

UK

Condensing wall mounted boiler

MURELLE ADVANCED HE MkII

USER, INSTALLATION AND SERVICING INSTRUCTIONS



ENSURE THAT THESE INSTRUCTIONS ARE LEFT FOR THE USER AFTER COMPLETION OF THE BENCHMARK SECTION

PLEASE READ THE IMPORTANT NOTICE WITHIN THIS GUIDE REGARDING YOUR BOILER WARRANTY



BOILER DETAILS

please position here a sticker from installation pack



IMPORTANT NOTICE

For the first year all of our appliances are protected by our manufacturer's guarantee which covers both parts and labour.

As you would expect from Sime Ltd, it is our aim to provide our valued customers with the best in after sales and service.

To take advantage of any extended warranty offered, all you have to do is to adhere to these 3 simple conditions:

- The installation must be carried out to Manufacturers/Benchmark Standards by a Gas Safe Registered Engineer, and recorded in the installation manual.
- The appliance must be registered with both Sime Ltd and Gas Safe within 30 days of installation.
- The appliance must be serviced every 12 months, within 30 days of the anniversary of the installation date, by either Sime Ltd or a Gas Safe registered engineer- ensuring that the Benchmark service record in the installation manual is completed.

Failure to comply with the above will result in only the 12 month warranty being offered. In the absence of any proof of purchase, the 12 month warranty period will commence from the date of manufacture of the boiler as shown on the appliance data plate.

SAFE HANDLING

This boiler may require 2 or more operatives to move it into its installation site, remove it from its packaging and during movement into its installation location. Manoeuvring the boiler may include the use of a sack truck and involve lifting pushing and pulling.

Caution should be exercised during these operations.

Operatives should be knowledgeable in handling techniques when performing these tasks and the following precautions should be considered:

- Grip the boiler at the base
- Be physically capable
- Use personal protective equipment as appropriate e.g. gloves, safety footwear.

During all manoeuvres and handling actions, every attempt should be made to ensure the following unless unavoidable and/or the weight is light.

- Keep back straight
- Avoid twisting at the waist
- Always grip with the palm of the hand
- Keep load as close to the body as possible
- Always use assistance

WARNING

Caution should be exercised when performing any work on this appliance.

Protective gloves and safety glasses are recommended.

- Avoid direct contact with sharp edges.
- Avoid contact with any hot surfaces.

NOTICE

Please be aware that due to the wet testing of the appliance, there may be some residual water in the hydraulic circuit.

- Protect any surfaces, carpets or floorings.
- Use a suitable container to catch any water that escapes when removing the protective caps from the connections.

Code Of Practice

For the installation, commissioning and servicing of domestic heating and hot water products

Benchmark places responsibilities on both manufacturers and installers.* The purpose is to ensure that customers** are provided with the correct equipment for their needs, that it is installed, commissioned and serviced in accordance with the manufacturer's instructions by competent persons and that it meets the requirements of the appropriate Building Regulations. Installers are required to carry out work in accordance with the following:

Standards of Work

- Be competent and qualified to undertake the work required.
- Install, commission, service and use products in accordance with the manufacturer's instructions provided.
- Ensure that where there is responsibility for design work, the installation is correctly sized and fit for purpose.
- Meet the requirements of the appropriate Building Regulations. Where this involves notifiable work be a member of a Competent Persons Scheme or confirm that the customer has notified Local Authority Building Control (LABC), prior to work commencing.
- Complete all relevant sections of the Benchmark Checklist/Service Record when carrying out commissioning or servicing of a product or system.
- Ensure that the product or system is left in a safe condition and, whenever possible, in good working order.
- Highlight to the customer any remedial or improvement work identified during the course of commissioning or servicing work.
- Refer to the manufacturer's helpline where assistance is needed.
- Report product faults and concerns to the manufacturer in a timely manner.

Customer Service

- Show the customer any identity card that is relevant to the work being carried out prior to commencement or on request.
- Give a full and clear explanation/demonstration of the product or system and its operation to the customer.
- Hand over the manufacturer's instructions, including the Benchmark Checklist, to the customer on completion of an installation.
- Obtain the customer's signature, on the Benchmark Checklist, to confirm satisfactory demonstration and receipt of manufacturer's instructions.
- Advise the customer that regular product servicing is needed, in line with manufacturers' recommendations, to ensure that safety and efficiency is maintained.
- Respond promptly to calls from a customer following completion of work, providing advice and assistance by phone and, if necessary, visiting the customer.
- Rectify any installation problems at no cost to the customer during the installer's guarantee period.



*The use of the word "installer" is not limited to installation itself and covers those carrying out installation, commissioning and/or servicing of heating and hot water products, or the use of supporting products (such as water treatment or test equipment).

**Customer includes householders, landlords and tenants.

The Benchmark Scheme

Sime is a licensed member of the Benchmark Scheme which aims to improve the standards of installation and commissioning of domestic heating and hot water systems in the UK and to encourage regular servicing to optimise safety, efficiency and performance.

Benchmark is managed and promoted by the Heating and Hotwater Industry Council.

For more information visit www.centralheating.co.uk.

Please ensure that the installer has fully completed the Benchmark Checklist in the use and maintenance section of the installation instructions supplied with the product and that you have signed it to say that you have received a full and clear explanation of its operation.

The installer is legally required to complete a commissioning checklist as a means of complying with the appropriate Building Regulations (England and Wales).

All installations must be notified to Local Area Building Control either directly or through a Competent Persons Scheme.

A Building Regulations Compliance Certificate will then be issued to the customer who should, on receipt, write the Notification Number on the Benchmark Checklist.

This product should be serviced regularly to optimise its safety, efficiency and performance.

The service engineer should complete the relevant Service Record on the Benchmark Checklist after each service.

The Benchmark Checklist may be required in the event of any warranty work and as supporting documentation relating to home improvements in the optional documents section of the Home Information Pack.

Important Information

IT IS A STATUTORY REQUIREMENT THAT ALL GAS APPLIANCES ARE INSTALLED BY COMPETENT PERSONS, IN ACCORDANCE WITH THE GAS SAFETY (INSTALLATION AND USE) REGULATIONS (CURRENT EDITION). The manufacturer's instructions must not be taken as overriding any statutory requirements, and failure to comply with these regulations may lead to prosecution.

No modifications to the appliance should be made unless they are fully approved by the manufacturer.

GAS LEAKS: DO NOT OPERATE ANY ELECTRICAL SWITCH, OR USE A NAKED FLAME. TURN OFF THE GAS SUPPLY AND VENTILATE THE AREA BY OPENING DOORS AND WINDOWS CONTACT THE GAS EMERGENCY SERVICE ON 0800111999.



Please refer to commissioning instructions for filling in the checklist at the back of this installation guide.

Note: All Gas Safe registered installers carry a ID Card.

You can check your installer is Gas Safe Registered by calling 0800 408 5577

SIME COMBINATION BOILERS Installer checklist

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

- Has a correct by-pass been fitted and adjusted?
- Has the system and boiler been flushed?
- Is the system and boiler full of water, and the correct pressure showing on the pressure gauge?
- Is the Auto Air Vent open?
- **Has the pump been rotated manually?**
- Is the gas supply working pressure correct?
- Is the boiler wired correctly? (See installation manual).
- **Has the D.H.W. flow rate been set to the customer requirements?**
- Has the customer been fully advised on the correct use of the boiler, system and controls?
- Has the Benchmark Checklist in the use and maintenance section of this manual, been completed?

SAFETY WARNINGS AND REGULATIONS



WARNINGS

- After having unpacked the boiler ensure that it is undamaged and complete including the valve pack, hanging bracket and template.
- The appliance must be used as intended. **Sime Ltd** declines all responsibility for any injury or damage to persons, animals, or property as a result of improper installation, adjustment, maintenance or use.
- In the event of water leaks, disconnect the appliance from the mains power supply, close the water mains and seek help from a qualified engineer.
- Periodically check that the operating pressure of the water heating system when cold is **1-1.2 bar**. If required, increase the pressure or seek help from a qualified engineer.
- If the appliance is not used for a long period of time, the following operations must be carried out:
 - *set the main isolation switch to "OFF";*
 - *close the gas and water valves for the water heating system.*
- To ensure continued efficient operation of the appliance it is recommended that it is serviced regularly, at least once a year. This is also a condition of the boiler warranty.
- It is the law that any service or repair is carried out by a Gas Safe Registered engineer.
- Services must be recorded in the maintenance section of this installation guide.



WARNINGS

- **This manual** is an integral part of the appliance. It must therefore be kept for future reference and must always accompany the appliance.
- **Installation and maintenance** of this appliance must be carried out by a qualified company or by a professionally qualified technician in accordance with the instructions contained in the manual. Once the work is complete, the company or technician will issue a declaration of conformity with national and local technical standards and legislation in force in the country where the appliance will be used.

RESTRICTIONS



DO NOT

- To allow children under the age of 8 to use the appliance. The appliance can be used by children no younger than 8 years old, by people with physical or cognitive disabilities, and by people lacking experience or the necessary knowledge, provided that they are supervised or have been instructed on how to use the appliance safely and that they understand the risks associated with it.
- To allow children to play with the appliance.
- To allow unsupervised children to perform user maintenance and cleaning.
- Do not use electrical devices or appliances such as switches, electrical appliances etc if you can smell gas. If this should happen:
 - *open the doors and windows to ventilate the room;*
 - *turn the gas off at the meter;*
 - *call the emergency service 0800 111999.*
- Do not touch the appliance with bare feet or with any wet part of the body.
- Do not carry out any repair, maintenance or cleaning operation before having disconnected the appliance from the mains power by setting the main switch to "OFF", and closing the gas supply.
- Do not modify the safety or adjustment devices without authorization and instructions from the manufacturer.



DO NOT

- Do not block the condensate drain.
- Do not pull, detach or twist the electrical cables coming out of the appliance even if the appliance is disconnected from the mains power supply.
- Do not expose the boiler to atmospheric agents. These boilers can also be installed in partially covered areas, as per EN 15502, 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.
- Do not block or reduce the size of the ventilation openings of the room where the appliance is installed, if present.
- Remove the mains power and gas supply from the appliance if the external temperature could fall below ZERO (risk of freezing).
- Do not leave containers with flammable substances in the room where the appliance is installed.
- Do not dispose of the packaging material irresponsibly as it could be dangerous. Packaging must be disposed of as specified by the legislation in force in the country where the appliance will be used.

RANGE

MODEL	CODE	GAS COUNCIL NUMBER
Murelle Advanced HE 30 MkII	8114225	47-283-82
Murelle Advanced HE 40 MkII	8114227	47-283-83

COMPLIANCE

Our company declares that **Murelle Advanced HE MkII** boilers comply with the following directives:

- Gas Appliances EU Regulation 2016/426
- Boiler Efficiency Directive 92/42/EEC
- Low Voltage Directive 2014/35/UUE
- Electromagnetic Compatibility Directive 2014/30/EU
- Ecodesign Directive 2009/125/EC
- Regulation (UE) N. 811/2013 - 813/2013
- Regulation (EU) No. 2017/1369



Please refer to the technical data plate for the serial number and year of manufacture.

SYMBOLS



WARNING

To indicate actions which, if not carried out correctly, can result in injury of a general nature or may damage or cause the appliance to malfunction; these actions therefore require particular caution and adequate preparation.



ELECTRICAL HAZARD

To indicate actions which, if not carried out correctly, could lead to injury of an electrical nature; these actions therefore require particular caution and adequate preparation.



DO NOT

To indicate actions which **MUST NOT BE** carried out.



CAUTION

To indicate particularly important and useful information.

MANUAL STRUCTURE

This manual is organized as follows.

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USER INSTRUCTIONS

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VERY IMPORTANT!

PLEASE MAKE SURE YOUR COMMISSIONING CHECKLIST AND THE SERVICE INTERVAL RECORDS ENCLOSED ARE FILLED IN CORRECTLY.

ALL GAS SAFE REGISTERED INSTALLERS CARRY A GAS SAFE ID CARD.

BOTH SHOULD BE RECORDED IN YOUR COMMISSIONING CHECKLIST AND A SERVICE INTERVAL RECORDS.

YOU CAN CHECK YOUR INSTALLER IS GAS SAFE REGISTERED

BY CALLING ON 0800 408 5500 OR ALTERNATIVELY WWW.GASSAFEREGISTER.CO.UK

1 OPERATING THE MURELLE ADVANCED HE MKII

1.1 Control panel

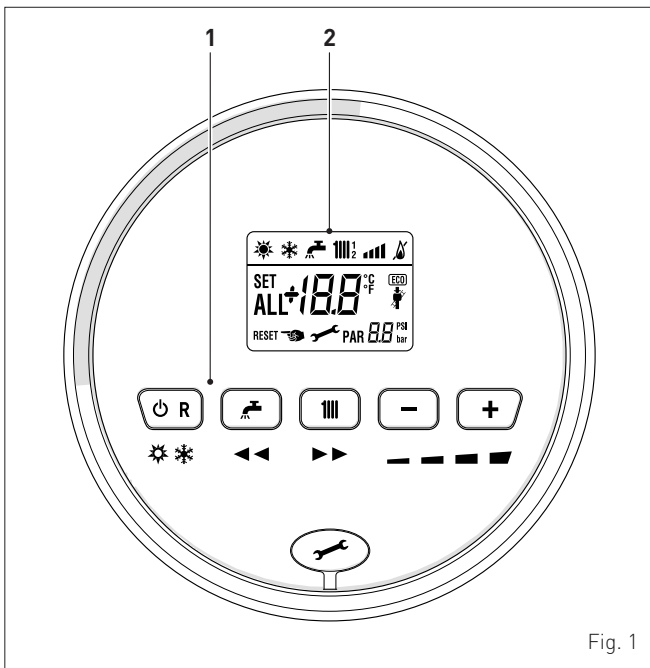


Fig. 1

1 FUNCTIONAL BUTTONS

⏻ R Press for more than one second and release to step through the operating modes (Stand-by – Summer – Winter). Also use this key to reset a resettable lockout.

🚰 During normal operation, pressing the button displays the domestic hot water set point which can be between 10 and 60°C. In "parameter setting", the engineer can scroll through the parameter index (decreasing) by pressing this button.

▮ During normal operation, pressing the button displays the heating set point which can be between 20 and 80°C. In "parameter setting", the engineer can scroll through the parameter index (increasing) by pressing this button.

- During normal operation, pressing this button allows the user to reduce the heating or DHW set point on the basis of the selection made previously. In "parameter setting/display", the engineer can modify the parameter setting or value (decreasing) by pressing this button.

+ During normal operation, pressing this button allows the user to increase the heating or DHW set point on the basis of the selection made previously. In "parameter setting/display", the engineer can modify the parameter setting or value (increasing) by pressing this button.

🔧 Programming connector cover plug.

NOTE: pressing any one of these buttons for more than 30 seconds generates a fault on the display without preventing boiler operation. The warning disappears when the button is released.

2 DISPLAY



"SUMMER". This symbol appears when the boiler is operating in "Summer" mode or if only the domestic hot water mode is enabled via the remote control. If the symbols and are flashing, this indicates that the chimney sweep function is active.



"WINTER". This symbol appears when the boiler is operating in "Winter" mode or if both the domestic hot water and heating modes are enabled via the remote control. With the remote control, if no operating modes have been enabled both symbols and will be off.



RESET "RESET REQUIRED". The message indicates that after having corrected the problem, normal boiler operation can be restored by pressing the button **⏻ R**.



"DOMESTIC HOT WATER". This symbol is present during a DHW request or during the "chimney sweep function". It flashes during the selection of the domestic hot water set point.



"HEATING". This symbol lights up during heating operation or during the "chimney sweep function". It flashes during the selection of the heating set point.



"LOCKOUT" DUE TO NO FLAME.



"POWER LEVEL". This indicates the power level at which the boiler is operating.



PAR "PARAMETER". This indicates when the engineer is in parameter setting/display, or "info" or "counter", or in "activated alarms" (history).



ALL "ALARM". This indicates that a fault has occurred. The number specifies the cause which generated the alarm.



"CHIMNEY SWEEP". This indicates that the "chimney sweep function" has been activated.



"HEATING SYSTEM PRESSURE". Display of heating system pressure.



"ECO", ALTERNATIVE ENERGY SOURCES. Where active, it indicates that there is a solar system available.



"MAINTENANCE REQUEST". If active, it shows it is time to perform maintenance on the boiler.

1.2 Preliminary checks




WARNING

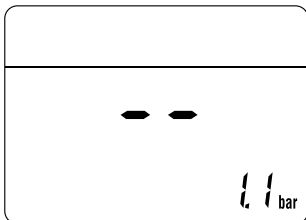
- Should it be necessary to access the areas in the bottom part of the appliance, make sure that the system components and pipes are not hot (risk of burning).
- Before replenishing the heating system, put on protective gloves.

Commissioning of the **Murelle Advanced HE MkII** boiler must be carried out by professionally qualified personnel after which the boiler can operate automatically. It may however be necessary for the User to start the appliance autonomously without involving a technician: for example, after a holiday. First of all, check that the gas isolation and water system valves are open.

1.3 Ignition

After having carried out the preliminary checks, proceed as follows:

- set the main system switch to "ON"
- **check that the operating mode on the display is "Stand-by"** and if necessary select it by pressing the button  once or twice



- check that the pressure in the heating system, when cold, is **1-1.2 bar**. If the pressure is less than this, use the external filling device to repressurise the system to **1-1.2 bar**
- ensure that the filling device is turned off after use.

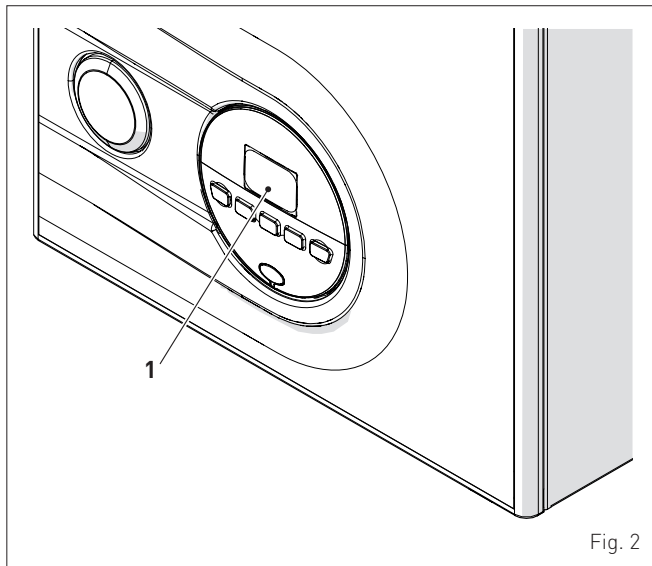


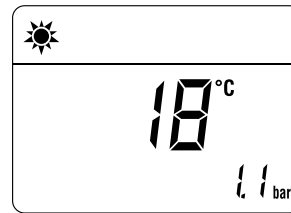







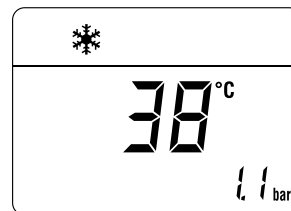
Fig. 2

- select the "SUMMER"  operating mode by pressing and holding the  button for at least 1 second. The delivery temperature detected at that moment will appear on the display




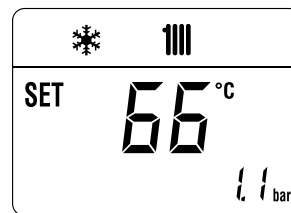
- open one or more than one hot water tap. The  should appear on the display and the boiler will ignite and stay alight until the tap is turned off.

Once the boiler has been operated in "SUMMER mode"  "WINTER mode"  can be selected by pressing and holding the button  for at least 1 second. The delivery water temperature detected at that moment will appear on the display. Ensure that any timers and room thermostats are in the on position. The  will appear on the display and the boiler will ignite.




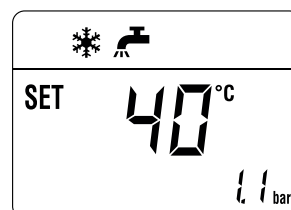
1.4 Adjusting the delivery temperature

The temperature of the heating water can be adjusted by pressing the button  followed by the buttons **+** or **-** on the control panel until the desired temperature is reached. The temperature can be set to between 20 and 80°C.



1.5 Adjusting the domestic hot water temperature

The temperature of the domestic hot water can be adjusted by pressing the button  followed by the buttons **+** or **-**, on the control panel, until the desired temperature is reached. The temperature can be set to between 10 and 60°C.



1.6 Fault / malfunction codes

If a fault/malfunction is detected during boiler operation, the message "ALL" will appear on the display followed by the fault code.

- If you see alarm "02" (low water pressure in the system):
- check that the pressure in the heating system, when cold, is **1-1.2 bar**. If the pressure is less than this, use the external filling device to repressurise the system to **1-1.2 bar**
 - ensure that the filling device is turned off after use.

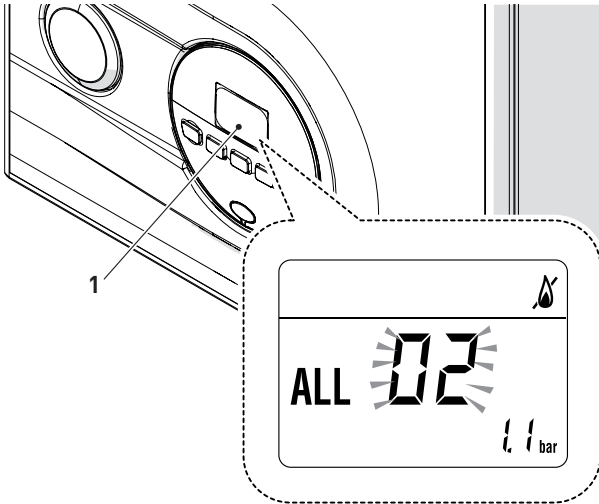
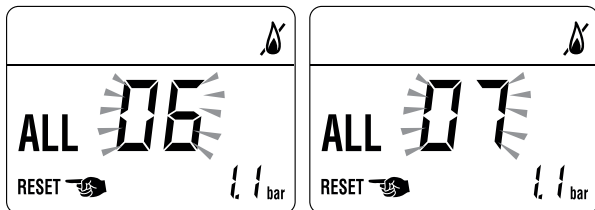


Fig. 3

If you see alarm "06" (no flame detected) and "07" (safety thermostat intervention):

- press and hold the button for more than 3 seconds and check whether normal operating conditions are restored.



If this operation is not successful, **ONLY ONE MORE ATTEMPT** can be made, therefore:

- close the gas cock
- isolate the power supply
- contact the Qualified Technical Personnel.

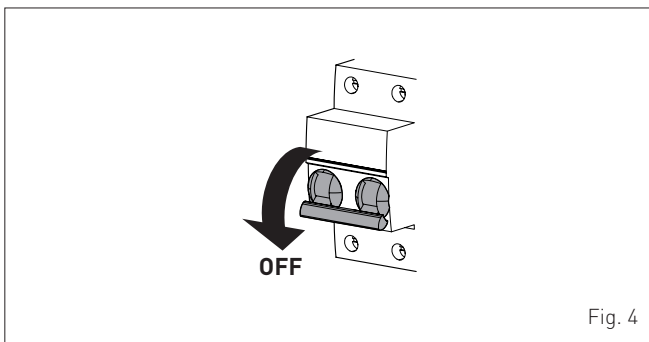


Fig. 4

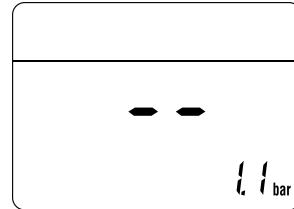


CAUTION
Should you see an alarm not described here, contact a qualified technical professional.

2 SHUTDOWN

2.1 Temporary shutdown

To temporarily interrupt the boiler operation, press and hold the button for at least one second, once if in "WINTER mode" or twice if in "SUMMER mode" . "- -" will appear on the display; the boiler will be in STAND-BY. The boiler anti freeze function will be enabled.



ELECTRICAL HAZARD

The boiler will still be powered.



CAUTION

If the outside temperature might fall below ZERO, since the appliance is equipped with an "antifreeze function"

- ONLY PUT THE BOILER INTO STAND-BY
- leave the main system switch set to "ON" (boiler is powered)
- leave the gas cock open.

2.2 Shutting down for long periods

If the boiler is to be left unused for a long period, the following operations need to be carried out:

- press and hold the button for at least 1 second, once if in "WINTER mode" or twice if in "SUMMER mode" to put the boiler into stand-by "- -" will appear on the display



- isolate the power supply
- isolate the gas cock
- close the heating and domestic hot water isolation valves
- drain the heating and domestic hot water system if there is the risk of freezing.



CAUTION

Contact the Qualified Technical Personnel if the procedure described above cannot be easily carried out.

3 MAINTENANCE

3.1 Servicing

As a condition of the warranty and to ensure correct operation and efficiency, it is important that the boiler is serviced every 12 months, within 30 days of the anniversary of the installation date ensure the required information is recorded in the Gas Boiler System Service Interval Record (Benchmark).



CAUTION

Maintenance interventions must ONLY be carried out by professionally qualified personnel who will follow the indications provided in the INSTALLATION AND MAINTENANCE MANUAL.

3.2 External cleaning



WARNING

- Should it be necessary to access the areas in the bottom part of the appliance, make sure that the system components and pipes are not hot (risk of burning).
- Before performing any maintenance, put on protective gloves.

3.2.1 Cleaning the case

When cleaning the cladding, use a cloth dampened with soap and water or alcohol for stubborn marks.



DO NOT

Do not use abrasive products.

4 DISPOSAL

4.1 Disposal of the equipment (European Directive 2012/19/EU)



Boilers and electrical and electronic appliances from private households must not be disposed of as unsorted municipal waste at the end of their life. Instead, they must be taken to specific return and collection facilities, as per Directive 2012/19/EU and Italian Legislative Decree 49/2014. For more information on authorised collection facilities, please contact your local council or retailer. Individual countries may also define specific rules on how to handle electrical and electronic waste. Before disposing of your appliance, please check the rules in force in your country.



DO NOT

dispose of the product with urban waste.

DESCRIPTION OF THE APPLIANCE

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5 DESCRIPTION OF THE APPLIANCE

5.1 Characteristics

Murelle Advanced HE MkII are condensing wall mounted boilers which **Sime Ltd** has produced for installation into domestic properties for heating and hot water production. The main design choices made by **Sime Ltd** for the **Murelle Advanced HE MkII** boilers are:

- the total pre-mix microflame burner combined with a steel heat exchanger for heating and a rapid heat exchanger for DHW
- room sealed, Type C appliance. Suitable for use on sealed heating systems
- the command and control microprocessor electronic board provides efficient management of both heating and hot water production. It can also be connected to an external sensor. If connected to an external sensor, the boiler temperature varies on the basis of the external temperature according to a selected optimal climatic curve providing significant energy and economic savings.

Other special features of the **Murelle Advanced HE MkII** boilers are:

- the anti-freeze function which activates automatically if the temperature of the water inside the boiler falls below the threshold of the value set at parameter "PAR 10" and , if there is an external sensor, if the external temperature falls below the threshold of the value set at parameter "PAR 11"
- anti jamming function of the pump and diverter valve, this activates automatically every 24 hours if no request for heat has been made
- the chimney sweep function lasts 15 minutes and makes the job of the qualified technician easier when measuring the parameters and combustion efficiency
- domestic hot water comfort function which allows the time necessary for the hot water to become available to be reduced and ensures that the temperature is stable
- screen display of the operating and self-diagnostic parameters with error code display when the fault occurs. This makes repair interventions easier and allows appliance operation to be restored correctly.

5.2 Check and safety devices

The **Murelle Advanced HE MkII** boilers are equipped with the following check and safety devices:

- thermal safety thermostat 100°C
- 3 bar relief valve
- heating water pressure transducer
- delivery sensor (SM)
- DHW sensor (SS)
- exhaust sensor (SF).



DO NOT

Do not commission or operate the appliance with safety devices which do not work or which have been tampered with.



WARNING

Safety device may only be replaced by professional qualified personnel using **Sime Ltd** original spare parts.

