

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

FORMAT DGT 30i & 30e CENTRAL HEATING BOILER

Installation, User and Service Instructions



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 pursuant 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.

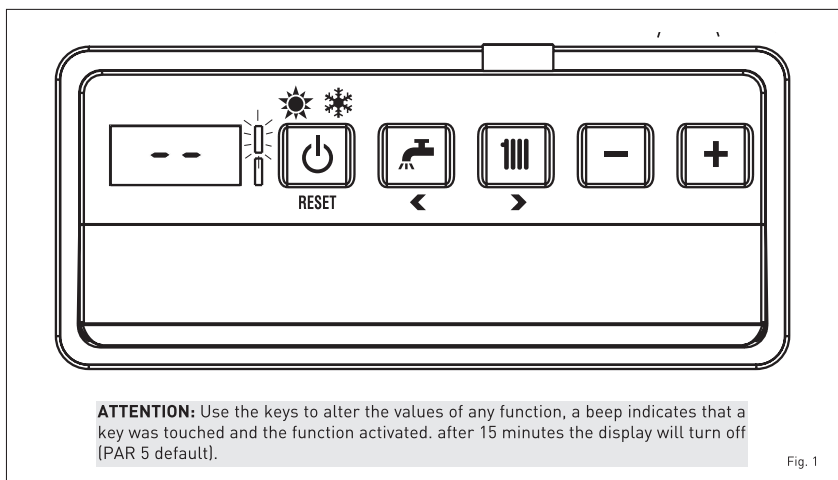
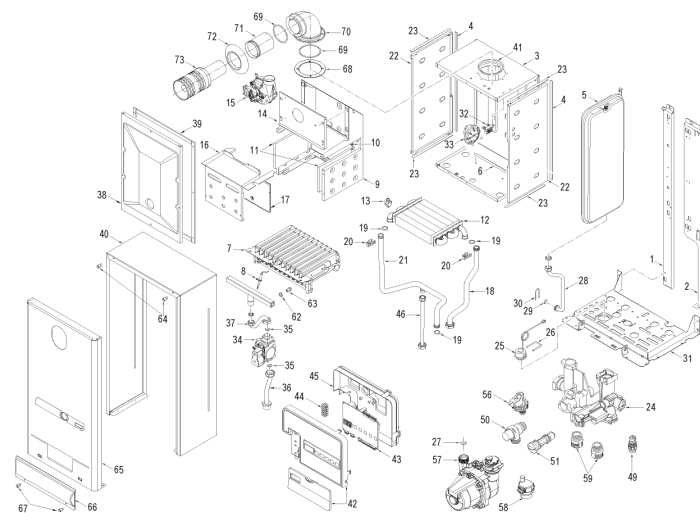


Fig. 1

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 vessel fixing spring
031	6318010	Frame assembly lower side
032	6229110	Smoke pressure switch bracket

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	

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 the

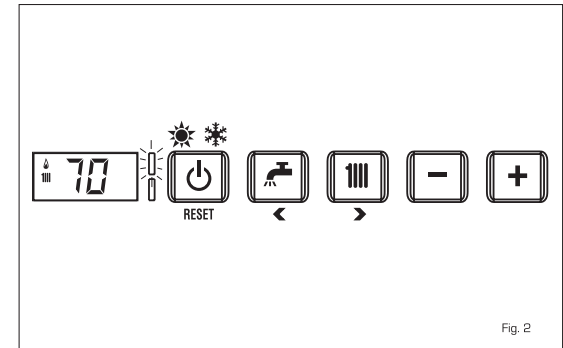


Fig. 2

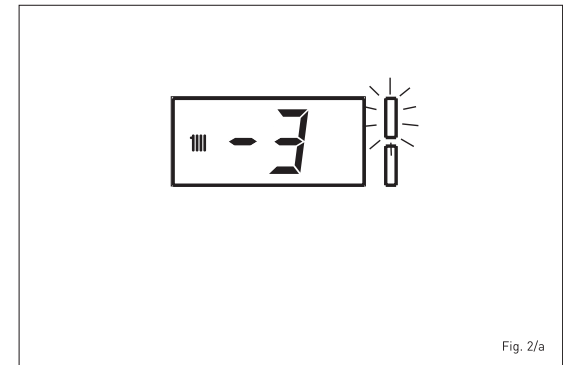


Fig. 2/a

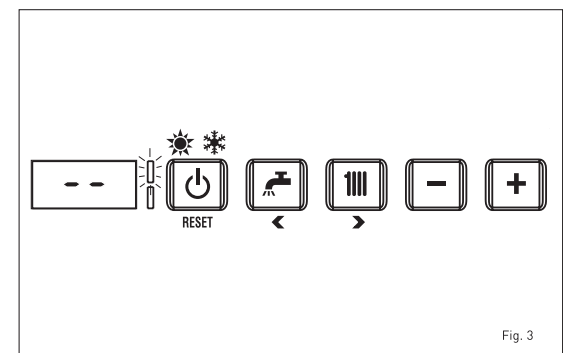



Fig. 3

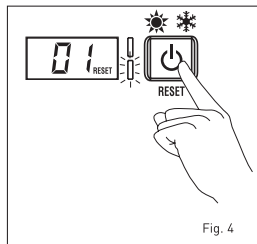
electricity supply, by switching off the main switch of the system, and to close the gas tap and, if low temperatures

are expected, to completely empty the hydraulic circuits to avoid pipes being damaged by frost.

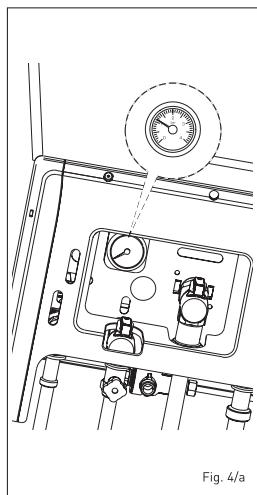
ANOMALIES AND SOLUTIONS

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.

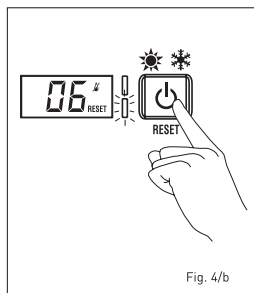



- **AL 02** (fig. 4/a)
If the water pressure detected is lower than 0.5 bar, the boiler will stop and the display will show "AL 02". Bring the pressure back to normal by means of the charging system, until the pressure indicated by the hydrometer is between 1 and 1.2 bars.

