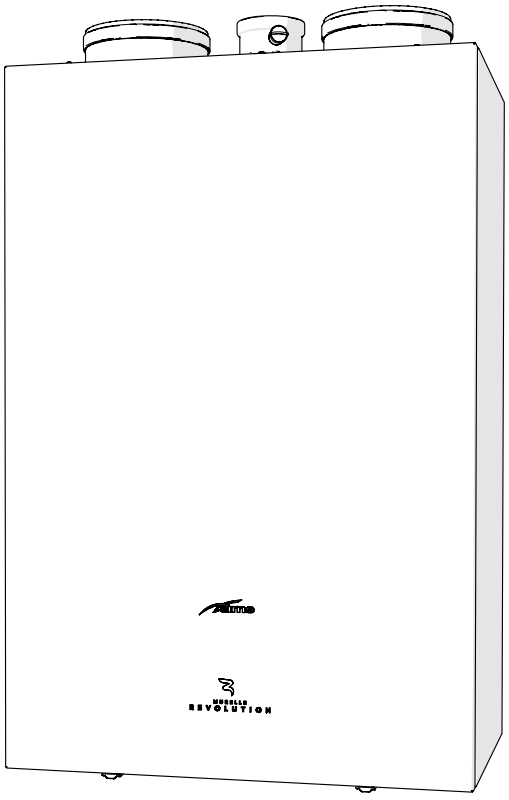
Wall-mounted hybrid condensing boiler

MURELLE REVOLUTION

USER, INSTALLATION AND SERVICING INSTRUCTIONS



EN

Thank you for purchasing a **Sime Murelle Revolution** boiler, a latest-generation hybrid condensing modulating appliance, with all the technical and performance features to satisfy your heating and domestic hot water needs, in maximum safety and with low running costs.

Fonderie SIME S.p.A.

6328582 - 04/2017 - R0

SAFETY WARNINGS AND REGULATIONS

WARNINGS

- After having removed the packaging make sure that the product supplied is integral and complete in all its parts. If this is not the case, please contact the Dealer who sold the appliance.
- The appliance must be used as intended by **Sime** who is not responsible for any damage caused to persons, animals or things, improper installation, adjustment, maintenance and improper use of the appliance.
- In the event of water leaks, disconnect the appliance from the mains power supply, close the water mains and promptly inform professionally qualified personnel.
- In case of an accidental refrigerant gas leak, disconnect the appliance from the mains and open a window to air the room where the appliance is installed.
- Periodically check that the operating pressure of the water heating system when cold is **1-1.2 bar**. If this is not the case, increase the pressure or contact professionally qualified personnel.
- If the appliance is not used for a long period of time, at least one of the following operations must be carried out:
  - *set the main system switch to "OFF";*
  - *close the gas and water valves for the water heating system.*
- In order to ensure optimal appliance operations **Sime** recommends that maintenance and checks are carried out **ONCE A YEAR**.

WARNINGS

- **It is recommended that all operators** read this manual carefully in order to use the appliance in a safe and rational manner.
- **This manual** is an integral part of the appliance. It must therefore be kept for future reference and must always accompany the appliance in the event the appliance is transferred or sold to another Owner or User or is installed on another system.
- **Installation and maintenance** of this appliance must be carried out by a qualified company or by a professionally qualified technician, or authorised person, in accordance with the instructions contained in the manual. The company or technician will, at the end of installation operations, issue a statement of compliance with national and local Technical Standards and Legislation in force.

RESTRICTIONS

IT IS FORBIDDEN

- Do not allow appliance to be used by children or unassisted disabled persons.
- Do not use electrical devices or appliances such as switches, electrical appliances etc if you can smell fuel. If this should happen:
  - *open the doors and windows to air the room;*
  - *close the gas isolation device;*
  - *promptly call for professional assistance.*
- Do not touch the appliance with bare feet or with any wet part of the body.
- Do not carry out any technical intervention 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 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. The boiler is suitable for use in partially protected places according to standard EN 15502, with a maximum ambient temperature of 60°C and a minimum of -5°C. We recommend installing the boiler under a sloping roof, on a balcony or in a sheltered corner. In all cases it must not be directly exposed to bad weather (rain, hail, snow). The boiler is equipped with a series of anti-freeze functions.
- Do not leave containers with flammable substances in the room where the appliance is installed.
- Do not leave packaging material around since it could be dangerous. Therefore dispose of it as prescribed by legislation in force.
- Do not load the refrigerating circuits with a refrigerant other than the one indicated on the ID plate. Using a different refrigerant may cause serious damage to the compressor.
- Do not use oils other than those indicated in this manual. Using a different oil may cause serious damage to the compressor.
- Do not dispose of the R-410A refrigerant irresponsibly; it is a fluorinated greenhouse gas with 1975 global warming potential (GWP).

RANGE

MODEL	CODE
Murelle Revolution - (G20)	8110290

COMPLIANCE

Our company declares that **Murelle Revolution** boilers comply with the following directives:
- Gas Appliances Directive 2009/142/EC
- Low Voltage Directive 2014/35/EU
- Electromagnetic Compatibility Directive 2014/30/EU
- Ecodesign Directive 2009/125/EC
- Regulation (UE) N. 811/2013 - 813/2013

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.

IT IS FORBIDDEN
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.

USER INSTRUCTIONS

TABLE OF CONTENTS

1 USING THE BOILER MURELLE REVOLUTION

1.1 Main control panel (remote)

The main control panel (MCP) allows all of the necessary adjustments to be made to **Murelle Revolution** and to the connected systems. It also serves as a main air thermostat and can therefore be used by all operators, users, authorised maintenance technicians and the technical service for the operations for which each of these figures is authorised, as described in detail in the relevant sections.
It communicates with the boiler control panel with an unpolarised bus line and OpenTherm protocol, and with the heat pump control panel with a RS485 polarised ModBus two-wire line.
It is equipped with a dry contact input for remote control, where relevant (GSM-Dialler/WiFi).

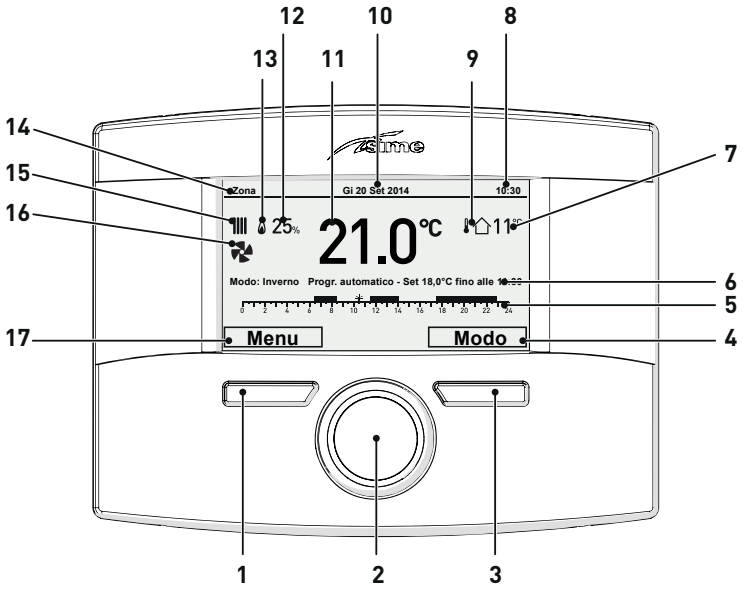


Fig. 1

1 Button (A)
2 Multifunction encoder
3 Button (B)
4 Action carried out by pressing button (B)
5 Programmed time band
6 Description of adjustments in course
7 Measured outdoor temperature
8 Time
9 Presence of outdoor probe (OP)
10 Date
11 Measured ambient temperature
12 Modulation percentage
13 Flame
14 Controlled area
15 Request for heating (rad) or hot water (tap)
16 Heat pump operating
17 Action carried out by pressing button (A)

1.1.1 Using the buttons

With the appliance powered, from the **"Main screen"**.

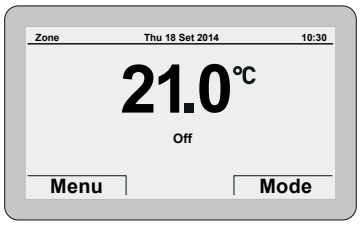


Fig. 2

BUTTON (A)
(used mainly by professionally qualified technicians and NOT by the user)
This allows users to view the **"menu"** select screen (e.g. Menu **"GENERAL SETTINGS"**) and then to operate according to what is written above the button on the display (e.g. Esc to exit and return to the main screen.

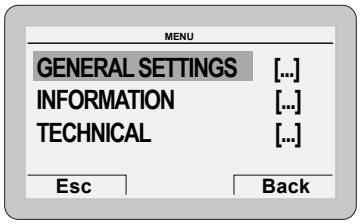


Fig. 3

MULTIFUNCTION ENCODER

If turned, allows the user to scroll through and select the **"Menu/rows"** or the **"Function mode"**, or to change the values in the selected field.
In "Summer" mode, the DHW temperature can be adjusted.
In "Winter" mode, the DHW can be adjusted in relation to the heating and the "Holiday function".

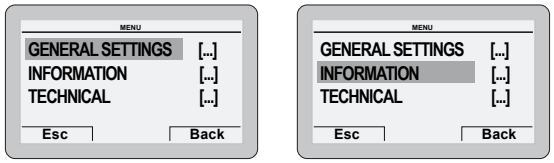


Fig. 4

If pressed, **click** confirms the selection and takes the user to the submenus (e.g. **"LANGUAGE"** or **"Hot water"**) or confirms the modified value or entry.

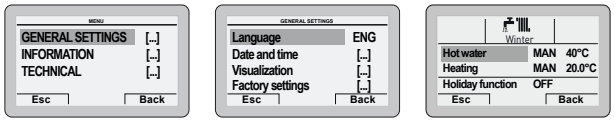


Fig. 5

BUTTON (B)
This allows users to view the **"Function mode"** screen (e.g. "Winter") and then to operate according to what is written above the button on the display (e.g. Esc to exit and return to the main screen).

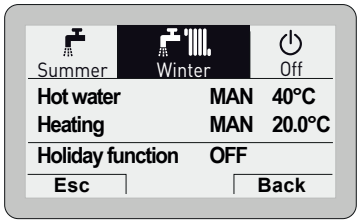


Fig. 6

1.2 Start-up

1.2.1 Preliminary checks

Commissioning of the **Murelle Revolution** boiler must be carried out by professionally qualified technicians, 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.

In this case, certain checks and the following operations must be carried out:
– check that the gas isolation and water system valves are open.

1.2.2 Ignition

After having carried out the preliminary checks, perform the following to start the boiler:
– set the main system switch to "ON"
– after a few seconds, the **"Main screen"** is shown

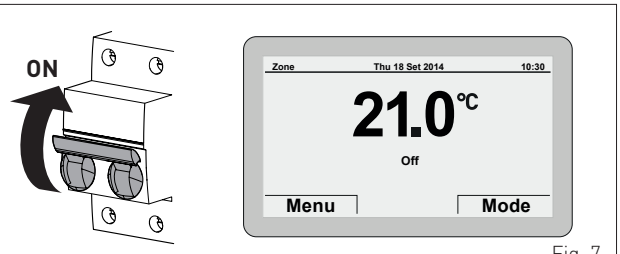


Fig. 7

– Press the Mode button to view the **"Function mode"** selection screen. Turn the encode to select the preferred mode (e.g. "Winter")
– press the **click** encoder to confirm "Winter"
– press the Esc button to go back to the **"Main screen"**.

Check the **"System pressure"** by doing as follows:
– Press the Menu button to view the **"Menu"** selection screen
– Turn the encoder to select the menu **"INFORMATION"**

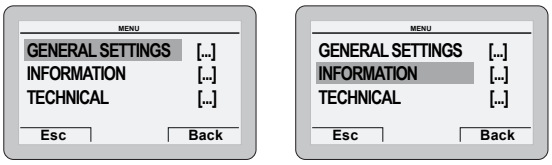


Fig. 8

– press the **click** encoder to confirm the highlighted **"Mode"** and go to the **"rows"**

– Turn the encoder to **"Boiler"**

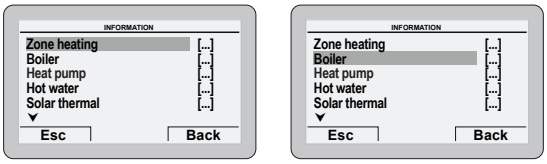


Fig. 9

– Press the **click** encoder to confirm the selection and go to the screen showing the **"System pressure"**

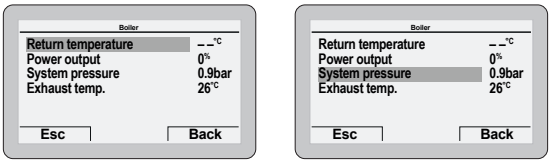


Fig. 10

– check that the system pressure as shown on the pressure gauge when the system is cold , is between **1 and 1.2 bar**. Where the value is different from **1-1.2 bar** (the correct value), open the filling valve again until this value is reached and then shut it off again
– press the **Esc** button to go back to the **"Main screen"**

CAUTION
To view the "System pressure", the row does not need to be selected by turning the encoder .

– **open one or more of the hot water valves and check that the appliance starts up**

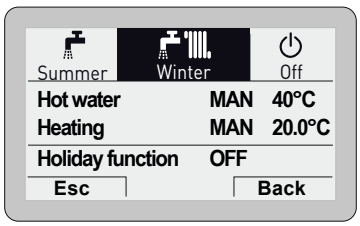


Fig. 11

– allow the appliance to operate until hot water is produced and shut off the valves opened previously.

1.3 Settings using the MODE button

From the **"Main screen"**:

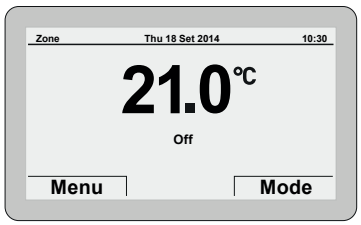


Fig. 12

– Press the **Mode** button to view the **"Function mode"** selection screen. Turn the encoder to select a mode (e.g. "Winter")

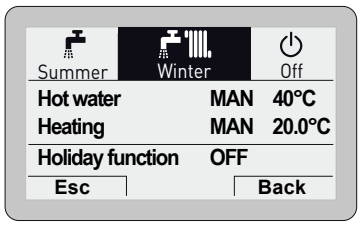


Fig. 13

– press the **click** encoder to confirm the highlighted **"Mode"** and go to the **"rows"**

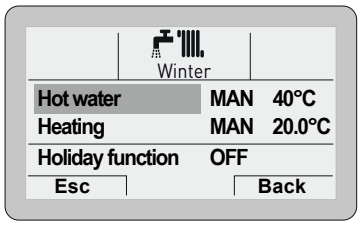


Fig. 14

– turn the encoder to select **"Heating"**.
– press the encoder to confirm **"Heating"** and access the **"Rows"**.

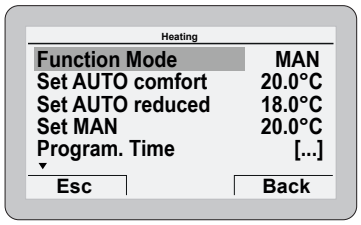


Fig. 15

– press the **click** encoder to confirm the highlighted **"Row"** and access the modifiable area

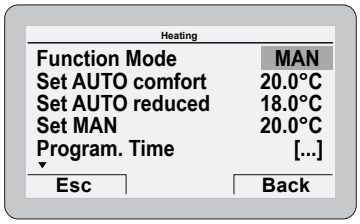


Fig. 16

– turn the encoder to modify the **"Data/value"** in the permitted field (e.g. MAN - AUTO - OFF)

– Press the **click** encoder to confirm any modifications made and go back to the row **"Function mode"**

– Turn the encoder to select another **"Row"** (e.g. **"Program. Time"**).

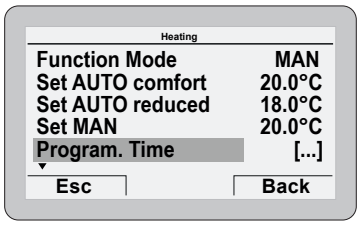


Fig. 17

1.3.1 Time Programming

The **main control panel (MCP)** allows up to four daily time bands to be managed for the domestic hot water function and the heating function described below.
During the programmed time band, the boiler works in COMFORT heating mode, while outside the programmed time band it works in REDUCED heating mode:

– press the **click** encoder to confirm the **"Program. time"** and go to the modifiable area

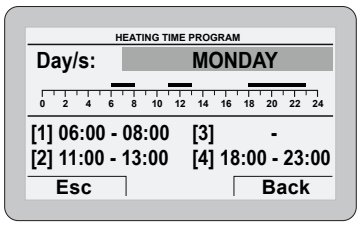


Fig. 18

– turn the encoder to select the **"Single days"** or the **"Group of days"**

– press the **click** encoder to confirm the required selection and access the first **"Adjustable time" [1]**

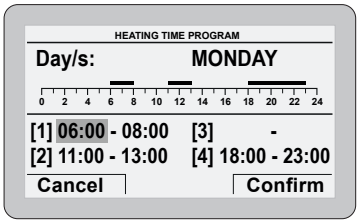


Fig. 19

– turn the encoder to modify the **"Data/value"** on the basis of the required time

– press the **click** encoder to confirm the modification and move to the next **"Data/value"**

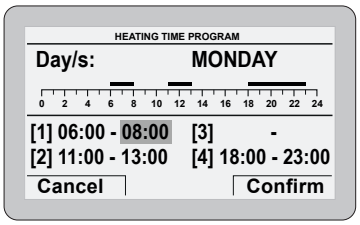


Fig. 20

– continue in this way until all the necessary modifications have been made for each day of the week or group of days.

***NOTE**: The user must work in a CIRCULAR manner, meaning ALWAYS MOVING FORWARDS, even if a mistake is made.*

CAUTION
If NO time band is required, set the start and stop times of that band to the same value (e.g. [3] 14:00-14:00).

– Once the modification has been made, press the **Confirm** button to go back to **"Single days"** or **"Group of days"**
– press the **Esc** button to go back to the **"Main screen"**.

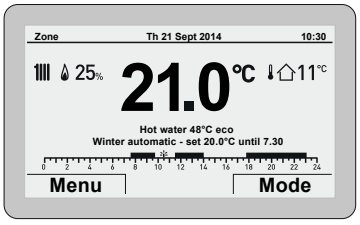


Fig. 21

1.3.2 Holiday function

This function allows the user to deactivate both heating and hot water production during a **"set and activated"** holiday period, during which the antifreeze function can be active (if set).

To set the holiday function from the **"Main screen"**:
- press the **Mode** button
- press the **click** encoder to confirm one of the **Summer** or **Winter** function mode
- turn the encoder to select **"Holiday function"**

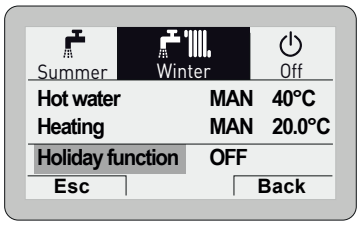


Fig. 22

- press the **click** encoder to confirm the **"Holiday function"** and go into the modifiable area

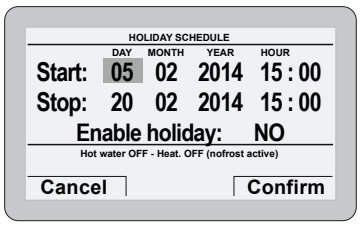


Fig. 23

- turn the encoder to modify the **"Data/value"** which is highlighted
- press the **click** encoder to confirm the modification and move to the next **"Data/value"**

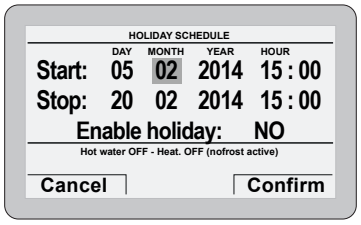


Fig. 24

- turn the encoder to modify the **"Data/value"** on the basis of the holiday start date
- press the **click** encoder to confirm the modification and move to the next **"Data/value"**
- Continue in this way until all the necessary modifications have been made..

***NOTE**: The user must work in a CIRCULAR manner, meaning ALWAYS MOVING FORWARDS, even if a mistake is made.*

- When all modifications have been made, press the **Confirm** button to go back to **"Holiday function"**
- press the **Esc** button to go back to the **"Main screen"**.

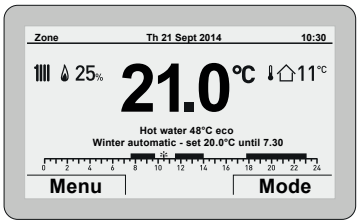


Fig. 25

1.3.3 Fault warnings

If a fault occurs, the screen **"Anomaly in progress"** will appear in place of the **"Main screen"**. For the main fault codes, a brief description and suggestions for the user are displayed, based on the seriousness and the frequency with which the fault reappears.

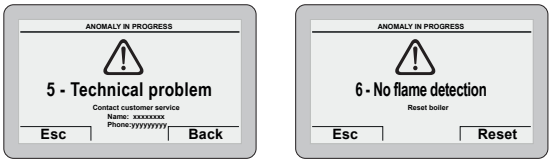


Fig. 26

The fault may be **transient** (volatile) or it may cause an appliance **block**.

To restore normal operating conditions:
- if the fault is transient, eliminate the cause of the fault
- if the fault causes a block, remove the cause of the fault and then press the **Reset** button.

If there is **"no water in the system"** or **"low water pressure in the system"** there is a request to fill the system and then to press the **Confirm** button rather than the **Reset** button.

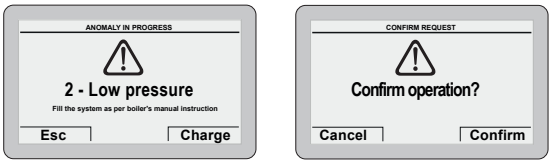


Fig. 27

CAUTION
For a full list of faults, see "**Malfunction codes and possible solutions**".

1.3.4 Quick settings

The encoder allows the operator, specifically the user, to:
- change the **"Set hot water"** in SUMMER mode
- change the **"Set room temperature"** in WINTER mode.

In both cases, from the **"Main screen"**:

- press the **click** encoder to display the **set** value

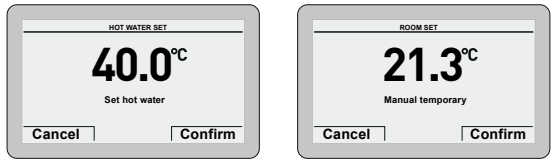


Fig. 28

- turn the encoder to set the new **"Set value"**
- press the **Confirm** button to complete the modification and return to the **"Main screen"**.

IMPORTANT INFORMATION FOR THE SET AMBIENT TEMPERATURE

The meaning of the words on the display is as follows:

Manual temporary: the heating **"Function mode"** is set to AUTO and the set value read on the display is valid until the next time band change (automatic set point)

Manual: the heating **"Function mode"** is set to MAN and the set value read on the display is permanently valid.

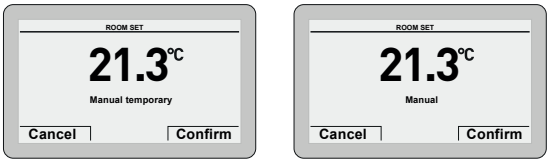


Fig. 29

1.4 Navigating using the MODE button

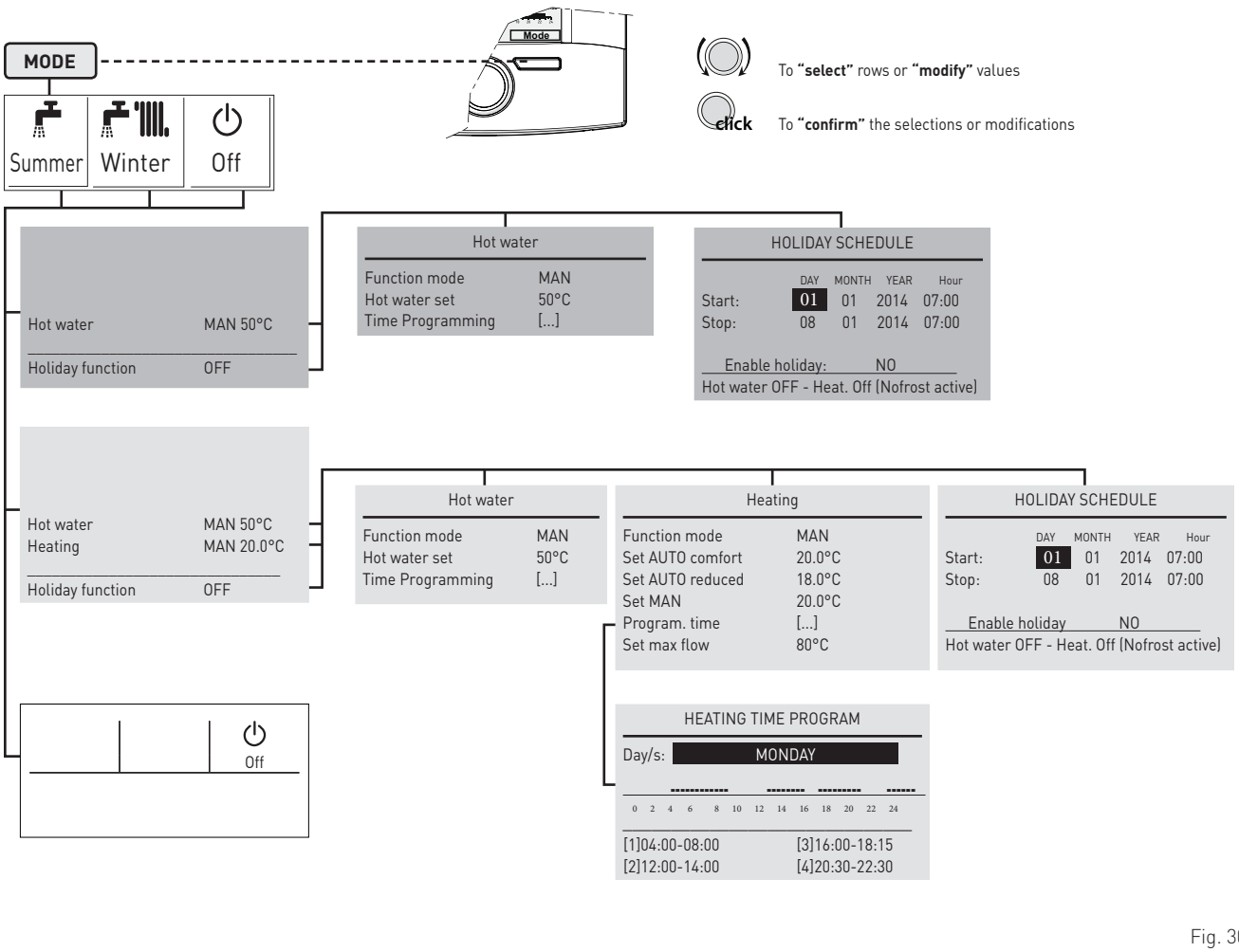


Fig. 30

2 MAINTENANCE

2.1 Adjustments

For the appliance to operate correctly and efficiently it is recommended that the User calls upon the services of a Professionally Qualified Technician to carry out **ANNUAL** maintenance.