5.3 Identification

The **Murelle Advanced HE MkII** boilers can be identified by means of:

- 1 Packaging label:** this is located on the outside of the packaging and provides a code, the serial number of the boiler and the bar code
- 2 Energy Efficiency Label:** this is positioned on the outside of the packaging to notify the User of the level of energy savings and reduced environmental pollution produced by the appliance
- 3 Technical Data Plate:** this is located inside the front panel of the boiler and provides the technical data, appliance performance information and any other information required by law in the country where the appliance will be used.
- 4 Steaker of product identification**

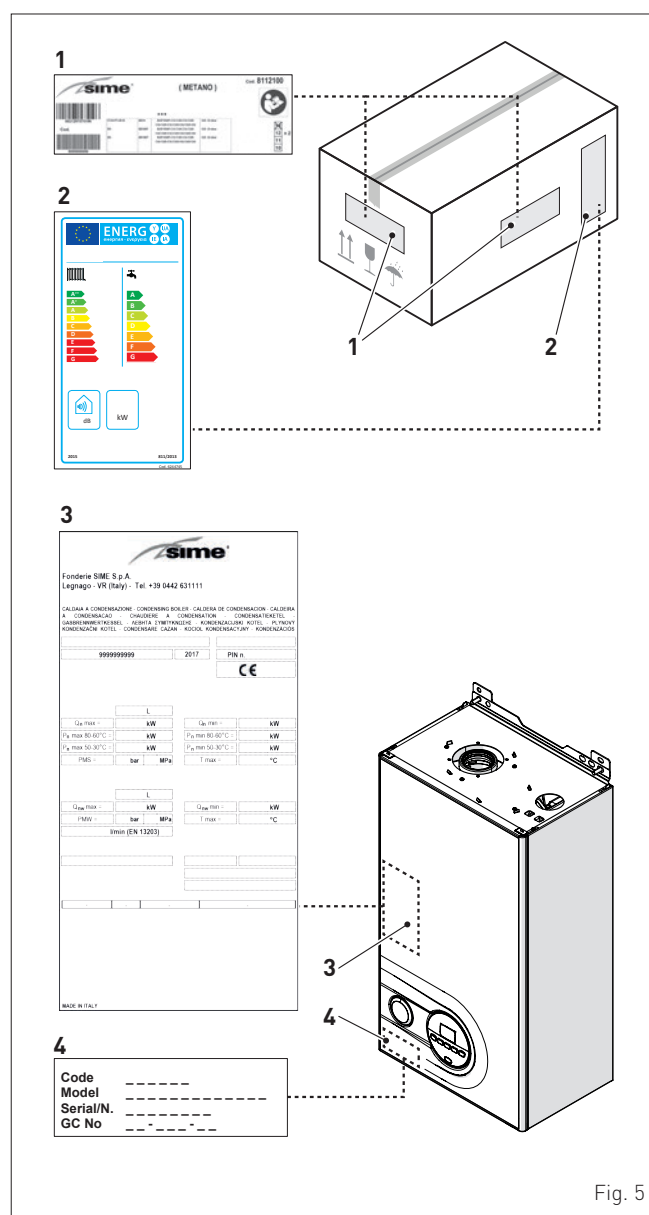


Fig. 5

5.3.1 Technical Data Plate

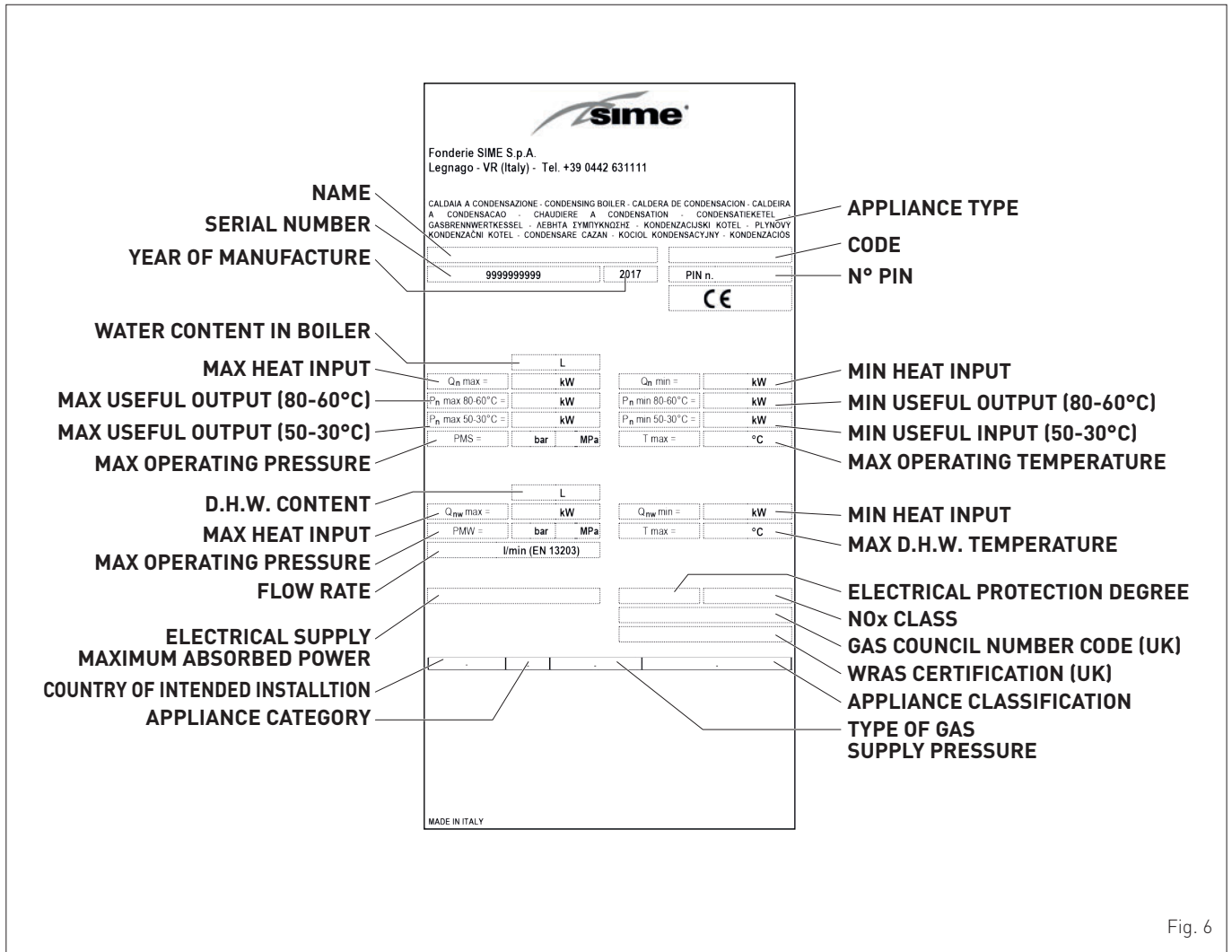


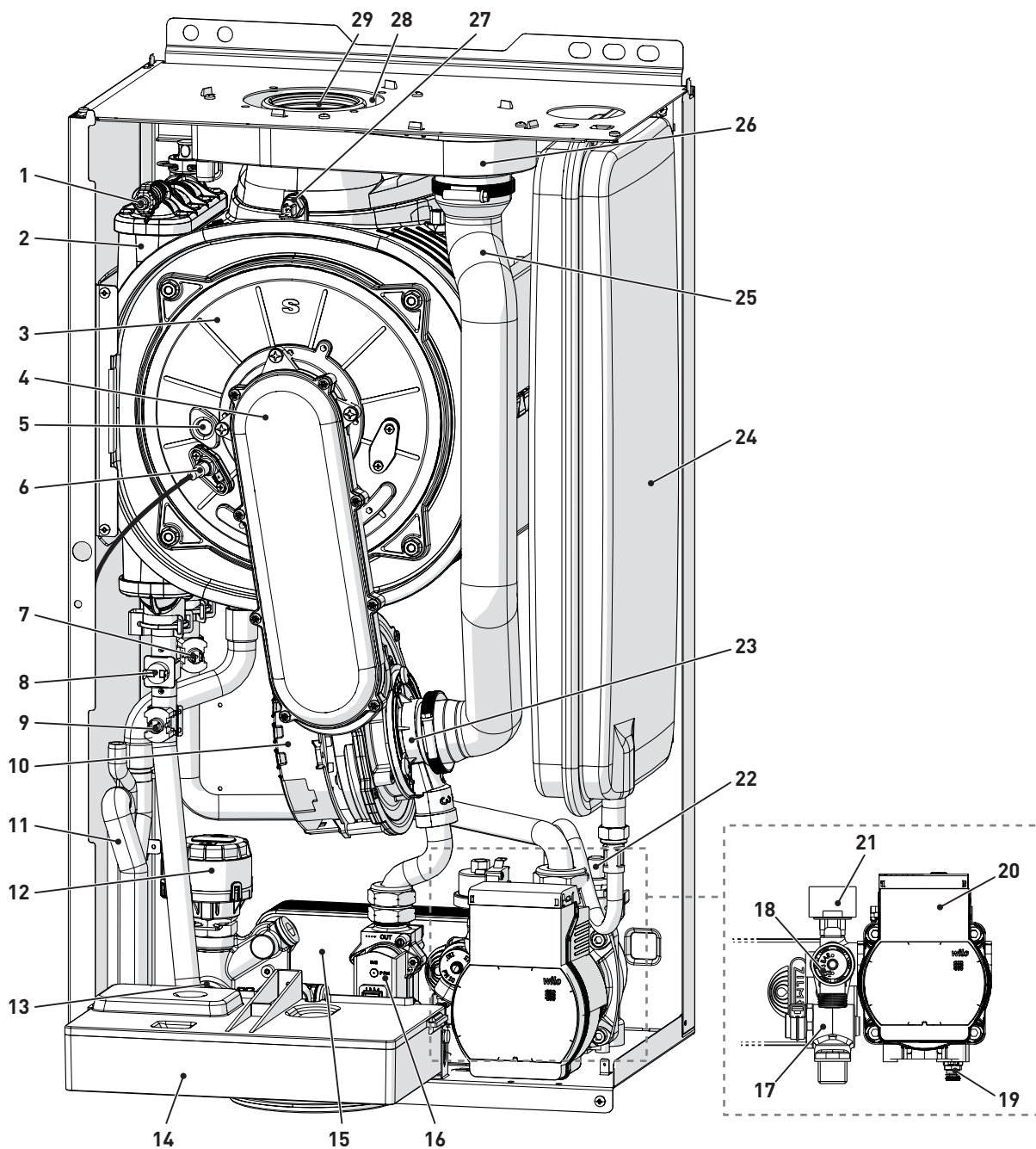
Fig. 6



CAUTION

Tampering with, removing or failing to display the identification plate or carrying out any other operation which does not allow safe identification of the product or which may hinder installation and maintenance operations.

5.4 Structure



- | | |
|--------------------------------------|------------------------------|
| 1 Heat exchanger bleed point | 16 Gas valve |
| 2 Heat exchanger | 17 Domestic hot water filter |
| 3 Combustion chamber door | 18 System relief valve |
| 4 Air/gas duct | 19 Boiler drain |
| 5 Flame viewing window | 20 Pump |
| 6 Ignition/detection electrode | 21 Water pressure transducer |
| 7 Return sensor (SR) | 22 Automatic bleed valve |
| 8 Safety thermostat (TS) | 23 Air-gas mixer |
| 9 Delivery sensor (SM) | 24 Expansion vessel |
| 10 Fan | 25 Air inlet pipe |
| 11 Condensate siphon | 26 Air-smoke chamber |
| 12 Diverter valve | 27 Exhaust sensor (SF) |
| 13 Domestic hot water sensor (SS) | 28 Air inlet |
| 14 Control panel | 29 Exhaust outlet |
| 15 Domestic hot water heat exchanger | |

Fig. 7

5.5 Technical features

DESCRIPTION	Murelle Advanced HE MkII		
	30	40	
CERTIFICATIONS			
Country of intended installation	GB		
Fuel	G20 / G31		
PIN number	1312CP5936		
Category	II2H3P		
Type	C13 - C33		
Class NO _x (*)	6 (< 56 mg/kWh)		
HEATING PERFORMANCE			
HEAT INPUT (**)			
Nominal flow [Q _n max]	kW	24	35
Minimum flow [Q _n min]	kW	4.8	7
HEAT OUTPUT			
Nominal (80-60°C) [P _n max]	kW	23.6	34.5
Nominal (50-30°C) [P _n max]	kW	25.7	37.5
Minimum G20 (80-60°C) [P _n min]	kW	4.7	6.9
Minimum G20 (50-30°C) [P _n min]	kW	5.1	7.5
Minimum G31 (80-60°C) [P _n min]	kW	4.7	6.9
Minimum G31 (50-30°C) [P _n min]	kW	5.1	7.5
EFFICIENCY			
Max useful efficiency (80-60°C)	%	98.3	98.6
Min useful efficiency (80-60°C)	%	97.9	98.6
Max useful efficiency (50-30°C)	%	107.1	107.1
Min useful efficiency (50-30°C)	%	106.3	107.1
Useful efficiency at 30% of load (40-30°C)	%	108,5	108,5
Losses after shutdown at 50°C	W	88	92
DOMESTIC HOT WATER PERFORMANCE			
Nominal heat input [Q _n max]	kW	28	40
Minimum heat input [Q _n min]	kW	4.8	7
Specific D.H.W. flow rate Δt 30°C (EN 13203)	l/min	12.9	19.4
Continuous D.H.W. flow rate (Δt 25°C/Δt 35°C)	l/min	16.1 / 11.5	22.9 / 16.4
Minimum D.H.W. flow rate	l/min	2	2
Max [PMW] / Min pressure	bar	6 / 0.5	6 / 0.7
	kPa	600 / 50	600 / 70
ENERGY PERFORMANCE			
HEATING			
Heating seasonal energy efficiency class		A	A
Heating seasonal energy efficiency	%	93	93
Sound power	db[A]	56	54
DOMESTIC HOT WATER			
Domestic hot water energy efficiency class		A	B
Domestic hot water energy efficiency	%	84	83
Stated domestic hot water profile load		XL	XXL
ELECTRICAL SPECIFICATIONS			
Power supply voltage	V	230	
Frequency	Hz	50	
Absorbed electrical power Q _n max	W	85	111
Absorbed electrical power Q _n min	W	52	58
Absorbed electrical power in stand-by	W	3	3
Electrical protection degree	IP	X5D	
COMBUSTION DATA			
Smoke temperature at Max/Min flow (80-60°C)	°C	89 / 71	75 / 62
Smoke temperature at Max/Min flow (50-30°C)	°C	71 / 51	54 / 39
Smoke flow Max/Min	g/s	13.1 / 2.2	18.6 / 3.3
CO ₂ at Max/Min flow rate (G20)	%	9.0 / 9.0	9.0 / 9.0
CO ₂ at Max/Min flow rate (G31)	%	10.0 / 10.0	10.0 / 10.0
NO _x measured	mg/kWh	37	55
NOZZLES - GAS			
Number of nozzles	No.	1	1
Nozzle diameter (G20-G31)	mm	5.3	6.5
Gas consumption at Max/Min flow rate (G20)	m ³ /h	2.96 / 0.50	4.23 / 0.74
Gas consumption at Max/Min flow rate (G31)	Kg/h	2.17 / 0.37	3.10 / 0.74
Gas supply pressure (G20/G31)	mbar	19 / 36	19 / 36
	kPa	1.9 / 3.6	1.9 / 3.6

(*) NO_x class according to UNI EN 15502-1:2015

(**) Heat input calculated using the lower heat output (Hi)

DESCRIPTION	Murelle Advanced HE MkII	
	30	40
TEMPERATURE - PRESSURE		
Max operating temperature [T max]	85 °C	
Heating adjustment range	20÷80 °C	
Domestic hot water adjustment range	10÷60 °C	
Max operating pressure [PMS]	2.5 bar	
	250 kPa	
Water content in boiler	4.75 l	5.60 l

Lower Heat Output (Hi)

G20 Hi. 9.45 kW/m³ [15°C, 1013 mbar] - **G31 Hi.** 12.87 kW/kg [15°C, 1013 mbar]

5.6 Main water circuit

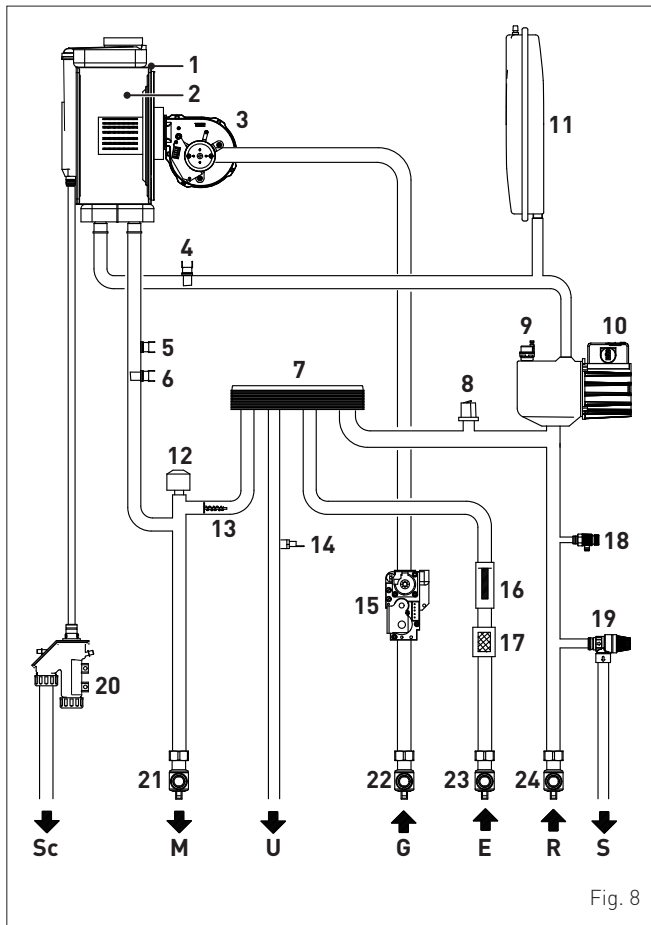


Fig. 8

KEY:

- M System flow
- R System return
- U Domestic hot water outlet
- E Domesti hot water inlet
- S Safety valve outlet
- G Gas supply
- Sc Condensate outlet

- 1 Condensing heat exchanger
- 2 Combustion chamber
- 3 Fan
- 4 Return sensor (SR)
- 5 Thermal safety thermostat (TS)
- 6 Delivery sensor (SM)
- 7 Domestic hot water heat exchanger
- 8 Pressure transducer
- 9 Automatic bleed valve

- 10 Pump
- 11 System expansion vessel
- 12 Diverter valve
- 13 Automatic by-pass
- 14 Domestic hot water sensor (SS)
- 15 Gas valve
- 16 Domestic hot water flow meter
- 17 Domestic hot water filter
- 18 Boiler drain
- 19 System relief valve
- 20 Condensate siphon outlet
- 21 System flow cock
- 22 Gas cock
- 23 Domestic hot water inlet cock
- 24 System return cock

5.7 Sensors

The sensors installed have the following characteristics:

- Dual sensor (thermal safety/output) NTC R25°C; 10kΩ
- domestic hot water sensor NTC R25°C; 10kΩ
- external sensor NTC R25°C; 10kΩ

Correspondence of Temperature Detected/Resistance

Examples of reading:

TR=75°C → R=1925Ω

TR=80°C → R=1669Ω.

TR	0°C	1°C	2°C	3°C	4°C	5°C	6°C	7°C	8°C	9°C	Resistance R (Ω)
0°C	27279	26135	25044	24004	23014	22069	21168	20309	19489	18706	
10°C	17959	17245	16563	15912	15289	14694	14126	13582	13062	12565	
20°C	12090	11634	11199	10781	10382	9999	9633	9281	8945	8622	
30°C	8313	8016	7731	7458	7196	6944	6702	6470	6247	6033	
40°C	5828	5630	5440	5258	5082	4913	4751	4595	4444	4300	
50°C	4161	4026	3897	3773	3653	3538	3426	3319	3216	3116	
60°C	3021	2928	2839	2753	2669	2589	2512	2437	2365	2296	
70°C	2229	2164	2101	2040	1982	1925	1870	1817	1766	1717	
80°C	1669	1622	1577	1534	1491	1451	1411	1373	1336	1300	
90°C	1266	1232	1199	1168	1137	1108	1079	1051	1024	998	
100°C	973										

5.8 Expansion vessel

The expansion vessel installed on the boilers has the following characteristics:

Description	U/M	Murelle Advanced HE MkII	
		30	40
Total capacity	l	9,0	10,0
Prefilling pressure	kPa	100	
	bar	1,0	
Useful capacity	l	5,0	6,0
Maximum system content (*)	l	124	140

(*) Conditions of:

Average operating temperature 70°C (with high temperature system 80/60°C)

Start temperature at system filling 10°C.



CAUTION

- For systems with water content exceeding the maximum system content (as indicated in the table) an additional expansion vessel must be fitted.
- The difference in height between the relief valve and the highest point of the system cannot exceed 6 metres. If the difference is greater than 6 metres, increase the prefilling pressure of the expansion vessel and the system when cold by 0.1 bar for each meter increase.

5.9 Circulation pump

The flow-head performance curve available for the heating system is shown in the graph below.

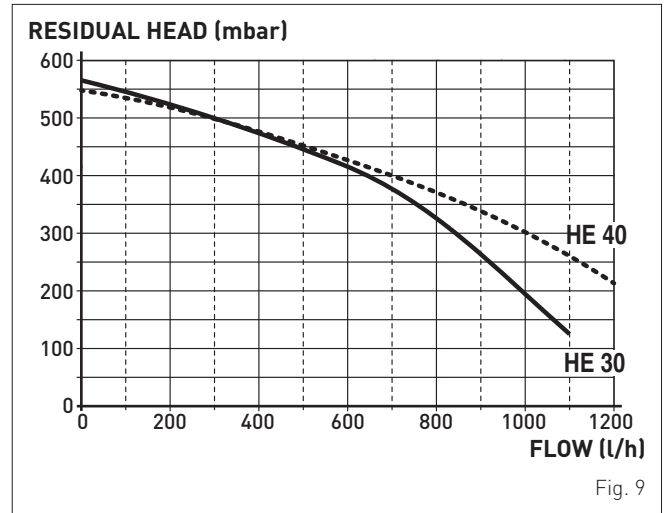


Fig. 9



CAUTION

The appliance is equipped with a by-pass which ensures water circulation in the boiler when thermostatic valves are used in the system. The heating system design should incorporate a room thermostat. Thermostatic radiator valves fitted to all radiators except the room where the room thermostat is fitted. Properties with floor areas exceeding 150square metres should be zoned.

5.10 Control panel

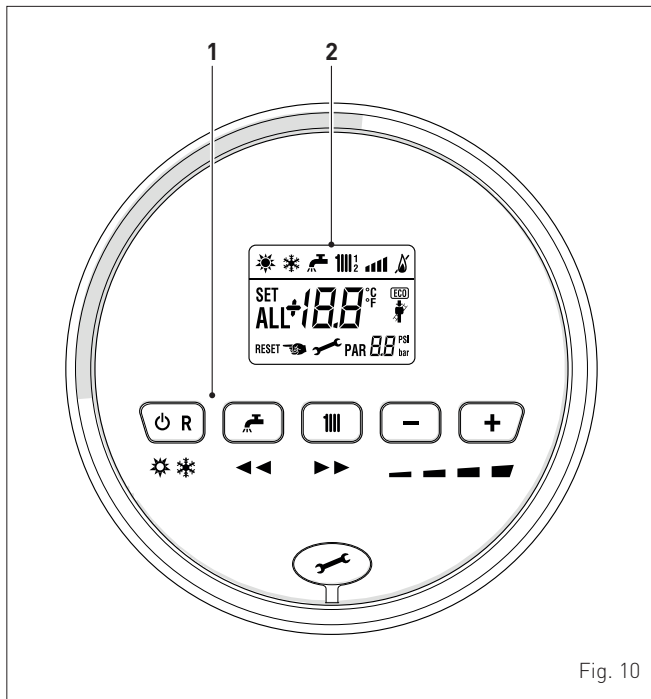


Fig. 10

1 FUNCTIONAL BUTTONS

⏻ R Press for more than one second and release to step through the operating modes (Stand-by – Summer – Winter). Also use this key to reset a resettable lockout.



During normal operation, pressing the button displays the domestic hot water set point which can be between 10 and 60°C. In "parameter setting", the engineer can scroll through the parameter index (decreasing) by pressing this button.



During normal operation, pressing the button displays the heating set point which can be between 20 and 80°C. In "parameter setting", the engineer can scroll through the parameter index (increasing) by pressing this button.



During normal operation, pressing this button allows the user to reduce the heating or DHW set point on the basis of the selection made previously. In "parameter setting/display", the engineer can modify the parameter setting or value (decreasing) by pressing this button.



During normal operation, pressing this button allows the user to increase the heating or DHW set point on the basis of the selection made previously. In "parameter setting/display", the engineer can modify the parameter setting or value (increasing) by pressing this button.



Programming connector cover plug.

NOTE: pressing any one of these buttons for more than 30 seconds generates a fault on the display without preventing boiler operation. The warning disappears when the button is released.

2 DISPLAY



"SUMMER". This symbol appears when the boiler is operating in "Summer" mode or if only the domestic hot water mode is enabled via the remote control. If the symbols and are flashing, this indicates that the chimney sweep function is active.



"WINTER". This symbol appears when the boiler is operating in "Winter" mode or if both the domestic hot water and heating modes are enabled via the remote control. With the remote control, if no operating modes have been enabled both symbols and will be off.



RESET "RESET REQUIRED". The message indicates that after having corrected the problem, normal boiler operation can be restored by pressing the button **R**.



"DOMESTIC HOT WATER". This symbol is present during a DHW request or during the "chimney sweep function". It flashes during the selection of the domestic hot water set point.



"HEATING". This symbol lights up during heating operation or during the "chimney sweep function". It flashes during the selection of the heating set point.



"LOCKOUT" DUE TO NO FLAME.



"FLAME LIT".



"POWER LEVEL". This indicates the power level at which the boiler is operating.



"PARAMETER". This indicates when the engineer is in parameter setting/display, or "info" or "counter", or in "activated alarms" (history).



"ALARM". This indicates that a fault has occurred. The number specifies the cause which generated the alarm.



"CHIMNEY SWEEP". This indicates that the "chimney sweep function" has been activated.



"HEATING SYSTEM PRESSURE". Display of heating system pressure.



"ECO", ALTERNATIVE ENERGY SOURCES. Where active, it indicates that there is a solar system available.



"MAINTENANCE REQUEST". If active, it shows it is time to perform maintenance on the boiler.

5.11 Wiring diagram

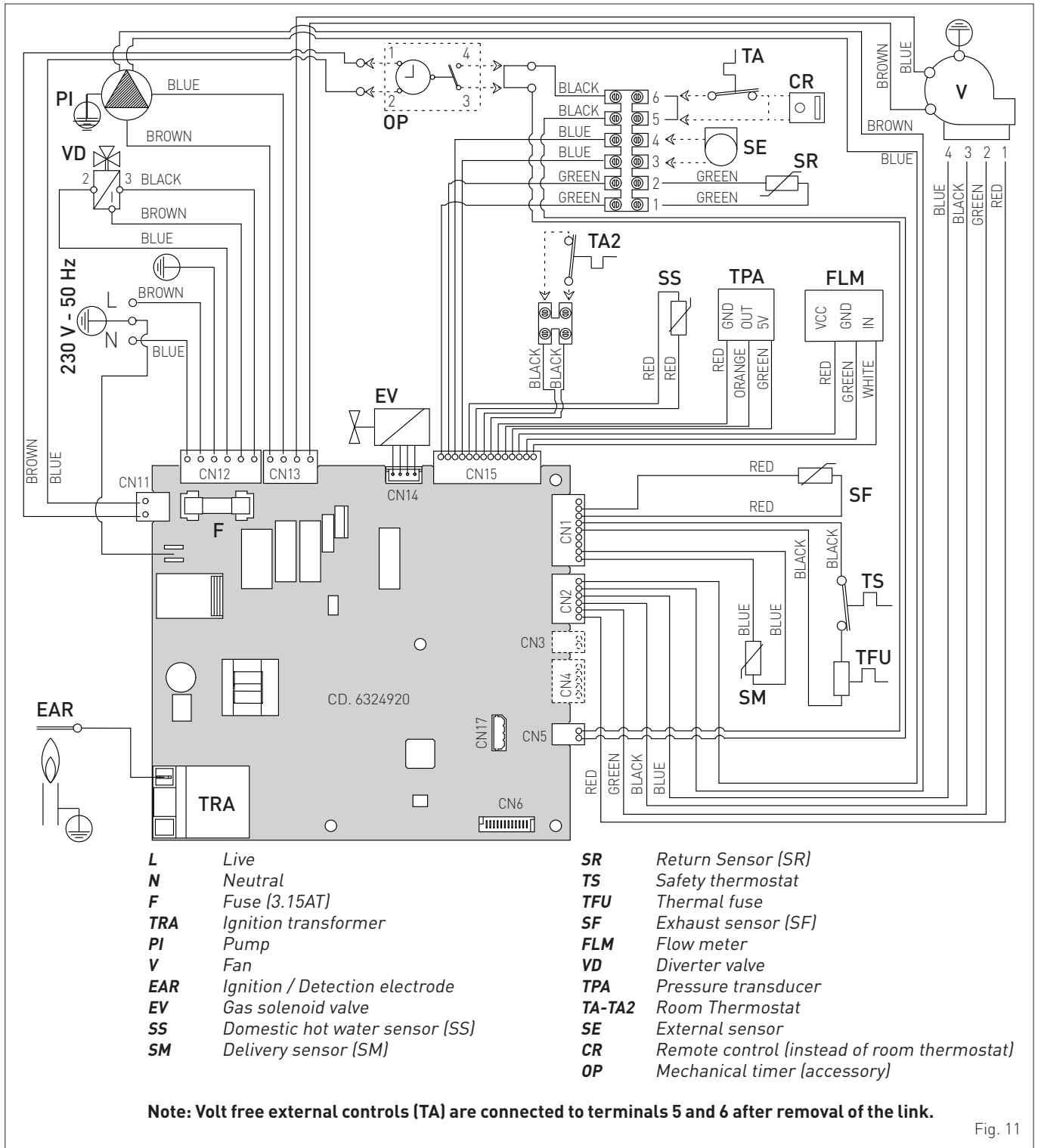


Fig. 11



CAUTION

Installer must:

- Connect the boiler to a 230v -50Hz single phase power supply through a fused mains switch, with at least 3mm spacing between contacts, fused at 3amps **which ensures complete cut-off in overvoltage category III conditions (i.e. where there is at least 3 mm between the open contacts).**
- Respect the connections L (Live) - N (Neutral).
- Ensure that the special power cable is only replaced with a cable ordered as a spare part and connected by professionally qualified personnel.