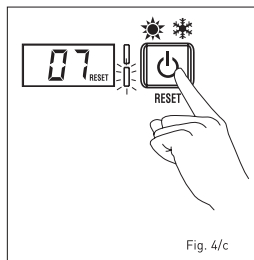


If it is necessary to repeat the system loading procedure, it is advisable to contact qualified technical personnel to check the seal of the heating system (to check whether there are any leaks).


- **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 personnell.

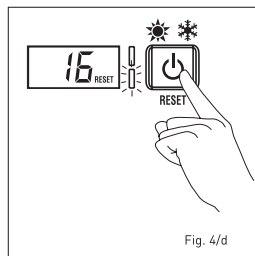


- **AL 07** (fig. 4/c)
Press the key  of the controls to re-start the boiler.
If the anomaly persists, call a qualified technical personnell.



- **AL 08**
Call a qualified technical personnell.

- **AL 10**
Call a qualified technical personnell.
- **AL 11**
Call a qualified technical personnell.
- **AL 12**
Call a qualified technical personnell.
- **AL 16** (fig. 4/d)
Press the key  of the controls to re-start the boiler.
If the anomaly persists, call a qualified technical personnell.

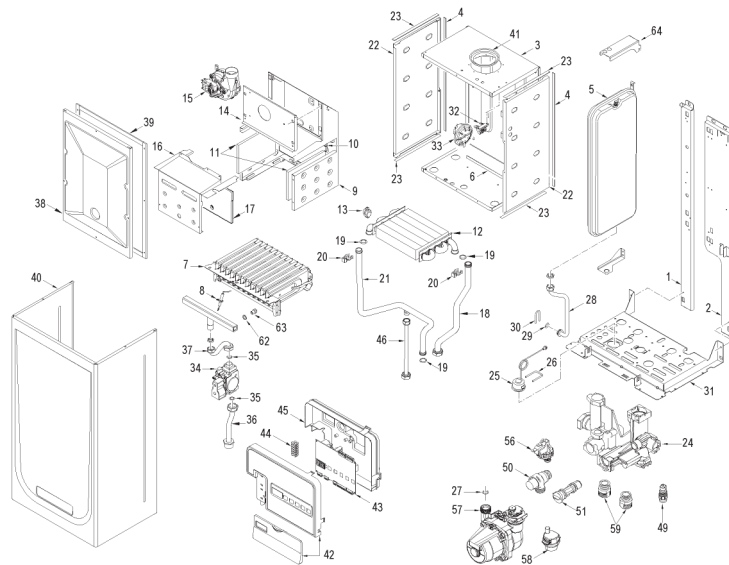


- **AL 17**
Call a qualified technical personnell.

GAS CONVERSION

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

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 vessel fixing spring
031	6318010	Frame assembly lower side

6.5 CENTRAL HEATING FAULT FINDING

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

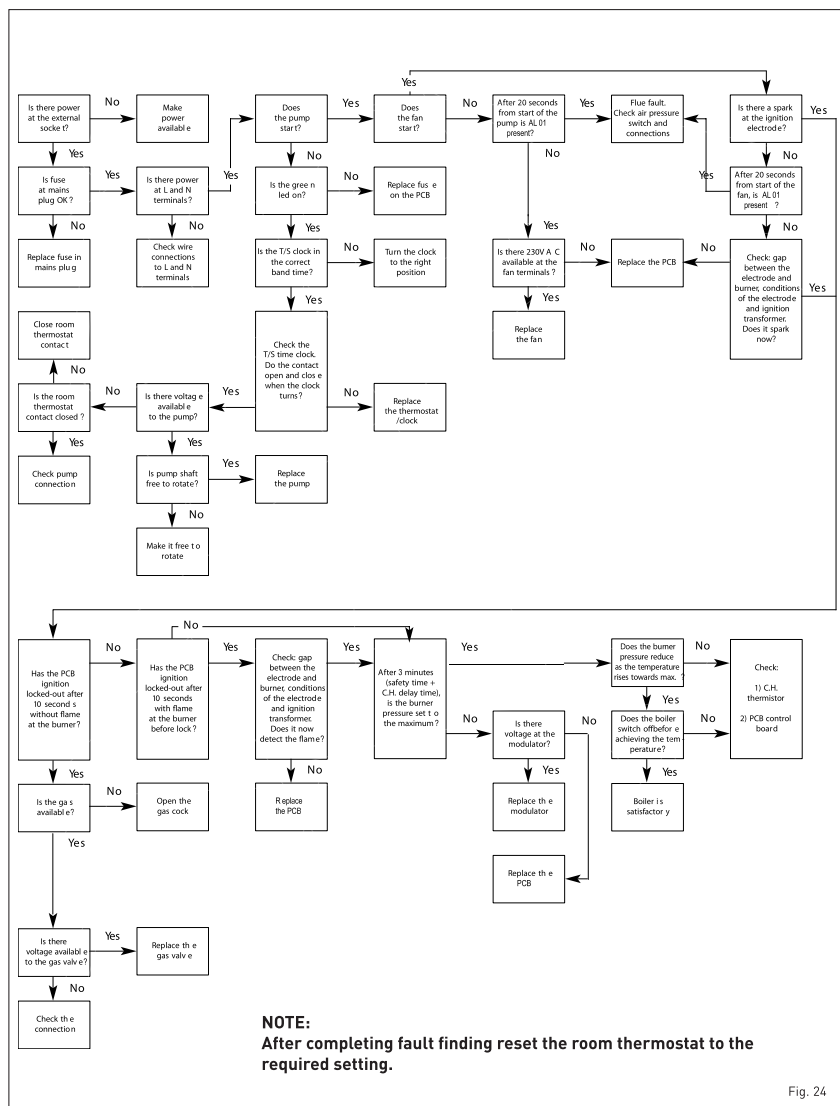


Fig. 24

2.0 USER'S PRE-SERVICE CHECK LIST

I'm Cold! - The Heaters not Working.

