AUS

**hunt** heating

# FORMAT DGT
# 30i & 30e
## CENTRAL HEATING BOILER

## Installation, User and Service Instructions

AGA CERTIFICATION No. 7670

## WARNING
The installation of this product must be carried out only by authorised personnel to the requirements of Australian Standard AS 5601, local authority, gas, electricity and any other relevant statutory regulation.

**sime** ®

# CONTENTS

## SIME CENTRAL HEATING BOILERS - WARRANTY

This Warranty is granted to you by Hunt Heating ABN 50 354 796 935, in respect of your acquisition of a Sime Central Heating Boiler within the Commonwealth of Australia. This Warranty does not in any way affect your rights under any Trade Practices Act, and is in addition to your implied legal rights.

Provided that the installation of the boiler is in accordance with the specifications provided to you or your licensed installer, the boiler is warranted by Hunt Heating against defects caused by the manufacturer's faulty materials and/or workmanship, in respect to parts and labour, for a period of twelve months commencing from the date of commissioning of the boiler. or a maximum of 18 months from the date of delivery from Hunt Heating which ever is the earlier.

The Licensed Installer must complete the information at the in section 3.0 of this manual. Failure to do so may cause the Warranty to become null and void.

## IMPORTANT

When carrying out the commissioning of the boilers, it is highly recommended that you perform the following checks:
–    Make sure that there are no flammable liquids and or materials in the immediate vicinity of the boiler.
–    Make sure that the electrical connections have been made correctly and that the earth wire is connected to a good earthing system.
–    Open the gas tap and check the soundness of the connections, including that of the burner.
–    Make sure that the boiler is set for operation for the type of gas supplied.
–    Check that the flue for the outlet of the products of the combustion is unobstructed.
–    Make sure that any shutoff valves are open.
–    Make sure that the system is charged with water and is thoroughly vented.

### INSTALLATION AND ALL SERVICING MUST BE
### CARRIED OUT BY AN AUTHORISED PERSON

# 1.0    USERS INSTRUCTIONS

**WARNINGS**

– In case of fault and/or incorrect equipment operation, deactivate it, without making any repairs or taking any direct action. Apply only to qualified technical personnel.
– Boiler installation and any other assistance and/or maintenance activity must be carried out by qualified personnel persuant to Standard CEI 64-8. Under no circumstances, the devices sealed by the manufacturer can be tampered with.
– It is absolutely prohibited to block the intake grilles and the aeration opening of the room where the equipment is installed.
– The manufacturer shall not be held liable for any damage caused by improper use of the appliance.
– This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

## LIGHTING AND OPERATION

**KEYS LOCK:** if the device is not used, the keys will be locked 15 minutes after the last setting was made (PAR 5 by default) and the display light switches off.
To set one of the operating modes, press any of the keys for more than two seconds (the display will indicate one to four segments progressively before unlocking the controls).

**BOILER IGNITION** (fig. 1)

The first ignition of the boiler must be carried out by qualified technical personnel.
Successively, if it is necessary to start up the boiler again, adhere strictly to the following instructions: open the gas tap to allow the flow of the fuel and move the main switch of the system to "ON". After a stop, wait for about 30 seconds before restoring functioning conditions so that the boiler can perform the control sequence.
If the green led is on, this indicates the presence of voltage.

**Winter**

Press the key ⏻ of the controls to activate the winter mode functioning (heating and D.H.W.). The display will be as shown in the figure.



**Summer**
**(not applicable to this boiler version)**

Press the key ⏻ of the controls to activate the summer mode functioning (only the production D.H.W.). The display will be as shown in the figure.
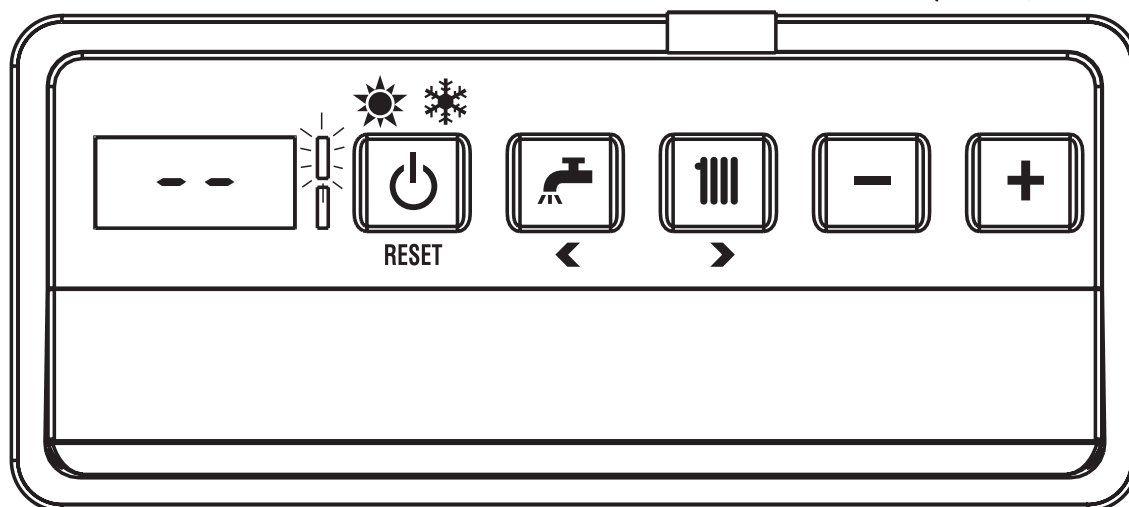




**ATTENTION:** Use the keys to alter the values of any function, a beep indicates that a key was touched and the function activated. after 15 minutes the display will turn off (PAR 5 default).

Fig. 1

## CONTROLS OPERATION

This boiler is equipped with touch controls rather than press buttons.

**Use the keys to alter the value of any function, a beep indicates that the change was accepted.**

**To change an operation etc on the boiler, place a finger in the recess for two seconds and then remove.**

**The Domestic Hot Water (DHW) Controls are non operative on this boiler.**

*Simply - TOUCH-HOLD-REMOVE*

## REGULATION OF THE WATER TEMPERATURE FOR HEATING (fig. 2)

To set the temperature of the water for heating, touch the key 🔥 of the controls . The display will be as shown in the figure. Change the values with the key ( − and + ).
The adjustment will be accepted by pressing the 🔥 key again, or after 10 seconds if no key is pressed.

### Regulation of the external sensor

If an external sensor is installed, the value of the output temperature is automatically chosen by the system, which quickly adjusts
the of flow temperature on the basis of the external temperature.
If you wish to change the value of the temperature, increasing or decreasing that calculated automatically by the electronic card, proceed as indicated in the preceding paragraph.
The level of various correction of a value of temperature proportional calculated. The display will be as shown in fig. 2/a.

## TO SWITCH OFF THE BOILER (fig. 3)

In the case of a short absence, press for more than two second the key ⏻ of the controls. The display will be as shown in figure (boiler in stand-by). In this way, leaving the electricity and the fuel supply connected, the boiler is protected from frost and from the pump becoming jammed. If the boiler is not to be used for a prolonged period, it is advisable to disconnect t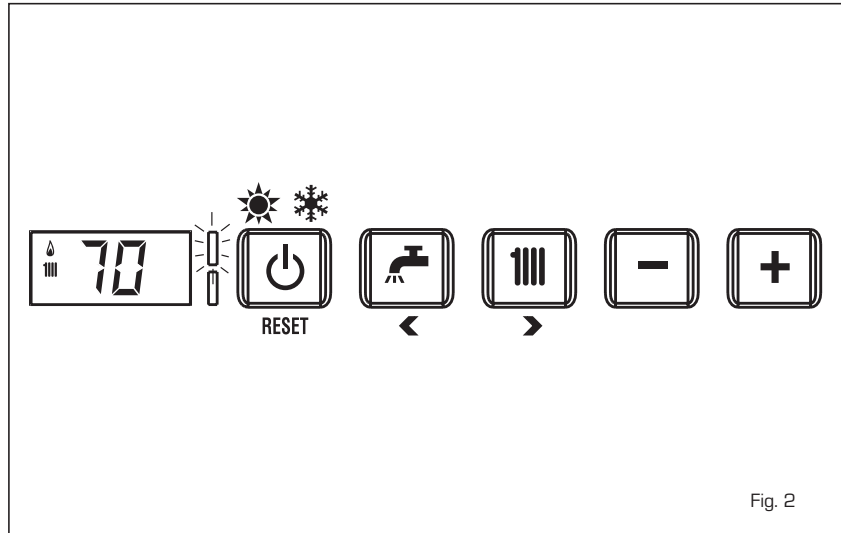he electr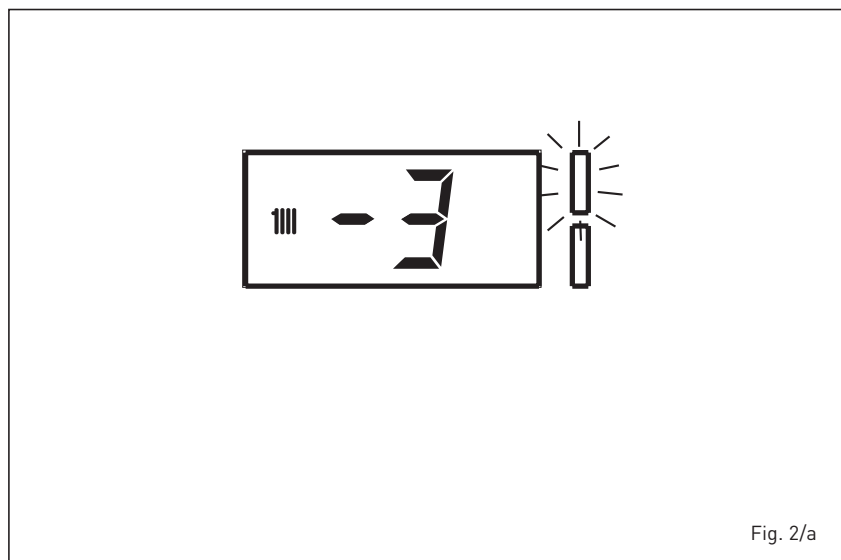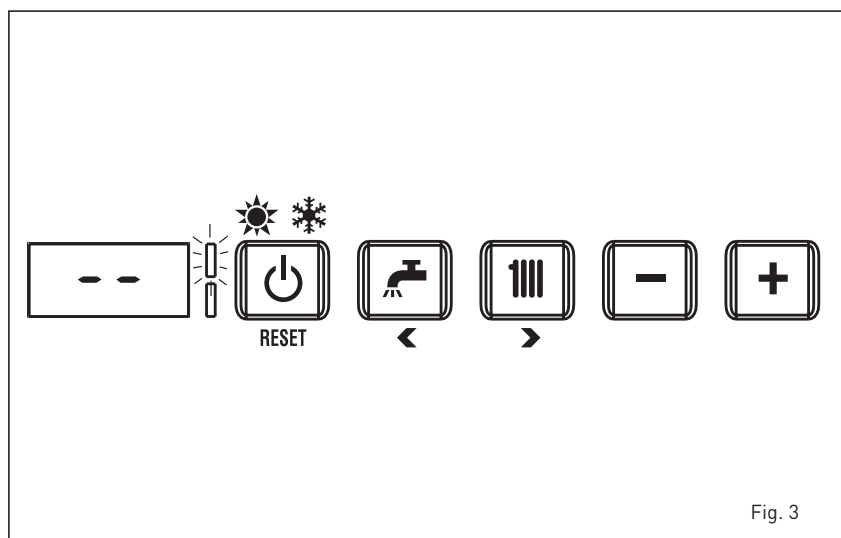icity supply, by switching off the main switch of the system, and to close the gas tap and, if low temperatures are expected, to completely empty the hydraulic circuits to avoid pipes being damaged by frost.



Fig. 2



Fig. 2/a



Fig. 3

## ANOMALIES AND SOLUTIONS

When there is a functioning anomaly, the display controls shows **a red led**. Descriptions of the anomalies with the relative alarms and solutions are given below:

– **AL 01**  (fig. 4)
Press the key ⏻ of the controls to re-start the boiler.
**If the anomaly persists, call a qualified technical personnell.**
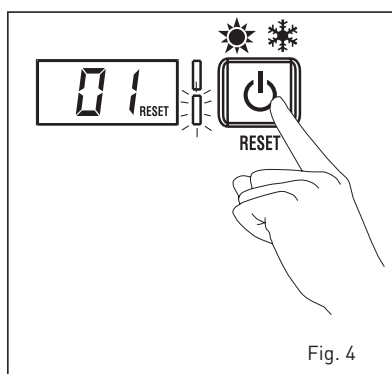

Fig. 4

– **AL 02**  (fig. 4/a)
If the water pressure detected is lower than 0.5 bar, the boiler will stop and the display will show "AL 02". Bring the pressure back to normal bymeans of the charging system, until the pressure indicated by the hydrometer is between 1 and 1.2 bars.


Fig. 4/a
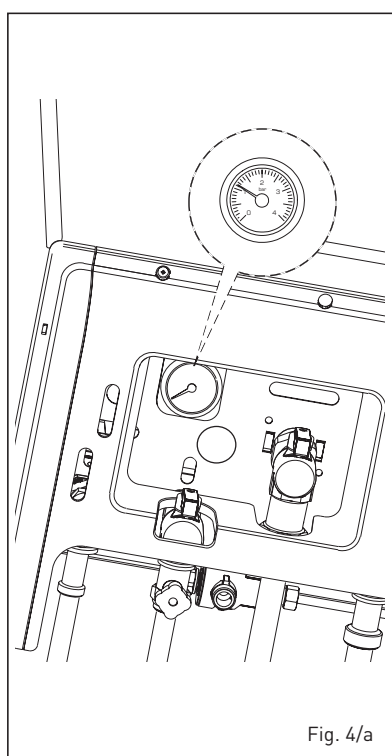
**If it is necessary to repeat the system loading procedure, it is advisable to contact qualified technical personnel to check the seal of the heating system (to check whether there are any leaks).**

– **AL 04**
**Call a qualified technical personnel.**

– **AL 05**
**Call a qualified technical personnel.**

– **AL 06** (fig. 4/b)
Press the key ⏻ of the controls to re-start the boiler.
**If the anomaly persists, call a qualified technical personnel.**


Fig. 4/b
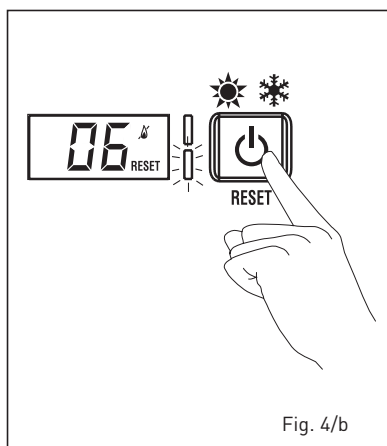
– **AL 07** (fig. 4/c)
Press the key ⏻ of the controls to re-start the boiler.
**If the anomaly persists, call a qualified technical personnel.**


Fig. 4/c
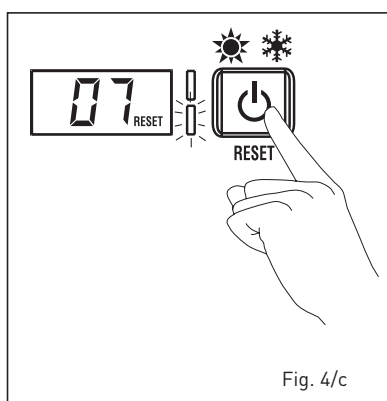
– **AL 08**
**Call a qualified technical personnel.**

– **AL 10**
**Call a qualified technical personnel.**
– **AL 11**
**Call a qualified technical personnel.**

– **AL 12**
**Call a qualified technical personnel.**

– **AL 16** (fig. 4/d)
Press the key ⏻ of the controls to re-start the boiler.
**If the anomaly persists, call a qualified technical personnel.**


Fig. 4/d
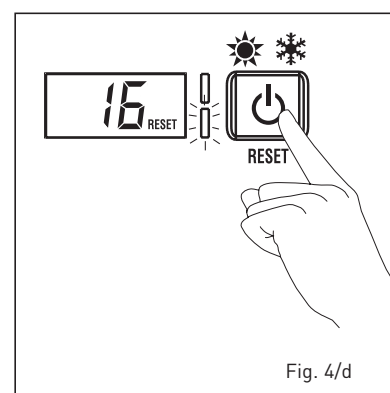
– **AL 17**
**Call a qualified technical personnel.**

## GAS CONVERSION

If it is necessary to change to a different type of gas, request assistance only from authorised technical personnel.