CAUTION

Installer must:

- Connect the earth wire to an effective earthing system. **Sime Ltd** declines all responsible for any injury or damage to persons, animals, or property as a result of failure to provide adequate earthing of the appliance.



DO NOT

Do not use water pipes for earthing the appliance.

The Benchmark Scheme

Benchmark places responsibilities on both manufacturers and installers.

The purpose is to ensure that customers are provided with the correct equipment for their needs, that it is installed, commissioned and serviced in accordance with the manufacturer's instructions by competent persons and that it meets the requirements of the appropriate Building Regulations.

The Benchmark Checklist can be used to demonstrate compliance with Building Regulations and should be provided to the customer for future reference.

Installers are required to carry out installation, commissioning and servicing work in accordance with the Benchmark Code of Practice which is available from the Heating and Hotwater Industry Council who manage and promote the Scheme.

INSTALLATION AND SERVICING INSTRUCTIONS

Installer Checklist

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

Has a correct by-pass been fitted and adjusted?

Has the system and boiler been flushed?

Is the system and boiler full of water, and the correct pressure showing on the pressure gauge?

Is the Auto Air Vent open?

Has the pump been rotated manually?

Is the gas supply working pressure correct?

Is the boiler wired correctly? (See installation manual).

Has the D.H.W. flow rate been set to the customer requirements?

Has the customer been fully advised on the correct use of the boiler, system and controls?

Has the Benchmark Checklist in the use and maintenance section of this manual, been completed?

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6 INSTALLATION



CAUTION

The appliance must only be installed by the **Sime Ltd** Technical Service or by qualified professionals who **MUST** wear suitable protective safety equipment.

6.1 Receiving the product

Murelle Advanced HE MkII appliances are delivered in a single unit protected by cardboard packaging.

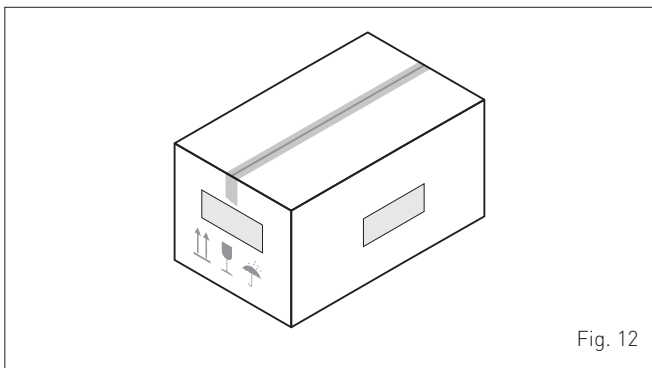


Fig. 12

The plastic bag found inside the packaging contains the following:

- Installation, use and maintenance manual
- Paper template for boiler installation
- Bracket for mounting the boiler on the wall
- Certificate of warranty
- Hydrostatic test certificate
- Hanging Bracket
- Connection pack



DO NOT

Do not leave packaging material around or near children since it could be dangerous. Dispose of it as prescribed by legislation in force.

6.2 Dimensions and weight

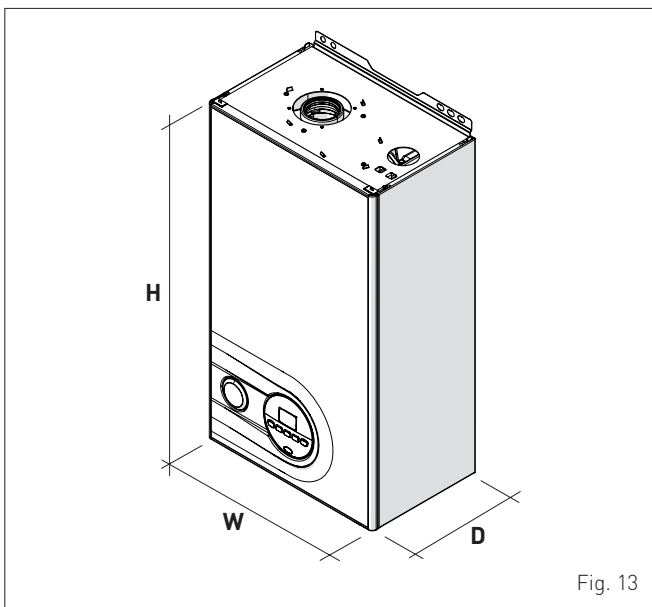


Fig. 13

Description	Murelle Advanced HE MkII	
	30	40
W (mm)	400	
D (mm)	250	300
H (mm)	700	
Weight (kg)	28,5	32,5

6.3 Handling

Once the packaging has been removed, the appliance is to be handled manually, tilting it slightly, lifting it and applying pressure in the points indicated in the figure.

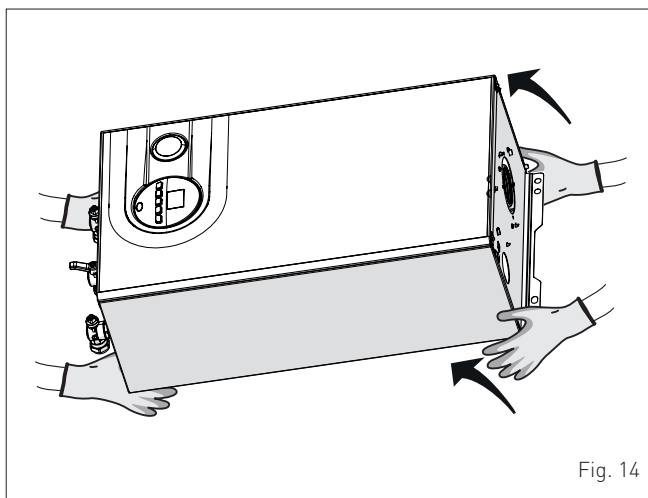


Fig. 14



DO NOT

To grip the appliance casing. Hold the "solid" parts of the appliance such as the base and structural frame.



WARNING

Use suitable tools and personal protection when removing the packaging and when handling the appliance. Observe the maximum weight that can be lifted per person.

6.4 Ventilation requirements

Detailed recommendations for the air supply are given in BS 5440-2. The following note is given for guidance. It is not necessary to have purpose provided air vents in the room or compartment that the appliance is installed.

The minimum temperature of the installation room must NOT be lower than **-5 °C**.



CAUTION

- Before assembling the appliance, the installer **MUST** make sure that the wall supports the weight.
- Observe the required clearances (see Fig. 15).

APPROXIMATE MINIMUM DISTANCES

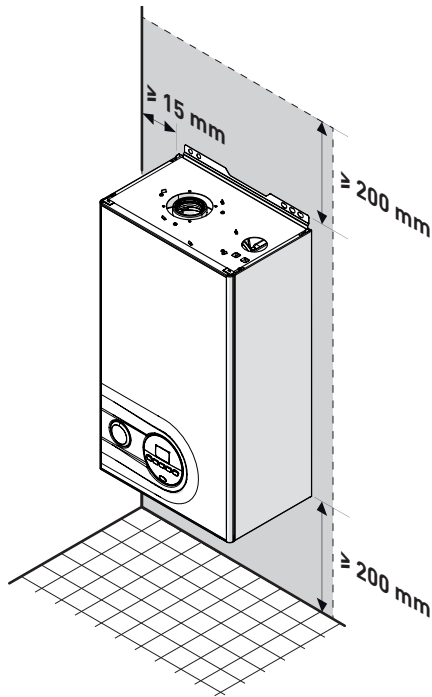


Fig. 15

6.5 New installation or installation of a replacement appliance

The boiler must be installed in a fixed location and only by specialized and qualified person in compliance with all instructions contained in this manual.

The installation of this boiler must be in accordance with the relevant requirements of the current Gas Safety (installation and use), the local building regulations and I.E.E. wiring regulations.

Detailed recommendations for air supply and fluing are given in BS5440.

The following notes are for general guidance: it is not necessary to have a purpose provided air vent in the room or compartment in which the appliance is installed.



CAUTION

It is a condition of the warranty that the boiler is installed in accordance with the instructions in this manual. The boiler must be registered with Gas Safe Register, the Benchmark record must be completed and the boiler is serviced annually and recorded in this manual.



CAUTION

If the domestic water supply is metered or should a water meter be added at a later time, a small expansion vessel should be included in the domestic water pipework.

6.6 Cleaning the system

Before connecting the boiler it is recommended that the system be flushed in accordance to BS 7593, to eliminate any foreign bodies that may be detrimental to the operating efficiency of the appliance.



CAUTION

Failure to flush and add inhibitor to the system may invalidate the warranty.

6.7 Characteristics of feedwater and system treatment

- All recirculatory systems will be subject to corrosion unless an appropriate water treatment is applied. This means that the efficiency of the system will deteriorate as corrosion sludge accumulates within the system, risking damage to pump and valves, boiler noise and circulation problems.
- Before connecting the boiler the associated central heating system must be flushed in accordance with the guidelines given in BS 7593 "Treatment of water in domestic hot water central heating systems".
- **Sime Ltd** recommends only the use of FERNOX products for the flushing and final treatment of the system water. This is particularly important in hard water areas. Failure to flush and add inhibitor to the system may invalidate the appliance warranty. Artificially softened water must not be used to fill the heating system. Naturally soft water areas can corrode aluminium heat exchangers. Adding Fernox F1 or Mb-1 will guard against corrosion.
- **Sime Ltd** promote the fitting of TF1 System filter with any new boiler installation.
- It is important to check the inhibitor concentration after installation, system modification and annually on a service visit in accordance with the manufacturer's instructions. (Note on benchmark service record this has been complete). Test kits are available from inhibitor stockists; the return of the Fernox test report should be kept with the Benchmark to validate warranty.
- Where Central heating systems are susceptible to freezing a mixture of inhibitor and anti-freeze should be added in accordance with the DWTA code of practice and the Manufacturer's instructions.
- The addition of sealing agents to system water is not recommended because deposits can be left in heat exchanger causing circulation issues.

6.8 Boiler installation

Murelle Advanced HE MkII are supplied with a hanging bracket and a template to assist installation.

For installation:

- position the bracket (1) on the wall (2), where you want to install the boiler
- check that it is straight and mark where to make the holes for the plugs
- drill the holes and insert the expansion plugs (3) which will be used to fix the bracket securely
- hook the boiler onto the pins (4) and secure it using the nuts and washers supplied.

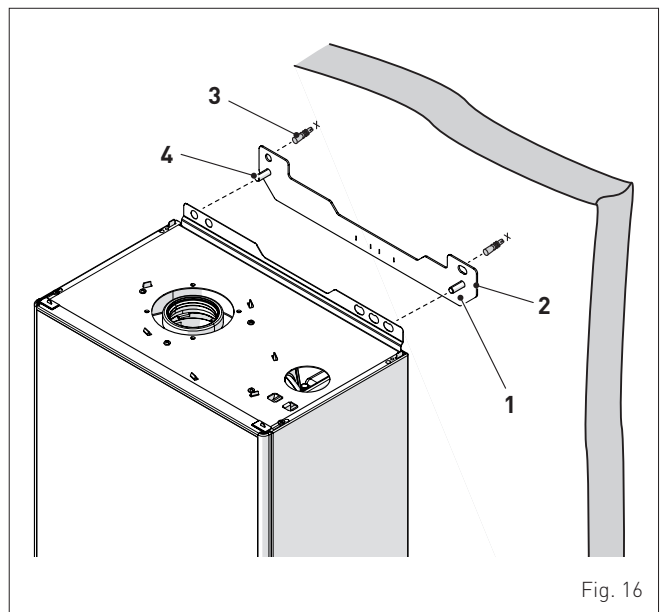


Fig. 16



CAUTION

The boiler should be located observing the required clearances, and provide safe, adequate service access.

6.9 Plumbing connections

The plumbing connections have the following characteristics and dimensions.

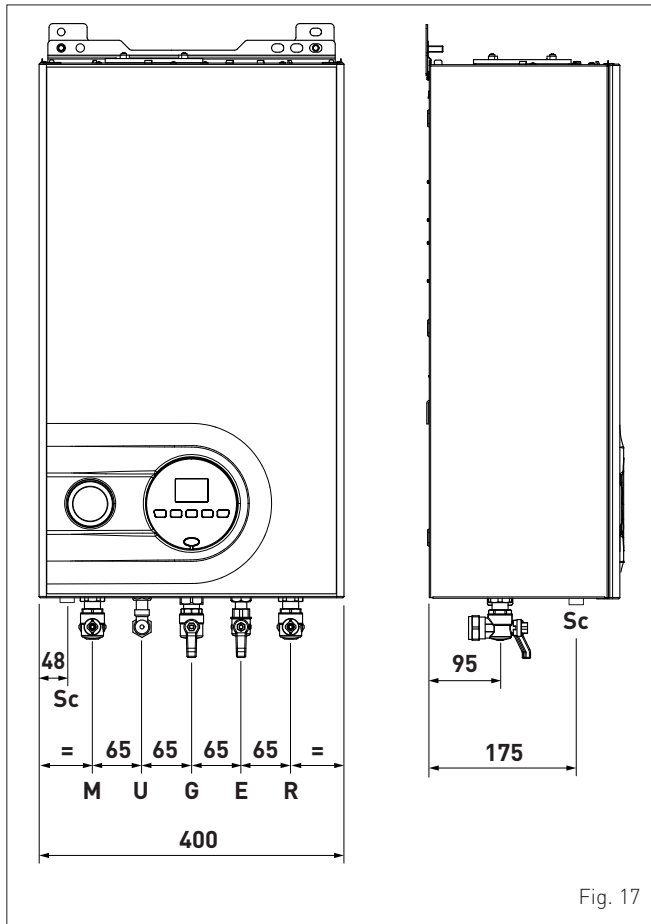


Fig. 17

Description	Murelle Advanced HE MkII	
	30	40
M - System flow	Ø 22 mm	
R - System return	Ø 22 mm	
U - Domestic hot water output	Ø 15 mm	
E - Domestic hot water inlet	Ø 15 mm	
G - Gas cock connection	Ø 15 mm	
Sc - Condensate outlet	Ø 21.5 mm	



CAUTION

A sealed system must only be filled by a competent person (see section **Method of filling a sealed system** page 34).

6.9.1 Plumbing accessories (optional)

To facilitate plumbing and gas connections to the systems, the accessories as shown in the table below are available and are to be ordered separately from the boiler.

DESCRIPTION	CODE
Stand off frame (25 mm)	8082212
Valve cover	8094530

NOTE: kit instructions are supplied with the accessory itself or are to be found on the packaging.

6.10 Condensate outlet/collection

To ensure safe disposal of the condensate produced by the flue gases, reference should be made to BS6798:2009.

The boiler incorporates a condensate trap which has a seal of 75 mm, therefore no additional trap is required.

The condensate trap can be filled prior to the installation of the flue by carefully pouring 1 litre of water into the exhaust connection.

NOTE: All pipework must have a continuous fall from the boiler and must be resistant to corrosion by condensate, copper or steel is NOT suitable. It should be noted that the connection of a condensate pipe to a drain may be subject to local building control requirements (Dealing with Condensate - see Appendix 1).

6.11 Gas supply

Murelle Advanced HE MkII boilers leave the factory prearranged for gas G20 (methane) and can also work with G31 (propane) without the need for any type of mechanical conversion. Simply select parameter "03" (see "**Parameter setting and display**" page 37) and set the type of gas to be used.

If changing the type of gas to be used, carry out the entire appliance "**COMMISSIONING**" phase (page 36).

The gas connection must be made using seamless steel or copper tube.

Where the piping has to pass through walls, a suitable insulating sleeve must be provided.

When sizing gas piping, from the meter to the boiler, take into account both the volume flow rates (consumption) in m³/h and the relative density of the gas in question.

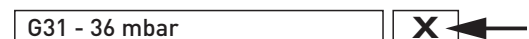
The sections of the piping making up the system must be such as to guarantee a supply of gas sufficient to cover the maximum output available from the boiler, limiting pressure loss between the gas meter and any apparatus being used to not greater than 1.0 mbar for family II gases (natural gas).

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



CAUTION

If the gas supply is changed from G20 to G31, mark the box on the TECHNICAL DATA PLATE.



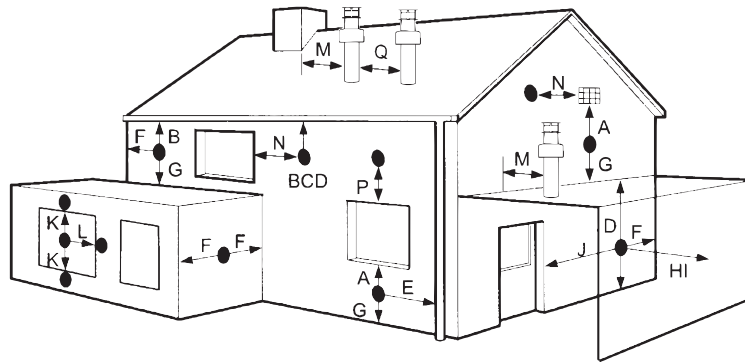
6.12 Connecting the flue



CAUTION

- The appliance must be installed as a room sealed device and unless stated in writing from the manufacturer, in accordance with the current edition of BS 5440-1. The information shown in this manual is for guidance and parts identification.
- Prior to fitting the flue, the condensate trap can be filled by carefully pouring water into the exhaust section of the flue connection.

6.12.1 Flue Terminal Positions



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 Horizont. from a terminal on the same wall	300 mm	12 in
M Horizont. from a vertical terminal to a wall	300 mm	12 in
N Horizont. 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

(*) This dimension to be used with ventilated soffits. With unvented soffits this can be reduced to 75 mm and further reduced to 25 mm when a flue shield is used to protect from the effects of heat and condensation.

(**) This can be reduced to 25 mm but it may be necessary to protect the surfaces from the effects of heat and condensation.

- 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.
- The air inlet/outlet flue duct MUST NOT be closer than 10 mm (0.4 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. 18

6.12.2 Installation of coaxial flues 60/100mm – 80/125mm

Coaxial flue kits that are supplied separately. The diagrams below, illustrate some examples of fluing options allowed and the maximum lengths than can be achieved. It is essential that a flue gas analysis point is made available directly above the boiler.

IMPORTANT:

- The insertion of each additional 90° bend with a diameter of 60/100 (code 8095850) reduces the available section by 1.5 meters.
- The insertion of each additional 90° bend with a diameter of 80/125 (code 8095870) reduces the available section by 2 meters.
- Each additional 45° curve installed a diameter of 60/100 (code 8095950) reduces the available length by 1.0 metres.
- Each additional 45° curve installed a diameter of 80/125 (code 8095970) reduces the available length by 1.0 metres.

HORIZONTAL FLUES MUST BE LEVEL

NOTE: Before connecting accessories, it is always advisable to lubricate the internal part of the gaskets with silicon products. Avoid using oils and greases.

Model	Length of pipe Ø 60/100			Length of pipe Ø 80/125		
	H (m)	V (m)		H (m)	V (m)	
		Min.	Max.		Min.	Max.
Murelle Advanced HE 30	5	1,3	7	10	1,2	13
Murelle Advanced HE 40	4	1,3	6	10	1,2	13

LIST OF Ø 60/100 ACCESSORIES

- 1a Coaxial duct kit L. 790 code 8096250
- 1b Telescopic coaxial duct kit L. 695 code 8098605
- 2a Extension L. 1000 code 8096150
- 2b Extension L. 500 code 8096151
- 3 Vertical extension L. 140 with coupling code 8086950
- 5 Tile for joint code 8091300
- 6 Terminal for roof exit L. 1285 code 8091212 (includes 8086950)

LIST OF Ø 80/125 ACCESSORIES

- 1 Coaxial duct kit L. 785 code 8096253
- 2a Extension L. 1000 code 8096171
- 2b Extension L. 500 code 8096170
- 3 Adapter for Ø 80/125 code 8093150
- 5 Tile for joint code 8091300
- 6 Terminal for roof exit L. 1285 code 8091212 (includes 8093150)

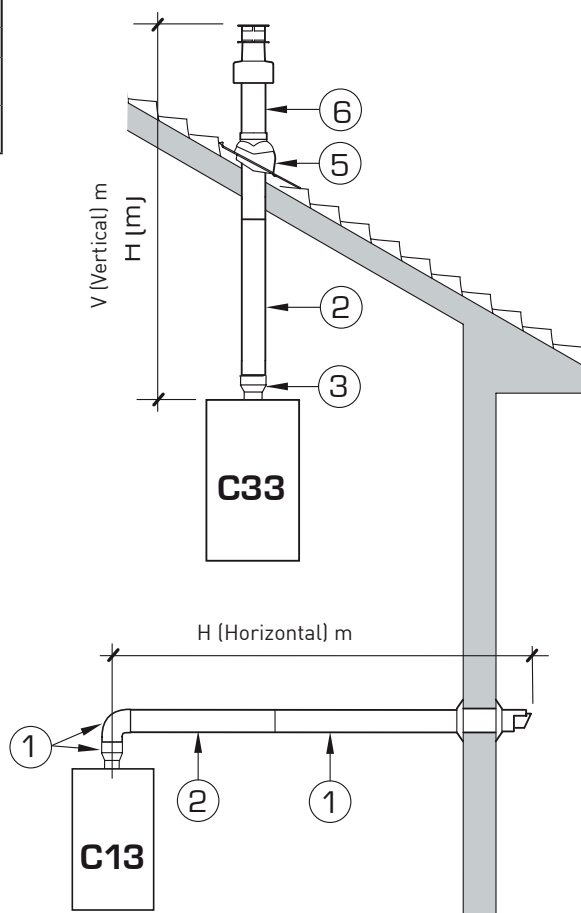


Fig. 19

6.12.3 Installation of separate ducts 80mm

The boiler can be installed with separate air inlet and exhaust ducts. The figure below illustrate some examples of the fluing options allowed and the associated losses of the accessories. The total load loss is the sum of the load losses of the accessories used. The maximum load loss **must not exceed 15 mm H₂O**, and the maximum flue length **must not exceed 25 m** inlet and exhaust.

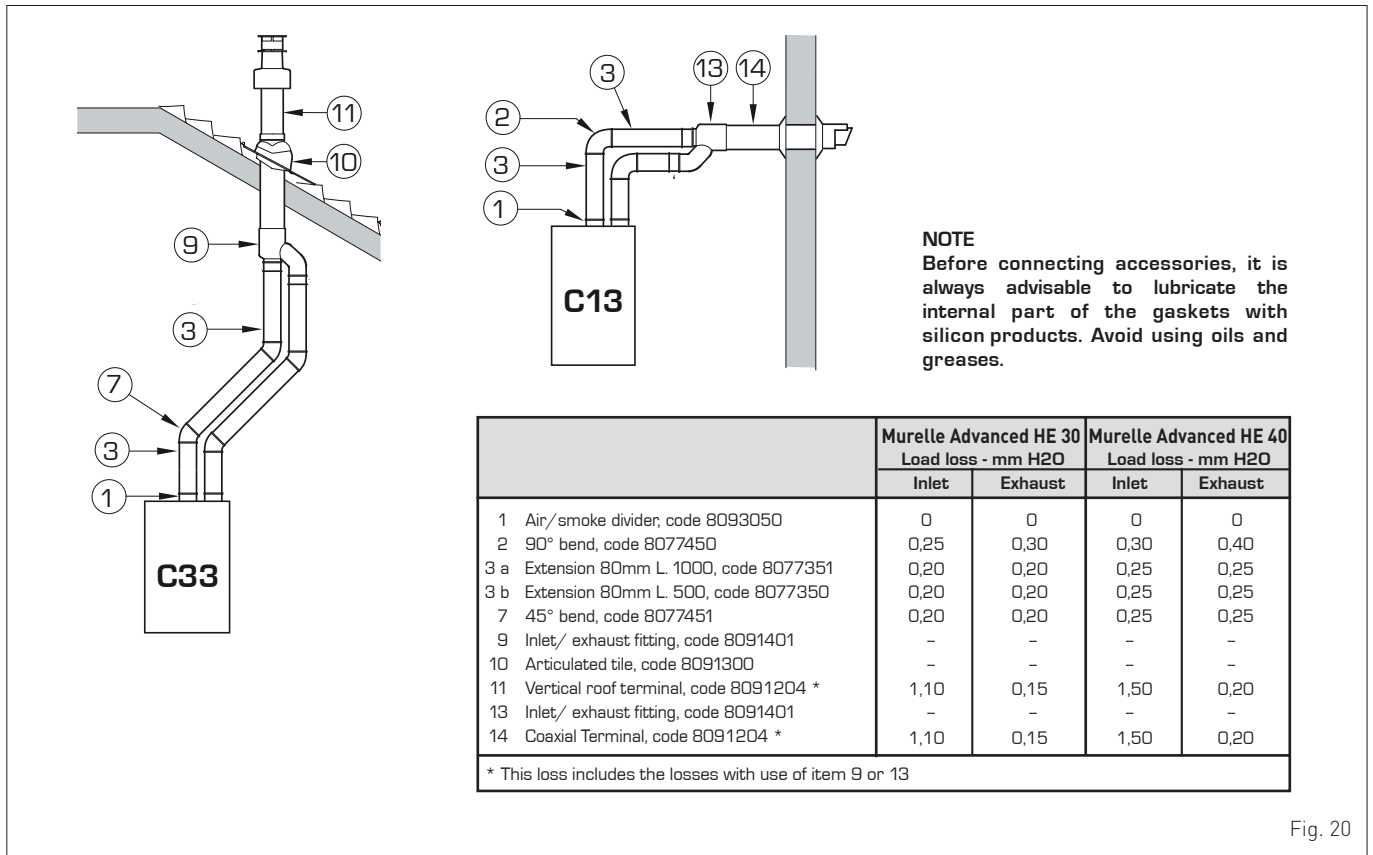


Fig. 20

It is essential that flue gas analysis points are made available directly above the boiler, these are incorporated in the twin flue adaptor code 8093050.

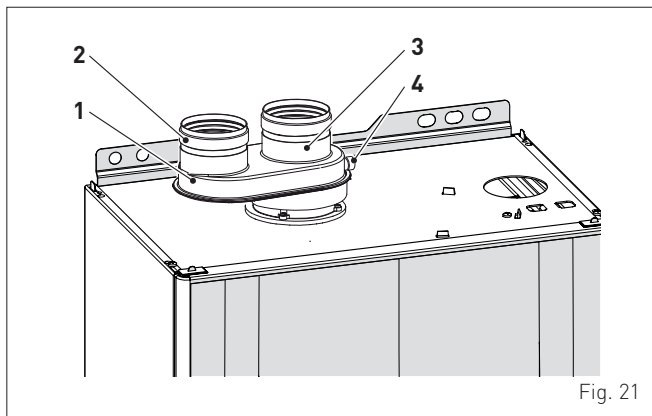


Fig. 21

- 1 Twin pipe adaptor with test points 8093050
- 2 Air inlet
- 3 Exhaust
- 4 Test point



CAUTION

- The maximum overall length is determined by the sum of the load losses of the individual flue components **must not exceed 15 mm H₂O**.
- The maximum flue length must not exceed 25m - air intake, 25m -exhaust.