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

2.2 External cleaning

2.2.1 Cleaning the cladding

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

IT IS FORBIDDEN
to use abrasive products.

3 DISPOSAL

3.1 Disposal of the equipment (European Directive 2002/96/CE)

Once it reaches the end of its operating life, the equipment MUST BE RECYCLED in line with current legislation.
It can be handed over to recycling centres, if there are any, or to retailers that offer this service.
Recycling prevents potential damage to the environment and health. It allows to recover a number of recyclable materials, with considerable savings in terms of money and energy.

IT IS FORBIDDEN
dispose of the product with urban waste.

DESCRIPTION OF THE APPLIANCE

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4 DESCRIPTION OF THE APPLIANCE

4.1 Characteristics

Murelle Revolution is an innovative Ccass A++ wall-mounted boiler designed by **Sime**SOLELY for space heating and producing domestic hot water.
The appliance is made up of a latest-generation sealed condensing gas boiler and a heat pump.
Murelle Revolution can ONLY operate if it is connected to the outdoor probe supplied with the appliance; if the outdoor probe is NOT connected, Murelle Revolution will NOT work.
The wall the appliance is mounted to must be able to support its weight, and preferably be an outside wall, to simplify installing the air inlet and outlet pipes.
Murelle Revolution can produce water for a heating system to a temperature of up to 75°C. **To obtain maximum performance from Murelle Revolution**, the delivery temperature **MUST NOT** exceed **65°C** and the return temperature must not be above of **45°C**.
The main design choices made by **Sime** for **Murelle Revolution**boilers are:

- use of a sealed boiler with a total pre-mix microflame burner combined with a steel heat exchanger body and a rapid heat exchanger for DHW
- use of a modulating circulation pump
- use of a heat pump (HP), which is supported by the boiler to produce heat, and can operate separately or together with the boiler, according to the temperature detected by the outdoor probe
- a Main control panel (remote) which serves both as an air thermostat and as a command and control device, a microprocessor, with bus protocol to manage the **Murelle Revolution** and related system
- use of a main evaporator with a patented smoke evaporator in series and a plate heat exchanger to transmit the heat to the water in the system. This allows the heat pump to operate with an average COP of 4.
- the option of being connected to air thermostats or chrono-thermostats for the zone.

The command board also has an internal connection where an expansion which can control the external relays can be inserted.
Murelle Revolution also has the following functions:

- the anti-freeze function which is activated automatically if the temperature of the water inside the boiler falls below the value set under "PAR 10" and if the outdoor temperature falls below the value set under "PAR 11"
- the anti-blocking 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.

4.2 Operation summary

4.2.1 Heating

When there is a heating request from the main control panel (MCP) or from an air thermostat for the zone (ATz), where there are no alarms and where the outdoor temperature is at least -7°C, the heat pump is activated (HP).
After a set period of time, calculated using an algorithm according to the current outdoor temperature, the gas boiler also starts up to help heat the water in the system and respond to the current request for heat.
When the system water temperature reaches the required value, also calculated using a specific algorithm for the gas boiler, the boiler stops and ONLY the heat pump continues to operate, until the heating request has been satisfied; after which, the heat pump also stops.

CAUTION
If, when there is a heating request, the outdoor temperature is **below -7°C (e.g. - 10°C)**, only the gas boiler is activated and the heat pump remains inactive.

4.2.2 Domestic Hot Water (DHW)

When there is a request for DHW, providing there is no heating request from the air thermostats, the diverter valve prepares to direct the flow of water towards the plate heat exchanger and the boiler starts up to respond to the request.
Should there be a request for heat at the same time, the heat pump stops and the boiler operates as described above. Once the DHW request has been satisfied, standard heating operation resumes.

4.3 Check and safety devices

The **Murelle Revolution** 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
- DHW sensor
- smoke flue gas probe.

IT IS FORBIDDEN
to commission 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** original spare parts.

4.4 Identification

The **Murelle Revolution** 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 energy savings and reduced environmental pollution of the "packet"

3 **Heat pump technical data plate:** this is located inside the front panel of the boiler and provides the technical specification, appliance performance and any other information required by law.

4 **Boiler technical data plate:** this is located on the side of the appliance and provides the technical data, appliance performance and any other information required by law.

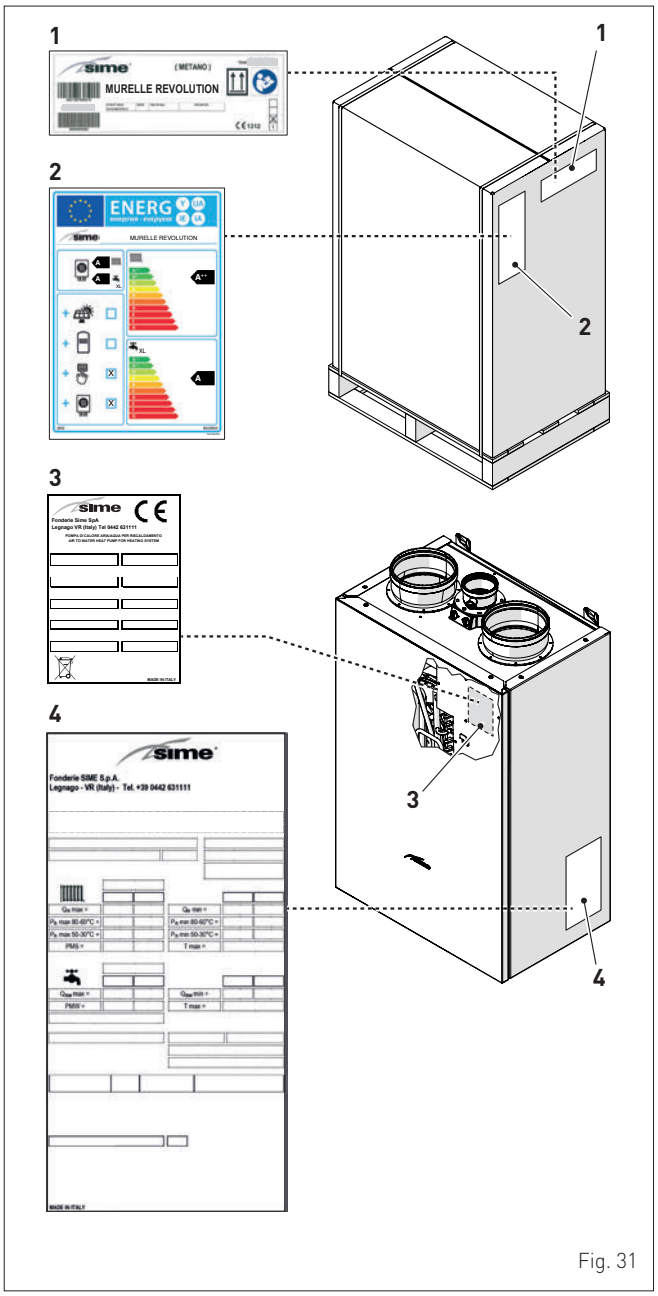
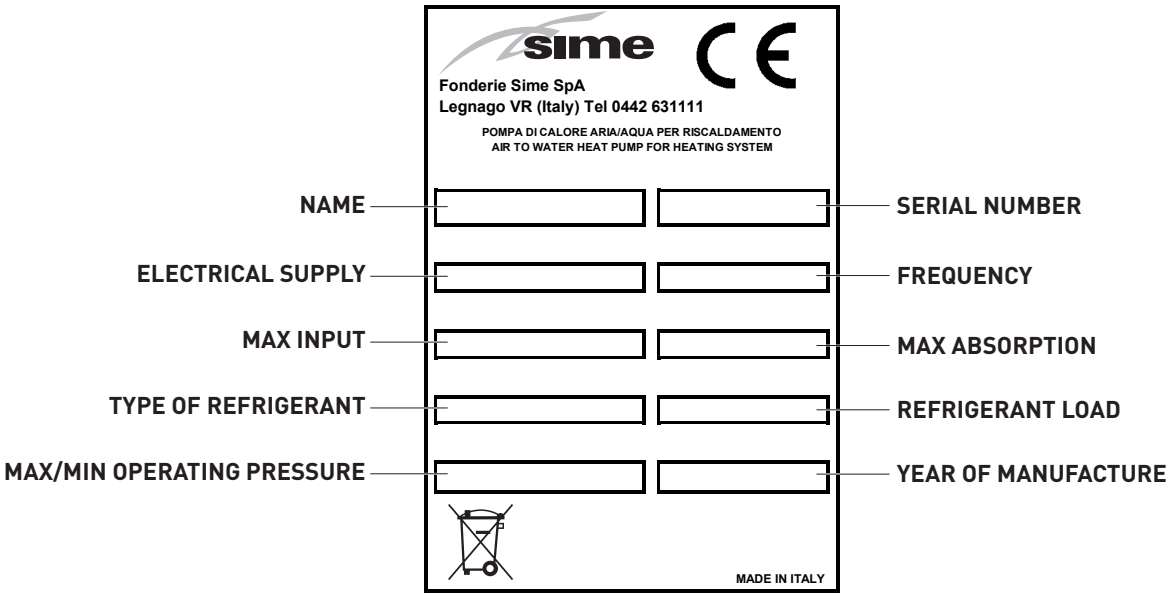


Fig. 31

KEY:
1 *Packaging label*
2 *Packet energy efficiency label*
3 *Heat pump technical data plate*
4 *Boiler technical data plate*

4.4.1 Technical data plates

Heat Pump Technical Data Plate



Boiler Technical Data Plate

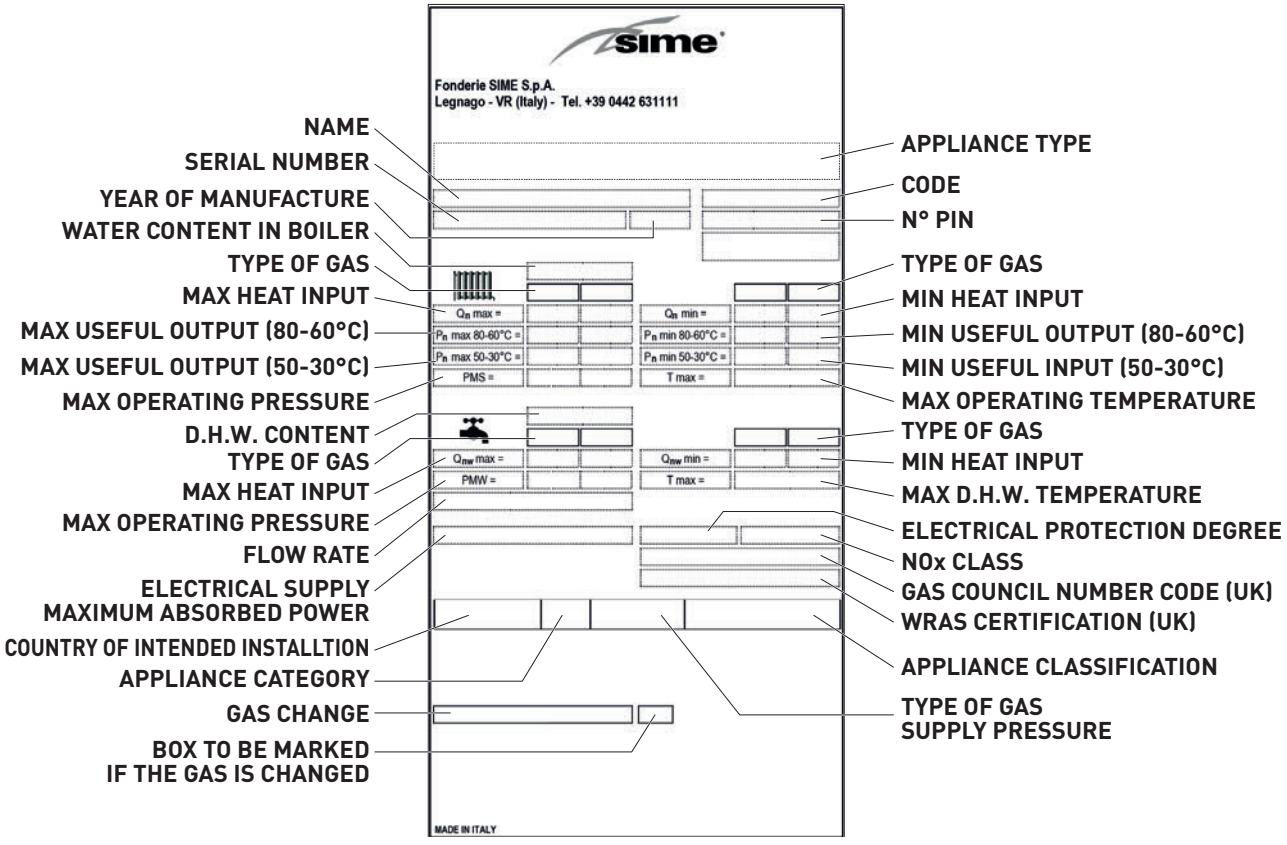
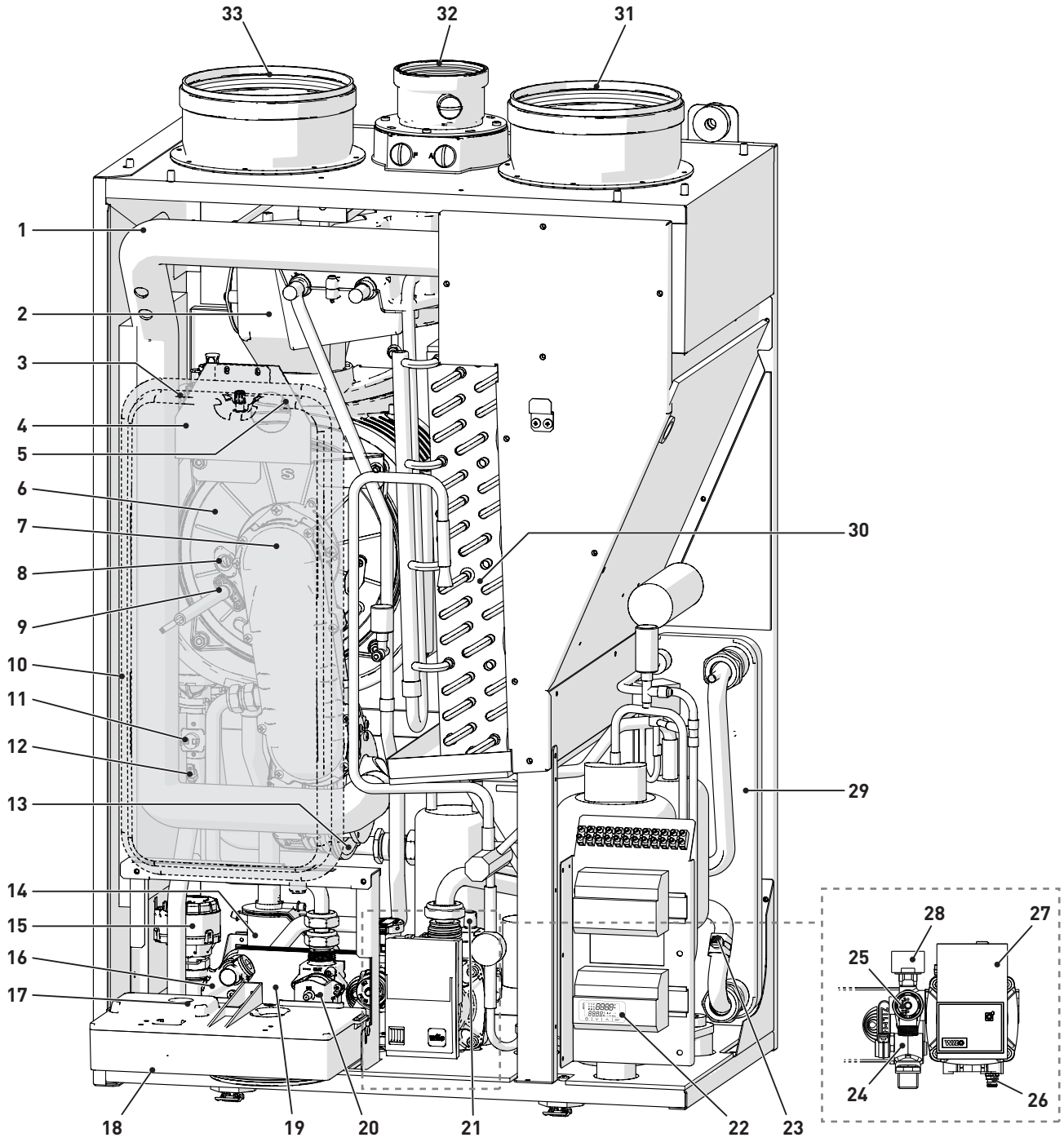


Fig. 32

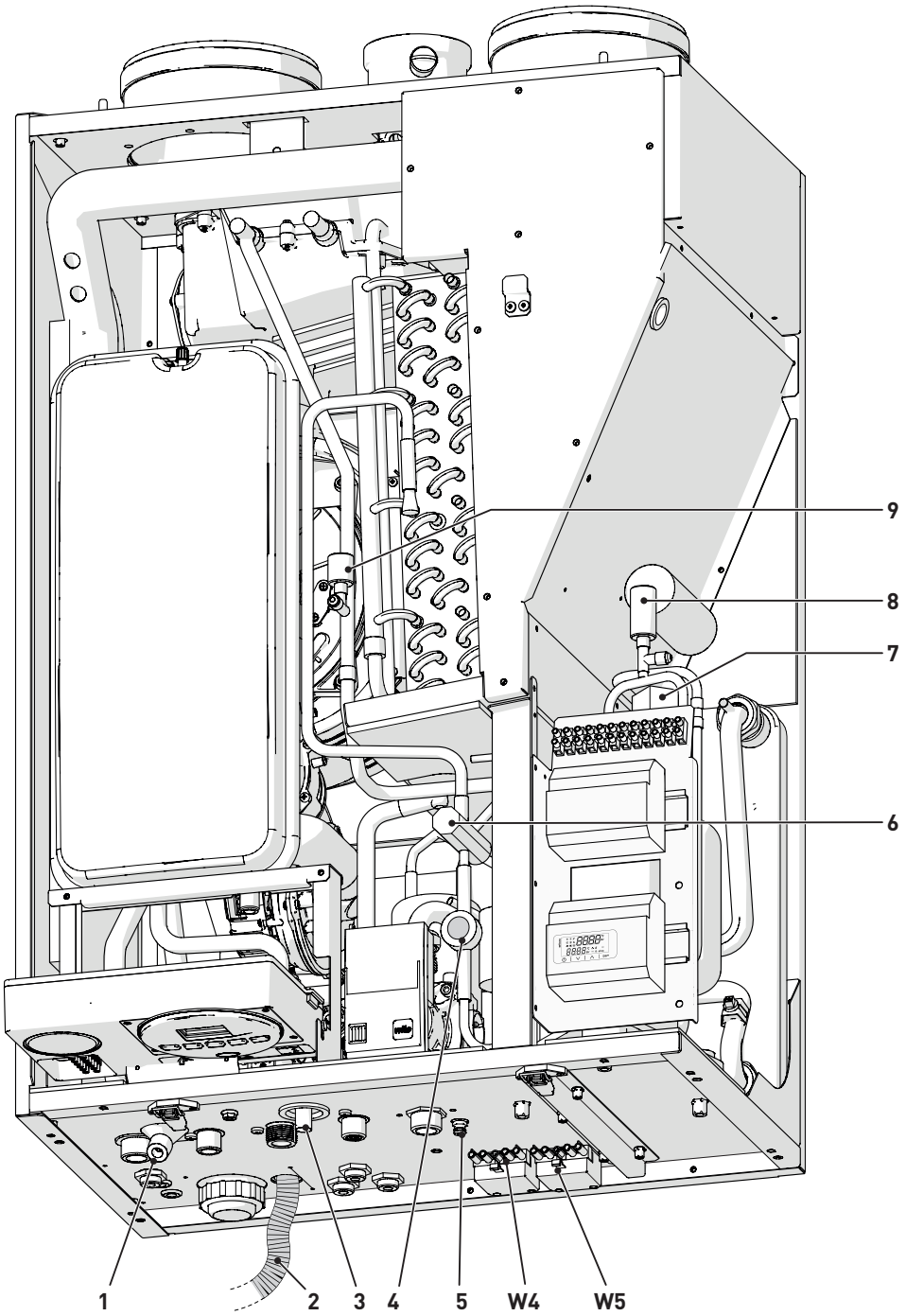
CAUTION
Tampering with, removing or failing to display the identification plate or carrying out any other operation which does not allow safe identification of the product or which may hinder installation and maintenance operations.