## MAINTENANCE

**Please refer to the maintenance schedule in Section 6 of this manual. The boiler is supplied with an electrical supply cable.**
**If this is damaged in any way it should be replaced only by a new cable from Hunt Heating and installed by a qualified technician.**

**DEFINITION: A qualified technical personnel. A person who is trained and licenced by law to install, make changes to this boiler.**
**The end user is wise to request the personnel's licence before any work is done.**

# 2.0    USER'S PRE-SERVICE CHECK LIST

## *I'm Cold! - The Heaters not Working.*
### Beefore calling for Hunt Heating Boiler Service please check the following.

| | |
|---|---|
| 1 | General |
| | Has the system worked before? if it did why did it stop? Is the boiler set to SUMMER position? |
| | *Check that the power, gas, valves or thermostat are turned ON. Boiler set to WINTER.* |
| | Does it work? - If NO go to Q2 |
| 2 | Power |
| | With power to the boiler. Are there indicator lights on or any error messages? If the indicator lights are on which ones? Check with boiler manual to understand what lights or error message mean and correct. |
| | Does it work? - If NO go to Q3 |
| 3 | Gas |
| | Is the gas isolation valve on? At the boiler, at the meter? Do other gas appliances work? |
| | *Check the gas isolation valve is on at the boiler and at the meter. If OFF do not turn on unless safe to do so. Check why it was turned OFF. Do the other gas appliances work?* |
| | Does it work? - If NO go to Q4 |
| 4 | Room Thermostat |
| | Is the display very dim or not showing at all? Is the room thermostat calling for heat? Turn it off, turn on, does it click and show the correct symbol? |
| | *If nothing happens – the batteries may need replacing, the room thermostat may be faulty. Bridging out the switch can be used to test this. Check voltage before removing cover.* |
| | Does it work? - If NO go to Q5 |
| 5 | Boiler |
| | Does the boiler start to work and then shut down? Fan, Pump, Ignition. Is there an usual noise coming from the boiler? Is there water running from the pressure relief valve? |
| | *Try pulling the knob on the pressure relief valve and releasing it. If it is still faulty turn OFF IMMEDIATELY and call Hunt Heating or your service technician.* |
| | Does it work? - If NO go to Q6 |
| 6 | Radiators |
| | Are some radiators hot and others cold? |
| | *Check that the radiator valves are turned on, that the thermostatic heads are operating correctly and the lockshield valves are open. Is the system balanced properly? Is the top of the radiator cold but the bottom hot – Bleed air from the radiator.* |

## FOR WARRANTY, SERVICE & SPARES: Ring: 1300 001800

### Please have Product Details, Serial Number and Installer Information
### Ready BEFORE ringing.

REFER TO PAGE 8

# 3.0    BOILER REGISTRATION

## IMPORTANT INFORMATION
*Please read before Installation. Fill in and retain with the boiler for future use.*

### LOG BOOK – Installation, Commissioning and Service

### 1. Installation Details

| Owner | -name | |  |
|---|---|---|---|
| Installation Address | -Street | | |
| City | | PC | State |
| Installation Phone Number | | | |
| Contact and Phone Number | | | |

| Sime Product | | – Model | FORMAT DGT Internal - 30i or External - 30e | | |
|---|---|---|---|---|---|
| Serial Number | | refer to data plate | | | |
| Gas Type | | Natural Gas ❏ | LPG ❏ | Internal ❏ | External ❏ |
| Gas pressure Settings | | AT GAS VALVE INLET TEST POINT | | Central Heating. Adjusted output setting | |
| | | Max | Pa | | kW |
| The System pipes MUST BE FLUSHED before the connecting this boiler | | | | | |
| New ❏ | | Existing ❏ | System FLUSHED before installation of boiler | | Yes ❏ |
| Water treatment      No ❏      Yes ❏ | | Product | | Qty Used Litres | |
| System Volume            Litres | | Dilution rate | | Litres per 100 litres | |
| Installer Company | | | | | |
| Company Address | | | | | |
| City | | | | PC | State |
| Installer Name | | | | PIC Licence No. | |
| Commissioning completed     ❏ | | Date;-        /        /20__ | | by | |
| Hand Over completed        ❏ | | Date;-        /        /20__ | | to | |

# 4.0   COMMISSIONING BOILER CHECK LIST

*A suggested method of commissioning the boiler, actual method can vary according to the boiler make type and the installation. The boiler must always be installed , and commissioned by an qualified gas technician. The installer certifies that this Boiler has been installed to the manufacturer's instructions, has been filled, commissioned and is ready for use.*

| No. | Description | ✔ when done |
|---|---|---|
| 1 | Read carefully the instruction manuals supplied with this boiler. | |
| 2 | BEFORE INSTALLING THIS BOILER FLUSH OUT THE PIPES UNTIL CLEAN WATER IS ACHIEVED. | |
| 3 | Turn off all services to this boiler - water, gas and power. Install the boiler as shown in the instructions following and connect all services. | |
| 4 | Turn on water to fill system, check for leaks regularly and bleed air from all points. Bleed the air from all the pumps in the system, and rotate the impeller shaft | |
| 5 | Check that all radiators valves are open, remove the thermostatic valve heads, fully open all lockshield valves. | |
| 6 | Turn ON gas, bleed air out at the isolation valve union. Reseal and check for gas leaks. Turn gas OFF. | |
| 7 | Turn electricity on at the power point. At the boiler front panel set the temperature setting to the lowest setting, switch boiler to ON position. The "Power on" Indicator should light. Turn the boiler off at the front panel. | |
| 8 | Turn the room thermostat to the manual ON position set the temperature to a high level so that it do es not switch off during the commissioning phase. The thermostat will unusually click and shows an Indicator in the window. | |
| 9 | Switch the boiler ON at the boiler front panel control. | |
| 10 | Boiler should start fan, pump and ignite gas. If it fails first few times this may be just residual air In the gas line. A noisy water pump indicates there is air in the water pipes. | |
| 11 | Boiler lights and heats the water. Check gas flame is the correct colour and for gas and water leaks as the system heats up. Check inlet and outlet gas pressures. | |
| 12 | Check that heat is going to all radiators through the manual or thermostatic first and return via the lockshield valve. If not STOP fix NOW and any leaks. | |
| 13 | Allow the boiler to heat up to the set temperature and switch off. Re-adjust the boiler temperature to a mid temperature point. **CAUTION, If this is connected to a floor heating system. The boiler should re light and increase the water temperature to the new setting.** | |
| 14 | Check that all radiators are hot all the way up. If the radiator is cold at the top, then there is usually air in the radiator Bleed the radiator. Balance the system so that all. Radiators are hot as according to the radiator installation manual. Adjust the boiler water temperature. | |
| 15 | Set the room thermostat to the correct times and temperatures according to the manufacture's instructions. Re-fit any thermostatic heads to the radiator valves. | |
| 16 | On completion of the commissioning phase, complete the information sheet at the front of this manual. Hand over the installation to the owner and demonstrate how the system works plus basic fault resolution and safety procedures. Make sure that this important document is kept in a safe accessible place for subsequent use. | |

## *IF IN DOUBT ASK*

# 5.0    SERVICE RECORDS

| Service – 2 – year 3 | Date | |
|---|---|---|
| Service technician | Name | PIC Licence No. |
| Service Company | | |
| Contact phone number | | |
| Work Completed | | |
| Note | | |

| Service – 3 – year 5 | Date | |
|---|---|---|
| Service technician | Name | PIC Licence No. |
| Service Company | | |
| Contact phone number | | |
| Work Completed | | |
| Note | | |

| Service – 4 – year 7 | Date | |
|---|---|---|
| Service technician | Name | PIC Licence No. |
| Service Company | | |
| Contact phone number | | |
| Work Completed | | |
| Note | | |

| Service – 5 – year 9 | Date | |
|---|---|---|
| Service technician | Name | PIC Licence No. |
| Service Company | | |
| Contact phone number | | |
| Work Completed | | |
| Note | | |

| Service – 6 – year 11 | Date | |
|---|---|---|
| Service technician | Name | PIC Licence No. |
| Service Company | | |
| Contact phone number | | |
| Work Completed | | |
| Note | | |

| Service – 7 – year 13 | Date | |
|---|---|---|
| Service technician | Name | PIC Licence No. |
| Service Company | | |
| Contact phone number | | |
| Work Completed | | |
| Note | | |

# 6.0 INSTALLER INSTRUCTIONS

## CONTENTS

USERS

INSTALLER

# 6.1  DESCRIPTION OF THE BOILER

### 6.1.1  INTRODUCTION

**"FORMAT DGT"** are the gas fuelled burner groups for heating, constructed to satisfy the needs of collective residential housing and modern plant. They are apparatuses which conform to the European directives 90/396/CE, 2004/108/CE,2006/95/CEand92/42/CE. The can be fuelled by natural gas (G20) or LPG (G30-G31).

This manual gives the instructions for:
- Model "30i" is an internally installed boiler.
- Model "30e" is an externally installed boiler.

The instructions given in this manual are provided to ensure proper installation and operation of these boilers.

THESE BOILERS INSTALLED IN AUSTRALIA MUST CONFORM TO AUSTRALIAN STANDARDS AS 5601, LOCAL GOVERNMENT LAWS AND REGULATIONS.

### 6.1.2  DIMENSIONS



"30i SYSTEM" model

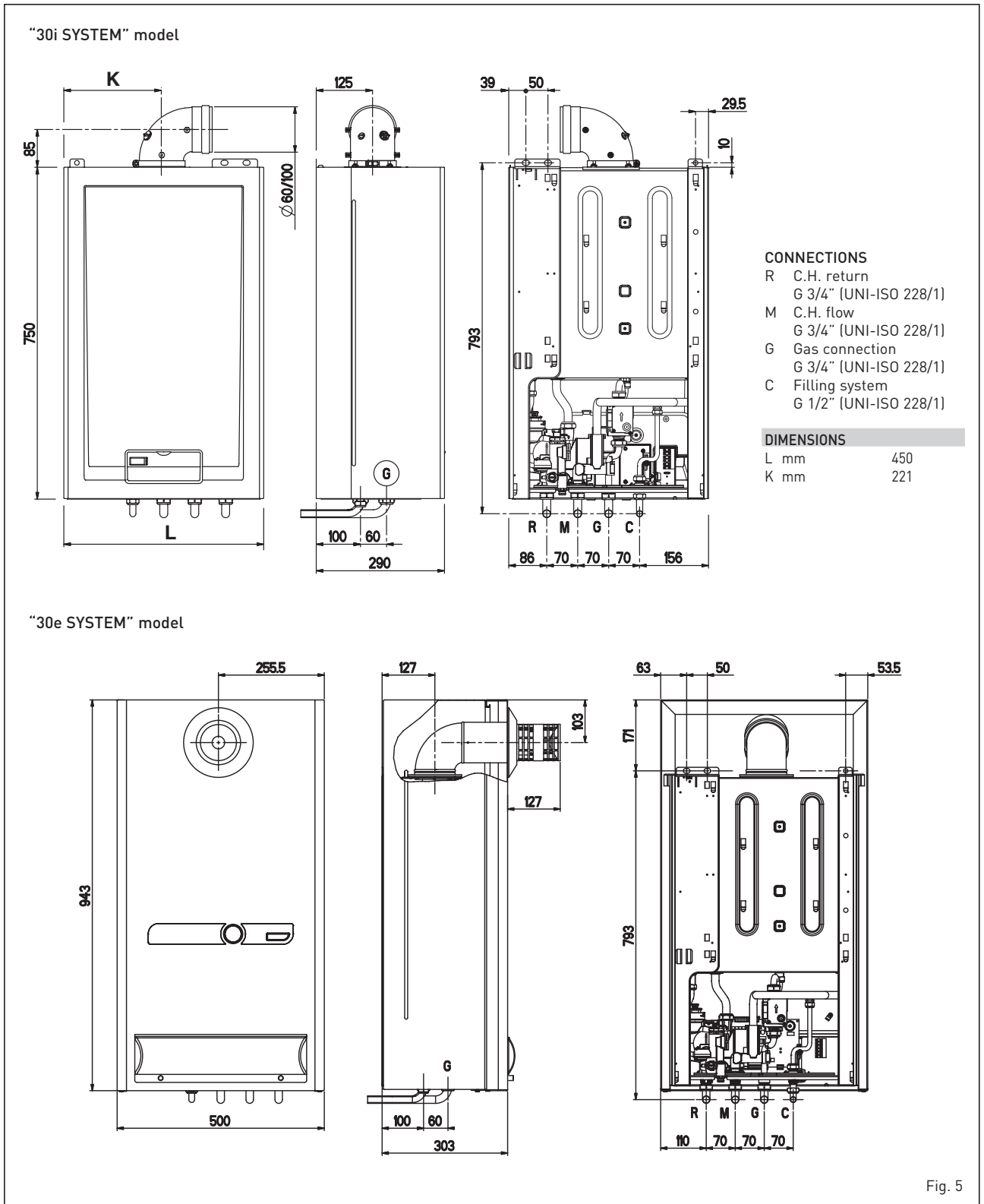CONNECTIONS
R  C.H. return
    G 3/4" (UNI-ISO 228/1)
M  C.H. flow
    G 3/4" (UNI-ISO 228/1)
G  Gas connection
    G 3/4" (UNI-ISO 228/1)
C  Filling system
    G 1/2" (UNI-ISO 228/1)

DIMENSIONS
L  mm    450
K  mm    221

"30e SYSTEM" model

Fig. 5

## 6.1.3 TECHNICAL FEATURES

| Models | | 30i - 30e SYSTEM |
|---|---|---|
| **Heat output** | | |
| Nominal (80-60°C) | kW | 29,4 (Natural Gas at 1,13 lPa)<br>29,4 (LPG at 2,75 kPa) |
| Reduced | kW | 10,8 (Natural Gas at 1,13 lPa)<br>11,8 (LPG at 2,75 kPa) |
| **Heat input** | | |
| Nominal (80-60°C) | MJ/h | 123,0 (Natural Gas at 1,13 lPa)<br>123,0 (LPG at 2,75 kPa) |
| Reduced | MJ/h | 45,1 (Natural Gas at 1,13 lPa)<br>49,1 (LPG at 2,75 kPa) |
| **Supply Voltage** | V | 240 (50 Hz) |
| **Adsorbed power consumption** | W | 145 |
| **C.H. setting range** | °C | 20/80 |
| **Water content boiler** | l | 6,1 |
| **Maximum water head** | bar | 3,0 |
| **Maximum temperature** | °C | 85 |
| **Capacity of the heating expansion vessel** | l | 10 |
| **Pressure of the heating expansion vessel** | bar | 1,2 |
| **Main burner nozzle** | | |
| Quantity of injectors | n° | 13 |
| Natural Gas/LPG Injector Diameter | mm | 1,45 / 0,85 |
| Natural Gas/LPG Test Point Pressure | kPa | 0,79 / 2,50 |
| **Weight when empty** | kg | 31 |

# IMPORTANT:
# INSTALLATION AND ALL SERVICING MUST BE CARRIED OUT BY AN AUTHORISED PERSON.

"30i - 30e SYSTEM" models



**KEY**

1 Fan
2 Primary exchanger
3 C.H. sensor (SM1/SM2)
4 Combustion chamber
5 Gas valve
7 Pump
8 3 BAR safety valve
9 Water pressure switch
10 By-pass
11 Drain vent
12 Expansion vessel
13 Hydrometer
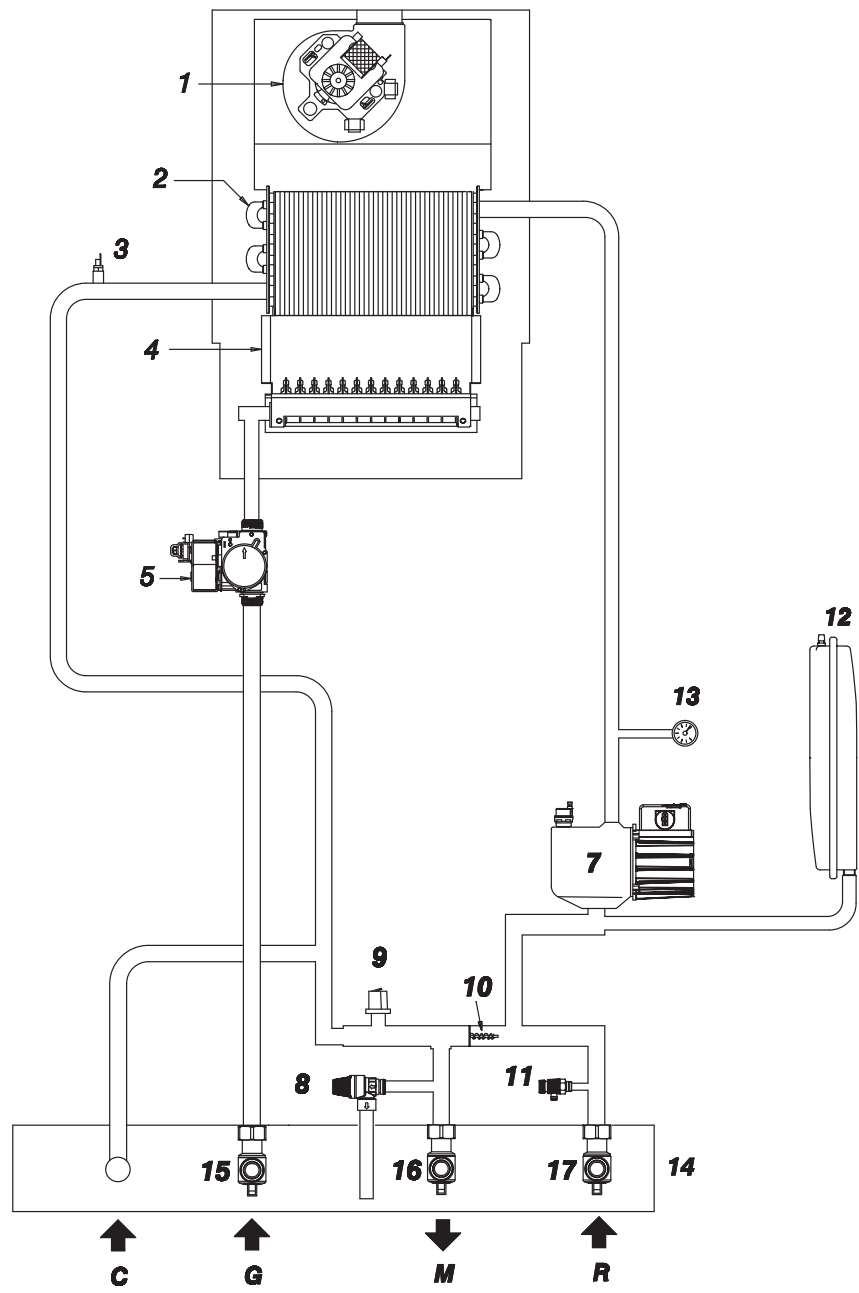
14 Connection plate
15 Gas isolation valve (optional)
16 C.H. flow isolation valve (optional)
17 C.H. return isolation valve (optional)