1	General
	Has the system worked before? if it did why did it stop? Is the boiler set to SUMMER position? <i>Check that the power, gas, valves or thermostat are turned ON. Boiler set to WINTER.</i>
	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? <i>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?</i>
	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? <i>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.</i>
	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? <i>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.</i>
	Does it work? - If NO go to Q6
6	Radiators
	Are some radiators hot and others cold? <i>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.</i>

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 a 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 does 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

- 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 deactivated 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

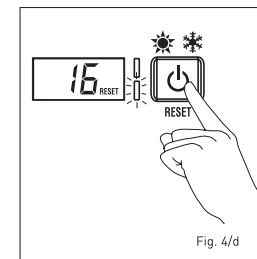


Fig. 4/d

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.

6.0 INSTALLER INSTRUCTIONS

CONTENTS

6.1	DESCRIPTION OF THE BOILER.....	pag. 14
6.2	INSTALLATION.....	pag. 21
6.3	CHARACTERISTICS.....	pag. 30
6.4	USE & MAINTENANCE.....	pag. 34
6.5	FAULT FINDING.....	pag. 38
6.6	SPARE PARTS - INTERNAL 30 I SYSTEM.....	pag. 39
6.7	SPARE PARTS -EXTERNAL 30 E SYSTEM.....	pag. 41

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 :

- The fan is faulty or jammed.
- The air pressure switch has intervened or is faulty.

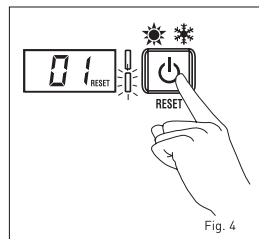


Fig. 4

- 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". Re-pressurise 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).

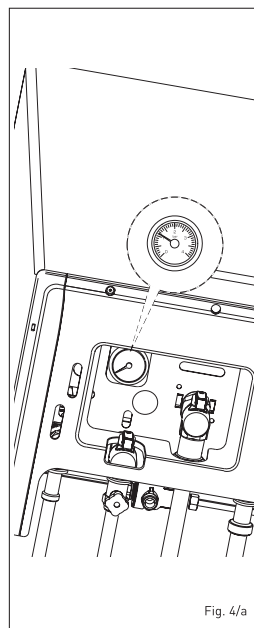


Fig. 4/a

- 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.

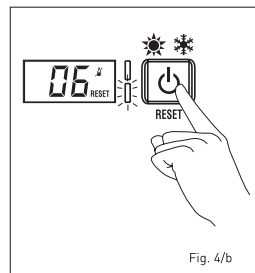


Fig. 4/b

- 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.

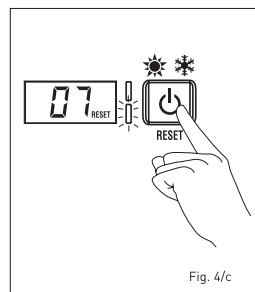


Fig. 4/c

- 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".

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/

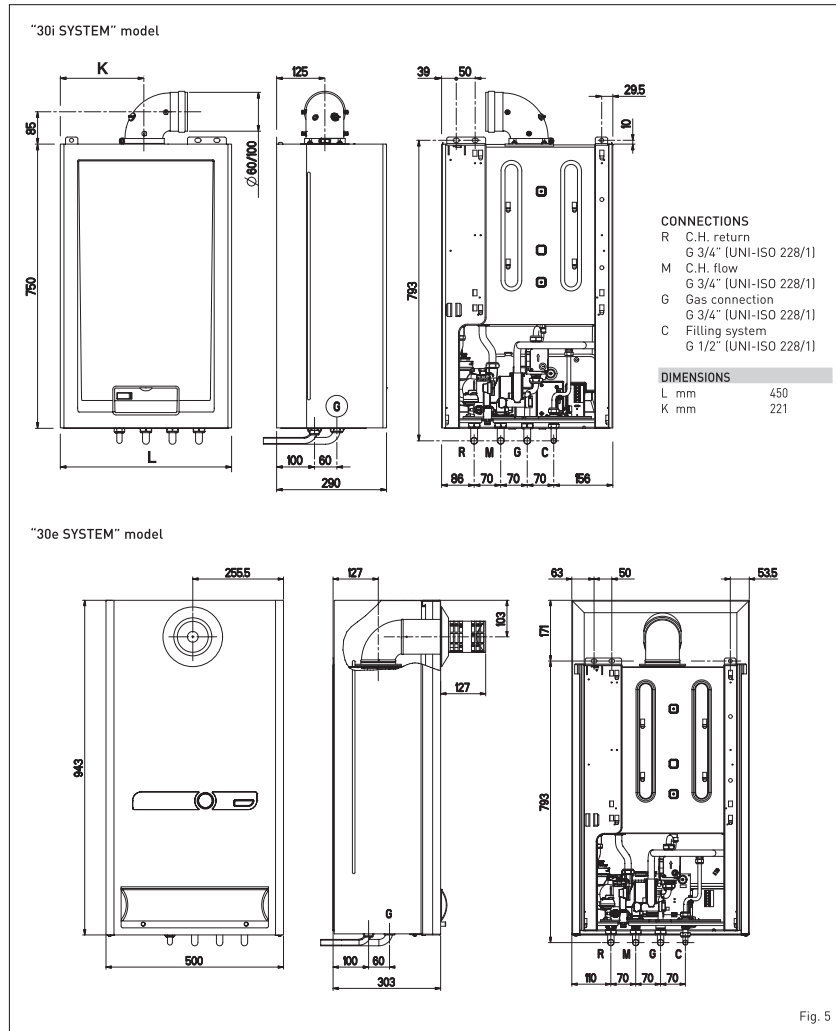
CE, 2006/95/CE and 92/42/CE. The can be fuelled by natural gas (G20) or LPG (G30-G31).

- 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



press + until



appears. Confirm this value using \leftarrow or \rightarrow . Exit the parameters section by pressing \odot .

