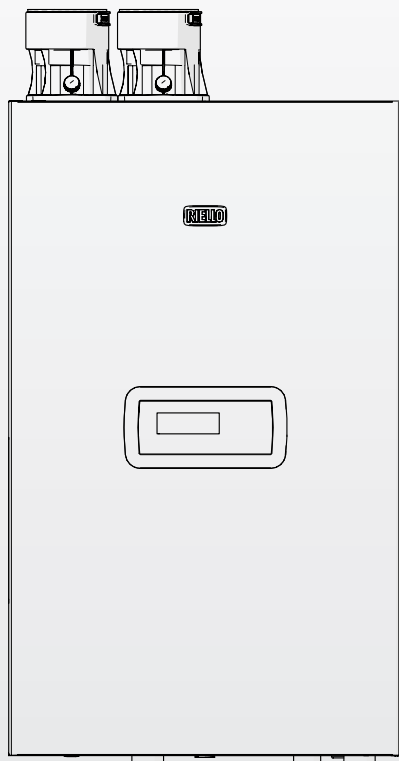




⚠ WARNING: If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

Do not store or use gasoline or other flammable vapors and liquids or other combustible materials in the vicinity of this or any other appliance. To do so may result in an explosion or fire.

What to do if you smell gas:

- Do not try to light any appliance;
- Do not touch any electrical switch; do not use any phone in your building;
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions;
- If you cannot reach your gas supplier, call the fire department.

Installation and service must be performed by a qualified installer, service agency or the gas supplier.

This manual should be maintained in legible condition and kept adjacent to the boiler or in a safe place for future reference.



Condexa PRO North America

USER'S INFORMATION MANUAL



Please scan for the current version of this manual.

RIELLO

RANGE

MODEL	CODE
Condexa PRO NA 75 P	20142594
Condexa PRO NA 117 P	20142595

CONFORMITY

The **Condexa PRO NA** boiler range complies with:



CONTENTS

1 GENERAL INFORMATION	3
1.1 Key to symbols	3
2 WARNING	3
2.1 General safety information	3
3 UNPACKING THE PRODUCT	4
4 INTRODUCTION	5
4.1 System layout	6
4.2 Control panel	8
4.3 Before switching on	9
4.4 Lighting the boiler	9
4.5 Filling the Condensate System	9
4.6 Filling the Boiler Heating System	9
4.7 Initial startup	10
4.7.1 Switching the appliance on and off	10
4.8 Date and time setting	10
4.9 Password access	11
4.10 Setting the heating parameters and outdoor reset	12
4.11 Setting the domestic hot water parameters	15
4.11.1 Scheduled program	16
4.12 General safety information	16
4.13 Scalding time/temperature relationships	16
4.14 Electronic control	17
4.14.1 Menu structure	18
4.14.2 Parameters' list	24
4.15 Error List	25
4.15.1 Permanent Errors	25
4.15.2 Temporary Errors	26
4.15.3 Warnings	27
5 HOW TO	28
5.1 How to increase the system pressure	28
5.2 How to temporary or short-term shut-down	28
5.3 How to prepare for extended periods of shut-down	29
5.4 How to fill and drain the system	29
5.4.1 How to fill	29
5.4.2 How to drain	29
6 WHAT IF	30
6.1 What if i suspect a gas leak	30
6.2 What if I have to frequently to increase the system pressure	30
6.3 What if the appliance is due its annual service	30
6.4 What if i need to call a service technician	30
7 MAINTENANCE	31
7.1 Suggested minimum maintenance schedule	31
7.2 Cleaning and removing internal components	31
7.2.1 Condensate drain siphon cleaning	31
7.3 "Service reminder" function	32
8 COMMISSIONING LOG FOR THE APPLIANCE	33
9 COMMONWEALTH OF MASSACHUSETTS	35
9.1 Important instructions for the commonwealth of Massachusetts	35
10 LIMITED WARRANTY - TERMS AND CONDITIONS	36

1 GENERAL INFORMATION

1.1 Key to symbols

Pay attention to these terms:

-  **DANGER** = indicates the presence of immediate hazards which will cause severe personal injury, death or substantial property damage if ignored.
-  **WARNING** = indicates the presence of hazards or unsafe practices which could cause severe personal injury, death or substantial property damage if ignored.
-  **CAUTION** = indicates the presence of hazards or unsafe practices which could cause minor personal injury or product or property damage if ignored.
-  **NOTE** = indicates special instructions on installation, operation, or maintenance which are important but not related to personal injury hazards.
-  **STOP!** = Identifies actions that you MUST NOT do.

2 WARNING

2.1 General safety information

-  **WARNING:** Installation and service must be performed by a gas supplier or a licensed qualified installer/service Technician.
-  This manual should be maintained in legible condition and kept adjacent to the boiler or in a safe place for future reference.
-  **WARNING:** This product is a gas appliance that emits poisonous gases; such as CO (Carbon Monoxide). For this reason, it is required that CO detectors be installed in buildings where the boiler is installed. Failure to do so may result in severe injury or death.
-  **DANGER:** Make sure the gas on which the boiler will operate is the same type as that specified on the boiler rating plate and on the colored sticker near the boiler gas connection.
-  **WARNING:** Should overheating occur or the gas supply valve fail to shut off, do not turn off or disconnect the electrical supply to the boiler. Instead, shut off the gas supply at a location external to the boiler.
-  **WARNING:** Do not use this boiler if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.
-  **WARNING:** To minimize the possibility of improper operation, serious personal injury, fire, or damage to the boiler:
 - Always keep the area around the boiler free of combustible materials, gasoline, and other flammable liquids and vapors.
 - The boiler should never be covered or have any blockage to the flow of fresh air to the boiler.
-  **WARNING:** Risk of electrical shock. More than one disconnect switch may be required to de-energize the equipment before servicing.
-  **WARNING:** Failure to comply with the the previous warnings could result in severe personal injury, death or substantial property damage. Failure to adhere to the guidelines on this page can result in severe personal injury, death or substantial property damage.

 **WARNING:** Automatic filling systems are not recommended with this product as they will continually add fresh water to the system if there is a leak resulting in the addition of new contaminants that could reduce the lifespan of the boiler.

 **WARNING:** There is a risk of pipes freezing if the building is left unattended for long periods of time, in excess of 12 hrs, in freezing temperatures. In the event the building will be unoccupied for long periods of time, ensure the proper freeze protection precautions are taken and that a competent person is checking the building at regular intervals to prevent freezing. Failure to do so may result in substantial property damage. Please consult your qualified service technician with regards to proper freeze protection precautions.

The following instructions must be observed

- The boiler must only be used for its designated purpose, observing the Installation Instructions.
- Only use the boiler in combination and with the accessories and spare parts listed in the Riello Condexa spare parts catalog.
- Other combinations, accessories and consumables must only be used if they are specifically designed for the intended application and do not affect the system performance and the safety requirements.
- Maintenance and repairs must only be carried out by a qualified service agency at regular intervals.
- You must report the installation of a condensing gas boiler to the relevant gas and plumbing inspection authority and have it approved.
- You are only allowed to operate the condensing gas boiler with the combustion air/flue gas system that has been specifically designed and approved for this type of boiler.
- Please note that local permission for the flue system and the condensate water connection to the public sewer system may be required.
- The hot water distribution system must comply with all applicable codes and regulations. When replacing an existing boiler, it is important to check the condition of the entire hot water distribution system to ensure safe operation.

 **DANGER:** Flammable gas explodes. Beware if you smell gas: there may be an explosion hazard!

 **WARNING:** If the information in these instructions is not followed exactly, a fire or explosion may result causing property damage, personal injury or death.

 **WARNING:** Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other boiler. To do so may result in an explosion or fire.

 **WARNING:** Should overheating occur or the gas supply fails to shutoff, do not turnoff or disconnect the electrical supply to the pump instead shutoff the gas supply at a location external to the appliance.

WHAT TO DO IF YOU SMELL GAS:

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

FOR YOUR SAFETY READ BEFORE OPERATING

WARNING: If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury, or loss of life (death).

- A. This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
- B. BEFORE OPERATING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

WHAT TO DO IF YOU SMELL GAS:

- Do not try to light any appliance.
 - Do not touch any electric switch; do not use any phone in your building.
 - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
 - If you cannot reach your gas supplier, call the fire department.
- C. Use only your hand to turn the gas control knob. Never use tools. If the knob will not turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.
 - D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

OPERATING INSTRUCTIONS

1. **STOP!** Read the safety information above on this label.
2. Set the thermostat to lowest setting.
3. Turn off all electric power to the appliance.
4. This appliance is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
5. Turn external gas shutoff valve clockwise to close valve to the full OFF position.
6. Wait five (5) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, STOP! Follow "B" in the safety information above on this label.
7. Turn gas shutoff valve counterclockwise to open valve to the ON position.
8. Turn on all electrical power to the appliance.
9. Set thermostat to desired setting.
10. If the appliance will not operate, follow the instructions "To Turn Off Gas To the Appliance" and call your service technician or gas supplier.

TO TURN OFF GAS TO APPLIANCE

1. Set the thermostat to lowest setting.
2. Turn off all electric power to the appliance if service is to be performed.
3. Turn gas shutoff valve clockwise to close valve to the full OFF position.

3 UNPACKING THE PRODUCT

On receipt of your boiler it is suggested that you visually check for external damage to the shipping package.

If the package is damaged, make a note to that effect on the Bill of Lading when signing for the shipment.

- Remove the boiler from the shipping packaging.
- Report any damage to the carrier immediately.
- On occasion, items are shipped loose.
- Be sure that you receive the correct number of packages as indicated on the Bill of Lading.
- Claims for shortages and damages must be filed with the carrier by consignee.
- Permission to return goods must be received from the manufacturer or your local **RIELLO** distributor prior to shipping. Goods returned to the factory without an authorized Returned Goods Receipt number will not be accepted. All returned goods are subject to a restocking charge.
- Written permission must be obtained through a local **RIELLO** distributor and must be obtained by your qualified service technician.
- Contact your installing/service contractor to initiate a claim. Do not contact **RIELLO** North America as they cannot provide technical assistance unless you are a qualified service technician.
- When ordering parts, you must specify the model and serial number of the boiler.
- Parts can only be purchased through an authorized **RIELLO** distributor by your installation/service technician.
- When ordering under warranty conditions, your installation/service technician must also specify the date of installation.
- Purchased parts are subject to replacement only under the manufacturer's warranty. Debits for defective replacement parts will not be accepted and will be replaced in kind only per **RIELLO** standard warrant.

4 INTRODUCTION

The Condexa PRO NA it is a condensing, pre-mixed thermal module consisting in a modulating thermal element.

It's available in two models of power: 255.900 BTU/hr (75 kW) and 399.000 BTU/hr (117 kW).

Optimal combustion management supports high thermal efficiencies (Over 95%) and low polluting emissions.

The boiler is designed for sealed chamber operation.

The appliance in standard configuration is for indoor installation to guarantee an IPX4D protection level.

⚠ The **Condexa PRO NA** boilers can be cascaded to reach a maximum power of 2.388.500 BTU/hr (700 KW).

The appliance's key technical features are

- helicoidal heat exchanger with a double coil smooth stainless steel pipe, to guarantee good corrosion resistance and the option of operating with high Δt s (up to 72°F [40°C]), reducing system set-up times;
- maximum exhaust flue exit temperature 212°F [100°C];
- microprocessor management and control with self-diagnostics, shown by means of a display, and logging of main errors;
- Anti-Freeze function;
- pre-settings for room/heat demand thermostat for low and high temperature ranges;
- option to manage a CH circuit and a DHW circuit with storage tank;
- high-efficiency and high residual discharge head circulator;
- climate control function (available only when using the outdoor temperature sensor accessory).

All appliance functions are electronically controlled by a dual processor technology board.

Any malfunction results in the appliance being shut down and the automatic closure of the gas valve.

The following is installed on the CH water circuit:

- **Safety high-limit thermostat.**
- **Flow sensor** capable of monitoring the main heating circuit's flow on an ongoing basis and of stopping the appliance in the event of insufficient flow.
- **Temperature sensors** on supply and return lines that measure the temperature difference (Δt) between input and output fluid and allow the boiler to fire when a demand is made.
- **Minimum Water Pressure Switch** (set to 7 psi/0.5 bar).
- **Low Water Cut Off.**

The following is installed on the combustion circuit:

- **Gas solenoid** with pneumatic gas flow compensation depending on the suction line's air flow rate.
- **Ignition/detection electrode.**
- **Flue gas temperature sensor.**

⚠ WARNING: The triggering of safety devices indicates the malfunction of a potentially hazardous situation. Therefore, contact a service agency immediately. After a brief pause, it is possible to try and restart the appliance (see section "Initial startup").

⚠ WARNING: Safety devices must be replaced a qualified installer, service agency or gas supplier, using only original parts. Refer to the spare parts catalogue supplied with the appliance. After making the repair, check that the appliance is working properly.