**CONNECTIONS**

G Gas connection
M C.H. flow
S Safety valve discharge
R C.H. return
C Filling system

Fig. 6

**6.1.5 MAIN COMPONENTS**

Fig. 7

"30i – 30e SYSTEM" models
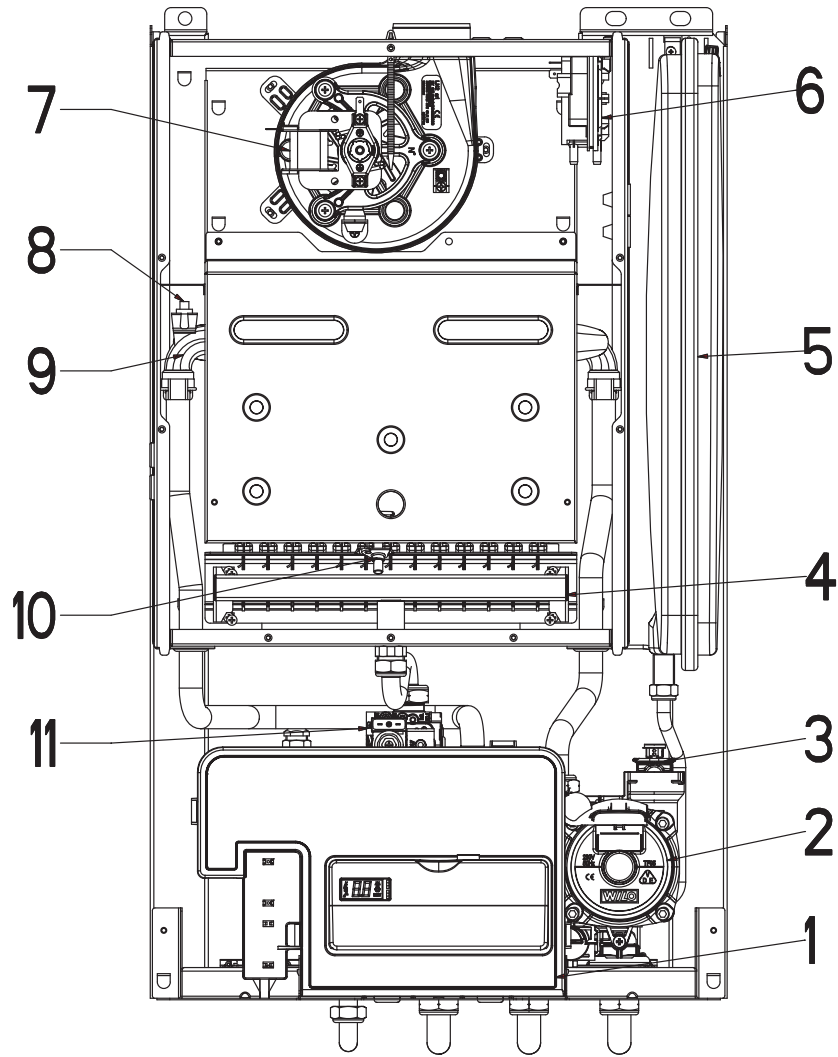


KEY
1 Control panel
2 Pump
3 Air relief valve
4 Burners
5 Expansion vessel
6 Air pressure switch
7 Fan
8 C.H. sensor (SM1/SM2)
9 Primary exchanger
10 Ignition/detection electrode
11 Gas valve

Fig. 7

## 6.2 INSTALLATION

The boiler must be installed in a fixed location and only by authorised personnel in compliance with all instructions contained in this manual.
Furthermore, the installation must be in accordance with current Standard AS 5601and other regulations as applicable. Use the template supplied to position all holes.

### 6.2.1 INSTALLATION

– These boilers can be installed in all normal domestic environments as a room sealed multi function boiler.
– These boilers can also be installed in partially covered areas, as per AS5601, with a maximum ambient temperature of 60°C and a minimum ambient temperature of - 5°C. It is generally advisable to install the boilers below weathered roofs, on the balcony or in a protected niche, to protect them from exposure to weathering agents (rain, hail and snow). All boilers provide a standard antifreeze function.

MINIMUM CLEARANCES
for INTERNAL BOILERS

This Boiler must have the following clearances:
Above 200 mm
Below 200 mm
Sides 50 mm
Front 600 mm
Min 50 mm to an openable panel.

#### 6.2.1.1 Anti-freeze function

The boilers are equipped with anti-freeze function which activates the pumps and the burner when the temperature of the water contained inside the appliance drops to below value PAR 10. The anti-freeze function is ensured, however, only if:
– the boiler is correctly connected to the gas and electricity supply circuits;
– the boiler is constantly fed;
– the boiler ignition is not locked out;
– the essential components of the boiler are all in working order

In these conditions the boiler is protected against frost down to an environmental temperature of -5°C.

**ATTENTION: In the case of installation in a place where the temperature drops below 0°C, the connection pipes must be protected.**

### 6.2.2 COMPLEMENTARY ACCESSORIES

The fixing jig code 8075427 is supplied on request. It allows to mount the boiler on wall and it is completed of installing instructions.

### 6.2.3 CONNECTING UP SYSTEM

To protect the heat system from damaging corrosion, incrustation or deposits, before installation it is extremely important to clean the system using suitable products such as, for example, FERNOX. Complete instructions are provided with the products but, for further information please contact the Hunt Heating technical department.
For long-term protection agains corrosion and deposits, the use of inhibitors such as Fernox is recommended after cleaning the system. It is important to check the concentration of the inhibitor after each system modification and during maintenance following the manufacturer's published instructions.
The safety valve drain must be connected to a collection funnel to collect any discharge during interventions. If the heating system is on a higher floor than the boiler, install the on/off taps supplied in kit optional on the heating system delivery/return pipes.

**WARNING: Failure to clean the heating system or add an adequate inhibitor invalidates the appliance's warranty.**

Gas connections must be made in accordance with current standards and regulations. When dimensioning gas pipes from the meter to the module, both capacity volume (consumption) in $m^3/h$ and gas

density must be taken into account.

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

#### 6.2.3.1 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.

### 6.2.4 SYSTEM FILLING

The charge pressure, with the system cold, must be between **1** and **1.2 bar**.
Filling must be done slowly so as to allow any air bubbles to be bled off through the air valves.
Should the pressure have risen well above the limit expected, discharge the over pressure by opening the pressure-relief valve.

**NB: In the SYSTEM version the filling is done by the system filling connection (item 10 fig. 8).**

#### 6.2.4.1 Emptying the system

Use the drain vent to empty the system (item 5 fig. 8).
Turn off the boiler before doing this.



KEY
4 3 BAR safety valve
5 Boiler discharge
6 Automatic by-pass (blue)
7 Water pressure switch
8 Diverter valve
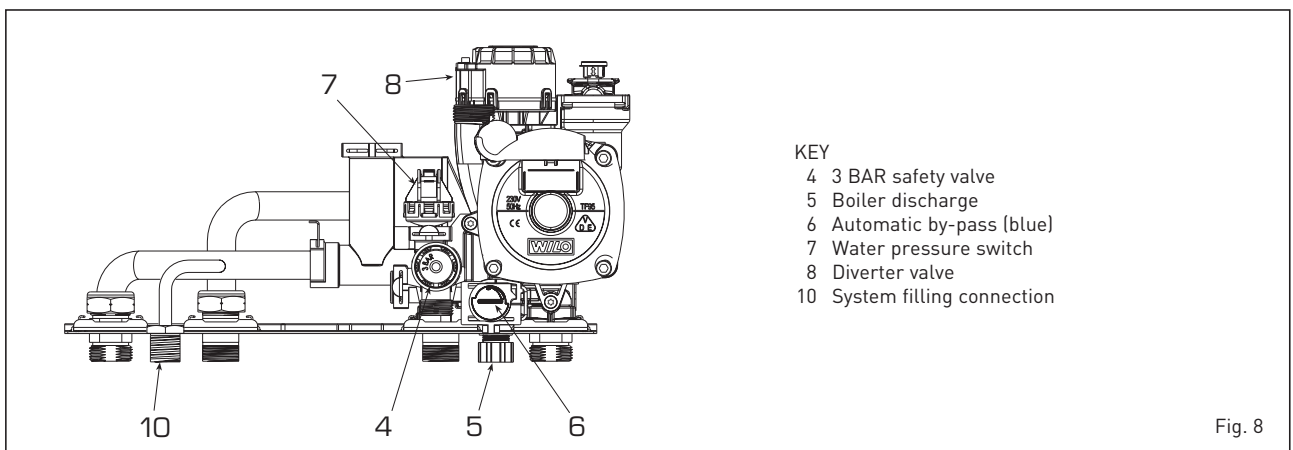10 System filling connection

Fig. 8

## FLUE 60/100 CO-AXIAL

IMPORTANT:
– Each additional 90° curve installed reduces the available length by 1.0 metres.
– Each additional 45° curve installed reduces the available length by 0.50 metres.
– The insertion of the condensation collector (8) is obligatory for vertical stretches of more than 1.3 metres.

**KEY**
1  Roof outlet terminal L. 1284 code 8091200
2  Flashing by others
3  Extension L. 1000 code 8096103
4  Vertical adapter L. 200 code 8086908
5  Additional 90° bend code 8095801 (not shown)
   Additional 45° bend code 8095900 (not shown)
6  Vertical condensation collector L. 200 code 8092803 (not shown)
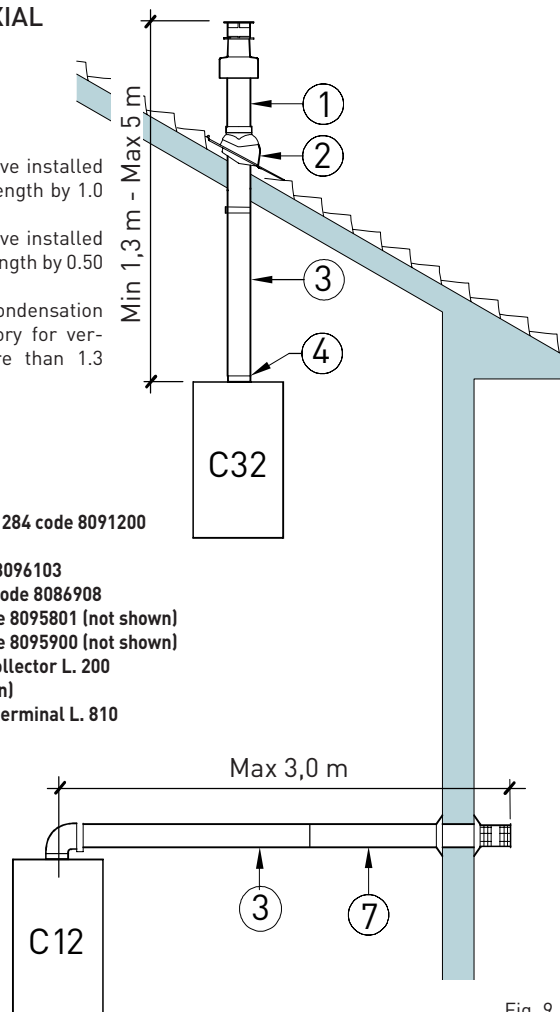7  Horizontal flue kit with terminal L. 810 code 8084811

Min 1,3 m - Max 5 m

C32

Max 3,0 m

C12

Fig. 9

### 6.2.5  FLUES/CHIMNEYS

A chimney or flue for the evacuation of the combustion products into the atmosphere must correspond to the requisites prescribed by the laws in force.
In particular, the specific prescriptions of law relative to boilers with forced draught (type C) must be respected.

### 6.2.6  INSTALLATION OF COAXIAL DUCT

#### 6.2.6.1 Accessories 60/100

The 60/100 coaxial duct is supplied on request in kit code 8084811.
The diagrams of fig. 9 illustrate some examples of different types of flue arrangements allowed and the maximum lengths that can be reached.

#### 6.2.6.2 Diaphragm for 60/100 coaxial duct

The boiler is supplied with a diaphragm of ø 81. Use the diaphragms according to the indications of fig. 9/a.

#### 6.2.6.3 Accessories ø 80/125

The ø 80 coaxial duct is supplied on request in a kit code 8084830 complete with assembly instructions.

**With the curve supplied in the kit, the maximum horizontal length of the duct must be no more than 6 metres.**

The diagrams in fig. 10 show some examples of the different types of ø 80/125 coaxial discharge modalities.

### 6.2.7  INSTALLATION OF SEPARATE DUCTS

When installing, the provisions of the laws in force must be adhered to, as well as certain practical suggestions:

– With aspiration directly from outside, when the duct is longer than 1 metre, it is advisable to insulate the said duct in order to avoid the formation of dew on the outside of the pipe when the weather is particularly cold.
– With ducts with discharge positioned outside the building, or in cold environments, insulation is necessary to avoid difficulty in starting the burner. In these cases, a condensation system on the pipes must be provided for.
– If the pipe passes through flammable walls, insulate the stretch of the exhaust pipe that passes through the wall with rounded glass wool 30 mm thick and with a density of 50 kg/m$^2$.
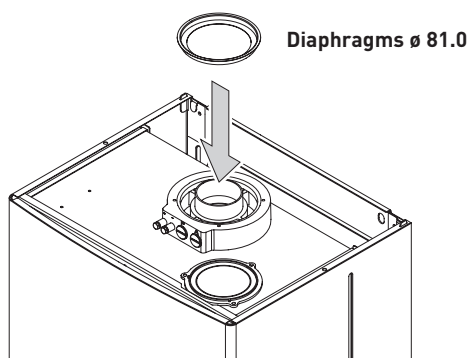
**Diaphragms ø 81.0**

**For discharge types C12, use the diaphragms ø 81.0, supplied with the boiler, only when the length of the coaxial duct is less than 1 metre.**

| For discharge types C32, use the following diaphragms according to the length of the duct and without additional curves: | | | |
|---|---|---|---|
| Installations with vertical extension L. 200 code 8086908 * | | Installations with vertical condensation collector code 8092803 * | |
| Diaphragm ø 81 | Without diaphragm | Diaphragm ø 81 | Without diaphragm |
| L max = 2.5 m | L max = 5 m | L max = 2.5 m | L max = 5 m |

**\* Minimum length of duct L = 1.3 m.**

Fig. 9/a

**The maximum flue legnth is determined by the sum of the individual head losses** of the air inlet and exhaust components **and must not exceed 9.5 mm H2O (93.2 Pa).** For the individual head loss of the flue components, refer to **Table 1**.

## FLUE 80/125 CO-AXIAL

IMPORTANT:
– Each additional 90° curve installed reduces the avai-lable length by 1.0 metres.
– Each additional 45° curve installed reduces the avai-lable length by 0.80 metres.
– The insertion of the condensation collector (8) is obligatory in C32 discharge type.

KEY
1  Coaxial duct kit code 8084830
2  Extension L. 1000 code 8096130
3  Vertical extension L. 200 with coupling code 8086908
4a  Additional 90° curve code 8095820
4b  Additional 45° curve code 8095920
5  Adapter for 80/125 code 8093120
6  Flashing by others
7  Terminal for roof exit L. 1284 code 8091200
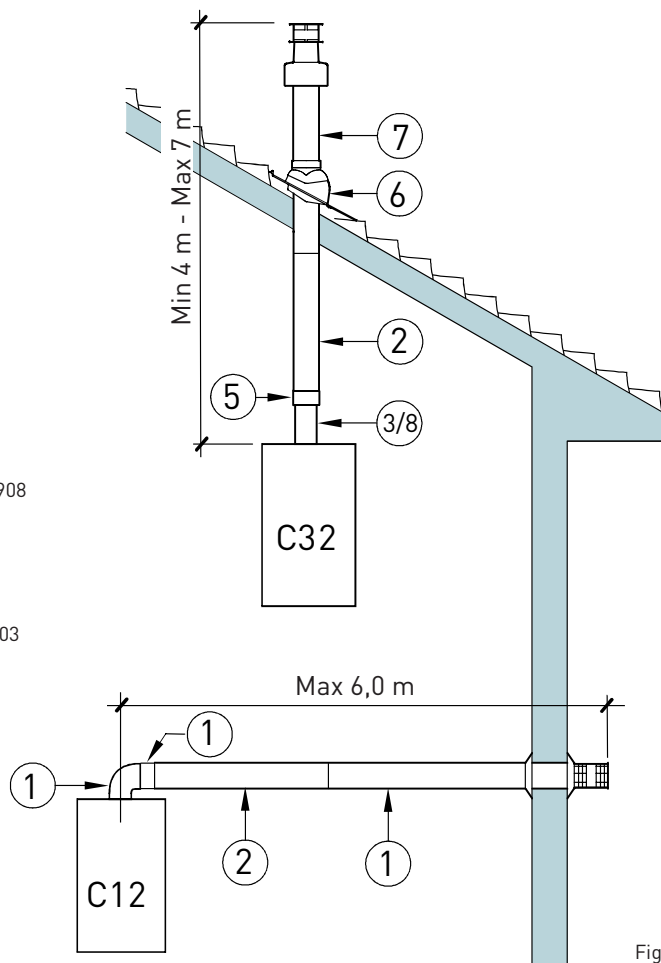8  Vertical condensation collector L. 200 code 8092803
(Used as alternative to item 3)

Fig. 10

TABLE 1

| Accessories ø 80 | Load loss mmH2O (Pa) | |
| --- | --- | --- |
| | Intake | Outlet |
| 90° elbow MF | 0.45 (4.41) | 0.50 (4.90) |
| 45° elbow MF | 0.40 (3.92) | 0.45 (4.41) |
| Extension L. 1000 (horizontal) | 0.25 (2.45) | 0.35 (3.43) |
| Extension L. 1000 (vertical) | 0.25 (2.45) | 0.15 (1.47) |
| Wall terminal | 0.20 (1.96) | 0.80 (7.85) |
| T-shaped condensation collector | --- | 1.00 (9.81) |
| Roof exit terminal* | 2.00 (19.6) | 0.20 (1.96) |

*The loss of the roof exit terminal includes the losses of the collector code 8091400

Calculation example of the head loss of a "DGT 30i" vers. boiler (installation allowed as the sum of the head losses of the accessories used is less than 9.5 mm $H_2O$–93.2 Pa):

| | Intake | Outlet | |
| --- | --- | --- | --- |
| 7 meter horizontal pipe ø 80 x 0.25 (2.45 Pa) | 1.75 (17.20) | – | |
| 7 meter horizontal pipe ø 80 x 0.35 (3.43 Pa) | – | 2.45 (24.00) | |
| No. 2 90° elbows ø 80 x 0.45 (4.41 Pa) | 0.90 (8.83) | – | |
| No. 2 90° elbows ø 80 x 0.50 (4.90 Pa) | – | 1.00 (9.81) | |
| No. 1 wall terminal ø 80 | 0.20 (1.96) | 0.80 (7.85) | |
| Total head loss | 2.85 (27.99) + | 4.25 (41.66) | = **7.1 mm $H_2O$ (69.65 Pa)** |

**With this total head loss, remove the segments from No. 1 to No. 8 from diaphragm in the intake pipe.**

Fig. 11

### 6.2.7.1 Air/combustion products divider

The air/combustion products divider cod. 8093020 (fig. 12) is supplied with a diaphragm, segments must be removed, depending on the maximum head loss accepted in both ducts, as indicated in fig. 12/a.

