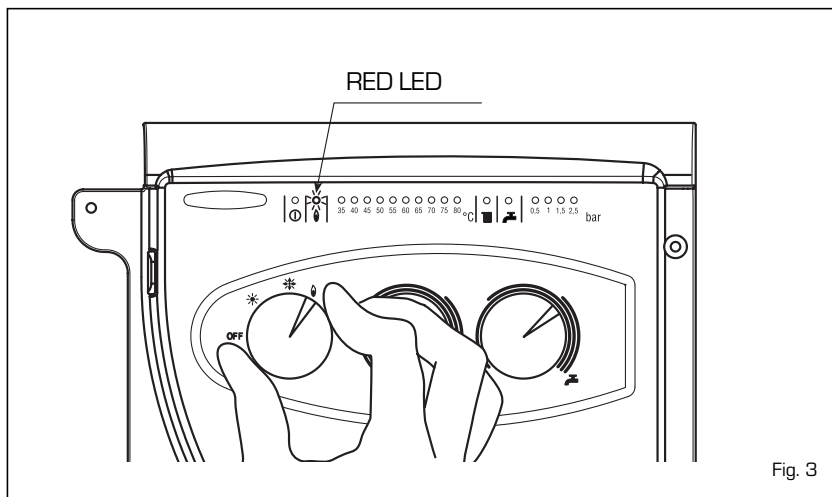


Fig. 3

- Insufficient water pressure (fig. 4)

If the red led "0.5 bar" intermittently lights up, the boiler is not functioning. To restore functioning fill the system until the green led "1 bar" lights up.

If all the leds are off, call the authorised technical staff.

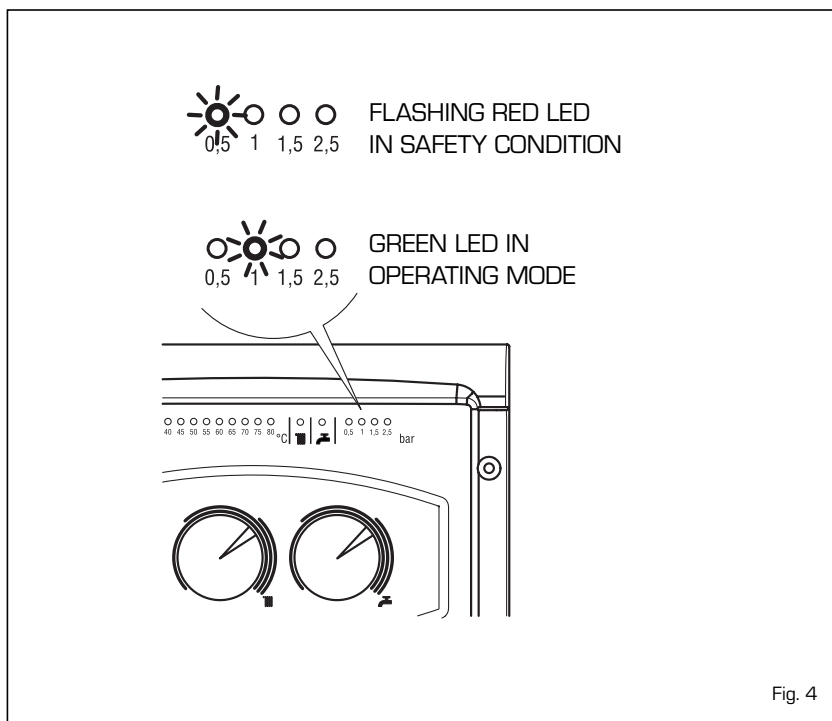


Fig. 4

- Safety stat interception (fig. 5)

If the safety stat intercedes the red led "35°C" intermittently lights up. To start the boiler again, turn the selector knob in the position (☹) and then release immediately, returning it to the winter (❄) or summer (☼) function.

If the failure should occur again, call the authorised technical staff for assistance.

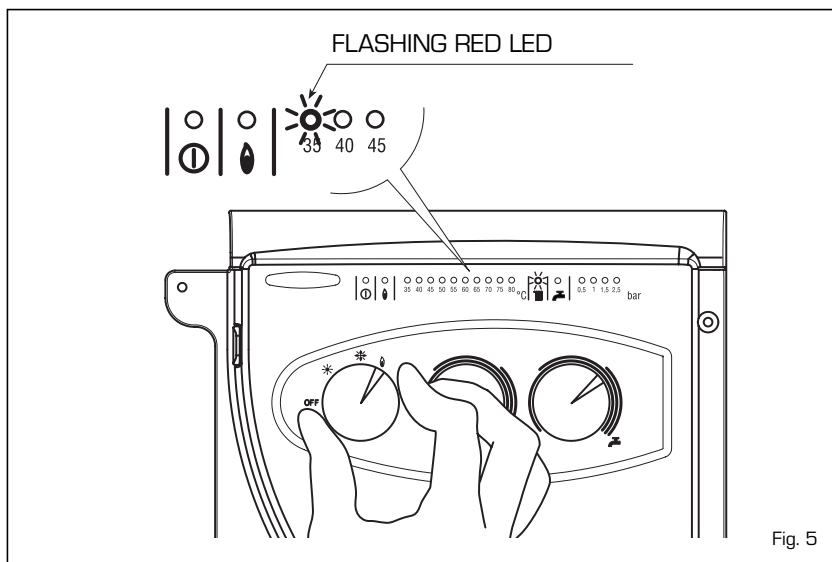


Fig. 5

- **Other faults** (fig. 6)

When one of the leds is flashing from "40÷ 80°C", deactivate the boiler and try to start it again. The operation may be repeated 2 or 3 times, and if there is no success call the authorised technical staff for assistance.

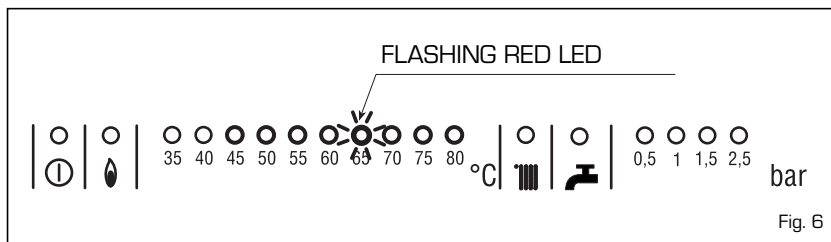


Fig. 6

MECHANICAL TIME CLOCK INSTRUCTIONS

Setting the time

Turn the clock dial in a clockwise direction until it reads the time of the day.

Program setting

Press inwards the segments on the program disk corresponding to the selected switching periods.

Function 1: segment set outwards (C.H. "ON")

Function 2: segment set inwards (C.H. "OFF")

Manual override

- 0 = "OFF" permanently
- ⌚ = automatic programmed operation
- 1 = "ON" permanently

Programming characteristics

| | |
|-----------------------------------|---------|
| Cycle | 24 hour |
| Number of actions per cycle | 96 |
| Program time per segment | 15 min. |
| Min. interval between two actions | 15 min. |

DIGITAL TIME CLOCK INSTRUCTIONS

When the selector is in the "AUTO" position, boiler functioning is automatically controlled on the basis of the temperature levels and time periods set. The second selector must be in the "RUN" position to start. The programming procedure is described below:

- Setting the time

Set the selector to the "⌚" position. Press "h" to change the hour on the display, or "m" to change the minutes. To set the day, press the "1...7" button until the arrow is pointing to the correct day (1 = Monday... 7 = Sunday).



- Setting the program

The time clock has 8 on times and 8 off times. To make it easier to use, the time

clock is supplied with 3 on times and 3 off times already set for each day of the week, as shown below:

| Program | Time | Operating mode |
|---------|-------|----------------|
| 1 | 06,00 | ON |
| 2 | 09,00 | OFF |
| 3 | 12,00 | ON |
| 4 | 14,00 | OFF |
| 5 | 18,00 | ON |
| 6 | 22,00 | OFF |

Note: No program is set from 7 through 17

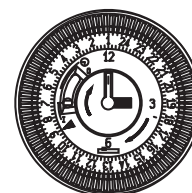
To select programmes other than those already set, move the selector to position "P"; "0:001" will appear on the display, in which the first three digits indicate the hour and minutes, while the fourth digit identifies the program number.

Odd-numbered programs identify requests for operation (day temperature), in which case the light bulb symbol will appear on the display, while even-numbered programs identify drops in temperature (night). Use the "1...7" key to select the day of the week (from 1 to 7) or days (1 ÷ 5, 6 - 7; 1 ÷ 6 or every day if the program is to be repeated every day of the week). Set the hour and minutes with the "h" and "m" buttons.

Press "P" to store the operation in memory and go on to the next program. Repeat the same procedure to set the remaining programs.

When finished programming, set the selector to "RUN" position.

Mechanical time clock



Digital time clock

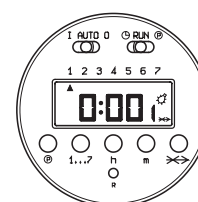
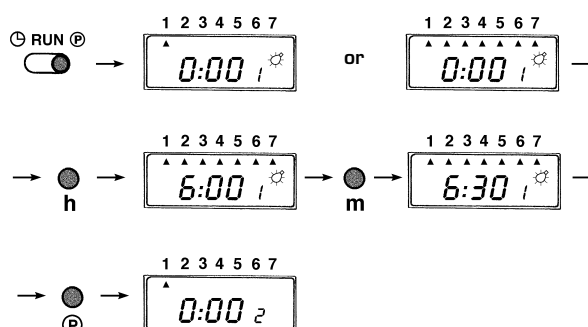


Fig. 7



- Deleting one or more programs (fig. 8)

The on and off time must be deleted for each program to be deleted.

Set selector [2] to position "P". Select the desired program with button [3], then press button [4] to delete the day setting (the triangular symbols for the days should go away). If part of the program is deleted, when you set selector [2] back to the "RUN" position an error will appear in the clock display, referring to the program which is incorrect.

To delete all programs, put the selector in position "P" and press buttons (3) and (5) at the same time.

- **Setting the SKIP function (fig. 8)**

The SKIP function deactivates programs for the next day and resumes regular programming 24 hours later.

This function is useful if you will be out all day and don't need heating. To start this function, press button (7), which is acti-

ve only when selector (2) is in "RUN"
position.

Once you have selected the SKIP function, it will go into effect at 0:00 of the

next day for 24 hours. You cannot turn it off once it has started, so regular programming will not resume until 24 hours have passed.

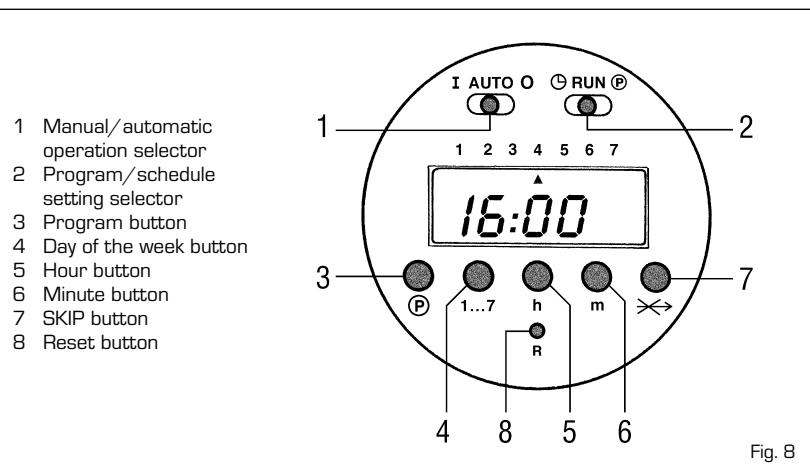


Fig. 8

LOGICA REMOTE CONTROL

When "PLANET SUPER 4 F.S." is connected to the "Logica Remote Control" regulator, the selector CR/OFF/EST/INV/UNBLOCK must be placed in the position (fig. 8); the knobs of the D.H.W. and C.H. potentiometers do not have any effect and all of the functions will be managed by the regulator (fig. 9).

If the "Logica Remote Control" breaks down, the boiler will function by placing the selector on the [☀ or ❄], position, obviously without consequent control of the room temperature.

The functioning instructions are inside the lid (fig. 10). Every setting or modification is displayed and confirmed on the display (fig. 11).

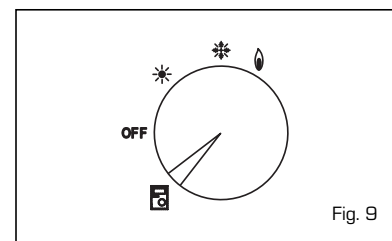


Fig. 9

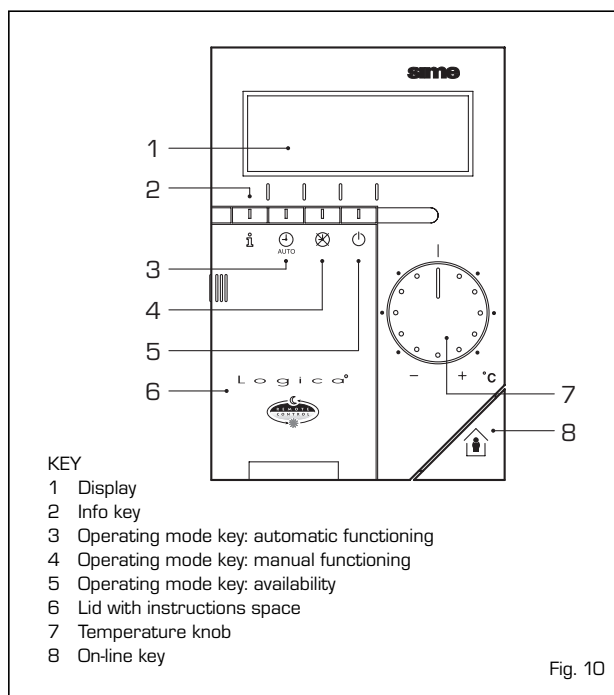


Fig. 10

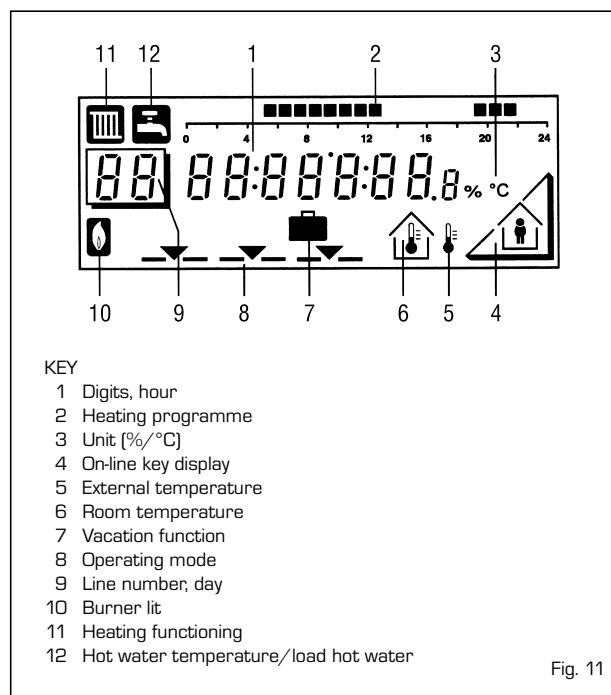
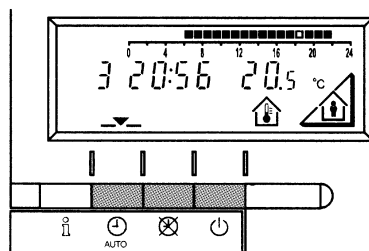



Fig. 11

ACTIVATING

During operation the lid of the regulator must be closed.