⚠ WARNING: The appliance must not be put in service, even temporarily, when tampered safety devices are not in operation or have been with.

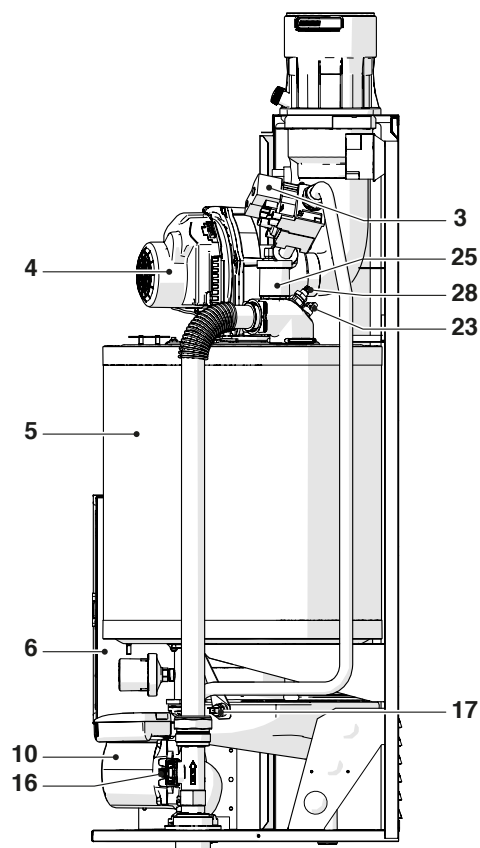
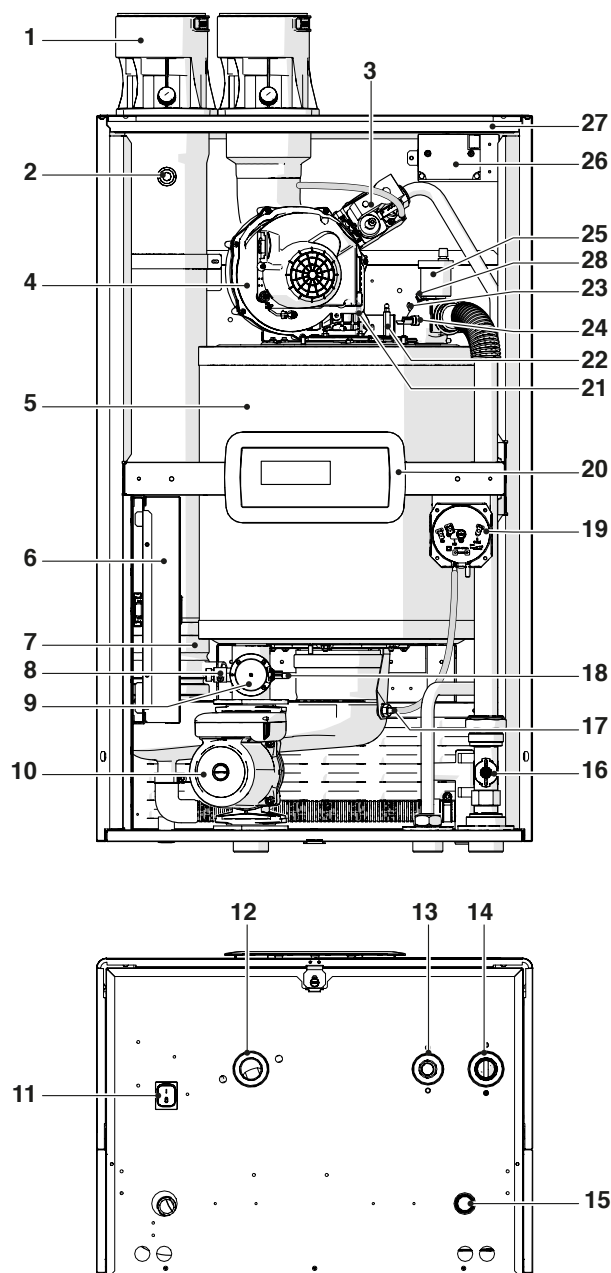
- Use a low water cutoff designed for hydronic installations;
- Follow low water cutoff manufacturer's instructions.

⚠ A hot water boiler installed above the radiation level or as required by the Authority having jurisdiction, must be provided with a low water cutoff device either as part of the boiler or at the time of boiler installation.

⚠ NOTE: The LWC0/Minimum Water Pressure Switch (set to 7 psi/0.5 bar) located internally in the Condexa PRO 75 and 117 is below the lowest safe permissible water level established by the boiler manufacturer.

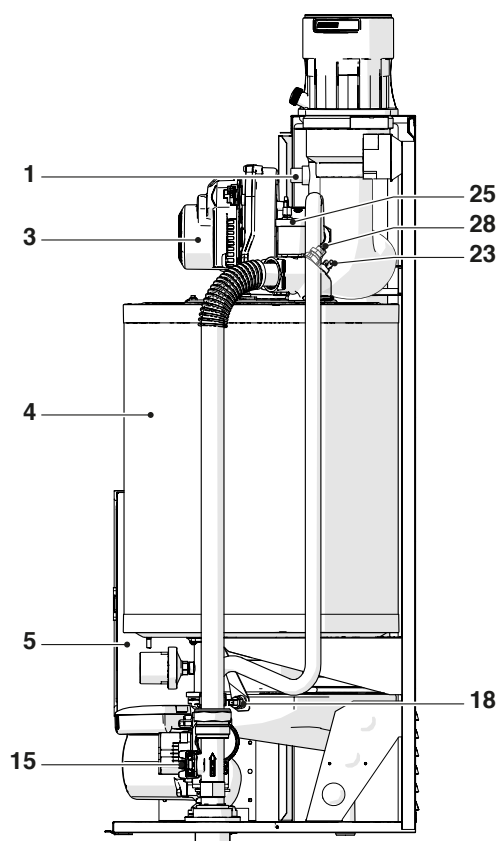
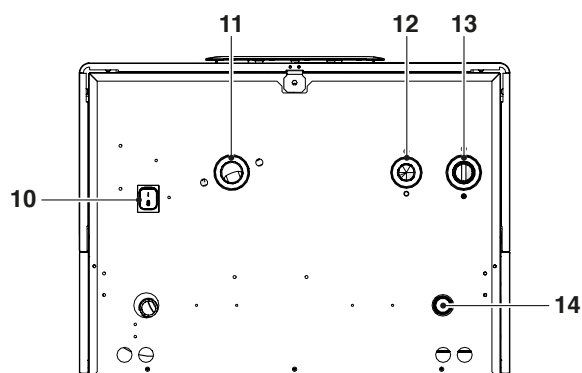
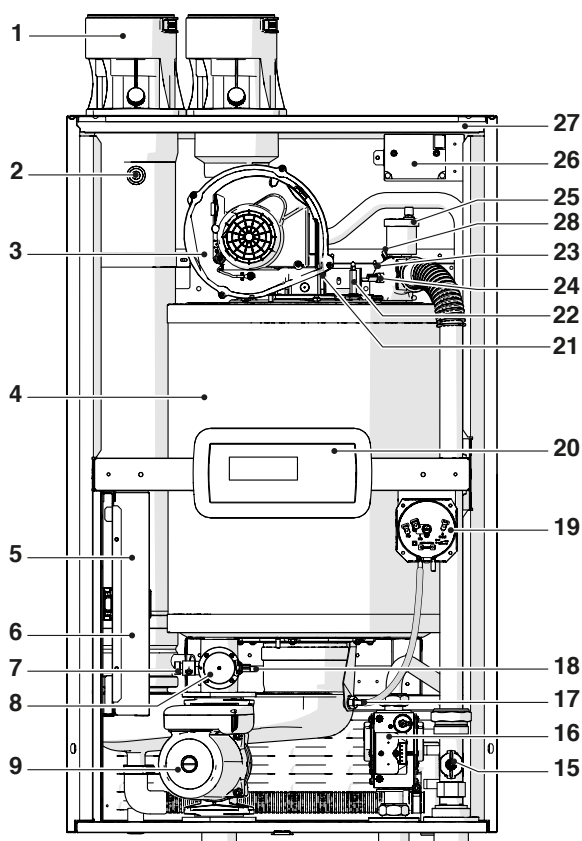
4.1 System layout

Condexa PRO NA 75 P



- 1 Flue gas exhaust connection
- 2 Exhaust flue temperature sensor
- 3 Gas valve
- 4 Fan
- 5 Combustion chamber
- 6 PCB (printed control board)
- 7 Flue check valve
- 8 Drain cock
- 9 Minimum Water Pressure Switch (set to 7 psi/0.5 bar)
- 10 Pump with integrated check valve
- 11 Power switch
- 12 Central heating return
- 13 Gas supply
- 14 Central heating supply
- 15 Condensate drain connection
- 16 Flow-meter
- 17 Intake pressure for flue gas pressure switch
- 18 Return temperature sensor
- 19 Flue gas pressure switch
- 20 Control panel
- 21 Detection electrode
- 22 Ignition electrode
- 23 Safety Water High-limit Thermostat with manual reset by PCB
- 24 Supply temperature sensor
- 25 Automatic air vent
- 26 Spark generator
- 27 Casing
- 28 LWCO - Low Water Cut Off

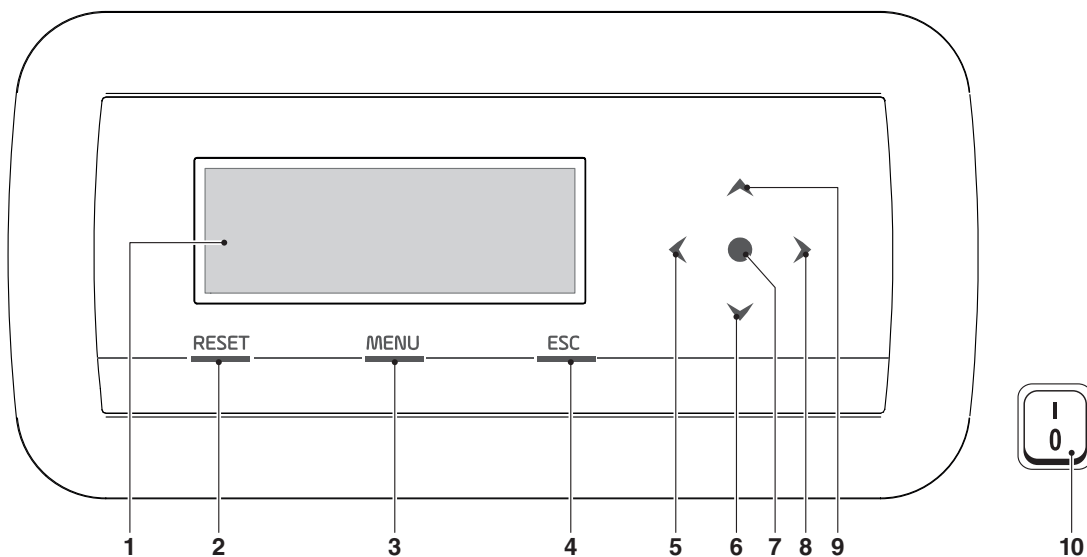
Condexa PRO NA 117 P



- 1 Flue gas exhaust connection
- 2 Exhaust flue temperature sensor
- 3 Fan
- 4 Combustion chamber
- 5 PCB (printed control board)
- 6 Flue check valve
- 7 Drain cock
- 8 Minimum Water Pressure Switch (set to 7 psi/0.5 bar)
- 9 Pump with integrated check valve
- 10 Power switch
- 11 Central heating return
- 12 Gas supply
- 13 Central heating supply
- 14 Condensate drain connection
- 15 Flow-meter
- 16 Gas valve
- 17 Intake pressure for flue gas pressure switch
- 18 Return temperature sensor
- 19 Flue gas pressure switch
- 20 Control panel
- 21 Detection electrode
- 22 Ignition electrode
- 23 Safety Water High-limit Thermostat with manual reset by PCB
- 24 Supply temperature sensor
- 25 Automatic air vent
- 26 Spark generator
- 27 Casing
- 28 LWCO - Low Water Cut Off