4.5 Structure



1 *Air inlet pipe*
2 *Gas boiler smoke evaporator*
3 *Heat exchanger bleed point*
4 *Heat exchanger*
5 *Smoke flue gas probe*
6 *Combustion chamber door*
7 *Oversleeve*
8 *Flame viewing window*
9 *Ignition/detection electrode*
10 *Expansion vessel*
11 *Heat safety thermostat*
12 *Delivery sensor*
13 *Fan*
14 *Condensate siphon*
15 *Diverter valve*
16 *System filling unit*
17 *Domestic hot water sensor*
18 *Boiler control panel (gas side)*
19 *Domestic hot water heat exchanger*
20 *Gas valve*
21 *Automatic bleed valve*
22 *HP control panel*
23 *Return temperature probe*
24 *Domestic hot water filter*
25 *System relief valve*
26 *Boiler drain*
27 *System pump*
28 *Water pressure transducer*
29 *Plate capacitor*
30 *Air evaporator*
31 *Heat pump air outlet duct*
32 *Boiler smoke outlet duct*
33 *Boiler/heat pump air inlet duct*

Fig. 33



1 *System filling valve*
2 *Condensate outlet*
3 *Safety valve outlet*
4 *Liquid level indicator*
5 *Boiler drain*
6 *Thermostatic expansion valve*
7 *HP by-pass solenoid valve*
8 *HP high pressure switch*
9 *HP high pressure switch*

W4 *Boiler connector (gas side) – Main control panel*
W5 *HP-main control panel connector*

Fig. 34

4.6 Technical features

4.6.1 Boiler (gas side)

DESCRIPTION		Murelle Revolution
CERTIFICATIONS		
Country of intended installation		IT – ES – PT – GR – SI – CZ – CH – GB – IE – SK – LT – HR
Fuel		G20 / G31
PIN number		1312CR6100
Category		II2H3P
Appliance classification		C53 - C63 - C83
Class NO_x (*)		6 (< 56 mg/kWh)
HEATING PERFORMANCE		
HEAT INPUT (**)		
Nominal flow (Q_n max)	kW	20
Minimum flow (Q_{nw} min)	kW	4
HEAT OUTPUT		
Nominal (80-60°C) (P_n max)	kW	19,7
Nominal (50-30°C) (P_n max)	kW	21,4
Minimum G20 (80-60°C) (P_n min)	kW	3,9
Minimum G20 (50-30°C) (P_n min)	kW	4,3
Minimum G31 (80-60°C) (P_n min)	kW	3,9
Minimum G31 (50-30°C) (P_n min)	kW	4,3
EFFICIENCY		
Max useful efficiency (80-60°C)	%	98,5
Min useful efficiency (80-60°C)	%	97,5
Max useful efficiency (50-30°C)	%	107
Min useful efficiency (50-30°C)	%	107,5
Useful efficiency at 30% of load (40-30°C)	%	107,0
Losses after shutdown at 50°C	W	84
DOMESTIC HOT WATER PERFORMANCE		
Nominal heat input (Q_{nw} max)	kW	24
Minimum heat input (Q_{nw} min)	kW	4
Specific D.H.W. flow rate Δt 30°C (EN 13203)	l/min	11,2
Continuous D.H.W. flow rate (Δt 25°C/Δt 35°C)	l/min	13,6 / 9,7
Minimum D.H.W. flow rate	l/min	2
Max (PMW) / Min Pressure	bar	7 / 0,5
	kPa	700 / 50
ENERGY PERFORMANCE		
HEATING		
Heating seasonal energy efficiency class		A
Heating seasonal energy efficiency	%	93
Sound power	db(A)	54
DOMESTIC HOT WATER		
Domestic hot water energy efficiency class		A
Domestic hot water energy efficiency	%	86
Stated domestic hot water profile load		XL
ELECTRICAL SPECIFICATIONS		
Power supply voltage	V	230
Frequency	Hz	50
Absorbed electrical power (Q_n max)	W	90
Absorbed electrical power at (Q_n min)	W	68
Absorbed electrical power in stand-by	W	3,6
Electrical protection degree	IP	X5D
COMBUSTION DATA		
Smoke temperature at Max/Min flow (80-60°C)	°C	82 / 66
Smoke temperature at Max/Min flow (50-30°C)	°C	59 / 45
Smoke flow Max/Min	g/s	11,2 / 1,9
CO_2 at Max/Min flow rate (G20)	%	9,0 / 9,0
CO_2 at Max/Min flow rate (G31)	%	10,0 /10,0
NOx measured	mg/kWh	35

(*) NOx class according to UNI EN 15502-1:2015
(**) Heat input calculated using the lower heat output (Hi)

DESCRIPTION		Murelle Revolution
NOZZLES - GAS		
Number of nozzles	No.	1
Nozzle diameter (G20-G31)	mm	5,3
Gas consumption at Max/Min flow rate (G20)	m^3/h	2,53 / 0,42
Gas consumption at Max/Min flow rate (G31)	Kg/h	1,86 / 0,31
Gas supply pressure (G20/G31)	mbar	20 / 37
	kPa	2 / 3,7
TEMPERATURE - PRESSURE		
Max operating temperature (T max)	°C	75
Heating adjustment range	°C	20÷75
Domestic hot water adjustment range	°C	10÷60
Max operating pressure (PMS)	bar	3
	kPa	300
Water content in boiler	l	4,65

Lower Heat Output (Hi)
G20 Hi. *9.45 kW/m^3 (15°C, 1013 mbar) -* ***G31 Hi.*** *12.87 kW/kg (15°C, 1013 mbar)*

4.6.2 Heat pump

DESCRIPTION		Murelle Revolution
Model		HYSIMO104M
HEATING PERFORMANCE		
Heating water maximum temperature	°C	50
Heating water maximum pressure (DHWMP)	bar	3
Seasonal efficiency	%	155
Energy efficiency class of central heating		A++
Nominal power (Q_n max)	kW	4,0
Refrigerant		R-410A
Refrigerant load	kg	1,15
ELECTRICAL SPECIFICATIONS		
Power supply voltage	V	230
Frequency	Hz	50
Nominal electrical power	W	1334
Maximum electrical power		1650
Nominal absorption	A	6,0
Maximum absorption		6,8
Protection rating against humidity and water penetration	IP	X5D
"CONTO ENERGIA TERMICO 2.0" RENEWABLE THERMAL ENERGY INCENTIVE		
COP		4,45 (*)

(*) Value obtained with:
- *(*) External temperature = + 7°C*
- Heat pump air input/output temperature = 30/35°C.

4.7 Main water circuit

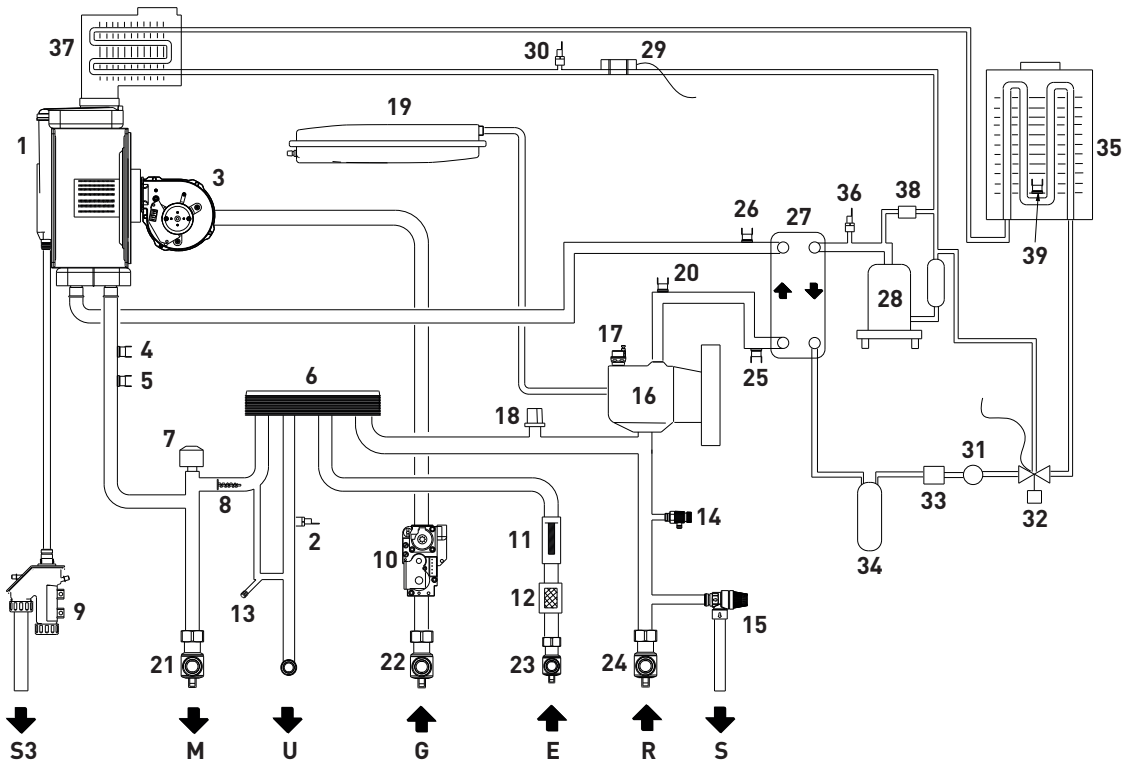


Fig. 35

KEY:

M System delivery
R System return
U Domestic hot water outlet
E Domesti hot water inlet
S Safety valve outlet
G Gas supply
S3 Condensate outlet

1 *Primary heat exchanger*
2 *Domestic hot water sensor*
3 *Boiler fan*
4 *Thermal safety thermostat*
5 *Heating delivery probe*
6 *Domestic hot water heat exchanger*
7 *Diverter valve*
8 *Automatic by-pass*
9 *Condensate siphon outlet*
10 *Gas valve*
11 *Domestic hot water flow meter*
12 *Domestic hot water filter*
13 *System filling*
14 *Gas boiler outlet*
15 *System relief valve*
16 *Pump*
17 *Automatic bleed valve*
18 *Pressure transducer*
19 *System expansion vessel*
20 *HP water inlet probe*
21 *System delivery valve (on request)*
22 *Gas valve (on request)*
23 *Domestic hot water inlet valve (on request)*
24 *System return valve (on request)*
25 *Return temperature probe*
26 *HP water outlet temperature probe*
27 *Plate heat exchanger*
28 *HP ON/OFF compressor*
29 *Expansion valve thermal bulb*
30 *HP high pressure switch*
31 *Liquid level indicator*
32 *Thermostatic expansion valve*
33 *Filter*
34 *Liquid receptacle*
35 *Air evaporator*
36 *HP high pressure switch*
37 *Smoke evaporator*
38 *Smoke HP by-pass solenoid valve*
39 *HP battery probe*

4.8 Sensors

The sensors installed have the following characteristics:
- Dual sensor (thermal safety/output) NTC R25°C; 10kΩ ß25°-85°C: 3435
- domestic hot water sensor NTC R25°C; 10kΩ ß25°-85°C: 3435
- external sensor NTC R25°C; 10kΩ ß25°-85°C: 3435

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										

Correspondence of Temperature Detected/Resistance
Examples of reading:
TR=75°C → R=1925Ω
TR=80°C → R=1669Ω.

4.9 Expansion vessel

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

Description	U/M	Murelle Revolution
Total capacity	l	9,0
Prefilling pressure	kPa	100
	bar	1,0
Useful capacity	l	5,0
Maximum system content (*)	l	124

(*) Conditions of:
Average maximum temperature of the system 85°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 prearranged.
- 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.

4.10 Circulation pump

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

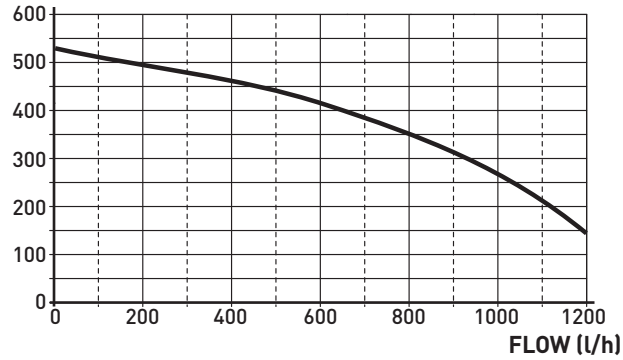


Fig. 36

CAUTION
The appliance is equipped with a by-pass which ensures water circulation in the boiler when the thermostatic valves or cocks are used in the system.

4.11 Boiler control panel (gas side)

The boiler control panel can be used locally ONLY by the technical assistance service or by an authorised maintenance technician.

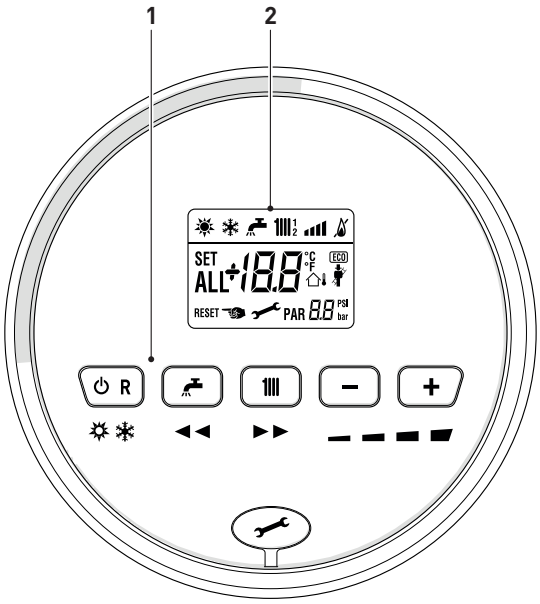


Fig. 37

1 FUNCTIONAL BUTTONS

R If pressed once or more than once for at least 1 second during normal operation, this button allows the user to change the boiler operating mode in a cyclical sequence (Stand-by – Summer – Winter). If the boiler is experiencing a fault which can be reset, it allows boiler operation to be unblocked.

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 user 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 user 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. If there is a Remote Control (Open Therm), after having selected the heating button, the user can modify the incline of the climatic curve (decreasing it) by pressing the button (**-**). In "parameter setting/display", the user 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. If there is a Remote Control (Open Therm), after having selected the heating button, the user can modify the incline of the climatic curve (increasing it) by pressing the button (**+**). In "parameter setting/display", the user 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 normal conditions are restored.*

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 repaired the fault, 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.

"BLOCK" DUE TO NO FLAME.

"FLAME PRESENCE".

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

PAR **"PARAMETER"**. This indicates that the user may be 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.

"EXTERNAL SENSOR". This indicates that the external sensor has been installed and that the boiler is working on a sliding temperature.

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

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

4.12 Heat pump control panel (local)

The heat pump control panel can be used locally ONLY by the technical assistance service or by an authorised maintenance technician.

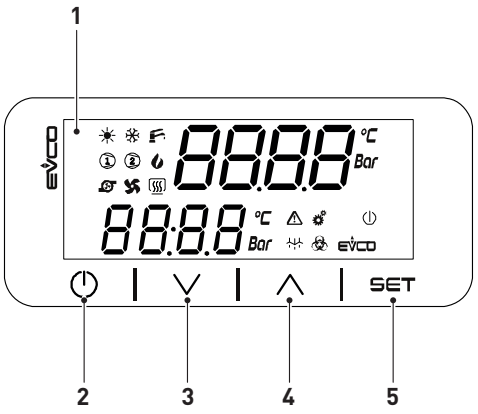


Fig. 38

1 Display
2 ON/OFF button
3 Decrease button
4 Increase button
5 Settings button

4.13 Main control panel (remote)

The main control panel (MCP) allows all of the necessary adjustments to be made to **Murelle Revolution** and to the connected systems. It also serves as a main air thermostat and can therefore be used by all operators, users, authorised maintenance technicians and the technical service for the operations for which each of these figures is authorised, as described in detail in the relevant sections.
It communicates with the boiler control panel with an unpolarised bus line and OpenTherm protocol, and with the heat pump control panel with a RS485 polarised ModBus two-wire line.
It is equipped with a dry contact input for remote control, where relevant (GSM-Dialler/WiFi).

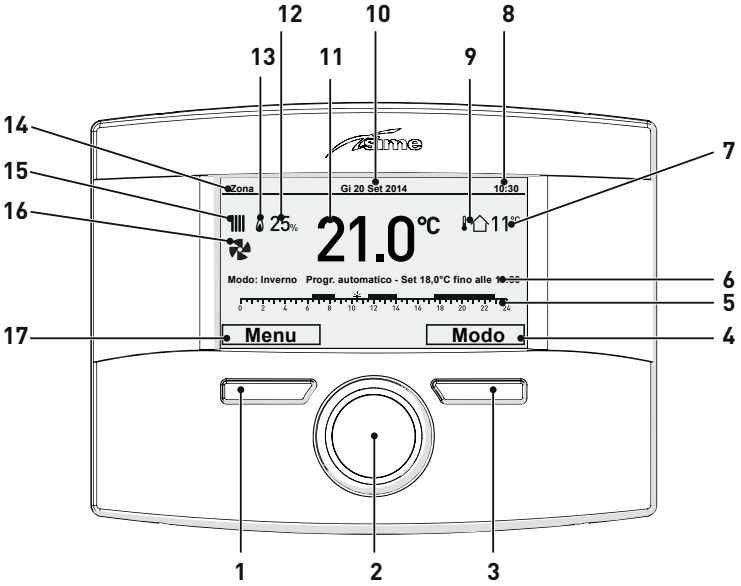


Fig. 39

1 Button (A)
2 Multifunction encoder
3 Button (B)
4 Action carried out by pressing button (B)
5 Programmed time band
6 Description of adjustments in course
7 Measured outdoor temperature
8 Time
9 Presence of outdoor probe (OP)
10 Date
11 Measured ambient temperature
12 Modulation percentage
13 Flame
14 Controlled area
15 Request for heating (rad) or hot water (tap)
16 Heat pump operating
17 Action carried out by pressing button (A)

4.13.1 Using the buttons

With the appliance powered, from the **"Main screen"**.

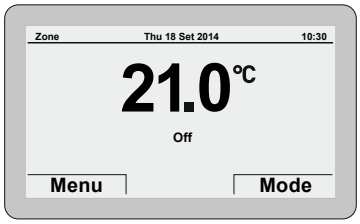


Fig. 40

BUTTON (A)
(used mainly by professionally qualified technicians and NOT by the user)
This allows users to view the **"menu"** select screen (e.g. Menu **"GENERAL SETTINGS"**) and then to operate according to what is written above the button on the display (e.g. Esc to exit and return to the main screen.

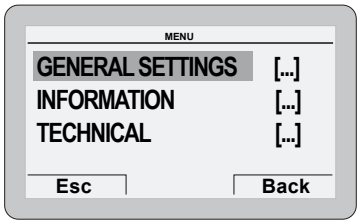


Fig. 41

MULTIFUNCTION ENCODER

If turned, allows the user to scroll through and select the **"Menu/rows"** or the **"Function mode"**, or to change the values in the selected field.
In "Summer" mode, the DHW temperature can be adjusted.
In "Winter" mode, the DHW can be adjusted in relation to the heating and the "Holiday function".

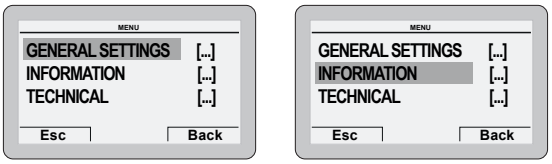


Fig. 42

If pressed, **click** confirms the selection and takes the user to the submenus (e.g. **"LANGUAGE"** or **"Hot water"**) or confirms the modified value or entry.

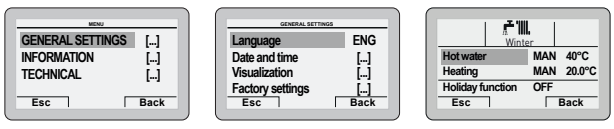


Fig. 43

BUTTON (B)
This allows users to view the **"Function mode"** screen (e.g. "Winter") and then to operate according to what is written above the button on the display (e.g. Esc to exit and return to the main screen).

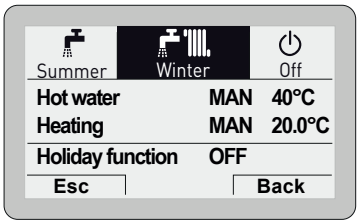
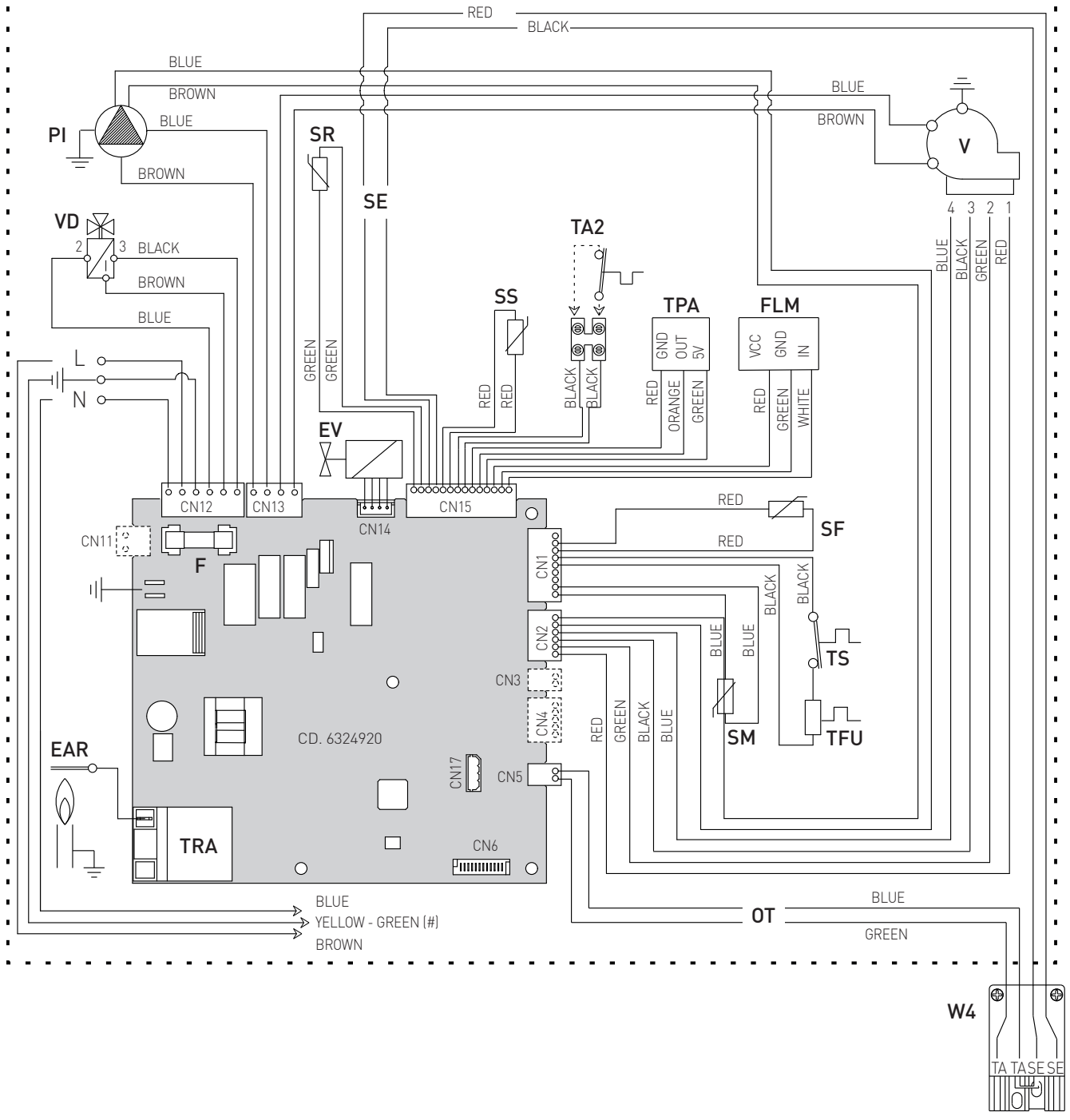


Fig. 44

CAUTION
For more information, please see "**Commissioning**".