- **Selection of the operating mode**
(reference keys grey colour)



The operating mode desired is selected by pressing the relative key with the corresponding symbol. The choice is displayed with the symbol .



Automatic functioning: the heating functions automatically according to the heating programme entered. The programme may be excluded for brief periods with the on-line key.

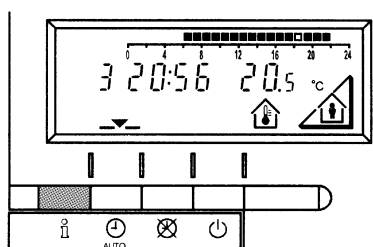


Manual functioning: the heating functions manually according to the choice made with the on-line key.



Availability: the heating is deactivated.

- **Info key**
(reference key grey colour)



For every operation of the Info key the following list of items, one after the other, are displayed. The thermosensor continues to function independently of the display.



Day, hour, room temperature



External temperature*

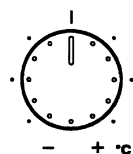


D.H.W. temperature*

* This data appear only if the relative sensor is connected or if they are transmitted by the regulator of the boiler.

- **Adjusting the temperature**

Before adjusting the temperature of the regulator, the thermostatic valves, which may be present, have to be regulated to the desired temperature.



If it is too hot or too cold in your apartment, you can easily adjust the fixed temperature with the temperature knob.



If you turn the knob towards the + sign, the fixed temperature is increased by about 1 °C for every notch.

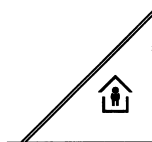


If you turn the knob towards the - sign, the fixed temperature is decreased by about 1 °C for every notch.

Before adjusting it again, however, allow the temperature to stabilise first.

Note: With the temperature knob you can only adjust the fixed temperature, whilst the reduced temperature remains the same.

– On-line key





If the rooms remain unused for a long period of time, the temperature can be reduced with the on-line key, in this way saving energy. When the rooms are occupied again, press the on-line key to re-heat them. The current choice is displayed on the display:



Fixed temperature heating



Reduced temperature heating

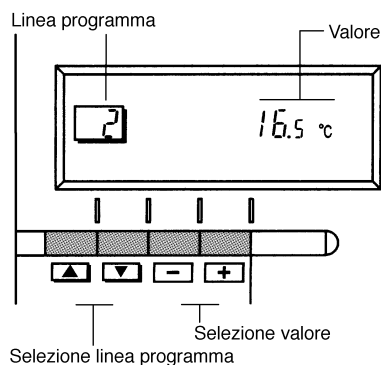
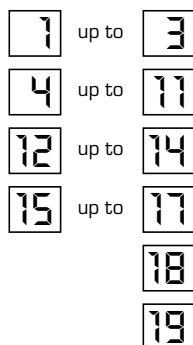
NOTA: The choice made will work in a permanent way when manually , carried out, instead, if automatic  it will work up to the next switching according to the heating programme.

PROGRAMMING

For the programming the lid of the regulator must be open.

You can set or display the following values:

- Temperatures
- Heating programme
- Day of the week and hour
- Current values
- Vacation period
- Return to the default values



As soon as the cover is open, the display and the key functions are switched on.

The number in the square represents the programme lines that may be selected with the arrow keys.

– Temperature regulation

Before proceeding with the adjustment in the temperature on the regulator, the thermostatic valves, which may be present, have to be regulated to the desired temperature.

In automatic mode, the apparatus switches from the fixed temperature to the reduced temperature according to the temporal programme. The manual switching of the temperature is done manually with the on-line key.



Fixed temperature:
temperature when the rooms are occupied
(basic setting)








Reduced temperature:
temperature during periods of absence or night



Comfort D.H.W. temperature:
desired temperature of domestic hot water

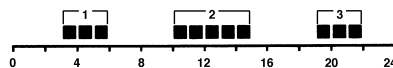


Reduced temperature of domestic hot water:
temperature desired for domestic hot water at reduced level.

To have access to the "reduced D.H.W. temperature" parameter, press the  and  keys at the same time for at least 5 seconds and then go along the entered lines with the key  until parameter 61 is reached. Regulate the value with  and .

- Heating programme

With the heating programme it is possible to set the switching times of the temperature for a period of a week. The weekly programme consists of 7 daily programmes. One daily programme allows 3 phases of heating. Each phase is defined by a ignition time and a finishing time. The n° 8 daily programme is for the domestic hotwater service. If a phase is not required, the same ignition and finishing time may be entered.



- 4 Select the days that correspond with the heating phase.
1 = Monday, ... 7 = Sunday/8 = hot-water service programme
- 5 Start of phase 1: heating with fixed modality
- 6 End phase 1: heating with reduced modality
- 7 Start phase 2: heating with fixed modality
- 8 End phase 2: heating with reduced modality
- 9 Start phase 3: heating with fixed modality
- 10 End phase 3: heating with reduced modality
- 11 Copying of the daily programme

+ By pressing this key it is possible to repeat the current heating programme for the **next day**.

- By pressing this key it is possible to repeat the current heating programme for the **previous day**.

As a confirmation the following day is displayed.

- D.H.W. programme

With the Logica Remote Control it is possible to manage the temperature of D.H.W. tank on two levels (a comfort level and one at reduced temperature) in accordance with the programme chosen with parameter 62 (load domestic hot water). To have access to the parameter press the ▲ and ▼ keys for at least 5 seconds and then go along the entered lines with the ▼ key until parameter 62 is reached. At this point four different programmes may be selected with - or + keys, with the following characteristics:

0 = 24 hours/ day - Hot water is always available at the temperature set with user parameter n°3.

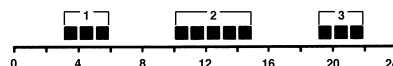
1 = standard - Hot water according to the daily heating programme.

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.



- 5 Start phase 1: preparation of the D.H.W. tank to the comfort temperature
- 6 End phase 1: Temperature of D.H.W. tank maintained at the reduced value
- 7 Start phase 2: Preparation of D.H.W. tank to the comfort temperature
- 8 End phase 2: Temperature of D.H.W. tank maintained at the reduced value
- 9 Start phase 3: preparation of D.H.W. tank to the comfort temperature
- 10 End phase 3: Temperature of D.H.W. tank maintained at the reduced value

- **Setting the time**

12 To set the current day of the week
(1 = Monday/7 = Sunday)

13 To set the current hour

14 To set the current minute
Once the hour is completed, the setting of the hour changes.

With **+** and **-** keys the current hour is regulated. Pressing these keys together, the regulation is speeded up in an increasing sense.

- **Current values**

15 Display and setting of the gradient of the heating characteristics curve.
When the room temperature set is not reached choose the gradient indicated in point 2.10.3

16 Display of the current boiler temperature.

17 Display of the current power of the burner and of the current operating mode
(= heating/ = D.H.W. service)

- **Vacation function**

18 To enter the number of days of absence.

In the display the vacation symbol will be shown (), on the left the day of activation (1 = Monday/7 = Sunday) and on the right the number of vacation days.

NOTE:



During the vacation the regulator will be on the availability mode.



When the set days have elapsed, the regulator will go on to the automatic function.

The vacation period may be cancelled by pressing a key of the operating mode.

- **Default values**

19 To take the setting to the default values, press the **+** and **-** keys at the same time for at least 3 seconds. As confirmation a sign will appear on the display.

ATTENTION

The values of the following line numbers previously entered will be lost.

- Temperature and time programme

1 to **10**

- Vacation period

18

- **Display of the functioning faults on the display**

Er 0

Ignition failure

Turn the selector CR/OFF/EST/INV/UNBLOCK on the “PLANET SUPER 4 F.S.” control panel to the unblock position () to restore functioning (fig. 3). If the failure should occur again, call the authorised technical staff for assistance.

Er 1

Safety stat interception

Turn the selector CR/OFF/EST/INV/UNBLOCK of the “PLANET SUPER 4 F.S.” control panel to the unblock position () to restore functioning (fig. 5). If the failure should occur again, call the authorised technical staff for assistance.

Er 16

Smoke pressure switch failure

Call the authorised technical staff for assistance.

| | |
|----|----|
| Er | 66 |
|----|----|

Smoke pressure switch does not return to rest position
Call the authorised technical staff for assistance.

| | |
|----|----|
| Er | 67 |
|----|----|

D.H.W. sensor fault (SB)
Call the authorised technical staff for assistance.

| | |
|----|----|
| Er | 68 |
|----|----|

C.H. sensor fault (SM)
Call the authorised technical staff for assistance.

| | |
|----|----|
| Er | 69 |
|----|----|

Insufficient water pressure
Restore functioning by filling the boiler.

| | |
|----|----|
| Er | 70 |
|----|----|

System overpressure
Call the authorised technical staff for assistance.

| | |
|----|-----|
| Er | 192 |
|----|-----|

Safety stat interception
Call the authorised technical staff for assistance.

| | |
|----|-----|
| Er | 193 |
|----|-----|

Smoke pressure switch interception
Call the authorised technical staff for assistance.

| | |
|----|-----|
| Er | 194 |
|----|-----|

Failure of the modulating coil
Call the authorised technical staff for assistance.

| | |
|----|-----|
| Er | 195 |
|----|-----|

Communication failure between the Logica Remote Control and the boiler
Call the authorised technical staff for assistance.



Sime Ltd

Unit D2 Enterprise Way, Bradford Road, Bradford, West Yorkshire, BD10 8EW

Tel. 0870 9911114 - Fax 0870 9911115

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

Planet Super 4 W.M.



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

CERTIFICAZIONE
DEL SISTEMA DI
QUALITÀ AZIENDALE

ISO 9001
registered by



INSTALLER INSTRUCTIONS

CONTENTS

| | | |
|---|--|---------|
| 1 | DESCRIPTION OF THE BOILER | page 1 |
| 2 | GENERAL REQUIREMENTS FOR INSTALLATION | page 3 |
| 3 | INSTALLATION | page 5 |
| 4 | CHARACTERISTICS | page 14 |
| 5 | USE AND MAINTENANCE | page 17 |
| 6 | STANDARD SETTINGS OF THE "LOGICA REMOTE CONTROL" | page 21 |
| 7 | SHORT LIST OF PARTS | page 22 |



***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 and boiler been flushed?
- 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

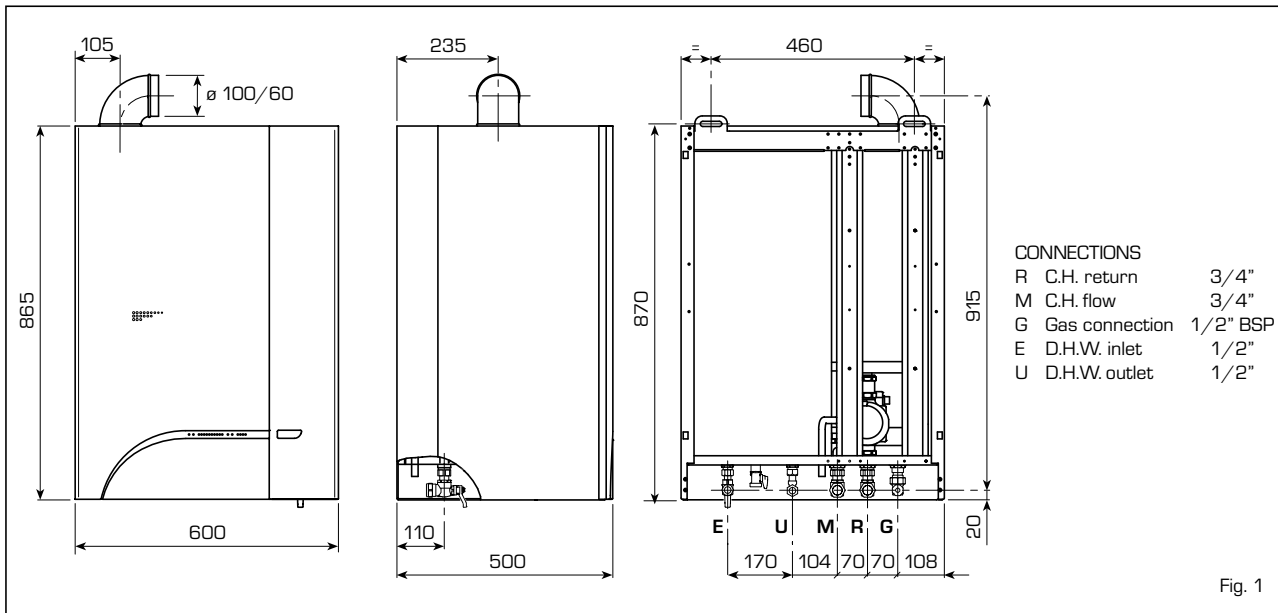
The "PLANET SUPER 4 W.M." wall hung boilers with D.H.W. storage tank allow a variety of requests to be met thanks to the abundance of water which the capacious

tank unit 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 Euro-

pean 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

| 30/60 BF | | |
|------------------------------------|------------|----------------|
| 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 |

| 30/60 BF | | |
|------------------------------------|------|--------------|
| 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.

The diagram illustrates a complex water heating system. It features a central combustion unit (top left) with a fan (1), water-gas exchanger (2), and combustion chamber (3). This unit is connected to a network of pipes that include a gas valve (4), various pumps (9, 10), and safety devices (7, 8, 12, 13, 16). A large vertical tank (23) serves as the main storage, equipped with a spiral coil (25) and a magnesium anode (26). The system also includes an expansion vessel (11) and several cocks (18, 19, 20, 21, 22) for manual control. Pipes are labeled with letters G, R, M, U, and E at different points.

| KEY |
|--------------------------------|
| 1 Fan |
| 2 Water-gas exchanger |
| 3 Combustion chamber |
| 4 Gas valve |
| 5 D.H.W. tank |
| 6 C.H. sensor (SM) |
| 7 100°C safety stat |
| 8 Air relief valve |
| 9 C.H. pump |
| 10 D.H.W. pump |
| 11 Expansion vessel |
| 12 D.H.W. safety valve |
| 13 C.H. safety valve |
| 14 Boiler drain |
| 15 Water pressure transducer |
| 16 Automatic by-pass |
| 17 D.H.W. expansion vessel |
| 18 Gas cock (optional) |
| 19 C.H. return cock (optional) |
| 20 C.H. flow cock (optional) |
| 21 D.H.W. cock (optional) |
| 22 D.H.W. tank drain cock |
| 23 D.H.W. sensor (SB) |
| 24 85°C limit stat |
| 25 Magnesium anode |
| 26 Filling cock |
| 27 Non return valve |
| 28 Non return valve |

Fig. 2

The diagram shows a cross-section of a gas boiler system. At the top left, there are electrical terminals labeled '+' and '-'. The main body of the boiler contains a burner (5) and a control panel (1). A gas valve (2) is located at the bottom left. A C.H. pump (3) is connected to the system. A non-return valve (4) is also present. A water pressure transducer (6) is located on the left side. A water-gas exchanger (7) is in the center. An 85°C limit stat (8) is on the right. A fan (9) is at the top right. A smoke pressure switch (10) is on the left. A C.H. expansion vessel (11) is at the top right. A D.H.W. tank (12) is in the center. A 100°C safety stat (13) is on the right. A C.H. sensor (SM) (14) is on the right. An air relief valve (15) is at the bottom right. A D.H.W. pump (16) is at the bottom right. A D.H.W. expansion vessel (17) is at the bottom right. An ignition transformer (18) is at the bottom left.