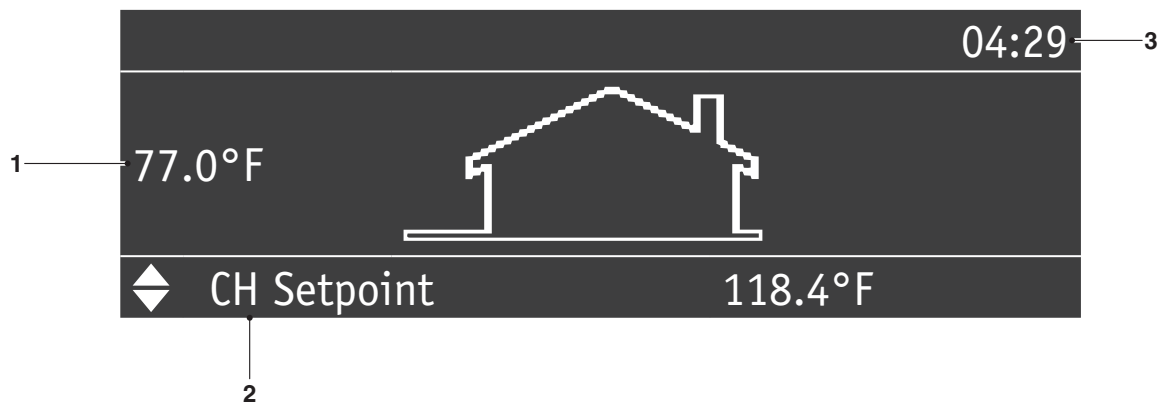
4.2 Control panel

CONTROL PANEL AND SYMBOLS



- 1 Backlit display (4 13/16" x 1 1/2" / 255mm x 80mm)
- 2 RESET key: restores normal operations after a safety lock-out
- 3 MENU key: switches on the main menu
- 4 ESC key: in menu navigation, it enables you to exit a menu item and go back to the previous one
- 5 - 9 Navigation keys ◀, ▼, ●, ▶, ▲
- 10 Power switch (located on the bottom left of the appliance)

SECONDARY INFORMATION/DISPLAY VISUALISATION



- 1 Outdoor temperature
- 2 Set-point
- 3 Clock

4.3 Before switching on

WARNING: Before starting the boiler, the user must be correctly instructed by the installer, on how to operate the boiler, in particular:

- Make sure that the user understands that combustion air and ventilation openings must not be restricted, closed, or modified in any way.
- Make sure that the user is informed of all the special measures to be taken for combustion air inlet and discharging flue gases, and that these must not be modified in any way.
- Make sure that the user keeps this manual and all other documentation included with the boiler.
- Make sure that the user understands never to tamper with gas control settings and that there is a risk of fire, explosion, or CO poisoning should an unauthorized individual do so.
- Make sure that the user knows how to adjust temperatures and controls.

⚠ WARNING: Do not attempt to dry fire the unit. Starting the unit without a full water level can seriously damage the unit and may result in injury to personnel or property damage. This situation will void any warranty.

⚠ CAUTION: All of the installation procedures in "Installation" must be completed before attempting to start the unit.

Before switching the appliance on, please familiarize yourself with:

- how to isolate the appliance from the gas, water, and electrical supplies;
- how to check and increase, if necessary, the system water pressure;
- any external thermostats and their functions;
- the appliance controls.

4.4 Lighting the boiler

- Set the thermostat to lowest setting.
- Turn off all electric power to the appliance.
- This appliance is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
- Turn external gas shutoff valve clockwise to close valve to the full OFF position.
- Wait five (5) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, STOP!
- Turn gas shutoff valve counterclockwise to open valve to the ON position.
- Turn on all electrical power to the appliance.
- Set thermostat to desired setting.
- If the appliance will not operate, follow the instructions to Turn Off Gas To the Appliance" and call your service technician or gas supplier.

4.5 Filling the Condensate System

The condensate system must be filled with water according to the Section "Preparation for the condensate drain".

⚠ WARNING: At start-up and after prolonged shutdown of the boiler, the condensate trap and the syphon must filled with water prior to restarting the boiler, otherwise combustion gases will enter the room with a risk of an excessive level of carbon monoxide which could result in substantial property damage, severe injury or death.

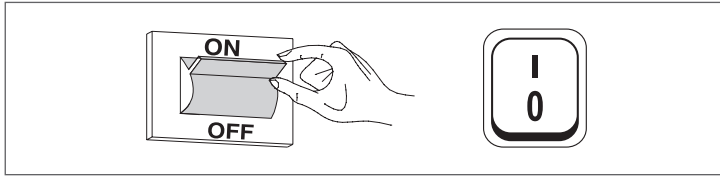
4.6 Filling the Boiler Heating System

To fill the heating system, proceed as follows:

- Open any automatic air vents in the heating system.
- Open the fill valve and proceed to fill the heating system and boiler. The heating system water pressure must be higher than 7.5 psi (0.5 bar).
- Check that there is no water leaking from the fittings. If there is, the leaks must be repaired.
- Check the pressure during the purging process. If the pressure has dropped, re-open the fill valve to bring the pressure back to the desired value.

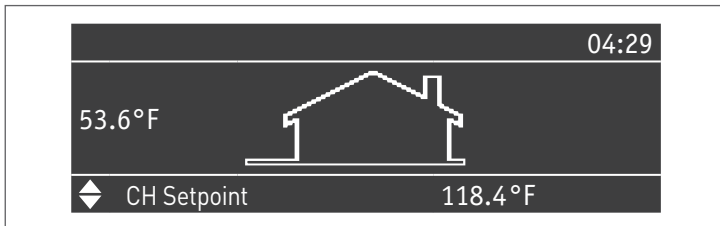
4.7 Initial startup

- Switch the system's power switch to the ON position and the boiler's master switch to (I).



4.7.1 Switching the appliance on and off

After switching the appliance on, the display shall look as shown in the figure below:



The outdoor temperature is shown on the left of the display. This value is displayed only if the outdoor temperature sensor (accessory) is installed.

Main setpoint values are shown on the lower side of the display while the time is shown at the top right.

To turn the equipment off set the main switch "0/I" that is placed on the bottom to "0".

CAUTION: Never power off the appliance before switching the master switch to the "0" position.

CAUTION: Never switch off the appliance with the master switch if a request is active. Always make sure that the appliance is in stand-by before switching the main switch; this could overheat the heat exchanger.

After placing the boiler in operation, the ignition system safety shutoff device must be tested.

4.8 Date and time setting

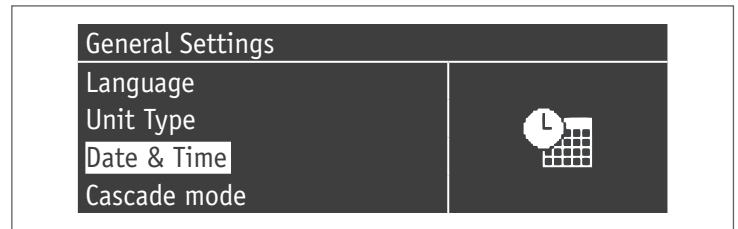
Press the MENU button and select "Settings" with the ▲ / ▼ buttons



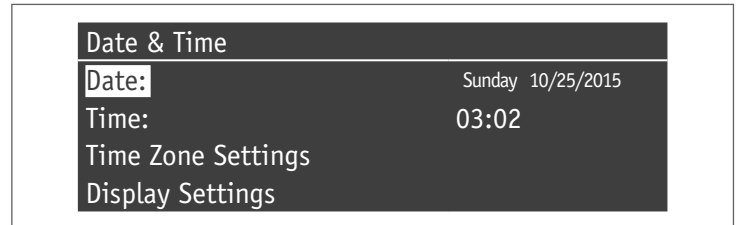
Confirm with the ● button and select "General settings" with the ▲ / ▼ buttons



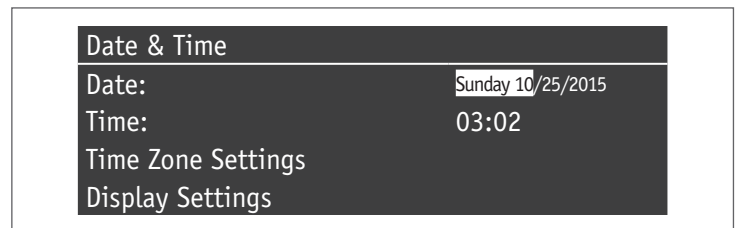
Confirm with the ● button and select "Date and Time " with the ▲ / ▼ buttons



Press the ● button, the display will be shown as follows:

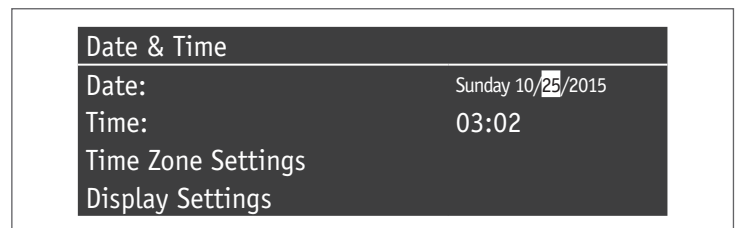


Press the ● button to highlight the values.



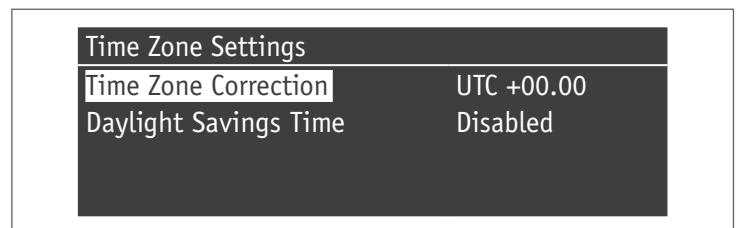
Values can be changed with the ▲ / ▼ buttons.

Confirm the value entered by pressing the ● button and move to the next value.



To set the time, follow the same procedure.

By accessing the "Time Zone Set." menu, it is possible to set the time zone parameter as shown in the figure below:



To change the way in which date and time are displayed, it is possible to change the following characteristics by accessing the "Display Parameters" menu:

Display Settings	
Time Notation	24h
Date Order	DMY
Day Of Month	2Digits
Month	2Digits

Display Settings	
Year	4Digits
Date Separation Character	-
Day Of Week	Short Text
Seconds	No

4.9 Password access

To access the parameters, press the MENU key and select "Settings" with the ▲ / ▼ buttons.

Menu	
Domestic Hot Water (DHW) ▲	
Information	
Settings	
System Test	

Confirm with the ● button and select "Boiler settings" with the ▲ / ▼ buttons

Settings	
General Settings	
Boiler Settings	

Press the ● button to confirm.

- The system will now ask you to enter a password (the password is required for boiler settings only):

Password

0 * * *

Enter one digit at a time using the ▲ / ▼ buttons to increase/decrease the numeric value. When you have set the right value, confirm by pressing the ● button.

The system provides for three types of access:
 USER (password not required, e.g. password No. 0000)
 INSTALLER (password No. 0300)

NOTE: After it is entered, the password is active during display and/or parameter mode. If the display is inactive for a few minutes, it needs to be re-entered.

4.10 Setting the heating parameters and outdoor reset

Parameter 1 establishes the boiler's various heating operation modes.

Mode 0

(Operation with a room thermostat/heat demand and fixed heating setpoint)

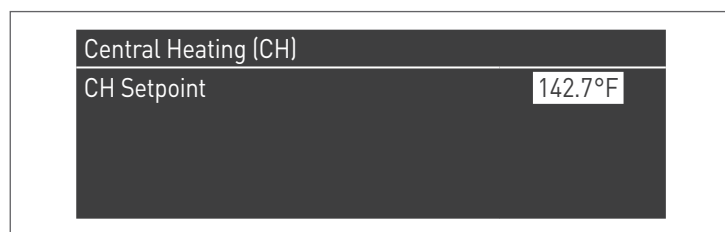
In this mode, the boiler operates with a fixed set-point (controlled by the parameter 3) based on whether the room/heat demand thermostat's contact is closed or not.

The set-point value can be entered directly, without entering the parameter list, by accessing the "CH" menu in the following way:

Press MENU and select "Central heating" using the ▲ / ▼ buttons. Press the ● button to confirm.



After the selection, use the ► button to highlight the value and use the ▲ / ▼ buttons to change the selected value. Press the ● button to confirm/save the new settings.

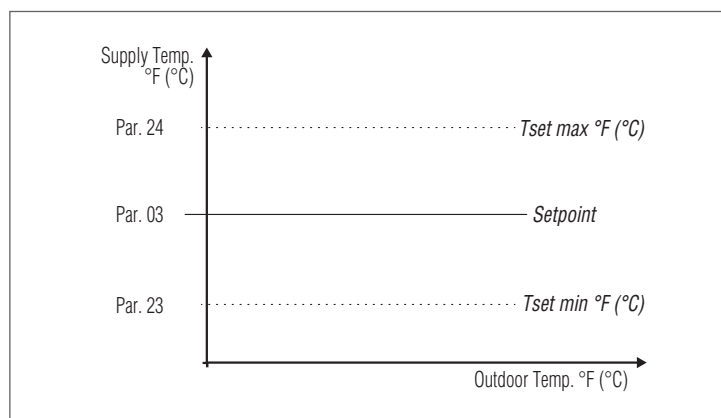


The set point can be set within a minimum and maximum value as indicated respectively on Par. 23 and 24 as shown in the following figure.