4.14 Wiring diagrams

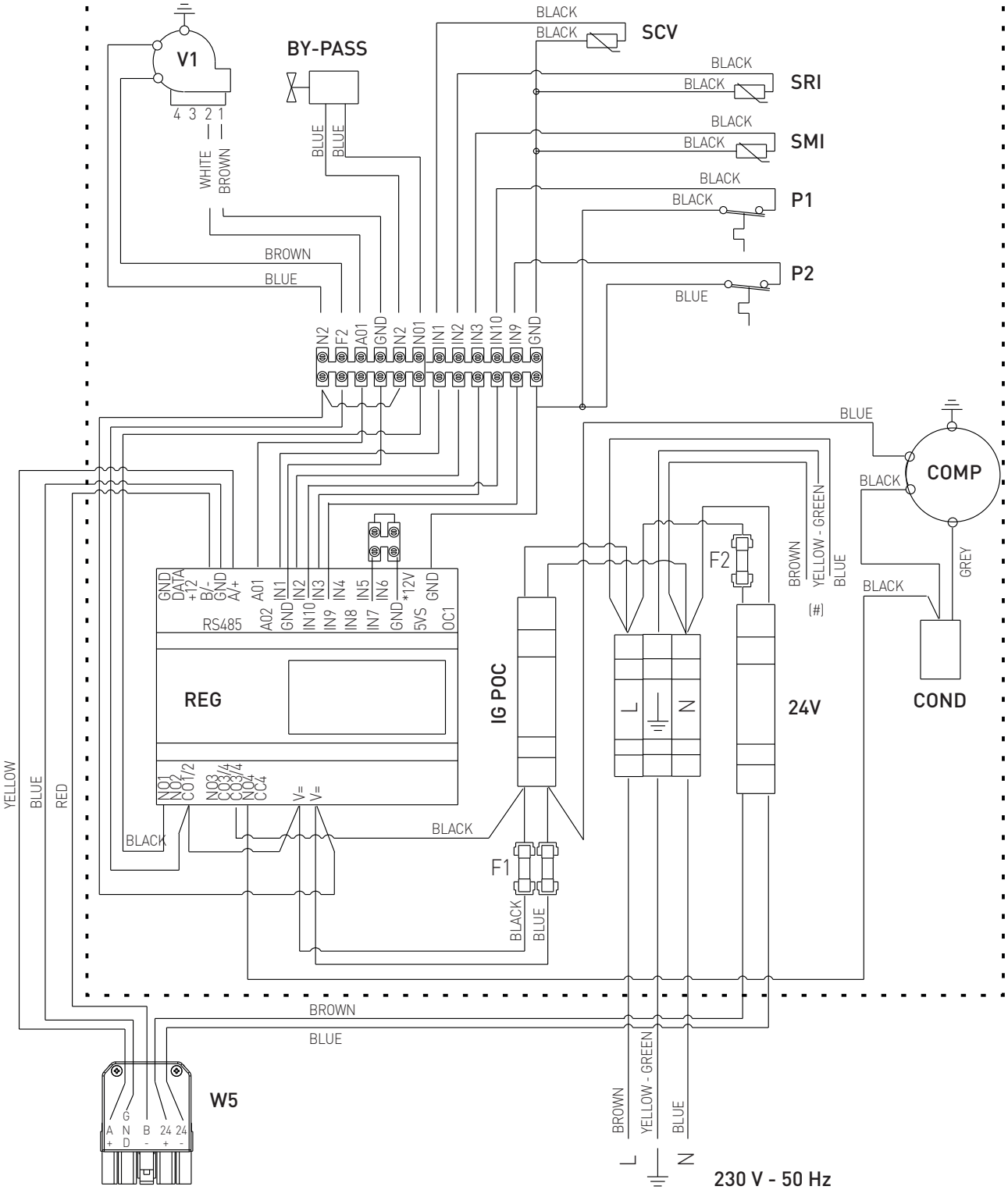
4.14.1 Boiler



L	*Line*
N	*Neutral*
VD	*Diverter valve*
PI	*System pump*
SR	*Return Probe*
SE	*External sensor*
SS	*Domestic hot water sensor*
TA2	*Air thermostat for the zone*
TPA	*Pressure transducer*
FLM	*Flow meter*
V	*Fan*
F	*Fuse (3.15AT)*
SF	*Smoke flue gas probe*
TS	*Safety thermostat*
SM	*Delivery sensor*
TFU	*Thermal fuse*
EAR	*Ignition / Detection electrode*
TRA	*Ignition transformer*
OT	*OpenTherm communication*
W4	*Boiler connector (gas side) – Main control panel*

Fig. 45

4.14.2 Heat pump

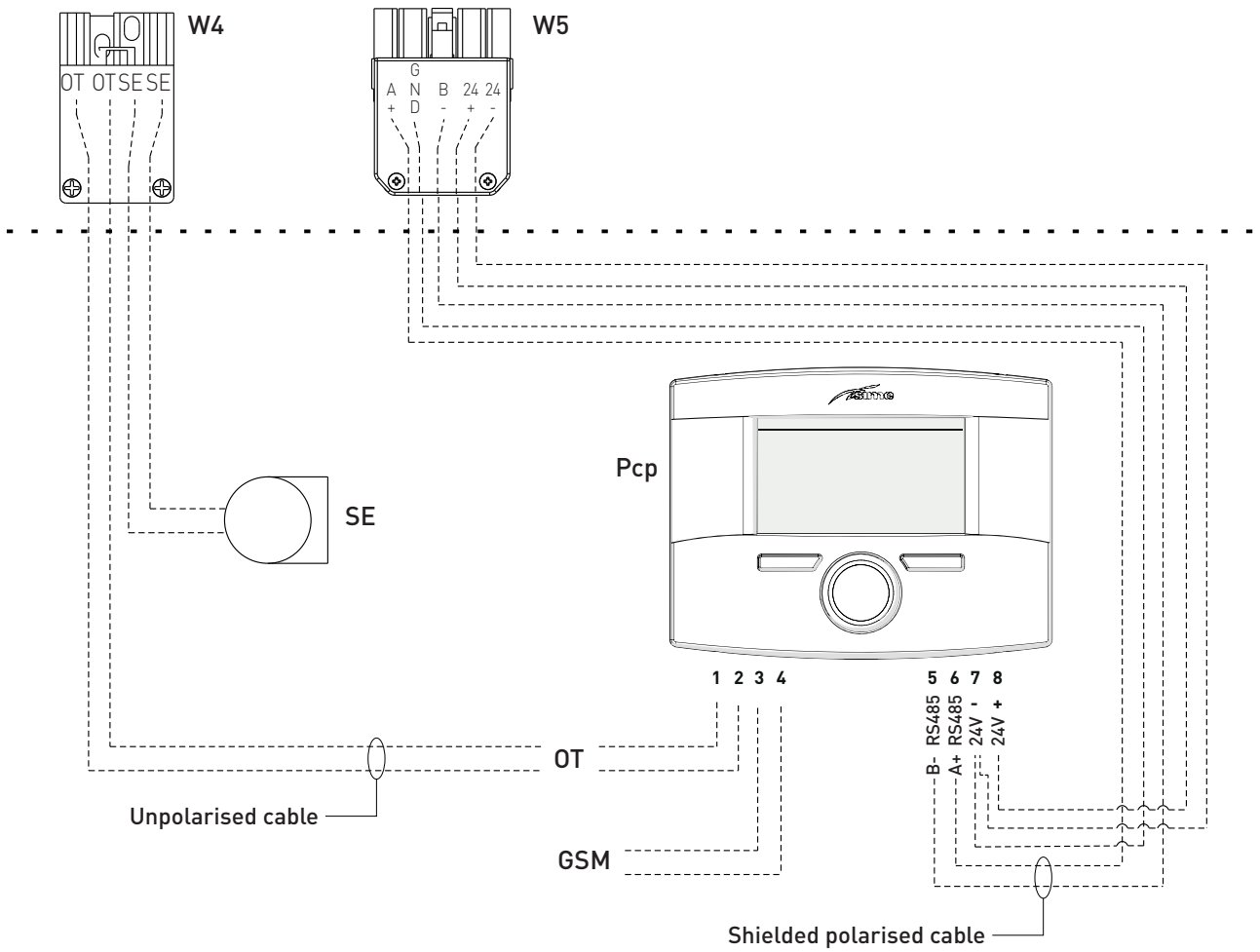


V1	*Heat pump fan*
BY-PASS	*By-pass solenoid valve*
FCP	*Fan check probe*
SRP	*System return probe*
SDP	*System delivery probe*
P1	*High pressure switch*
P2	*Low pressure switch*
COMP	*Compressor*
CAP	*Capacitor*
W5	*HP-main control panel connector*
24V	*Main control panel (remote) 24V power supply*
F1	*Fuse (2AT)*
F2	*Fuse (500mAT)*
HP MS	*Heat pump cut-off*
REG	*Heat pump regulator*
W5	*HP-main control panel connector*
W5	*HP-main control panel connector*

Fig. 46

4.14.3 Interconnecting the appliance, outdoor probe and main control panel (remote)

The connections below should be made by the installer and must be prepared before installing the main control panel (remote), See "**Mounting the main control panel (remote)**".



SE *External sensor*
OT *OpenTherm communication*
GSM *Phone dialler (optional)*
MCP *Main control panel*
W4 *Boiler connector (gas side) – Main control panel*
W5 *HP-main control panel connector*

Fig. 47

CAUTION
Users must:

- Use an omnipolar cut-off switch, disconnect switch in compliance with EN Standards
- 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
- Connect the earth wire to an effective earthing system. The manufacturer is not responsible for any damage caused by failure to earth the appliance or failure to observe the information provided in the wiring diagrams.

IT IS FORBIDDEN
To use water pipes for earthing the appliance.

INSTALLATION AND SERVICING INSTRUCTIONS

TABLE OF CONTENTS

5 INSTALLATION

CAUTION
The appliance must be installed by the Sime Technical Service only, or by a qualified professional.

5.1 Receiving the product

Murelle Revolution is delivered in a single unit protected by cardboard packaging.

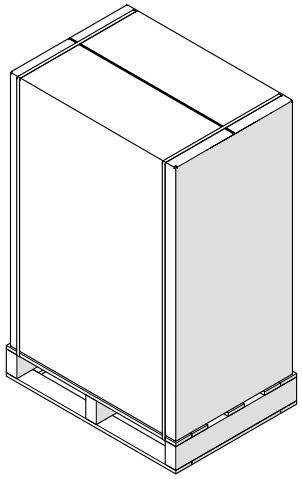


Fig. 48

The plastic bag found inside the packaging contains the following:
- Installation, use and maintenance manual
- Certificate of warranty
- Hydrostatic test certificate
- System booklet
- External sensor
- Main control panel (remote)
- Bag with expansion plugs
- Boiler and heat pump energy labels
- Anti-vibration and spacer panels
- Paper template for boiler installation.

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

5.2 Dimensions and weight

Description	Murelle Revolution
W (mm)	600
D (mm)	391
H (mm)	900
H1 (mm)	82,5
H2 (mm)	71
Weight (kg)	103

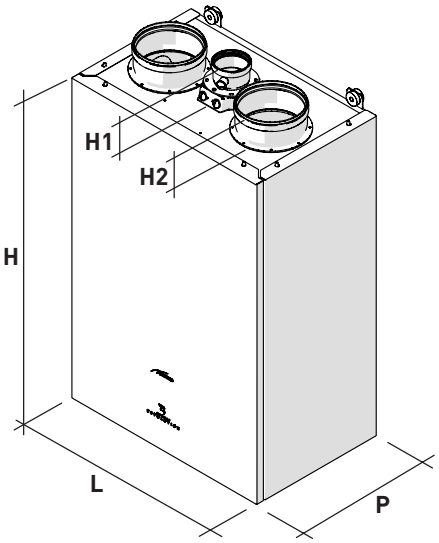


Fig. 49

5.3 Handling

During transportation, the boiler must be kept in a vertical position, and knocks against walls or hard surfaces should be avoided.

IT IS FORBIDDEN
Position the appliance horizontally or on its side.

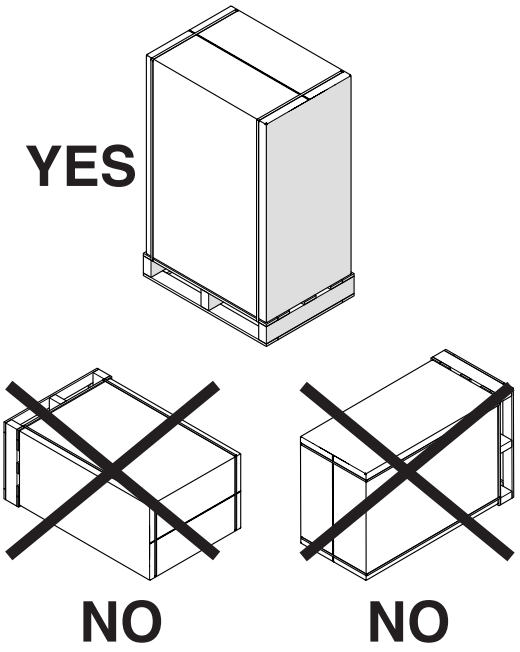


Fig. 50

Once the packaging has been removed, the appliance can be handled manually, lifting it by gripping the points indicated in the figure.

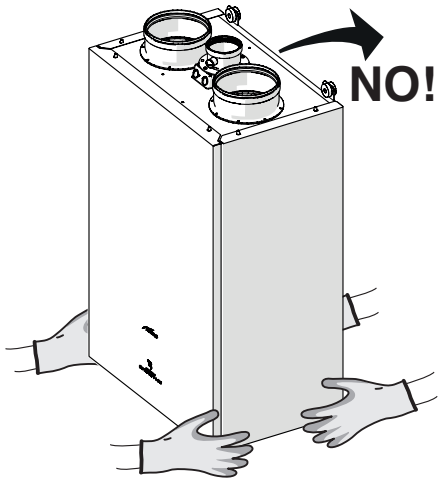


Fig. 51

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

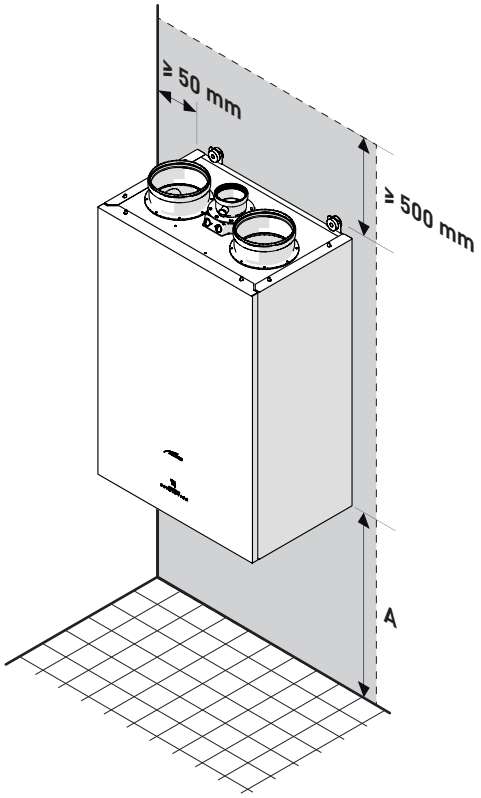
WARNING
When moving the appliance and removing the packaging, **the user must**:

- **respect the maximum weight restrictions for lifting per person**
- use suitable tools and safety devices.

5.4 Installation room

The room where the appliance is to be installed must comply with the technical regulations and legislation in force. No aeration vents are required because the approved installation is **ONLY "TYPE C"**.
The minimum temperature of the installation room must NOT be lower than **-5 °C**.

APPROXIMATE MINIMUM DISTANCES



A *The necessary height for plumbing and gas connections is decided during installation.*

Fig. 52

5.5 New installation or installation of a replacement appliance

When **Murelle Revolution** boilers are installed on old systems or systems requiring updating, it is recommended the installer checks that:

- the connecting flue pipe is suitable for the combustion temperature of the appliance, calculated and manufactured in compliance with Standards, that it is as straight as possible, air tight, isolated, with no obstructions or restriction and that it has appropriate condensate collection and evacuation systems
- the electrical system has been manufactured in compliance with specific Standards and by professionally qualified personnel
- the fuel delivery line and the tank (LPG) comply fully with specific Standards
- the expansion vessel ensures total absorption of the fluid dilation in the system
- the pump flow-head performance is sufficient for the system characteristics
- the system is clean, free of any sludge, deposits, de aerated and air tight. For system cleaning, please refer to the relevant paragraph.

CAUTION
The manufacturer declines all liability for any damage caused by an incorrect implementation of the smoke outlet or for an excessive use of additives.

5.6 Cleaning the system

Before installing the appliance on a newly constructed system or replacing a heat generator on an existing system, it is important that the system is thoroughly cleaned to remove sludge, slag, dirt, residue etc.
Before removing an old heat generator from an existing system, it is recommended that the user:
- puts a descaling additive into the water system
- allows the system to work with the generator active for a few days
- drains the dirty water from the system and flushes the system with clean water once or more than once.

If the old generator has already been removed or is not available, replace it with a pump to circulate water in the system and then proceed as described above.
Once cleaning operations have been carried out and before installing the new appliance, it is recommended that a fluid is added to the water system to protect it from corrosion and deposits.

CAUTION
For further information on the type of additive and usage, please contact the appliance manufacturer.

5.7 Water system treatment

When filling and restoring the system it is good practice to use water with:
- aspect: clear if possible
- pH: 6÷8
- hardness: < 25°f.

If the water characteristics are different from those indicated, it is recommended that a safety filter is used on the water delivery pipe to retain impurities, and a chemical treatment system to protect against possible deposits and corrosion which could affect boiler operation.
If the systems are only low temperature systems, it is recommended that a product is used to prevent the development of bacteria.
In any case, please refer to and comply with Legislation and specific Technical Standards in force.

5.8 Boiler installation

Before mounting the **Murelle Revolution** boiler on the wall, check that:
- the wall is solid **enough to support the weight**
- the required minimum clearance zones are respected
- it is an outside wall or one which allows the user to respect the maximum length of the air inlet and outlet pipes (Ø = 160/200 mm) (6 metres in total)
- the smoke outlet allows the user to respect the maximum length of the pipe (maximum permitted load loss)
- the water and gas supplies are easily accessible.

CAUTION
Attach the four circular spacers (1) supplied in front of and behind the fittings (2).

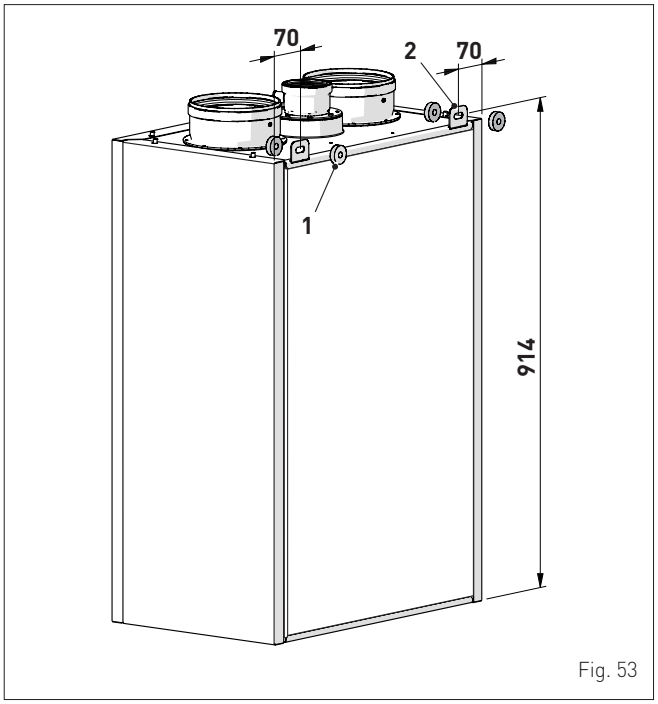


Fig. 53

Then:
- mark the two points where the holes are to be made to insert suitable expansion plugs that support the weight of the boiler
- mark the points where the holes (Ø 164 mm) are to be made to pass the air inlet and outlet and smoke outlet pipes through

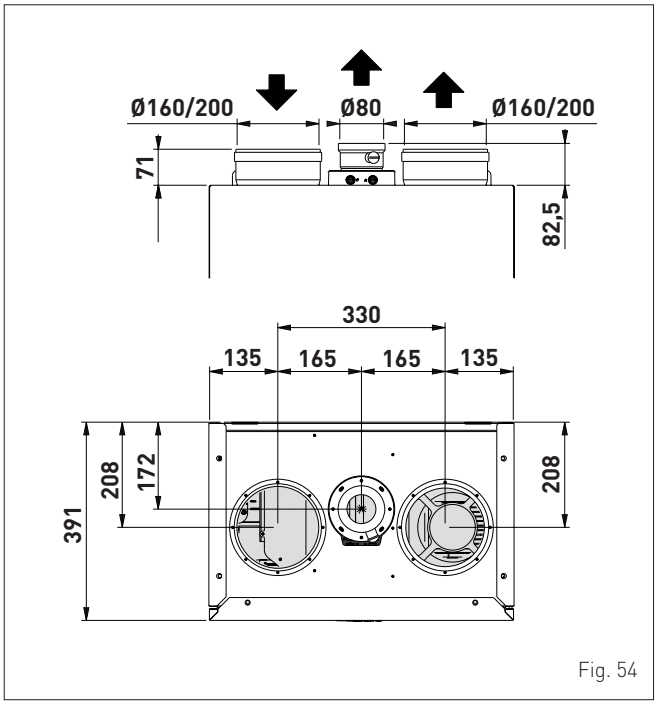


Fig. 54

- mount the boiler safely on the wall.

CAUTION
- The height of the boiler is to be such that disassembly and maintenance interventions are facilitated.
- The manufacturer is not responsible for any damage to people, animals or objects following incorrect mounting of the appliance.

5.9 Plumbing connections

The plumbing connections have the following characteristics and dimensions.

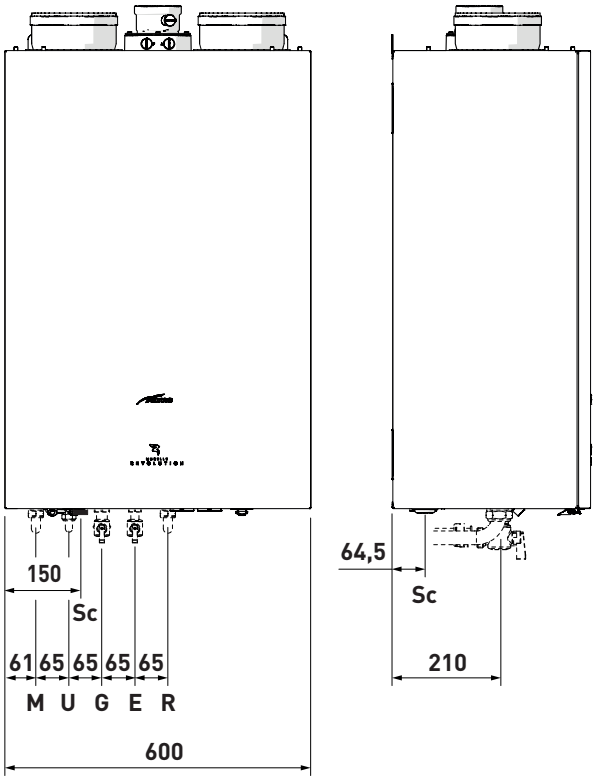


Fig. 55

Description	Murelle Revolution
M - System delivery	Ø 3/4" G
R - System return	Ø 3/4" G
U - Domestic hot water output	Ø 1/2" G
E - Domestic hot water inlet	Ø 1/2" G
G - Gas supply	Ø 3/4" G
Sc - Condensate outlet	Ø 20 mm

WARNING
You must fit a filter on the system return pipe.

5.9.1 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
Curve kit	8075418
Cocks kit	8091806
Wall mount replacement kit for other makers	8093900
Polyphosphate dosing kit	8101700
Dosing recharge kit	8101710

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

5.10 Condensate outlet/collection

In order to collect the condensate, it is recommended that:
- the appliance condensate outlets and the smoke outlet are ducted
- a neutralising device is prearranged
- the outlet incline is **>3%**.

CAUTION
- The condensate outlet duct must be airtight, suitably sized to that of the siphon and must not be restricted at any point.
- The condensate outlet must be constructed in full compliance of the National or Local regulations in force.
- Before commissioning the appliance, fill the siphon with water.

5.11 Gas supply

Murelle Revolution boilers leave the factory prearranged for gas G20 and can also work with G31 without the need for any type of mechanical conversion. Simply select parameter**"03"** (see " **Parameter setting and display**") 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.
Boiler connection to the gas mains must be carried out in full compliance with installation Standards in force.
Before connecting the boiler to the gas mains, the user must ensure that:
- the type of gas is correct for the appliance
- the pipes are clean
- the gas supply pipe is the same dimension as or greater than that of the boiler fitting (G3/4") and with a load loss less than or equal to that contemplated between the gas mains and the boiler.

WARNING
Once installation has been completed, check that the joints are air tight as indicated in the installation Standards.

CAUTION
It is recommended that the gas line has a suitable filter.

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

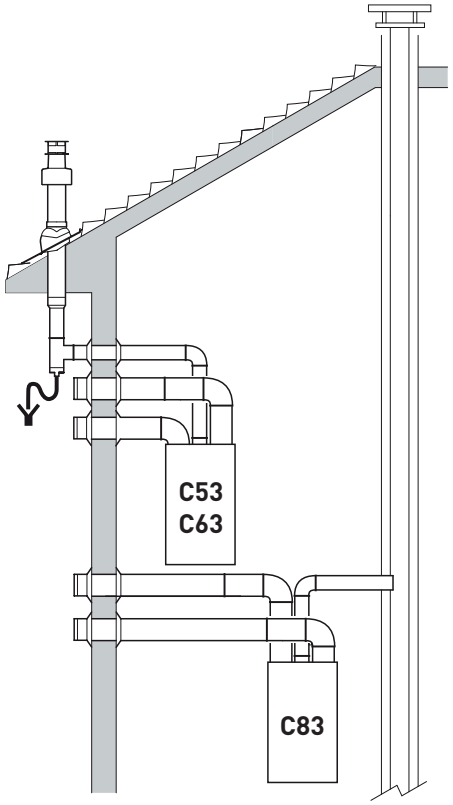
G31 - 37 mbar	X

5.12 Smoke outlet and air inlet (combustion/ heat pump)

WARNINGS

Murelle Revolution boilers must be installed and used with smoke outlet ducts and combustion/heat pump air inlet ducts fitted as specified below. **If installed outside in a partially protected place, the basic configuration with a 90° elbow and inlet/outlet terminal is still required as a minimum**.

Permitted outlets



C53
Separate wall or roof inlet and outlet in different pressure areas.

C83
Outlet in single or shared flue or with inlet on wall.

Fig. 56

WARNINGS

When the smoke outlet is wall mounted, the smoke outlet duct must be positioned at least 500 mm above the air duct.

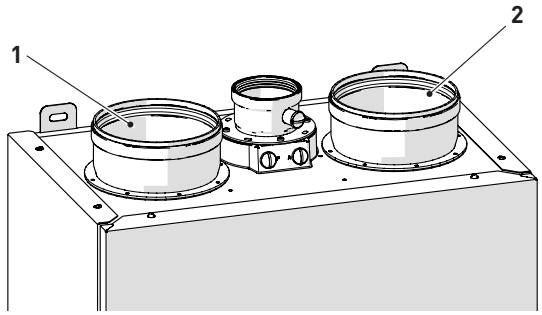


Fig. 57

WARNINGS

- The smoke flue and the connection to the flue pipe must be in compliance with the national and local Standards and Legislation in force.
- The use of rigid ducts which are resistant to temperature, condensate, mechanical stress and are air-tight is compulsory.
- Outlet ducts which are not isolated are a risk of danger.

5.12.1 Coaxial ducts (Ø 160/200 mm) for air inlet/ outlet (combustion/heat pump)

Coaxial ducts (Ø 160/200 mm) are used for the combustion air inlet and also for the heat pump inlet/outlet. A space is required between the two ducts to prevent condensation from forming.