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

BOILER	GAS	MODELS	PAR 1
30 i	METHANE	30	02
30 e	LPG	30	04

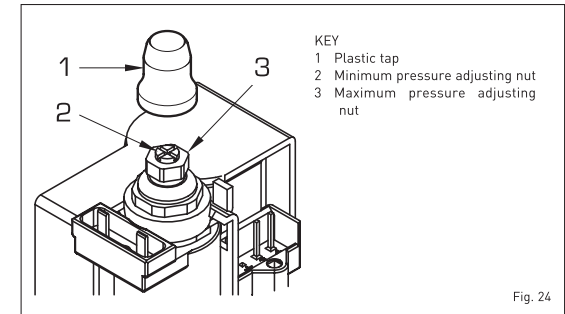
6.4.2.2 Adjusting valve pressure (fig. 24)

Set maximum and minimum pressure on gas valves as follows (fig. 24):

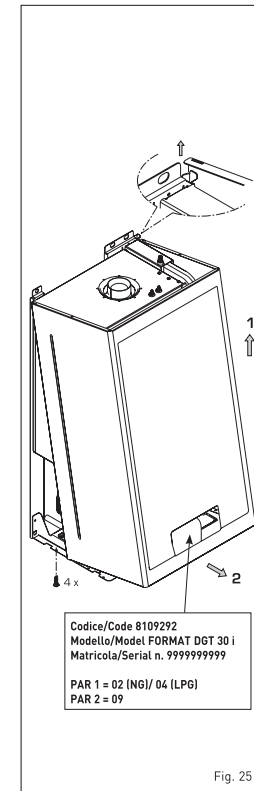
- Connect a manometer to the intake downstream of the gas valve (4 fig. 22).
- Disconnect the valve VENT pressure test point tube (5 fig. 22).
- Remove the cap (1) from the modulator.
- Put the boiler in chimney sweep mode (see section 6.4.4.2), ensure that all zone valves are open.
- Press the key + [Hi].
- Turning the gas valve adjusters clockwise will decrease it.
- Adjust maximum pressure using the nut (3) with a wrench to the maximum pressure value 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 \odot 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-



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



6.4.4 MAINTENANCE

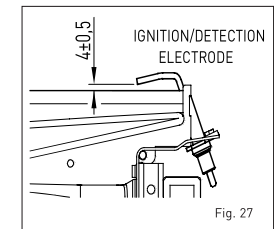
To guarantee functioning and efficiency of the appliance, in respect of the legal provisions in force, it must be regularly checked; the frequency of the checks depends on the type of installation and usage but this should be at least annually.

Carry out the following procedure for cleaning the burner / heat exchanger:

- 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.



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 $\varnothing 7$ 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.

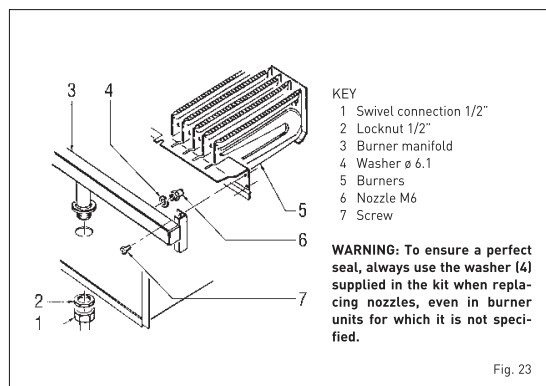
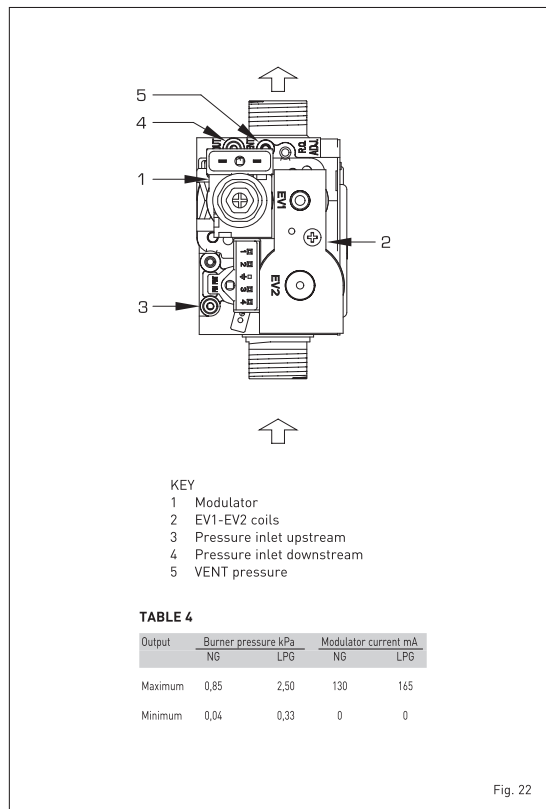
The red LED flashes and the display shows:



Scroll the parameters using or .

To enter the fuel configuration parameter PAR 01, use or .

The set value **flashes** and if the boiler in question is a 30 with methane, the display shows:

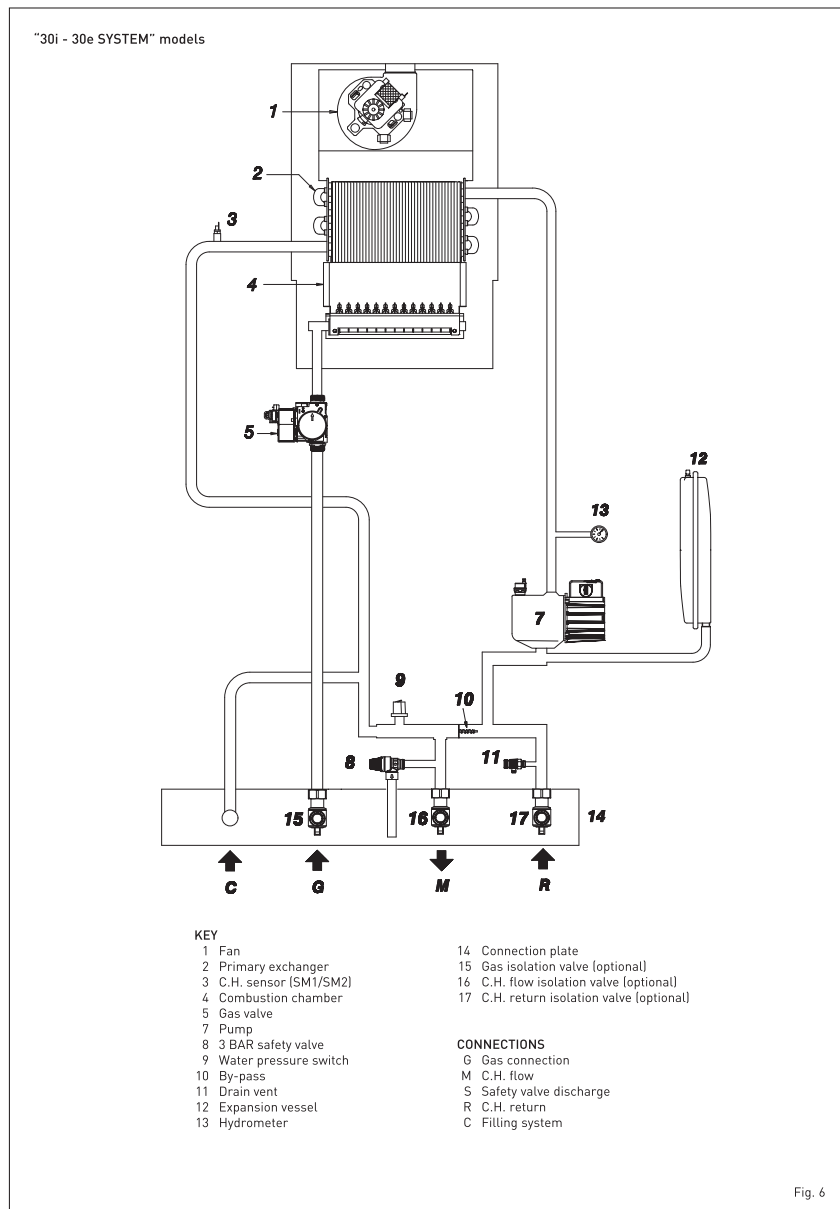


6.1.3 TECHNICAL FEATURES

Models	30i - 30e SYSTEM	
Heat output		
Nominal (80-60°C)	kW	29,4 (Natural Gas at 1,13 lPa) 29,4 (LPG at 2,75 kPa)
Reduced	kW	10,8 (Natural Gas at 1,13 lPa) 11,8 (LPG at 2,75 kPa)
Heat input		
Nominal (80-60°C)	MJ/h	123,0 (Natural Gas at 1,13 lPa) 123,0 (LPG at 2,75 kPa)
Reduced	MJ/h	45,1 (Natural Gas at 1,13 lPa) 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.**

6.1.4 FUNCTIONAL DIAGRAM

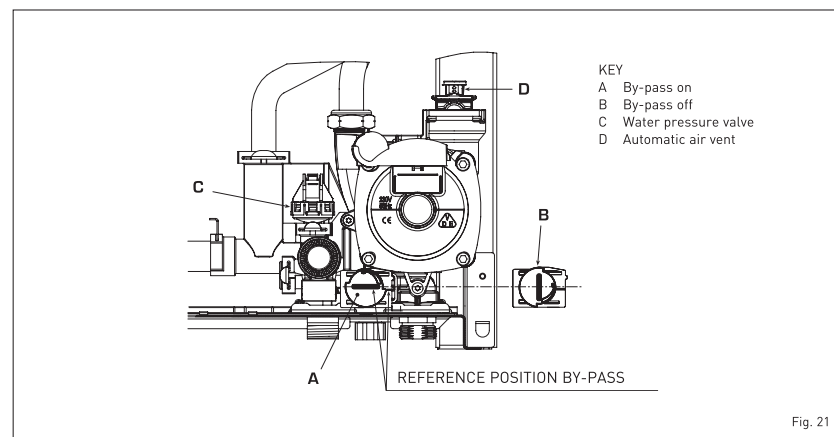
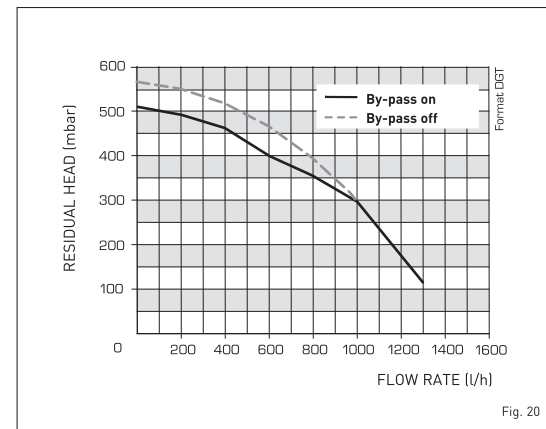


6.3.8 WATER PRESSURE SWITCH

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).



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 or 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.

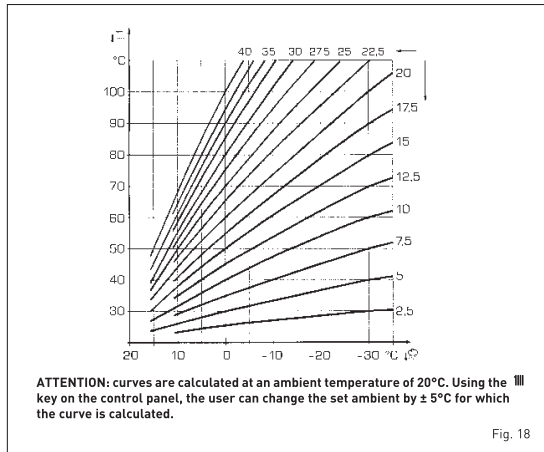


Fig. 18

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.

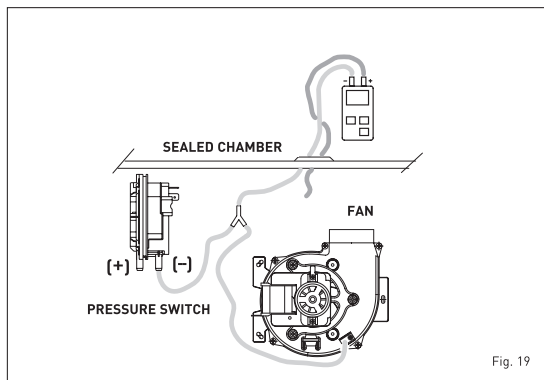
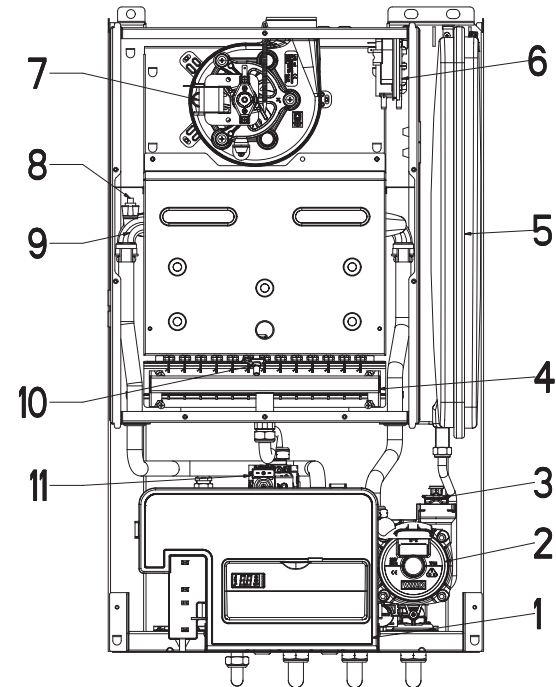