KEY

- 1 Control panel
- 2 Gas valve
- 3 C.H. pump
- 4 Non return valve
- 5 Burner
- 6 Water pressure transducer
- 7 Water-gas exchanger
- 8 85°C limit stat
- 9 Fan
- 10 Smoke pressure switch
- 11 C.H. expansion vessel
- 12 D.H.W. tank
- 13 100°C safety stat
- 14 C.H. sensor (SM)
- 15 Air relief valve
- 16 D.H.W. pump
- 17 D.H.W. expansion vessel
- 18 Ignition transformer

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 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. Terminal guards are available from Quinell, Barrett, and Quinell, Old Kent Road, London. State model C2, (G.C. Part No 382946).
- 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

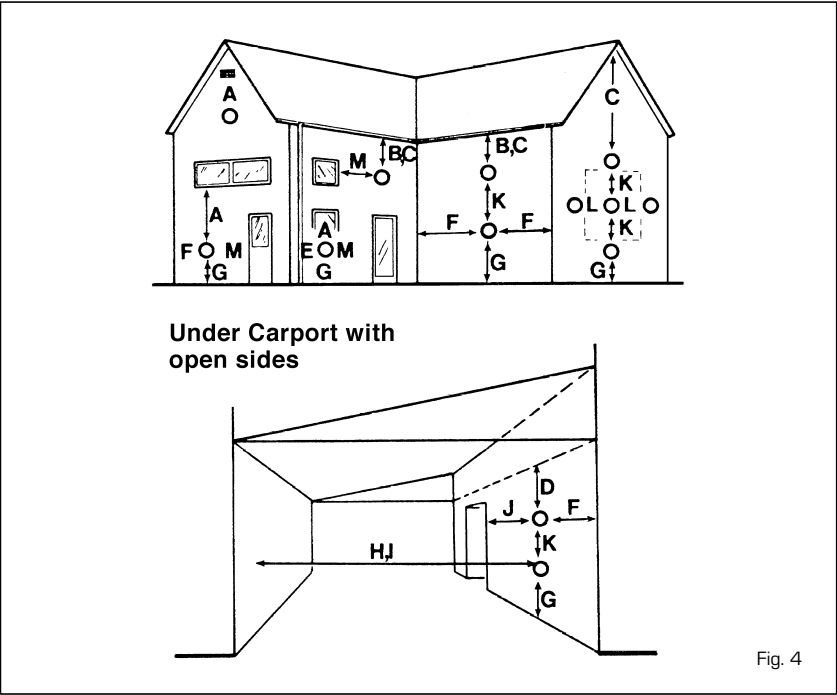


Fig. 4

TABLE 1

| Terminal position | | Minimum spacing | |
|-------------------|--|-----------------|-------|
| A | Directly below an openable window, air vent or any other ventilation opening | 300 mm | 12 in |
| B | Below guttering, drain pipes or soil pipes | 75 mm | 3 in |
| C/D | Below eaves, balconies or carport roof | 200 mm | 8 in |
| E | From vertical drain pipes or soil pipes | 75 mm | 3 in |
| F | From internal or external corners | 300 mm | 12 in |
| G | Above adjacent ground, roof or balcony level | 300 mm | 12 in |
| H | From a surface facing the terminal | 600 mm | 24 in |
| I | From a terminal facing the terminal | 1,200 mm | 48 in |
| J | From an opening in the carport (eg door, window into dwelling) | 1,200 mm | 48 in |
| K | Vertically from a terminal on the same wall | 1,500 mm | 60 in |
| L | Horizontally from a terminal on the same wall | 300 mm | 12 in |
| M | Adjacent to opening | 300 mm | 12 in |

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 internal space in which the appliance is installed.

2.5 GAS SUPPLY

- The gas supplier should be consulted at the installation planning stage in order to establish the availability of an adequate supply of gas.
- An existing service pipe **MUST NOT** be used without prior consultation with the gas supplier.
- A gas meter can only be connected by the gas supplier or their contractor.
- An existing meter should be of sufficient size to carry the maximum boiler input plus the demand of any other installed appliance. (BS6891: 1988). The gas required for the boiler is specified in the point 1.3.
- The governor at the meter must give a constant outlet pressure of 20 mbar (8 inwg) for natural gas 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 lights.

- The complete installation must be tested for gas soundness.
- It is important to assure an adequate gas supply to the appliance. No more than 3 m of 15 mm pipe should be used. Where the supply exceeds 3 m the pipe should be suitably sized only reducing to 15 mm for the last 3 m prior to the appliance.

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

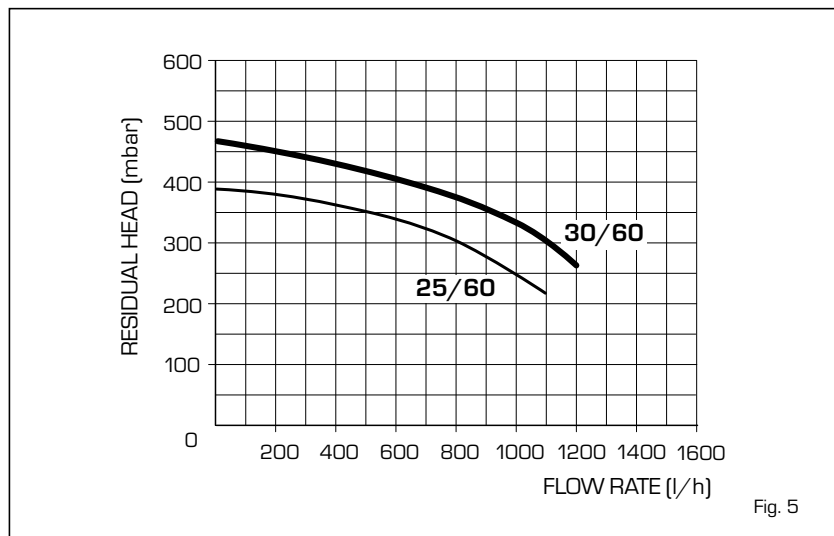


Fig. 5

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 (point 1.3). If necessary, a pressure reducing valve must be fitted to the mains supply before the D.H.W. inlet connection.

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.
- A minimum flow rate corresponding to a heating differential of 11°C must be obtained at all times.
- A heating by-pass is usually only required when micro-bore piping is used on the system.** If however condition (b) can not be satisfied a heating by-

pass should be fitted. 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.

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 |

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 gauge indicates 2.65 bar or greater when the appliance is at maximum 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 facia 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 not include any horizontal runs prone to freezing.

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 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. 6):

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

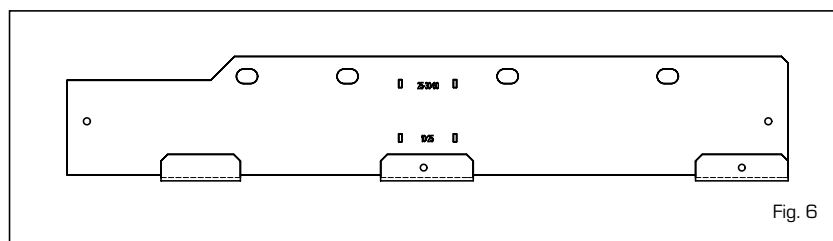


Fig. 6

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 goes into action.

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 volume flow rates (consumption) in m³/h and the relative density of the gas in

question. The sections of the piping making up the system must be such as to guarantee a supply of gas sufficient to cover the maximum demand, limiting pressure loss between the gas meter and any apparatus being used to not greater than:

- 1.0 mbar for family II gases (natural gas);
- 2.0 mbar for family III gases (butane or propane).

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.

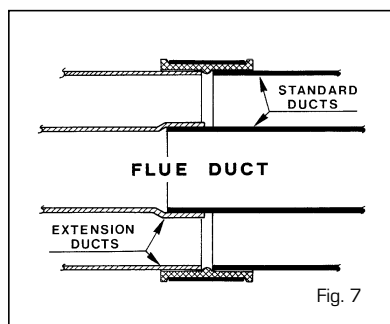
Z Dimension UP TO 945 mm.

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 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. 7):
- 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. 8)

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

Side flue outlet (fig. 8)

- 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).

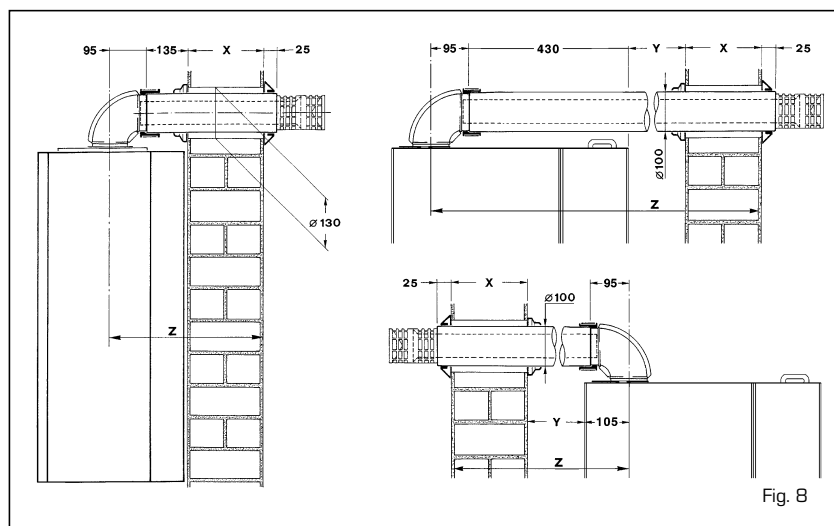
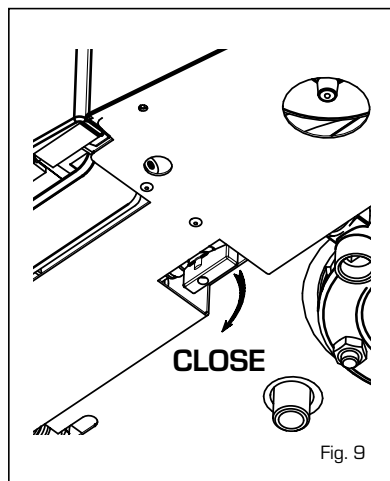


TABLE 3 - Maximum flue lengths (measured from appliance casing to outside wall face)

| | 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

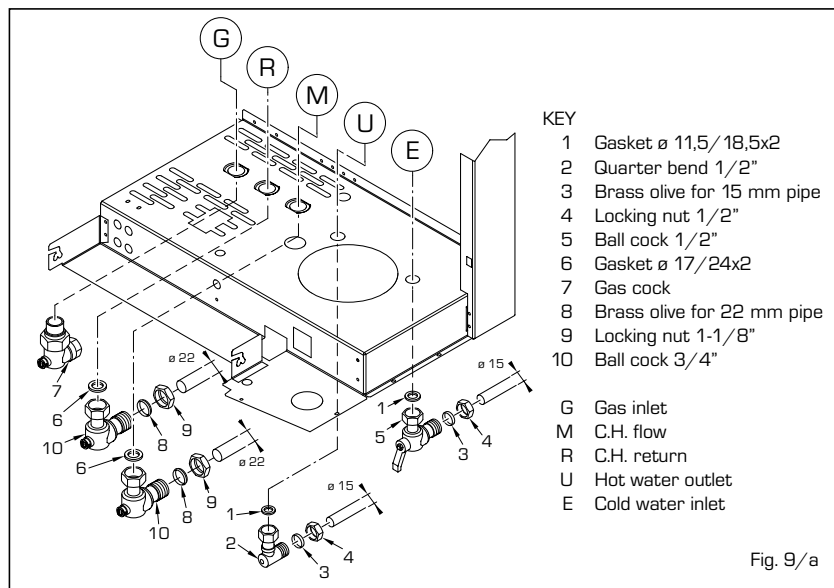
The filling of the boiler and the system is

done by the filling cock located on the bottom of the boiler (fig. 9). 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 (M and R)
Fit the two valves (10) using the gasket supplied (6).
- D.H.W. CONNECTION (U and E)
Fit the isolation valve (5) to the cold water inlet (E) using the gasket supplied (1).



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

3.7 COAXIAL DUCT

The air inlet-smoke outlet 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.

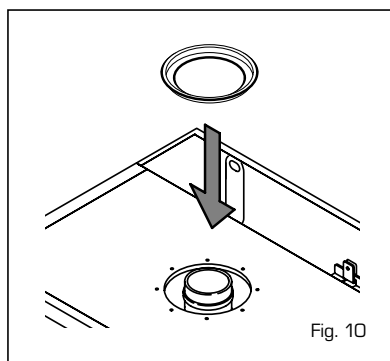
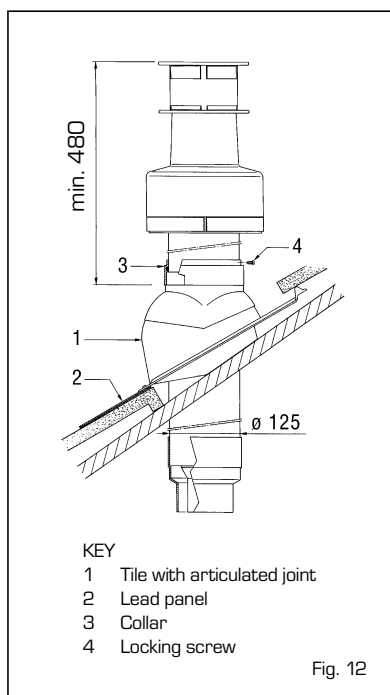


Fig. 10

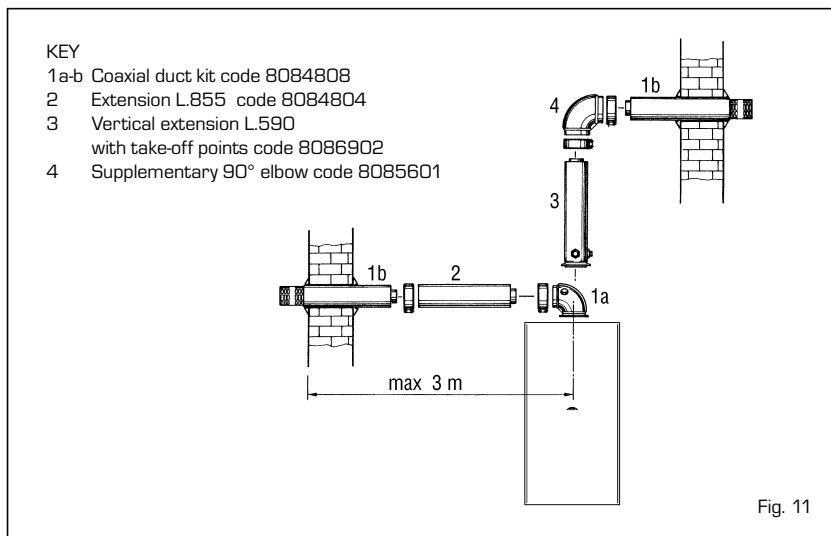
3.7.2 Coaxial duct accessories

The accessories necessary for the realisation of this type of installation and some of



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

Fig. 12



- 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. 11

the connecting systems that can be used are shown in fig. 11.