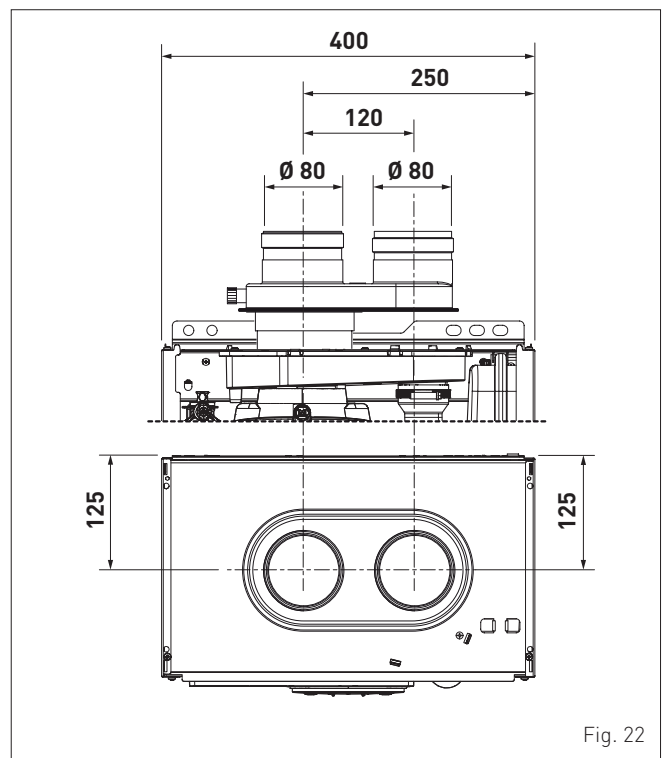


Fig. 22

6.13 Electrical connections and External controls

The boiler is supplied with a mains cable. Connect the boiler to a 230V -50Hz single phase power supply through a fused mains switch, with at least 3 mm spacing between contacts, fused at 3 amps.

If this cable needs to be replaced, an original spare must be requested from **Sime Ltd**.

The heating control of the boiler can be achieved by connection of a volt free room thermostat, room thermostat/timer. For connection details see section "External timers and Room Thermostats").

The heating control of the boiler can be achieved by connection of either a volt free room thermostat, room thermostat/timer or a dedicated control (listed below). For connection details see section "External timers and Room Thermostats").

DESCRIPTION	CODE
External sensor kit ($\beta=3435$, NTC 10K Ω hm at 25°C)	8094101
Power cable (dedicated)	6323875
Remote control HOME (open therm)	8092280
Remote control HOME PLUS (open therm)	8092281



CAUTION

Only qualified persons in compliance with the instructions contained in this manual are permitted to install, commission and maintain this boiler. The installation of this boiler must be in accordance with the relevant requirements of the current Gas Safety (installation and use) Regulation 1998, the local building regulations, and I.E.E. wiring regulations.



WARNING

Before carrying out any interventions described:

- isolate the power supply
- isolate the gas cock
- avoid contact with any hot surfaces.

To make the electrical connections:

- remove the screws (1), pull the front panel (2) forwards and release it from the top by lifting it

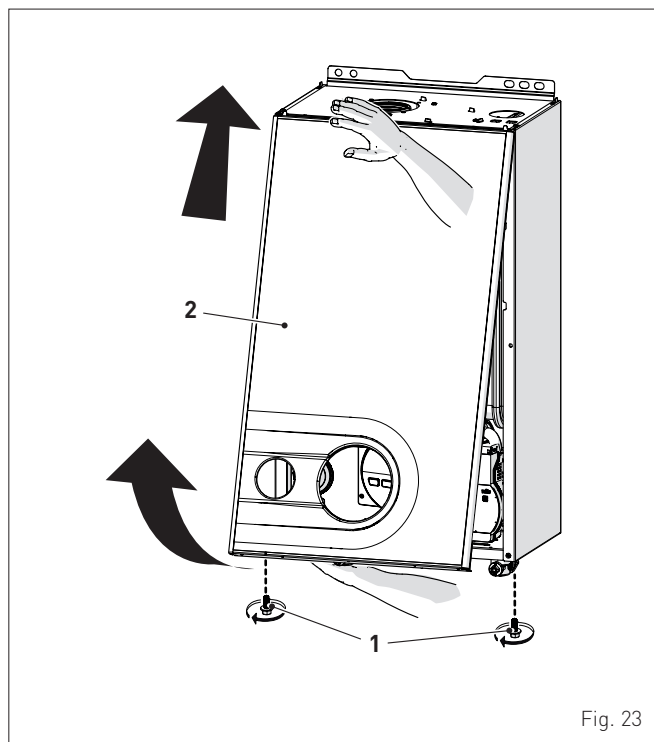


Fig. 23

- remove the screws (3) securing the control panel (4)
- move the panel (4) upwards (a) but keeping it in the side guides (5) to the end of travel
- bring it forwards and down (b) until it is horizontal

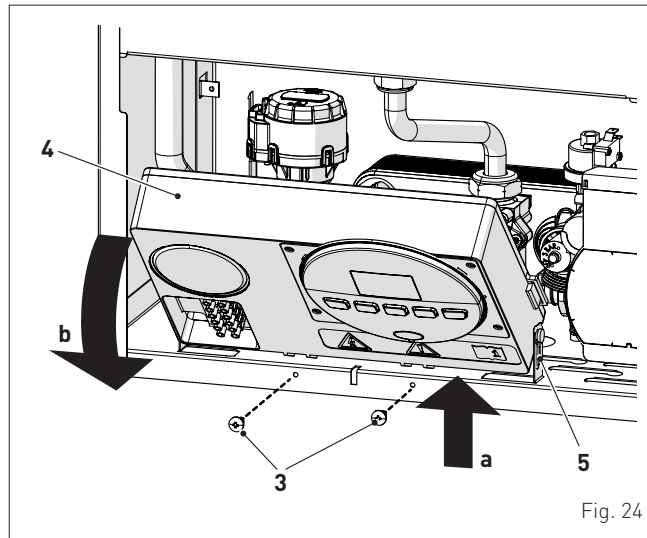


Fig. 24

- insert the connection wires through the grommet (6) and the opening (7) on the control panel

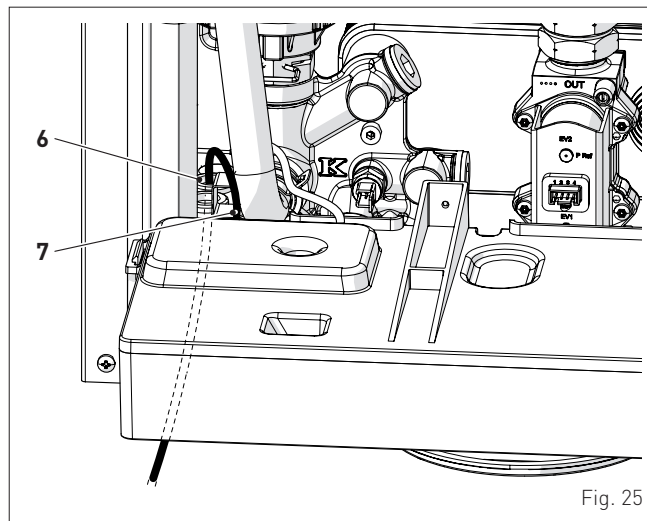


Fig. 25

- bring the control panel (4) to the original position and secure it with the screws (3) which were removed previously
- connect the component wires to the terminal board (8) following the indications provided on the data plate (9) and as shown in section "Wiring diagram".

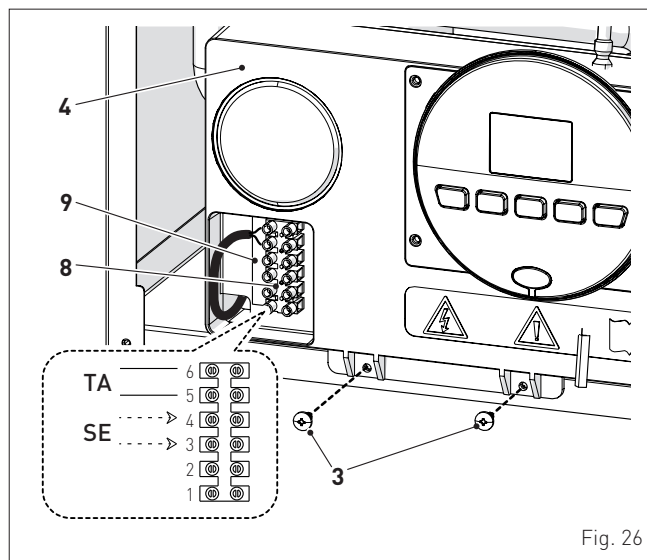


Fig. 26



CAUTION

It is compulsory:

- to use an omnipolar cut-off switch, disconnect switch, in compliance with EN standards (contact opening of at least 3 mm)
- if the power cable is to be replaced, that ONLY a special cable is used with a factory produced re-wired connector, ordered as a spare part and connected by a professionally qualified person
- to connect the earth wire to an effective earthing system (*)
- that before any work is done on the boiler, the mains power is disconnected by setting the main system switch to "OFF".

(*) *Sime Ltd declines all responsible for any injury or damage to persons, animals, or property as a result of failure to provide adequate earthing of the appliance.*



DO NOT

Do not use water pipes for earthing the appliance.

6.13.1 External sensor

The boiler is designed for connection to an external temperature sensor code 8094101, which will automatically regulate the central heating delivery temperature.

This means that the delivery temperature of the boiler can vary on the basis of the external temperature depending on the climatic curve selected from those shown in the diagram (Fig. 27).

When fitting the sensor on the outside of the building, follow the instructions provided on the packaging of the product itself.

Climatic curve

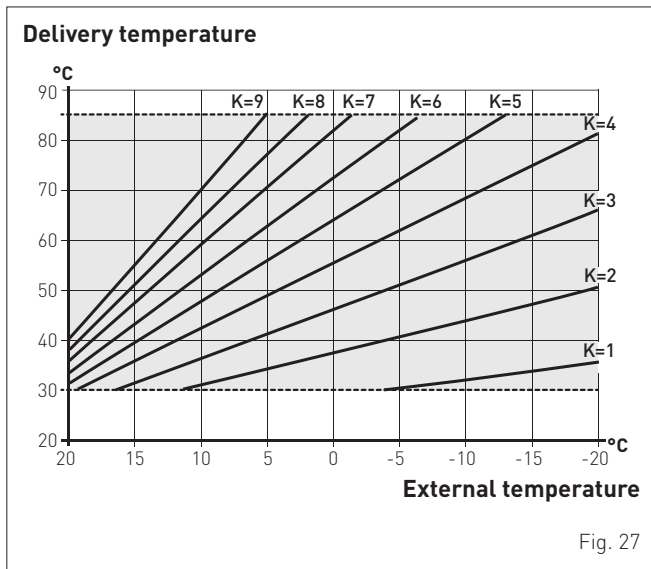


Fig. 27



CAUTION

If there is an external sensor, the heating delivery SET is corrected using correction factor K in order to adapt better to the user's needs. To modify this value, carry out the same procedure as when modifying the heating SET but with the possible range between 0.0 and 9.0.

6.13.2 External timers and Room Thermostats

The heat demand can be by a "clean contact" conforming to EN607301 connected to TA (see section "Wiring diagram") or by use of a dedicated Sime Remote Control (Home or Home Plus). The boiler will automatically detect when a dedicated control is connected.

6.13.3 EXAMPLE of use of the command/control device on some types of heating systems

KEY

- M System flow
- R System return
- CR Remote control
- SE External sensor
- TA Room thermostat for boiler activation
- TZ1-TZ3 Room thermostat for the zone
- VZ1-VZ3 Zone valves
- RL1-RL3 Zone relays
- P1-P3 Zone pump
- TSB Low temperature safety thermostat

ONE DIRECT ZONE system, external sensor and room thermostat.

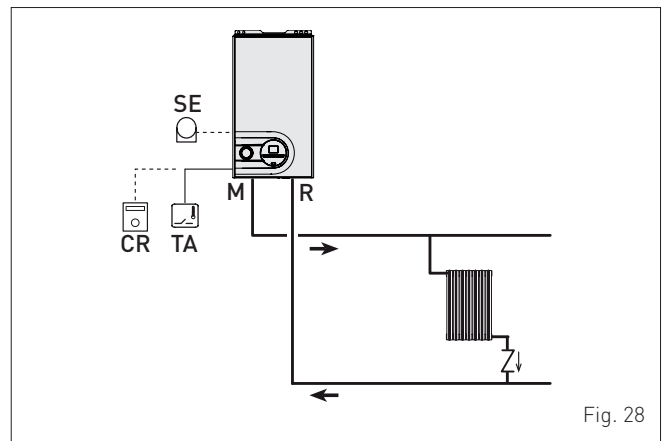


Fig. 28

MULTI ZONE system - with zone valve, room thermostat and external sensor.

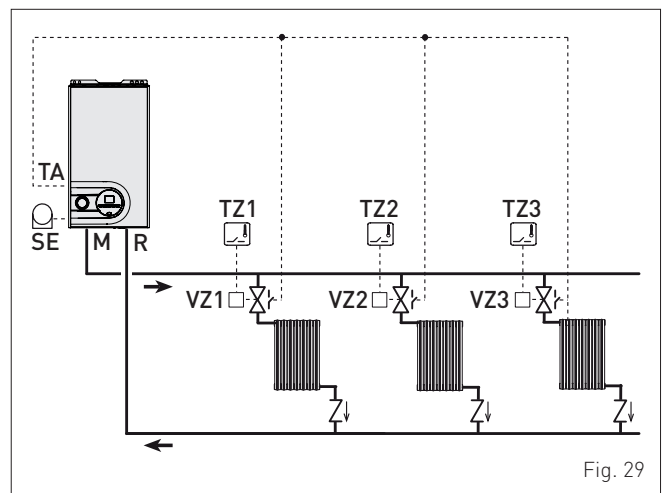


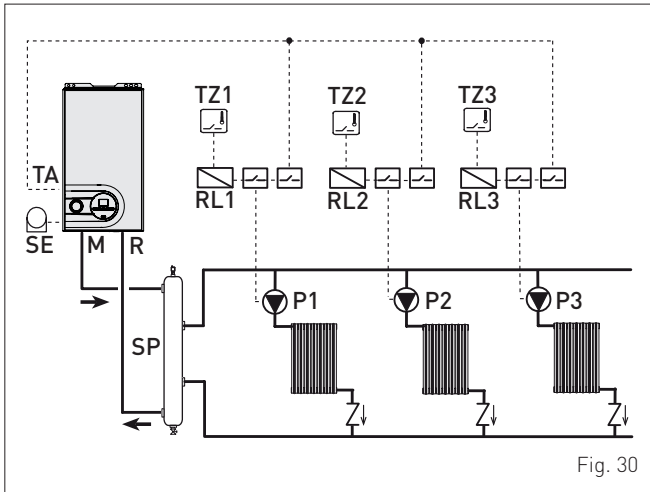
Fig. 29



CAUTION

Set the parameter "tS 17 = DELAY SYSTEM PUMP ACTIVATION" to allow the opening of zone valve Vz.

MULTI ZONE system - with pump, room thermostat and external sensor.

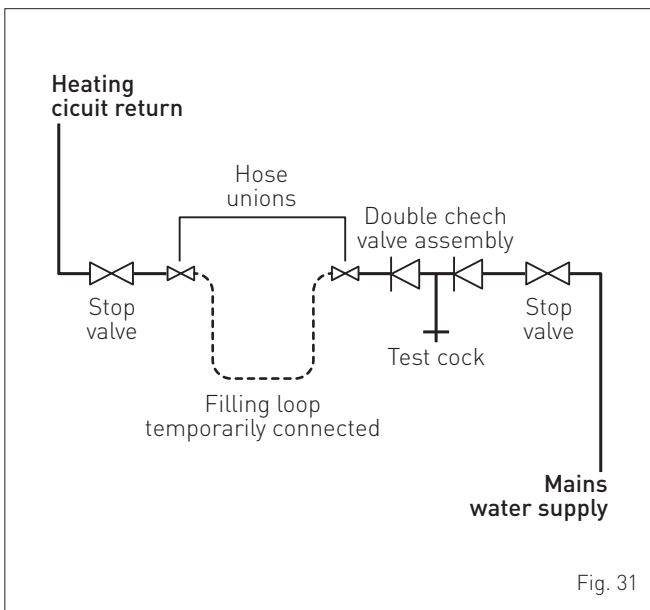


6.14 Refilling or emptying

Before carrying out the operation described below, isolate the boiler power supply.

6.14.1 Method of filling a sealed system

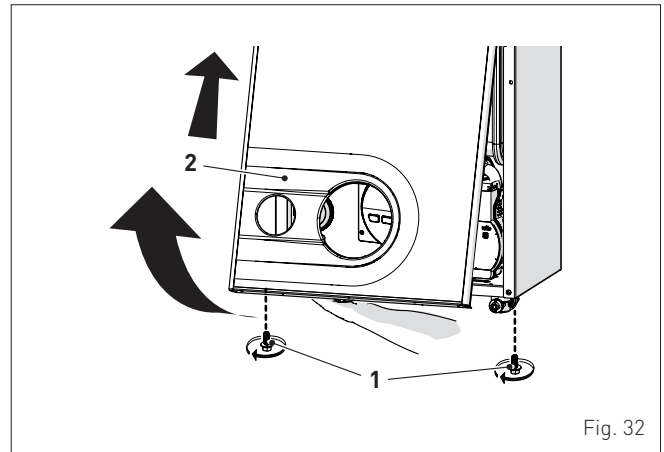
A sealed system must only be filled by a competent person using a method similar to that shown in figure below.



6.14.2 SYSTEM Filling

Remove the front panel:

- remove the two screws (1), pull the front panel (2) forwards and release it from the top by lifting it.

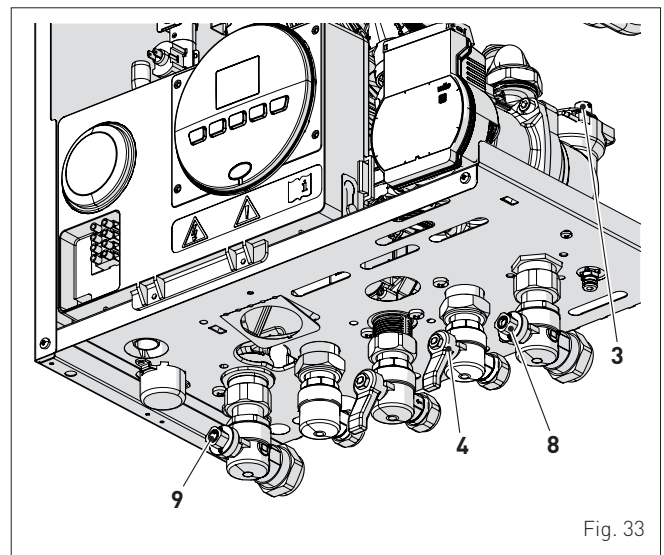


Domestic hot water circuit:

- open the domestic hot water inlet isolation valve (4)
- open each of the DHW taps until air is expelled.

Heating circuit:

- open the isolation and air bleeding valves in the highest points of the system
- loosen the automatic bleed valve (3)
- open the heating circuit isolation valves (8) and (9)
- activate the filling system "**Method of filling a sealed system**", and fill the heating system until a pressure of 1-1.2 bar is shown on the display
- stop the filling system
- check that there is no air in the system by bleeding all the radiators and the circuit on the high points of the system. Connect a suitable pipe and use the heat exchanger bleed point (10) to vent the primary heat exchanger



NOTE: to completely remove all air from the system, it is recommended that this operation is repeated a number of times.

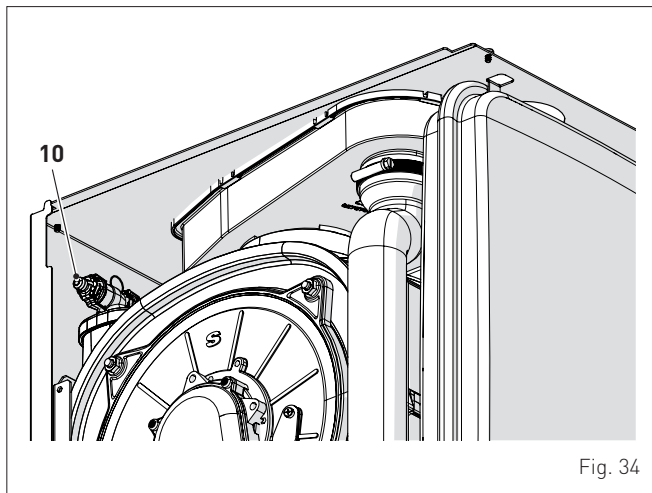


Fig. 34

- check the pressure on the display and if necessary top up until the correct pressure reading appears
- close the automatic bleed valve (3)
- it is recommended that the condensate trap is filled prior to fitting the flue, by carefully pouring water into the exhaust connection.

6.14.3 EMPTYING operations

Domestic hot water circuit:

- close the domestic hot water circuit isolation valve (4)
- open one or more than one hot water taps and drain the domestic hot water circuit.

Boiler:

- loosen the automatic bleed valve (3)
- close the heating circuit isolation valves (8) and (9)
- connect a rubber hose to the boiler drain valve (7) and open it
- when it has fully emptied, close the drain valve (7)
- close the automatic bleed valve (3).

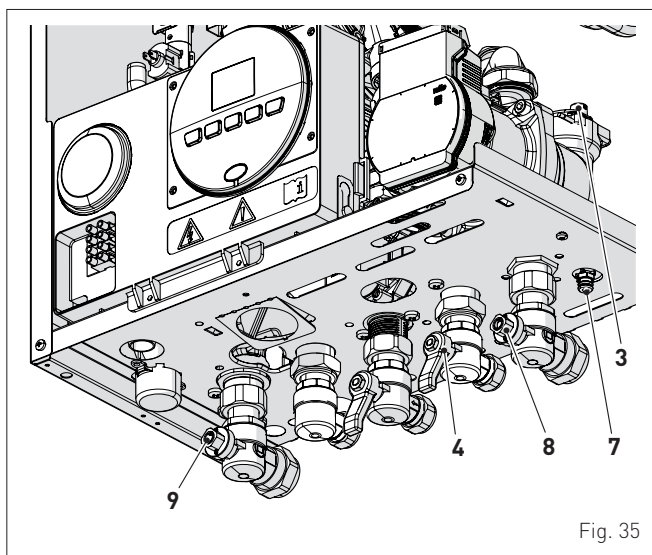


Fig. 35

7 COMMISSIONING

7.1 Preliminary operations



WARNING

- Should it be necessary to access the areas in the bottom part of the appliance, make sure that the system components and pipes are not hot (risk of burning).
- Before replenishing the heating system, put on protective gloves.

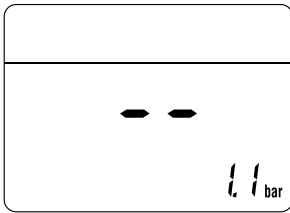
Before commissioning the appliance, check that:

- the type of gas is correct for the appliance
- the gas isolation valves for the heating system and the water system are open
- the pump impeller rotates freely
- the siphon has been filled.

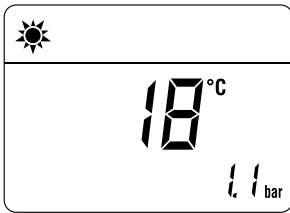
7.2 Before commissioning

After having carried out the preliminary operations, proceed as follows:

- set the main system switch to "ON"
- the type of gas for which the boiler has been calibrated, "nG" (methane) or "LG" (LPG,) will appear followed by the power. Finally "--" will appear on the display



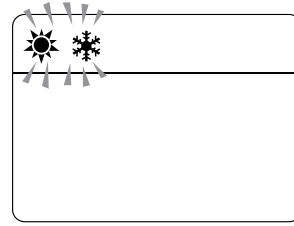
- check that the system pressure as shown when the system is cold, is between **1 and 1.2 bar**
- press the button once for at least 1 second to select "SUMMER mode" . the value of the delivery sensor detected at that moment will appear on the display



7.2.1 Automatic self-calibrating procedure

Carry out the "Automatic self-calibrating procedure" as follows:

- press button and set the DOMESTIC HOT WATER SET to maximum using the button **+**
- press and hold down the buttons **-** and **+** at the same time for approximately 10 seconds until the flashing symbols and appear on the display



- as soon as the symbols begin to flash, release the buttons **-** and **+** and press the button , **within 3 seconds**
- the "Automatic self-calibrating procedure" starts
- **to dissipate the heat, turn on one or more DHW taps**
- the values flash on the display: "100" (maximum value), followed by an "intermediate value" and finally "00" (minimum value)



It may take up 15 minutes for the "self-calibrating procedure" to end and the message "SUMMER mode" to reappear on the display. Once the procedure has terminated:

- close the taps opened previously and check that the appliance shuts down.

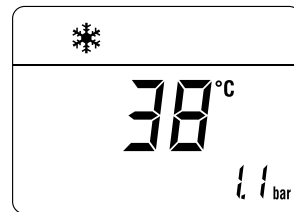
if there is a fault, the message "ALL" will appear on the display, the fault code (eg. "06" - no flame detected) and the message **RESET** .



CAUTION

To restore the start conditions press and hold the button for more than 3 seconds. This operation can be performed up to a maximum of 6 times without the "self-calibrating procedure" being interrupted.

- press the button once for at least 1 second to select "WINTER mode" . The value of the heating water temperature detected at that moment will appear on the display

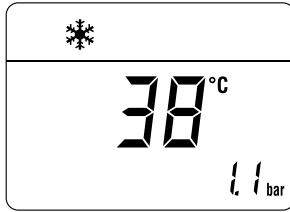


- operate the heating controls and check that the boiler starts and operates correctly
- using the procedure shown in section "Chimney sweep function" complete inlet working gas pressure test and a flue gas analysis.
- record in Benchmark commissioning Check list (page 47).

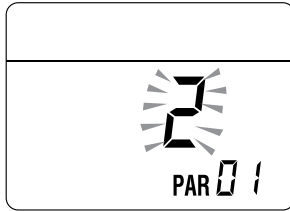
7.3 Parameter setting and display

To go into the parameter menu:

- from the selected mode (eg. WINTER)



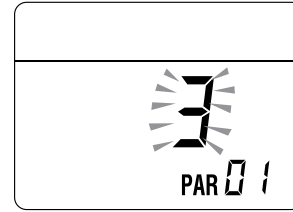
- press the buttons and (for approximately 5 seconds) at the same time until "PAR 01" (parameter number) and the value set (0÷4) appears on the display



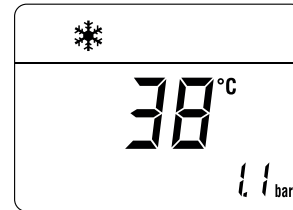
- press the button to scroll up the list of parameters and then to scroll down the list

NOTE: holding the buttons or increases the speed of the scrolling movement.

- once the required parameter has been reached, press the buttons or to modify the value within the permitted range. The modifications are stored automatically.



When all the parameter modifications have been made, exit the parameter menu by pressing and holding down the buttons and all at the same time for at least 5 seconds until the initial screen is displayed.