### 6.2.7.2 Outlet systems

The diagrams in fig. 13 illustrate a number of examples of different types of separate outlets.



KEY
1  Divider with vent
2  Inlet air diaphragm
3  Air intake bend
4  Exhaust bend

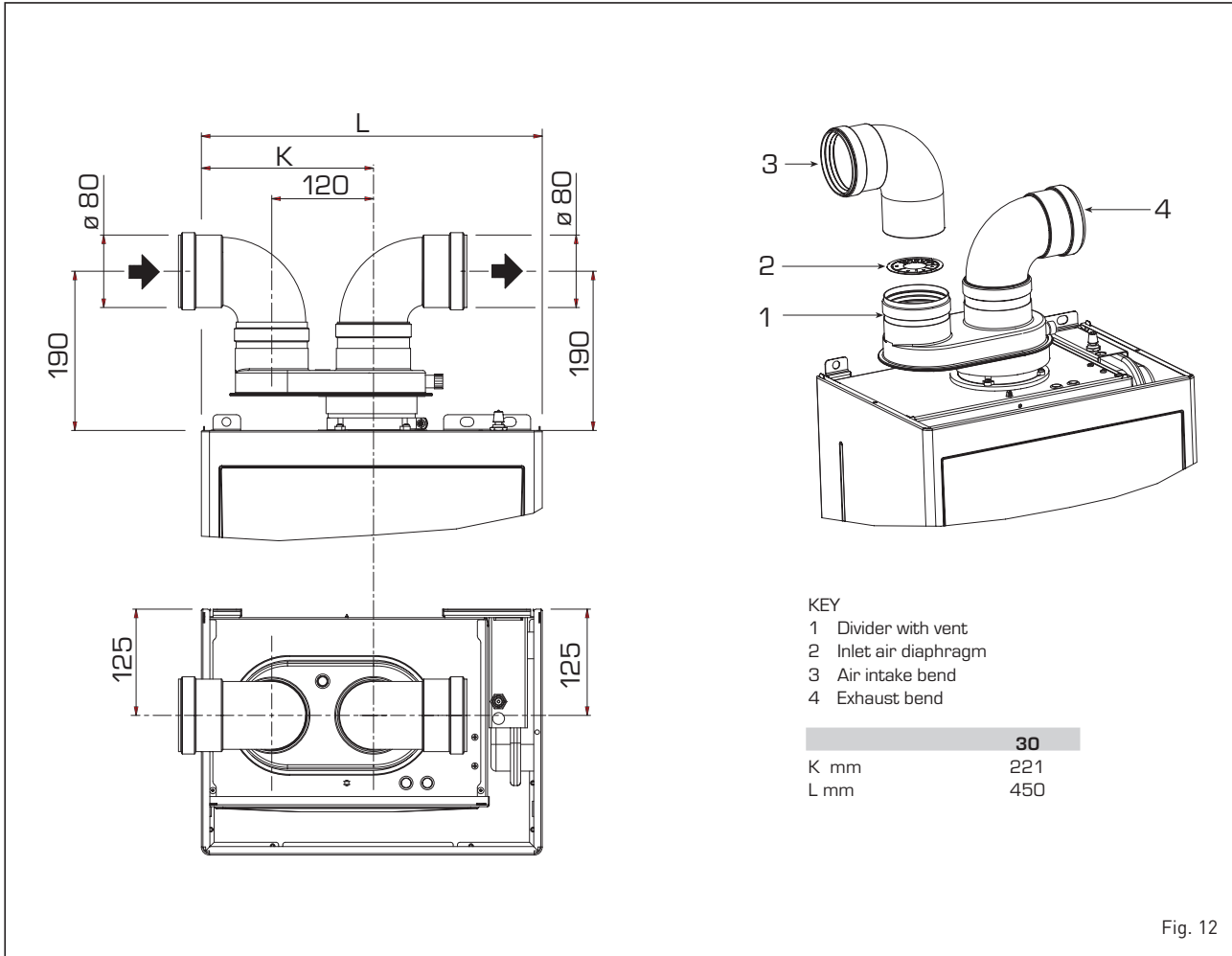|  | 30 |
|---|---|
| K  mm | 221 |
| L  mm | 450 |

Fig. 12

### 6.2.8  POSITIONING THE OUTLET TERMINALS

The outlet terminals for forced-draught appliances may be located in the external perimeter walls of the building.
To provide some indications of possible solutions, to be observed, with reference to the type of building shown in fig. 14 and 14/a, gives the minimum distances.
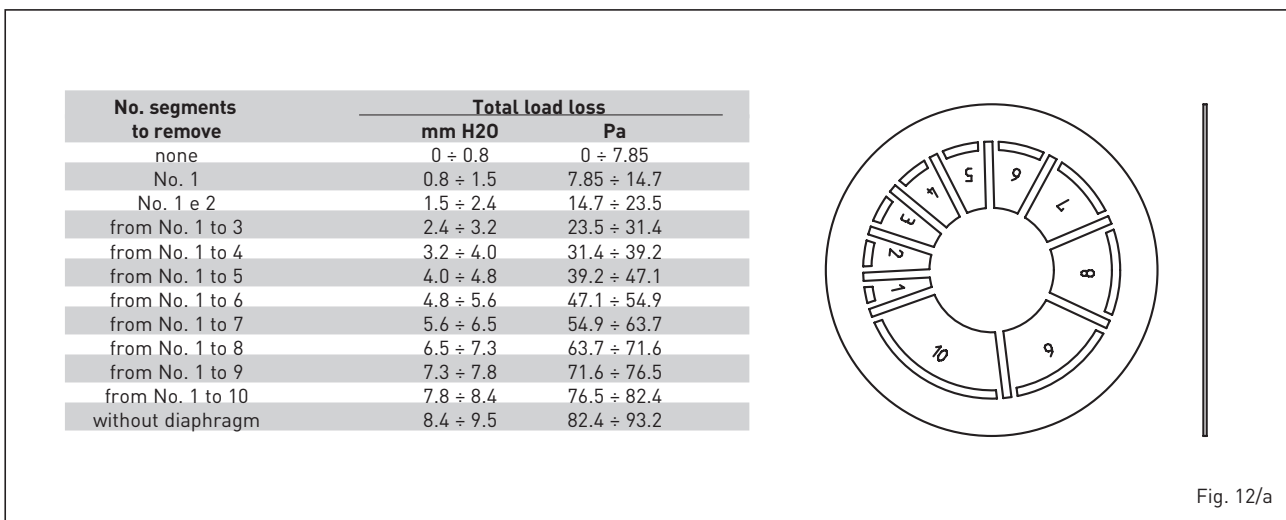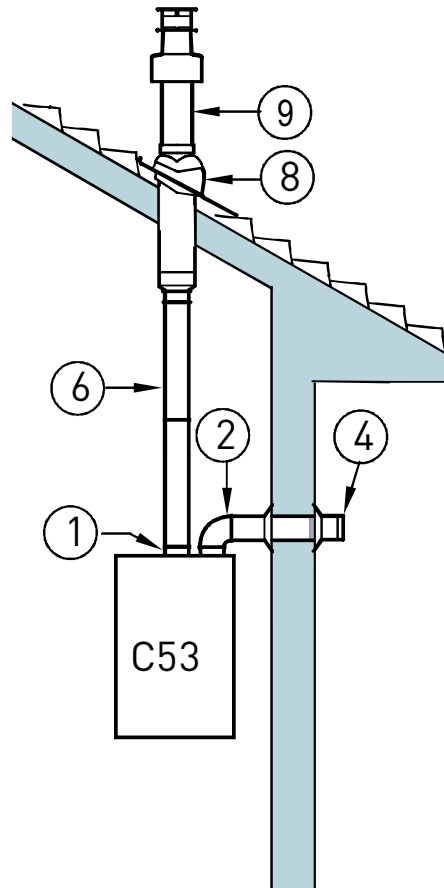
| No. segments to remove | Total load loss | |
|---|---|---|
|  | mm H2O | Pa |
| none | 0 ÷ 0.8 | 0 ÷ 7.85 |
| No. 1 | 0.8 ÷ 1.5 | 7.85 ÷ 14.7 |
| No. 1 e 2 | 1.5 ÷ 2.4 | 14.7 ÷ 23.5 |
| from No. 1 to 3 | 2.4 ÷ 3.2 | 23.5 ÷ 31.4 |
| from No. 1 to 4 | 3.2 ÷ 4.0 | 31.4 ÷ 39.2 |
| from No. 1 to 5 | 4.0 ÷ 4.8 | 39.2 ÷ 47.1 |
| from No. 1 to 6 | 4.8 ÷ 5.6 | 47.1 ÷ 54.9 |
| from No. 1 to 7 | 5.6 ÷ 6.5 | 54.9 ÷ 63.7 |
| from No. 1 to 8 | 6.5 ÷ 7.3 | 63.7 ÷ 71.6 |
| from No. 1 to 9 | 7.3 ÷ 7.8 | 71.6 ÷ 76.5 |
| from No. 1 to 10 | 7.8 ÷ 8.4 | 76.5 ÷ 82.4 |
| without diaphragm | 8.4 ÷ 9.5 | 82.4 ÷ 93.2 |

Fig. 12/a

KEY
1    Air/combustion product divider code 8093000
2    90° elbow MF (n° 6) code 8077410
     45° elbow MF (n° 6) code 8077411 (not shown)
3    Outlet terminal code 8089501
4    Intake terminal code 8089500
5    Internal - external ring kit code 8091500
6    Extension L. 1000 (n° 6) code 8077309
8    Flashing by others
9    Roof outlet terminal L. 1390 code 8091201

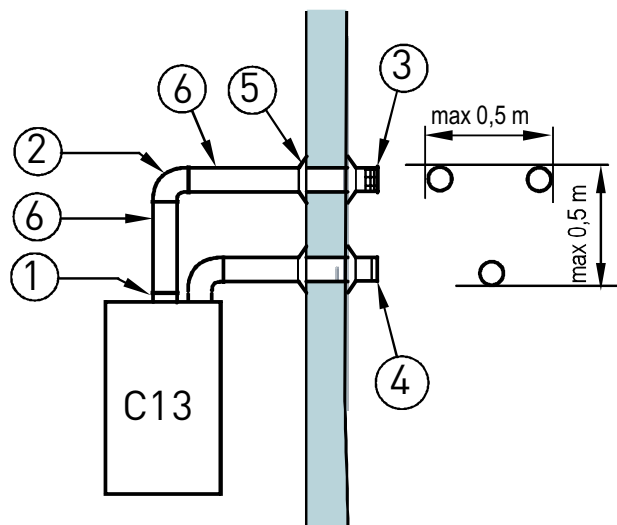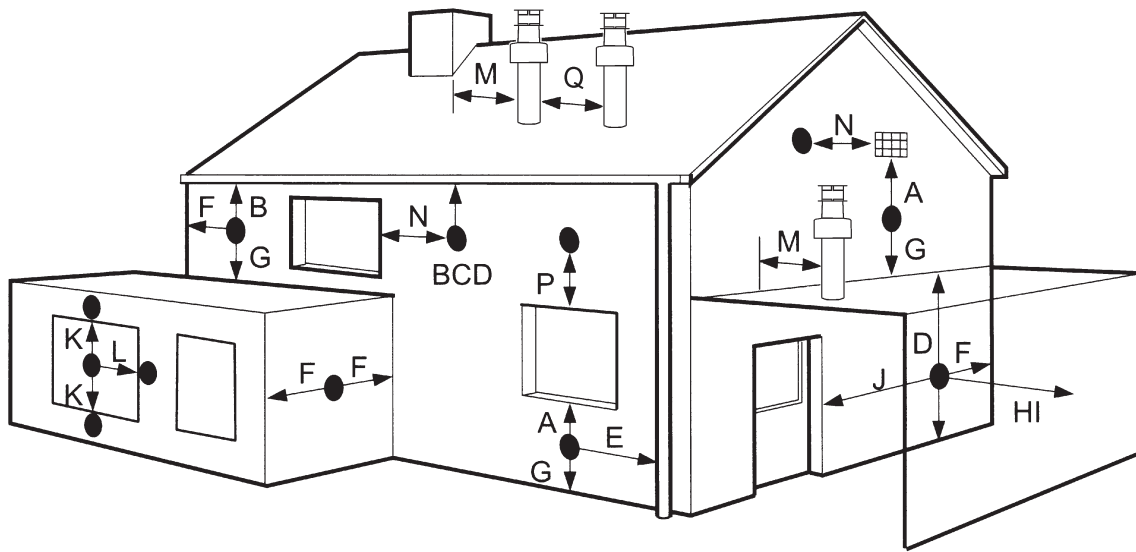IMPORTANT: In type C 53 & C13 the outlet and inlet flues must not come out on opposite walls.

Fig. 13

**NOTE**
The following information is an extract from AS 5601-2004. This information is subject to copyright of the AGA and Standards Australia and is supplied only as a reference. Every installer should have a copy and be familiar with this standard before installing this appliance.

**MINIMUM CLEARANCES REQUIRED FOR BALANCED FLUE TERMINALS, FAN-ASSISTED FLUE TERMINALS, ROOM-SEALED APPLIANCE TERMINALS OR THE TERMINALS OF OUTDOOR APPLIANCES.**

| 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 boundary or surface facing the boiler | 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 | Horizontally from a vertical terminal to a wall | 300 mm | 12 in |
| N | Horizontally from an openable window or other opening | 300 mm | 12 in |
| P | Above an openable window or other opening | 300 mm | 12 in |
| Q | From an adjacent vertical terminal | 600 mm | 24 in |

(*) For condensing boilers this distance can be reduced to 25 mm without effecting boiler performance, but it will be necessary to protect the surfaces from the effects of condensate

– If the terminal discharges into a pathway or passageway check that combustion products will not cause nuisance and that the terminal will not obstruct the passageway.
– Where the lowest part of the terminal is fitted less than 2 m (78 in) above ground, above a balcony or above a flat roof to which people have access, the terminal MUST be protected by a purpose designed guard.
– Where the terminal is fitted within 850 mm (34 in) of a plastic or painted gutter, or 450 mm (18 in) of painted eaves, an aluminium shield at least 1,500 mm (59 in) long must be fitted to the underside of the painted surface.
– The air inlet/outlet flue duct MUST NOT be closer than 25 mm (1 in) to combustible material.
– In certain weather conditions the terminal may emit a plume of steam. This is normal but positions where this would cause a nuisance should be avoided.

Fig. 14/a

## 6.2.9 ELECTRICAL WIRING

A standard 3 pin plug and cord are provided. It is essential that the correct polarity is maintained as should they be reversed the boiler will continually lockout. Should the lead be damaged, it must be replaced bya special lead from HUNT HEATING. The power supply must be single-phase 230V - 50 Hz through a main switch protected by a 3 A fuse with a distance of at least 3 mm between contacts.

**NOTE:**
**The boiler must be connected with an efficient grounding system. HUNT shall not be held liable for injury or damage resulting from failure to ground the boiler.**
**ATTENTION:**
**The boiler controls only put the unit in standby. Before working on the appliance isolate it from the power supply.**

### 6.2.9.1 Thermostat Connection

Remove the boiler casing, tilt the control panel and connect the room thermostat to the 6 pole terminal board as indicated in the boiler electrical diagram **(see paragraph 6.2.10)** after having removed the existing bridge.
The thermostat to be used must be of a class conforming to the standard EN 60730.1 (clean electrical contact).

### 6.2.9.2 Remote control CR 63 connection (optionals)

The boiler is designed for connection to a remote control unit CR 63 code 8092219 coupled to an optional expansion kit code 8092240.

The remote control unit allows for complete remote control of the boiler, except resetting of the boiler.

Whenn the connection has been made the boiler display will show the following message: **Cr**.

For installation and use of the remote control, follow the instructions in the package.

### 6.2.9.3 External sensor connection (optional)

The boiler is designed for connection to an external temperature sensor, supplied on request (code 8094101), which can automatically regulate the temperature value of the boiler output according to the external temperature.