With the elbow supplied in the kit the 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.

tances must be no less than 600 mm from the discharge terminal outlet (fig. 12). The accessories required for this type of installation and some of the connecting systems that can be used are shown in fig. 13.

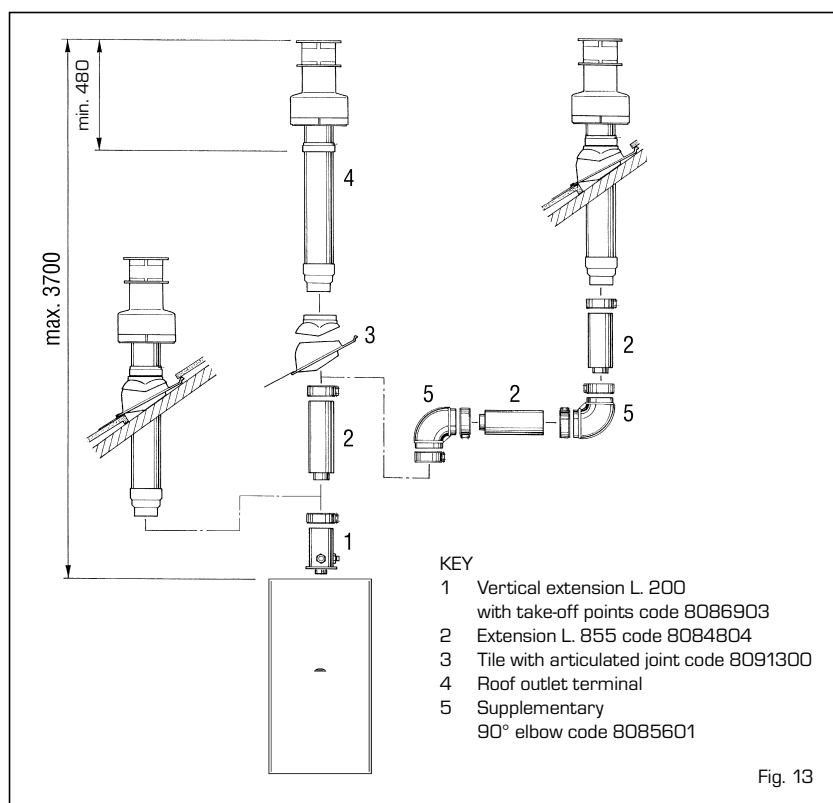
Up to a maximum of three extensions can be added to reach a rectilinear length of 3.7 metres. If it proves necessary to provide for two changes of direction in the duct, the maximum length must not be greater than 2 metres.

3.7.3 Roof outlet coaxial duct

The roof outlet terminal L.1280 cannot be shortened and the positioning of the tile dis-

3.8 SEPARATE DUCTS (Optional alternative twin pipe system)

In the installation it is best to observe 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. 13

TABLE 4

| Accessories ø 80 | Head loss (mm H ₂ O) | | |
|--------------------------------|---------------------------------|--------|-------------|
| | Inlet | Outlet | Roof outlet |
| 90° elbow MF | 0,30 | 0,40 | - |
| 45° elbow MF | 0,20 | 0,30 | - |
| Extension L. 1000 (horizontal) | 0,20 | 0,30 | - |
| Extension L. 1000 (vertical) | 0,30 | 0,20 | - |
| Outlet terminal | - | 0,30 | - |
| Intake terminal | 0,10 | - | - |
| Doubler fitting | 0,50 | 1,50 | - |
| Roof outlet terminal L.1240 | - | - | 0,50 |
| Tee condensation outlet | - | 0,90 | - |

Example of allowable installation calculation in that the sum of the head losses of the single fittings is less than 9.00 mm H₂O:

| | Intake | Outlet |
|-------------------------------------|-------------|---------------------------------------|
| 7 meter horizontal pipe ø 80 x 0.20 | 1.40 | - |
| 7 meter vertical pipe ø 80 x 0.30 | - | 2.10 |
| n° 2 90° elbows ø 80 x 0.30 | 0.60 | - |
| n° 2 90° elbows ø 80 x 0.40 | - | 0.80 |
| N° 1 terminal ø 80 | 0.10 | 0.30 |
| Total head loss | 2.10 | + 3.20 = 5.3 mm H₂O |

With this total head loss, remove the ø 38 baffle from the intake pipe.

directions requested by the Norms and a few practical considerations:

- With direct external suction, when the duct is greater than 1 m in length, insu-

lation is recommended in order to avoid, in particularly cold periods, the formation of dew 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 organised.

- 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 total length obtained by summing up the lengths of the suction and discharge tubing is determined by the load losses of the single fittings attached (excluding the splitter) and must not be greater than 9.00 mm H₂O. For the load losses of the fittings refer to *Table 4*.

3.8.1 Separate ducts accessories

For the realisation of this type of discharge is supplied a kit cod. 8093000 (fig. 14).

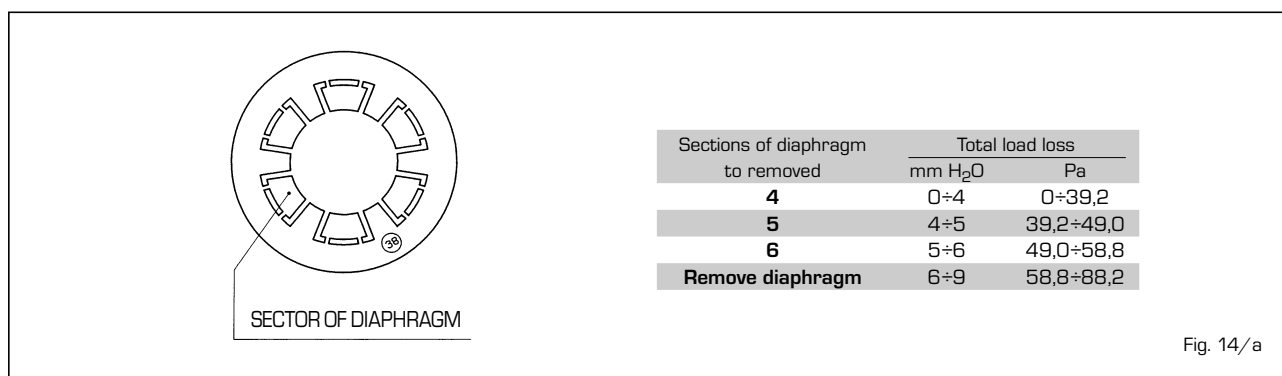
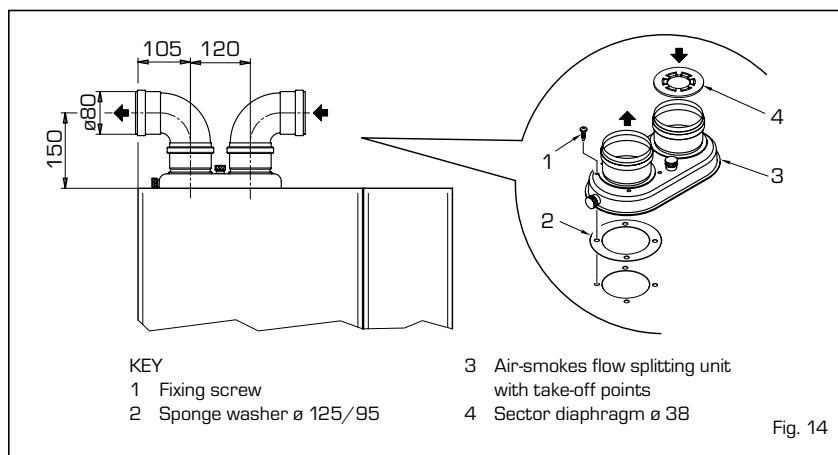
The sector diaphragm in the kit, must be used according to the maximum load loss allowed in both ducts, as indicated in fig. 14/a. The complete range of accessories necessary for each type of installation are given in fig. 15.

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 700 mm (fig. 16). 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 doubler fitting (7 fig. 17) 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 doubler and place it in the housing of the doubler.

For this type of discharge the sum of the maximum development allowed of the ducts must not be greater than 9.00 mm H₂O. To calculate the load losses of the single fittings attached refer to *Table 4*.



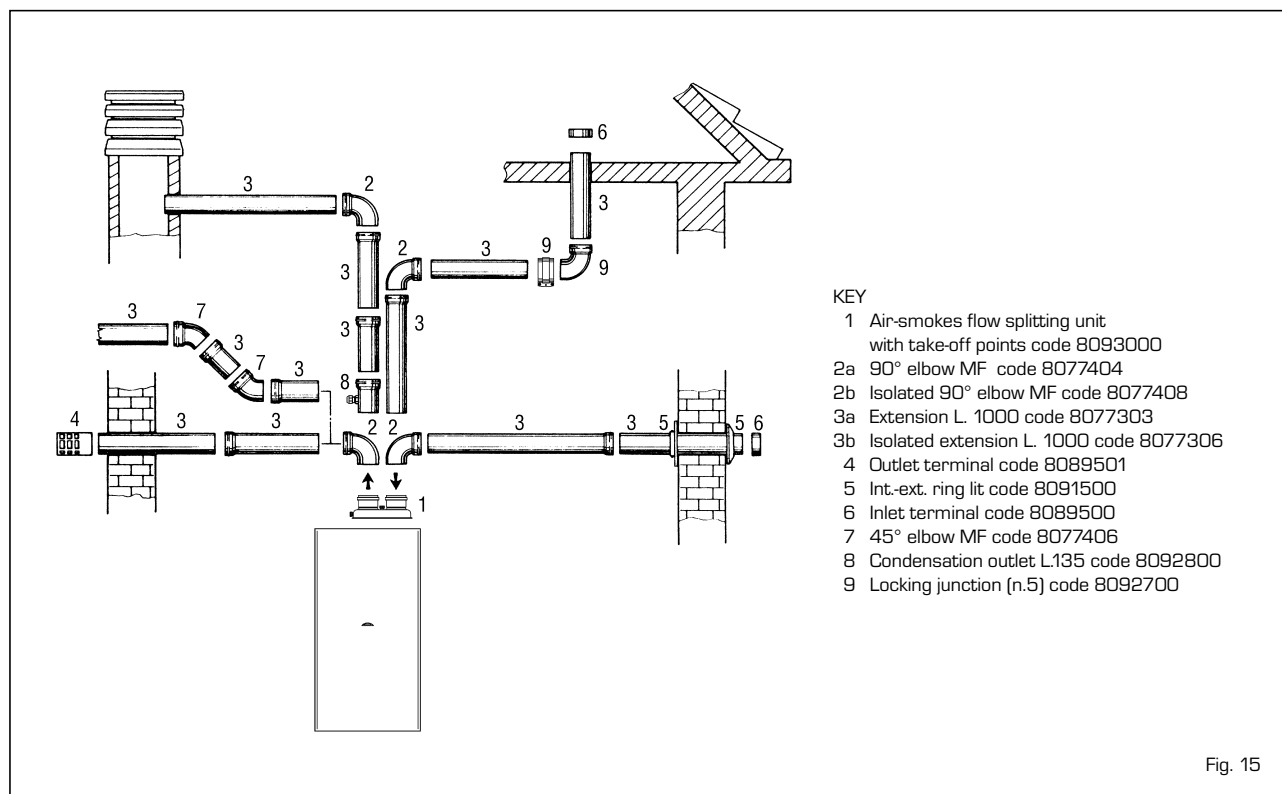


Fig. 15

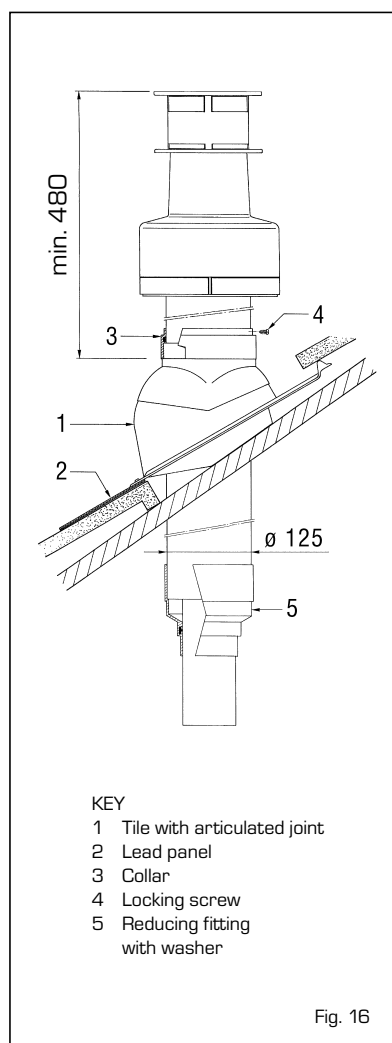


Fig. 16

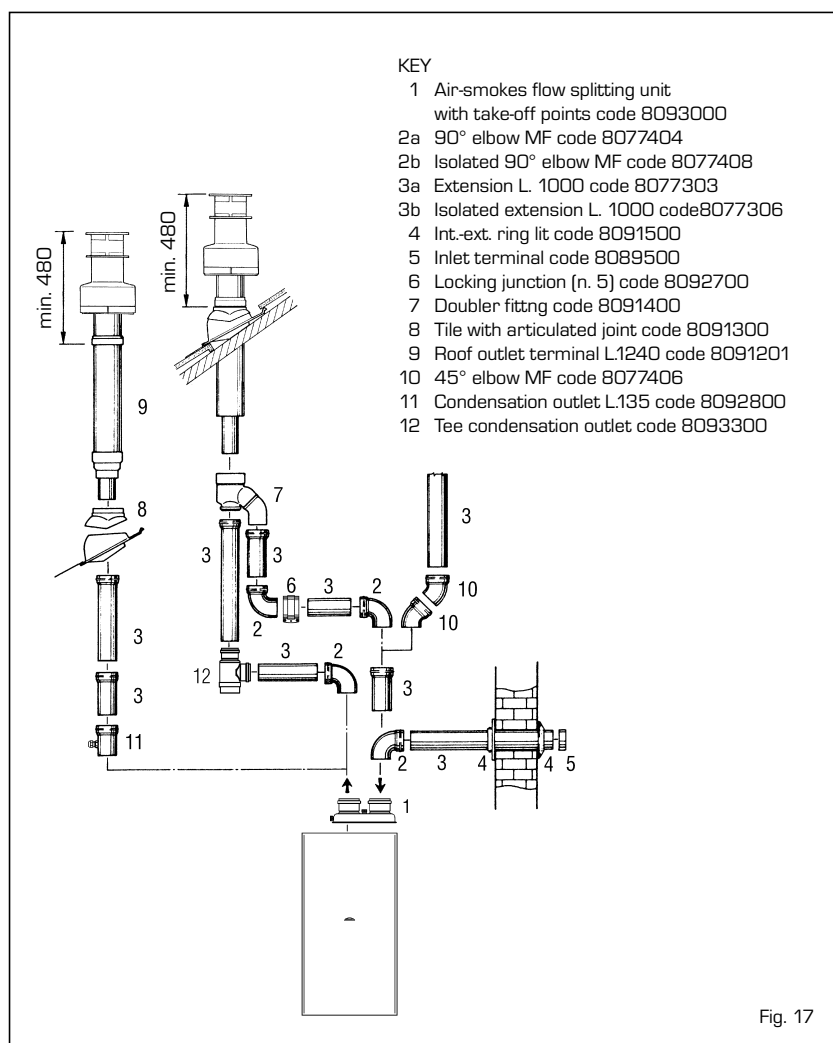


Fig. 17

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.