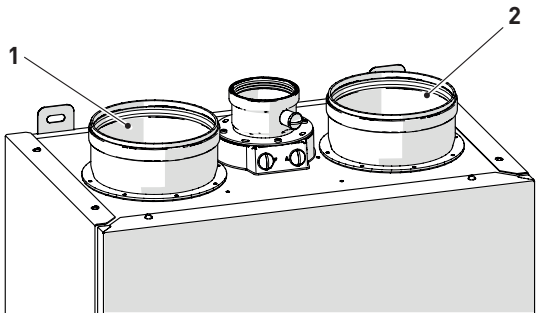


Fig. 58

KEY:
1 *Combustion/heat pump air inlet*
2 *Heat pump air outlet*

Air coaxial accessories

Description	Code
	Ø 160/200 mm
Extension MF PP Ø 160/200 L=1000	8077360
Extension MF PP Ø 160/200 L=500	8077361
Elbow Ø 160/200 90° PP MUR. REV	8089930
Elbow Ø 160/200 45° PP MUR. REV	8089931
Inlet/outlet terminal MUR. REVOL.	8089550

Load loss - Equivalent lengths

Model	Leq (linear metres)
	Ø 160/200 mm
90° curve	1,5
45° curve	1

Maximum lengths of straight tracks

Model	Duct length Ø 160/200			
	L Horizontal (m) (*)		H Vertical (m) (*)	
	Inlet	Outlet	Inlet	Outlet
Murelle Revolution	3	3	4	4

(*) The max. length of the straight track already includes a 90° elbow. Any shortening of one of the two tracks DOES NOT PERMIT equal lengthening of the other.

5.12.2 Holes for air inlet/outlet

Two holes are required for the appliance in the wall to channel the air inlet (1) and outlet (2) pipes outside.

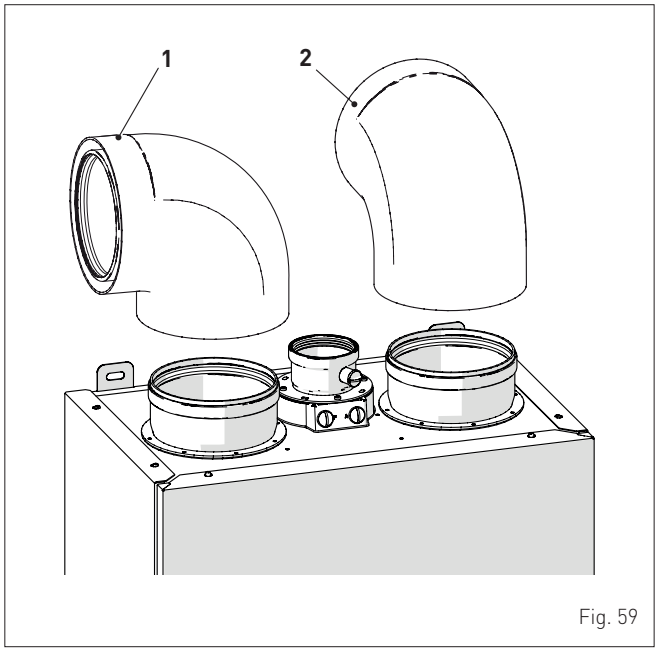


Fig. 59

– Carefully mark the centre of the holes to be made

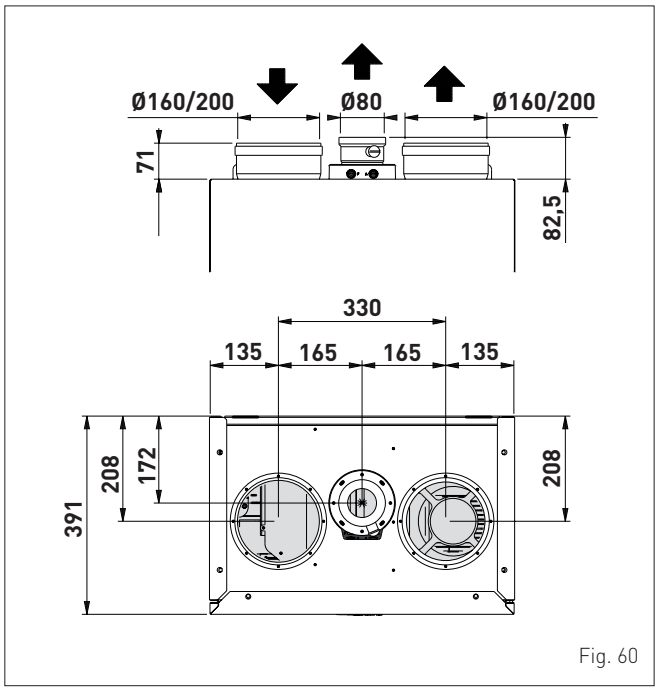


Fig. 60

Given the substantial size of the holes to be made in the wall, we recommended that suitable equipment (a core drill) be used, together with a suction system to limit the amount of dust and rubble.

CAUTION

The holes for channelling the inlet and outlet pipes outside must be slightly inclined downwards, to prevent any water coming in through the ducts.

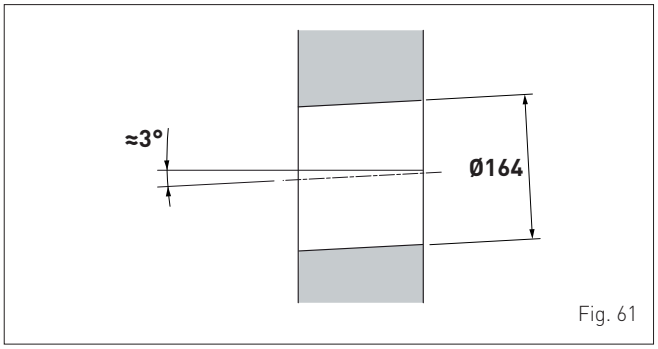


Fig. 61

WARNING

When making the holes for channelling the inlet and outlet pipes outside, the majority of the material may be expelled outside; it is therefore important to check that it does not hit people or objects below as it falls. To avoid damaging the external plastering as far as possible, take extra care in the final stages of making the hole.

CAUTION

The manufacturer is not responsible for any damage to people, animals or objects following incorrect installation of the air inlet and outlet system.

5.12.3 Fitting the air ducts

– Cut the pipe (1) so that M1 = space between the wall and the elbow (A) + approximately 45 mm (insertion length of the pipe (1) in the elbow (3))
– cut the pipe (2) so that M2 = 160 + wall thickness (B) + space between the wall and the elbow (A) + approximately 60 mm (insertion length of the pipe (2) in the elbow (3))
– insert the rings (4) inside the pipe (1), then the pipe (1) in the elbow (3) and the assembled unit in the support (5)
– install the pipe (2), from the outside, until it is fully inserted in the elbow (3).

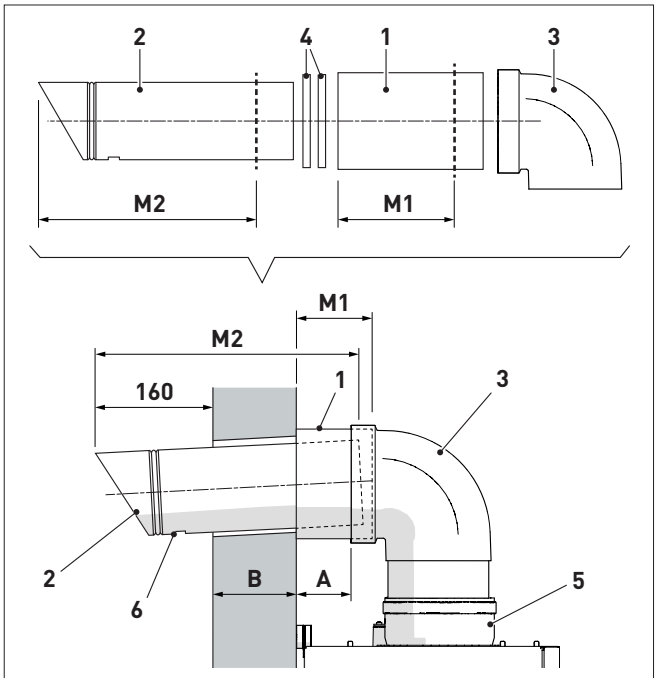


Fig. 62

***NB.**: Ensure that the opening (6) is completely free so that any rain water can be drained.*

5.12.4 Smoke outlet (Ø 80 mm)

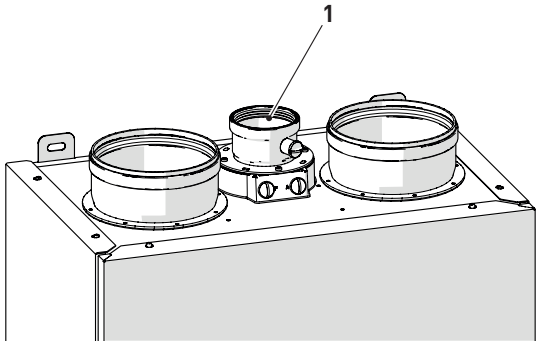


Fig. 63

KEY:
1 *Smoke outlet fitting*

To assemble the smoke outlet, the accessories chosen from the table must be connected up.

Accessories

Description	Code
	Diameter Ø 80 (mm)
90° curve M-F (6 pieces)	8077450
Extension W. 1000 mm (6 pieces)	8077351
Extension W. 500 mm (6 pieces)	8077350
Wall outlet terminal	8089501
Internal and external ring nut kit	8091500
45° curve M-F (6 pieces)	8077451
Roof outlet terminal	8091204
Condensate recovery	8093300

CAUTION
– The **maximum length of the smoke outlet duct** is determined by the load loss of the single accessories used and **should not be more than 15 mm H2O**.

Load loss accessory Ø 80 mm

Description	Code	Load loss (mm H_2O)
		Murelle Revolution
		Outlet
90° curve MF	8077450	0,25
45° curve MF	8077451	0,15
Horizontal extension W. 1000 mm	8077351	0,15
Vertical extension W. 1000 mm	8077351	0,15
Wall terminal	8089501	0,25
Roof outlet terminal	8091204	0,10

Example calculation of the load loss of a smoke outlet for a **Murelle Revolution** boiler.
(installation permitted since the total of the load loss of the accessories used is less than **15 mm H20**).

Accessories Ø 80 mm	Code	Quantity	Load loss (mm H_2O)	
			Outlet	Total
Extension W. 1000 mm (horizontal)	8077351	7	-	1,05
Extension W. 1000 mm (horizontal)	8077351	7	7 x 0,15	1,05
90° curve	8077450	2	-	0,40
90° curve	8077450	2	2 x 0,25	0,50
Wall terminal	8089501	2	0,25	0,35
TOTAL				**3,35**

5.13 Mounting the main control panel (remote)

CAUTION
Before mounting the main control panel on the wall, the cables below must be prepared; these cables will then be connected to the terminals inside the control panel itself:
– Mod-Bus communication cable
– 24 V power cable 2 x 0.75 mm2
– OpenTherm communication cable
– communication cable required to use a phone dialler for remote management, where relevant.

– Remove the main control panel from the packaging
– use a screwdriver to push the fastening tab (1) to release the base (2) from the user interface (3), making sure that the screwdriver does not penetrate it

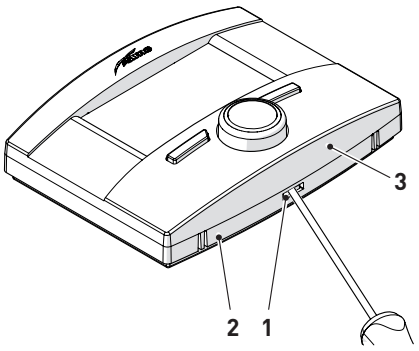


Fig. 64

– separate the two parts

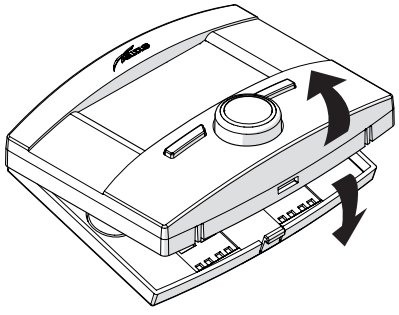


Fig. 65

- connect the OpenTherm (OT) communication cables to the terminal (4)
- connect the communication cables that may be required to use a phone dialler for remote management to the terminal (5)
- connect the ModBus RS485 communication cables to the terminal (6)
- connect the 24 V power cables (2 x 0.75 mm^2) to the terminal (7)

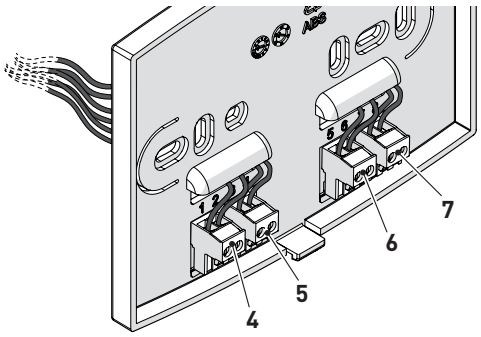


Fig. 66

- secure the base (2) to the wall using the screws (8) and the plugs (9) supplied with the main control panel

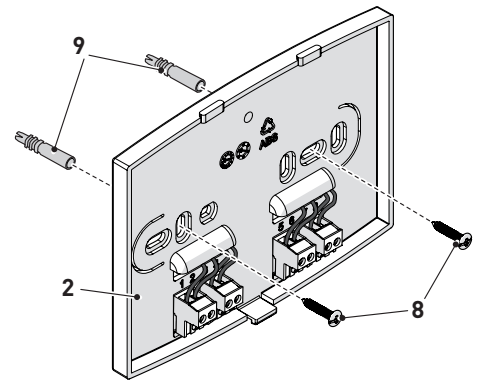


Fig. 67

- refit the user interface (3) on the base (2), hooking the tab (1) on correctly.

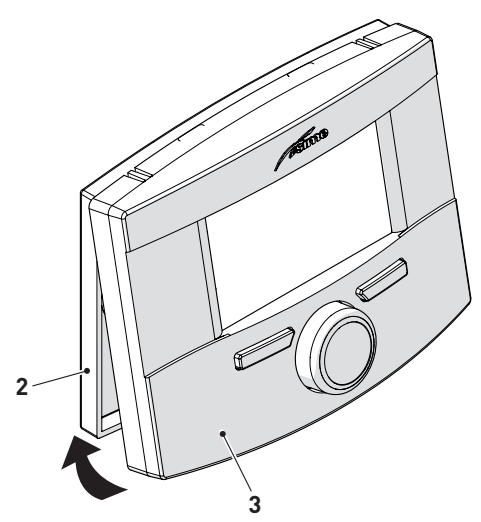


Fig. 68

CAUTION
Make sure that there is no excess cable between the base (2) and the user interface (3).

5.14 Electrical connections

CAUTION
The maintenance interventions described must ONLY be carried out the professionally qualified personnel.

The installer should make the following electrical connections:
- connecting the wired power cable, supplied with the boiler, to the 230V~50Hz mains
- connecting the outdoor probe, supplied with the appliance, to the specific connector on the boiler
- connecting the specific connector on the boiler to the terminals on the main control panel.

CAUTION
It is compulsory:
- to use an omnipolar cut-off switch, disconnect switch in compliance with EN Standards
- 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 intervention on the boiler, the mains power is disconnected by setting the main system switch to "OFF".

(*) The manufacturer is not responsible for any damage caused by failure to earth the appliance or failure to observe the information provided in the wiring diagrams.

IT IS FORBIDDEN
To use water pipes for earthing the appliance.

The boiler is equipped with a ready wired power cable which is to be connected to a 230V~50 Hz network.
If this cable needs to be replaced, an original spare must be requested from **Sime**.

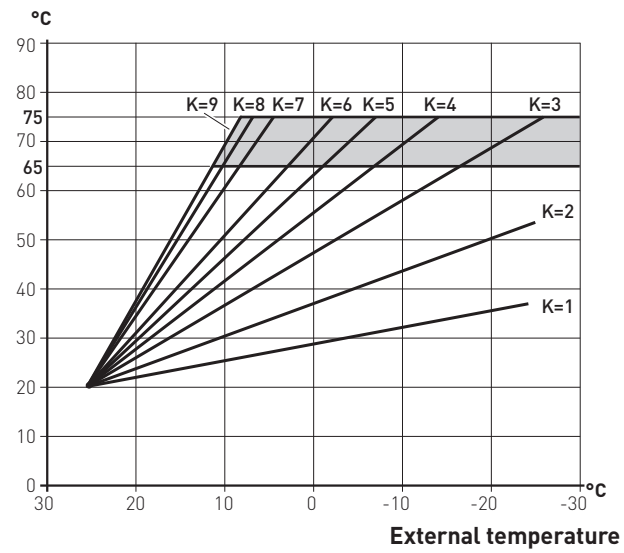
DESCRIPTION	CODE
Power cable (dedicated)	6127260

5.14.1 External sensor

Murelle Revolution requires an outdoor probe. This is supplied and MUST be connected because the boiler uses the outdoor temperature detected to operate.

CAUTION
The boiler CANNOT FUNCTION unless the outdoor probe is installed.

Climatic curve



k=4 *Factory settings*

Fig. 69

Procedure for selecting the climatic curve
To select the preferred climatic curve:
– from the **"Main screen"** on the main control panel (MCP)

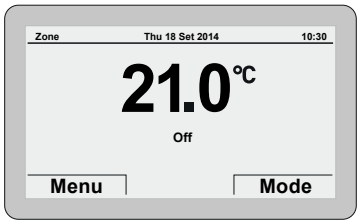


Fig. 70

– Press the **Menu** button to view the **"Menu"** selection screen
– turn the encoder to select the **"TECHNICAL"** menu

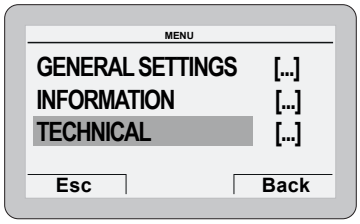


Fig. 71

– press the **click** encoder to access the modifiable area. The following screen is displayed:

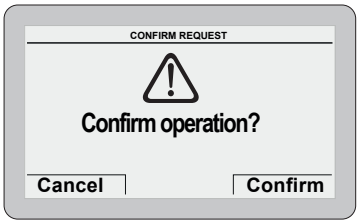


Fig. 72

– press the **Confirm** button to access the submenus

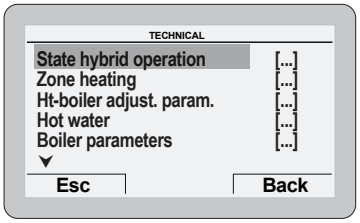


Fig. 73

– turn the encoder to select the **"Zone heating"** submenu

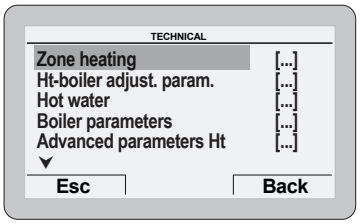


Fig. 74

– Press the **click** encoder to access the modifiable parameters area

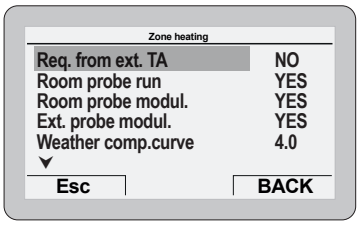


Fig. 75

– turn the encoder to select the **"Climatic curve "** row

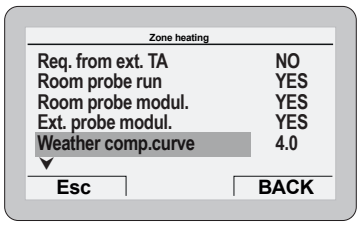


Fig. 76

– Press the encoder to confirm the highlighted "Row" and access the modifiable parameters.

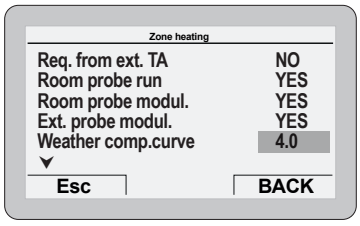


Fig. 77

– turn the encoder to select the **preferred climatic curve (from 1 to 9) according to the system requirements**
– press the encoder to confirm the selection
– press the Esc button to go back to the "Main screen".

CAUTION
The submenu**"Hybrid func. status"** is read-only.

5.14.2 Chrono-thermostat or air thermostat for the zone

The chrono-thermostat or air thermostat for the zone must be connected to terminals AT2 on the boiler control panel (gas side).

To set the MULTIZONE system configuration, operate the main control panel as described below.

From the **"Main screen"**:

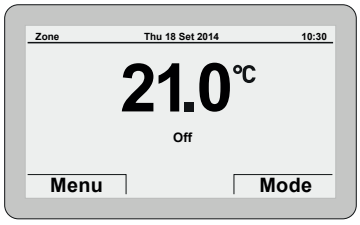


Fig. 78

– Press the Mode button to view the **"Function mode"** selection screen.
– Turn the encoder to select **"Winter"** mode.

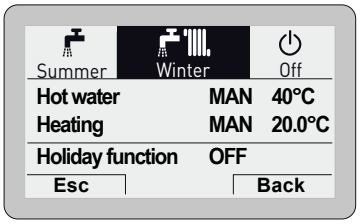


Fig. 79

– Press the **click** encoder to confirm and access the **"Rows"**.
– turn the encoder to select **"Heating"**.
– press the encoder to confirm **"Heating"** and access the **"Rows"**.

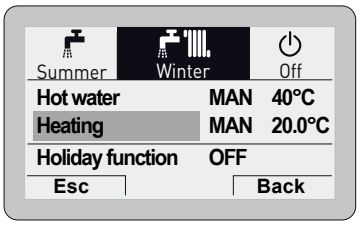


Fig. 80

– Turn the encoder to select **"Function mode"**.
– Press the **click** encoder to confirm the **"Function mode"** and go to the modifiable area.

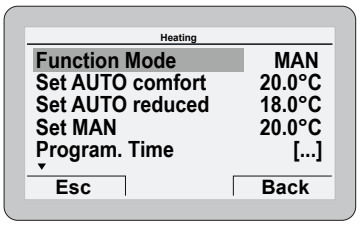


Fig. 81

– Turn the encoder to select **"OFF"**.
– Press the **click** encoder to confirm.

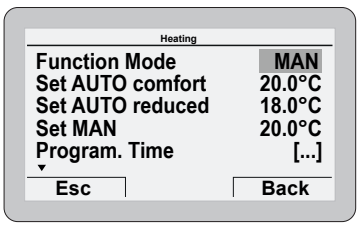


Fig. 82

– Press the Esc button to complete the modification and return to the **"Main screen"**.

From the **"Main screen"**:

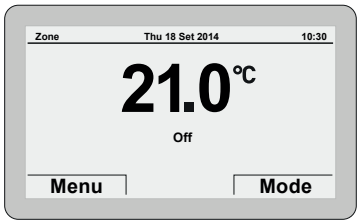


Fig. 83

– Press the **Menu** button to view the **"Menu"** selection screen

– turn the encoder to select the **"TECHNICAL"** menu

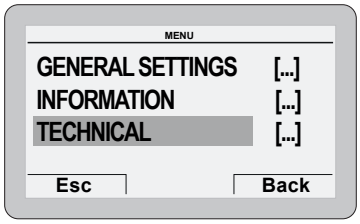


Fig. 84

– press the **click** encoder to access the modifiable area. The following screen is displayed:

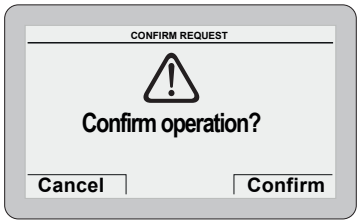


Fig. 85

– Press the **Confirm** button to access the submenus.

– Turn the encoder to select the **"Zone heating"** submenu.

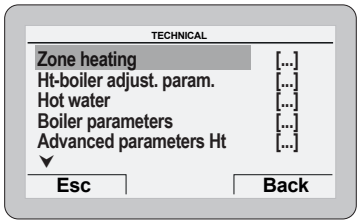


Fig. 86

– Press the **click** encoder to access the modifiable parameters area

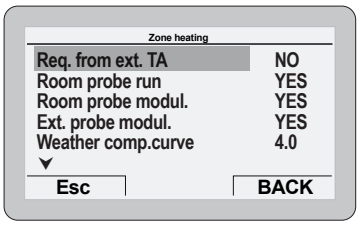


Fig. 87

– Press and turn the encoder to change the settings as specified below.

Req. from ext. TA	YES
Req. with room probe	NO
Mod. with room probe	NO
Mod. with ext. probe	YES

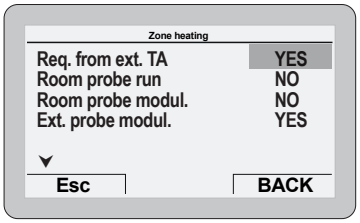


Fig. 88

– Press the **Esc** button to complete the modification and return to the **"Main screen"**.

The **main control panel (MCP)** then becomes a simple system operator with the relevant operating logic, and requests for heat for each zone are managed by the individual chrono-thermostats or ambient thermostats.

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

KEY
M System delivery
R System return
MCP Main control panel (remote)
SE External sensor
ATz1-ATz3 Air thermostat for the zone
VZ1-VZ3 Zone valves
RL1-RL3 Zone relays
P1-P3 Zone pump
SP Hydraulic separator

ONE DIRECT ZONE system.

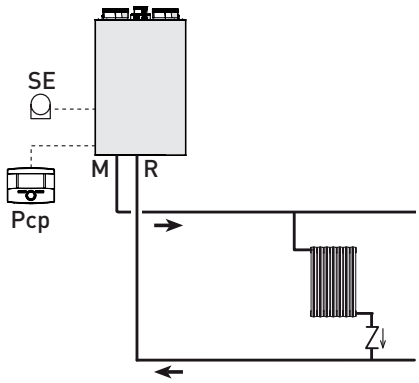


Fig. 89

MULTI ZONE system – with pump and air thermostat.