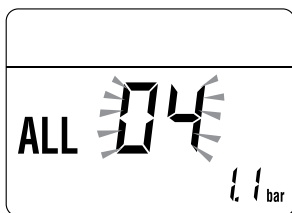


7.4 List of parameters

Type	No.	Description	Range	U/M	Step	Default
CONFIGURATION						
PAR	01	Index showing boiler power in kW	2 = 30 kW 4 = 40 kW	-	1	2 or 4
PAR	02	Hydraulic configuration	1 = system 2 = N/A 3 = N/A 4 = N/A 5 = N/A 6 = boiler with heat pump	-	1	0
PAR	03	Gas Type Configuration	0 = G20 1 = G31	-	1	0
PAR	04	Combustion configuration	0 = sealed chamber with combustion control 1 = open chamber with smoke thermostat 2 = Low NOx	-	1	0
PAR	08	External sensor value correction	-5 .. +5	°C	1	0
PAR	09	Ignition fan speed	80 .. 180	RPMx25	1	128
DOMESTIC HOT WATER - HEATING						
PAR	10	Boiler Antifreeze Threshold	0 .. +10	°C	1	3
PAR	11	External Sensor Antifreeze Threshold -- = Disabled	-9 .. +5	°C	1	-2
PAR	12	Heating Curve Incline	0 .. 80	-	1	20
PAR	13	Minimum Heating Temperature Adjustment	20 .. PAR 14	°C	1	20
PAR	14	Maximum Heating Temperature Adjustment	PAR 13 .. 80	°C	1	80
PAR	15	Maximum power in CH mode	0 .. 100	%	1	100
PAR	16	Heating Post-Circulation Time	0 .. 99	seconds x 10	1	3
PAR	17	Heating Pump Activation Delay	0 .. 60	seconds x 10	1	0
PAR	18	Heating Re-ignition Delay	0 .. 60	Min	1	3
PAR	19	Domestic Hot Water Modulation with Flow meter	0 .. 1	-	1	1
PAR	20	Maximum power domestic hot water	0 .. 100	%	1	100
PAR	21	Minimum power heating/domestic hot water (premixed)	0 .. 100	%	1	0
PAR	22	Domestic hot water preheating enabling	0 = OFF 1 = ON	-	1	0

Type	No.	Description	Range	U/M	Step	Default
PAR	23	External relay 1 function	0 = not used 1 = remote alarm NO 2 = remote alarm NC 3 = zone valve 4 = automatic filling 5 = external request 6 = recirculation pump 7 = zone valve with OT 8 = relaunch pump 9 = boiler with heat pump (circulator)	-	-	0
PAR	24	External relay 2 function	0 = not used 1 = remote alarm NO 2 = remote alarm NC 3 = zone valve 4 = automatic filling 5 = external request 6 = recirculation pump 7 = zone valve with OT 8 = relaunch pump 9 = boiler with heat pump (circulator)	-	-	0
PAR	25	Auxiliary TA function	0 = according to TA 1 = TA Antifreeze 2 = domestic hot water disabled	-	1	0
PAR	26	Zone Valve / Pump Relaunch Delay	0 .. 99	Min	1	1
PAR	28	DHW activation delay with solar power	0 .. 30	Min	1	0
PAR	29	Anti-legionella Function (Only hot water tank) -- = Disabled	50 .. 80	-	1	--
PAR	30	Maximum domestic hot water temperature	35 .. 67	°C	1	60
PAR	35	Digital / analogue Pressure switch	0 = water pressure switch 1 = water pressure transducer (with ALL 09) 2 = water pressure transducer (without ALL 09)	-	1	1
PAR	39	Modulating pump minimum speed	20 .. 100	%	1	30
PAR	4.0	Modulating Pump Speed	-- = No modulation AU = Automatic 30 .. 100	%	10	AU
PAR	41	ΔT Modulating pump delivery/Return	10 .. 40	°C	1	20
PAR	42	Select heat pump or boiler convenience (only if PAR 02 = 6)	-20 .. 30	°C	-	5
PAR	43	Heat pump boiler aid activation delay (only if PAR 02 = 6)	1 .. 60	Min	-	3
PAR	47	System pump forcing (only in winter mode)	0 = Disabled 1 = Enabled	-	1	0
RESET						
PAR	48	INST Parameter set to default	0 .. 1	-	-	0

In the event of a fault/malfunction the message "ALL" will appear on the display with the alarm number eg. "ALL 04" (Domestic Hot Water Sensor Fault).



NOTE: after having repaired the fault, when the alarm number appears on the display together with the message **RESET** (see figure), press the button **OR** for approximately 3 seconds to start the appliance up again.



Before repairing the fault:

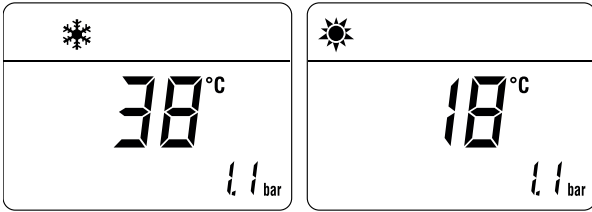
- disconnect the appliance from the mains power by setting the main switch to "OFF"
- as a precautionary measure, close the gas isolation valve.

Resolve the problem and start-up the boiler again.

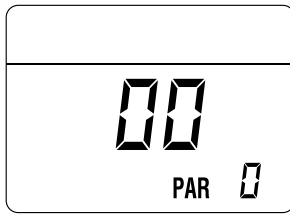
7.5 Display of operating data and counters

Once the boiler is operating a qualified technician can view the operating data and the counters as follows: >

From the operating screen in the mode enabled at that moment (WINTER ❄️ or SUMMER ☀️):

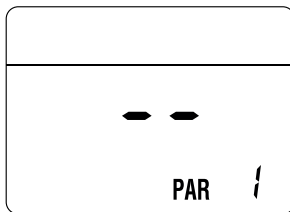


- go into "DISPLAY" by pressing the buttons and at the same time for more than 3 seconds until the following screen appears

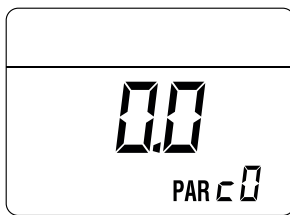


From this point, the technician has 2 options:

- scroll through the list of "information (PAR)" and "counters (PARc)" by pressing the button . Scrolling will be in sequence



- display the "activated alarms" (no more than 10) by pressing the button



- Once in this section, proceed with button or .

When all the values have been displayed, exit the menu by pressing and holding down the button for approximately 5 seconds until the initial screen is displayed.

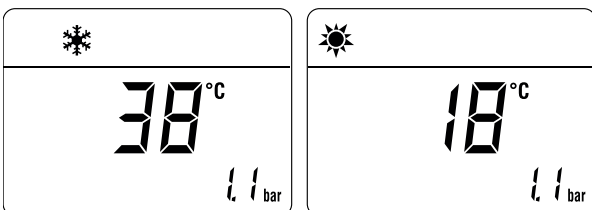


TABLE OF INFORMATION DISPLAYED

Type	No.	Description	Range	U/M	Step
PAR	00	SW version			
PAR	01	External sensor (SE)	- 9 .. 99	°C	1
PAR	02	Delivery sensor temperature (SM)	- 9 .. 99	°C	1
PAR	03	Exhaust temperature (SF)	- 9 .. 99	°C	1
PAR	04	Domestic hot water sensor temperature (SS)	- 9 .. 99	°C	1
PAR	05	AUX auxiliary sensor	- 9 .. 99	°C	1
PAR	06	Actual heating SET temperature	Par. 13 ... Par. 14	°C	1
PAR	07	Power level	0 .. 99	%	1
PAR	08	DHW Flow rate	0 .. 99	l/min	0.1
PAR	09	Water pressure transducer reading	0 .. 99	bar	0.1
PAR	10	Actual speed fan number	0 .. 99	RPM x 100	1

TABLE OF COUNTER DISPLAYED

Type	No.	Description	Range	U/M	Step
PAR	c0	total no. of boiler operating hours	0 .. 99	h x 1000	0.1; from 0.0 to 9.9; 1; from 10 to 99
PAR	c1	total no. of burner operating hours	0 .. 99	h x 1000	0.1; from 0.0 to 9.9; 1; from 10 to 99
PAR	c2	total no. of burner ignitions	0 .. 99	h x 1000	0.1; from 0.0 to 9.9; 1; from 10 to 99
PAR	c3	total no. faults	0 .. 99	x 1	1
PAR	c4	total no. of times installer parameters "ALL" accessed	0 .. 99	x 1	1
PAR	c5	total no. of times OEM parameters accessed	0 .. 99	x 1	1
PAR	c6	Countdown to the next service	1 .. 199	months	1
PAR	c7	total no. of calibrations	1 .. 199	x 1	1

TABLE OF ACTIVATED ALARMS/FAULTS

Type	No.	Description
PAR	A0	Last activated alarm/fault
PAR	A1	Last but one activated alarm/fault
PAR	A2	Third from last activated alarm/fault
PAR	A3	Previous activated alarm/fault
PAR	A4	Previous activated alarm/fault
PAR	A5	Previous activated alarm/fault
PAR	A6	Previous activated alarm/fault
PAR	A7	Previous activated alarm/fault
PAR	A8	Previous activated alarm/fault
PAR	A9	Previous activated alarm/fault

7.6 Checks

7.6.1 Chimney sweep function

The chimney sweeper function is used by the qualified maintenance technician to check the mains gas pressure, detect the combustion parameters and to measure the combustion efficiency. A combustion analysis should not be conducted until a satisfactory inlet working pressure test has been completed.

This function lasts 15 minutes and is activated by proceeding as follows:

- if the panel (2) has not already been removed, remove the two screws (1), pull the front panel (2) forwards and release it from the top by lifting it

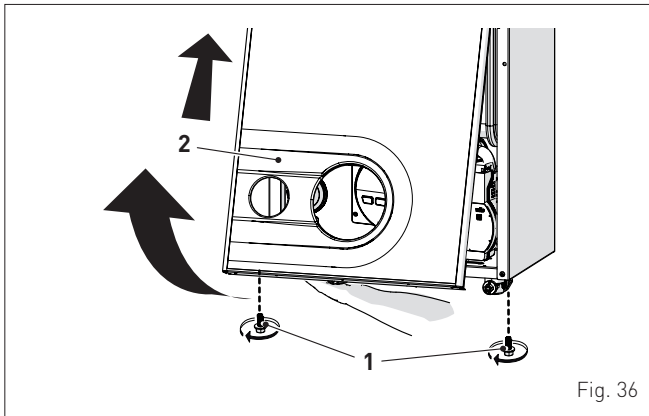


Fig. 36

- remove the screws (3) securing the control panel (4)
- move the panel (4) upwards (a) but keeping it in the side guides (5) to the end of travel
- bring it forwards and down (b) until it is horizontal

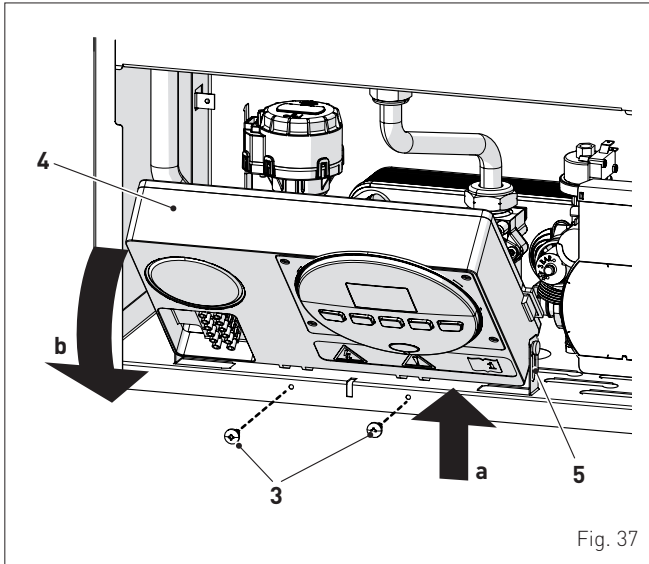


Fig. 37

- isolate the gas cock
- loosen the screw of the "mains pressure" point (6) and connect a pressure gauge

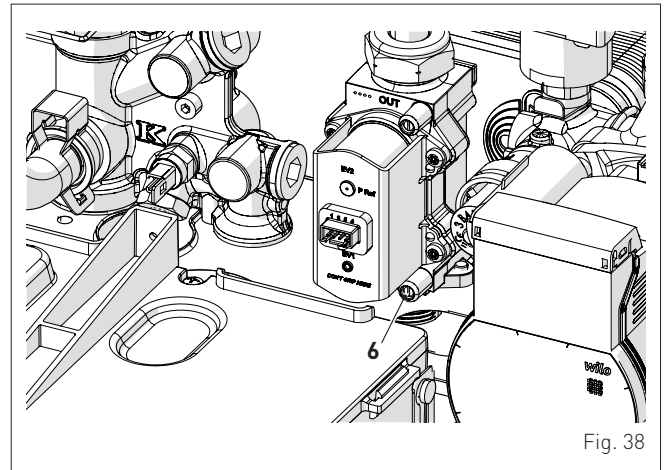
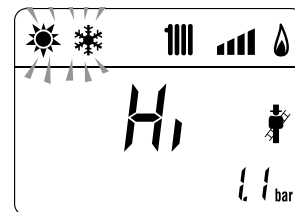
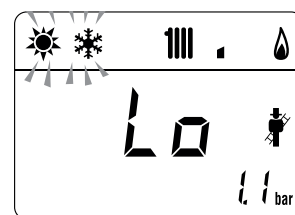


Fig. 38

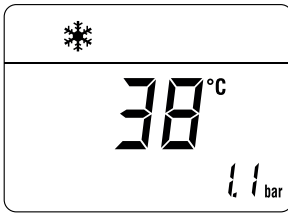
- open the gas cock
- power the boiler by setting the main switch to "ON"
- press the button **ON** for at least 1 second until "SUMMER" mode has been selected
- press and hold down the buttons **-** and **+** at the same time for approximately 10 seconds until the message "Hi" appears on the display together with the flashing symbols



- press the button **+** to make the boiler operate at maximum power "Hi" and check that the mains gas pressure value on the pressure gauge is correct.
- press the button **-** to make the boiler operate at minimum power "Lo". The message "Lo" will appear on the display together with the flashing symbols



- take the combustion data reading
- press the button **OR** to exit the "Chimney sweeper Procedure". The boiler water delivery temperature will appear on the display



- disconnect the pressure gauge, carefully close the pressure point (6), test for gas tightness, put the control panel back to the original position and refit the front panel (2). Now conduct a flue gas analysis as detailed in APPENDIX 2.

Gas supply pressure

Type of gas	G20	G31
Pressure (mbar)	19	36

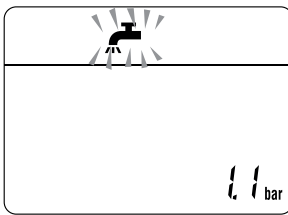
NOTE: There are negligible losses of working gas pressure attributable to the boiler as the gas cock is connected directly to the gas valve.

7.7 Domestic hot water comfort function (preheating)

Murelle Advanced HE MkII models have a "domestic hot water comfort" function which ensures the best performance in terms of domestic hot water, reducing the time necessary for the hot water to become available and ensuring that the temperature is stable.

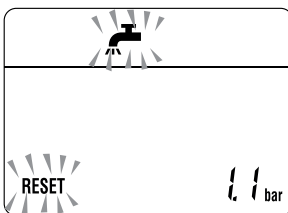
To activate the function:

- select parameter "PAR 22" (see "Parameter setting and display") and set it to value 1
- exit parameter settings and press button **+** for approximately 5 seconds until the symbol appears on the display and begins to flash indicating that the function has been activated.



To deactivate the function:

- press button **+** again for approximately 5 seconds until the symbols and **RESET** appear on the display and begin to flash indicating that the function has been deactivated.



7.8 Gas conversion

Murelle Advanced HE MkII models can work with G20 or G31 without the need for any mechanical conversion. Simply select parameter "PAR 03" (see "Parameter setting and display" page 37) and set the type of gas to be used.

If changing the type of gas to be used, carry out the entire appliance "COMMISSIONING" phase (page 36).



CAUTION

Conversion may ONLY be carried out by Professionally Qualified Personnel.



CAUTION

If the gas supply is changed from G20 to G31, mark the box on the TECHNICAL DATA PLATE.

G31 - 36 mbar



7.9 Heating power output adjustment

To comply with Building regulations, the heating output must be set according to the requirements of the installed heating system.

This is done by adjustment of "parameter 15" (PAR 15).

Calculate the heating requirements of the heating system in kW. Determine what that value is, as a % of the nominal heat output of the boiler, see table "Technical features" page 19. Access the parameters as shown in "Parameter setting and display" page 37, and adjust PAR 15 to that % value.

Example:

- Heating system with 8 radiators, average 1.5 kW per radiator total heat
- Requirement 12 kW (8 x 1.5)
- Maximum nominal heat output of boiler = 23.6 kW
- PAR 15 = 12/23.6 = 50.8%. Set PAR 15 to 51%.



CAUTION

As a condition of the warranty and to ensure correct operation and efficiency, it is important that the boiler is serviced every 12 months, within 30 days of the anniversary of the installation date ensure the required information is recorded in the Gas Boiler System Service Interval Record (page 48) (Benchmark).

8 MAINTENANCE

8.1 Servicing

As a condition of the warranty and to ensure correct operation and efficiency, it is important that the boiler is serviced every 12 months, within 30 days of the anniversary of the installation date ensure the required information is recorded in the Gas Boiler System Service Interval Record (page 48) (Benchmark).



CAUTION

- Only qualified persons in compliance with the instructions contained in this manual are permitted to install, commission and maintain this boiler. Suitable protective safety equipment **MUST be worn**. The installation of this boiler must be in accordance with the relevant requirements of the current Gas Safety (installation and use), the local building regulations, and I.E.E. wiring regulations.
- Make sure that the system components and pipes are not hot (risk of burning).



WARNING

Before carrying out any interventions described:

- isolate the power supply
- isolate the gas cock
- avoid contact with any hot surfaces.

8.2 External cleaning

8.2.1 Cleaning the case

When cleaning the cladding, use a cloth dampened with soap and water or alcohol for stubborn marks.



DO NOT

Do not use abrasive products.

8.3 Burner Inspection

8.3.1 Burner access

To access the internal parts of the boiler:

- remove the screws (1), pull the front panel (2) forwards and release it from the top by lifting it

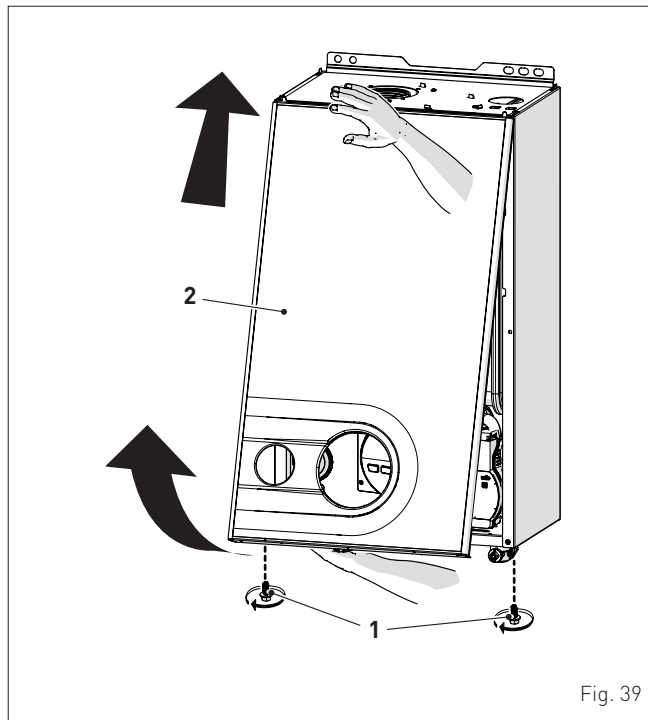


Fig. 39

- remove the screws (3) securing the control panel (4)
- move the panel (4) upwards (a) but keeping it in the side guides (5) to the end of travel
- bring it forwards and down (b) until it is horizontal

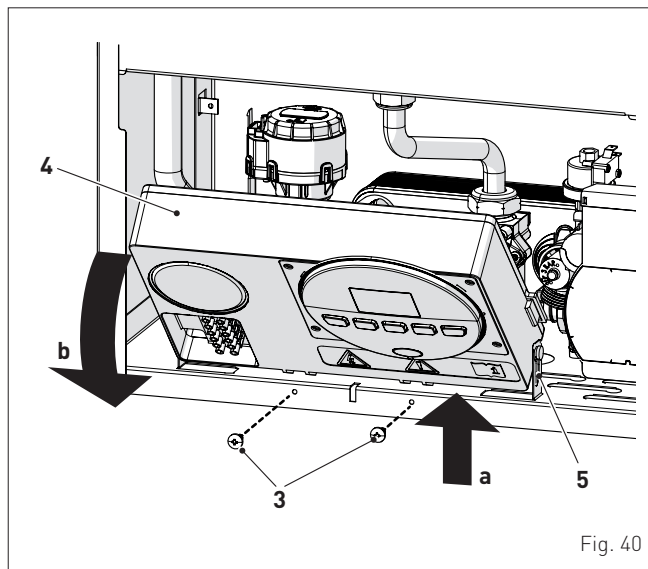


Fig. 40

- loosen the clips (6) and extract the air inlet pipe (7)
- unscrew the swivel joint (8)
- extract the connectors (9) from the fan and disconnect the electrode cable (10)

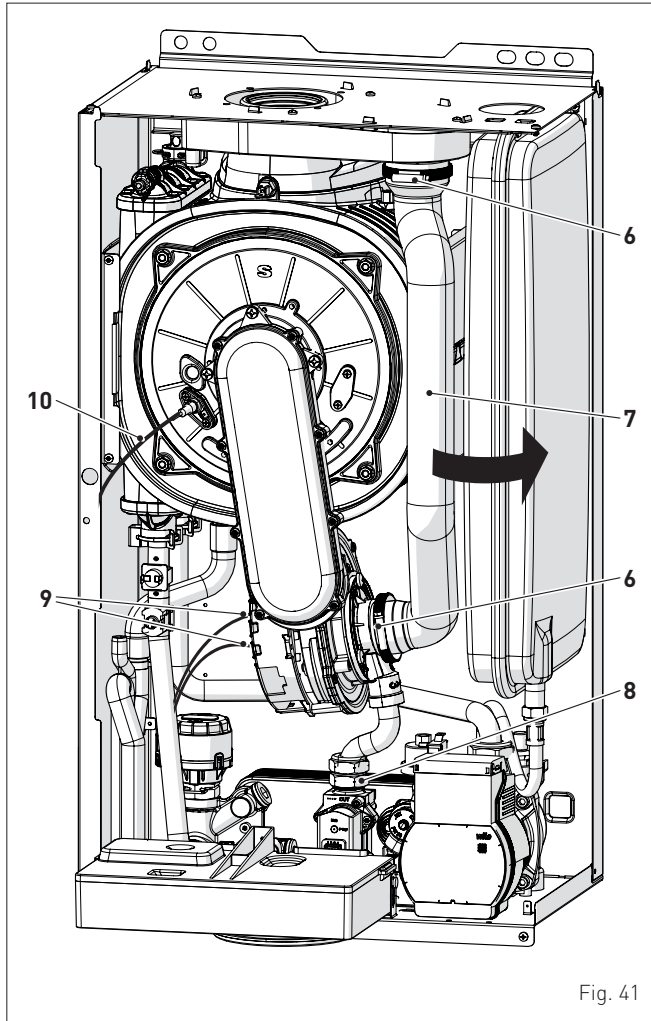


Fig. 41

- Unscrew the four nuts (11) securing the combustion chamber door (12)
- pull the fan-sleeve-door assembly (13) forwards and remove it.

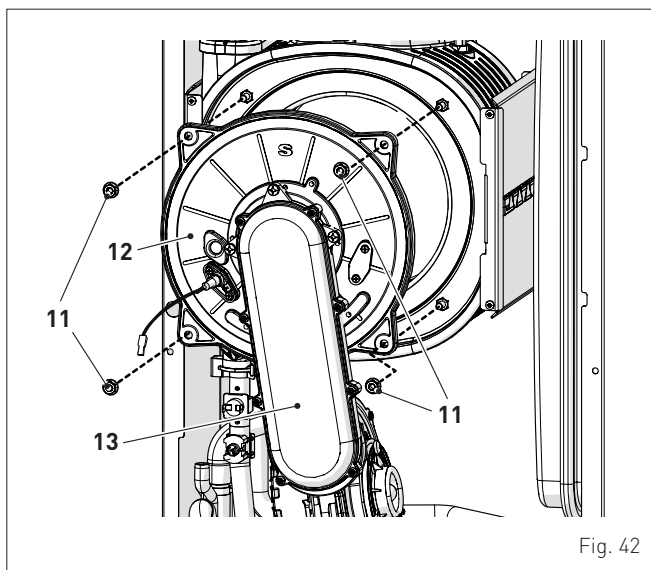


Fig. 42



CAUTION

Work carefully when removing the assembly (13) to prevent any damage occurring to the internal insulation of the combustion chamber and the door seal.

8.3.2 Cleaning the burner and the combustion chamber

The combustion chamber and the burner do not require any particular maintenance. Simply brush them with a soft brush.

8.3.3 Checking the ignition/detection electrode

Check the state of the ignition/detection electrode and replace if necessary. Check the measurements as per the drawing whether the ignition/detection electrode is replaced or not.

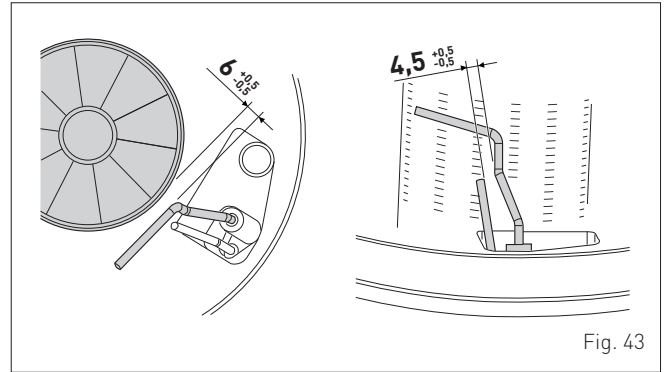


Fig. 43

8.3.4 Final operations

After having cleaned the combustion chamber and the burner:

- remove any carbon residue
- check that the seal and the insulation of the door (12) to the combustion chamber are undamaged. Replace if necessary
- refit the assembly by carrying out the same operations for removal but in the reverse order and tighten the screws (11) of the door to the combustion chamber
- reconnect the connections to the fan and the electrode.

8.4 Checks

8.4.1 Checking the flue

Check that the flue is undamaged and complete.

8.4.2 Checking the expansion vessel pressure

Close the flow and return valves and drain the boiler. Check the expansion vessel pressure is not less than **1 bar**. If this is not the case, pressurize it to the correct value (see section "Expansion vessel" page 21).

8.4.3 System Inhibiter concentration

Check and if required correct the inhibitor concentration.

Once the checks described above have been completed:

- refill the boiler as described in section "SYSTEM Filling page 34"
- check that the siphon has been filled correctly
- Start the boiler, activate the "Chimney sweep function" page 40 and carry out combustion analysis as detailed in Appendix 2
- refit the front panel securing it with the two screws which were removed previously
- complete the service record in this manual.

8.5 Circuit Board Replacement

Should the circuit board be replaced, the engineer **MUST set the parameters** as indicated in this table and in the sequence shown.

Type	No.	Description	Setting for Murelle Advanced HE MkII	
			30	40
PAR	01	Index showing boiler power in kW 2 = 30; 4 = 40	2	4
PAR	02	Hydraulic configuration 0 = combi 1 = system 2 = N/A 3 = N/A 4 = N/A 5 = N/A 6 = boiler with heat pump	0	
PAR	03	Gas Type Configuration 0 = G20; 1 = G31	0 or 1	

To enter "**Parameter setting and display**" see page 37.
Once the parameters in the table have been set, you must carry out the entire phase of "**Automatic self-calibrating procedure**" described at page 36.
If the **gas valve** and/or the **ignition/detection electrode**, and/or the **burner**, and/or the **fan** are replaced, the engineer must still carry out the entire phase of "**Automatic self-calibrating procedure**" described at page 36.