NOTE: SIME declines all responsibility for injury or damage to persons, animals or things, resulting from the failure to provide for proper earthing of the appliance.

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. 18).

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. 18 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. The telereducer of the telephone with a contact of zero potential or a window contact can be connected to terminals 3-4.

A type of electronic apparatus for the control of civil plants via a telephone line that can be pointed out is the model TEL 30.4 LANDIS & STAFA.

3.9.3 Connection external temperature sensor (fig. 18 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 have access to the connector of the boiler (3) remove the cover of the control panel and electrically connect the external temperature sensor to the terminals SE (8-9).

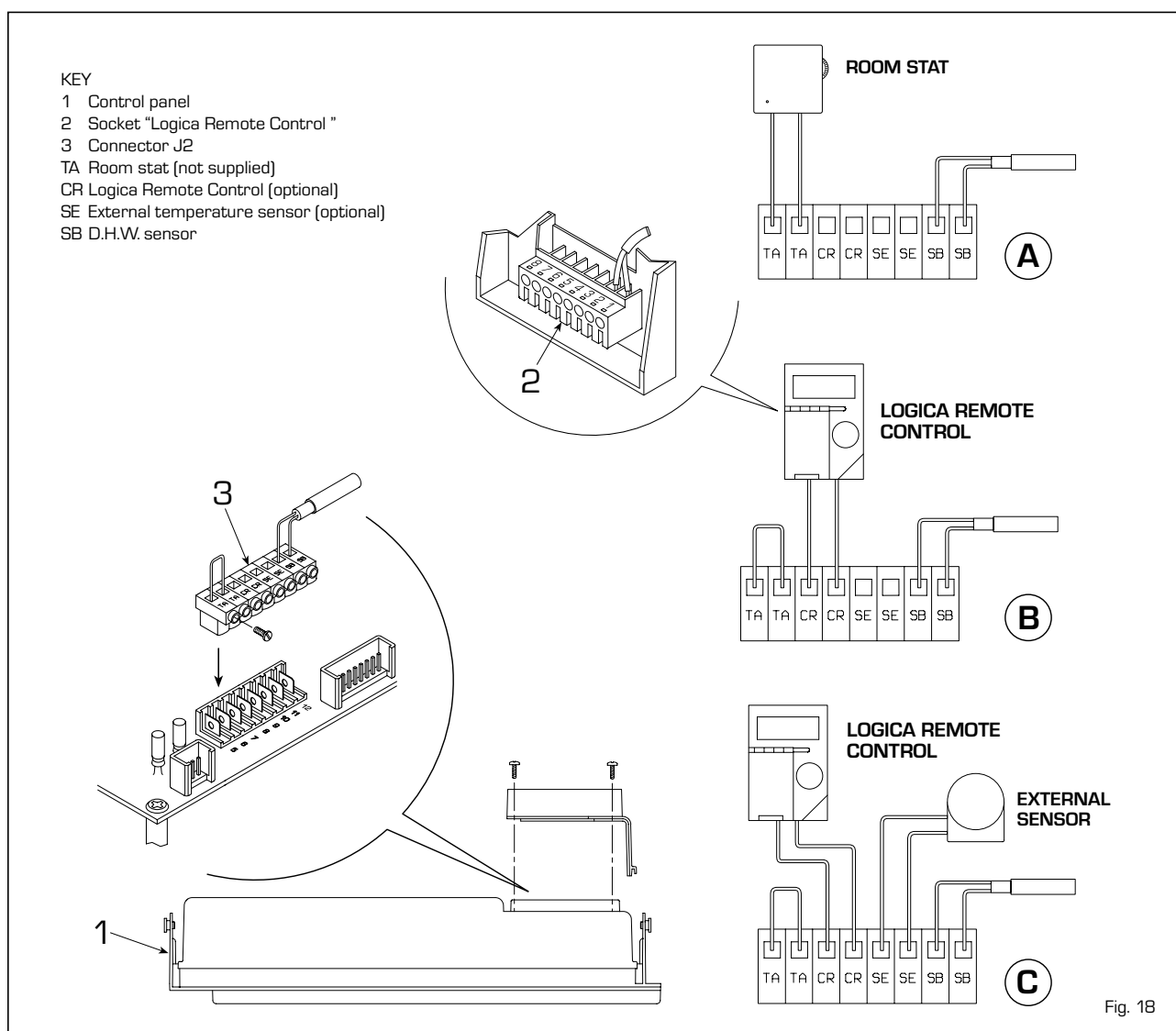
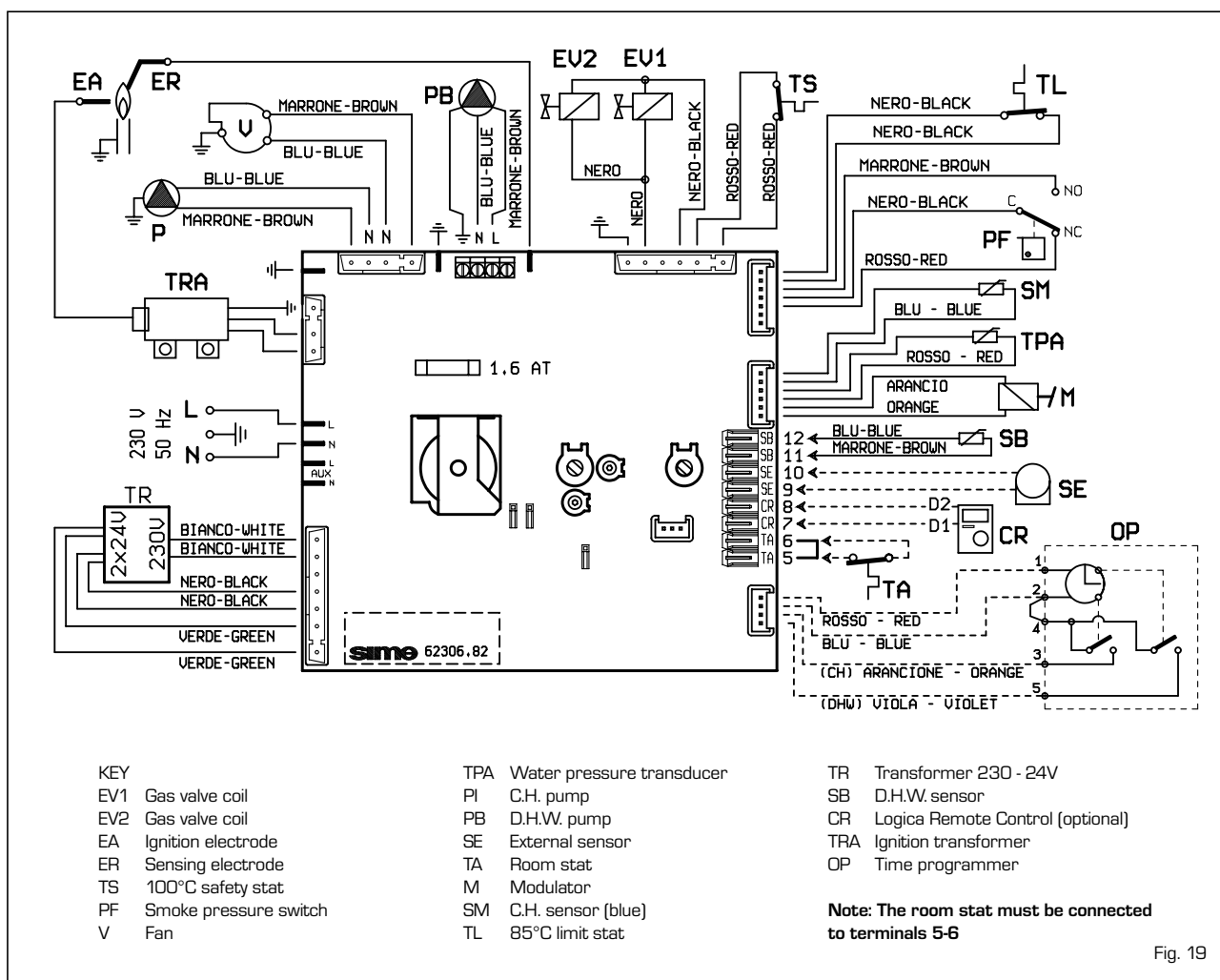


Fig. 18

3.9.4 Wiring diagram



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 set-

tings 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 para-

eters 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" |  | 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 |  | This parameter regulates the temperature of the automatic summer/winter switch-over. |
| Type of control: 0 = with ambient influence 1 = without ambient influence |  | 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 |  | 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 |  | The C.H. flow temperature is limited to the maximum set value. |
| Variation of the maximum speed of the C.H. flow temperature |  | The increase per minute of the prescribed C.H. flow temperature value sent in °C is limited to the imposed value. |
| Activation of adaptation |  | 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 |  | 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 |  | 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) |  | 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 | <p>0 = 24 hours/ day - Hot water is always available at the temperature set with user parameter n°3.</p> <p>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.</p> <p>2 = service disconnected</p> <p>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.</p> |

SERVICE VALUES

| | | |
|--|-----------|---|
| Final user level 2 programming block | 63 | <p>This block (1) can be activated to display all the parameters without modifying them. Pressing buttons  or  displays "OFF".</p> <p>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.</p> |
| Entrance function terminal 3-4 | 64 | <p>The freely programmable input (terminals 3 and 4 of the socket) allows three different functions to be activated. The parameter has the following significance:</p> <p>1 = If an external sensor is connected, the display will show the temperature of the external sensor (_ _ = no sensor connected, function disabled).</p> <p>2 = With an external contact, it is possible to switch-over to "reduced pre-set value of the ambient temperature".</p> <p>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.</p> |
| Operating mode of external contact | 65 | <p>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.</p> <p>Display: Operating mode closed (short circuit) 0 0 0 Operating mode open (interruption) _ _ _</p> |
| External and ambient sensor influence | 66 | <p>Determines the mix ratio between the internal and external ambient sensor when parameter 64 = 1.</p> <p>0 % = internal sensor only active (0% external - 100% internal) 50 % = mean value of external + internal sensor 100 % = external sensor only active</p> <p>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.</p> |
| Anti-bacterial function | 69 | <p>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.</p> <p>0 = not active 1 = active</p> |

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, 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.

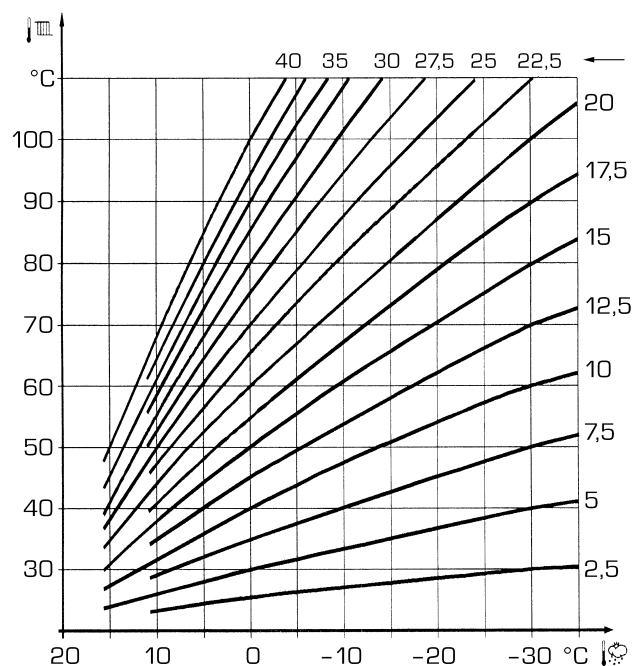


Fig. 20

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 $+60^{\circ}\text{C}$.

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

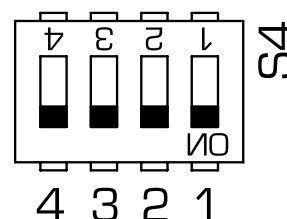
at the beginning when the plant is cold and in the subsequent startings.

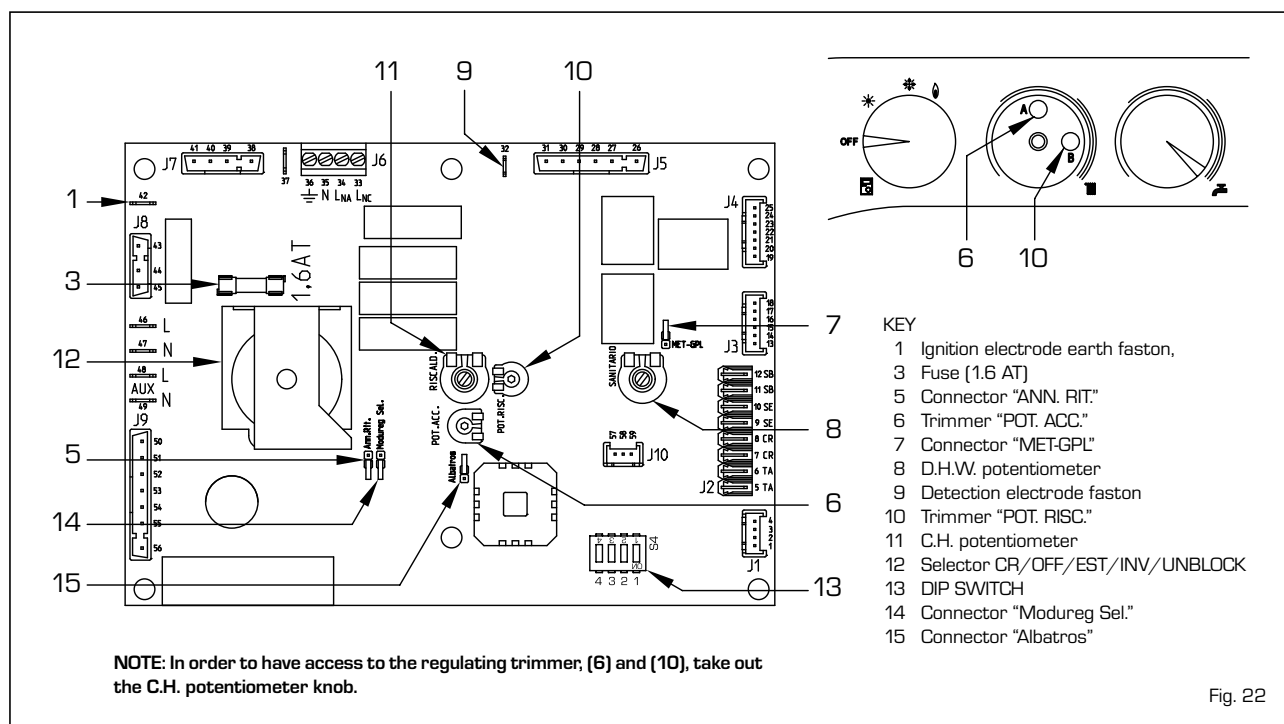
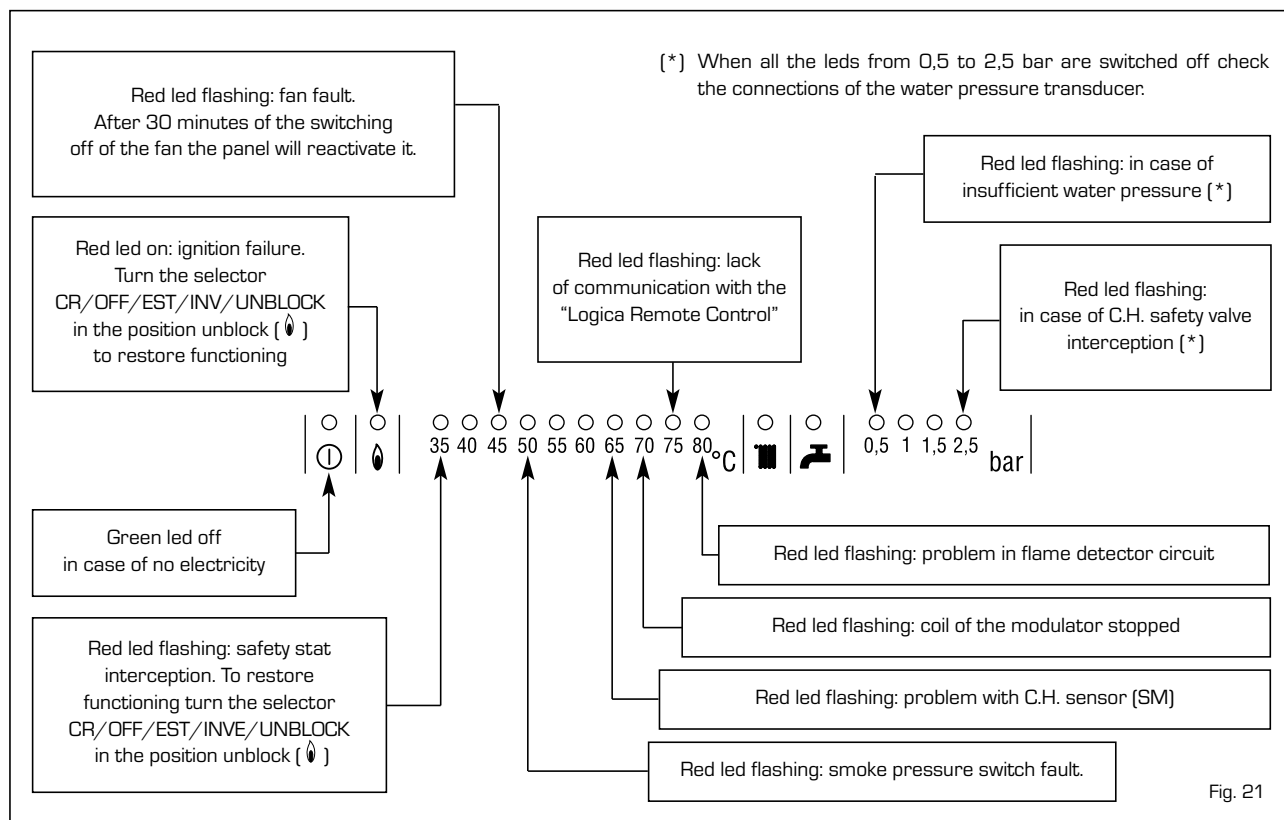
This is so to avoid ignitions and switching off with very short intervals, that may in particular be found in plants with high losses.