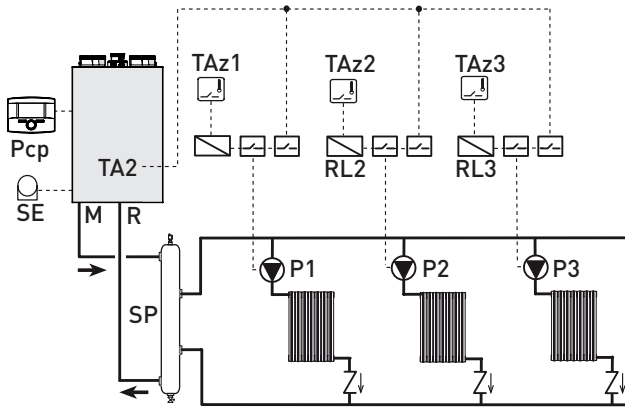


Fig. 90

MULTI ZONE system – with zone valve and air thermostats.

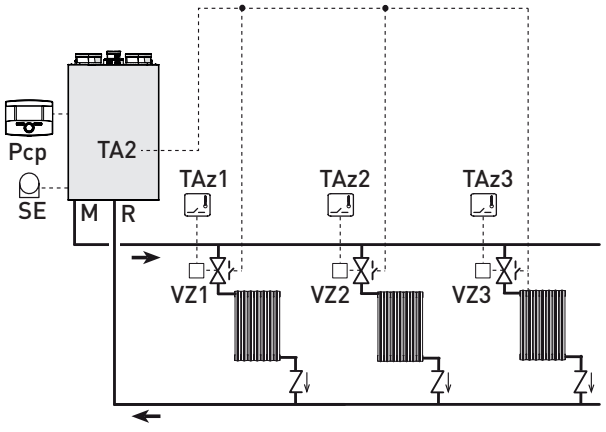


Fig. 91

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

5.15 Refilling or emptying

Before carrying out the operations described below, make sure that the main system switch is set to "ON"; after a few seconds, the main display will show on the **Main control panel**, and the pressure level in the system during refilling can be displayed.

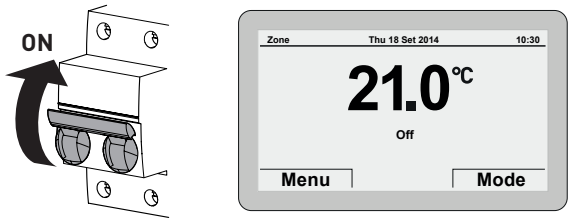


Fig. 92

Press the **Mode** button and check that the appliance function mode is set to **OFF**.

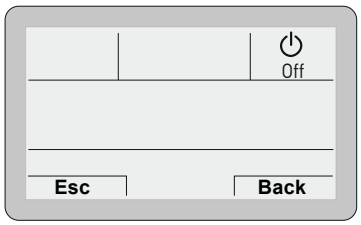


Fig. 93

If it is not OFF, turn the encoder to select **OFF** mode and press the **click** button to confirm.

5.15.1 REFILL operations

The **Murelle Revolution** boilers are not equipped with a filling valve which must be prearranged on the system return. The procedure is described below.

Remove the front panel:
if the front panel has not already been removed, open the two catches (1), unscrew the two screws (2), pull the front panel (3) forwards and release it from the top by lifting it.

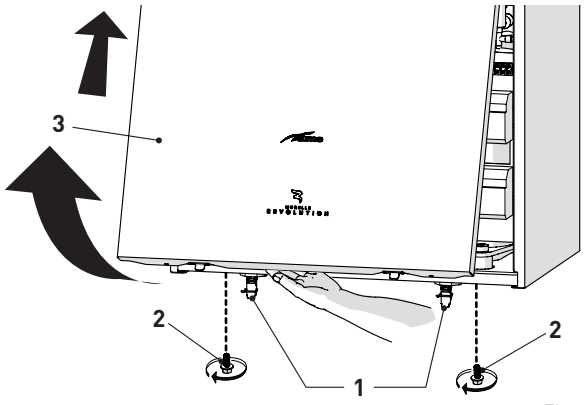


Fig. 94

Domestic hot water circuit:
- open the isolation valves of the domestic hot water circuit (if present)
- open one or more than one hot water valve to fill and bleed the domestic hot water circuit
- once bleeding has been completed, close the hot water valves.

Heating circuit:
- open the isolation and air bleeding valves in the highest points of the system
- loosen the automatic bleed valve (4)
- open the isolation valves of the heating circuit (if present)
- Open the filling valve (5)
- Fill until the water overflows from the air bleeding valves and shut off the valves again
- close the automatic bleed valve (4)
- Continue filling until the pressure reaches **1-1.2** bar as shown on the display
- Close the filling valve (5)
- check that there is no air in the system by bleeding all the radiators and the circuit on the high points of the system

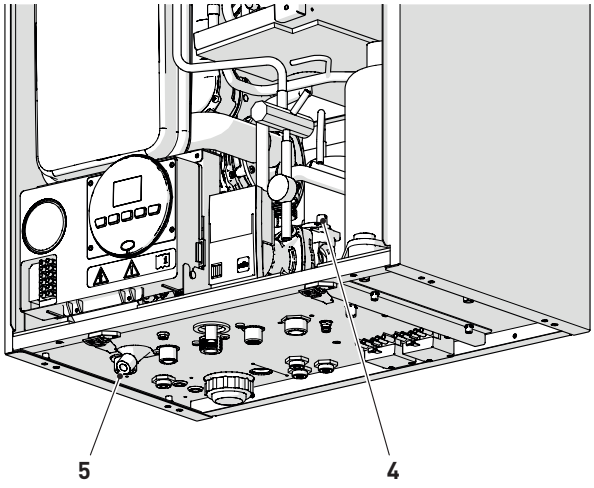


Fig. 95

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

- check the pressure on the display and if necessary top up until the correct pressure reading appears
- fill the siphon disconnecting it from the pipe or using (by means of) the smoke take-off point.

Refit the front panel of the boiler hooking it on at the top, pushing it forwards and securing it by first closing the catches (1) and then tightening the screws (2) which were removed previously.

5.15.2 EMPTYING operations

Domestic hot water circuit:
- close the domestic hot water circuit isolation valve (prearranged in installation)
- open one or more than one hot water valve to fill and bleed the domestic hot water circuit.

Boiler:
- loosen the automatic bleed valve (4)
- close the heating circuit isolation valves (prearranged in installation)
- check that the filling valve (5) is shut-off
- connect a rubber hose to the boiler drain valve (6) and open it
- when it has fully emptied, close the drain valve (6)
- close the automatic bleed valve (4).

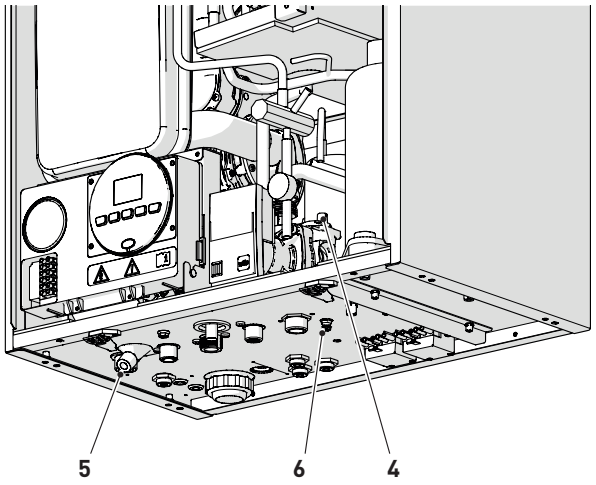


Fig. 96

6 COMMISSIONING

6.1 Preliminary operations

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 siphon has been filled.

6.2 Before commissioning

After having carried out the preliminary operations, follow the procedure below, in order, to start the boiler:
- Set the main system switch to "ON"; after a few seconds, the **"Main screen"** is shown on the display

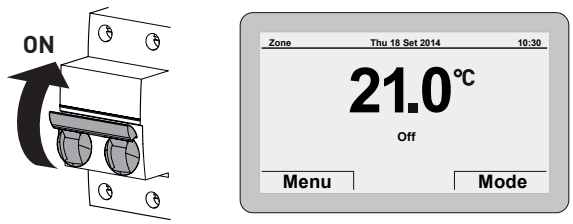


Fig. 97

- press the **Mode** button to access the **"Function mode"** select screen
- Turn the encoder to select a mode (e.g. "Summer")
- Press the **click** encoder to confirm

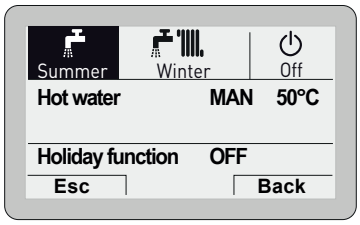


Fig. 98

- Disconnect and reconnect the electrical power supply by setting the main system switch to **"OFF"** and then to **"ON"**

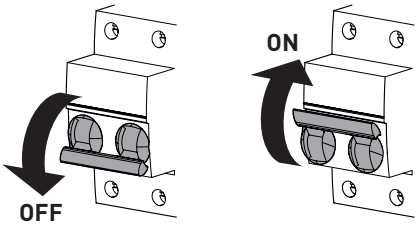
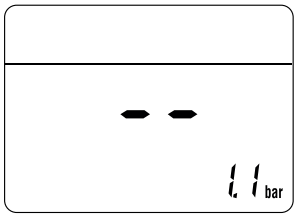


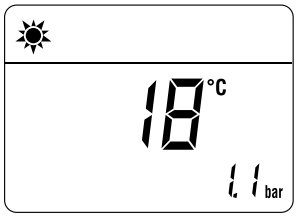
Fig. 99

NOTE: *this operation allows the user to access the boiler control panel (local).*

- the type of gas for which the boiler has been calibrated, **"nG"** (methane) or **"LG"** (LPG,) will appear followed by the power. After this the correct representation of the symbols will be checked and finally **"- -"**will appear on the display

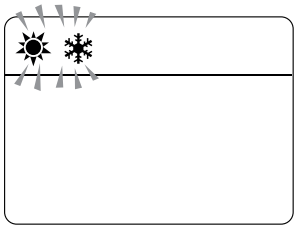


- check that the system pressure as shown on the pressure gauge when the system is cold , is between **1 and 1.2 bar**
- press the button RESET once for at least 1 second to select "SUMMER mode" . the value of the delivery sensor detected at that moment will appear on the display

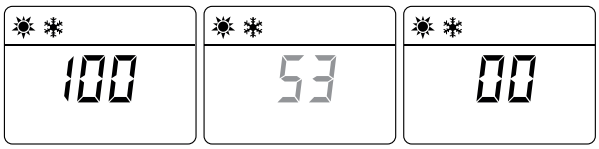


6.2.1 Self-calibrating procedure

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



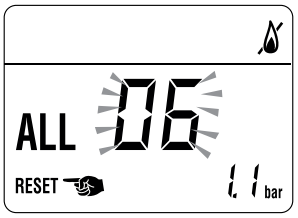
- as soon as the symbols begin to flash, release the buttons − and + and press the button R, **within 3 seconds**
- the "Automatic self-calibrating procedure" starts
- **open one or more than one hot water tap**
- the values flash on the display: **"100"** (maximum value), followed by an "intermediate value" and finally **"00"** (minimum value)



The operator must wait for approximately 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.

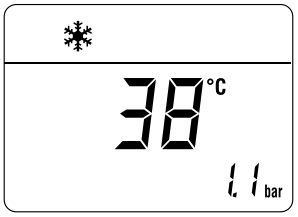
if there is a fault, the message **"ALL"** will appear on the display, the fault code (eg. **"06"** - no flame detected) and the message RESET.



CAUTION

To restore the start conditions press and hold the button ⏻R 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 RESET 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



– adjust the air thermostat and check that the boiler starts and operates correctly
– carry out the procedure "**Chimney sweeper function**", to check the mains gas pressure, detect the combustion parameters and to measure the combustion efficiency required by legislation in force.

6.3 Main control panel display and settings

CAUTION

We recommend not changing the factory settings so as not to alter optimal appliance operation. For any specific support, please contact the **Sime** Technical Assistance Service.

6.3.1 Settings using the MODE button

From the **"Main screen"**:

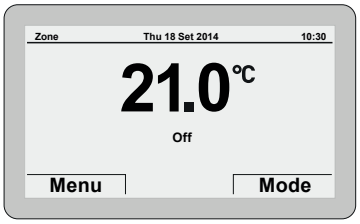


Fig. 100

– Press the Mode button to view the **"Function mode"** selection screen. Turn the encoder to select a mode (e.g. "Winter")

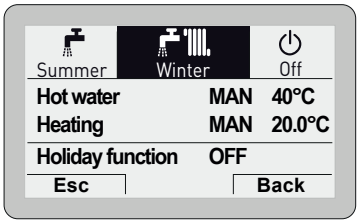


Fig. 101

– press the **click** encoder to confirm the highlighted **"Mode"** and go to the **"rows"**

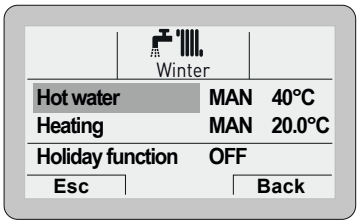


Fig. 102

– turn the encoder to select **"Heating"**.

– press the encoder to confirm **"Heating"** and access the **"Rows"**.

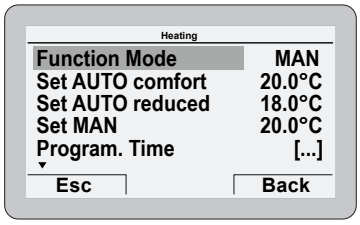


Fig. 103

– press the **click** encoder to confirm the highlighted **"Row"** and access the modifiable area

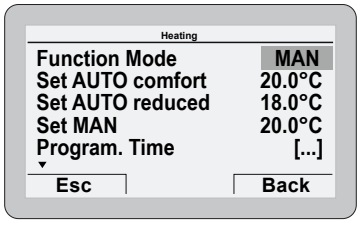


Fig. 104

– turn the encoder to modify the **"Data/value"** in the permitted field (e.g. MAN - AUTO - OFF)

– Press the **click** encoder to confirm any modifications made and go back to the row **"Function mode"**

– Turn the encoder to select another **"Row"** (e.g. **"Program. Time"**).

CAUTION
For information on using the functions "**Time Programming**" and "**Holiday function**" and see the relevant section ("**User instructions**").

6.3.1.1 Fault warnings

If a fault occurs, the screen **"Anomaly in progress"** will appear in place of the **"Main screen"**. For the main fault codes, a brief description and suggestions for the user are displayed, based on the seriousness and the frequency with which the fault reappears.

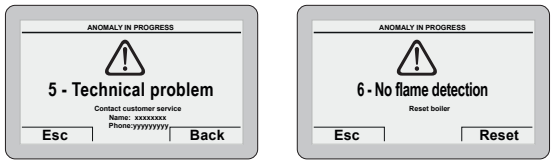


Fig. 105

The fault may be **transient** (volatile) or it may cause an appliance **block**.

To restore normal operating conditions:
– if the fault is transient, eliminate the cause of the fault
– if the fault causes a block, remove the cause of the fault and then press the **Reset** button.

If there is **"no water in the system"** or **"low water pressure in the system"** there is a request to fill the system and then to press the **Confirm** button rather than the **Reset** button.

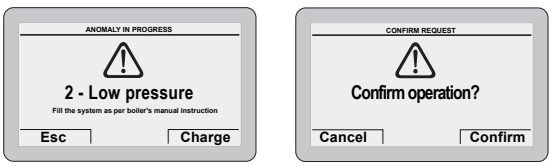


Fig. 106

A list of possible faults is given under "**Fault / malfunction codes**".

6.3.1.2 Quick settings

The encoder allows the operator, specifically the user, to:
– change the **"Set hot water"** in SUMMER mode
– change the **"Set room temperature"** in WINTER mode.

In both cases, from the **"Main screen"**:

– press the **click** encoder to display the **set** value

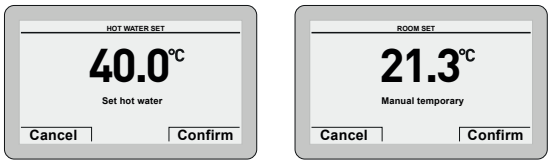


Fig. 107

– turn the encoder to set the new **"Set value"**
– press the **Confirm** button to complete the modification and return to the **"Main screen"**.

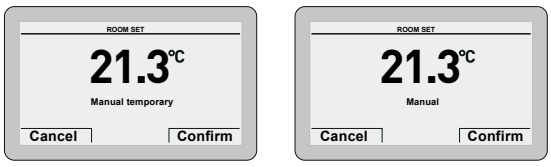


Fig. 108

IMPORTANT INFORMATION FOR THE SET AMBIENT TEMPERATURE

The meaning of the words on the display is as follows:
Manual temporary: the heating **"Function mode"** is set to AUTO and the set value read on the display is valid until the next time band change (automatic set point)
Manual: the heating **"Function mode"** is set to MAN and the set value read on the display is permanently valid.

6.3.2 Navigating using the MODE button

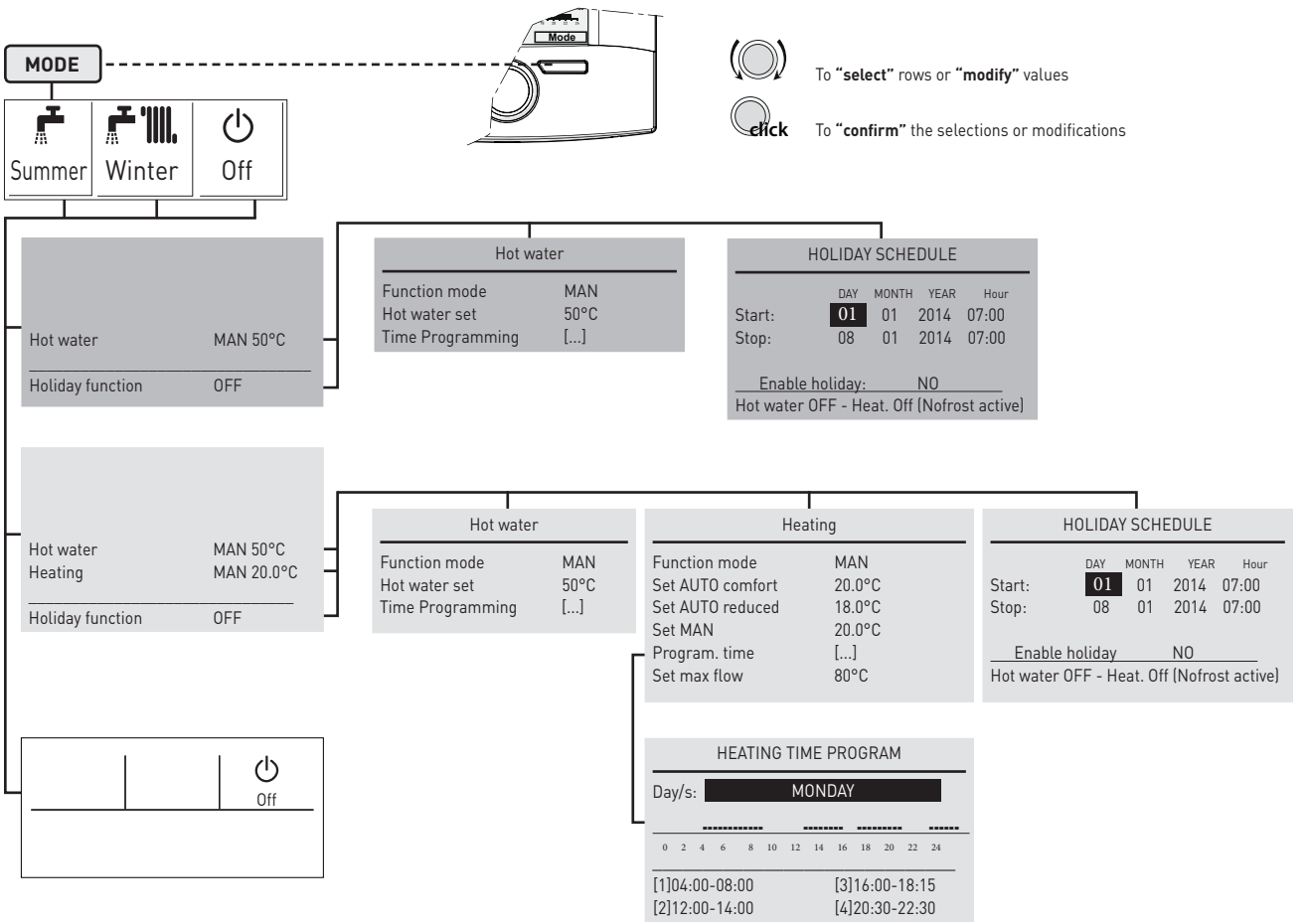


Fig. 109

6.3.3 Settings using the MENU button

6.3.3.3 GENERAL SETTINGS menu

From the **"Main screen"** on the **main control panel (MCP)**, proceed as follows:

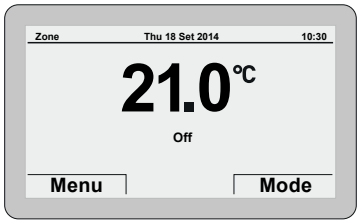


Fig. 110

– Press the **Menu** button to view the **"Menu"** selection screen

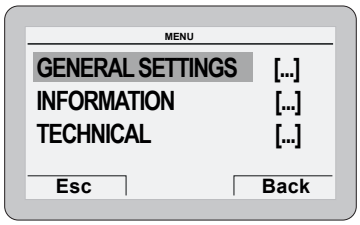


Fig. 111

– Press the **click** encoder to confirm the highlighted menu and access the submenus

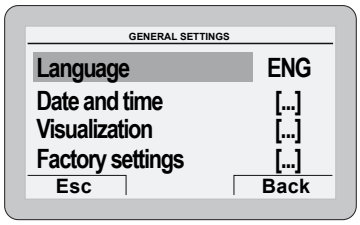


Fig. 112

– Press the **click** encoder to confirm the highlighted submenu and select the modifiable area

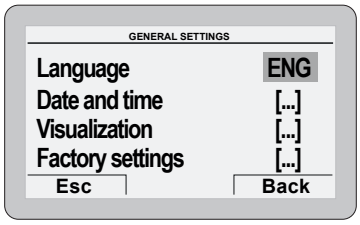


Fig. 113

– Turn the encoder and modify the **"Data/value"** in the permitted field (e.g. from ENG to ITA)

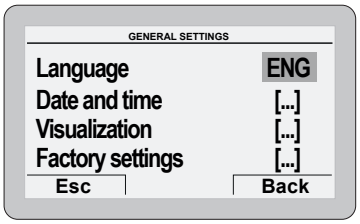


Fig. 114

– Press the **click** encoder to confirm the modification and go back to the submenu

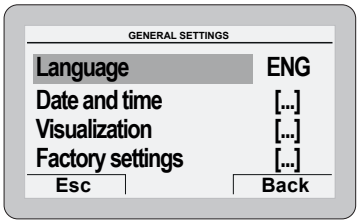


Fig. 115

***NOTE**: press the* **Back** *button to go back one step, or press the* **Esci** *button to return to the **"Main screen"**.*

– Turn the encoder to select another submenu (e.g. Date and time)

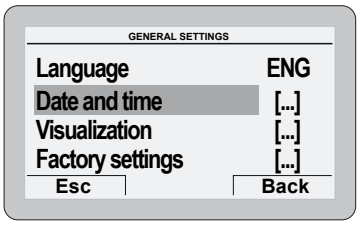


Fig. 116

– Press the **click** encoder to confirm the highlighted submenu and access the modifiable area

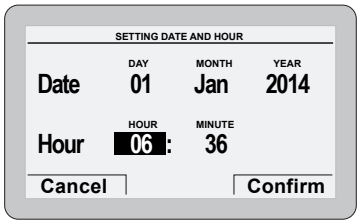


Fig. 117

– The first modifiable **"Data/value"** is highlighted (e.g. 06)
– Turn the encoder to modify the **"Data/value"** (e.g. from 06 to 12)
– Press the **click** encoder to confirm the modification and select the next **"Data/value"** which will be highlighted (e.g. 36)

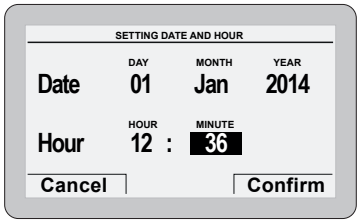


Fig. 118

– Turn the encoder to modify the **"Data/value"** (e.g. from 36 to 50)

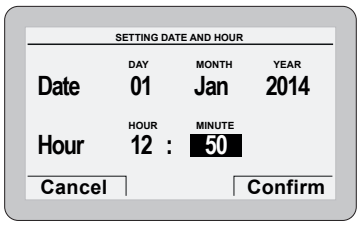


Fig. 119

– Press the **click** encoder to confirm the modification and select the next **"Data/value"** which will be highlighted (e.g. 01)
– Continue in this way until all the necessary modifications have been made
– After all modifications have been made, press the **Confirm** button to go back to the initial submenu (Date and time).