8.6 Malfunction codes and possible solutions

LIST OF MALFUNCTION/FAULT ALARMS


Type	No.	Fault	Solution
ALL	01	Smoke thermostat	- Contact the Technical Assistance Centre
ALL	02	Low water pressure in system	- Restore pressure - Check for any leaks in the system
ALL	03	High water pressure in system	- Empty the system via the drain valve on the hydraulic assembly and bring the pressure to approximately 1.2 bar
ALL	04	Domestic hot water sensor fault (return sensor fault for T models)	- Check connections - Check the sensor is working
ALL	05	Delivery sensor (SM) fault	- Check connections - Check the sensor is working
ALL	06	No flame detection	- Check the integrity of the electrode and check that it is not grounded - Check gas availability and pressure - Check the operation of the gas valve
ALL	07	Safety thermostat (TS), intervention	- Check the sensor or thermostat connections - Deaerate the system - Check the bleed valve - Replace the sensor or the thermostat - Check that the pump impeller is not blocked
ALL	08	Fault in the flame detection circuit	- Check the integrity of the electrode and check that it is not grounded - Check the operation of the gas valve
ALL	09	No water circulating in the system	- Check the rotation of the pump rotor - Check the electrical connections - Replace the pump

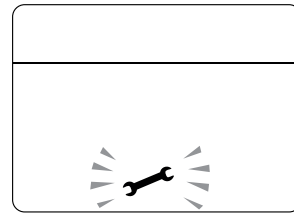
Type	No.	Fault	Solution
ALL	10	Auxiliary sensor fault	- Check PAR 02 "hydraulic configuration" - Check the electrical connection
ALL	11	Gas valve modulator disconnected	- Check the electrical connection
ALL	12	Domestic hot water sensor fault in tank mode	- Set the parameter PAR 04 (Combustion configuration) to 0
ALL	13	Exhaust sensor (SF) intervention	- Check the sensor is working - Replace the smoke probe
ALL	14	Exhaust sensor (SF) fault	- Replace the smoke probe - Check the electrical connection of the smoke probe - Contact the Technical Assistance Centre
ALL	15	Fan check cable disconnected	- Check the connection cable between the fan and the board
ALL	18	Condensate level fault	- Check for any clogging in the pipe which takes the condensate to the siphon - Check that the siphon is not clogged
ALL	28	Maximum number of consecutive resets reached (6)	- Wait 1 hour and try unblocking the board again - Contact the Technical Assistance Centre
ALL	30	Return sensor fault (boiler sensor fault for T models)	- Replace the return probe - Check parameters - Contact the Technical Assistance Centre
ALL	37	Fault due to low network voltage	- Check the voltage - Contact your network provider
ALL	40	Incorrect supply frequency detected	- Contact your network provider
ALL	41	Flame loss more than 6 consecutive times	- Check the ignition/detection electrode - Check the gas supply (open valve) - Check mains gas pressure
ALL	42	Button fault	- Check that buttons are working
ALL	43	Open Therm communication fault	- Check the OT electric connection
ALL	44	Gas valve timeout fault without flame	- Check gas valve and board
ALL	56	Lock for ΔT delivery/return over max limit (open vent)	- Contact the Technical Assistance Centre
ALL	57	Lock for flow temperature (FT) check (open vent)	- Contact the Technical Assistance Centre
ALL	62	Self-calibrating procedure is required	- Carry out the self-calibrating procedure (see the specific section)
ALL	72	Incorrect positioning of the delivery sensor	- Check delivery sensor operation and position
ALL	74	Second delivery sensor fault	- Check second delivery sensor operation and position
ALL	77	EV2 SGV current max/min absolute limits error	- Check gas valve and board
ALL	78	EV2 SGV current upper limit error	- Check gas valve and board
ALL	79	EV2 SGV current lower limit error	- Check gas valve and board
ALL	80	Fault on the valve control logic line/valve cable damaged	- Check gas valve and board

Type	No.	Fault	Solution
ALL	81	Lockout due combustion during start-up	<ul style="list-style-type: none"> - Check for blockage in flue - Check air diaphragm (for BF models) - Check gas calibration - Bleed the air from the gas circuit
ALL	82	Block due to numerous combustion control failures	<ul style="list-style-type: none"> - Check electrode - Check outlets - Check air diaphragm (for BF models) - Check gas calibration
ALL	83	Irregular combustion (temporary error)	<ul style="list-style-type: none"> - Check for blockage in flue - Check air diaphragm (for BF models) - Check gas calibration
ALL	84	Flow rate reduced for (presumed) low pressure on mains gas	<ul style="list-style-type: none"> - Check gas flow rate
ALL	88	Internal error (board component protection)	<ul style="list-style-type: none"> - Check the board is working - Replace board
ALL	89	Unstable combustion feedback signal error	<ul style="list-style-type: none"> - Check electrode - Check outlets - Check air diaphragm (for BF models) - Check gas calibration
ALL	90	Combustion set cannot be reached error	<ul style="list-style-type: none"> - Check electrode - Check outlets - Check air diaphragm (for BF models) - Check gas calibration
ALL	92	System has reached maximum air correction error (at the minimum flow rate)	<ul style="list-style-type: none"> - Check electrode - Check outlets - Check air diaphragm (for BF models) - Check gas calibration
ALL	93	Combustion set cannot be reached error	<ul style="list-style-type: none"> - Check electrode - Check outlets - Check air diaphragm (for BF models) - Check gas calibration
ALL	95	Flame signal micro interruptions error	<ul style="list-style-type: none"> - Check electrode - Check board - Check electric power supply - Check gas calibration

Type	No.	Fault	Solution
ALL	96	Lockout due to flue (exhaust) blockage	<ul style="list-style-type: none"> - Check for blockage in flue - Check the smoke outlet and electrode position (not touching the burner)
ALL	98	SW error, board start-up	<ul style="list-style-type: none"> - Contact the Technical Assistance Centre
ALL	99	General board error	<ul style="list-style-type: none"> - Contact the Technical Assistance Centre
-	-	Frequent relief valve intervention	<ul style="list-style-type: none"> - Check circuit pressure - Check expansion vessel
-	-	Limited production of domestic hot water	<ul style="list-style-type: none"> - Check the diverter valve - Check that plate heat exchanger is clean - Check domestic hot water circuit valve

8.6.1 Maintenance request

When it is time to perform maintenance on the boiler, the  symbol shows on the display.



Contact the technical assistance service to organise the necessary work.



CAUTION

As a condition of the warranty and to ensure correct operation and efficiency, it is important that the boiler is serviced every 12 months, within 30 days of the anniversary of the installation date ensure the required information is recorded in the Gas Boiler System Service Interval Record (page 48) (Benchmark).

Benchmark Commissioning & Warranty Validation Service Record

It is a requirement that the boiler is installed and commissioned to the manufacturers' instructions and the data fields on the commissioning checklist completed in full.

To instigate the boiler warranty the boiler needs to be registered with the manufacturer within one month of the installation. The warranty rests with the end-user (consumer), and they should be made aware it is ultimately their responsibility to register with the manufacturer, within the allotted time period.

It is essential that the boiler is serviced in line with the manufacturers' recommendations, at least annually. This must be carried out by a competent Gas Safe registered engineer. The service details should be recorded on the Benchmark Service and Interim Boiler Work Record and left with the householder. Failure to comply with the manufacturers' servicing instructions and requirements will invalidate the warranty.



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This Commissioning Checklist is to be completed in full by the competent person who commissioned the boiler as a means of demonstrating compliance with the appropriate Building Regulations and then handed to the customer to keep for future reference.

Failure to install and commission according to the manufacturers' instructions and complete this Benchmark Commissioning Checklist will invalidate the warranty. This does not affect the customer's statutory rights.

* All installations in England and Wales must be notified to Local Authority Building Control (LABC) either directly or through a Competent Persons Scheme. A Building Regulations Compliance Certificate will then be issued to the customer.

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GAS BOILER SYSTEM COMMISSIONING CHECKLIST & WARRANTY VALIDATION RECORD

Address:															
Boiler make and model:															
Boiler serial number:															
Commissioned by (PRINT NAME):						Gas Safe registration number:									
Company name:						Telephone number:									
Company email:						Company address:									
										Commissioning date:					
Heating and hot water system complies with the appropriate Building Regulations?											Yes				
Optional: Building Regulations Notification Number (if applicable):															
Time, temperature control and boiler interlock provided for central heating and hot water											Yes				
Boiler Plus requirements (tick the appropriate box(s))															
Boiler Plus option chosen for combination boiler in ENGLAND						Weather compensation			Smart thermostat with automisation and optimisation						
						Load compensation			Flue Gas Heat Recovery						
Time and temperature control to hot water			Cylinder thermostat and programmer/timer						Combination boiler						
Zone valves			pre-existing			Fitted			Not required						
Thermostatic radiator valves			pre-existing			Fitted			Not required						
Automatic bypass to system			pre-existing			Fitted			Not required						
Underfloor heating			pre-existing			Fitted			Not required						
Water quality															
The system has been flushed, cleaned and a suitable inhibitor applied upon final fill, in accordance with BS7593 and boiler manufacturers' instructions											Yes				
What system cleaner was used?						Brand:			Product:						
What inhibitor was used?						Brand:			Product:						
Primary water system filter			pre-existing			Fitted			Not required						
CENTRAL HEATING MODE measure and record (as appropriate)															
Gas rate (for combination boilers complete DHW mode gas rate)						m ³ /hr			or		ft ³ /hr				
Central heating output left at factory settings?						Yes			No						
If no, what is the maximum central heating output selected?												kW			
Dynamic gas inlet pressure												mbar			
Central heating flow temperature												°C			
Central heating return temperature												°C			
System correctly balanced/rebalanced?												Yes			
COMBINATION BOILERS ONLY															
Is the installation in a hard water area (above 200ppm)?						Yes			No						
Water scale reducer/softener			pre-existing			Fitted			Not required						
What type of scale reducer/softener has been fitted?						Brand:			Product:						
Water meter fitted?						Yes			No						
If yes- DHW expansion vessel			pre-existing			Fitted			Not required						
Pressure reducing valve			pre-existing			Fitted			Not required						
DOMESTIC HOT WATER MODE Measure and record															
Gas rate						m ³ /hr			or		ft ³ /hr				
Dynamic gas inlet pressure at maximum rate												mbar			
Cold water inlet temperature												°C			
Hot water has been checked at all outlets						Yes			Temperature			°C			
CONDENSATE DISPOSAL															
The condensate drain has been installed in accordance with the manufacturers' instructions and/or BS5546/BS6798											Yes				
Point of termination						Internal			External (only where internal termination impractical)						
Method of disposal						Gravity			Pumped						
ALL INSTALLATIONS															
Record the following		At max rate:		CO		ppm		CO ₂		%		CO/CO ₂		Ratio	
		At min rate (where possible)		CO		ppm		CO ₂		%		CO/CO ₂		Ratio	
Where possible, has a flue integrity check been undertaken in accordance with manufacturers' instructions, and readings are correct?											Yes				
The operation of the boiler and system controls have been demonstrated to and understood by the customer											Yes				
The manufacturers' literature, including Benchmark Checklist and Service Record, has been explained and left with the customer											Yes				
Commissioning Engineer's signature															
Customer's signature (To confirm satisfactory demonstration and receipt of manufacturers' literature)															

* All installations in England and Wales must be notified to Local Authority Building Control (LABC) either directly or through a Competent Persons Scheme. A Building Regulations Compliance Certificate will then be issued to the customer.

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SERVICE & INTERIM BOILER WORK RECORD

It is recommended that your boiler and heating system are regularly serviced and maintained, in line with manufacturers' instructions, and that the appropriate service / interim work record is completed.

Service provider

When completing a service record (as below), please ensure you have carried out the service as described in the manufacturers' instructions. Always use the manufacturers' specified spare parts.

SERVICE/INTERIM WORK ON BOILER <small>delete as appropriate</small>					Date:
Engineer name:		Company name:			
Telephone N°:		Gas Safe registration N°:			
Max rate	CO	ppm	CO ₂	%	CO/CO ₂
Min rate	CO	ppm	CO ₂	%	CO/CO ₂
Where possible, has a flue integrity check been undertaken in accordance with manufacturers' instructions, and readings are correct?"					yes
Gas rate:	m ³ /h	OR	ft ³ /h		
Were parts fitted? <small>delete as appropriate</small>		Yes	No		
Parts fitted:					
System inhibitor concentration has been checked and appropriate action taken, in accordance with BS 7593 and boiler manufacturers' instructions. *					yes n/a
Comments:					
Signature:					

*A System inhibitor efficacy test is required on every annual service in accordance with the manufacturers' instructions and BS 7593. It is only acceptable to not have undertaken this if the service engineers attendance visit was in between annual services to attend a non-water facing component.

SERVICE/INTERIM WORK ON BOILER <small>delete as appropriate</small>					Date:
Engineer name:		Company name:			
Telephone N°:		Gas Safe registration N°:			
Max rate	CO	ppm	CO ₂	%	CO/CO ₂
Min rate	CO	ppm	CO ₂	%	CO/CO ₂
Where possible, has a flue integrity check been undertaken in accordance with manufacturers' instructions, and readings are correct?"					yes
Gas rate:	m ³ /h	OR	ft ³ /h		
Were parts fitted? <small>delete as appropriate</small>		Yes	No		
Parts fitted:					
System inhibitor concentration has been checked and appropriate action taken, in accordance with BS 7593 and boiler manufacturers' instructions. *					yes n/a
Comments:					
Signature:					

*A System inhibitor efficacy test is required on every annual service in accordance with the manufacturers' instructions and BS 7593. It is only acceptable to not have undertaken this if the service engineers attendance visit was in between annual services to attend a non-water facing component.

SERVICE/INTERIM WORK ON BOILER <small>delete as appropriate</small>					Date:
Engineer name:		Company name:			
Telephone N°:		Gas Safe registration N°:			
Max rate	CO	ppm	CO ₂	%	CO/CO ₂
Min rate	CO	ppm	CO ₂	%	CO/CO ₂
Where possible, has a flue integrity check been undertaken in accordance with manufacturers' instructions, and readings are correct?"					yes
Gas rate:	m ³ /h	OR	ft ³ /h		
Were parts fitted? <small>delete as appropriate</small>		Yes	No		
Parts fitted:					
System inhibitor concentration has been checked and appropriate action taken, in accordance with BS 7593 and boiler manufacturers' instructions. *					yes n/a
Comments:					
Signature:					

*A System inhibitor efficacy test is required on every annual service in accordance with the manufacturers' instructions and BS 7593. It is only acceptable to not have undertaken this if the service engineers attendance visit was in between annual services to attend a non-water facing component.

SERVICE/INTERIM WORK ON BOILER <small>delete as appropriate</small>					Date:
Engineer name:		Company name:			
Telephone N°:		Gas Safe registration N°:			
Max rate	CO	ppm	CO ₂	%	CO/CO ₂
Min rate	CO	ppm	CO ₂	%	CO/CO ₂
Where possible, has a flue integrity check been undertaken in accordance with manufacturers' instructions, and readings are correct?"					yes
Gas rate:	m ³ /h	OR	ft ³ /h		
Were parts fitted? <small>delete as appropriate</small>		Yes	No		
Parts fitted:					
System inhibitor concentration has been checked and appropriate action taken, in accordance with BS 7593 and boiler manufacturers' instructions. *					yes n/a
Comments:					
Signature:					

*A System inhibitor efficacy test is required on every annual service in accordance with the manufacturers' instructions and BS 7593. It is only acceptable to not have undertaken this if the service engineers attendance visit was in between annual services to attend a non-water facing component.

SERVICE/INTERIM WORK ON BOILER <small>delete as appropriate</small>					Date:
Engineer name:		Company name:			
Telephone N°:		Gas Safe registration N°:			
Max rate	CO	ppm	CO ₂	%	CO/CO ₂
Min rate	CO	ppm	CO ₂	%	CO/CO ₂
Where possible, has a flue integrity check been undertaken in accordance with manufacturers' instructions, and readings are correct?"					yes
Gas rate:	m ³ /h	OR	ft ³ /h		
Were parts fitted? <small>delete as appropriate</small>		Yes	No		
Parts fitted:					
System inhibitor concentration has been checked and appropriate action taken, in accordance with BS 7593 and boiler manufacturers' instructions. *					yes n/a
Comments:					
Signature:					

*A System inhibitor efficacy test is required on every annual service in accordance with the manufacturers' instructions and BS 7593. It is only acceptable to not have undertaken this if the service engineers attendance visit was in between annual services to attend a non-water facing component.

SERVICE/INTERIM WORK ON BOILER <small>delete as appropriate</small>					Date:
Engineer name:		Company name:			
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Max rate	CO	ppm	CO ₂	%	CO/CO ₂
Min rate	CO	ppm	CO ₂	%	CO/CO ₂
Where possible, has a flue integrity check been undertaken in accordance with manufacturers' instructions, and readings are correct?"					yes
Gas rate:	m ³ /h	OR	ft ³ /h		
Were parts fitted? <small>delete as appropriate</small>		Yes	No		
Parts fitted:					
System inhibitor concentration has been checked and appropriate action taken, in accordance with BS 7593 and boiler manufacturers' instructions. *					yes n/a
Comments:					
Signature:					

*A System inhibitor efficacy test is required on every annual service in accordance with the manufacturers' instructions and BS 7593. It is only acceptable to not have undertaken this if the service engineers attendance visit was in between annual services to attend a non-water facing component.

* All installations in England and Wales must be notified to Local Authority Building Control (LABC) either directly or through a Competent Persons Scheme. A Building Regulations Compliance Certificate will then be issued to the customer.

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SERVICE & INTERIM BOILER WORK RECORD

It is recommended that your boiler and heating system are regularly serviced and maintained, in line with manufacturers' instructions, and that the appropriate service / interim work record is completed.

Service provider

When completing a service record (as below), please ensure you have carried out the service as described in the manufacturers' instructions. Always use the manufacturers specified spare parts.

SERVICE/INTERIM WORK ON BOILER <small>delete as appropriate</small> Date:				
Engineer name:		Company name:		
Telephone N°:		Gas Safe registration N°:		
Max rate	CO	ppm	CO ₂	% CO/CO ₂
Min rate	CO	ppm	CO ₂	% CO/CO ₂
Where possible, has a flue integrity check been undertaken in accordance with manufacturers' instructions, and readings are correct?*				yes
Gas rate:	m ³ /h	OR	ft ³ /h	
Were parts fitted? <small>delete as appropriate</small>		Yes	No	
Parts fitted:				
System inhibitor concentration has been checked and appropriate action taken, in accordance with BS 7593 and boiler manufacturers' instructions. *				yes n/a
Comments:				
Signature:				

*A System inhibitor efficacy test is required on every annual service in accordance with the manufacturers' instructions and BS 7593. It is only acceptable to not have undertaken this if the service engineers attendance visit was in between annual services to attend a non-water facing component.

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Telephone N°:		Gas Safe registration N°:		
Max rate	CO	ppm	CO ₂	% CO/CO ₂
Min rate	CO	ppm	CO ₂	% CO/CO ₂
Where possible, has a flue integrity check been undertaken in accordance with manufacturers' instructions, and readings are correct?*				yes
Gas rate:	m ³ /h	OR	ft ³ /h	
Were parts fitted? <small>delete as appropriate</small>		Yes	No	
Parts fitted:				
System inhibitor concentration has been checked and appropriate action taken, in accordance with BS 7593 and boiler manufacturers' instructions. *				yes n/a
Comments:				
Signature:				

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Max rate	CO	ppm	CO ₂	% CO/CO ₂
Min rate	CO	ppm	CO ₂	% CO/CO ₂
Where possible, has a flue integrity check been undertaken in accordance with manufacturers' instructions, and readings are correct?*				yes
Gas rate:	m ³ /h	OR	ft ³ /h	
Were parts fitted? <small>delete as appropriate</small>		Yes	No	
Parts fitted:				
System inhibitor concentration has been checked and appropriate action taken, in accordance with BS 7593 and boiler manufacturers' instructions. *				yes n/a
Comments:				
Signature:				

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Min rate	CO	ppm	CO ₂	% CO/CO ₂
Where possible, has a flue integrity check been undertaken in accordance with manufacturers' instructions, and readings are correct?*				yes
Gas rate:	m ³ /h	OR	ft ³ /h	
Were parts fitted? <small>delete as appropriate</small>		Yes	No	
Parts fitted:				
System inhibitor concentration has been checked and appropriate action taken, in accordance with BS 7593 and boiler manufacturers' instructions. *				yes n/a
Comments:				
Signature:				

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Where possible, has a flue integrity check been undertaken in accordance with manufacturers' instructions, and readings are correct?*				yes
Gas rate:	m ³ /h	OR	ft ³ /h	
Were parts fitted? <small>delete as appropriate</small>		Yes	No	
Parts fitted:				
System inhibitor concentration has been checked and appropriate action taken, in accordance with BS 7593 and boiler manufacturers' instructions. *				yes n/a
Comments:				
Signature:				

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Max rate	CO	ppm	CO ₂	% CO/CO ₂
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Where possible, has a flue integrity check been undertaken in accordance with manufacturers' instructions, and readings are correct?*				yes
Gas rate:	m ³ /h	OR	ft ³ /h	
Were parts fitted? <small>delete as appropriate</small>		Yes	No	
Parts fitted:				
System inhibitor concentration has been checked and appropriate action taken, in accordance with BS 7593 and boiler manufacturers' instructions. *				yes n/a
Comments:				
Signature:				

*A System inhibitor efficacy test is required on every annual service in accordance with the manufacturers' instructions and BS 7593. It is only acceptable to not have undertaken this if the service engineers attendance visit was in between annual services to attend a non-water facing component.

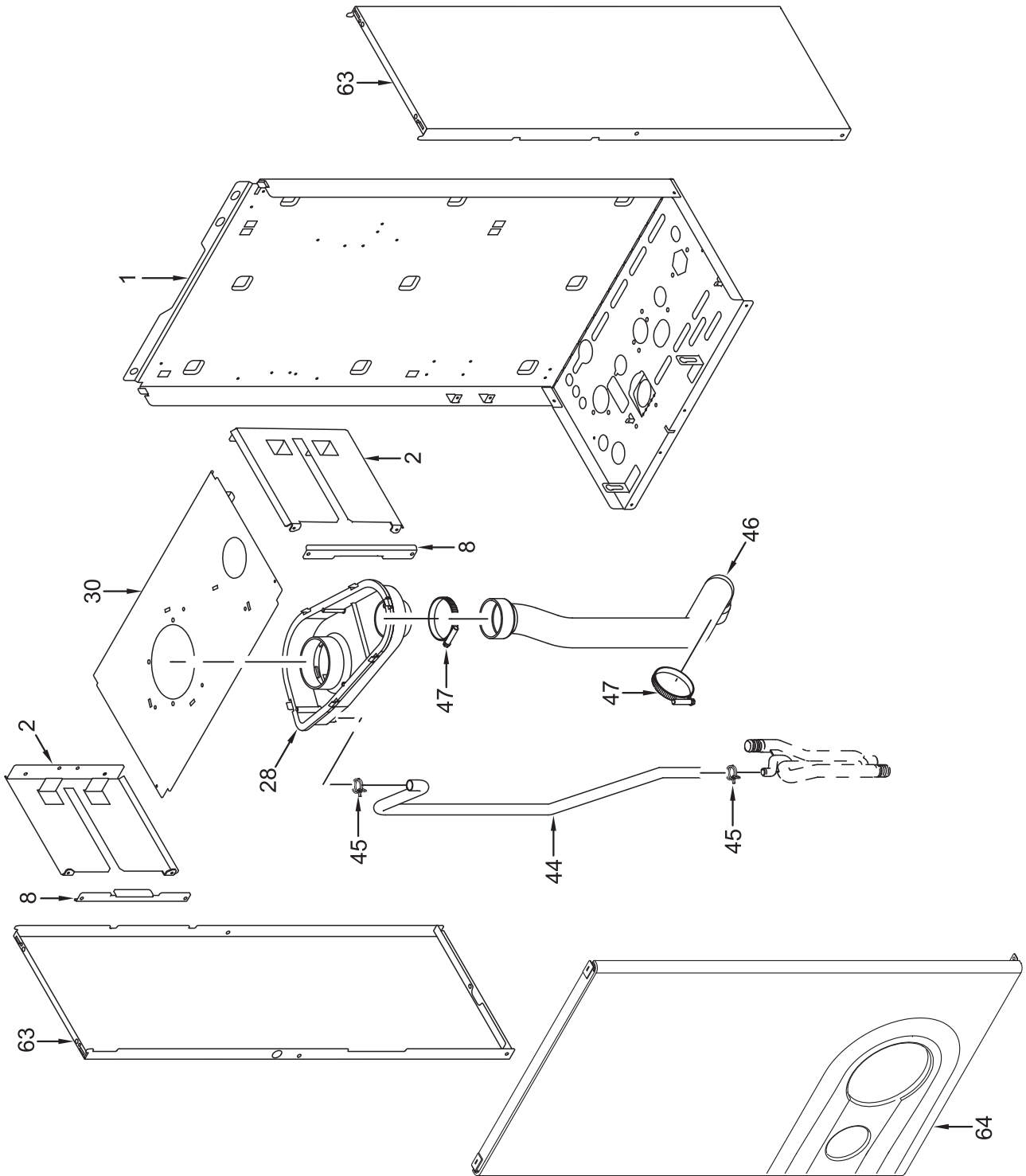
* All installations in England and Wales must be notified to Local Authority Building Control (LABC) either directly or through a Competent Persons Scheme. A Building Regulations Compliance Certificate will then be issued to the customer.

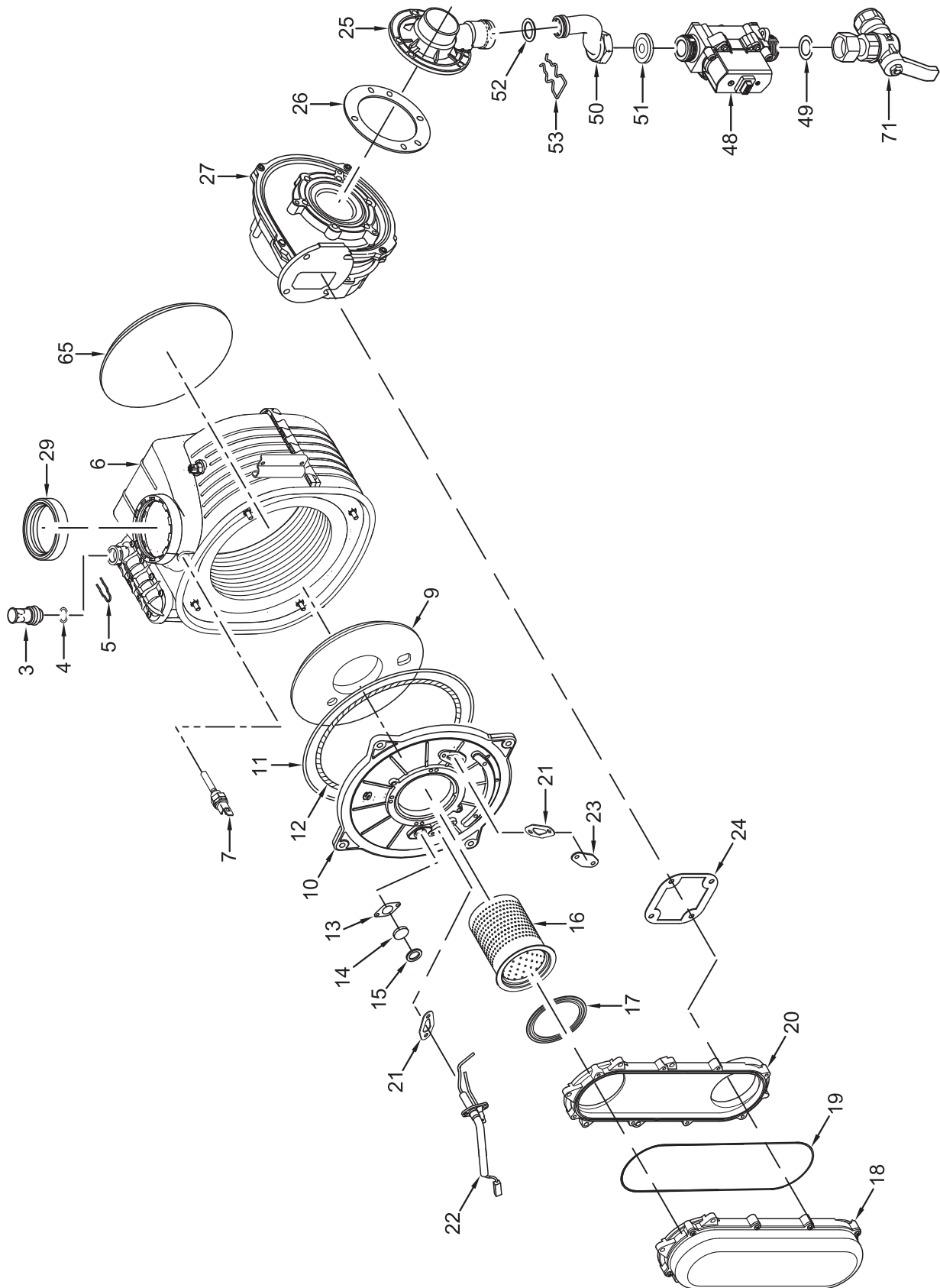
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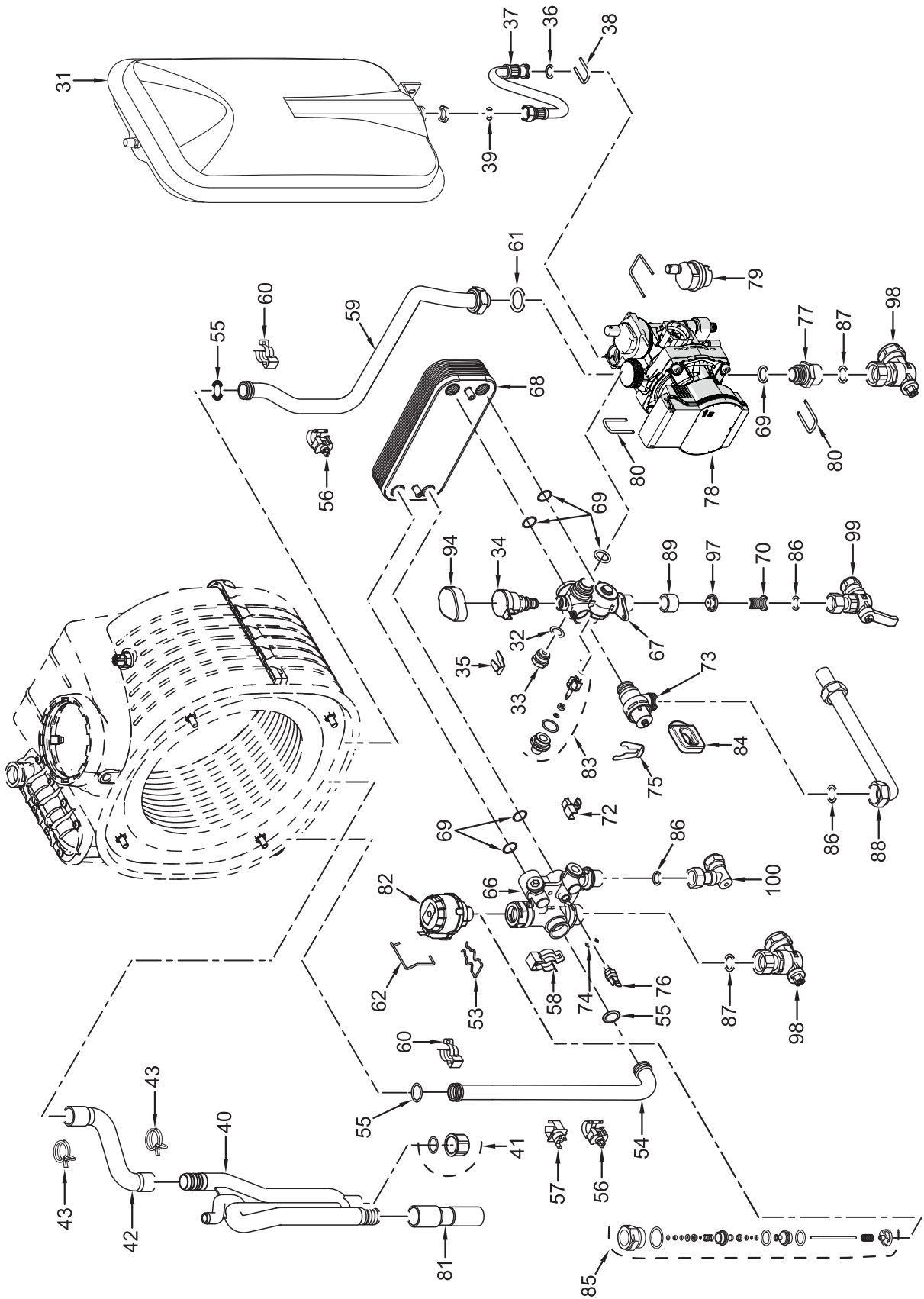