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.

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 | Resistance (Ω) 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 (Ⓛ), 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 or the relay contacts is carried out on the connector of control board (J2) after having removed the existing bridge (fig. 23).

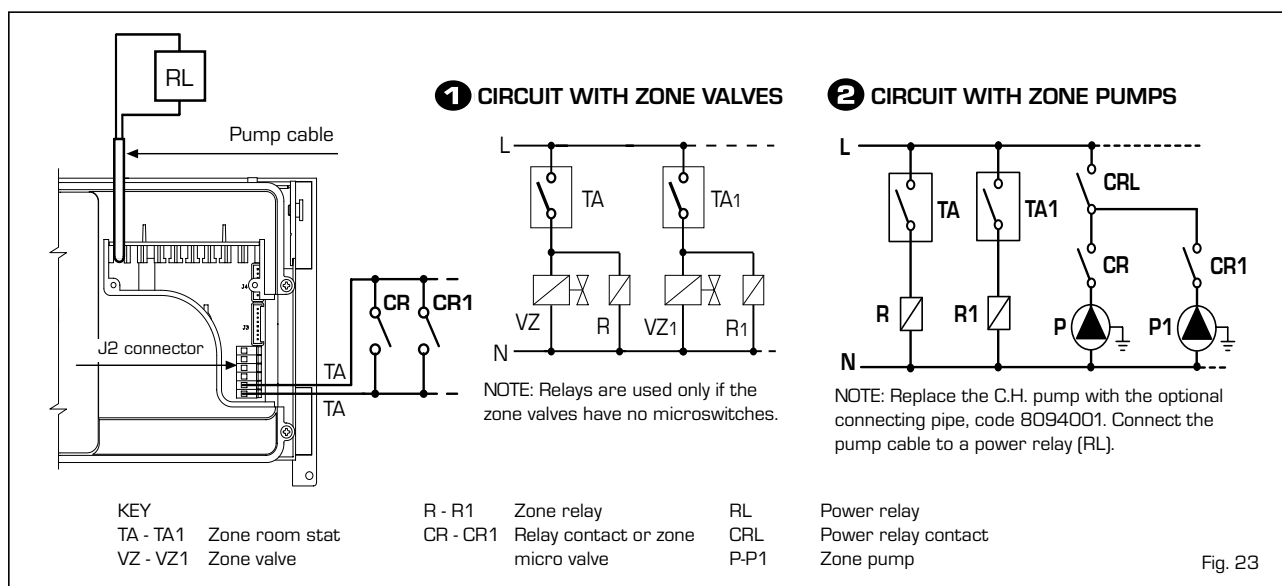


Fig. 23

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 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.

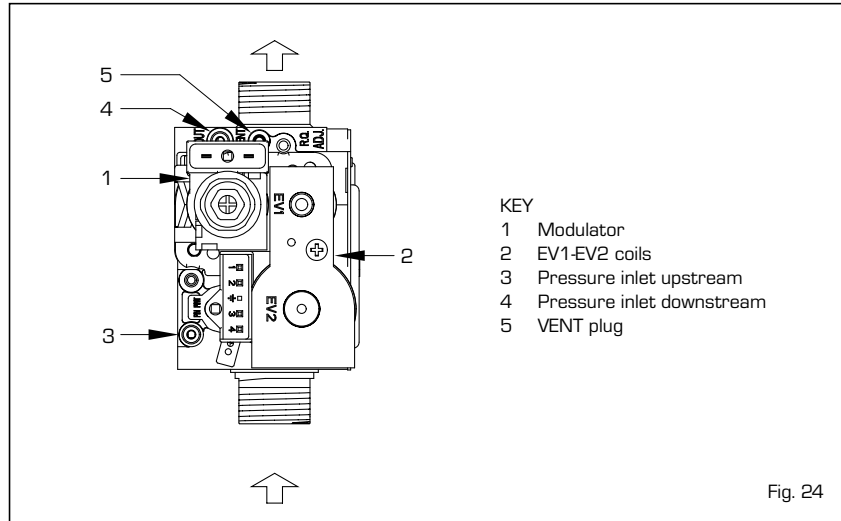


Fig. 24

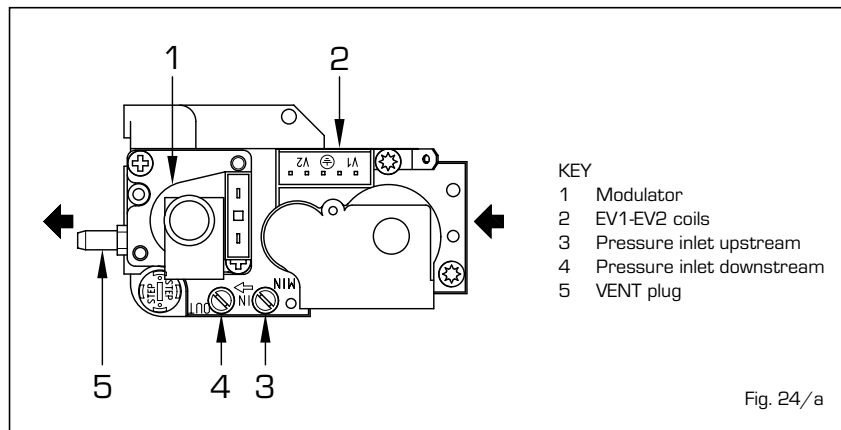


Fig. 24/a

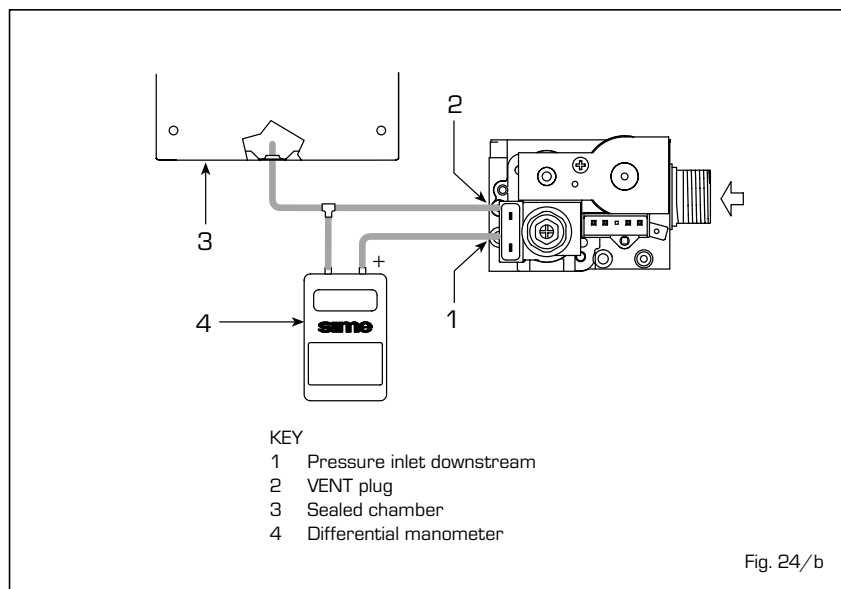


Fig. 24/b

TABLE 6

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

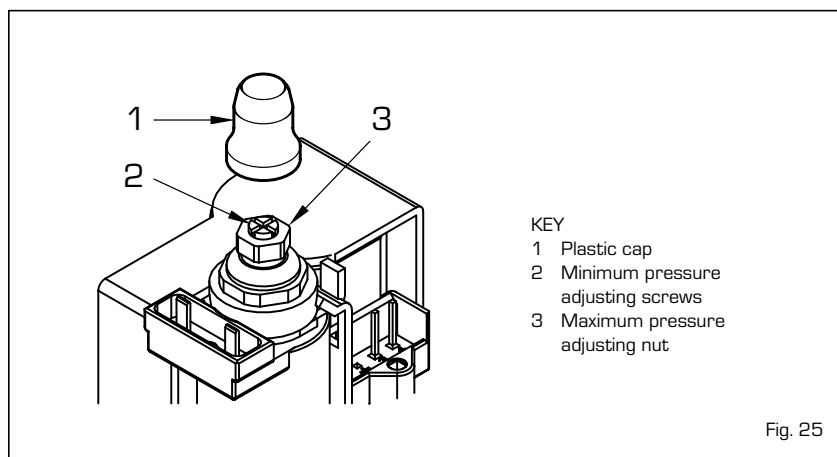


Fig. 25

- 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 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*.

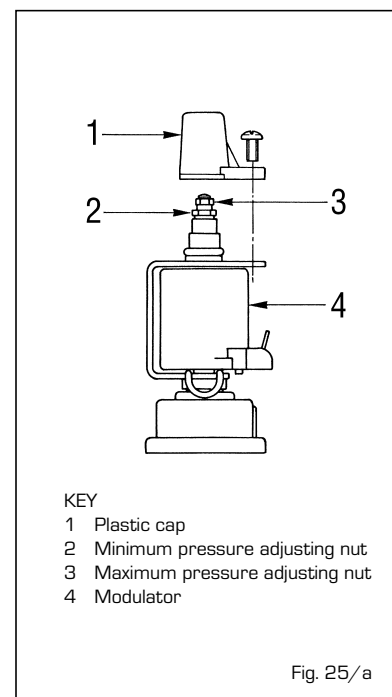


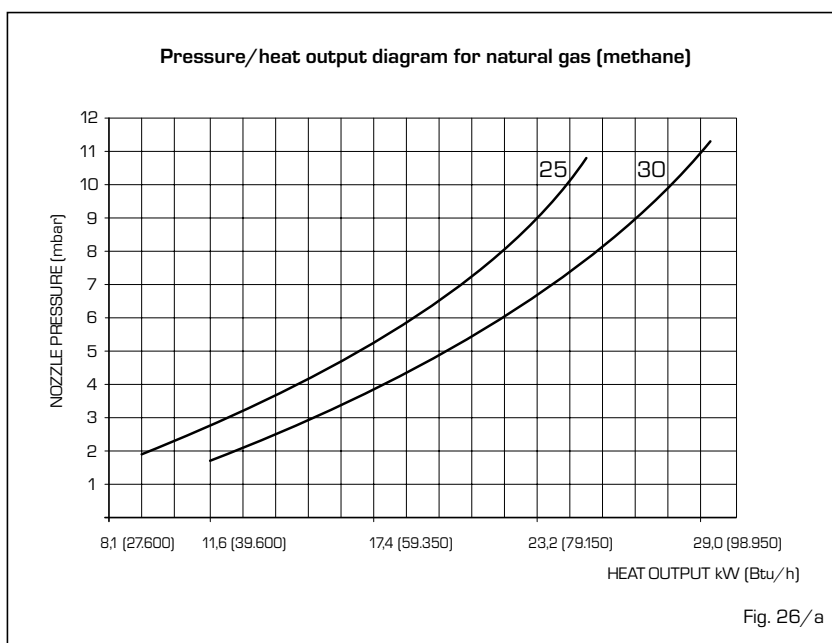
Fig. 25/a

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.

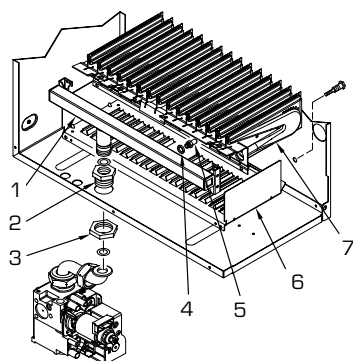
To facilitate the search for the adjusting of the heat output see the pressure/heat output diagrams for natural gas (methane) and butane or propane gas are available (fig. 26/a - 26/b).