For installation, follow the instruction in the package. It is possible to make corrections to the values read by the alteration of **PAR 4.**

NOTE: Any thermostat or external control unit must be installed by an authorised person in accordance with AS 30000 wiring rules.
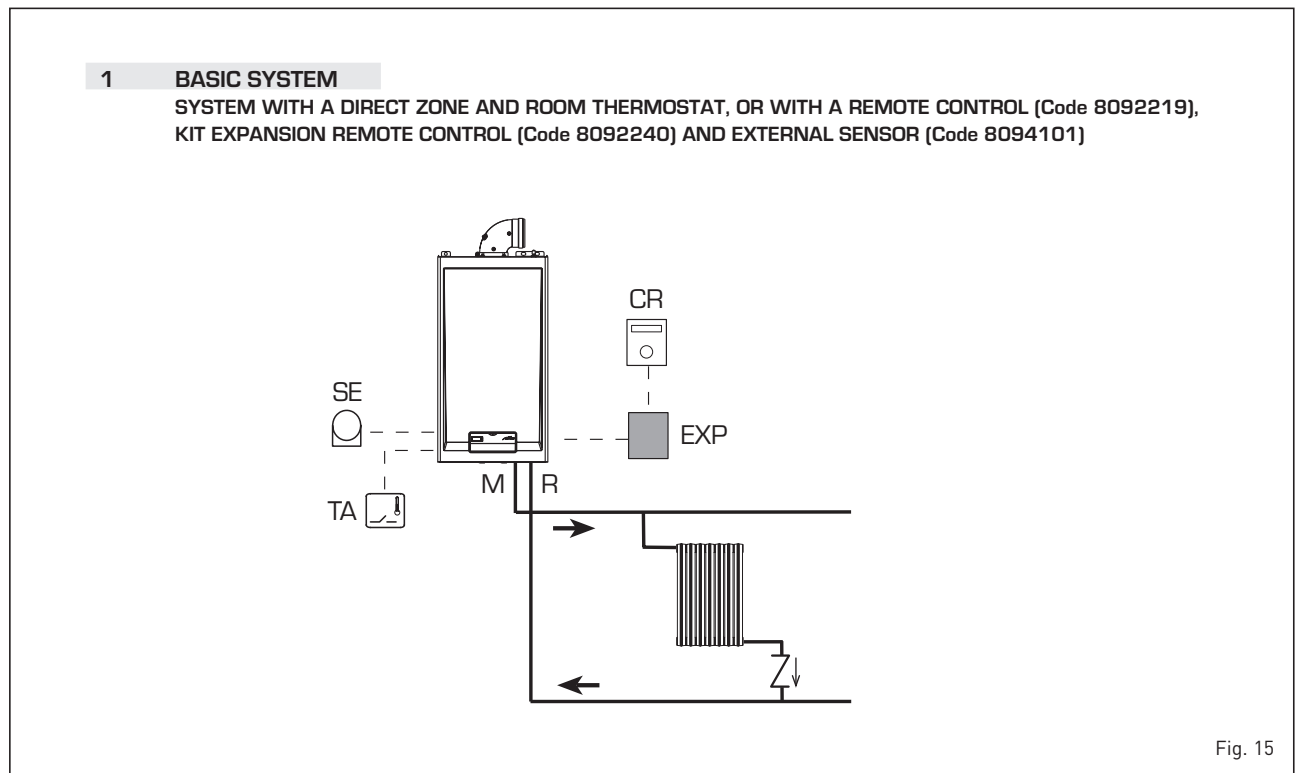
---

**1 BASIC SYSTEM**
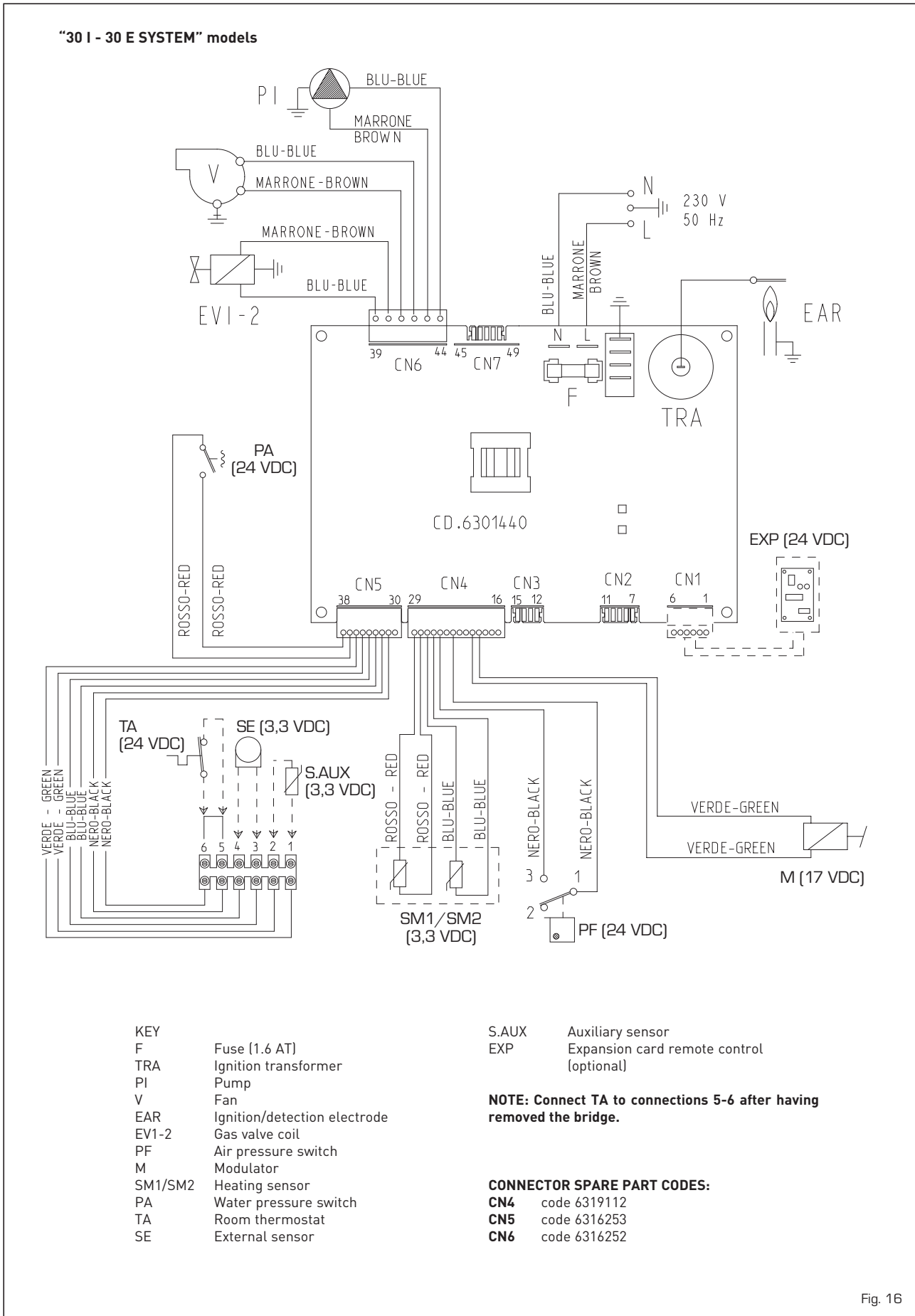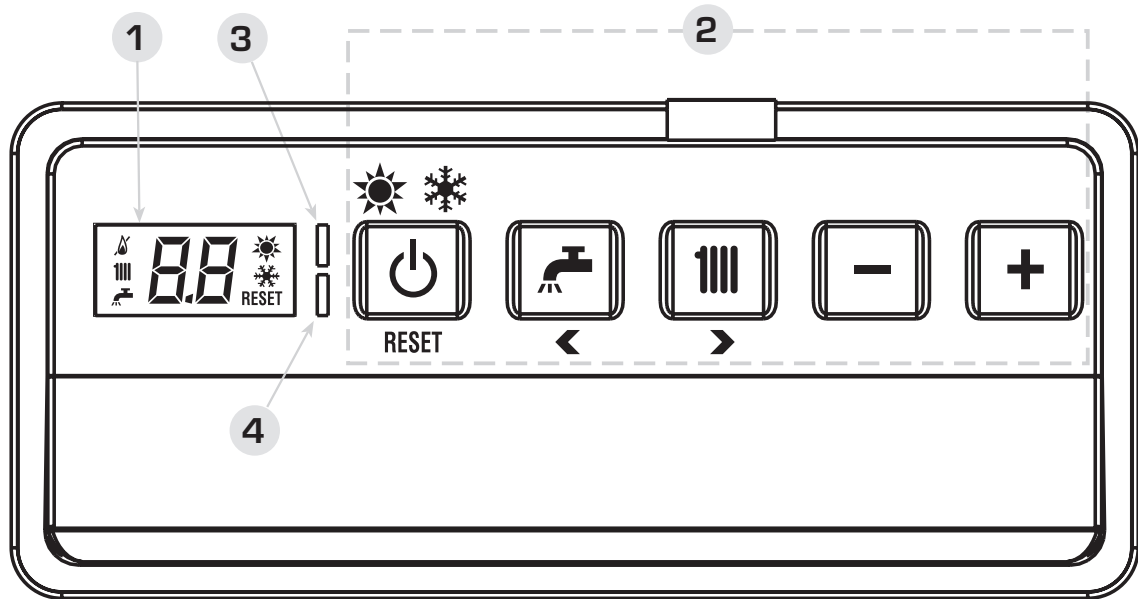**SYSTEM WITH A DIRECT ZONE AND ROOM THERMOSTAT, OR WITH A REMOTE CONTROL (Code 8092219), KIT EXPANSION REMOTE CONTROL (Code 8092240) AND EXTERNAL SENSOR (Code 8094101)**



Fig. 15

## 6.2.10 BOILER ELECTRICAL DIAGRAM

**"30 I - 30 E SYSTEM" models**



| | KEY | |
|---|---|---|
| F | Fuse (1.6 AT) | |
| TRA | Ignition transformer | |
| PI | Pump | |
| V | Fan | |
| EAR | Ignition/detection electrode | |
| EV1-2 | Gas valve coil | |
| PF | Air pressure switch | |
| M | Modulator | |
| SM1/SM2 | Heating sensor | |
| PA | Water pressure switch | |
| TA | Room thermostat | |
| SE | External sensor | |

S.AUX    Auxiliary sensor
EXP    Expansion card remote control
       (optional)

**NOTE: Connect TA to connections 5-6 after having removed the bridge.**

**CONNECTOR SPARE PART CODES:**
**CN4**    code 6319112
**CN5**    code 6316253
**CN6**    code 6316252

Fig. 16

# 6.3 CHARACTERISTICS

### 6.3.1   CONTROL PANEL



**1 - DESCRIPTION OF DISPLAY ICONS**

| | |
|---|---|
| ☀ | SUMMER MODE ICON (Not applicable) |
| ❄ | WINTER MODE ICON |
| 🚰 | D.H.W. MODE ICON (Not applicable) |
| ▥ | HEATING MODE ICON |
| ◊ | BURNER LIT ICON |
| ◊ | LOCKOUT DUE TO IGNITION OR FLAME DETECTION ERROR |
| RESET | NECESSITY OF RESET |
| 8.8 | MAIN DIGITS |

**2 - DESCRIPTION OF CONTROLS**

**OPERATING MODE/RESET**
By pressing the key in succession, pass to the summer and winter function (stand-by function if permane on the key more than two second).
RESET is only available if a resettable anomaly is signalled

**D.H.W. SET (Not applicable)**
Press the key to display the D.H.W. temperature value set

**HEATING SET**
Press the key to display the heating temperature value set (value not realtive to the remote control)

**DECREASE**
Pressing this key decreases the value set

**INCREASE**
Pressing this key increases the value set

**3 - LED GREEN**

ON = Indicates the presence of electrical voltage.
It switches of momentarily every time the keys are pressed.
It can be disabled by setting **PAR 3 = 0**.

**4 - LED RED**

OFF = Regular functioning.
ON  = Boiler anomaly signalled.
Flashing when the control panel buttons are pressed inside the PARAMETERS SECTION.

Fig. 17

## 6.3.2 ACCESS TO INSTALLER'S PARAMETERS

To access the installer parameters, press simultaneously the keys of boiler panel 🚿 and 🔥 for 5 seconds.
The red LED flashes and the display shows:



The parameters can be scrolled with 🚿 or 🔥 . To enter the parameter press ━ or ╋ . The value set **flashes**, the display shows:



Proceed as follows to change the set value:
– set the new value using ━ or ╋ .
– confirm the set value using 🚿 or 🔥 .

Press ⏻ to exit the parameters section. The display is shown automatically after 5 minutes.
The parameters section contains the alarms log, info and meters (display only).

### 6.3.2.1 Replacing the board or RESETTING parameters

If the electronic board is replaced or reset, it is necessary to configure PAR 01 and PAR 02 by associating the following values to each type of boiler to be able to restart the boiler:

| BOILER | GAS | MODELS | PAR 1 |
|---|---|---|---|
| FORMAT DGT | METHANE (G20) | – | 01 |
| | | 30 | 02 |
| | LPG (G30/G31) | – | 03 |
| | | 30 | 04 |

| BOILER | PAR 2 |
|---|---|
| FORMAT DGT combined | 09 |
| FORMAT DGT combined with sun-panel system | 10 |
| FORMAT DGT SYSTEM | 12 |
| FORMAT DGT combined with sun-panel system and with automatic filling | 14 |

**NOTE: the boiler panel has a label with the values that have to be set for PAR 01 and PAR 02 (fig. 25).**

## PARAMETERS INSTALLER

**FAST CONFIGURATION**

| PAR | DESCRIPTION | RANGE | UNIT OF MEASUREMENT | INC/DEC UNIT | DEFAULT SETTING |
|---|---|---|---|---|---|
| 01 | Combustion configuration | -- = ND 1 ... 8 | = | = | "--" |
| 02 | Hydraulic configuration | -- = ND 1 ... 22 | = | = | "--" |
| 03 | Illumination of the green LED | 0 = Disabled 1 = Enabled | = | = | 01 |
| 04 | Correction of external probe values | -5 ... 05 | °C | 1 | 00 |
| 05 | Timer block of the keys | -- = Disabled 1 ... 99 | Min. | 1 | 15 |

**D.H.W. - HEATING**

| PAR | DESCRIPTION | RANGE | UNIT OF MEASUREMENT | INC/DEC UNIT | DEFAULT SETTING |
|---|---|---|---|---|---|
| 10 | Boiler antifreeze | 0 ... 10 | °C | 1 | 03 |
| 11 | External sensor antifreeze | -- = Disabled - 9 ... 05 | °C | 1 | - 2 |
| 12 | Climatic curve setting | 03 ... 40 | = | 1 | 20 |
| 13 | Minimum temperature heating | 40 ... PAR 14 | °C | 1 | 40 |
| 14 | Maximum temperature heating | PAR 13 ... 80 | °C | 1 | 80 |
| 15 | Maximum power heating | 30 ... 99 | % | 1 | 99 |
| 16 | Post-circulation time | 0 ... 99 | 10 sec. | 1 | 03 |
| 17 | Pump heating activation delay | 0 ... 99 | 10 sec. | 1 | 01 |
| 18 | Re-ignition delay | 0 ... 10 | Min. | 1 | 03 |
| 19 | Modulation D.H.W. flowmeter | -- = Disabled 1 = Enabled | = | = | 01 |
| 29 | Anti-legionella (only D.H.W. tank) | -- = Disabled 50 ... 80 | °C | 1 | "--" |

**PARAMETERS RE-SET**

| PAR | DESCRIPTION | RANGE | UNIT OF MEASUREMENT | INC/DEC UNIT | DEFAULT SETTING |
|---|---|---|---|---|---|
| 49 * | Reset default parameters (PAR 01 - PAR 02 equal "---") | -- , 1 | = | = | = |

**\* Should the boiler operate in an erratic manner, it is advisable to reset to "factory settings" by PAR 49 = 1 and PAR 1 and PAR 2 as specified in point 3.2.1.**

**ALARMS (visualization)**

| PAR | DESCRIPTION | RANGE | UNIT OF MEASUREMENT | INC/DEC UNIT | DEFAULT SETTING |
|---|---|---|---|---|---|
| A0 | Code of last error | = | = | = | = |
| A1 | Code of last error -1 | = | = | = | = |
| A2 | Code of last error -2 | = | = | = | = |
| A3 | Code of last error -3 | = | = | = | = |
| A4 | Code of last error -4 | = | = | = | = |
| A5 | Code of last error -5 | = | = | = | = |
| A6 | Code of last error -6 | = | = | = | = |
| A7 | Code of last error -7 | = | = | = | = |
| A8 | Code of last error -8 | = | = | = | = |
| A9 | Code of last error -9 | = | = | = | = |

**INFO (visualization)**

| PAR | DESCRIPTION | RANGE | UNIT OF MEASUREMENT | INC/DEC UNIT | DEFAULT SETTING |
|---|---|---|---|---|---|
| i0 | External sensor temperature | -9 ... 99 | °C | 1 | = |
| i1 | C.H. 1 sensor temperature | -9 ... 99 | °C | 1 | = |
| i2 | C.H. 2 sensor temperature | -9 ... 99 | °C | 1 | = |
| i3 | D.H.W. sensor temperature | -9 ... 99 | °C | 1 | = |
| i4 | Auxiliary sensor AUX temperature | -9 ... 99 | °C | 1 | = |
| i5 | Set of effective heating temperature | PAR 13 ... PAR 14 | °C | 1 | = |
| i6 | Level survey flame | 00 ... 99 | % | 1 | = |
| i7 | Current to the modulator | 00 ... 17 | 10 mA | 1 | = |
| i8 | Flow rate D.H.W. flow meter | 00 ... 99 | l/min | 1 | = |

**COUNTERS (visualization)**

| PAR | DESCRIPTION | RANGE | UNIT OF MEASUREMENT | INC/DEC UNIT | DEFAULT SETTING |
|---|---|---|---|---|---|
| c0 | Number hours of operation of the burner | 00 ... 99 | h x 100 | 0,1 from 0,0 to 9,9 1 from 10 to 99 | 00 |
| c1 | Number of ignitions of the burner | 00 ... 99 | x 1000 | 0,1 from 0,0 to 9,9 1 from 10 to 99 | 00 |
| c2 | Number total of the errors | 00 ... 99 | x 1 | 1 | 00 |
| c3 | Number of time the installer parameters accessed | 00 ... 99 | x 1 | 1 | 00 |
| c4 | Of time the OEM parameters have been accessed | 00 ... 99 | x 1 | 1 | 00 |

### 6.3.3  EXTERNAL SENSOR

If there is an external sensor, the heating settings SET can be taken from the climatic curves according to the external temperature and, in any case, limited to with the range values described in point 3.2 (parameters PAR 13 and PAR 14).
The climatic curve to be set can be selected from a value of 2,5 and 40 (at step 1).
Increasing the steepness of the curves of fig. 18 will increase the output temperature as the external temperature decreases.