NOTE: The outdoor temperature sensor (sold as an accessory) is not required and if connected the outdoor temperature that is measured does not influence the setpoint that has been set.

The parameters regulating such temperature are:

Par. No.	Description
3	Sets the desired supply temperature with heating mode. Active for the heating mode Par. 1 = 0 or 3
23	Limits the minimum value that can be assigned to the set-point in heating mode (does not apply to heating mode 4).
24	Limits the maximum value that can be assigned to the set-point in heating mode (does not apply to heating mode 4).

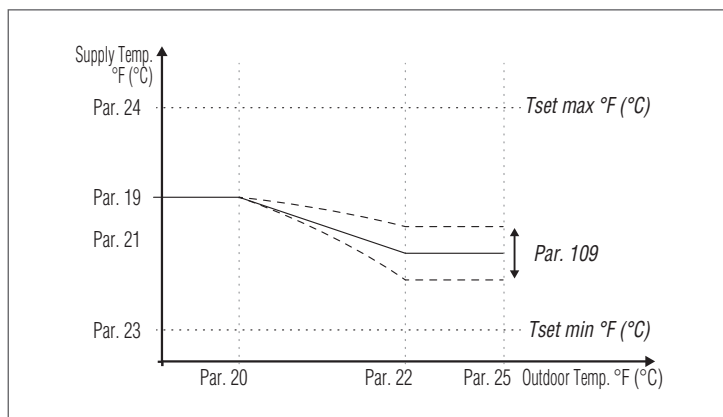


Mode 1

(Climatic functioning with room/heat demand thermostat, variable set point according to the outdoor temperature)

In this case the boiler operates with a variable set-point depending on outdoor temperature, based on a climatic curve defined by the following parameters:

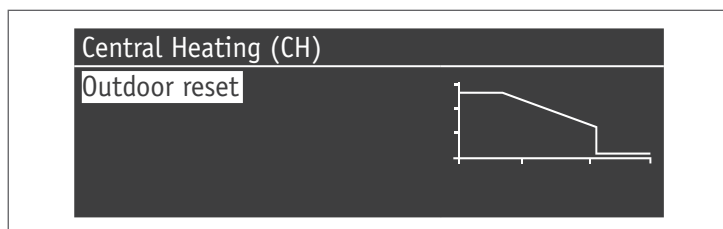
Par. No.	Description
109	Defines the value of the set point calculated in climatic mode (Par. 1 = 1).
19	Establishes the max. set-point at the minimum outdoor temperature for climatic regulation
20	Establishes the minimum outdoor temperature to which the maximum set-point can be associated for climatic regulation
21	Establishes the minimum set-point at the maximum outdoor temperature for climatic regulation
22	Establishes the maximum minimum outdoor temperature to which the minimum set-point can be associated for climatic regulation
23	Limits the minimum value that can be assigned to the set-point in heating mode (does not apply to heating mode 4).
24	Limits the maximum value that can be assigned to the set-point in heating mode (does not apply to heating mode 4).
25	Defines the temperature at which climatic regulation is switched off



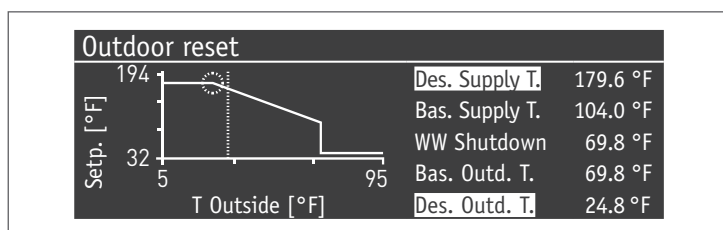
The demand is activated when the room/heat demand thermostat's contact is closed provided that outdoor temperature does not exceed the value set by the parameter 25.

If the outdoor temperature is higher than the one set on parameter 25, the burner is stopped even if there is a heat demand. The climatic curve can also be adjusted in a simpler, more user-friendly way.

Enter the "CH" menu. The following display will appear:



Press the ● button to confirm and enter the climatic curve screen.



"Design Supply Temp." and "Design Outdoor Temp." will be displayed. To change their value, press the ● button.

1 Use the ▲ / ▼ buttons to modify Design Supply Temp and the ◀ / ▶ buttons to change Design Outdoor Temp.

2 Press ● button to save changes

3 Use the ◀ / ▶ buttons to select other values.

Repeat steps 1 to 3 to make other changes.

After setting the parameters, press the ESC key to exit the menu.

A If the outdoor temperature sensor (sold as an accessory) is not detected (not installed or damaged) the system provides a warning: no. 202

The presence of the warning does not stop the boiler from allowing a heat request to be carried out at the maximum setpoint set on the climatic regulation.

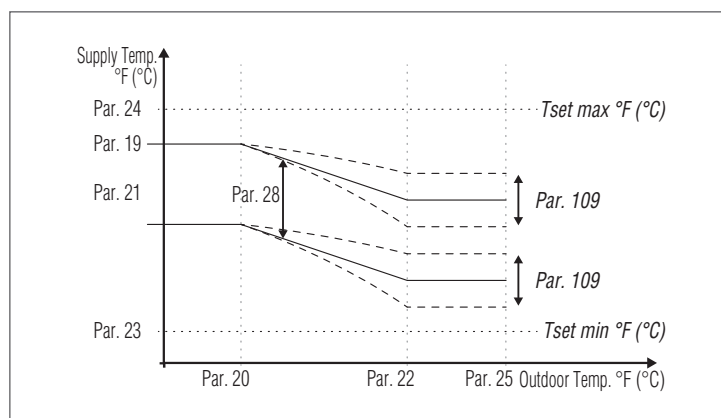
Mode 2

(Working on climatic mode and controlled by a room/heat demand thermostat, variable set point according to the outdoor temperature)

In this case the boiler operates with a set-point defined by the climatic curve (which can be set in the same way as described in Mode 1) depending on outdoor temperature. The heat demand is controlled independently from whether the room/heat demand thermostat's contact is controlled and stops only when the outdoor temperature is greater than the one defined by the parameter 25.

In this mode parameter 28 defines how many degrees the set-point is decreased when the room/ heat demand thermostat's contact is opened.

Par. No.	Description
109	Defines the value of the set point calculated in climatic mode (Par. 1 = 1).
19	Establishes the max. set-point at the minimum outdoor temperature for climatic regulation
20	Establishes the minimum outdoor temperature to which the maximum set-point can be associated for climatic regulation
21	Establishes the minimum set-point at the maximum outdoor temperature for climatic regulation
22	Establishes the maximum minimum outdoor temperature to which the minimum set-point can be associated for climatic regulation
23	Limits the minimum value that can be assigned to the set-point in heating mode (does not apply to heating mode 4).
24	Limits the maximum value that can be assigned to the set-point in heating mode (does not apply to heating mode 4).
25	Defines the temperature at which climatic regulation is switched off
28	Use the heating mode Par. 1= 2 or 3. Defines how many degrees the supply set point is lowered.

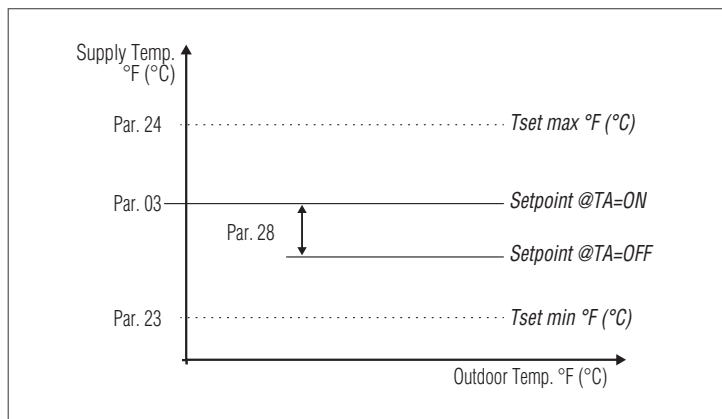


Mode 3

(Continuous fixed set-point operation and controlled by room/heat demand thermostat)

In this mode the fixed set-point is adjusted in the same way as described for Mode 0. The difference consists in the fact that the demand is always active and the set-point is decreased by the value defined parameter 28 when the room/heat demand thermostat's contact is opened.

Par. No.	Description
3	Sets the desired supply temperature with heating mode. Active for the heating mode Par. 1 = 0 or 3
23	Limits the minimum value that can be assigned to the set-point in heating mode (does not apply to heating mode 4).
24	Limits the maximum value that can be assigned to the set-point in heating mode (does not apply to heating mode 4).
28	Use the heating mode Par. 1= 2 or 3. Defines how many degrees the supply set point is lowered.



NOTE: The outdoor temperature sensor (sold as an accessory) is not required and if connected the outdoor temperature that is measured does not influence the setpoint that has been set.

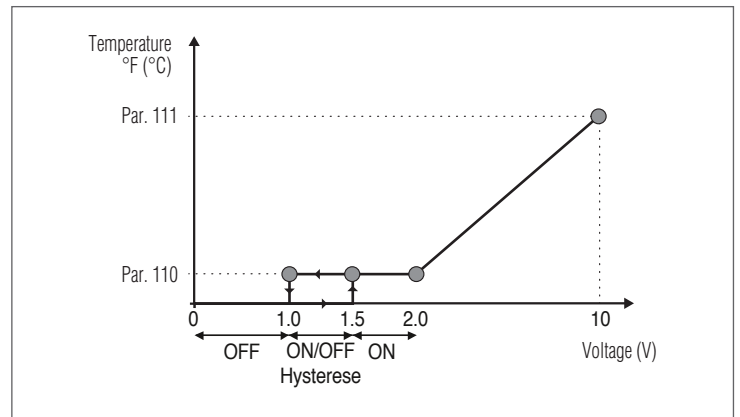
Mode 4

(Set-point adjustment based on a 0–10V analog input)

The parameters that control this mode are the following:

Par. No.	Description
110	Sets the minimum supply temperature value in heating mode (Par. 1) = 4.
111	Sets the maximum supply temperature value in heating mode (Par. 1) = 4.

The operation set-point is adjusted on the basis of the following curve:



The maximum and minimum set-point values are defined respectively by Par. 111 and 110.

When the input voltage value exceeds 1.5V, the demand is triggered (at the minimum set-point).

For voltage values ranging from 2 to 10, the set-point varies in a linear fashion from the minimum through to the maximum value. If the voltage is decreased from 10 to 2, the set-point decreases in a linear fashion and maintains the minimum value between 2 and 1V. For values lower than 1V the demand stops.

4.11 Setting the domestic hot water parameters

Parameter 35 defines the various operation modes of the boiler for DHW production

Mode 0
(No production of domestic hot water)

In this mode the boiler will work only for the heating circuit (see section "Setting the heating parameters and outdoor reset").

Mode 1
(DHW production with indirect storage tank and indirect tank sensor)

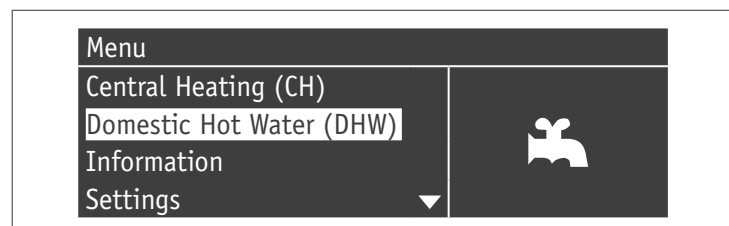
In this mode, the boiler is activated when the temperature recorded by the indirect tank sensor falls below the DHW setpoint by an amount equal to the hysteresis value and is deactivated when the temperature rises above the DHW setpoint by the value of the hysteresis.

The parameters that control DHW production are the following:

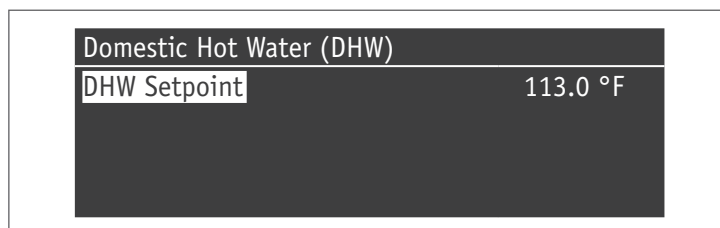
Par. No.	Description
36	Defines the hysteresis to initiate the domestic hot water demand.
37	Defines the hysteresis to stop the domestic hot water demand.
38	Defines the primary circuit's set-point increase in degrees compared to the temperature set for the domestic hot water tank.
39	Defines the primary circuit's restart hysteresis in modes 1 and 2 of DHW (valid both for cascade and stand-alone applications).
40	Defines the primary circuit's shut-off hysteresis in modes 1 and 2 of DHW (valid both for cascade and stand-alone applications).
41	Defines the value referred to the Delta T of the tank for maintenance purposes. E.g.: if it is set on 5.4 °F (3 °C), when the tank has a set point lowered of 5.4 °F (3 °C), the boiler turns on at the minimum to allow maintenance until the set point plus hysteresis. If this parameter is equal to parameter 36, this function is inactivated and the boiler starts at the maximum sanitary power.
48	Establishes the DHW storage tank set-point.