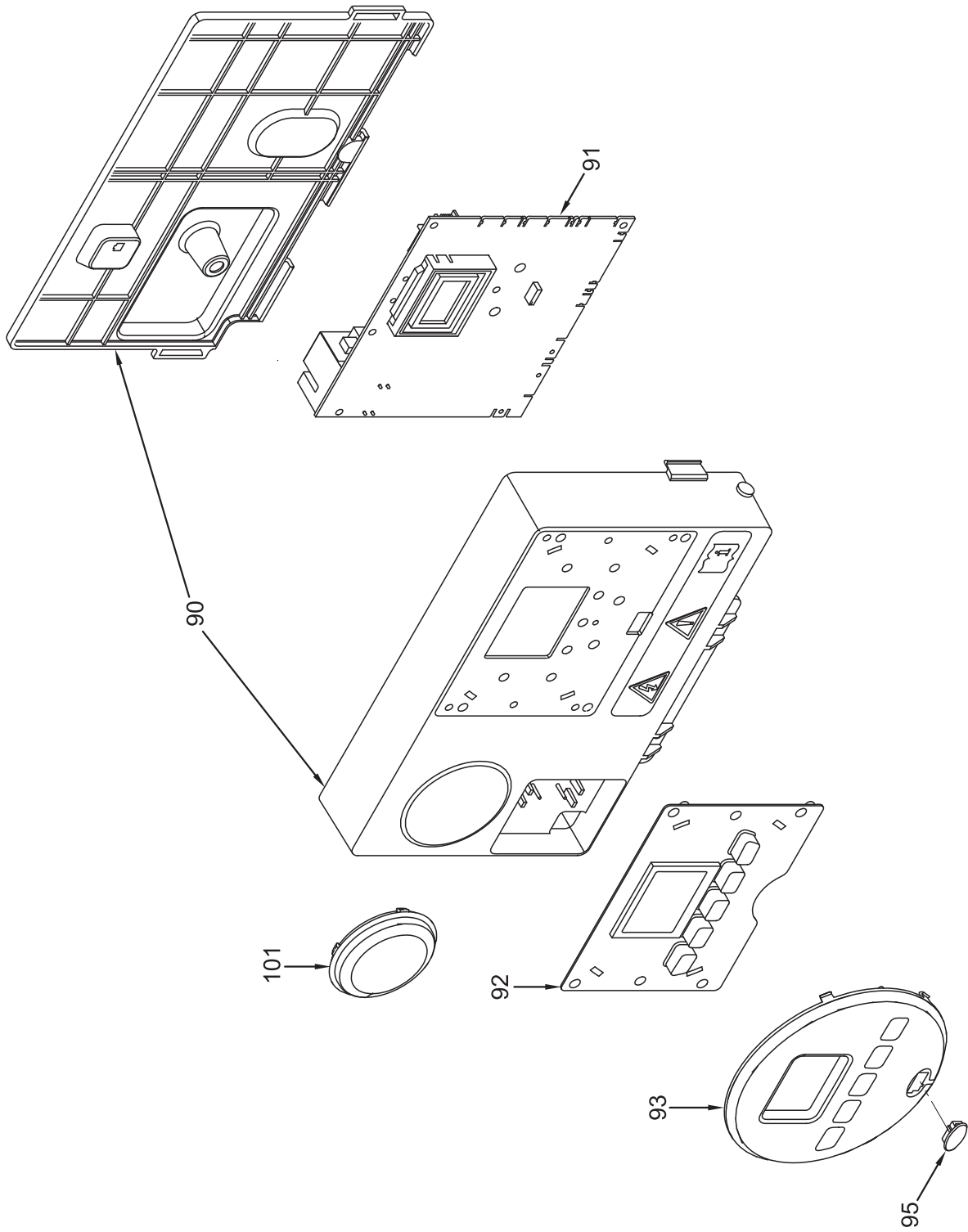
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9 EXPLODED VIEWS









Pos.	Code	Description	Murelle Advanced HE	
			30	40
1	6264560	Boiler fixing bracket	x	
1	6264565	Boiler fixing bracket		x
2	6010890	Support exchangers bracket	x	
2	6010894	Support exchangers bracket		x
3	6147412	Plug for air vent connection	x	x
4	6226464	O-ring 115 diam. 11,91x2,62	x	x
5	6226624	Spring air vent knob	x	x
6	6278913	Main exchanger body	x	
6	6278910	Main exchanger body		x
7	6277130	Probe NTC D.4X40	x	x
8	6010892	Support exchangers bracket	x	x
9	6269008	Main exchanger door insulation	x	x
10	5188360	Main exchanger door	x	x
11	6248870	Combustion chamber O-ring	x	x
12	6248871	Glass fibre sealing cord	x	x
13	6311810	Glass fixing flange	x	x
14	6020103	Sight glass	x	x
15	6248872	Sight glass gasket	x	x
16	8076115	Burner + gasket kit	x	
16	8076116	Burner + gasket kit		x
17	6174828	Gasket for burner flange	x	x
18	6278892	Air-gas hose	x	x
19	6174819	Air-gas hose gasket	x	x
20	6278891	Side low air-gas hose	x	x
21	6174809	Gasket for ignition electrode	x	x
22	6221670	Ignition-ionisation electrode	x	x
23	6285950	Bracket	x	x
24	6174816	Gasket for fan flange	x	x
25	6274390	Air/gas mixer	x	
25	6274391	Air/gas mixer		x
26	6028703	Gasket for duct flange	x	x
27	6261412	Fan	x	x
28	6278703	Smoke chamber	x	x
29	6248855	P.C. inlet/outlet smokes gasket	x	x
30	6291150	Upper protection shield	x	
30	6291151	Upper protection shield		x
31	5183729	Rectang. expans.vessel 9 l. 3/8" M	x	
31	5183730	Rectang. expansion vessel L.10		x
32	2030225	Gasket Ø 5,5x11x2	x	x
33	6147401	Plug 1/4"	x	x
34	6273608	Water pressure transducer	x	x
35	6226639	Spring clip	x	x
36	6226476	ORing diam.15x2	x	x
37	6017405	Flexible pipe M.F. 3/8" L=300	x	x
38	6226643	Pipe fixing spring	x	x
39	2030226	Gasket Ø 10,2x14,8x2	x	x
40	6277211	Water trap	x	x
41	6119381	Cap G 1/2"	x	x
42	6034155	Condensate drainage pipe	x	x
43	2051123	Clamp diam. 24,2	x	x
44	1010215	Rubber pipe dia. 15x2,5	x	x
45	2051120	Clamp diam. 17,3	x	x
46	6001162	Air intake pipe 40	x	x
47	2051203	Hose clamp Ø 40-60	x	x
48	6243838	Gas valve	x	x
49	2030249	Gasket Ø 24x17x3	x	x
50	6277445	Pipe connecting gas valve-mixer	x	
50	6277446	Pipe connecting gas valve-mixer		x
51	6050471	Nozzle 530	x	
51	6050472	Nozzle 650		x
52	6226477	Rubber gasket OR Ø 17x3	x	x
53	6226636	D.H.W. elektrovalve fix.spring	x	x
54	6227462	Flowing pipe to C.H. system	x	
54	6227466	Flowing pipe to C.H. system		x
55	6226412	O-ring 3068	x	x
56	6231372	Temperature sensor	x	x
57	6146729	100° C safety stat	x	x

Pos.	Code	Description	Murelle Advanced HE	
			30	40
58	6226601	Spring for heat exchanger connection	x	x
59	6227539	Return pipe from C.H. system	x	x
60	6226619	Spring for heat exchanger connection	x	x
61	2030267	Piracriten gasket Ø 30x17x2	x	x
62	6226638	Divertor valve motor spring clip	x	x
63	6304480	casing left/right side panel	x	
63	6304465	casing left/right side panel		x
64	6325050	Front panel	x	x
65	6281545	Replacement rear insulat. kit	x	x
66	6265871	C.H. flow manifold	x	x
67	6265830	C.H. return manifold	x	x
68	6265657	14 plate-type heat exchanger	x	
68	6265659	18 plate-type heat exchanger		x
69	6226475	ORing diam.18,64x3,53	x	x
70	6222003	D.H.W. filter	x	x
71	6177530	Gas cock 3/4" F x 15	x	x
72	6131440	Flowmeter sensor	x	x
73	6040211	Pressure relief valve 3 bar	x	x
74	6022010	Sensor gasket	x	x
75	6226626	Pipe fixing spring	x	x
76	6231351	Plunged sensor	x	x
77	6120560	Pump nipple 3/4"	x	x
78	6272360	Modulating circulating pump	x	
78	6272323	Modulating circulating pump		x
79	6013182	Automatic air vent	x	x
80	6226644	Spring clip for rotating connection	x	x
81	6034167	Condensate drainage pipe	x	x
82	6087332	Motor for diverting valve	x	x
83	6319644	Flowmeter group	x	x
84	6275910	Pressure relief valve operation lever	x	x
85	-	-		
86	2030227	Gasket Ø 12x18x2	x	x
87	2030228	Gasket Ø 17x24x2	x	x
88	6157653	Pressure relief valve drain pipe	x	x
89	6175180	Flow control spacer	x	x
90	6304720	Control panel	x	x
91	6324920	Main P.C.B.	x	x
92	6305131	Rubber button	x	x
93	6304833	Interface panel	x	x
94	6319650	Bitron transducer cap	x	x
95	6305140	Rubber cap	x	x
97	6281431	14 l/min. flow control	x	
97	6281433	18 l/min. flow control		x
98	6177505	Ball cock 3/4" x 22	x	x
99	6177506	Ball cock 1/2" x 15	x	x
100	6142330	Quarter bend 1/2" x 15	x	x
101	6247370	Cap for programmer clock	x	x
102	6301461	Programmer clock expansion board	x	x
700	6281534	Gaskets kit	x	x
701	6319695	Murelle-Format-.....o-ring kit	x	x
702	6211794	Peephole kit	x	x
703	6319700	Springs / clamps kit DIN	x	x
707	6323875	6 pole cable connector	x	x
708	6323876	4 pole cable connector	x	x
710	6323872	9 pole cable connector	x	x
719	5202561	Complete control panel	x	x
720	6325626	4 pole cable connector	x	x
721	6325627	6 pole cable connector	x	x
722	6325631	14 pole cable connector	x	x

10 APPENDIX 1 (GUIDANCE HHIC)

Manufacturers Instructions

Manufacturer's instructions must be followed for the correct connection of the condensate discharge pipe from the boiler as this may vary due to the design of the boiler. For example a visible air break and trap is not required if there is a trap with a minimum condensate seal of 75 mm incorporated into the boiler.

Internal Pipe Run In Unheated Spaces

Condensate discharge pipes that are routed in an unheated space such as a loft or garage should be insulated to prevent freezing.

Internal Condensate Pipe Discharge Termination

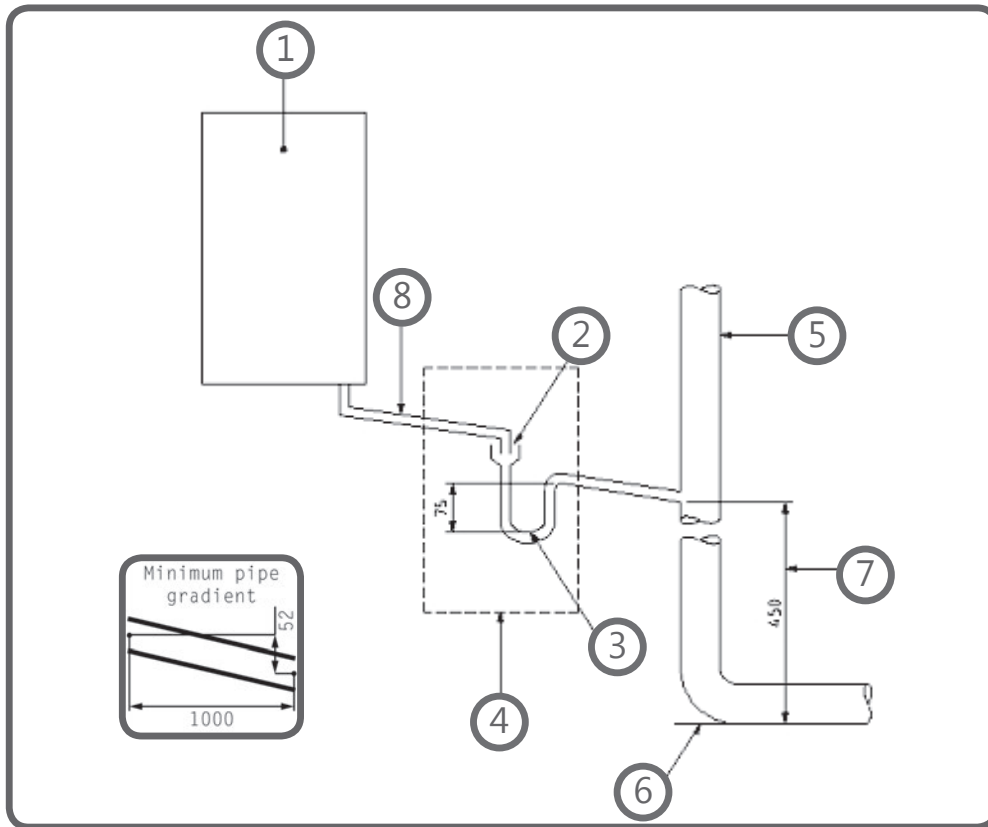
Internal condensate discharge pipework must be a minimum of 19mm ID (typically 22mm OD) plastic pipe or as per manufacturer's instructions and this should "fall" a minimum of 45mm per metre away from the boiler, taking the shortest practicable route to the termination point.

(45mm as per BS6798, 52mm per metre as per industry practice is specified in the following diagrams)

To minimise the risk of freezing during prolonged sub-zero conditions, an internal "gravity discharge point" such as an internal soil stack (preferred method), internal kitchen, utility room or bathroom waste pipe e.g. from a sink, basin, bath or shower should be adopted, where possible.

Note - A suitable permanent connection to the foul waste pipe should be used. Figures 1, 2(a), 2(b) show appropriate connection methods.

Figure 1 – Connection of condensate discharge pipe to internal soil and vent stack.
 Note – Check manufacturer’s instructions to see if an air break is required.



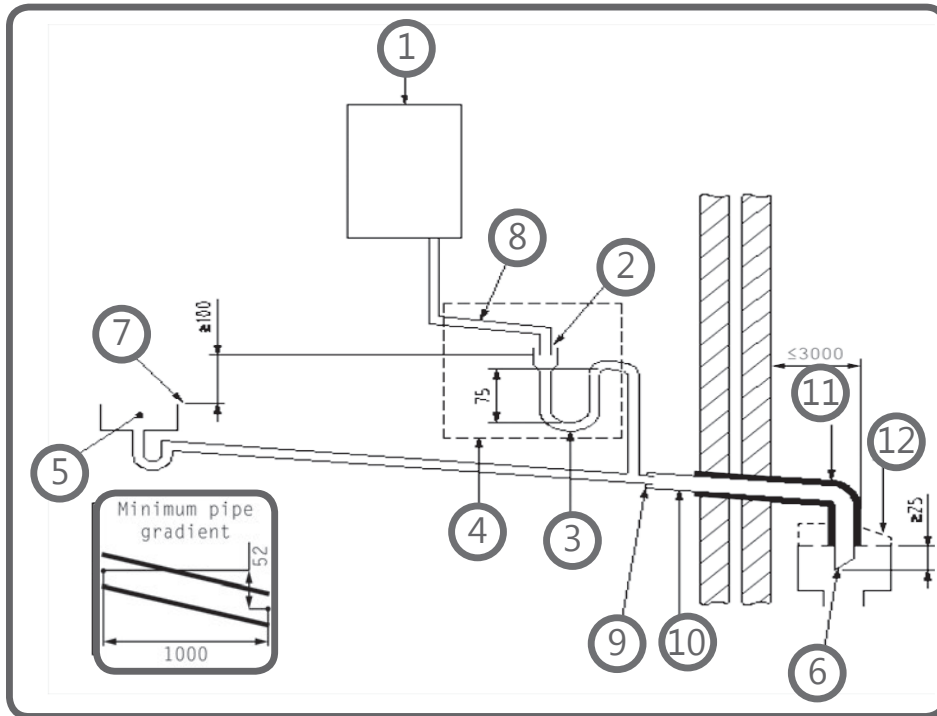
Key

- 1 Boiler
- 2 Visible air break
- 3 75 mm trap
- 4 Visible air break and trap not required if there is a trap with a minimum condensate seal of 75 mm incorporated into the boiler
- 5 Soil and vent stack
- 6 Invert
- 7 450 mm minimum up to three storeys
- 8 Minimum internal diameter 19 mm

Internal Condensate Pipe Discharge Termination

Figure 2(a) – Connection of a condensate discharge pipe downstream of a sink, basin, bath or shower waste trap.

Note – Check manufacturer’s instructions to see if an air break is required.



Key

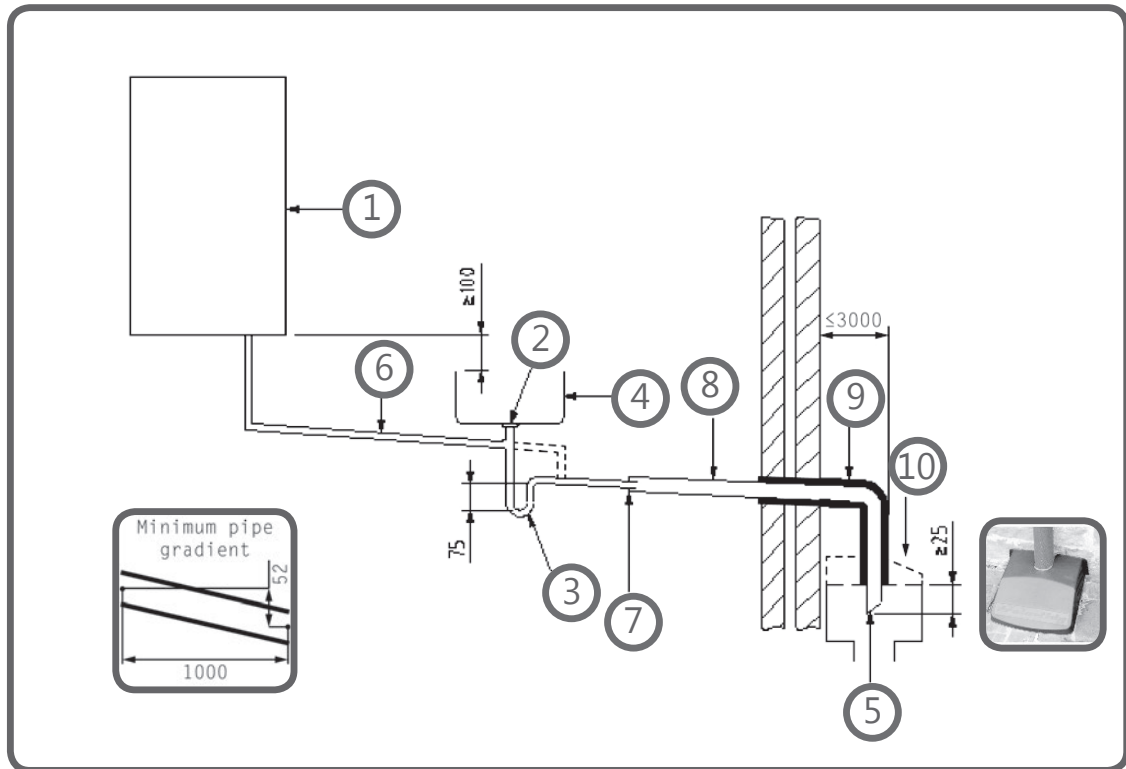
- 1 Boiler
- 2 Visible air break
- 3 75 mm trap
- 4 Visible air break and trap not required if there is a trap with a minimum condensate seal of 75 mm incorporated into the boiler. In this case the 100 mm is measured to the trap in the boiler.
- 5 Sink, basin, bath or shower
- 6 Open end of condensate discharge pipe direct into gully 25 mm min below grating but above water level; end cut at 45 °

Note – the maximum external condensate discharge length is 3 metres

- 7 Sink lip
- 8 Minimum internal diameter 19 mm
- 9 Pipe size transition
- 10 Minimum internal diameter 30 mm
- 11 Water/weather proof insulation
- 12 Drain cover/leaf guard

Internal Condensate Pipe Discharge Termination

Figure 2(b) – Connection of a condensate discharge pipe upstream of a sink, basin, bath or shower waste trap



Key

- 1 Boiler
- 2 Visible air break at plug hole – alternative connection can be below sink trap
- 3 75 mm sink, basin, bath or shower waste trap
- 4 Sink, basin, bath or shower with integral overflow
- 5 Open end of condensate discharge pipe direct into gully 25 mm min below grating but above water level; end cut at 45 °
- Note – the maximum external condensate discharge length is 3 metres
- 6 Minimum internal diameter 19 mm
- 7 Pipe size transition
- 8 Minimum internal diameter 30 mm
- 9 Water/weather proof insulation
- 10 Fit drain cover/leaf guard

Internal Condensate Pipe Discharge Termination

The possibility of waste pipes freezing downstream of the connection point should be considered when determining a suitable connection point - e.g. a slightly longer pipe run to an internal soil stack may be preferable to a shorter run connecting into a kitchen waste pipe discharging directly through the wall to an external drain.

Note - Where "gravity discharge" to an internal termination is not physically possible (e.g. the discharge point is above the appliance location, or access is obstructed by a doorway), or where very long internal pipe runs would be required to reach a suitable discharge point, then a condensate pump should be used.

External waste pipes from kitchens, utility rooms or bathrooms such as sink, basin, and bath or shower waste outlets should be insulated with waterproof UV resistant, class 0 material, terminated below the grid but above the water line and a drain/leaf guard fitted. The waste pipe should be cut at 45 degrees where it terminates into the grid. (See insulation section for guidance on suitable materials).

Condensate Pumps

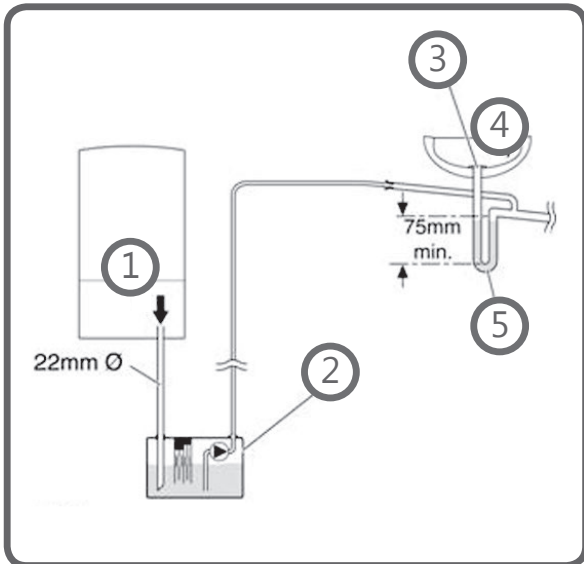
Use of a Condensate Pump to an Internal Termination

Condensate can be removed using a proprietary condensate pump, of a specification recommended by the boiler or pump manufacturer. In order to minimise the risk of freezing during prolonged sub-zero spells, one of the following methods internal to the property for terminating the boiler condensate pump to a foul water discharge point should be adopted such as an internal soil stack (preferred method), internal kitchen, utility room or bathroom waste pipe such as sink, basin, and bath or shower waste. Figure 3 shows a typical connection method.

Internal Condensate Pipe Discharge Termination

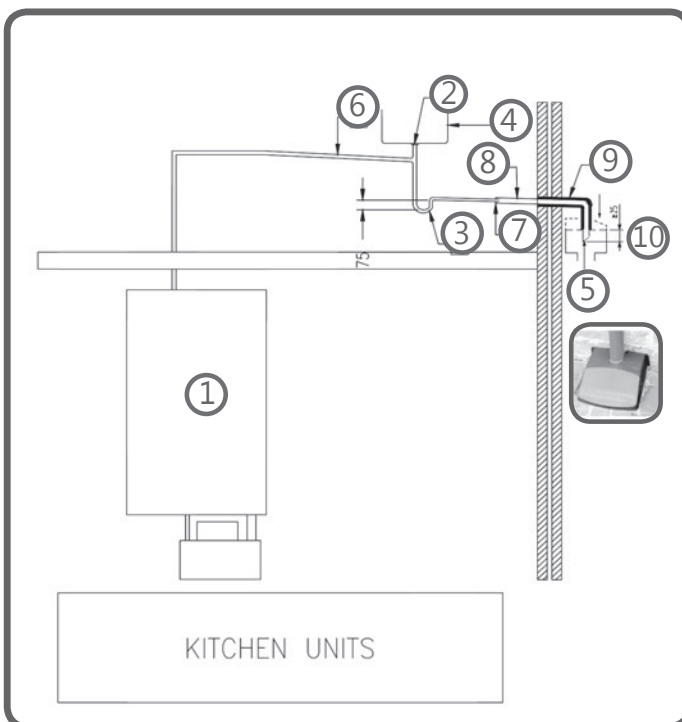
Figure 3 – Connection of a condensate pump - typical method (NB manufacturer’s detailed instructions should be followed).

Note – Any external pipe work should be insulated, pipe cut at 45 degrees and a drain/ leaf guard fitted.



Key

- 1 Condensate discharge from boiler
- 2 Condensate pump
- 3 Visible air break at plug hole
- 4 Sink or basin with integrated overflow
- 5 75mm sink waste trap



Key

- 1 Boiler
- 2 Visible air break at plug hole
- 3 75 mm sink, basin, bath or shower waste trap
- 4 Sink, basin, bath or shower with integral overflow
- 5 Open end of condensate discharge pipe direct into gully 25 mm min below grating but above water level; end cut at 45 ° Note – the maximum external condensate discharge length is 3 metres
- 6 Minimum internal diameter 19 mm
- 7 Pipe size transition
- 8 Minimum internal diameter 30 mm
- 9 Water/weather proof insulation
- 10 Fit drain cover/leaf guard

External Connections

External Connections

Only fit an external boiler condensate drain connection if an internal gravity or pumped connection is **impractical** to install.

The pipe work from the boiler should be of a minimum 19mm ID or as per manufacturer's instructions and the condensate discharge pipe shall be run in a standard drainpipe material, e.g. poly (vinyl chloride) (PVC), un-plasticized poly (vinyl chloride) (PVC-U), acrylonitrile butadiene-styrene (ABS), polypropylene (PP) or chlorinated poly (vinyl chloride) (PVC-C).