### 6.3.4  CARD FUNCTIONING

The electronic card has the following functions:
– Antifreeze protection of the heating circuit.
– Ignition and flame detection system.
– Control panel setting for the power and the gas for boiler functioning.
– Anti-jamming for the pump which is fed for a few seconds after 48 hours of inactivity.
– Chimney sweep function which can be activated from the control panel.
– Flow temperature control which can be shifted with the external sensor connected.
  It can be set from the control panel.
– Automatic regulation of the ignition power and maximum heating. Adjustments are managed automatically by the electronic card to guarantee maximum flexibility in use of the system.
– Interface with the following electronic systems: remote control CR 73 o CR 63, with coupling kit card expansion code 8092240.

### 6.3.5  TEMPERATURE DETECTION SENSOR

**Table 3** shows the values obtained on the heating sensor (SM1/SM2) **is interrupted, the boiler will not function for both services.**

**TABLE 3**

| 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 |

**This SENSOR must not be disabled or bypassed at any time.**



**ATTENTION: curves are calculated at an ambient temperature of 20°C. Using the ⏻ key on the control panel, the user can change the set ambient by ± 5°C for which the curve is calculated.**
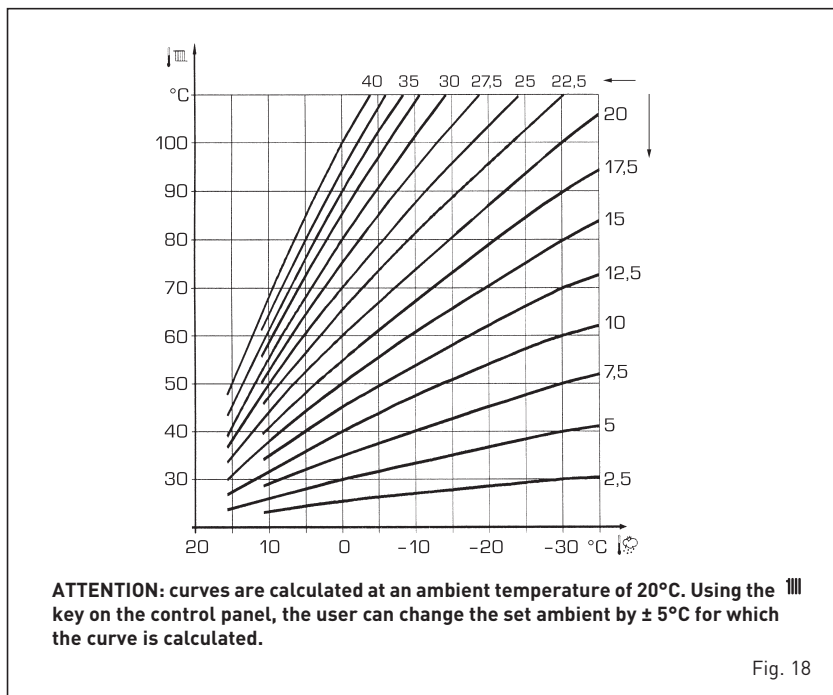
Fig. 18

### 6.3.6  ELECTRONIC IGNITION

Ignition and flame detection is controlled by a single electrode on the burner which guarantees reaction in the case of accidental extinction or lack of gas within one second.

#### 6.3.6.1  Functioning cycle

Burner ignition should occur within 10 seconds of the opening of the gas valve. If after three attempts the ignition is not detected the boiler will lockout (ALL 06):

– **Lack of gas**
  The ignition electrode will discharge for a maximum of 10 seconds. If after three attempts the ignition is not detected the boiler will lockout (ALL 06). This can happen the first time a boiler is switched on, or after long periods of inactivity. It can also be caused by a closed gas cock or a gas valve not operating.

– **No ionisation**
  The boiler will spark for 10 seconds, if after 3 attempts the ionisation is not detected, the boiler will lockout (ALL 06).
  This could be due to a poor connection or break in the ionisation cable. Check also that the cable is not shorted, badly worn or distorted.
  In the case of a sudden loss of voltage, the burner will immediately switch off. When the voltage is restored, the boiler will automatically start up again.
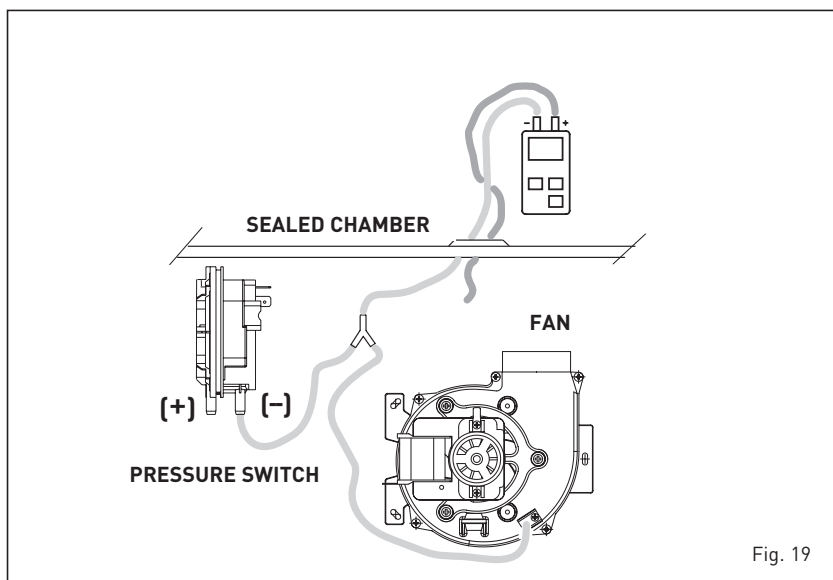


Fig. 19

### 6.3.8 WATER PRESSURE SWITCH

The water pressure switch (C fig. 21) intervenes, blocking the boiler operation, if it detects that there is insufficient pressure in the boiler (< 0,6 bar).
To restore burner functioning, to bring back the pressure of the boiler at values comprise between 1 - 1,2 bar.

### 6.3.9 HEAD AVAILABLE TO SYSTEM

Residual head for the heating system is shown as a function of rate of flow in the graph in fig. 20.
To obtain the maximum head available to the system, turn off the by-pass by turning the adjuster to the vertical position (fig. 21).
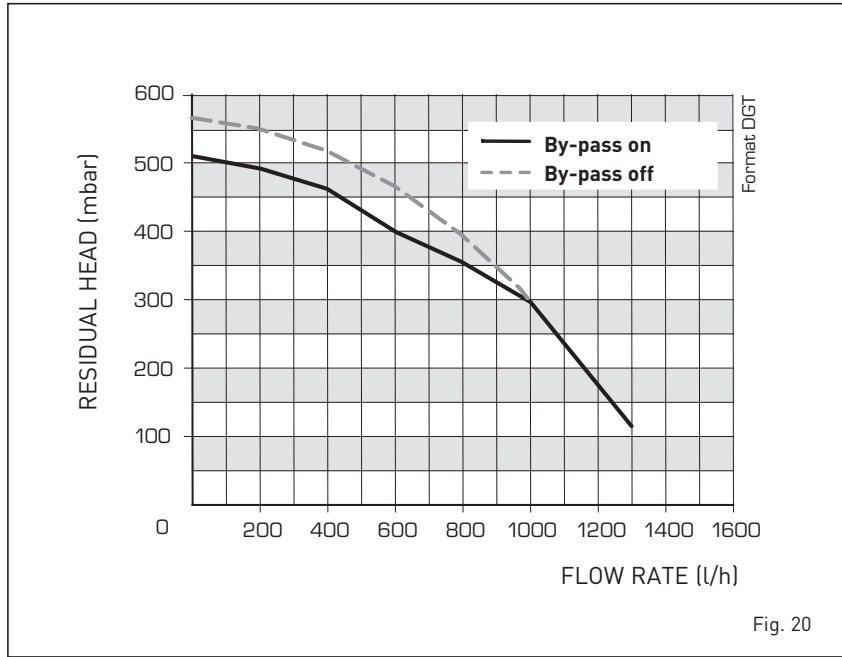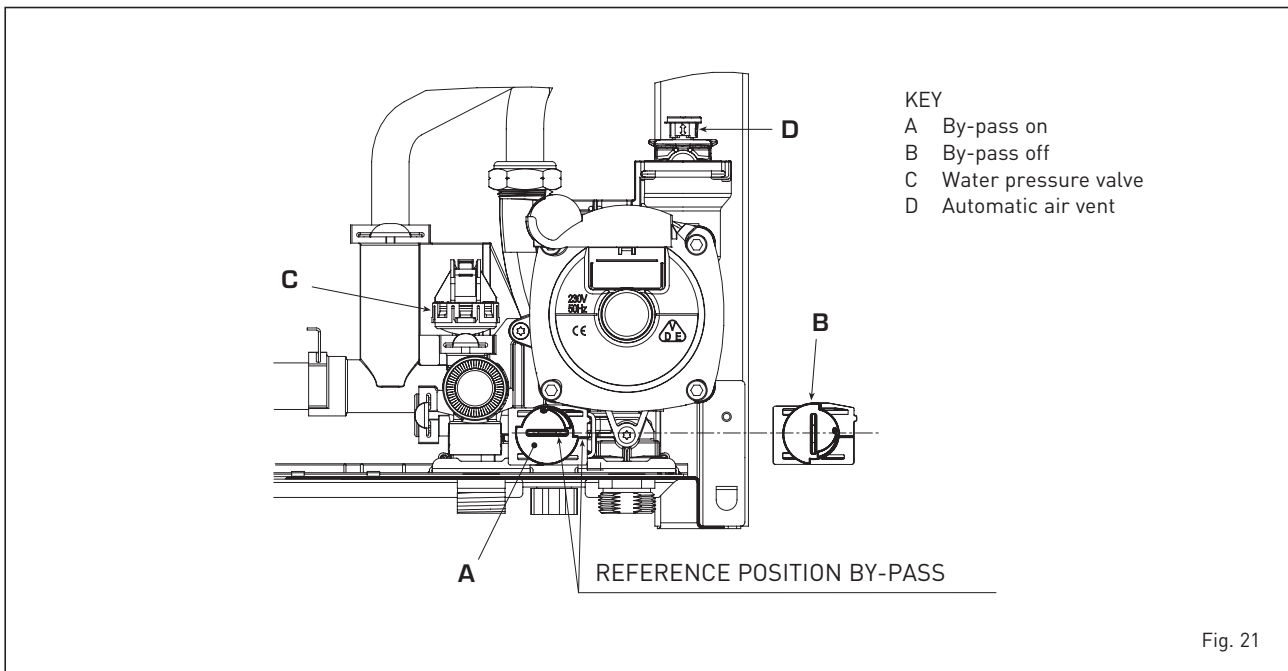


Fig. 20



KEY
A    By-pass on
B    By-pass off
C    Water pressure valve
D    Automatic air vent

REFERENCE POSITION BY-PASS

Fig. 21

## 6.4 USE AND MAINTENANCE

### 6.4.1 GAS VALVE

The boilers are equipped standard with the SIT 845 SIGMA gas valve (fig. 22).
The gas valve is set at two pressure values: maximum and minimum.
According to the type of gas burnt, these correspond to the values given in **Table 4**.
The gas pressures at the maximum and minimum values, are factory set. Consequently they must not be altered.
The gas valve will require resetting on conversion to another gas(Natural gas to LPG).

### 6.4.2 GAS CONVERSION

**This operation must be performed by authorised personnel using original Sime components.**
To convert from natural gas to LPG or vice versa, perform the following operations (fig. 23):
– Close the gas cock and isolate the boilers electrical supply.
– Disassemble the burner manifold (3).
– Replace the main nozzles (6) supplied in a kit, inserting the copper washer (4). Use a ø 7 spanner to perform this operation.
– Configure the new fuel as indicated in point 6.4.2.1
– For calibrating the maximum and minimum gas pressure values, see point 6.4.2.2.
– Fix the label to the data plate showing the New gas configuration.

**NOTE: Ensure that on reassembly all seals are replaced as require, and the tightness tested, using a suitable leak detection fluid.**

#### 6.4.2.1 New fuel configuration

Access the parameters section by pressing the control panel keys (🚰 and 🔥) at the same time for 5 seconds.
The red LED flashes and the display shows:

Scroll the parameters using 🚰 or 🔥 .
To enter the fuel configuration paramater PAR 01, use ━ or ✛ .
The set value **flashes** and if the boiler in question is a **30** with methane, the display shows:

KEY
1 Modulator
2 EV1-EV2 coils
3 Pressure inlet upstream
4 Pressure inlet downstream
5 VENT pressure

**TABLE 4**

| Output | Burner pressure kPa | | Modulator current mA | |
|---|---|---|---|---|
| | NG | LPG | NG | LPG |
| Maximum | 0,85 | 2,50 | 130 | 165 |
| Minimum | 0,04 | 0,33 | 0 | 0 |

Fig. 22

KEY
1 Swivel connection 1/2"
2 Locknut 1/2"
3 Burner manifold
4 Washer ø 6.1
5 Burners
6 Nozzle M6
7 Screw

**WARNING: To ensure a perfect seal, always use the washer (4) supplied in the kit when replacing nozzles, even in burner units for which it is not specified.**

Fig. 23

press **+** until



appears.
Confirm this value using or .
Exit the parameters section by pressing
.

The table below gives the values to set when the supply gas is changed:

| BOILER | GAS | MODELS | PAR 1 |
|---|---|---|---|
| 30 i<br>30 e | METHANE | 30 | **02** |
| | LPG | 30 | **04** |

#### 6.4.2.2 Adjusting valve pressure (fig. 24)

Set maximum and minimum pressure on gas valves as follows (fig. 24):
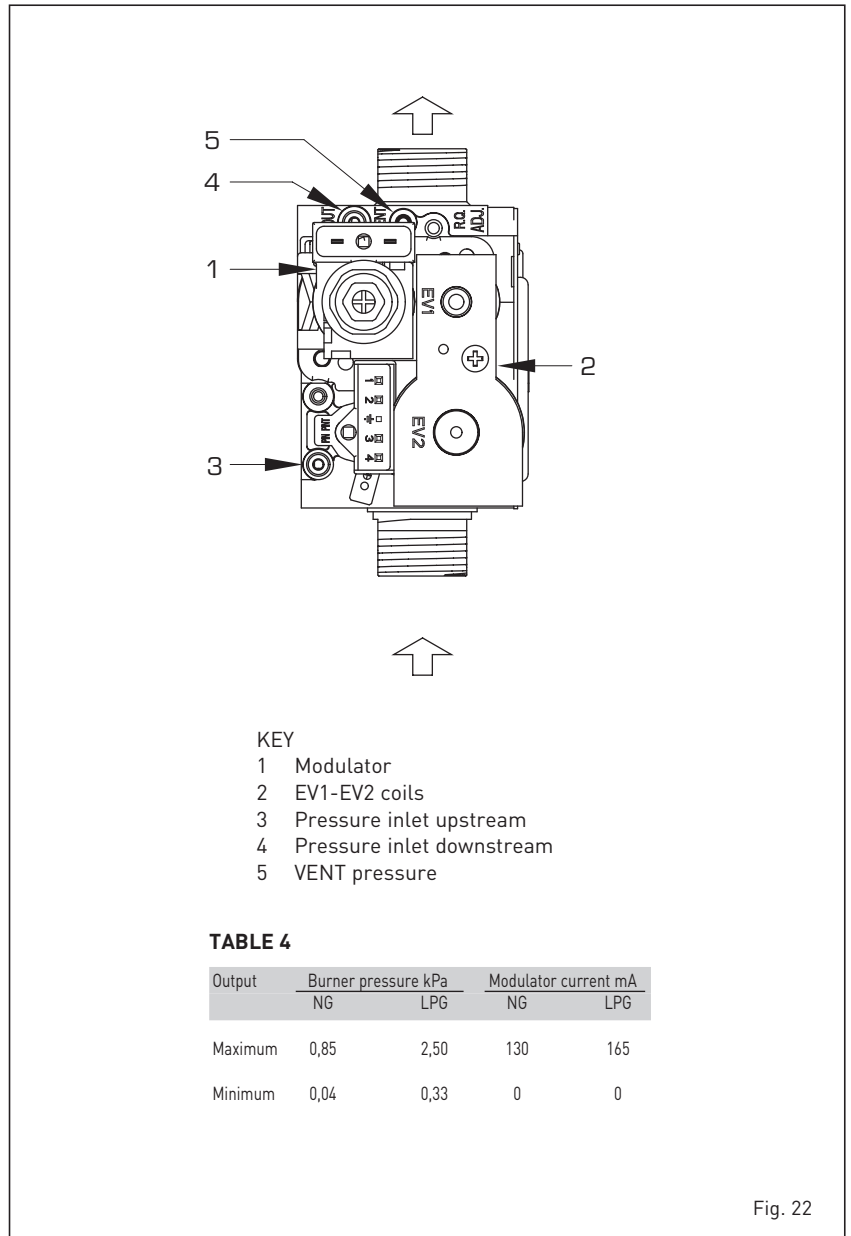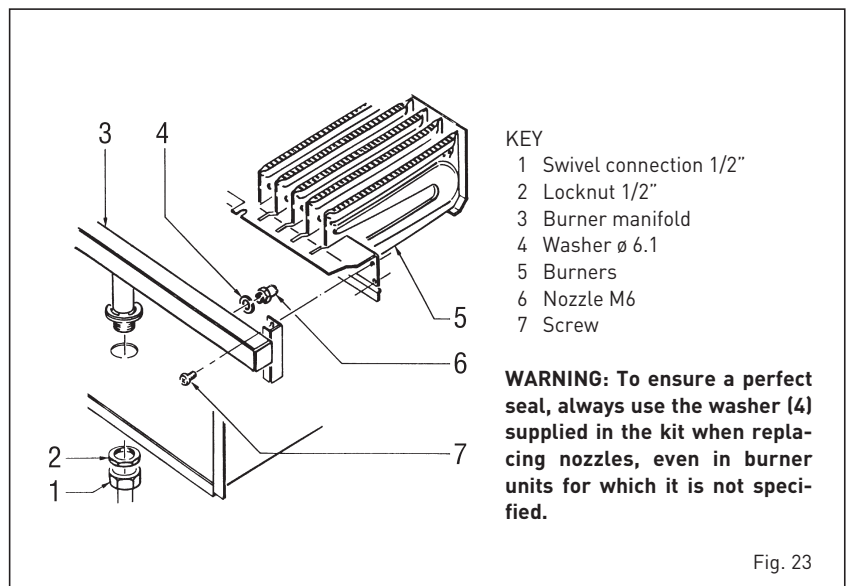– Connect a manometer to the intake downstream of the gas valve (4 fig. 22).
  **Disconnect the valve VENT pressure test point tube (5 fig. 22).**
– Remove the cap (1) from the modulator.
- Put the boiler in chimney sweep mode (see section 6.4.4.2), ensure that ane zone valves are open.
- Press the key **+** (Hi).
- Turning the gas valve adjusters clockwise will decrease it.
– Adjust maximum pressure using the nut (3) with a wrench to the maximum pressure valve indicated in **Table 4** (fig. 22).
– Adjust the maximum pressure before adjusting the minimum.
– Press the key **−** (Lo).
– Hold the nut (3) in place, turn the screw (2) to the minimum pressure indicated in **Table 4**.
– Alternately press the keys **−** and **+** and check that the maximum and minimum pressures correspond to the set values; if necessary readjust.
– Press the key again to quit the function.
– Refit the valve VENT pipe.
– Remove the manometer, remembering to tighten the screw for closing the pressure test point.
– Put the plastic cap (1) back on the modulator. Check all test points and connections for gas tightness.