The setpoint value can be set directly, without entering the list of parameters:

- Press MENU and select "Domestic Hot Water" using the ▲ / ▼ buttons.



- Press the ● button to confirm.



- Use the ► button to highlight the value, and use the ▲ / ▼ buttons to change the selected value. Press the ● button to confirm/save the new settings.

The DHW value can be changed only when the "domestic hot water" function is enabled. See section "Password access" for instructions about outdoor recovery.

Mode 2
(DHW production with indirect storage tank controlled by a thermostat)

In this case the boiler is activated when the boiler's thermostat contact is closed and is deactivated when the latter is opened.

The parameters that control DHW production are the following:

Par. No.	Description
38*	Defines the primary circuit's set-point increase in degrees compared to the temperature set for the domestic hot water tank.
39	Defines the primary circuit's restart hysteresis in modes 1 and 2 of DHW (valid both for cascade and stand-alone applications).
40	Defines the primary circuit's shut-off hysteresis in modes 1 and 2 of DHW (valid both for cascade and stand-alone applications).
48	Establishes the DHW storage tank set-point.

- (*) Parameter 38 is active on such mode even if the indirect tank sensor is not installed and it influences the supply temperature of the boiler.

It can be used to limit the difference between the actual supply and set temperature on the indirect tank sensor so that the system efficiency is maximized.

Also in this case, the setpoint value can be set directly, without entering the parameters list, by accessing the "Domestic Hot Water" menu, as mentioned earlier for mode 1.

Priority setting

Parameter 42 sets the priorities between the DHW and CH circuit. Four modes are available:

- 0 Time:** timed priority between the two circuits. In the event of a simultaneous demand, initially the domestic hot water circuit is made to operate for a number of minutes equal to the value assigned on parameter 43. At the end of this time period, the CH circuit is operated (also for the same amount of time) and so on until demand for one or the other circuit is satisfied
- 1 Off:** priority is to the heating circuit
- 2 On:** priority is to the DHW circuit
- 3 Parallel:** simultaneous operation of both circuits provided that the delivery temperature requested by the DHW circuit is lower than or equal to the setpoint requested by the heating circuit. When the temperature requested by the DHW circuit exceeds the heating setpoint, the circulation pump of the heating is turned off and priority is switched to the DHW.

Anti-Legionella function

When the production of domestic hot water is activated (Par. 35=1), using parameters 107 and 108 it is possible to carry out weekly scheduling of the "Anti-legionella" function. Parameter 107 sets the day of the week in which the activity is performed, while parameter 108 sets the time.

At the planned time, the boiler generates a call for the DHW indirect storage tank with a pre-set set-point of 140 °F (60 °C) (not adjustable). After reaching 140 °F (60 °C), the temperature is maintained for 30 minutes, during which the system checks that the sensor's temperature does not fall below 134.6 °F (57 °C). At the end of this time interval, the Anti-Legionella function stops and standard operation of the boiler is resumed.

Operation in "Anti-Legionella" mode has priority over other demands independently from the setting of the parameter 42.

Par. No.	Description
107	Sets the weekday on which the anti-Legionella procedure is carried out.
108	Sets the time of the day during which the anti-Legionella procedure is carried out.

4.11.1 Scheduled program

The scheduled program is designed to program the operation of the various circuits managed by the boiler, (CH, DHW and additional mixed zones).

Seasonal Program

The seasonal program is used to exclude additional mixed zones during the summer season. It does not control any DHW parameter.

4.12 General safety information

⚠ WARNING: Water temperatures over 125°F (52°C) can cause instant severe burns or death from scalds.

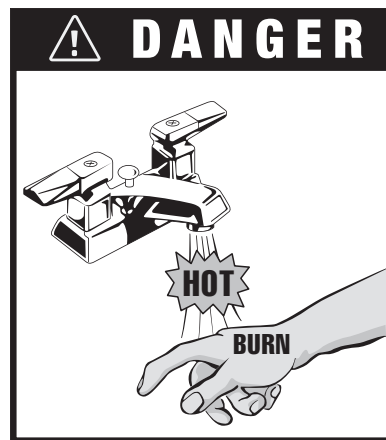
When supplying general purpose hot water, the recommended initial setting for the temperature control is 120°F (49°C).

Safety and energy conservation are factors to be considered when setting the water temperature on the thermostat.

The most energy-efficient operation will result when the temperature setting is the lowest that satisfies the needs of the application.

Children, disabled and elderly are at highest risk of being scalded.

- Feel water before bathing or showering.
- Temperature limiting valves are available.



⚠ NOTE: (for heating only model): When this boiler is supplying general purpose hot water for use by individuals, a thermostatically controlled mixing valve for reducing point of use water temperature is recommended to reduce the risk of scald injury. Contact a qualified plumber or the local plumbing authority for further information.

Maximum water temperatures occur just after the boiler's burner has shut off. To determine the water temperature being delivered, turn on a hot water faucet and place a thermometer in the hot water stream and read the thermometer.

4.13 Scalding time/temperature relationships

The following chart details the relationship of water temperature and time with regard to scald injury and may be used as a guide in determining the safest water temperature for your applications.

Water Temperature	Time to Produce Serious Burn
120°F (49°C)	More than 5 minutes
125°F (52°C)	1-1/2 to 2 minutes
130°F (54°C)	About 30 seconds
135°F (57°C)	About 10 seconds
140°F (60°C)	Less than 5 seconds
145°F (63°C)	Less than 3 seconds
150°F (66°C)	About 1-1/2 seconds
155°F (68°C)	About 1 second

Table courtesy of The Shriners Burn Institute

The temperature of the water in the boiler can be regulated by using the **RIELLO** boiler front control. To comply with safety regulations, the control is set to a lower temperature when shipped from the factory.

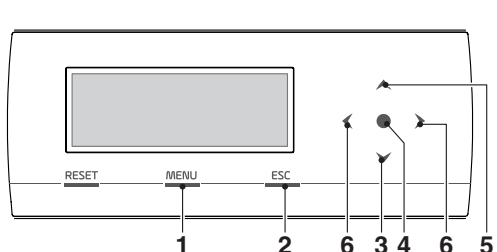
⚠ CAUTION: Hotter water increases the risk of scalding! There is a hot water scald potential if the thermostat is set too high.

4.14 Electronic control

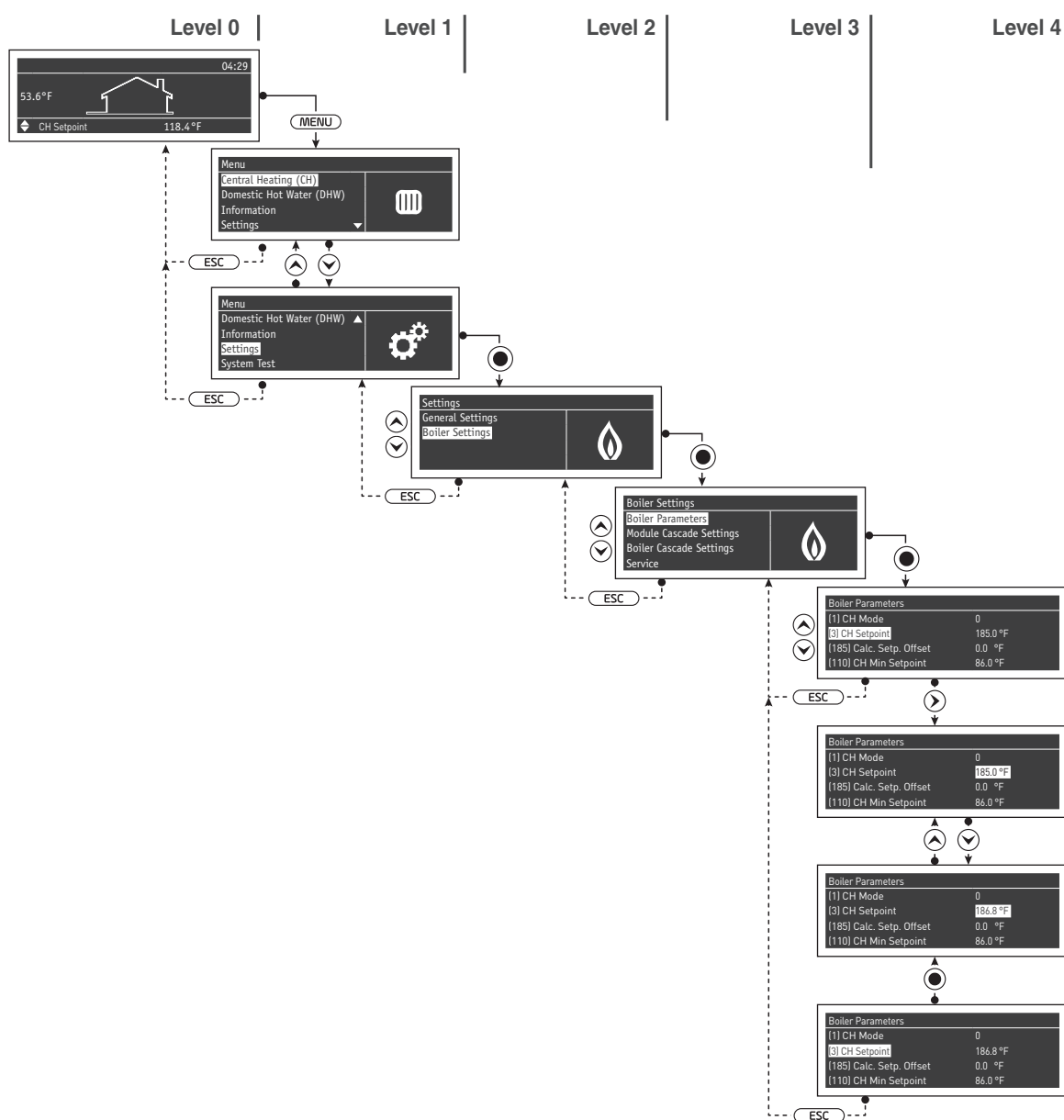
The electronic control interface menu is multi-level.

Navigation between the various levels is shown in the figures below.

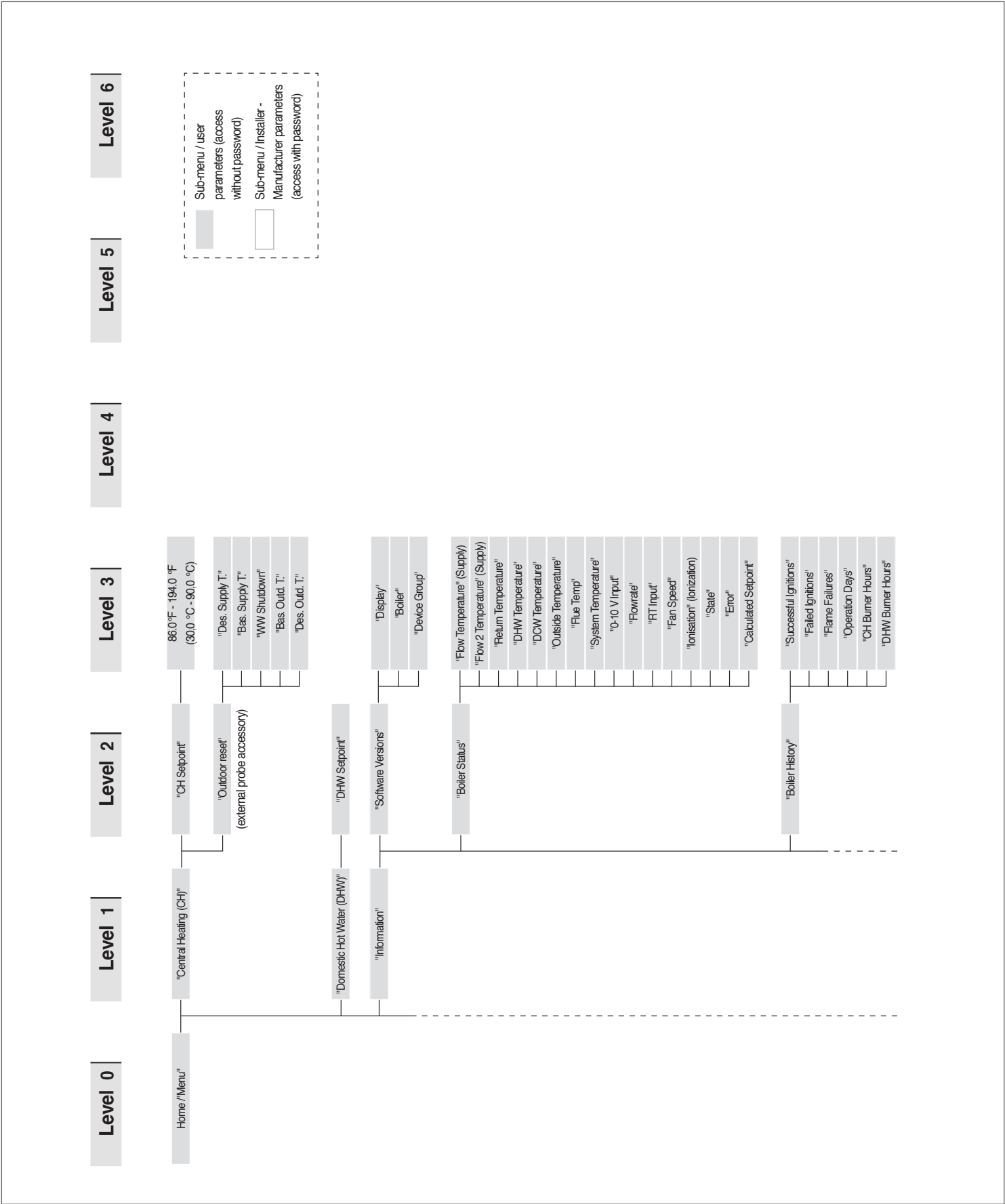
Level 0 displays the Home Screen (Home). Level 1 displays the Main Menu screen. The subsequent levels are activated depending on available sub-menus. For the full layout, see section "Control panel". For how to access and change the parameters, see the picture on the next page. The parameters for the installer are accessible only after entering the security password (see section "Control panel"). Please note that the boiler's operating parameters are identified with a number, all other additional functions are simply descriptive.