Fig. 19

6.1.5 MAIN COMPONENTS

"30i - 30e SYSTEM" models



KEY

- | | |
|--------------------|---------------------------------|
| 1 Control panel | 6 Air pressure switch |
| 2 Pump | 7 Fan |
| 3 Air relief valve | 8 C.H. sensor (SM1/SM2) |
| 4 Burners | 9 Primary exchanger |
| 5 Expansion vessel | 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 5601 and 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 against 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 m³/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

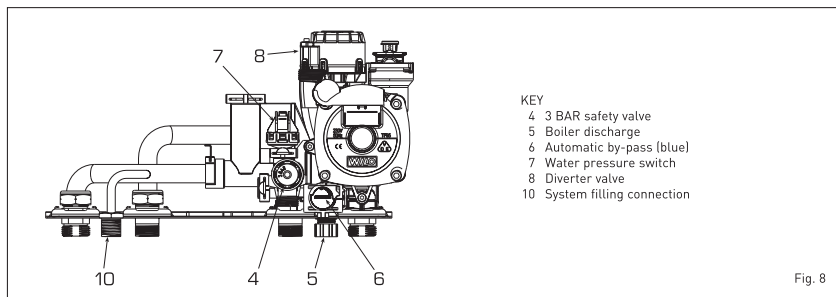
The charge pressure, with the system cold, must be between **1 and 1.2 bar**. Filling must be done slowly so as to allow any air bubbles to be bled off through the air valves.

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

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	METHANE	-	01
	(G20)	30	02
DGT	LPG	-	03
	(G30/G31)	30	04

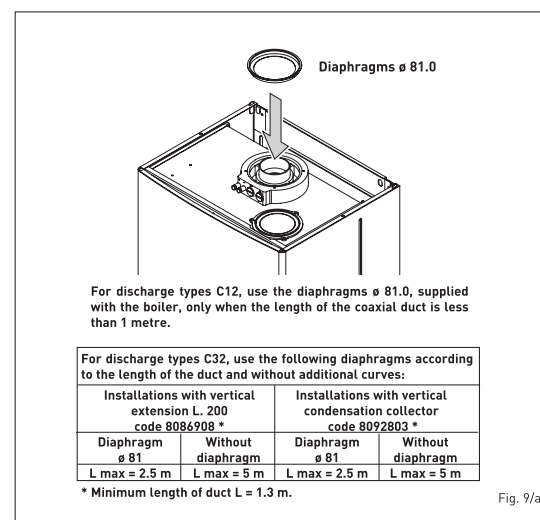
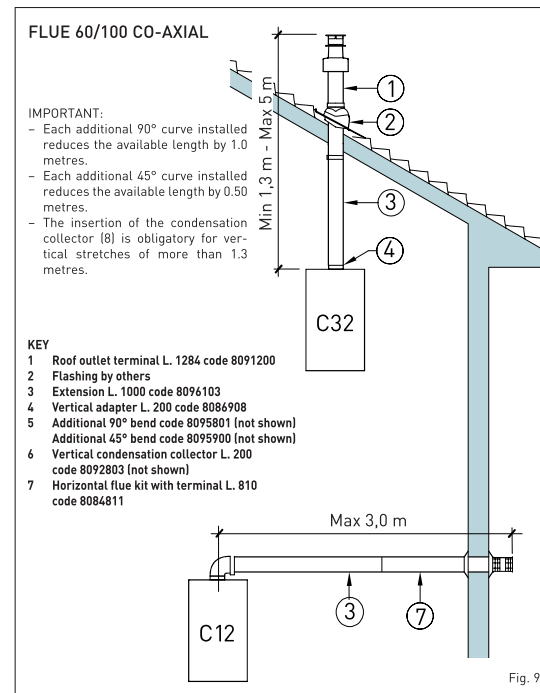
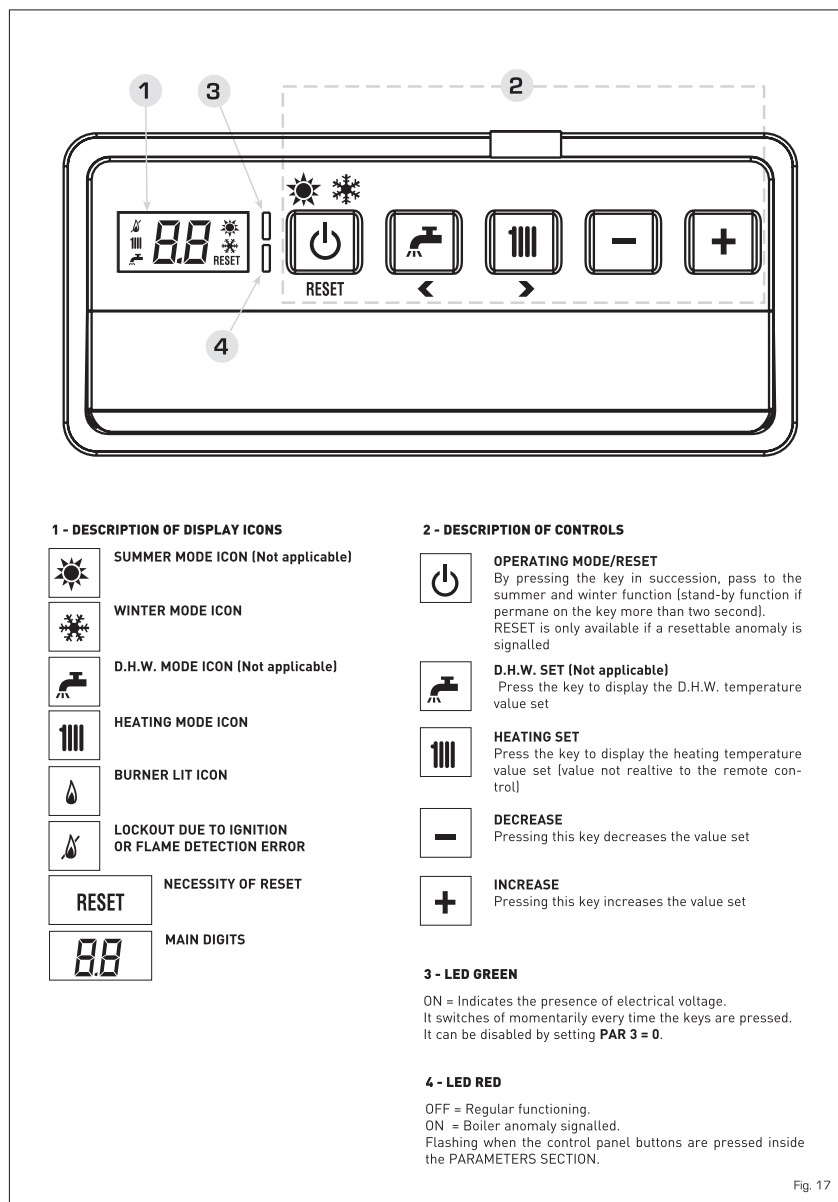
BOILER	PAR 2
FORMAT DGT combined	09
FORMAT DGT combined with sun-panel system	10
FORMAT DGT SYSTEM	12
FORMAT DGT combined with sun-panel system and with automatic filling	14