#### 6.4.3 DISMANTLING THE CASING (fig. 25)

The casing may be removed complete-
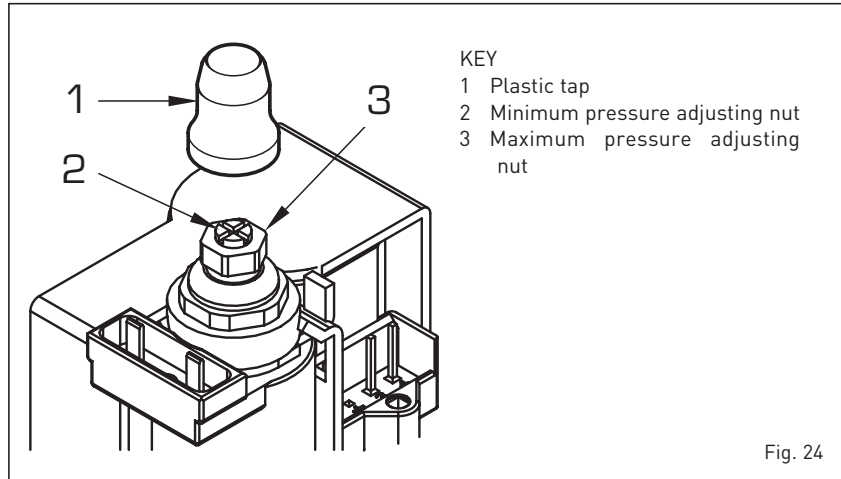


KEY
1 Plastic tap
2 Minimum pressure adjusting nut
3 Maximum pressure adjusting nut

Fig. 24

ly to facilitate boiler maintenance, as shown in fig. 25. Turn the panel control forward for access to the internal components of the boiler.



Codice/Code 8109292
Modello/Model FORMAT DGT 30 i
Matricola/Serial n. 9999999999

PAR 1 = 02 (NG)/ 04 (LPG)
PAR 2 = 09
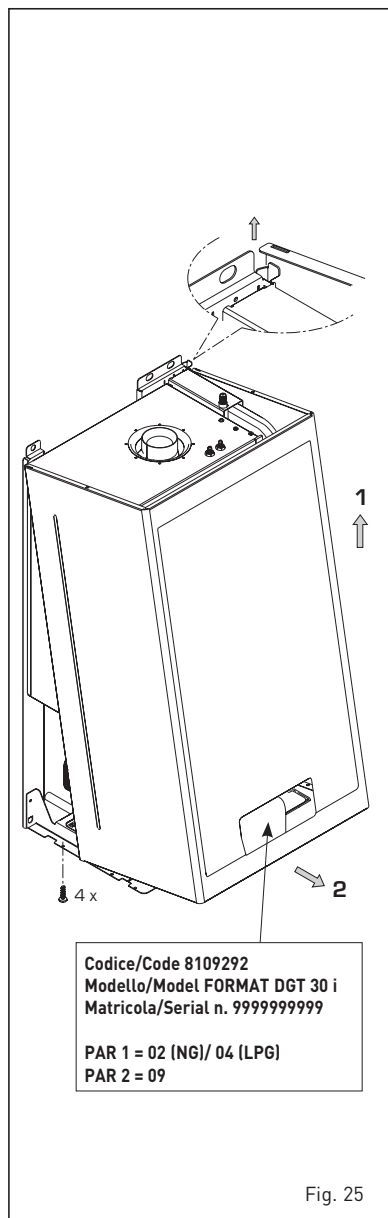
Fig. 25

#### 6.4.4 MAINTENANCE

**To guarantee functioning and efficiency of the appliance, in respect of the legal provisions in force, it must be regularly checked; the frequency of the checks depends on the type of installation and usage but this should be at least annually.**

Carry out the following procedure for cleaning the burner / heat exanger:
– Isolate the boilers electrical supply and close the gas isolation valve.
– Remove the outer casing as shown in fig. 25; remove the combustion chamber cover and the burner cover.
– Ideally use a vacuum cleaner and a soft brush to remove any debris; take care not to damage the insulation panel.
- Clean the heat exchanger, removing any dust or residue from combustion.
- When cleaning the heat exchanger or the burner, chemical products or steel brushes MUST NOT BE USED.

#### 6.4.4.1 Ignition/Detection electrode (fig. 27)

- Remove the casing, front panel and sealed chamber covers.
- Unscrew the screw securing the electrode and remove from the burner.
- disconnect the electrode cable.
- Replace the electrode and set the gap as shown.



IGNITION/DETECTION ELECTRODE

$4\pm0,5$

Fig. 27

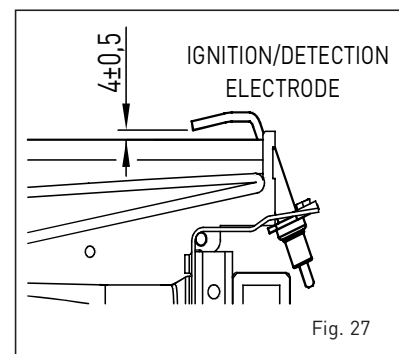### 6.4.4.2 Chimney sweep function

To check boiler combustion, press at the same time the installer's key ( **–** e **+** ) for a few seconds.

The chimney sweep function will switch on and will continue for 15 minutes.

During the 15 minutes functioning of chimney sweep function, pressing the keys ( **–** and **+** ) take the boiler respective at maximum (Hi) and at minimum (Lo) power.

From that moment, the boiler will start working in heating mode at maximum power, with cut off at 80°C and re-ignition at 70°C.

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

The test can also be carried out with the boiler working in D.H.W. mode.

For this, after activating the chimney sweep function, open one or more hot water faucets.

Under these conditions, the boiler will function at maximum power with the D.H.W. kept at between 60°C and 50°C.

During the test, the hot water faucets must remain open.

For exit to the chimney sweep function press the key ⏻ of the control panel.

**The chimney sweep function will automatically switch off after 15 minutes from the activation.**

### 6.4.5    ERROR MESSAGES

When there is a ERROR message, an alarm appears on the display **and the RED LED will illuminate.**

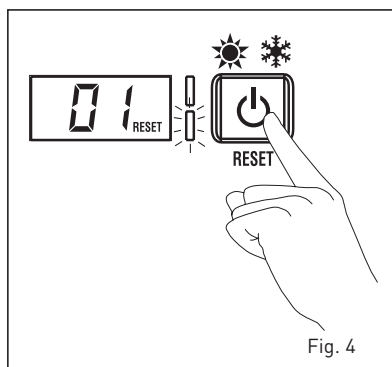Descriptions of the ERRORS with relative alarms and solutions are given below:

**In the case of repeated shutdown of this appliance, take appropriated action to find the cause and remedy the problem.**

– **FUMES DISCHARGE ERROR ALARM 01** (fig. 4)
The display shows **AL01** It can be caused by :
a) The fan is faulty or jammed.
b) The air pressure switch has intervened or is faulty.

Fig. 4

– **LOW WATER PRESSURE  ERROR ALARM 02** (fig. 4/a)
If the pressure detected by the water pressure valve is lower than 0.5 bar, the boiler stops and the display shows the  alarm "AL 02". Repressurise the heating system by use of the external filling loop.

Until the pressure indicated on the hydrometer reaches **1 - 1.2 bar**.

WHEN FILLING HAS BEEN COMPLETED, ENSURE THAT THE FILLING DEVICE IS TURNED OFF.

**If the filling procedure has to be repeated several times, it is advisable to check the heating circuit is intact (check that there are no leaks).**

Fig. 4/a
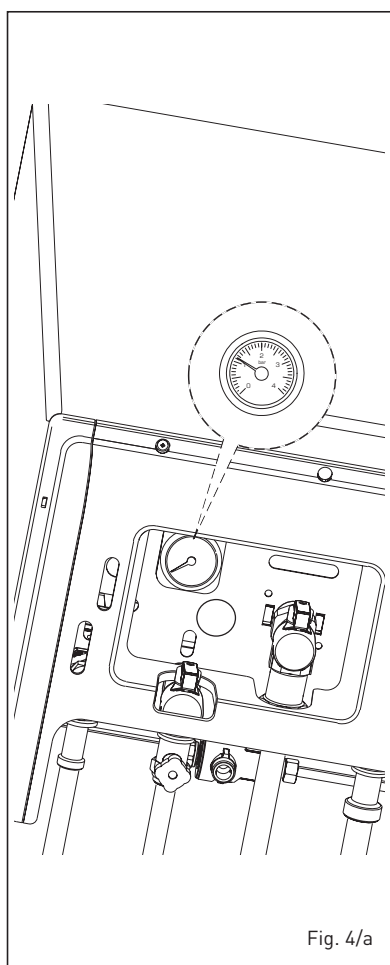
– **D.H.W. SENSOR ERROR ALARM 04**
The D.H.W. probe is not operational in these boiler models; if the display shows the **AL 04** anomaly, check PAR 2.

– **HEATING SENSOR ERROR ALARM 05**
If one or both sensing elements of heating sensor (SM1/SM2) are open or short circuited, the boiler will not function and the display will show the alarm "AL 05".

– **FLAME LOCKOUT ALARM 06**  (fig. 4/b)
If the flame control has not detected the presence of the flame after a complete ignition sequence, or for any other reason the card cannot "see" the flame, the boiler will stop and the display will show the alarm "**AL 06**".

Press the key ⏻ of the controls to start up the boiler again.

Fig. 4/b
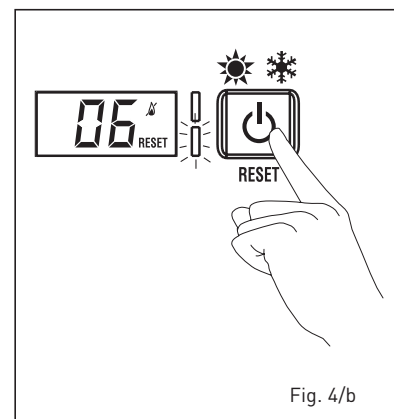
– **SAFETY THERMOSTAT ERROR ALARM 07**  (fig. 4/c)
If the C.H. sensor (SM1/SM2) exceeds the 100°C the boiler does not ignite the burner, the display show AL 07 and remains ignited the green led. If this condition persists for more than one minute, the boiler will stop, the display show always the anomaly AL 07 and switch on the red led.

Press the key ⏻ of the controls to start up the boiler again.

Fig. 4/c
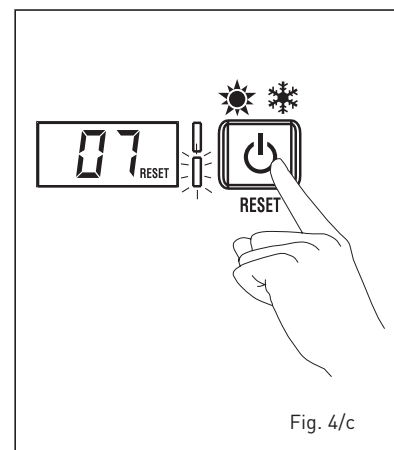
– **FLAME DETECTION ERROR ALARM 08**
If the flame control section recognises the presence of flames in phases when they should not be present, it means there is a breakdown in the flame detection circuit; the boiler will stop and the display will show anomaly "**AL 08**".

– **AUXILIARY SENSOR ERROR**
  **ALARM 10**

  (**Ensure that PAR 2 is set correctly**).

– **MODULATOR ERROR**
  **ALARM 11**
  The modulator is not connected.
  If during functioning the boiler detects zero current to the modulator, the display will show anomaly "AL 11".
  **The boiler will function at minimum power and the anomaly will be de-activated when the modulator is re-connected or when the burner stops working.**

– **CONFIGURATION ERROR**
  **ALARM 12**
  Anomaly in the SEALED/OPEN configuration. There may be a conflict between the values set by the installer for PAR 1 and the self-detection carried out by the card causes the activation of the alarm: the boiler will not function and the di-splay will show anomaly "AL 12".
  Reset **PAR 1** to de-activate the alarm or check the pressure switch/combustion product thermostat and relative connection.

– **HEATING PROBE POSITIONING ERROR SM1/SM2**
  **ALARM 16** (fig. 4/d)
  If the probe does not detect a temperature increase after burner ignition, the burner switches off after 10 seconds, the display shows anomaly AL 16 and the 4 green LED stays on.
  If the anomaly occurs three times within 24h the boiler lockout, the display continues to show error AL 16 and the red LED switches on.
  Press ⏻ on the control panel to re-start the boiler.

– **SENSOR ALIGNMENT ERROR**
  **ALARM 17**
  When the two sensitive elements of the heating probe (SM1/SM2) differ to



Fig. 4/d
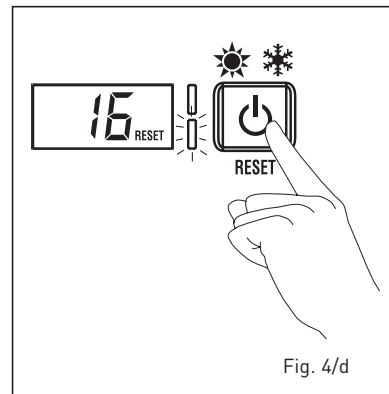
each other by more than 16°C the boiler does not function and the display shows error AL 17. Replace the heating probe (SM1/SM2) to restore operation.

# 6.5 CENTRAL HEATING FAULT FINDING

Start from cold set to WINTER position.
Room thermostat calling for heat C.H.
setpoint to maximum value.