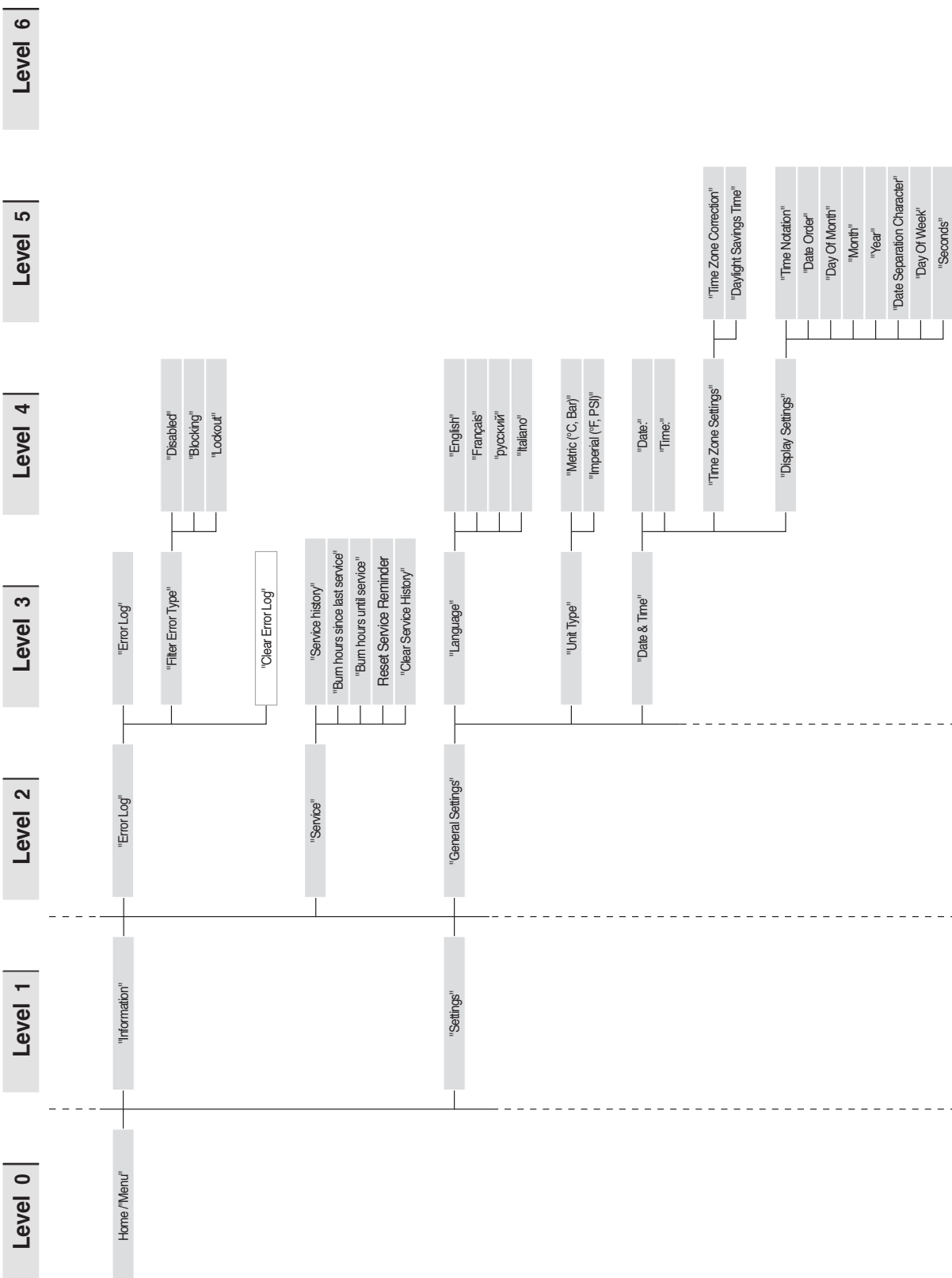


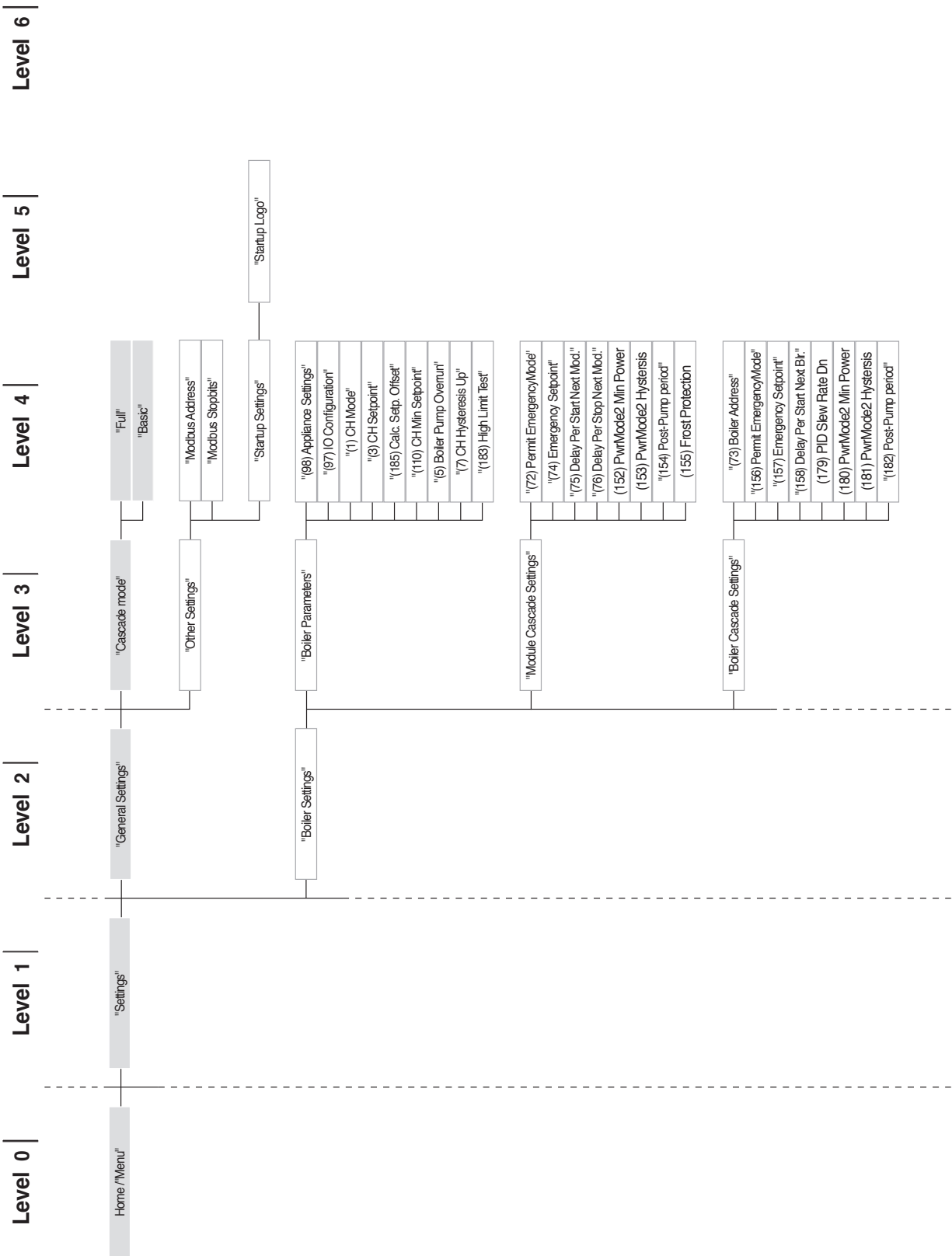
- 1 switches on the main menu
- 2 in menu navigation, it enables you to exit a menu item and go back to the previous one
- 3 supports selecting menus or parameters or decreasing numeric values
- 4 enter
- 5 supports selecting menus or parameters or increasing numeric values
- 6 supports moving to the RH/LH area of the display