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				
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	00
c1 Number of ignitions of the burner	00 ... 99	x 1000	0,1 from 0,0 to 9 9	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 CHARACTERISTICS

6.3.1 CONTROL PANEL



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/m².

The maximum flue length 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).

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 available length by 1.0 metres.
- Each additional 45° curve installed reduces the available 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]

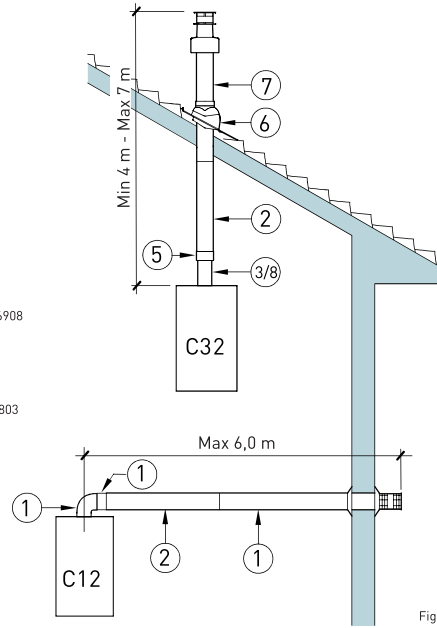


Fig. 10

TABLE 1

Accessories ø 80	Load loss mmH ₂ O (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

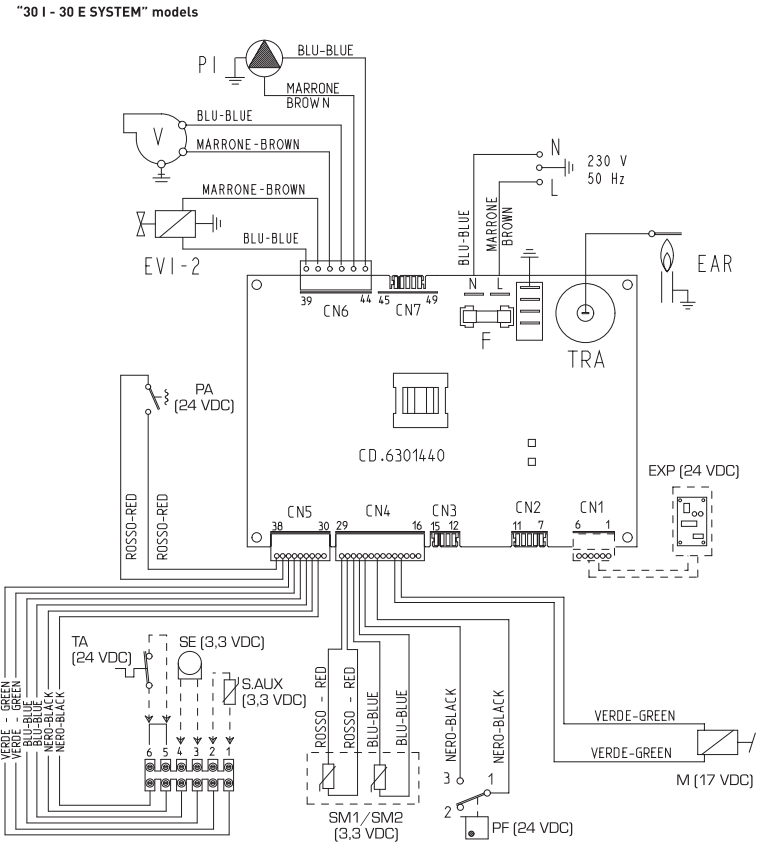
Calculation example of the head loss of a "DGT 30i" vers. boiler (installation allowed as the sum of the head losses of the accessories used is less than 9.5 mm H₂O-93.2 Pa):

	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 H₂O (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

6.2.10 BOILER ELECTRICAL DIAGRAM



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

6.2.9.2 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.

When 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.