**NOTE:**
**After completing fault finding reset the room thermostat to the required setting.**
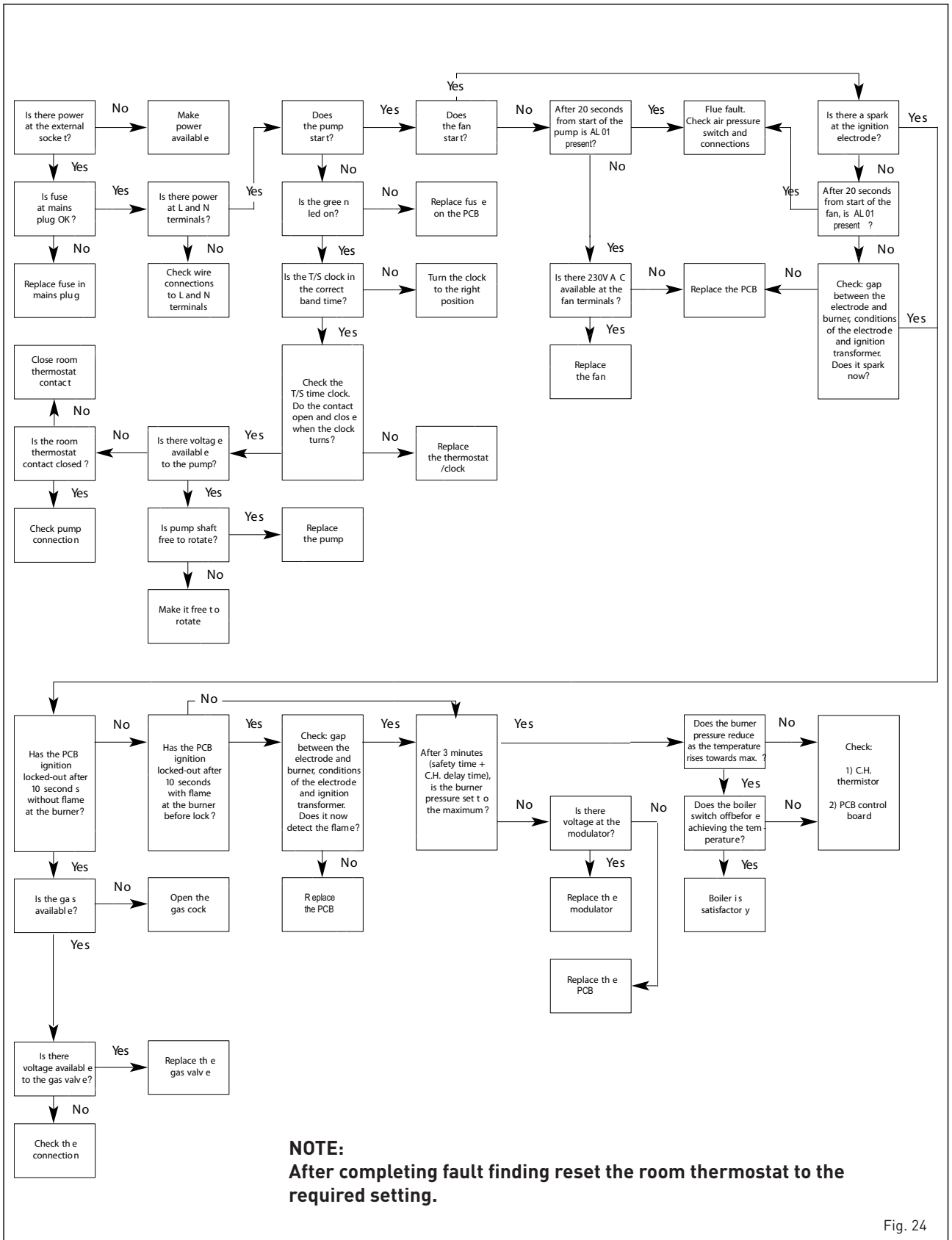
Fig. 24

# 6.6 SPARE PARTS – INTERNAL 30 I SYSTEM
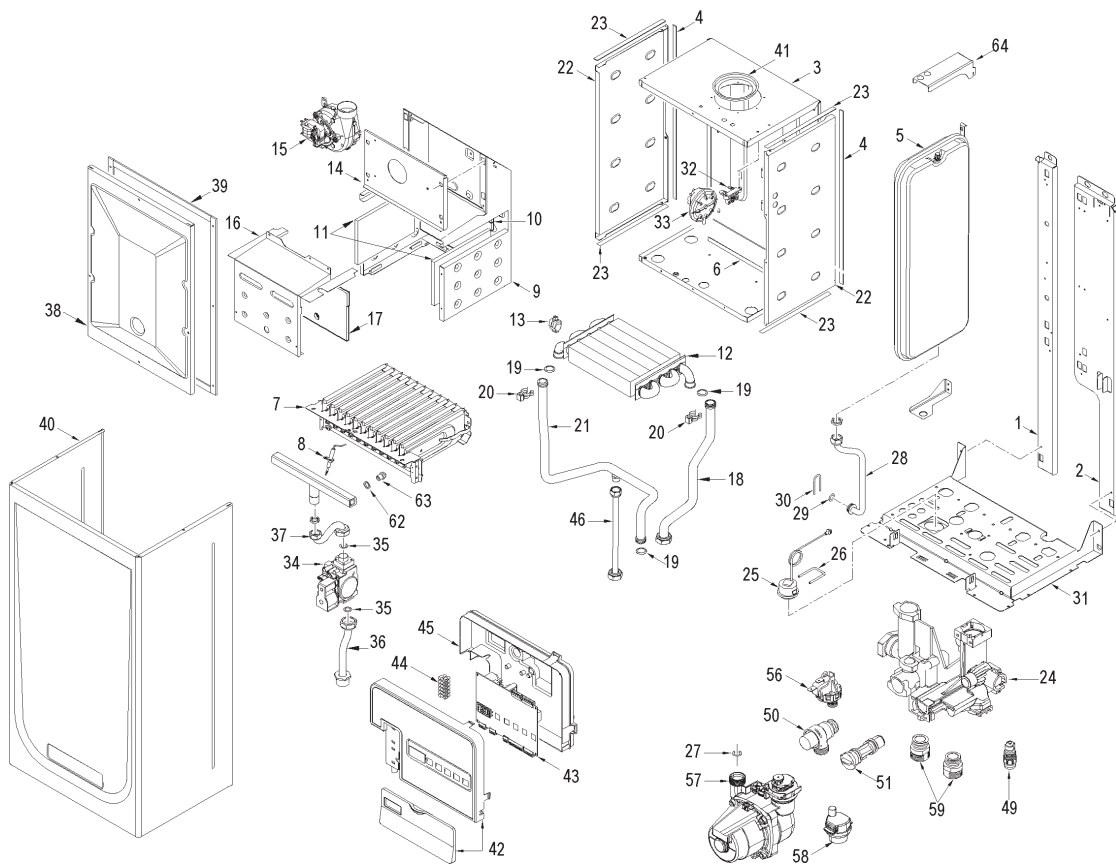


| Item | Part number | Description |
|------|-------------|-------------|
| 001 | 6318350 | Left hand side frame part |
| 002 | 6318300 | Right hand side frame part |
| 003 | 6317610 | Sealed chamber rear panel |
| 004 | 6229838 | Gasket for sealed chamber |
| 005 | 5183724 | Rectang. expansion vessel 8 l. |
| 006 | 6257532 | Air deflector |
| 007 | 5198263 | Main burner assembly |
| 008 | 6235932 | Ignition-ionisation electrode |
| 009 | 6318530 | Smoke chamber assembly |
| 010 | 6318741 | Combustion chamber rear insulat |
| 011 | 6318710 | Combustion chamber side insulat |
| 012 | 6174265 | Gas/Water heat exchanger |
| 013 | 6231362 | NTC sensor |
| 014 | 6318610 | Smoke chamber front panel |
| 015 | 6225636 | Fan |
| 016 | 6317910 | Combustion chamber front panel |
| 017 | 6318731 | Combustion chamber side insulat |
| 018 | 6264846 | C.H. return pipe |
| 019 | 6226412 | O-ring 3068 |
| 020 | 6226601 | Spring for heat exchanger conne |
| 021 | 6264786 | C.H. flow pipe |
| 022 | 6288210 | Sealed chamber side panel |
| 023 | 6229837 | Gasket for sealed chamber |
| 024 | 6319696 | C.H. Technyl manifold group |
| 025 | 6146111 | Hydrometer |
| 026 | 6226628 | Hydrometer Fixing spring |
| 027 | 6226457 | O-ring 12bis diam. 16x1,90 |
| 028 | 6017311 | Flexible pipe L=250 |
| 029 | 6226464 | O-ring 115 diam. 11,91x2,62 |
| 030 | 6226627 | Expansion vassel fixing spring |
| 031 | 6318010 | Frame assembly lower side |

| | | | |
|---|---|---|---|
| 032 | 6229110 | **Smoke pressure switch bracket** | |
| 033 | 6225707 | **Air pressure switch** | |
| 034 | 6243833 | **Gas valve** | |
| 035 | 2030228 | **Gasket Ø 17x24x2** | |
| 036 | 6226884 | **Gas inlet pipe** | |
| 037 | 6226958 | **Pipe conn. gas valve to burner** | |
| 038 | 6317710 | **Sealed chamber front panel** | |
| 039 | 5192208 | **Gasket for sealed chamber** | |
| 040 | 6317851 | **Casing** | |
| 041 | 6028620 | **Air diaphragm Ø 81** | |
| 042 | 6304791 | **Panel kit** | |
| 043 | 6301440 | **Main PCB** | |
| 044 | 2211010 | **Terminal strip** | |
| 045 | 6305050 | **Control panel cover** | |
| 046 | 6144122 | **Filling pipe** | |
| 049 | 6319603 | **Discharger cock** | |
| 050 | 6040211 | **Pressure relief valve 3 bar** | |
| 051 | 6319640 | **By-pass** | |
| 056 | 6037504 | **Water pressure switch** | |
| 057 | 6272316 | **Circulating pump** | |
| 058 | 6013182 | **Automatic air vent** | |
| 059 | 6120533 | **C.H Nipple** | |
| 062 | 6022004 | **Copper washer Ø 6** | |
| 063 | 6154417 | **Main burner nozzle NP 145 natur** | **MET** |
| 063A | 6154416 | **Main burner nozzle ø 0,85** | **GPL** |
| 064 | 6267112 | **D.H.W. expans. vessel locking b** | |
| 700 | 5199550 | **Complete control panel** | |
| 701 | 6127214 | **Main cable L=1500** | |
| 703 | 6316252 | **6 pole Stocko connector CN6** | |
| 704 | 6316253 | **9 pole Stocko connector** | |
| 705 | 6319112 | **14 pole cable connector** | |
| 707 | 6319699 | **Split pin kit for hydraulic gro** | |
| 708 | 6319698 | **O-ring kit for hydraulic group** | |
| 710 | 6281534 | **Gaskets kit** | |
| 712 | 6319695 | **Murelle-Format-.....o-ring kit** | |
| 713 | 5198890 | **Technyl hydraulic group** | |
| 714 | 8076110 | **Expas.major vassel ZILMET** | |

# 6.7  SPARE PARTS - EXTERNAL 30 E SYSTEM
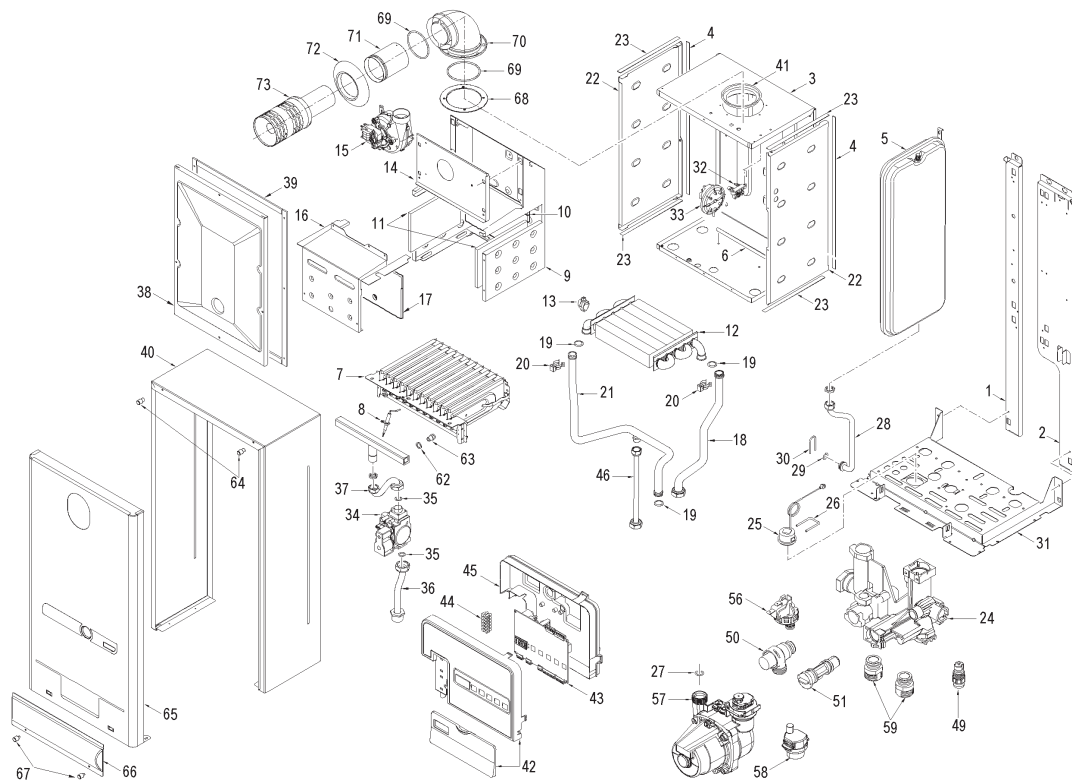


| Item | Part number | Description | |
|------|-------------|-------------|---|
| 001 | 6318350 | Left hand side frame part | |
| 002 | 6318300 | Right hand side frame part | |
| 003 | 6317610 | Sealed chamber rear panel | |
| 004 | 6229838 | Gasket for sealed chamber | |
| 005 | 5183724 | Rectang. expansion vessel 8 l. | TO S.N. 4121300466 |
| 005A | 5183726 | Rectang. expansion vessel 8 l. | FROM S.N. 4121300467 |
| 006 | 6257532 | Air deflector | |
| 007 | 5198263 | Main burner assembly | MET |
| 008 | 6235932 | Ignition-ionisation electrode | |
| 009 | 6318530 | Smoke chamber assembly | |
| 010 | 6318741 | Combustion chamber rear insulat | |
| 011 | 6318710 | Combustion chamber side insulat | |
| 012 | 6174265 | Gas/Water heat exchanger | |
| 013 | 6231362 | NTC sensor | |
| 014 | 6318610 | Smoke chamber front panel | |
| 015 | 6225636 | Fan | |
| 016 | 6317910 | Combustion chamber front panel | |
| 017 | 6318731 | Combustion chamber side insulat | |
| 018 | 6264846 | C.H. return pipe | |
| 019 | 6226412 | O-ring 3068 | |
| 020 | 6226601 | Spring for heat exchanger conne | |
| 021 | 6264786 | C.H. flow pipe | |
| 022 | 6288210 | Sealed chamber side panel | |
| 023 | 6229837 | Gasket for sealed chamber | |
| 024 | 6319696 | C.H. Technyl manifold group | |
| 025 | 6146111 | Hydrometer | |
| 026 | 6226628 | Hydrometer Fixing spring | |
| 027 | 6226457 | O-ring 12bis diam. 16x1,90 | |
| 028 | 6017311 | Flexible pipe L=250 | TO S.N. 4121300466 |
| 028A | 6227694 | Pipe connecting expans. vessel | FROM S.N. 4121300467 |
| 029 | 6226464 | O-ring 115 diam. 11,91x2,62 | |
| 030 | 6226627 | Expansion vassel fixing spring | |
| 031 | 6318010 | Frame assembly lower side | |
| 032 | 6229110 | Smoke pressure switch bracket | |

| | | | |
|---|---|---|---|
| 033 | 6225707 | Air pressure switch | |
| 034 | 6243833 | Gas valve | |
| 035 | 2030228 | Gasket Ø 17x24x2 | |
| 036 | 6226884 | Gas inlet pipe | |
| 037 | 6226958 | Pipe conn. gas valve to burner | |
| 038 | 6317710 | Sealed chamber front panel | |
| 039 | 5192208 | Gasket for sealed chamber | |
| 040 | 6255891 | Boiler casing | |
| 041 | 6028620 | Air diaphragm Ø 81 | |
| 042 | 6304791 | Panel kit | |
| 043 | 6301440 | Main PCB | |
| 044 | 2211010 | Terminal strip | |
| 045 | 6305050 | Control panel cover | |
| 046 | 6144122 | Filling pipe | |
| 049 | 6319603 | Discharger cock | |
| 050 | 6040211 | Pressure relief valve 3 bar | |
| 051 | 6319640 | By-pass | TO S.N. 4121300466 |
| 051A | 6319641 | By-pass 2 (new) | FROM S.N. 4121300467 |
| 056 | 6037504 | Water pressure switch | |
| 057 | 6272316 | Circulating pump | |
| 058 | 6013182 | Automatic air vent | |
| 059 | 6120533 | C.H Nipple | |
| 062 | 6022004 | Copper washer Ø 6 | |
| 063 | 6154417 | Main burner nozzle NP 145 natur | MET |
| 063A | 6154416 | Main burner nozzle ø 0,85 | GPL |
| 064 | 6133100 | Pin M5 ZnCr | |
| 065 | 6255881 | Casing door | |
| 066 | 6255902 | Flap door | |
| 067 | 6242604 | Screw M5 | |
| 068 | 6028702 | Gasket Ø 95x125x2 | |
| 069 | 6226404 | Rubber gasket OR 308 Ø 60,3 | |
| 070 | 6226251 | Flanged elbow  Ø 95 mm | |
| 071 | 6230711 | Flue duct extension | |
| 072 | 6230400 | Rubber sealing ring Ø 100 mm | |
| 073 | 6230302 | Flue terminal | |
| 700 | 6319112 | 14 pole cable connector | |
| 701 | 5199550 | Complete control panel | MET |
| 702 | 6127214 | Main cable L=1500 | |
| 704 | 6316252 | 6 pole Stocko connector CN6 | |
| 705 | 6316253 | 9 pole Stocko connector | |
| 708 | 6319699 | Split pin kit for hydraulic gro | |
| 709 | 6319698 | O-ring kit for hydraulic group | |
| 711 | 6281534 | Gaskets kit | |
| 712 | 5144718 | L.P.G. conversion kit | |
| 713 | 6319695 | Murelle-Format-.....o-ring kit | |
| 714 | 5198890 | Technyl hydraulic group | |
| 715 | 8076110 | Expas.major vassel ZILMET | TO S.N. 4121300466 |

# HUNT HEATING

**HYDRONIC SYSTEMS ( AUSTRALIA) PTY LTD**
11 Fiveways Boulevard, Keysborough, Victoria 3173
Telephone 1300 00 1800
Facsimile 9798 5133
www.huntheat.com.au