***NOTE**: The user must work in a CIRCULAR manner, meaning ALWAYS MOVING FORWARDS, even if a mistake is made.*

– Turn the encoder to select another **"Menu"** (e.g. Display).

The **"Display menu"** allows the user to adjust:
– display contrast
– duration of the display back-lighting
– encoder back-lighting

The operating procedure is as has been described so far.

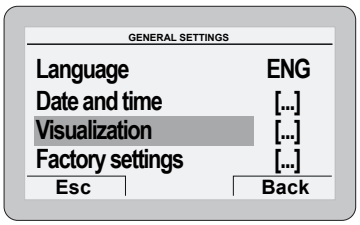


Fig. 120

CAUTION
"Factory settings submenu"
It is recommended that the user access this submenu ONLY to restore the **"Factory settings"**, thereby deleting all settings made by the user.
Otherwise, press the **Esc** or **Indietro** button.

To proceed:
– Press the **click** encoder to access the modifiable area. A screen appears offering the following options:

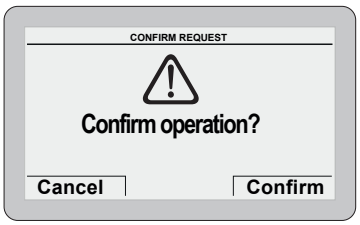


Fig. 121

– Press the **Cancel** button to go back to the "Menu" selected previously (Factory settings)
– Press the **Confirm** button to restore the **"Factory settings"** and, after a few seconds, go back to the **"main screen"**

6.3.3.4 INFORMATION menu

The INFORMATION menu is read-only and the data **cannot** be modified.
From the **"Main screen"**:

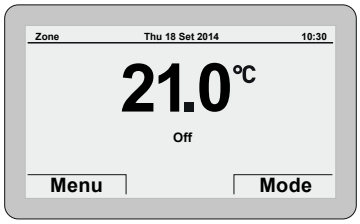


Fig. 122

– Press the **Menu** button to view the **"Menu"** selection screen
– Turn the encoder to select the **"INFORMATION"** menu

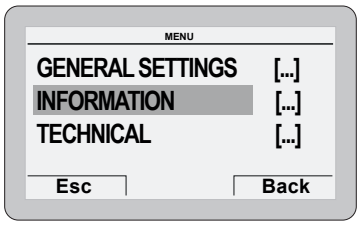


Fig. 123

– Press the **click** encoder to confirm **"INFORMATION"** and access the submenu

Fig. 124

– Turn the encoder to select the required submenu
– Press the **click** encoder to confirm the selected submenu and access the relevant data display

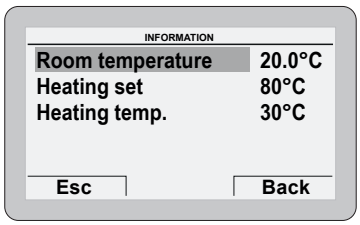


Fig. 125

– Press the **Back** button to go back to the submenus
– Turn the encoder to select another submenu

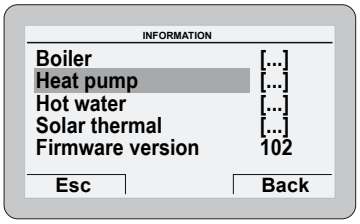


Fig. 126

– Press the **click** encoder to confirm the selected submenu and access the relevant data display
– Continue in this way until all the necessary information has been shown
– Press the **Esc** button to go back to the **"main screen"**.

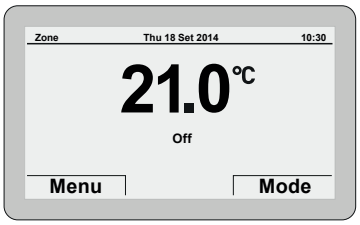


Fig. 127

6.3.3.5 TECHNICAL menu

It is recommended that the TECHNICAL Menu only be used by professionally qualified technicians, since it is used to modify system management data.
The submenu **"Boiler parameters"** requires the CODE (or password) **"1 2 3 4 5"** to be entered.

CAUTION
We recommend not changing the factory settings so as not to alter optimal appliance operation. For any specific support, please contact the **Sime** Technical Assistance Service.

From the **"Main screen"**:

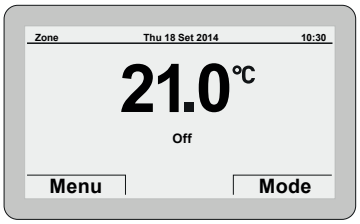


Fig. 128

– Press the **Menu** button to view the **"Menu"** selection screen

– turn the encoder to select the **"TECHNICAL"** menu

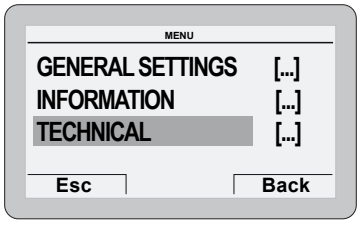


Fig. 129

– press the **click** encoder to access the modifiable area. The following screen is displayed:

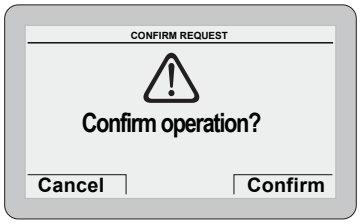


Fig. 130

– Press the **Cancel** button to go back to the **"TECHNICAL"** menu.
– Press the **Confirm** button to access the submenus.

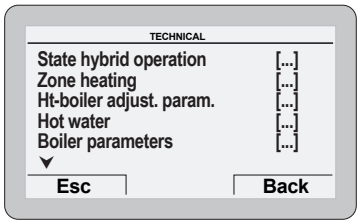


Fig. 131

– Turn the encoder to select the required submenu

– Press the **click** encoder to confirm the selected submenu and access the modifiable parameters area.

CAUTION
When the submenu **"Boiler parameters"** is selected, the following screen appears when the **click** encoder is pressed:

Fig. 132

– Turn the encoder to modify the first digit from 0 to 1

– Press the **click** encoder to confirm the modification and select the next digit
– Continue in this way until the CODE (or password) **"1 2 3 4 5"** has been completed

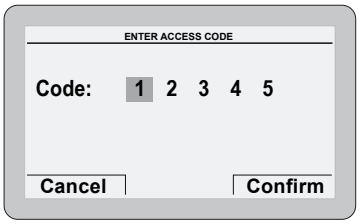


Fig. 133

– Press the **Confirm** button to access the boiler **"Parameter settings"** area

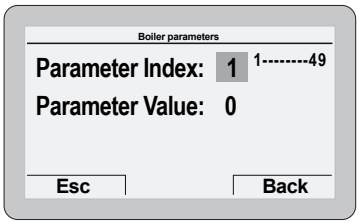


Fig. 134

– where **"Parameter index"** refers to the parameter table " **Parameter setting and display**"

– Turn the encoder to scroll through the list of parameters and check the value.

If the value of the selected parameter is to be modified:

– Press the **click** encoder to access the value modification area

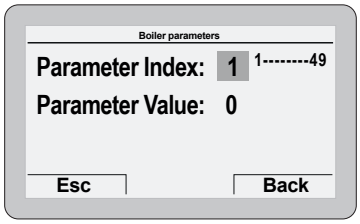


Fig. 135

– Press the encoder to set the new value

– Press the **click** encoder to confirm the modification and move on to another parameter

– Once all the display/modification commands have been completed, press the Esc button to go back to the **"Main screen"**.

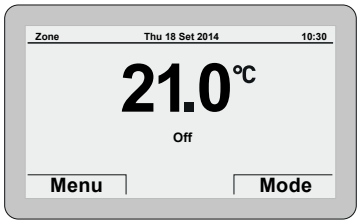


Fig. 136

6.3.3.6 TECHNICAL ASSISTANCE CENTRE menu

CAUTION
It is useful to enter the TECHNICAL ASSISTANCE CENTRE references which can then be displayed in the **"Display menu"** and suggested to the user if there is a serious fault with the boiler.

To enter the TECHNICAL ASSISTANCE CENTRE references:

– follow the procedure described in the section "**TECHNICAL menu**" up to "accessing the submenus"

– Turn the encoder to select the **"Technical Assistance Centre"** submenu.

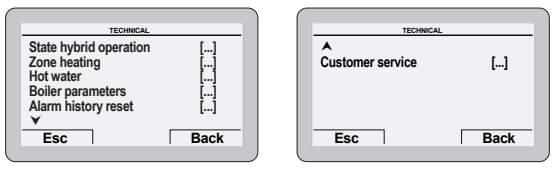


Fig. 137

– Press the **click** encoder to confirm

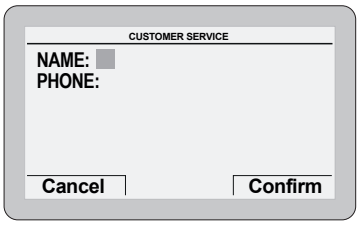


Fig. 138

– Turn the encoder to select the first letter of the name

– Turn the **click** encoder to confirm and move on to the next letter

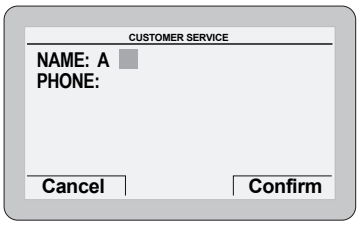


Fig. 139

– Continue in the same way until the name is complete

– Press the Confirm button to enter the telephone number. Proceed in the same way as for the name

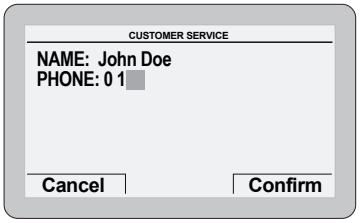


Fig. 140

– When this operation has been completed, press the Confirm button to return to the submenu. Press Esc to go back to the **"Main screen"**.

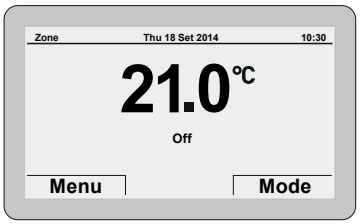


Fig. 141

6.3.4 Navigating using the MENU button

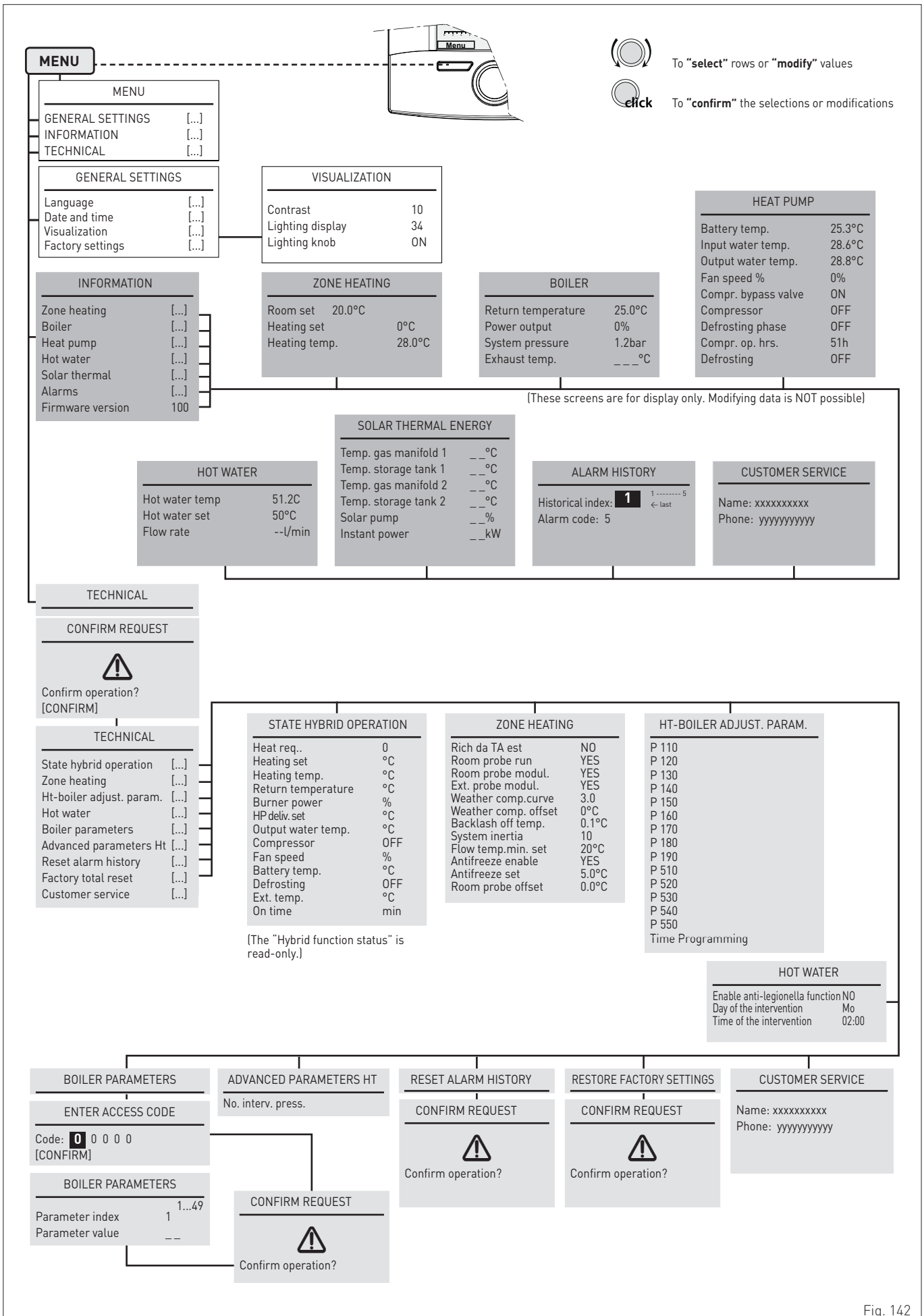


Fig. 142

6.4 Parameter setting and display

To access the parameters menu from the **"Main screen"**:

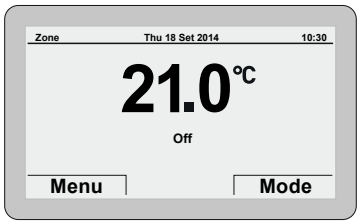


Fig. 143

– Press the **Menu** button to view the **"Menu"** selection screen

– turn the encoder to select the **"TECHNICAL"** menu

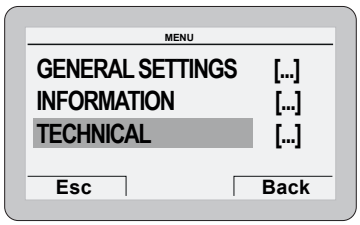


Fig. 144

– press the **click** encoder to access the modifiable area. The following screen is displayed:

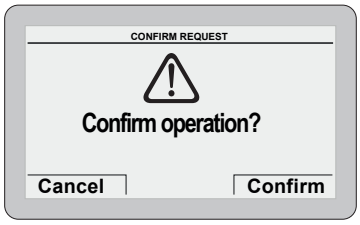


Fig. 145

– Press the **Cancel** button to go back to the **"TECHNICAL"** menu.

– Press the **Confirm** button to access the submenus.

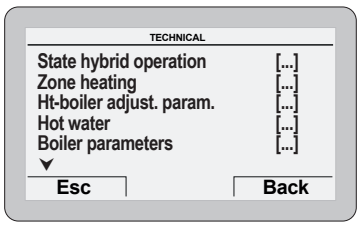


Fig. 146

– Turn the encoder to select the required submenu

– Press the **click** encoder to confirm the selected submenu and access the modifiable parameters area.

***NOTE**: The parameters below can be found in the submenu "HP-Boiler adjustment parameters".*

Type	No.	Description	Range	U/M	Step	Default
P	110	ΔT ON heating request	0 10	°C	1	1
P	120	ΔT OFF heating request	0 10	°C	1	4
P	130	Outdoor probe temperature for boiler ON to boost	-5 15	°C	1	7
P	140	Time 1 boiler ON (to support)	0 60	min	1	20
P	150	Time 2 boiler ON (to support)	0 60	min	1	5
P	160	ΔT ON heating boost request	-20 ...20	°C	1	2
P	170	ΔT OFF heating boost request	-20 ...20	°C	1	1
P	180	ΔT set for heat pump	-10 ...10	°C	1	8
P	190	Time 3 boiler ON (restart prevented)	0 ...30	min	1	3
P	510	Outdoor probe temp. for heat pump OFF	-15 ...0	°C	1	-7
P	520	Boiler activation to boost heating	Off/ On	-	-	On
P	530	Domestic hot water activation	Off/ On	-	-	On
P	540	Heat pump activation	Off/ On	-	-	On
P	550	HP maximum limit	30 ...55	°C	1	47
Time Programming			[.....]	-	-	-

Once the HP-Boiler parameter setting is complete::

– Press the **Esc** button

– Turn the encoder to select the **"Boiler parameters"** submenu

The following screen appears when the encoder is pressed as confirmation:

Fig. 147

– Turn the encoder to modify the first digit from 0 to 1
– Press the **click** encoder to confirm the modification and select the next digit
– Continue in this way until the CODE (or password) **"1 2 3 4 5"** has been completed

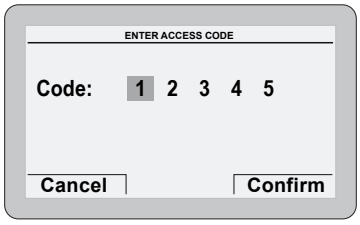


Fig. 148

– Press the **Confirm** button to access the boiler **"Parameter settings"** area

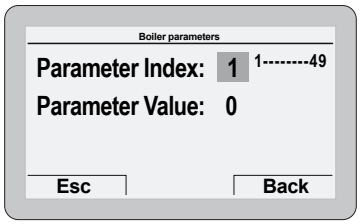


Fig. 149

– The **"Parameter index"** refers to the parameter table below
– Turn the encoder to scroll through the list of parameters and check the value.

If the value of the selected parameter is to be modified:

– Press the **click** encoder to access the value modification area

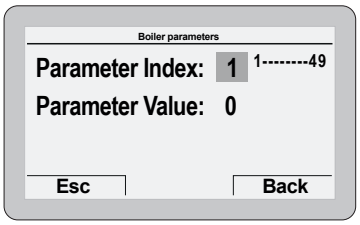


Fig. 150

– Press the encoder to set the new value
– Press the **click** encoder to confirm the modification and move on to another parameter
– Once all the display/modification commands have been completed, press the **Esc** button to go back to the **"Main screen"**.

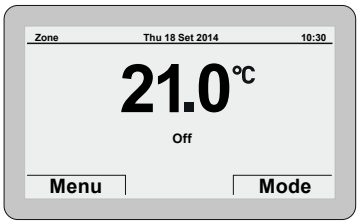


Fig. 151

Type	No.	Description	Range	U/M	Step	Default
		CONFIGURATION				
PAR	01	Index showing boiler power in kW 0 = 24; 1 = 25; 2 = 30; 3 = 35; 4 = 40; 5 = 24 (MURELLE REVOLUTION)	0 .. 5	-	1	5
PAR	02	Hydraulic configuration 0 = rapid 1 = storage tank with thermostat or heating only 2 = hot water tank with sensor 3 = bithermic 4=instant with solar power input	0 .. 4	-	1	0
PAR	03	Gas Type Configuration 0 = G20; 1 = G31; 2 = Propane air	0 .. 2	-	1	0
PAR	04	Combustion configuration 0 = sealed chamber with combustion control	-	-	-	0
PAR	08	External sensor value correction	-5 .. +5	°C	1	0
PAR	09	Ignition fan speed	80 .. 160	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	65
PAR	15	Maximum power heating	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	Re-ignition Delay	0 .. 60	Min	1	3

Type	No.	Description	Range	U/M	Step	Default
PAR	19	Domestic Hot Water Modulation with Flow meter 0 = Disabled 1 = Enabled	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	0 .. 1	-	1	0
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 = heat pump management	0 .. 9	-	-	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 = heat pump management	0 .. 9	-	-	0
PAR	25	Auxiliary TA function 0 = according to TA 1 = TA Antifreeze 2= domestic hot water disabled	0 .. 2	-	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	10 .. 67	°C	1	60
PAR	35	Digital / analogue Pressure switch 0 = water pressure switch 1 = water pressure transducer 2 = water pressure transducer (only pressure displayed)	0 .. 2	-	1	1
PAR	39	Modulating pump minimum speed	20 .. 100	%	1	55
PAR	40	Modulating Pump Speed	-- = No modulation AU = Automatic 30 100% PAR 39 100%	%	10	PM
PAR	41	ΔT Modulating pump delivery/Return	10 .. 40	°C	1	20
PAR	42	Select heat pump or gas boiler switchover	-20 .. 30	°C	1	5
PAR	43	Delay boiler activation to boost heat pump	1 .. 180	Min	1	20
PAR	47	System pump forcing (only in winter mode) 0 = Disabled 1 = Enabled	0 .. 1	-	-	0
RESET						
PAR	48	INST Parameter set to default	0 .. 1	-	-	0

6.5 Fault / malfunction codes

If a fault occurs, the screen **"Anomaly in progress"** will appear in place of the **"Main screen"**. For the main fault codes, a brief description and suggestions for the user are displayed, based on the seriousness and the frequency with which the fault reappears.

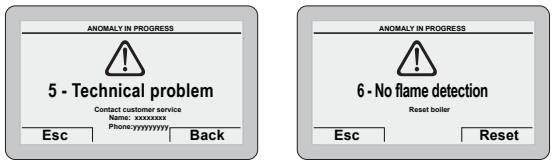


Fig. 152

The fault may be **transient** (volatile) or it may cause an appliance **block**.

To restore normal operating conditions:
- if the fault is transient, eliminate the cause of the fault
- if the fault causes a block, remove the cause of the fault and then press the **Reset** button.

If there is **"no water in the system"** or **"low water pressure in the system"** there is a request to fill the system and then to press the **Confirm** button rather than the **Reset** button.

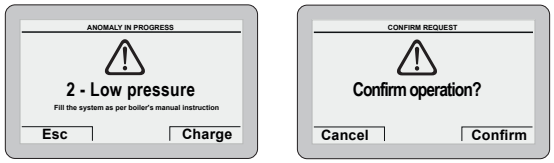


Fig. 153

Boiler fault (gas side)

Type	No.	Description
ALL	01	Not used
ALL	02	Low water pressure in system
ALL	03	High water pressure in system
ALL	04	Domestic hot water sensor fault
ALL	05	Delivery sensor fault
ALL	06	No flame detection
ALL	07	Safety thermostat intervention
ALL	08	Fault in the flame detection circuit
ALL	09	No water circulating in the system
ALL	10	Auxiliary sensor fault
ALL	11	Gas valve modulator disconnected
ALL	12	Incorrect configuration of the open /sealed chamber
ALL	13	Smoke probe intervention
ALL	14	Smoke probe fault
ALL	15	Fan check cable disconnected
ALL	18	Condensate level fault
ALL	28	Maximum number of consecutive releases
ALL	30	Return sensor (SR) fault
ALL	37	Fault due to low network voltage
ALL	40	Incorrect network frequency detected
ALL	41	Flame loss more than 6 consecutive times
ALL	42	Button fault
ALL	43	Open Therm communication fault
ALL	44	No flame valve opening time sum anomaly
ALL	62	Self-calibrating procedure is required
ALL	72	Incorrect positioning of the delivery sensor
ALL	77	EV2 SGV current max/min absolute limits error
ALL	78	EV2 SGV current upper limit error
ALL	79	EV2 SGV current lower limit error
ALL	80	Fault on the valve control logic line/valve cable damaged
ALL	82	Block due to numerous combustion control failures
ALL	84	Flow rate reduced for (presumed) low pressure on mains gas
ALL	88	Internal error (board component protection)
ALL	89	Unstable combustion feedback signal error
ALL	90	Combustion set cannot be reached error
ALL	92	System has reached maximum air correction error (at the minimum flow rate)
ALL	93	Combustion set cannot be reached error
ALL	95	Flame signal micro interruptions error
ALL	96	Block due to clogging in smoke outlet
ALL	98	SW error, board start-up
ALL	99	General board error

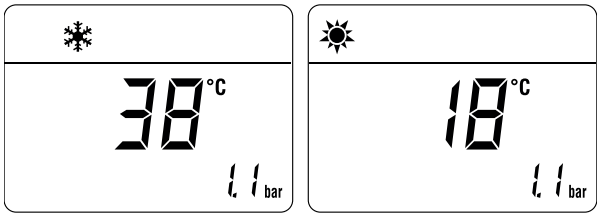
Heat pump fault

Type	No.	Description
P	02	High pressure
P	04	Low pressure
P	12	Antifreeze (heat exchanger temp. < 3°C)
P	15	High temperature (HP delivery temp. > 50°C)
P	32	Probe errors aggregate (one or more probes with an active alarm)
P	33	Battery temperature probe error
P	34	Inlet water temperature probe error
P	35	Outlet water temperature probe error

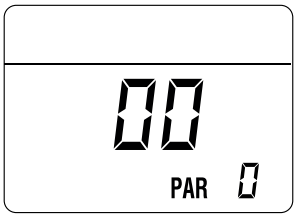
6.6 Display of operating data and counters

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

– from the boiler control panel screen (gas side) in the mode enabled at that time (WINTER or SUMMER)

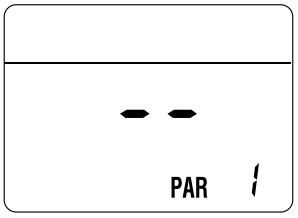


– go into **"DISPLAY"** by pressing the buttons and **— at the same time** for more than 3 seconds until the following screen appears

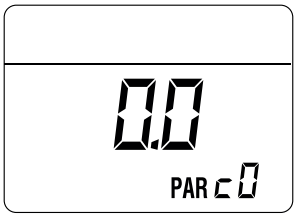


From this point, the technician has 2 options:

– 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.