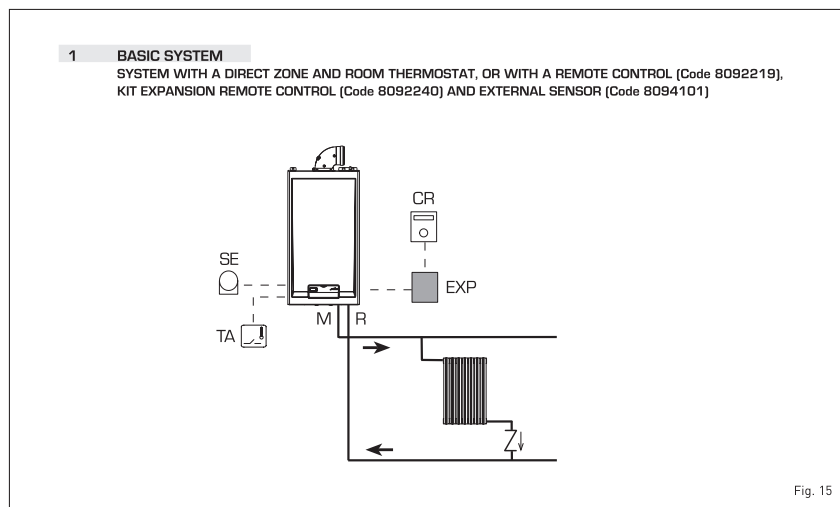


Fig. 15

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.

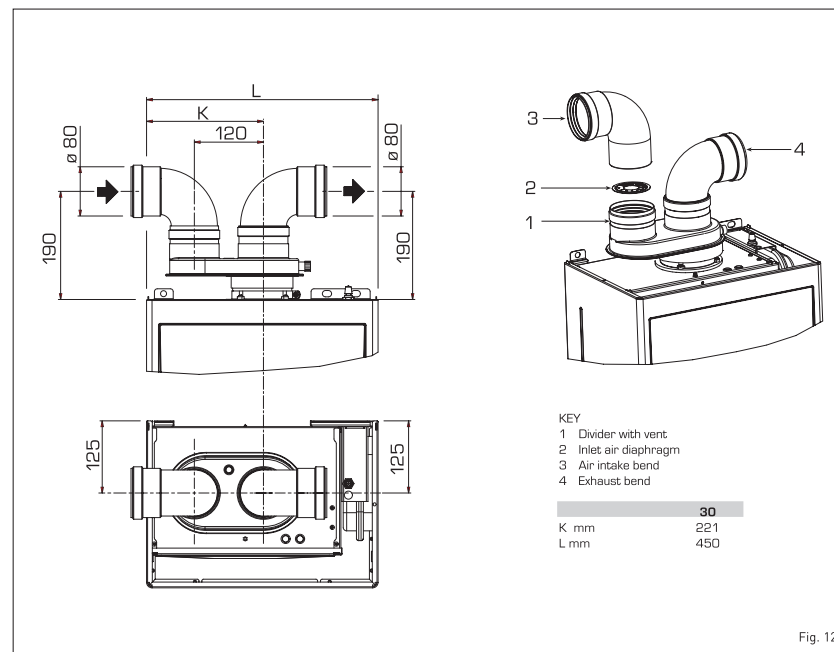


Fig. 12

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.

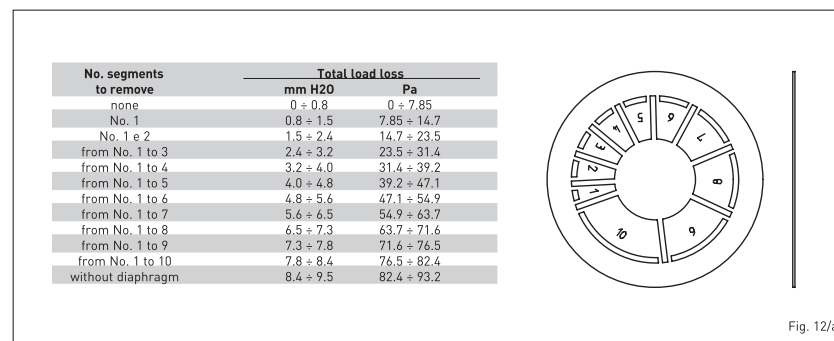


Fig. 12/a

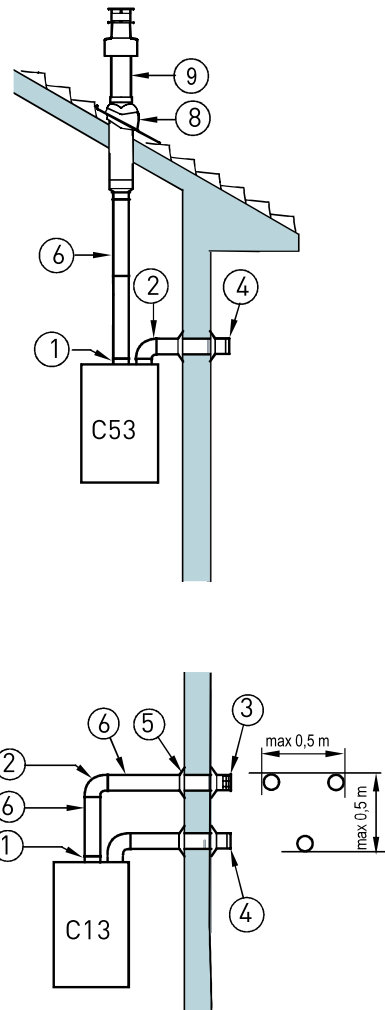
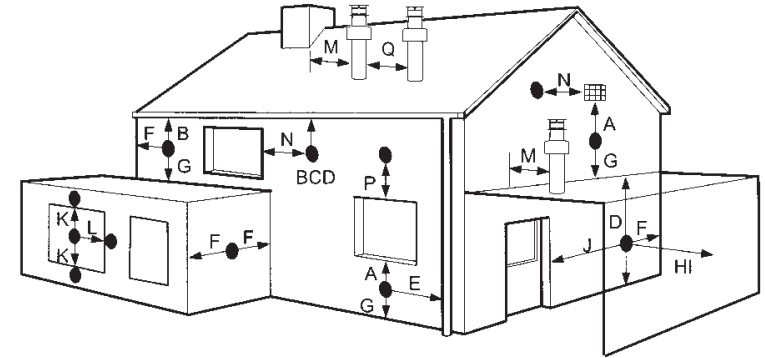


Fig. 13

KEY

- 1 Air/combustion product divider code 8093000
- 2 90° elbow MF [n° 6] code 8077410
- 3 45° elbow MF [n° 6] code 8077411 (not shown)
- 4 Outlet terminal code 8089501
- 5 Intake terminal code 8089500
- 6 Internal - external ring kit code 8091500
- 7 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.



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

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 by a 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].