Pressure/heat output diagram for propane gas (G31)

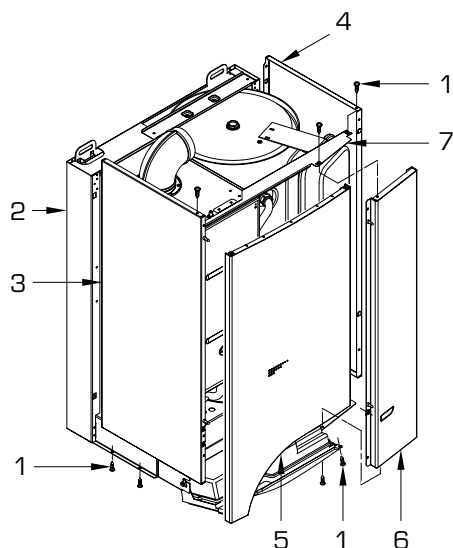


Fig. 26/b



- KEY
- 1 Burner manifold
 - 2 Extension 1/2 "
 - 3 Lock nut 1/2 "
 - 4 Washer \varnothing 6,1
 - 5 Nozzle M6
 - 6 Protection
 - 7 Burners

Fig. 27



- KEY
- 1 Screws
 - 2 Frame
 - 3 Left side
 - 4 Right side
 - 5 Front panel
 - 6 Side panel
 - 7 Upper bracket

Fig. 28

5.4 CONVERSION TO ANOTHER GAS

For the functioning with propane (G31) gas, a kit with that needed for the conversion is supplied.

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 "GPLMET" 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 (0) until the yellow led (III) starts to flash intermittently (fig. 29).

From that moment the boiler will start functioning in heating mode at the maximum power (79.150 - 98.950 kcal/ h), 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 (II).

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.

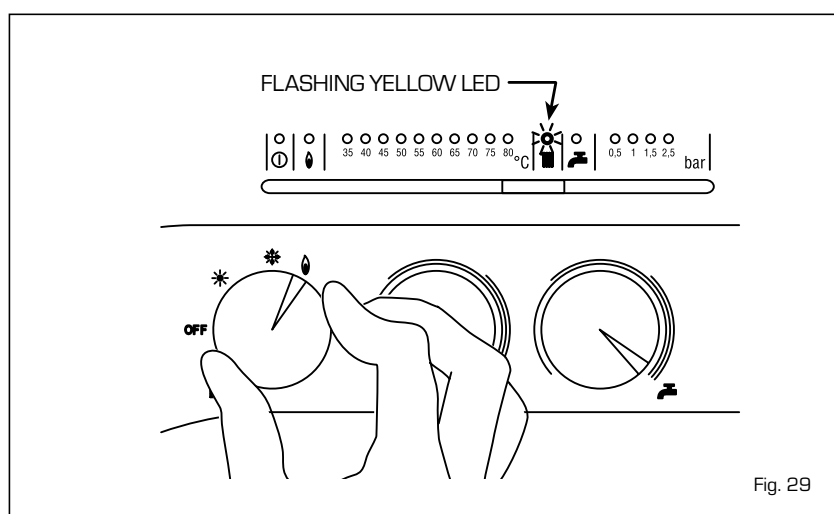


Fig. 29

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 | immaterial | 61 | immaterial | 61 | immaterial | 61 | immaterial |
| 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 | immaterial | 66 | immaterial | 66 | immaterial | 66 | immaterial |

7 SHORT LIST OF PARTS

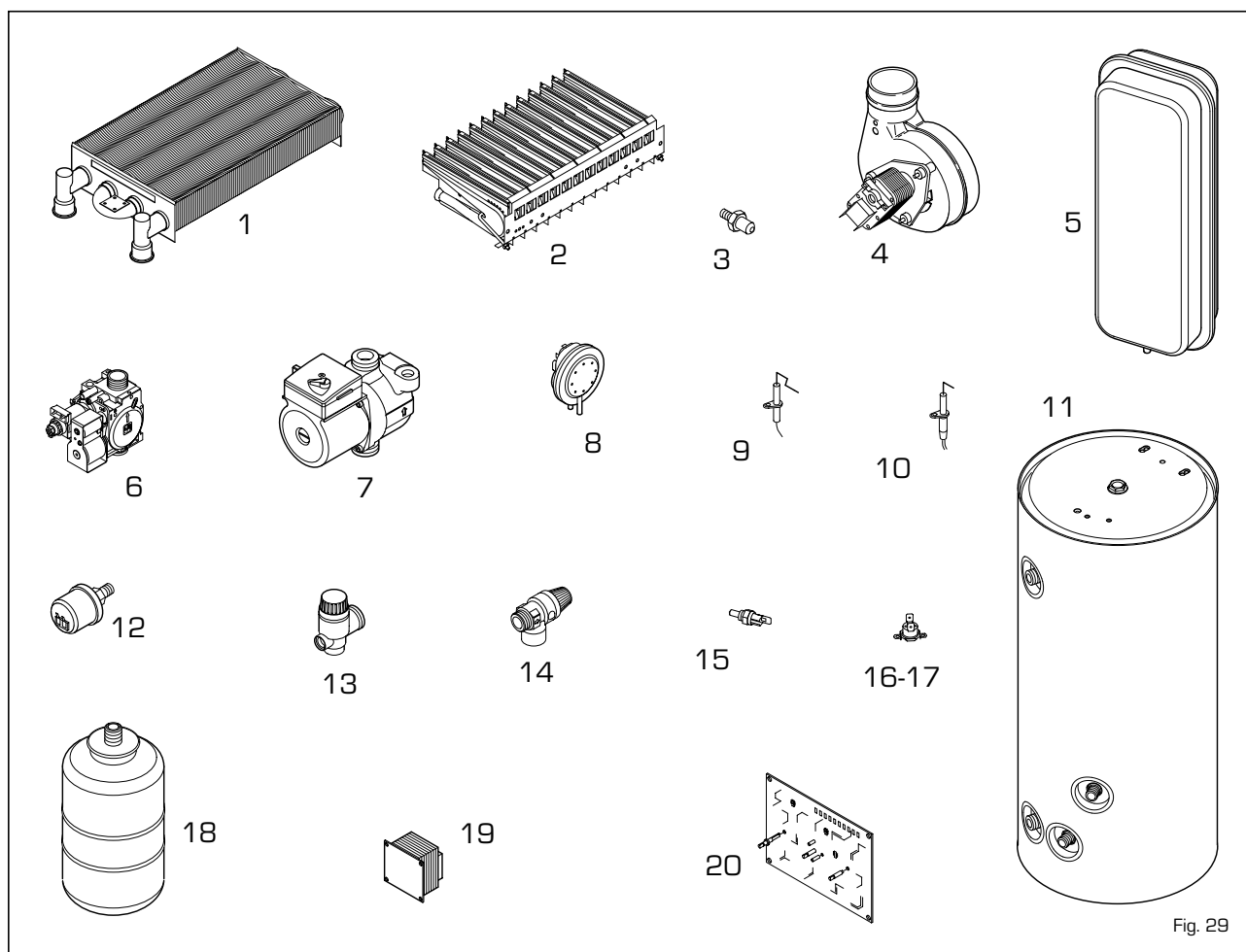


Fig. 29

| 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 | | | |

USER INSTRUCTIONS

VERY IMPORTANT!

PLEASE MAKE SURE YOUR LOG BOOK ENCLOSED IS FILLED IN CORRECTLY.

ALL CORGI REGISTERED INSTALLERS CARRY A CORGI ID CARD.

BOTH SHOULD BE RECORDED IN YOUR CENTRAL HEATING LOG BOOK.

YOU CAN CHECK YOUR INSTALLER IS CORGI REGISTERED

BY CALLING ON 01256 372300

2 YEAR GUARANTEE

IN ORDER TO OBTAIN THE SECOND YEAR'S COVER,

PLEASE REGISTER YOUR BOILER BY SENDING IN THE ENCLOSED GUARANTEE CARD,

OR PHONING OUR SERVICE DEPARTMENT WITH THE DETAILS ON: 01246 471950

LIGHTING AND OPERATION

BOILER IGNITION (fig. 1)

Open the gas cock, lower the cover of the control and activate the boiler by turning the selector knob to the summer (☀) position. When the green led (Ⓛ) lights up, electricity is present in the boiler.

- With the selector knob on the summer (☀) position, the boiler works to take the temperature of the hot water to the

fixed value.

- With the selector knob on the winter position (❄) the boiler, once it has reached the temperature set on the heating potentiometer, will begin to modulate automatically in order to supply the system with the effective power requested. The boiler will stop functioning if the room stat or "Logica Remote Control" intercede.

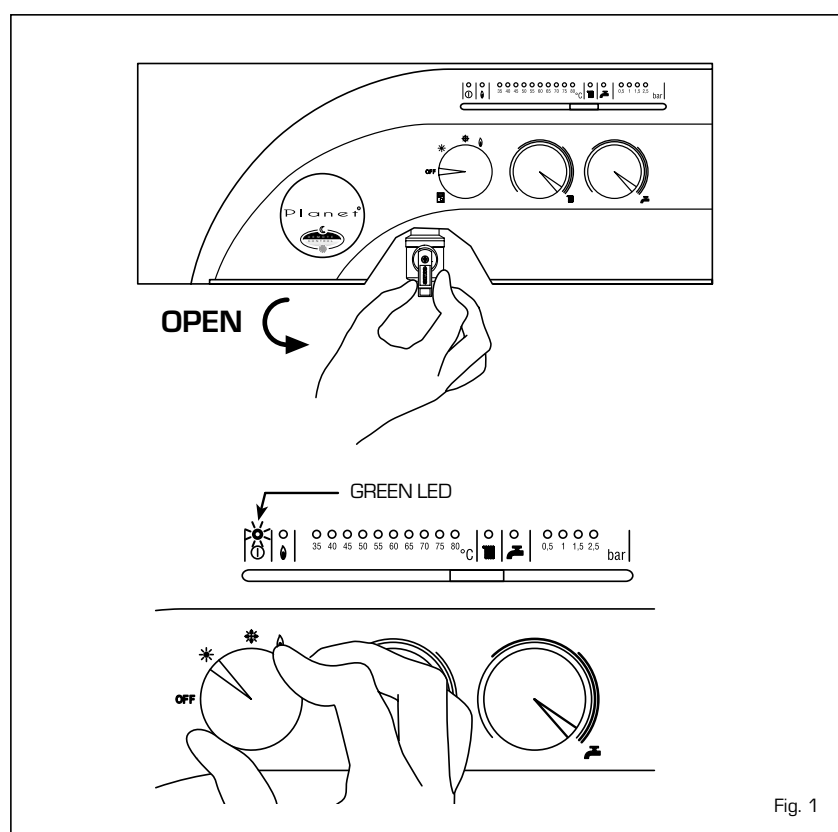


Fig. 1

TEMPERATURES ADJUSTMENT (fig. 2)

The panel of the red leds is graduated from 40÷80 °C and shows the temperature in the D.H.W. tank when the two service leds (☀ ☀) are off; it shows the temperature of the primary circuit when one of the two leds is lit up.

- Regulation of the D.H.W. temperature is carried out by acting on the hot-water service knob (☀). The set temperature is displayed on the scale of the red leds from 40 ÷80 °C.
- Regulation of the C.H. temperature is carried out by acting on the heating knob (☀). The set temperature is shown on the scale of the red leds from 40÷80 °C. To guarantee an always optimal output from the generator it is advised not to go below a minimum operating temperature of 50 °C.

TURNING OFF BOILER (fig. 1)

To turn the boiler off place the selector knob on the **OFF** position.

IF THE BOILER IS NOT GOING TO BE USED FOR A LENGTHY PERIOD IT IS ADVISED TO TURN OFF THE ELECTRICITY SUPPLY, CLOSE THE GAS COCK, AND IF LOW TEMPERATURES ARE FORESEEN, EMPTY THE BOILER AND THE HYDRAULIC SYSTEM TO AVOID BREAKAGE IN THE TUBES DUE TO THE FREEZING OF THE WATER.

CLEANING AND MAINTENANCE

The programmed maintenance of the appliance must be carried out annually by authorised technical staff.

FAULTS FINDING

- Ignition failure (fig. 3)

If the burner fails to start the red led will light up ().

To attempt starting it again, the selector knob must be turned to the position () and released soon after, returning to the summer () or winter () position.

If the failure should occur again, call the authorised technical staff for assistance.

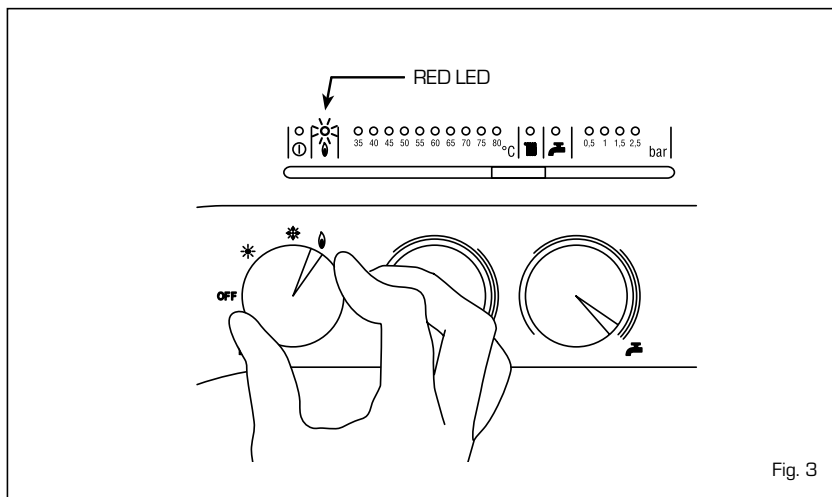


Fig. 3

- Insufficient water pressure (fig. 4)

If the red led "0.5 bar" intermittently lights up, the boiler is not functioning. To restore functioning act on the filling cock until the green led "1 bar" lights up.

Once filled close the filling tap.

If all the leds are off, call the authorised technical staff.

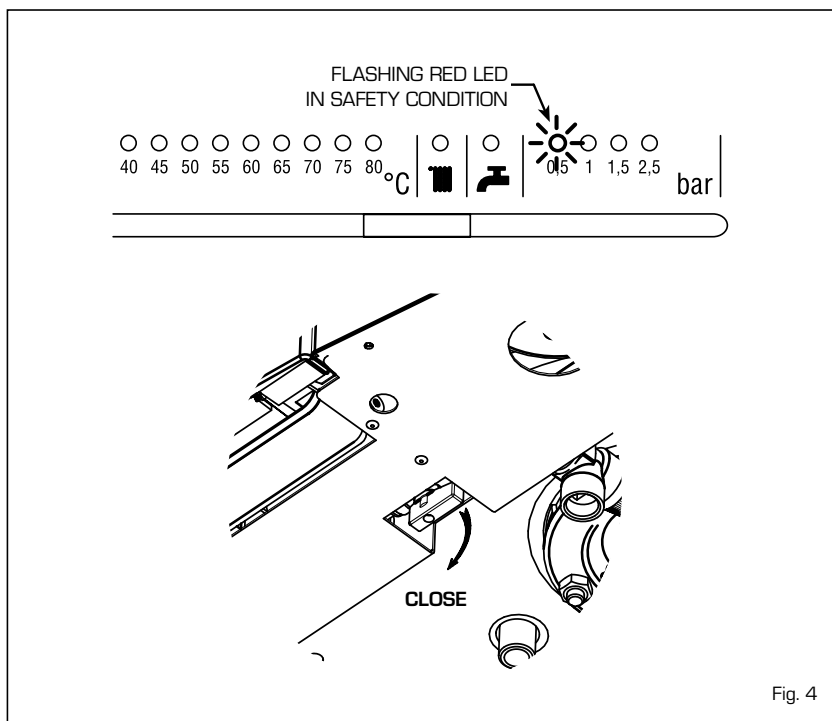


Fig. 4

- Safety stat interception (fig. 5)

If the safety stat intercedes the red led "35°C" intermittently lights up. To start the boiler again, turn the selector knob in the position () and then release immediately, returning it to the winter () or summer () function.