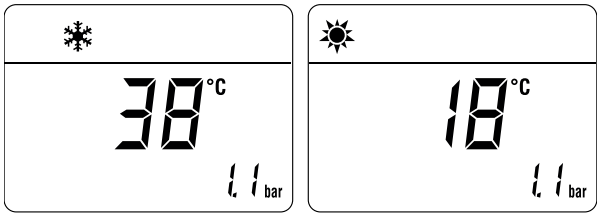


TABLE OF INFORMATION DISPLAYED

Type	No.	Description	Range	U/M	Step
PAR	00	SW version			
PAR	01	External sensor	- 9 .. 99	°C	1
PAR	02	Delivery sensor temperature	- 9 .. 99	°C	1
PAR	03	Smoke probe	- 9 .. 99	°C	1
PAR	04	Domestic hot water sensor temperature	- 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	Flow meter rate	0 .. 99	l/min	0.1
PAR	09	Water pressure transducer reading	0 .. 99	bar	0.1
PAR	10	Display of current fan revolutions	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	time unitl next maintenance intervention	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

6.7 Checks

6.7.1 Chimney sweeper 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 required by legislation in force.

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

– if the front panel has not already been removed, open the two catches (1), unscrew the two screws (2), pull the front panel (3) forwards and release it from the top by lifting it.

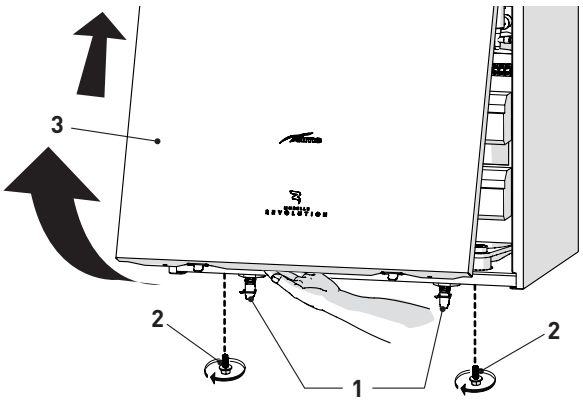


Fig. 154

– remove the screws (4) securing the control panel (5)
– move the panel (5) upwards (a) but keeping it in the side guides (6) to the end of travel
– bring it forwards and down (b) until it is horizontal

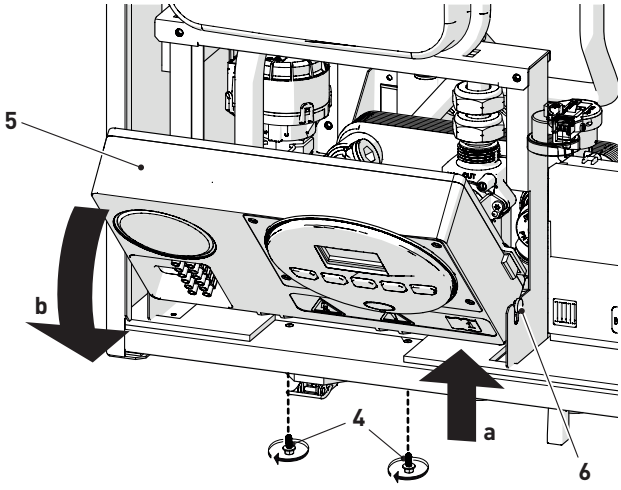


Fig. 155

– close the gas valve
– loosen the screw of the "mains pressure" point (7) and connect a pressure gauge

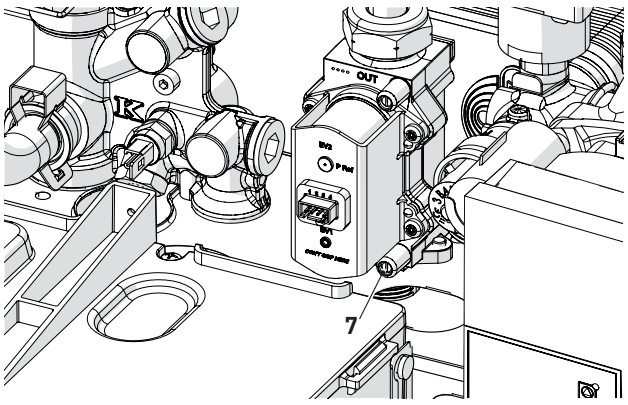


Fig. 156

– open the gas valve
– power the boiler by setting the main switch to "ON"

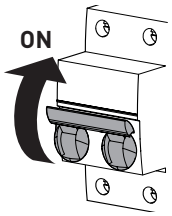
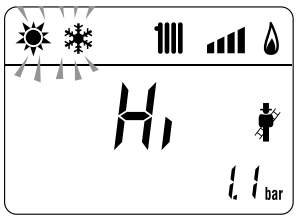
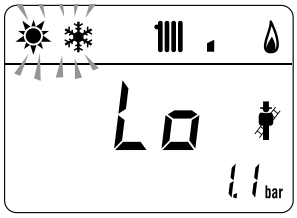


Fig. 157

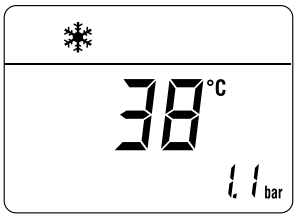
– press the button ⏻R for at least 1 second until "SUMMER" mode ☀ has been selected
– press and hold down the buttons − and + at the same time for approximately 10 seconds until the message "Hi" appears on the display together with the flashing symbols ☀ and ❄



– 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. Take a reading of the combustion data and measure the combustion efficiency.
– 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 ☀ and ❄



– take the combustion data reading
– press the button ⏻R 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), put the control panel back to the original position and refit the front panel (2).

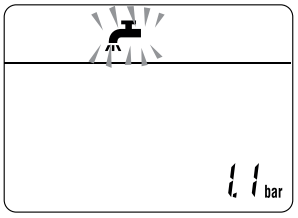
Gas supply pressure

Type of gas	G20	G31
Pressure (mbar)	20	37

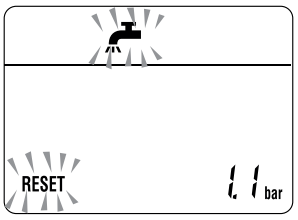
6.8 Domestic hot water comfort function (preheating)

Murelle Revolution 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**a 1**
– exit parameter settings and press button **+** for approximately 5 seconds until the symbol and RESET 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.



6.9 Gas conversion

Murelle Revolution models can work with G20 or G31 without the need for any mechanical conversion. Simply select parameter**"PAR 03"** (see "**Parameter setting and display**") 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.

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

G31 - 37 mbar	X

7 MAINTENANCE

7.1 Adjustments

For the appliance to operate correctly and efficiently it is recommended that the User calls upon the services of a Professionally Qualified Technician to carry out **ANNUAL** maintenance.

CAUTION
The maintenance interventions described must ONLY be carried out the professionally qualified personnel.

WARNING
Before carrying out any interventions described:
- set the main system switch to "OFF"
- close the gas valve
- make sure that no hot parts inside the appliance are touched.

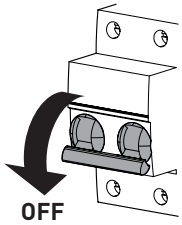


Fig. 158

7.2 External cleaning

7.2.1 Cleaning the cladding

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

IT IS FORBIDDEN
to use abrasive products.

7.3 Cleaning the inside of the appliance

7.3.1 Removing components

To access the internal parts of the boiler:
- open the two catches (1), unscrew the two screws (2), pull the front panel (3) forwards and release it from the top by lifting it.

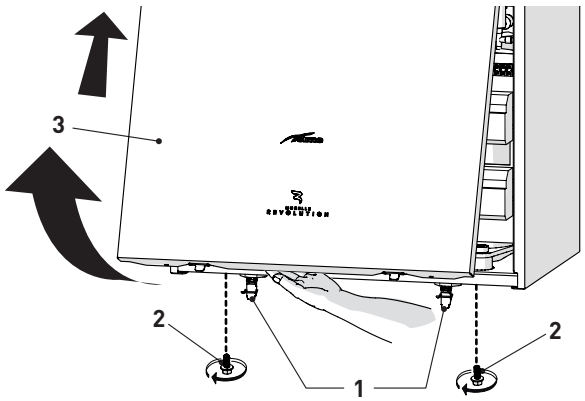


Fig. 159

- remove the screws (4) securing the control panel (5)
- move the panel (5) upwards (a) but keeping it in the side guides (6) to the end of travel
- bring it forwards and down (b) until it is horizontal

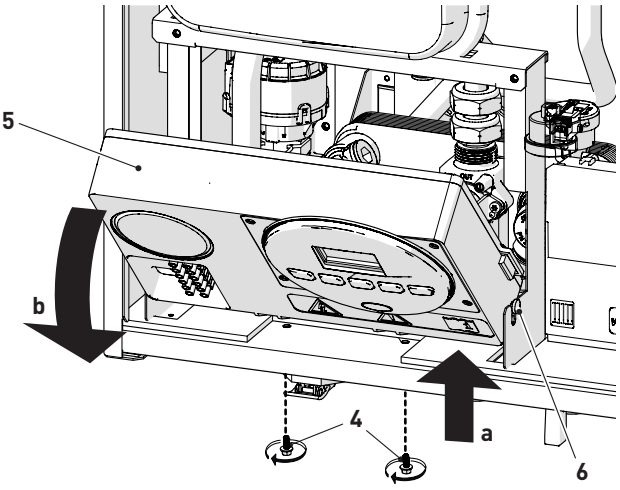


Fig. 160

– remove the two screws (7), lift the expansion vessel and hook it onto the support (8)

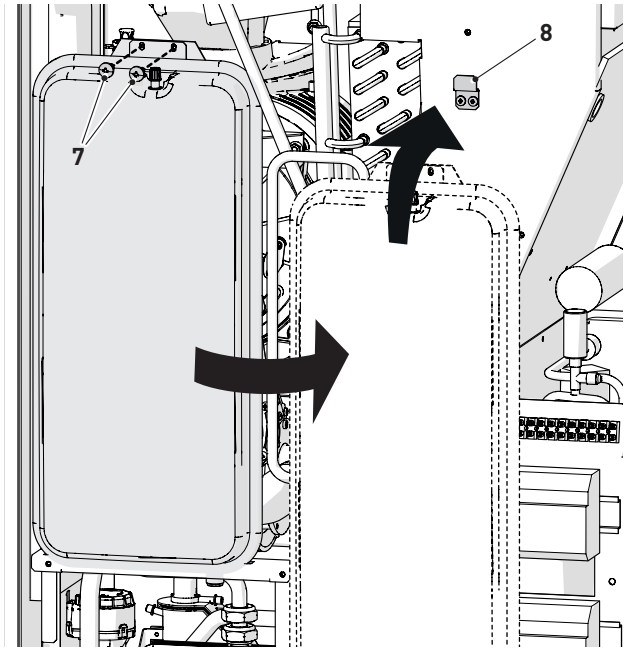


Fig. 161

– loosen the clip (9) and extract the air inlet pipe (10)
– unscrew the swivel joint (11)
– extract the connectors (12) from the fan and disconnect the electrode cable (13)

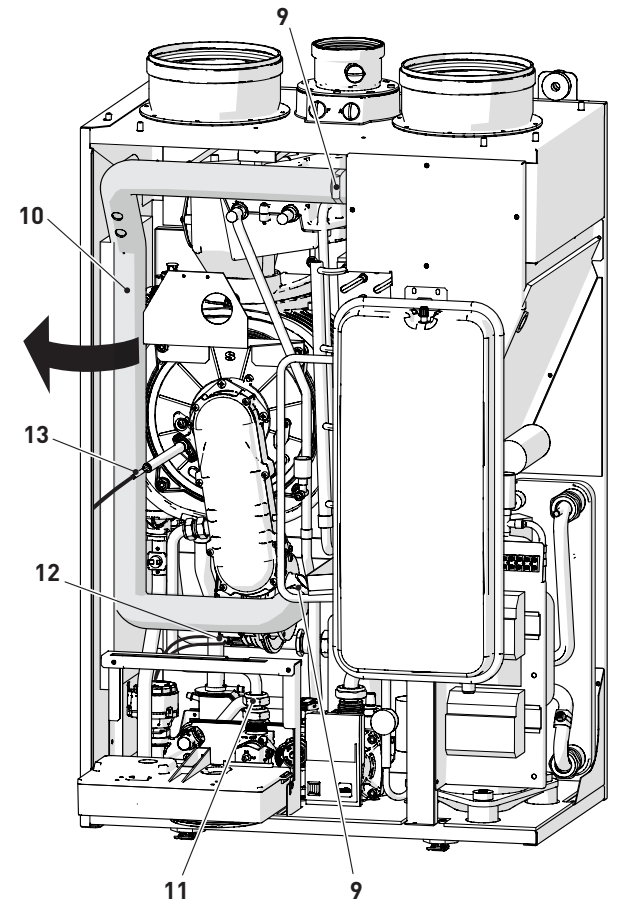


Fig. 162

– Unscrew the four nuts (14) securing the combustion chamber door (15)
– pull the fan/sleeve/door/air pipe assembly (16) forwards and remove it.

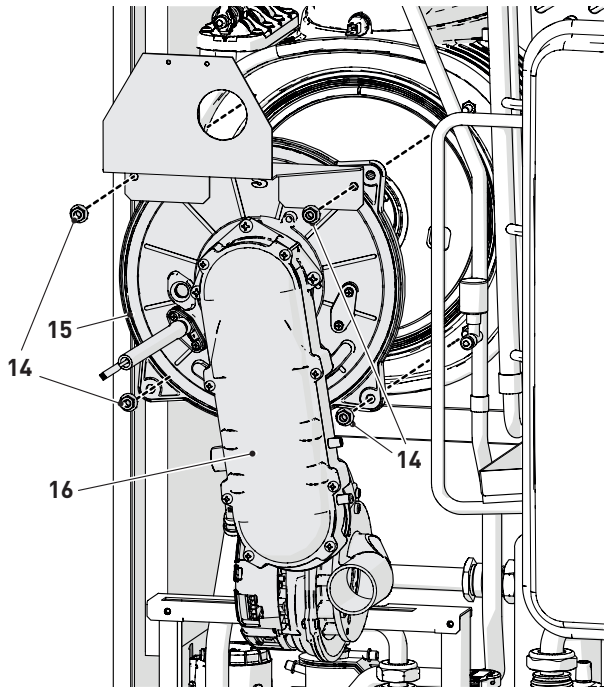


Fig. 163

CAUTION
Work carefully when removing the assembly (16) to prevent any damage occurring to the internal insulation of the combustion chamber and the door seal.

7.3.2 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.

7.3.3 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.

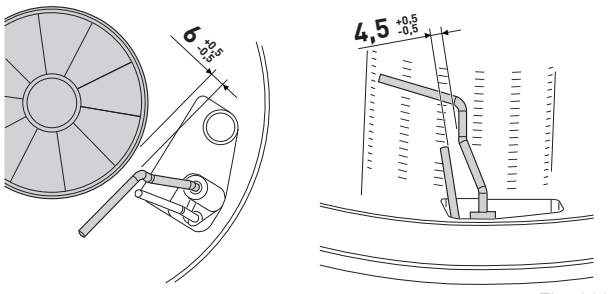


Fig. 164

7.3.4 Cleaning the smoke exchanger

Remove the cover (17) by unscrewing the two screws and remove any carbon deposits.

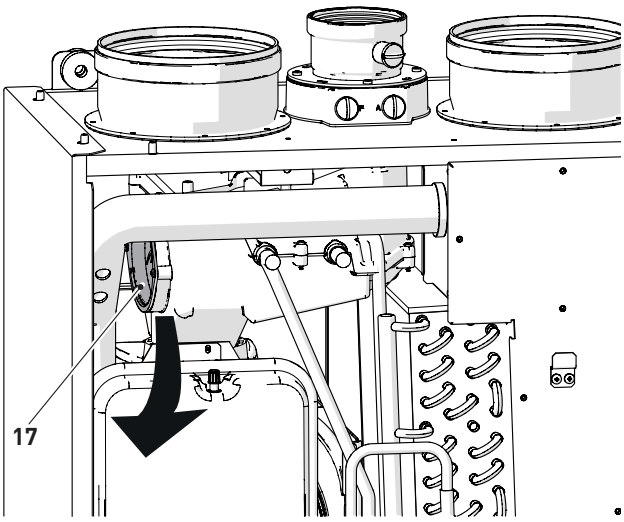


Fig. 165

7.3.5 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 (15) to the combustion chamber are integral. Replace if necessary
- refit the assembly by carrying out the same operations for removal but in the reverse order and tighten the screws (14) of the door to the combustion chamber
- reconnect the air duct and tighten the clips
- reconnect the connections to the fan and the electrode
- refit the expansion vessel in its original position.

7.3.6 Cleaning the heat pump

The only maintenance work required on the heat pump is cleaning of the evaporator with a suitable tool (a form of brush).

7.4 Checks

7.4.1 Checking the smoke duct

Check that the combustion air inlet/outlet ducts and smoke outlet duct are integral and airtight.

7.4.2 Checking the expansion vessel pressure

It is recommended that the expansion vessel on the water side is drained and that the prefilling pressure is not less than **1 bar**. If this is not the case, pressurize it to the correct value (see section**Expansion vessel**".

Once the checks described above have been completed:
- refill the boiler as described in section "**REFILL operations**"
- check that the siphon has been filled correctly
- Start the boiler, activate the "**Chimney sweeper function**" and carry out a smoke analysis and/or measure the combustion efficiency
- refit the front panel, fixing it in place with the two catches (1).

7.5 Unscheduled maintenance

If replacing the **electronic board**, the user MUST set the parameters as indicated in the table.

Type	No.	Description	Setting for Murelle Revolution
PAR	01	Index showing boiler power in kW 0 = 24; 1 = 25; 2 = 30; 3 = 35; 4 = 40; 5 = 24 (MURELLE REVOLUTION)	5
PAR	02	Hydraulic configuration 0 = rapid 1 = storage tank with thermostat or heating only 2 = hot water tank with sensor 3 = bithermic 4=instant with solar power input	0
PAR	03	Gas Type Configuration 0 = G20/G25; 1 = G31	0 or 1

To enter "**Parameter setting and display**"refer to the indications provided in the specific section.
Once the parameters in the table have been set, you must carry out the entire phase of "**Self-calibrating procedure**" described in the specific section.
If the **gas valve** and/or the **ignition/detection electrode**, and/or the **burner**, and/or the **fan** are replaced, the user must still carry out the entire phase of "**Self-calibrating procedure**" described in the specific section.

7.6 Malfunction codes and possible solutions

Boiler fault (gas side)

Type	No.	Fault	Solution
ALL	01	Not used	-
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	- Check connections - Check the sensor is working
ALL	05	Delivery sensor 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 integrity of the gas valve and the card
ALL	07	Sensor or safety thermostat intervenes	- 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 gas availability and pressure - Check the integrity of the gas valve and the card
ALL	09	No water circulating in the system	- Check the rotation of the pump rotor - Check the electrical connections - Replace the pump
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	Incorrect configuration of the open /sealed chamber	- Set the parameter PAR 04 (Combustion configuration) to 0
ALL	13	Smoke probe intervention	- Replace the smoke probe - Contact the Technical Assistance Centre
ALL	14	Smoke probe fault	- Replace the smoke probe - Check the electrical connection of the smoke probe, if the problem is not resolved, contact the 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	- Wait 1 hour and try unblocking the board again - Contact the Technical Assistance Centre
ALL	30	Return sensor (SR) fault	- 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 network 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	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	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
ALL	82	Block due to numerous combustion control failures	- Check electrode - Check outlets
ALL	84	Flow rate reduced for (presumed) low pressure on mains gas	- Check gas flow rate
ALL	88	Internal error (board component protection)	- Check the board is working - Replace board

Type	No.	Fault	Solution
ALL	89	Unstable combustion feedback signal error	- Check electrode - Check outlets - Check air diaphragm (for BF models) - Check gas calibration
ALL	90	Combustion set cannot be reached error	- 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)	- Check electrode - Check outlets - Check air diaphragm (for BF models) - Check gas calibration
ALL	93	Combustion set cannot be reached error	- Check electrode - Check outlets - Check air diaphragm (for BF models) - Check gas calibration
ALL	95	Flame signal micro interruptions error	- Check electrode - Check board - Check electric power supply - Check gas calibration
ALL	96	Block due to clogging in smoke outlet	- Check for blockage in chimney - Check the smoke outlet and electrode position (not touching the burner)
ALL	98	SW error, board start-up	- Contact the Technical Assistance Centre
ALL	99	General board error	- Contact the Technical Assistance Centre
-	-	Frequent relief valve intervention	- Check circuit pressure - Check expansion vessel
-	-	Limited production of domestic hot water	- Check the diverter valve - Check that plate heat exchanger is clean - Check domestic hot water circuit valve

Heat pump fault

Type	No.	Description	Solution
P	02	High pressure	Automatic reset Remove and reconnect the electrical power supply
P	04	Low pressure	Automatic reset Remove and reconnect the electrical power supply
P	12	Antifreeze (heat exchanger temp. < 3°C)	Wait for heat exchanger temp. > 5°C
P	15	High temperature (HP delivery temp. > 50°C)	Automatic restore when delivery temp. < 48°C
P	32	Probe errors aggregate (one or more probes with an active alarm)	Automatic restore after sensor replaced
P	33	Battery temperature probe error	Replace the damaged probe
P	34	Inlet water temperature probe error	Replace the damaged probe
P	35	Outlet water temperature probe error	Replace the damaged probe

8 MURELLE REVOLUTION CHECKLIST

The **Murelle Revolution** boiler must be installed and commissioned solely by qualified companies or by professionally qualified technicians as specified in the appliance manual.

INSTALLATION

N°	Description	✓
1	Read the appliance manual supplied.	
2	Check that the installation location/room and chosen wall are suitable for the appliance type and weight.	
3	Use the template provided with the appliance to prepare the plumbing, fuel, air inlet/outlet ducts, and smoke outlet ducts.	
4	Attach the anti-vibration supports and spacers to the back of the appliance.	
5	Mount the appliance on the wall.	
6	Wash and treat the water system before connecting up the plumbing and gas.	
7	Connect up the plumbing, gas supply and condensate outlet. Fit a filter to the system return pipe.	
8	Check that the smoke system load loss falls within the limits as per the manual, then prepare and mount the air inlet and outlet ducts and the smoke outlet duct.	
9	Connect up the electrics to the grid, main control panel, thermostat(s) for the zones, and outdoor probe.	
10	Open the gas mains and check the seal of the joints. Then shut off the gas supply.	
11	Check the water characteristics, then fill to 1-1.2 bar pressure.	
12	De-aerate the systems.	

COMMISSIONING

N°	Description	✓
13	Open the water system isolation valves and the gas valve and power the appliance.	
14	Select "Summer" mode on the main control panel.	
15	Disconnect and reconnect the power using the main switch.	
16	Auto-calibrate the boiler from the boiler control panel. Check that the boiler (gas side) produces hot water correctly, and check also that the gas line load loss at maximum power falls within the standard values (see standard UNI 7129).	
17	Select "Winter" mode and activate the system via the remote control.	
18	Check that Murelle Revolution operates correctly in HP + Boiler mode; where necessary, check the function status/-specific set points via the technical menu (see instruction manual).	
19	Activate the "Chimney sweep" function and check the data and combustion performance.	
20	Check that the delivery limit temperature is compatible with the type of system: the factory setting is 65°C.	

The installer declares that the appliance (serial no. .....) has been installed, commissioned and checked in line with the manufacturer's instructions and the laws in force.

Stamp and signature

9 PRODUCT DATA SHEET

MURELLE REVOLUTION	
Seasonal energy efficiency of heating from heat pump ["I"] (%)	155
Temperature control contribution (%)	4
Additional boiler contribution (%)	-25
Solar energy contribution (%)	0
Energy efficiency class of combined central heating	A++
Seasonal energy efficiency of combined central heating (%)	134
Weighting factor of preferential heating appliance heat output ["II"]	0,403
Result of mathematical expression 294/(11*Pnominal) ["III"]	6,68
Result of mathematical expression 115/(11*Pnominal) ["IV"]	2,61
Energy efficiency of combi boiler for DHW (%)	86
D.H.W load profile declared	XL
Solar energy contribution (%)	-
Energy efficiency class of combined DHW	A
Energy efficiency of combined DHW in average climatic conditions (%)	86
Result of mathematical expression (220*Qref)/Qnonsol ["II"]	-
Result of mathematical expression (Qaux*2,5)/(220*Qref) ["III"]	-
Conforming to Annex IV (item 6) of the Delegated Regulations (EU) No. 811/2013 which supplements Directive 2010/30/EU	

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