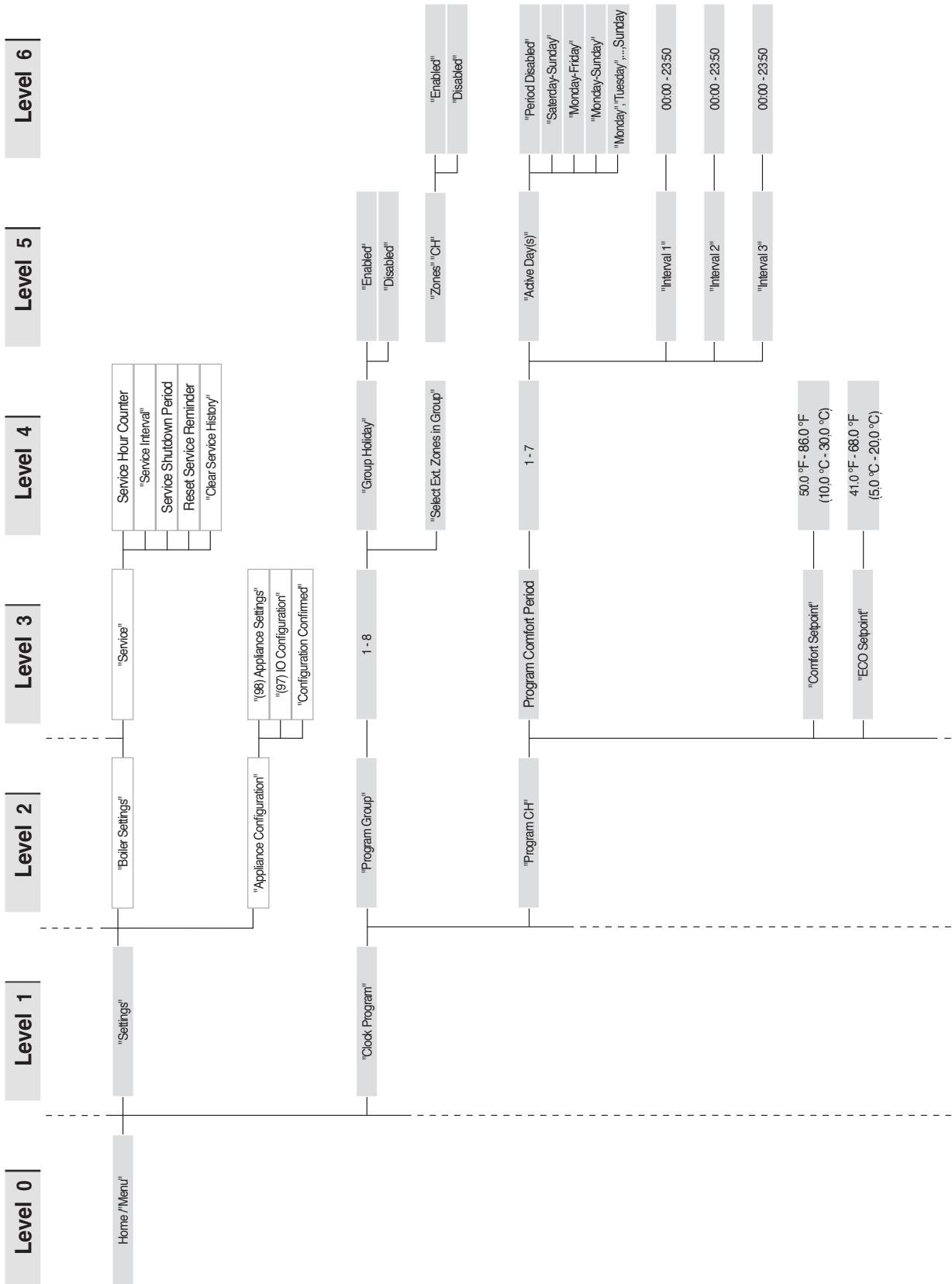


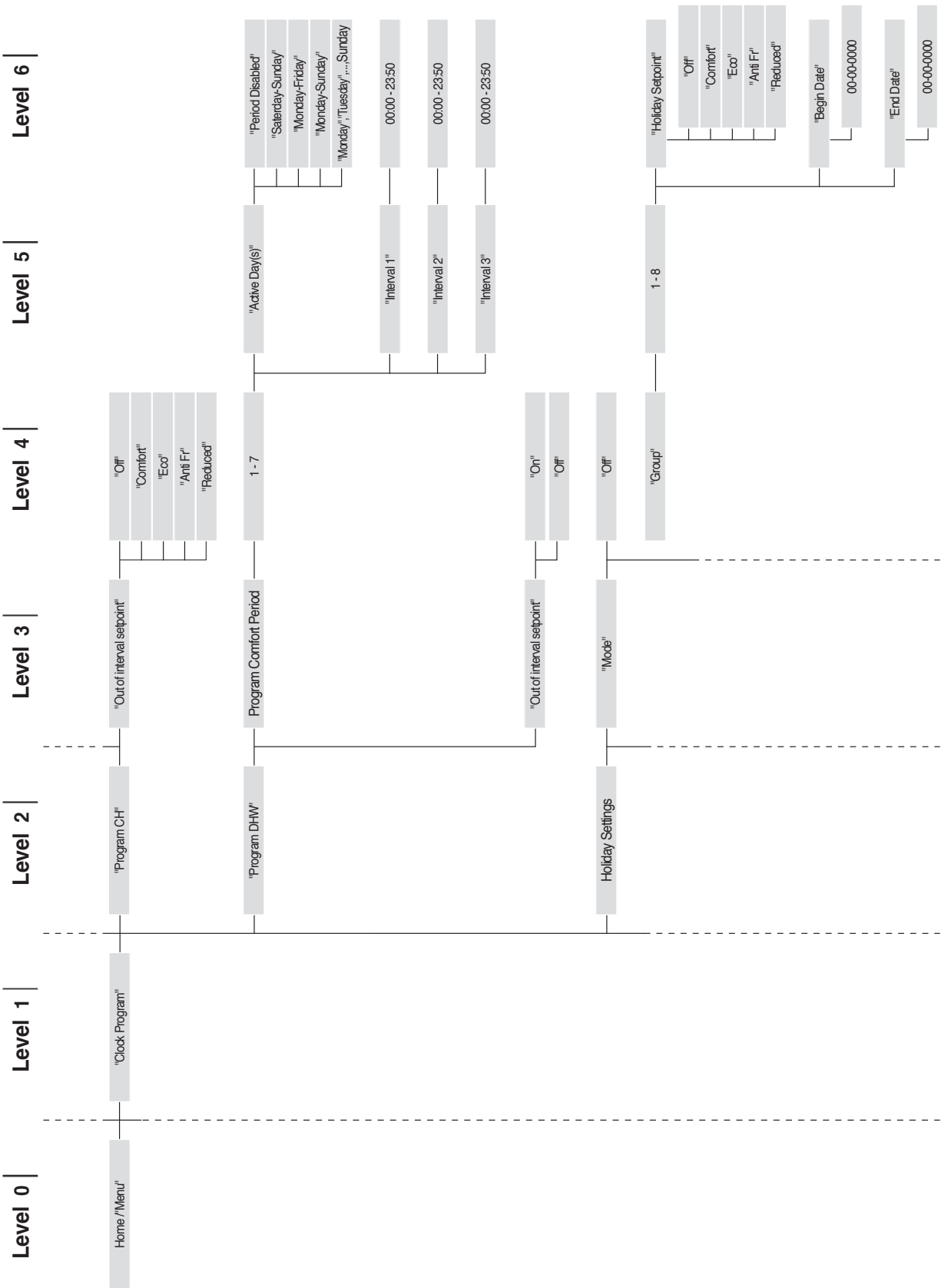
4.14.1 Menu structure

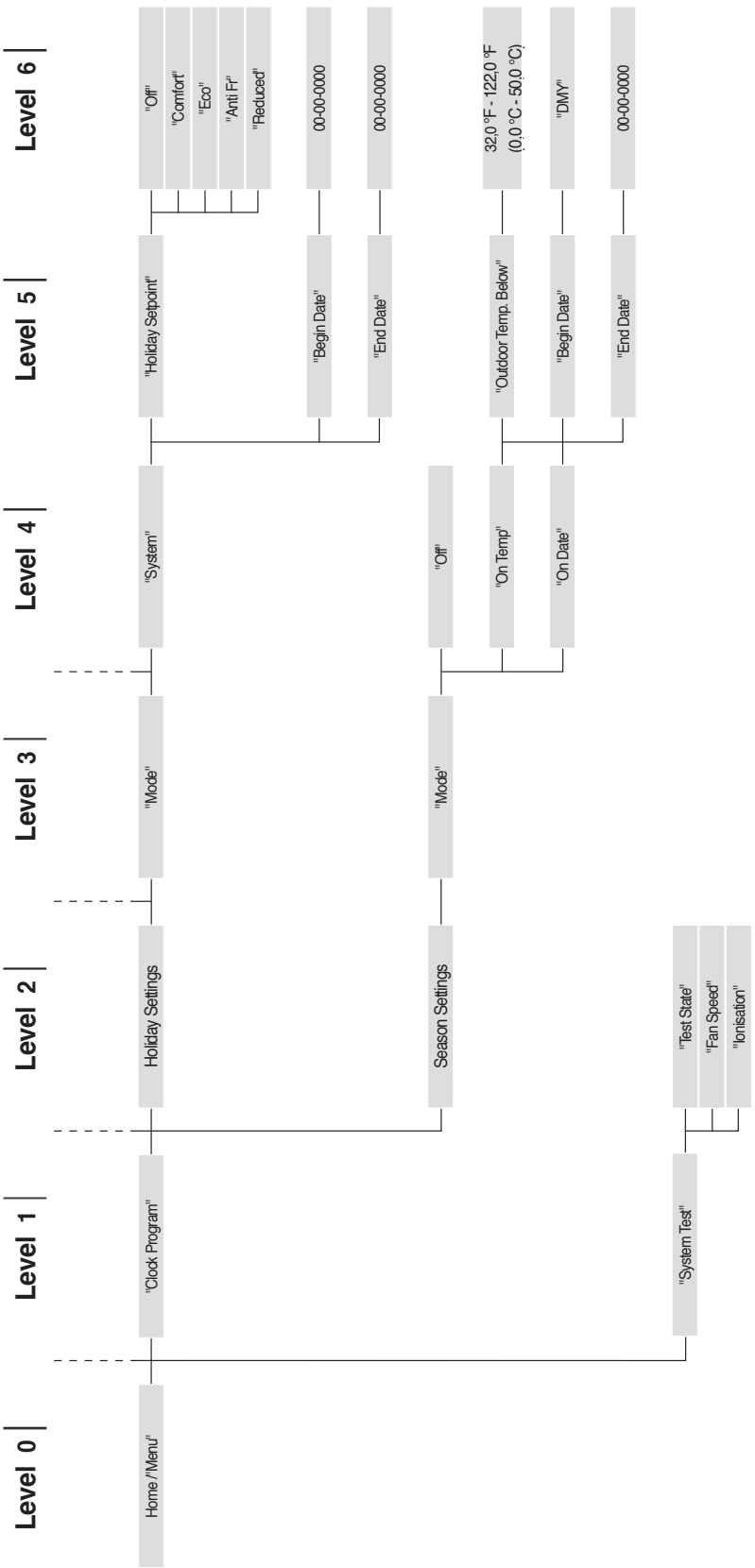












4.14.2 Parameters' list

Parameters are listed base on the reference menu.

Reference Menu

M1 Boiler parameters menu

M2 System cascade settings menu

Menu	Par. No.	Nr. displayed Display	Description	Range	Default setting	UM	Access type	Category
M1	3	CH set-point	Defines the desired supply temperature in heating mode (Par. 1) = 0.	Par. 23 - Par. 24	158 (70)	°F (°C)	U	Heating
M1	19	Design Supply Temp.	Defines the max. set-point at the minimum outdoor temperature for climatic regulation.	86 - 194 (30 - 90)	176 (80)	°F (°C)	U	Heating
M1	20	Design Outdoor Temp.	Defines the minimum outdoor temperature to which the maximum set-point can be associated for climatic regulation.	-52 - 52 (-25 - 25)	0 (0)	°F (°C)	U	Heating
M1	48	DHW tank set-point	Establishes the DHW indirect storage tank set-point Par. 35 in mode 2.	104-160 (40-71)	122 (50)	°F (°C)	U	DHW
M2	72	Permit Emergency Mode	Activates the emergency mode. This mode comes on when communication between Managing and the primary circuit's sensor is lost. In this event, if Par. 72 is set to "Yes", the cascade is initiated, working to the fixed set-point determined by Par. 74.	Yes/No	Yes		U	Cascade

4.15 Error List

When a display has a technical fault, an error code appears that will enable the maintenance operator to identify the possible cause.



WARNING: If an error persists after resetting the boiler once, contact a qualified service agency to repair the boiler. Do not attempt to repair the boiler yourself or continually reset the error as this may result in substantial property damage, severe personal injury or death.

There are 3 categories of errors:

- 1 Permanent: errors that require a manual reset
- 2 Temporary: errors that are automatically reset once the cause that generated them is corrected or stopped
- 3 Notices: simple warnings that do not block the appliance's operation

4.15.1 Permanent Errors

Nr.	Error	Description	Checks	Solutions
0	E2PROM_READ_ERROR	Internal software error		Replace the power control board
1	IGNIT_ERROR	Three unsuccessful ignition attempts in a row	Check gas supply pressure Check ignition spark Correct amount of air Check for 120VAC at the gas valve	If the gas supply pressure is incorrect, it must be adjusted to the correct pressure If spark is not present check for correct ignition electrode position If the combustion air pressure is incorrect, inspect the vent system and eliminate any obstructions If the voltage to the gas valve is not 120Vac the power control board must be replaced
2	GV_RELAY_ERROR	Internal control board error	Check the integrity of the wire connections between gas valve and control board	If wires are damaged, replace them If wires are ok, replace the gas valve or the power control board
3	SAFETY_RELAY_ERROR	Failure detected in safety relay		Replace the power control board
4	BLOCKING_TOO_LONG	Control had a blocking error for more than 20 hours This error is caused when any Blocking errors occur and are not corrected automatically.	Press RESET button to display the Blocking error description	Remove the cause of the Blocking error
5	FAN_ERROR_NOT_RUNNING	Fan is not running for more than 60 seconds	Check for 120 VAC power connection of the fan. Check PWM connection of the fan.	If no 120 VAC voltage is present, replace the power control board; If no PWM signal is present, replace power control board; Replace the fan.
6	FAN_ERROR_TOO_SLOW	Fan runs too slow for more than 60 seconds		
7	FAN_ERROR_TOO_FAST	Fan runs too fast for more than 60 seconds		
8	RAM_ERROR	Internal software error		Replace the power control board
9	WRONG_EEPROM_SIGNATURE	Contents of Eeprom is not up to date		Replace the power control board
10	E2PROM_ERROR	Wrong safety parameters in Eeprom		Replace the power control board
11	STATE_ERROR	Internal software error		Replace the power control board
12	ROM_ERROR	Internal software error		Replace the power control board
15	MAX_TEMP_ERROR	The external overheat protection is enabled or the T_Supply sensor measures a temperature of over 212°F (100°C)	Check the pump to verify the flow circulation; Check if the valves on hydraulic circuit are open; Check the high limit switch.	Change the pump or restart it; Open the valves on hydraulic circuit; Change the high limit switch.