If the failure should occur again, call the authorised technical staff for assistance.

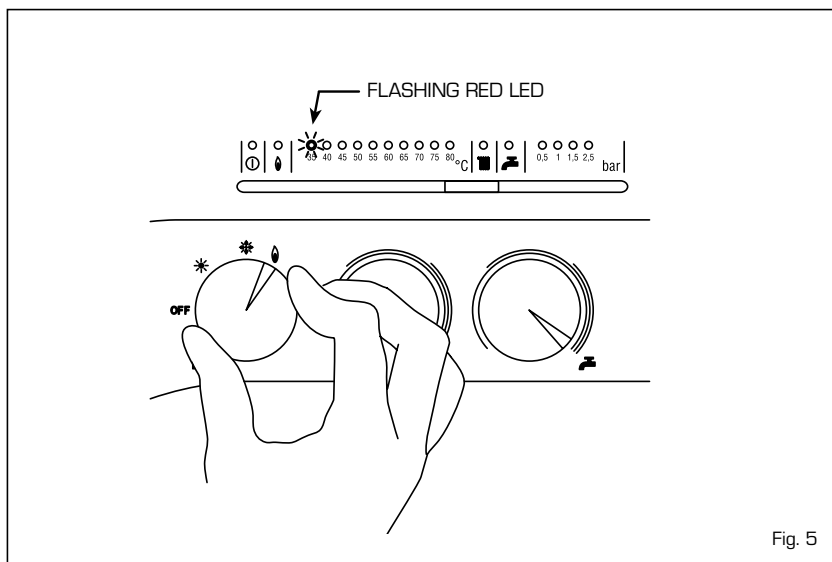


Fig. 5

- **Other faults** (fig. 6)

When one of the leds is flashing from **"40÷ 80°C"**, deactivate the boiler and try to start it again. The operation may be repeated 2 or 3 times, and if there is no success call the authorised technical staff for assistance.

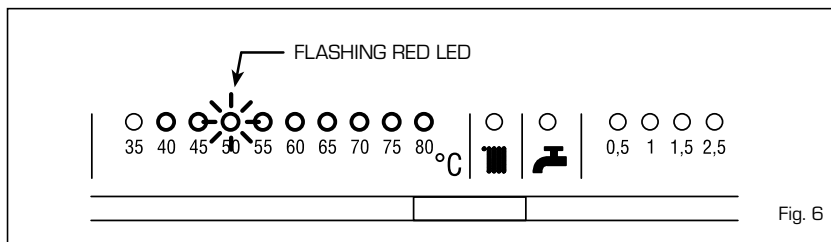


Fig. 6

LOGICA REMOTE CONTROL

When **"PLANET SUPER 4 W.M."** is connected to the "Logica Remote Control" regulator, the selector CR/OFF/EST/INV/UNBLOCK must be placed in the position (OFF); the knobs of the D.H.W. and C.H. potentiometers do not have any effect and all of the functions will be managed by the regulator (fig. 7).

If the "Logica Remote Control" breaks down, the boiler will function by placing the selector on the (OFF or ON), position, obviously without consequent control of the room temperature. The functioning instructions are inside the lid (fig. 8). Every setting or modification is displayed and confirmed on the display (fig. 9).

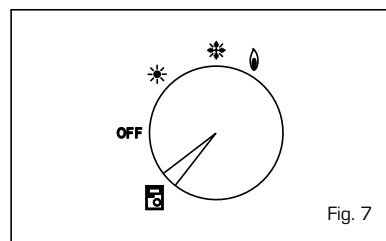


Fig. 7

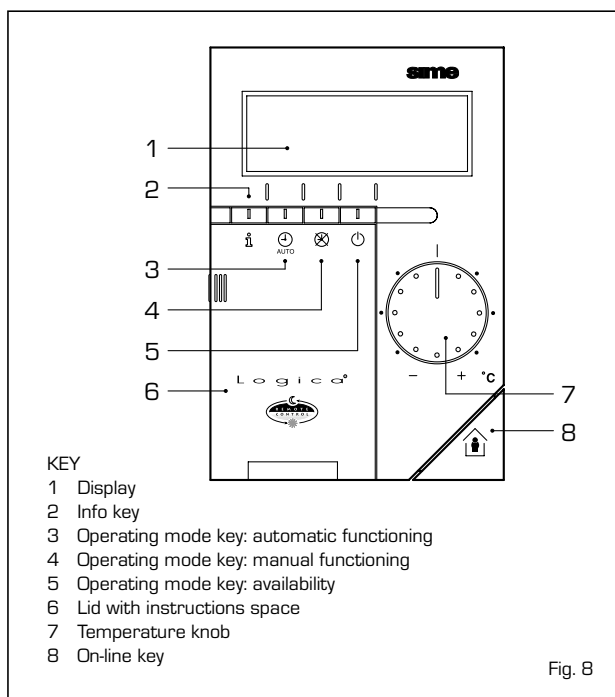


Fig. 8

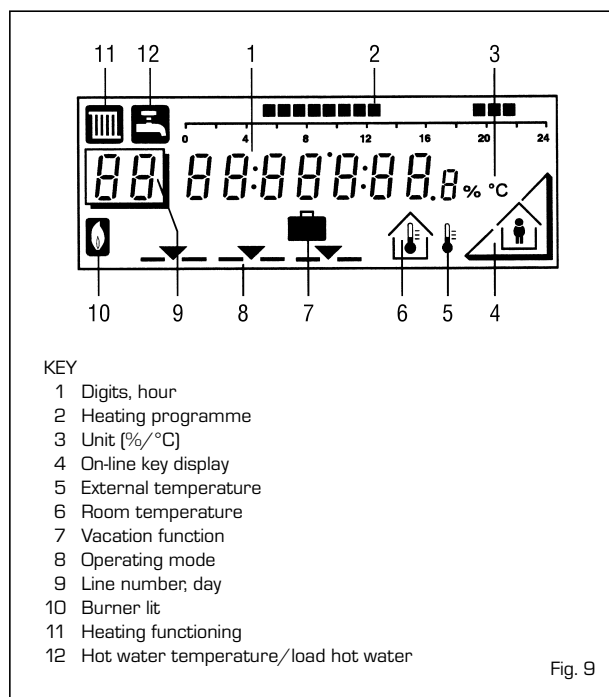
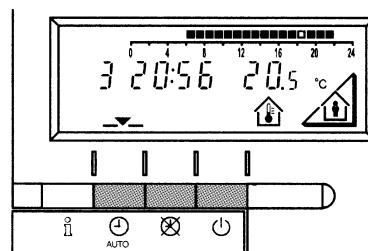



Fig. 9

ACTIVATING

During operation the lid of the regulator must be closed.

- **Selection of the operating mode**
(reference keys grey colour)



The operating mode desired is selected by pressing the relative key with the corresponding symbol. The choice is displayed with the symbol .



Automatic functioning: the heating functions automatically according to the heating programme entered. The programme may be excluded for brief periods with the on-line key.

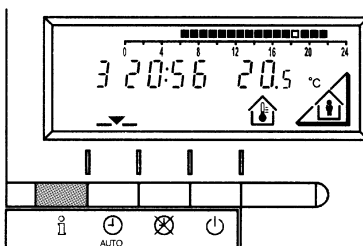


Manual functioning: the heating functions manually according to the choice made with the on-line key.



Availability: the heating is deactivated.

- **Info key**
(reference key grey colour)



For every operation of the Info key the following list of items, one after the other, are displayed. The thermosensor continues to function independently of the display.



Day, hour, room temperature



External temperature*

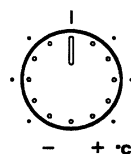


D.H.W. temperature*

* This data appear only if the relative sensor is connected or if they are transmitted by the regulator of the boiler.

- **Adjusting the temperature**

Before adjusting the temperature of the regulator, the thermostatic valves, which may be present, have to be regulated to the desired temperature.



If it is too hot or too cold in your apartment, you can easily adjust the fixed temperature with the temperature knob.



If you turn the knob towards the + sign, the fixed temperature is increased by about 1 °C for every notch.

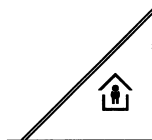


If you turn the knob towards the - sign, the fixed temperature is decreased by about 1 °C for every notch.

Before adjusting it again, however, allow the temperature to stabilise first.

Note: With the temperature knob you can only adjust the fixed temperature, whilst the reduced temperature remains the same.

– On-line key



If the rooms remain unused for a long period of time, the temperature can be reduced with the on-line key, in this way saving energy. When the rooms are occupied again, press the on-line key to re-heat them. The current choice is displayed on the display:



Fixed temperature heating



Reduced temperature heating

NOTA: The choice made will work in a permanent way when manually ☒, carried out, instead, if automatic ⌚ it will work up to the next switching according to the heating programme.

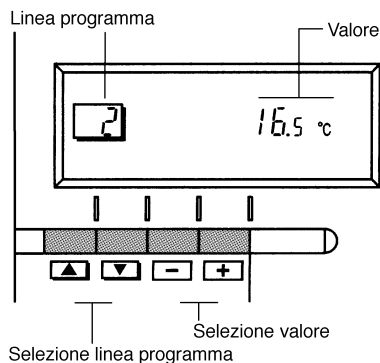
PROGRAMMING

For the programming the lid of the regulator must be open.

You can set or display the following values:

- Temperatures
- Heating programme
- Day of the week and hour
- Current values
- Vacation period
- Return to the default values

| | | |
|----|-------|----|
| 1 | up to | 3 |
| 4 | up to | 11 |
| 12 | up to | 14 |
| 15 | up to | 17 |
| | | 18 |
| | | 19 |



As soon as the cover is open, the display and the key functions are switched on. The number in the square represents the programme lines that may selected with the arrow keys.

– Temperature regulation

Before proceeding with the adjustment in the temperature on the regulator, the thermostatic valves, which may be present, have to be regulated to the desired temperature.

In automatic mode, the apparatus switches from the fixed temperature to the reduced temperature according to the temporal programme. The manual switching of the temperature is done manually with the on-line key.



Fixed temperature:
temperature when the rooms are occupied
(basic setting)



Reduced temperature:
temperature during periods of absence or night



Comfort D.H.W. temperature:
desired temperature of domestic hot water



Reduced temperature of domestic hot water:
temperature desired for domestic hot water at reduced level.

To have access to the "reduced D.H.W. temperature" parameter, press the ▲ and ▼ keys at the same time for at least 5 seconds and then go along the entered lines with the key ▼ until parameter 61 is reached. Regulate the value with – and +.

- Heating programme

With the heating programme it is possible to set the switching times of the temperature for a period of a week. The weekly programme consists of 7 daily programmes. One daily programme allows 3 phases of heating. Each phase is defined by a ignition time and a finishing time. The n° 8 daily programme is for the domestic hotwater service. If a phase is not required, the same ignition and finishing time may be entered.



- 4 Select the days that correspond with the heating phase.
1 = Monday, ... 7 = Sunday/8 = hot-water service programme
- 5 Start of phase 1: heating with fixed modality
- 6 End phase 1: heating with reduced modality
- 7 Start phase 2: heating with fixed modality
- 8 End phase 2: heating with reduced modality
- 9 Start phase 3: heating with fixed modality
- 10 End phase 3: heating with reduced modality
- 11 Copying of the daily programme

+ By pressing this key it is possible to repeat the current heating programme for the **next day**.

- By pressing this key it is possible to repeat the current heating programme for the **previous day**.

As a confirmation the following day is displayed.

- D.H.W. programme

With the Logica Remote Control it is possible to manage the temperature of D.H.W. tank on two levels (a comfort level and one at reduced temperature) in accordance with the programme chosen with parameter 62 (load domestic hot water). To have access to the parameter press the ▲ and ▼ keys for at least 5 seconds and then go along the entered lines with the ▼ key until parameter 62 is reached. At this point four different programmes may be selected with - or + keys, with the following characteristics:

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.



- 5 Start phase 1: preparation of the D.H.W. tank to the comfort temperature
- 6 End phase 1: Temperature of D.H.W. tank maintained at the reduced value
- 7 Start phase 2: Preparation of D.H.W. tank to the comfort temperature
- 8 End phase 2: Temperature of D.H.W. tank maintained at the reduced value
- 9 Start phase 3: preparation of D.H.W. tank to the comfort temperature
- 10 End phase 3: Temperature of D.H.W. tank maintained at the reduced value

- **Setting the time**

12 To set the current day of the week
(1 = Monday/7 = Sunday)

13 To set the current hour



14 To set the current minute
Once the hour is completed, the setting of the hour changes.

With **+** and **-** keys the current hour is regulated. Pressing these keys together, the regulation is speeded up in an increasing sense.

- **Current values**


15 Display and setting of the gradient of the heating characteristics curve.
When the room temperature set is not reached choose the gradient indicated in point 2.10.3

16 Display of the current boiler temperature.

17 Display of the current power of the burner and of the current operating mode
( = heating/  = D.H.W. service)

- **Vacation function**

18 To enter the number of days of absence.

In the display the vacation symbol will be shown (), on the left the day of activation (1 = Monday/7 = Sunday) and on the right the number of vacation days.

NOTE:



During the vacation the regulator will be on the availability mode.



When the set days have elapsed, the regulator will go on to the automatic function.

The vacation period may be cancelled by pressing a key of the operating mode.

- **Default values**

19 To take the setting to the default values, press the **+** and **-** keys at the same time for at least 3 seconds. As confirmation a sign will appear on the display.

ATTENTION

The values of the following line numbers previously entered will be lost.

- Temperature and time programme

1

to

10


- Vacation period

18

- **Display of the functioning faults on the display**


Er 0

Ignition failure

Turn the selector CR/OFF/EST/INV/UNBLOCK on the "PLANET" control panel to the unblock position () to restore functioning (fig. 3). If the failure should occur again, call the authorised technical staff for assistance.

Er 1

Safety stat interception

Turn the selector CR/OFF/EST/INV/UNBLOCK of the "PLANET" control panel to the unblock position () to restore functioning (fig. 5). If the failure should occur again, call the authorised technical staff for assistance.

Er 16

Smoke pressure switch failure

Call the authorised technical staff for assistance.

| | |
|----|----|
| Er | 66 |
|----|----|

Smoke pressure switch does not return to rest position

Call the authorised technical staff for assistance.

| | |
|----|----|
| Er | 67 |
|----|----|

D.H.W. sensor fault (SB)

Call the authorised technical staff for assistance.

| | |
|----|----|
| Er | 68 |
|----|----|

C.H. sensor fault (SM)

Call the authorised technical staff for assistance.

| | |
|----|----|
| Er | 69 |
|----|----|

Insufficient water pressure

Restore functioning by acting on the filling cock of the boiler (fig. 4)

| | |
|----|----|
| Er | 70 |
|----|----|

System overpressure

Call the authorised technical staff for assistance.

| | |
|----|-----|
| Er | 192 |
|----|-----|

Safety stat interception

Call the authorised technical staff for assistance.

| | |
|----|-----|
| Er | 193 |
|----|-----|

Smoke pressure switch interception

Call the authorised technical staff for assistance.

| | |
|----|-----|
| Er | 194 |
|----|-----|

Failure of the modulating coil

Call the authorised technical staff for assistance.

| | |
|----|-----|
| Er | 195 |
|----|-----|

Communication failure between the Logica Remote Control and the boiler

Call the authorised technical staff for assistance.



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