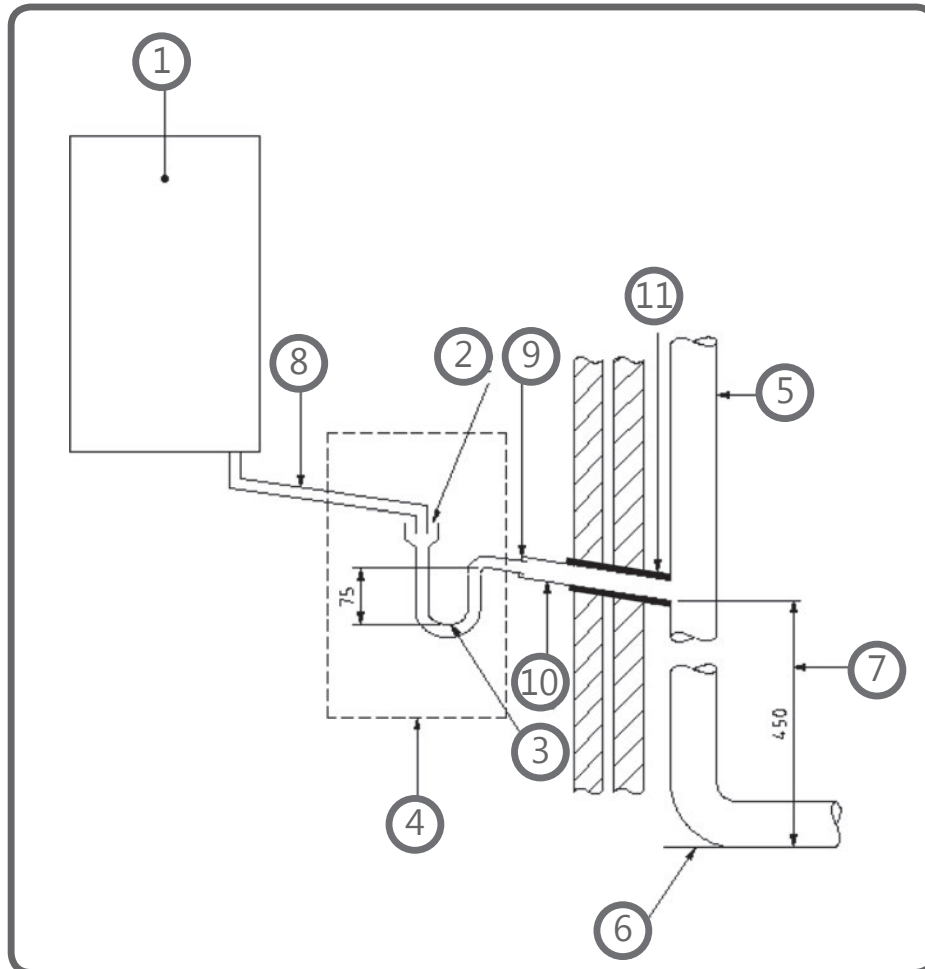
Note - Fixing centres for brackets should be a maximum of 300mm for flexible pipe and 500mm for solid pipe and manufacturer's recommendations should be followed.

The condensate pipe should be run internally as far as possible before going externally and the pipe diameter should be increased to a minimum of 30mm ID (typically 32mm OD) before it passes through the wall. The angle of the pipe should slope downwards by at least 3 degrees as it passes through the wall to assist in maintaining a good velocity as the condensate exits the building.

The external pipe run should be kept as short as possible to a maximum of 3 metres, taking the most direct and "most vertical" route to the discharge point, with no horizontal sections in which condensate might collect.

External Connections

Figure 4 – Connection of condensate discharge pipe to external soil and vent stack



Key

- 1 Boiler
- 2 Visible air break
- 3 75 mm trap
- 4 Visible air break and trap not required if there is a trap with a minimum condensate seal of 75mm incorporated into the boiler.
- 5 Soil and vent stack
- 6 Invert
- 7 450mm minimum upto three storeys
- 8 Minimum internal diameter 19 mm
- 9 Pipe size transition point
- 10 Minimum internal diameter 30mm
- 11 Water/weather proof insulation

External Connections

Alternative Solutions

Cold weather protection methods approved or endorsed by boiler manufacturers and/or service organisations may be adopted if these are considered suitable by the parties involved. It is the responsibility of the manufacturer of these products to ensure they have completed the necessary testing or calculations to ensure the product offers suitable protection to prevent the condensate pipe from freezing. The product manufacturer should provide information as to what level of external temperature and for what time period the product can protect against sub-zero temperatures, i.e. -15°C for 48 hours. BS6798 refers to devices that pump the condensate produced by a condensing boiler to a fine misting nozzle in the boiler flue terminal so that the condensate is discharged with the hot flue gas. (BS6798 section 6.3.8 note 4). The boiler manufacturer's instructions will provide advice regarding fitting and siting of the flue terminal to ensure safe disposal of the condensate.

Additional Measures

At least one of the following measures should be fitted in addition to the measures detailed above for external condensate discharge pipes

- *Insulate external pipe with a minimum thickness of insulation to be 19mm "O" class PVC coated material.*
- *Fit trace heating – with insulation as recommended by manufacturer.*
- *Fit internal auxiliary(additional) high volume syphon unit*

Auxiliary Syphon – Fitted Internally

Auxiliary syphons fitted inside the premises assist with the siting of the boiler where an external condensate pipe **must** be fitted. The storage capacity of the auxiliary syphon increases the volume of condensate discharge reducing the risk of freezing. A further reduction in the potential for the pipe to freeze is achieved when combined with the external insulation requirements.

External Connections

Electric Trace Heating

Trace heating with an external thermostat can be fitted to the external condensate pipe to raise the temperature of the condensate pipe in freezing conditions. Trace heating takes the form of an electrical heating element run in physical contact along the length of the condensate pipe. The pipe is usually covered with thermal insulation to retain heat losses from the pipe. Heat generated by the element then maintains the temperature of the pipe. If such a system is used then the installation instructions of the trace heating manufacturer and any specific recommendations regarding pipe diameter, insulation, etc. should be followed. All other relevant guidance on condensate discharge pipe installation should also be followed.

Insulation Materials

Insulation used for external condensate pipes, sink or washing machine waste pipes should be of class 'O' grade with an outer coating that is weather proof, bird/animal proof, and UV resistant finish. A minimum of 19mm thick insulation is recommended for 32mm external pipes.

Use of Air Breaks In Condensate Discharge Pipes

Heating engineers should follow manufacturer's instructions on the use of air breaks in condensate discharge pipes. A visible air break is not required if the boiler condensate trap has a minimum condensate seal of 75mm incorporated into the boiler.

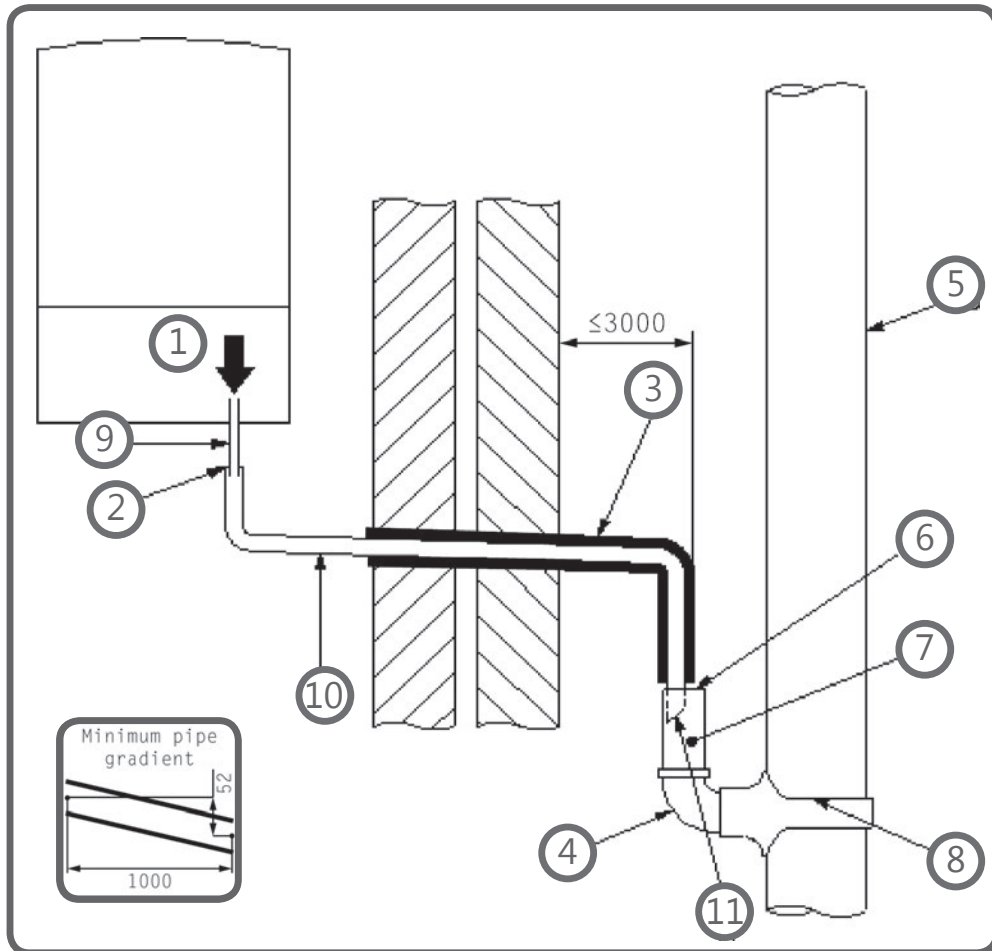
Connecting to a rain water downpipe/External Soil Stack

When an external soil stack or rain water downpipe is used as the termination (NB only permissible if this downpipe passes to a combined foul and rainwater drainage system) an external air break must be installed between the condensate discharge pipe and the downpipe to avoid reverse flow of rainwater/sewage into the boiler should the downpipe itself become flooded or frozen.

Figure 5 shows a suitable connection method. Pipe insulation should be fitted.

External Connections

Figure 5 – External termination to rainwater downpipe (NB only combined foul/rainwater drain)



Key

- 1 Condensate discharge pipe from boiler
- 2 Pipe size transition point
- 3 Water/weather proof insulation
- 4 43mm 90° male/female bend
- 5 External rain water pipe into foul water
- 6 External air break
- 7 Air gap
- 8 68mm PVCu strap on fitting
- 9 Minimum internal diameter 19mm
- 10 Minimum internal diameter 30mm
- 11 End cut at 45°

External Connections

External Termination of the Condensate Pipe

Where the condensate discharge pipe is terminated over an open foul drain or gully, the pipe should terminate below the grating level, but above water level, in order to minimise “wind chill” at the open end. Pipe drainage and resistance to freezing will be improved if the termination end of the condensate pipe is cut at 45 degrees as opposed to a straight cut.

The use of a drain cover (such as those used to prevent blockage by leaves) **must** be fitted to offer further protection from wind chill. Figure 6 (following page) shows a suitable connection method. Where the condensate drain pipe terminates in a purpose-designed soakaway (see BS 6798:2014 or boiler installation manual for soakaway design requirements) any above-ground section of condensate discharge pipe should be run and insulated as described above. Figure 7 (following page) shows a suitable connection method.

Unheated Areas in Buildings

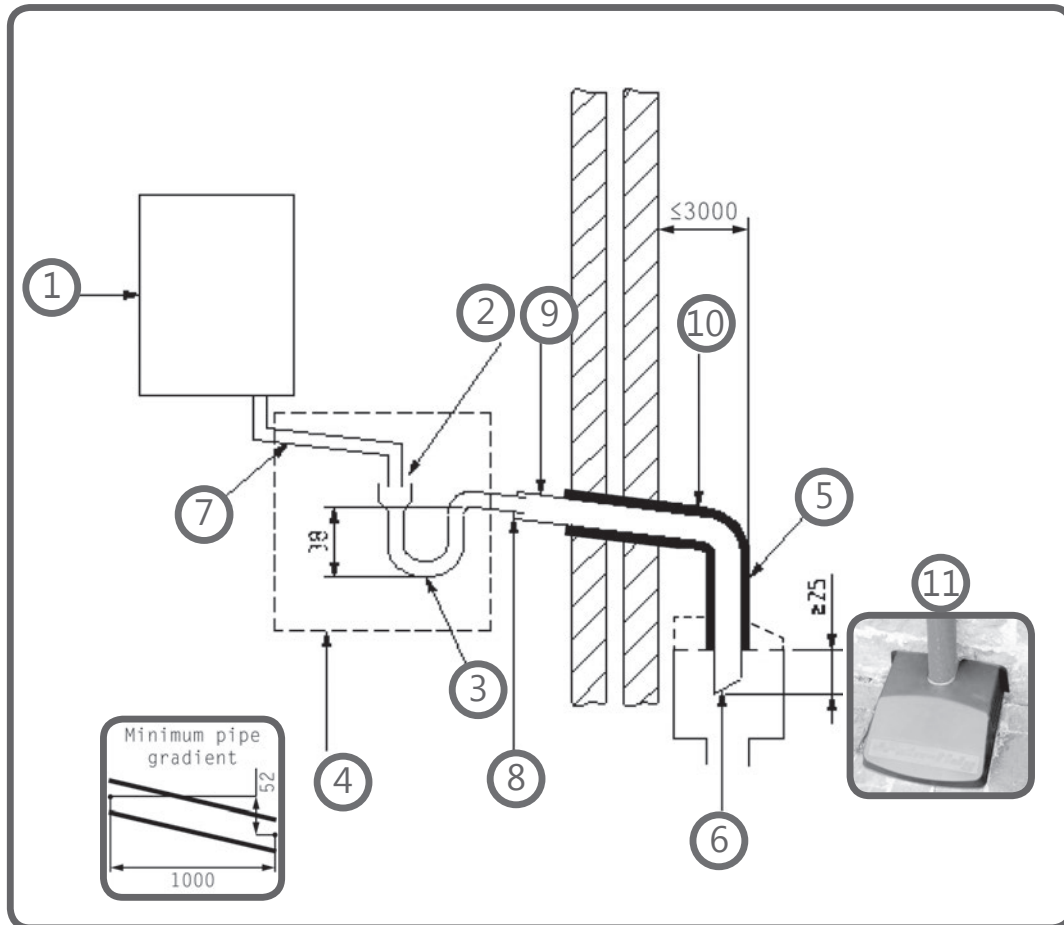
Internal condensate drainage pipes run in unheated areas such as lofts, basements and garages should be treated as external connections and insulated accordingly. Weather proof materials may not be necessary and should be assessed by the heating engineer.

Use of Air Breaks In Condensate Discharge Pipes

Installers should follow the manufacturer’s instructions on the use of air breaks in condensate discharge pipes. A visible air break and trap is not required if the boiler condensate trap has a minimum condensate seal of 75 mm incorporated into the boiler.

External Connections

Figure 6 – External drain, gully or rainwater hopper

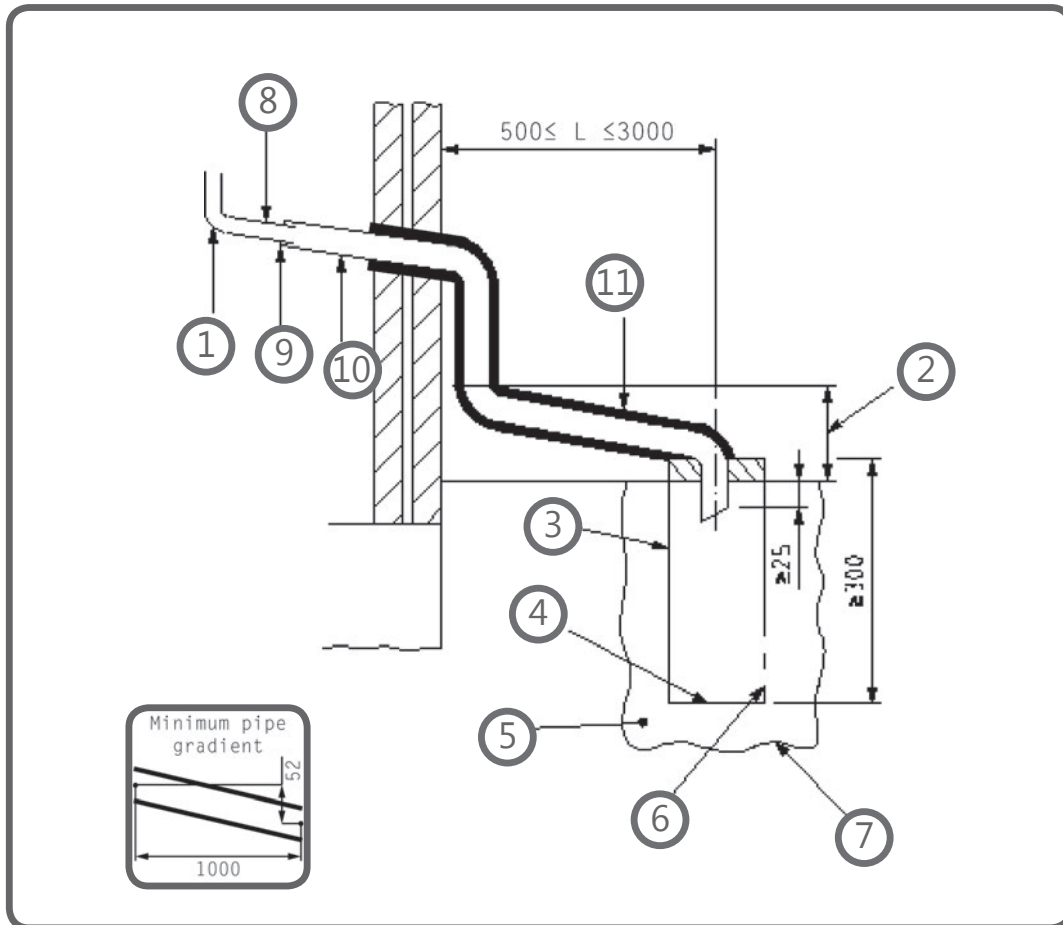


Key

- 1 Boiler
- 2 Visible air break
- 3 38mm minimum trap
- 4 Visible air break and trap not required if there is a trap with a minimum condensate seal of 38 mm incorporated into the boiler – refer to manufacturers instructions
- 5 External length of pipe 3 m maximum
- 6 Open end of condensate discharge pipe direct into gully 25 mm min below grating but above water level; end cut at 45 °
- 7 Minimum internal diameter 19 mm
- 8 Pipe size transition point
- 9 Minimum internal diameter 30 mm
- 10 Water/weather proof insulation
- 11 Fit drain cover/leaf guard

External Connections

Figure 7 – Example of a purpose made soakaway



Key

- 1 Condensate discharge pipe from boiler
- 2 Ground (this section of the condensate discharge pipe may be run either above or below round level); End cut at 45°
- 3 Diameter 100 mm minimum plastic tube
- 4 Bottom of tube sealed
- 5 Limestone chippings
- 6 Two rows of three 12 mm holes at 25 mm centres, 50 mm from bottom of tube and facing away from house
- 7 Hole depth 400 mm minimum by 300 mm diameter
- 8 Minimum internal diameter 19 mm
- 9 Pipe size transition point
- 10 Minimum internal diameter 30 mm
- 11 Water/weather proof insulation

11 APPENDIX 2

FLOWCHART FOR CO AND COMBUSTION RATIO CHECK ON COMMISSIONING A CONDENSING BOILER

PRIOR TO CO AND COMBUSTION RATIO CHECK

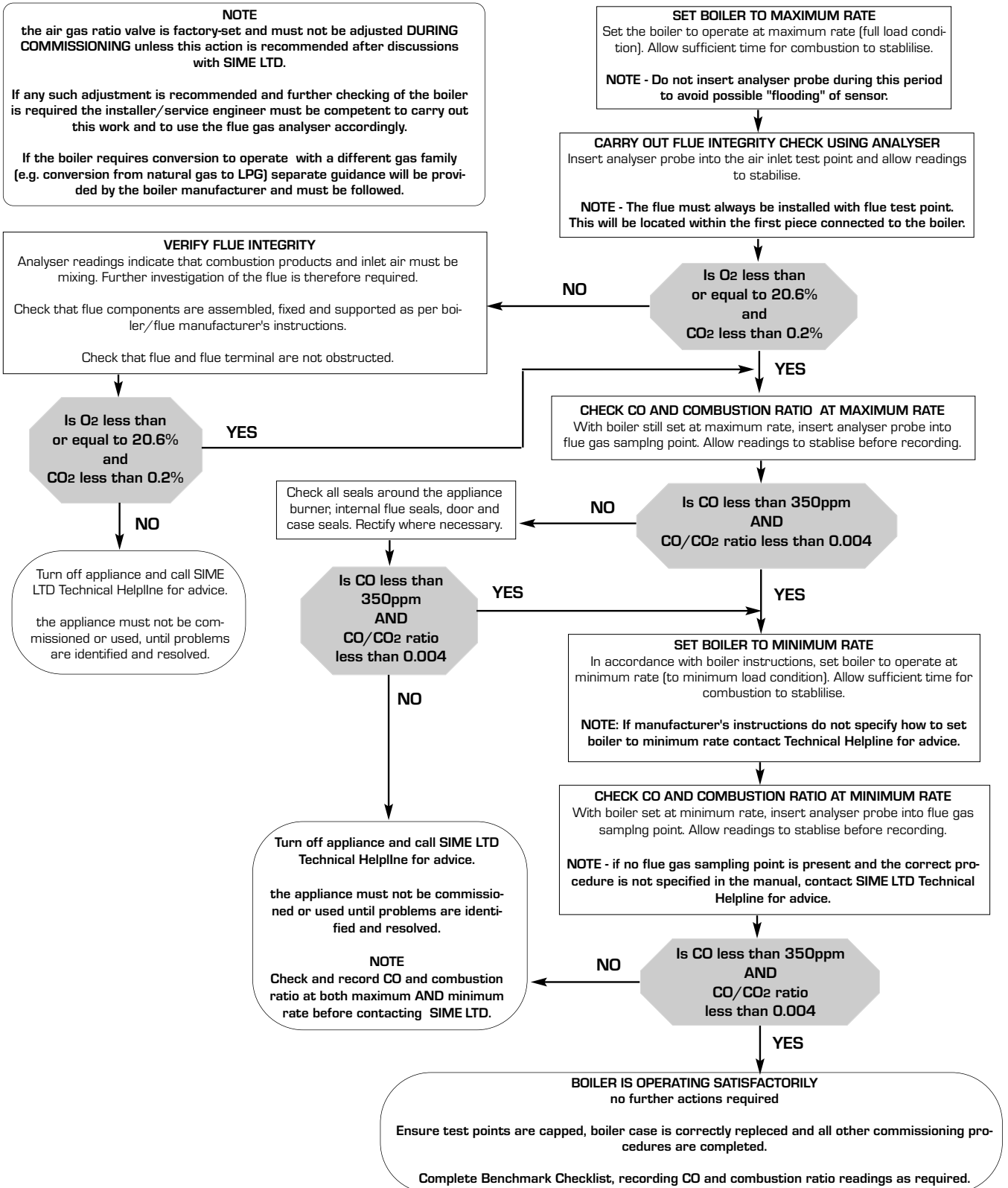
The installation instructions should have been followed, gas type verified and gas supply pressure/rate checked as required prior to commissioning.

As part of the installation process, **ESPECIALLY WHERE A FLUE HAS BEEN FITTED BY PERSONS OTHER THAN THE BOILER INSTALLER**, visually check the integrity of the whole flue system to confirm that all components are correctly assembled, fixed and supported. Check that manufacturer's maximum flue lengths have not been exceeded and all guidance has been followed (e.g. Gas Safe Technical Bulletin TBO08).






The flue gas analyser should be of the correct type, as specified by BS 7967

Prior to its use, the flue gas analyser should have been maintained and calibrated as specified by the manufacturer. The installer must have the relevant competence for use of the analyser.

Check and zero the analyser IN FRESH AIR as per analyser manufacturer's instructions.



12 PRODUCT DATA SHEET

		
Murelle ADVANCED HE	30 MkII	40 MkII
D.H.W load profile declared	XL	XXL
C.H. energy efficiency class		
D.H.W. energy efficiency class		
Heat output (kW)	24	35
C.H. annual energy consumption (GJ)	45	65
D.H.W. annual combustible consumption (GJ)	18	23
C.H. seasonal energy efficiency (%)	93	93
D.H.W. energy efficiency (%)	84	83
Sound power dB(A)	56	54
<p>Specific precautionary measures to be adopted at the time of assembly, installation or maintenance of the equipment are contained in the boiler instruction manual</p> <p>Conforming to Annex IV (item 2) of the Delegated Regulations (EU) No. 811/2013 which supplements Directive 2010/30/EU</p>		

13 ANNEX AA.1

Information requirements for boiler space heaters, boiler combination heaters							
Model(s):		MURELLE ADVANCED HE 30 MkII					
Condensing boiler:		Yes					
Low-temperature boiler:		Yes					
B11 boiler:		No					
Cogeneration space heater:		No		Equipped with a supplementary heater:		No	
Combination heater:		Yes					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Nominal heat output for space heating	P_n	24	kW	Seasonal space heating energy efficiency	η_s	93	%
For boiler space heaters and boiler combination heaters: useful heat output				For boiler space heaters and boiler combination heaters: useful efficiency			
At nominal heat output and high-temperature regime ^a	P_4	23,6	kW	At nominal heat output and high-temperature regime [*]	η_4	88,5	%
At 30% of nominal heat output and low-temperature regime ^b	P_1	7,1	kW	At 30% of nominal heat output and low-temperature regime [*]	η_1	97,7	%
Auxiliary electricity consumption				Other items			
At full load	$e_{l_{max}}$	0,044	kW	Standby heat loss	P_{stby}	0,088	kW
At part load	$e_{l_{min}}$	0,010	kW	Ignition burner power consumption	P_{ign}	0	kW
In standby mode	PSB	0,003	kW	Emissions of nitrogen oxides	NOx	37	mg/kWh
For combination heaters:							
Declared load profile		XL		Water heating energy efficiency		η_{wh}	84
Daily electricity consumption	Q_{elec}	0,152	kWh	Daily fuel consumption	Q_{fuel}	23,129	kWh
Contact details	Sime Ltd - 1a Blue Ridge Park - Thunderhead Ridge - Glasshoughton, Castleford, WF10 4UA						
<p>a. High-temperature regime means 60°C return temperature at heater inlet and 80°C feed temperature at heater outlet.</p> <p>b. Low-temperature regime means for condensing boilers 30°C, for low-temperature boilers 37°C and for other heaters 50°C return temperature.</p>							
[*] The yield data have been calculated using the higher heating value.							

Information requirements for boiler space heaters, boiler combination heaters							
Model(s):		MURELLE ADVANCED HE 40 MkII					
Condensing boiler:		Yes					
Low-temperature boiler:		Yes					
B11 boiler:		No					
Cogeneration space heater:		No		Equipped with a supplementary heater:		No	
Combination heater:		Yes					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Nominal heat output for space heating	P_n	35	kW	Seasonal space heating energy efficiency	η_s	93	%
For boiler space heaters and boiler combination heaters: useful heat output				For boiler space heaters and boiler combination heaters: useful efficiency			
At nominal heat output and high-temperature regime ^a	P_4	34,5	kW	At nominal heat output and high-temperature regime (*)	η_4	88,7	%
At 30% of nominal heat output and low-temperature regime ^b	P_1	10,35	kW	At 30% of nominal heat output and low-temperature regime (*)	η_1	97,7	%
Auxiliary electricity consumption				Other items			
At full load	$e_{l_{max}}$	0,066	kW	Standby heat loss	P_{stby}	0,092	kW
At part load	$e_{l_{min}}$	0,014	kW	Ignition burner power consumption	P_{ign}	0	kW
In standby mode	PSB	0,003	kW	Emissions of nitrogen oxides	NOx	55	mg/kWh
For combination heaters:							
Declared load profile		XXL		Water heating energy efficiency		η_{wh}	83 %
Daily electricity consumption		Q_{elec}	0,151 kWh	Daily fuel consumption		Q_{fuel}	29,206 kWh
Contact details		Sime Ltd - 1a Blue Ridge Park - Thunderhead Ridge - Glasshoughton, Castleford, WF10 4UA					
<p>a. High-temperature regime means 60°C return temperature at heater inlet and 80°C feed temperature at heater outlet.</p> <p>b. Low-temperature regime means for condensing boilers 30°C, for low-temperature boilers 37°C and for other heaters 50°C return temperature.</p>							
(*) The yield data have been calculated using the higher heating value.							



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