Nr.	Error	Description	Checks	Solutions
16	FLUE_GAS_ERROR	Flue temperature exceeded the maximum flue temperature		
17	STACK_ERROR	Internal software error		Replace the power control board
18	INSTRUCTION_ERROR	Internal software error		Replace the power control board
19	IGN_CHECK_FAILED	Internal software error		Replace the power control board
20	FLAME_OUT_TOO_LATE	Flame still present 10 seconds after closing the gas valve		Replace the gas valve
21	FLAME_BEFORE_IGNIT	Flame is detected before ignition		Replace the gas valve
22	Loss of flame	Flame lost three times during a request		
23	CORRUPTED_ERROR_NR	Error code RAM byte was corrupted to an unknown error code		
29	PSM_ERROR	Internal software error		
30	REGISTER_ERROR	Internal software error		Replace the power control board
37	Flue gases pressure switch error	Flue pressure switch open	Check for obstruction in the flue piping. Blocking errors should be recorded prior to the occurrence of this Locking error. Check for condensate in the hose connecting the flue pressure switch to ensure it isn't blocked	

4.15.2 Temporary Errors

Nr.	Error	Description	Checks	Solutions
100	WD_ERROR_RAM	Internal software error		Replace the power control board
101	WD_ERROR_ROM	Internal software error		Replace the power control board
102	WD_ERROR_STACK	Internal software error		Replace the power control board
103	WD_ERROR_REGISTER	Internal software error		Replace the power control board
106	REFHI_TOO_HIGH / REFHI_TOO_LOW	Internal software error		Replace the power control board
107	REFHI_TOO_HIGH / REFHI_TOO_LOW	Internal software error		Replace the power control board
108	REFHI_TOO_HIGH / REFHI_TOO_LOW	Internal software error		Replace the power control board
109	REFHI_TOO_HIGH / REFHI_TOO_LOW	Internal software error		Replace the power control board
110	REFHI_TOO_HIGH / REFHI_TOO_LOW	Internal software error		Replace the power control board
111	REFHI_TOO_HIGH / REFHI_TOO_LOW	Internal software error		Replace the power control board
112	REFHI_TOO_HIGH / REFHI_TOO_LOW	Internal software error		Replace the power control board
113	REFHI_TOO_HIGH / REFHI_TOO_LOW	Internal software error		Replace the power control board
114	FALSE_FLAME	Flame is detected in a state in which no flame is allowed to be seen.		Replace the power control board

Nr.	Error	Description	Checks	Solutions
115	LOW_WATER_PRESSURE_ERROR	Low water pressure error		
118	WD_COMM_ERROR	Communication error		Replace the power control board
119	RETURN_OPEN	Return sensor open	Check the integrity of the wire connections; Check the return temperature sensor.	If the wiring is damaged, replace it; Verify that the temperature sensor has the correct resistance values. If values are incorrect sensor must be replaced.
120	SUPPLY_OPEN	Supply sensor open	Check the integrity of the wire connections; Check the return temperature sensor.	If the wiring is damaged, replace it; Verify that the temperature sensor has the correct resistance values. If values are incorrect sensor must be replaced.
122	DHW_OPEN	DHW sensor open	Check the integrity of the wire connections; Check the DHW temperature sensor.	If the wiring is damaged, replace it; Verify that the temperature sensor has the correct resistance values. If values are incorrect sensor must be replaced.
123	FLUE_OPEN	Flue sensor open		
126	RETURN_SHORTED	Return sensor shorted	Check the integrity of the wire connections; Check the return temperature sensor.	If the wiring is damaged, replace it; Verify that the temperature sensor has the correct resistance values. If values are incorrect sensor must be replaced.
127	SUPPLY_SHORTED	Supply sensor shorted	Check the integrity of the wire connections; Check the return temperature sensor.	If the wiring is damaged, replace it; Verify that the temperature sensor has the correct resistance values. If values are incorrect sensor must be replaced.
129	DHW_SHORTED	DHW sensor shorted	Check the integrity of the wire connections; Check the DHW temperature sensor.	If the wiring is damaged, replace it; Verify that the temperature sensor has the correct resistance values. If values are incorrect sensor must be replaced.
130	FLUE_SHORTED	Flue sensor shorted	Check the integrity of the wire connections; Check the Outdoor temperature sensor.	If the wiring is damaged, replace it; Verify that the temperature sensor has the correct resistance values. If values are incorrect sensor must be replaced.
133	Net Freq Error	Net. freq. error detected by the watchdog		
134	RESET_BUTTON_ERROR	Too many resets in a short time period		
155	Flue gases press. switch err.	Flue pressure switch open	Check for any obstruction in the exhaust system; Check the condensate discharge.	Remove any obstructions from the exhaust system; Remove any obstruction from condensate discharge and confirm if the condensate can flow freely.
163	T_SELECTION1_OPEN	Heat exchanger's flow rate too low		
164	Boiler model not detected	Boiler model not set		

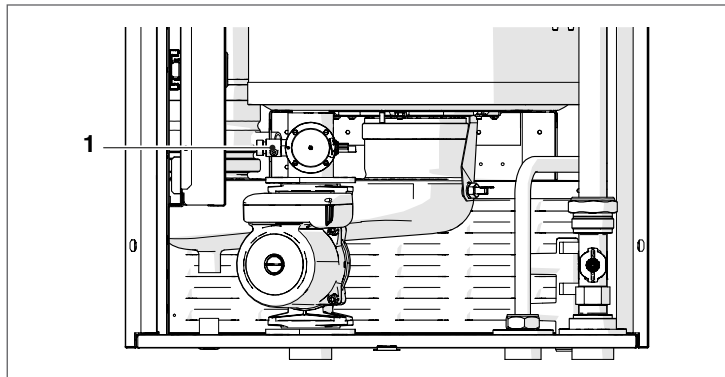
4.15.3 Warnings

Nr.	Error	Description	Checks	Solutions
200	CC_LOSS_COMMUNICATION	Cascade system: the burner of the managing boiler has lost the signal of one of the depending boiler burner		
201	CC_LOSS_COMMUNICATION	Cascade system: the managing boiler has lost the signal of one of the depending boiler		
202	OUTDOOR_WRONG	Outdoor sensor is open or shorted		
203	T_SYSTEM_WRONG	T_System sensor is open or shorted		
204	T_CASCADE_WRONG	T_Cascade sensor is open or shorted		
209	Boiler request disabled	Boiler request disabled		

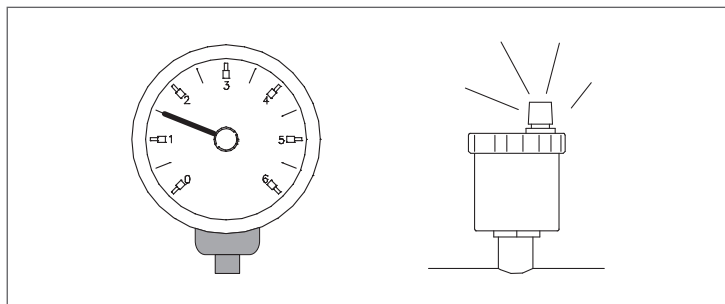
5 HOW TO

5.1 How to increase the system pressure

- Make sure the drain cock (1) is closed before you start filling the system



- Unscrew the air vents release cap
- Open the shut-off cocks in order to slowly fill the system
- Use a pressure gauge to check that the pressure is rising and the water is exiting through the air vents
- Close the shut-off cocks after the pressure reaches 21.75 psi (1.5 bar)
- Start the system pumps and the boiler's pump
- During this stage, check that the air is correctly eliminated
- Restore the pressure if necessary
- Switch the pumps off and on again
- Repeat the last three steps until the pressure has stabilized.



NOTE: The system must be filled up slowly the first time; once it is filled and the air is expelled it should never need to be topped up again.

NOTE: Systems should also be operated at maximum working temperature the first time they are started up, in order to facilitate de-aeration. (Gas is not released from the water at low temperatures).

NOTE: An automatic air purge can be performed during the first ignition. The parameter that sets the air purge cycle is Par. 139. See section "Parameters' list" for more information.

5.2 How to temporary or short-term shut-down

In the event of a temporary or short-term shut-down (e.g. due to holidays), proceed as follows:

- Press the MENU button and select "Time Schedule" with the ▲ / ▼ buttons, confirm with ● button.
- Select "Holiday Schedule" with the ▲ / ▼ buttons, and confirm with the ● button.

```

Clock Program
Program Group
Burn hours till service
Reset Service Reminder
Holiday Settings
  
```

- Select "Mode" with the ▲ / ▼ buttons, and confirm with ● button. Select "System" mode and confirm.

```

Holiday Settings
Mode                               System
Holiday Setpoint                   Comfort
Begin Date                         Saturday 01-08-2015
End Date                           Saturday 01-08-2015
  
```

- Select "Holiday Setpoint" with the ▲ / ▼ buttons, and confirm with ● button.
- Select "Antifreeze" holiday setpoint and confirm.

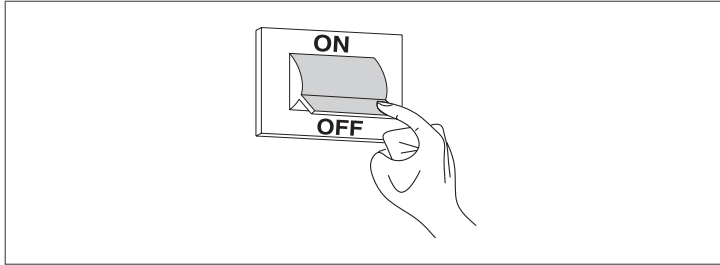
```

Holiday Settings
Mode                               System
Holiday Setpoint                   Anti Fr
Begin Date                         Saturday 01-08-2015
End Date                           Saturday 01-08-2015
  
```

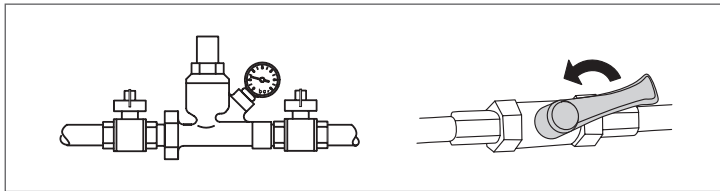
5.3 How to prepare for extended periods of shut-down

Long periods of inactivity of the thermal module require the following operations to be carried out:

- turn the main switch of the boiler and the main system switch to "off"



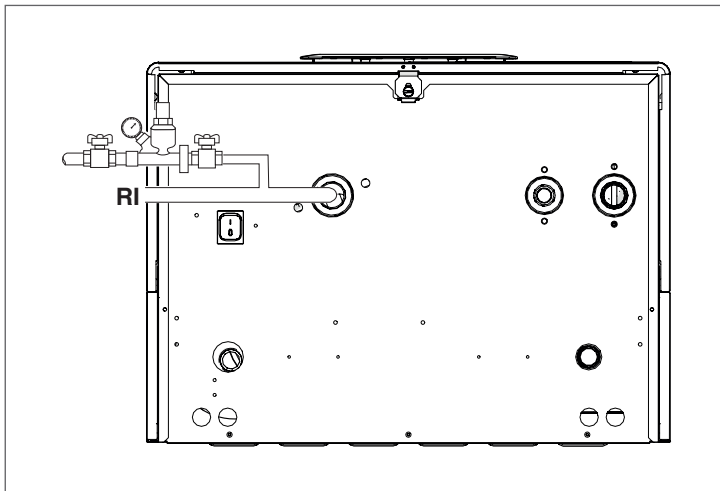
- Close the fuel and water valves for the heating and domestic hot water system.



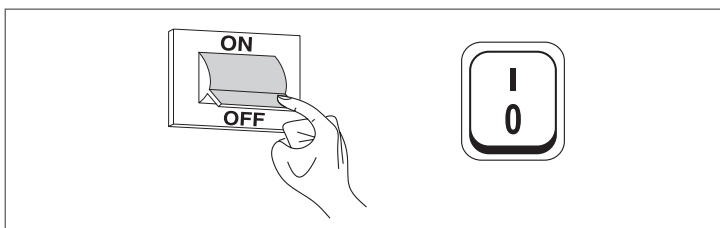
⚠ WARNING: Empty the central heating and domestic system if there is a danger of freezing.

5.4 How to fill and drain the system

The **Condexa PRO NA** must be provided with a means of filling the system to be connected to the appliance's return line.

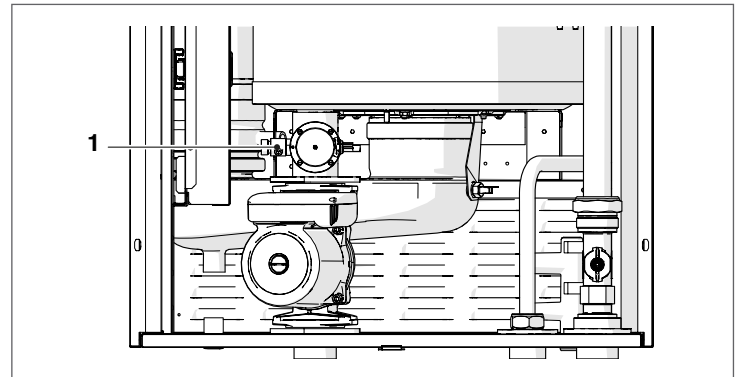


Before filling or draining the system, switch the system's master switch to the OFF position and the boiler's master switch to (0).



5.4.1 How to fill

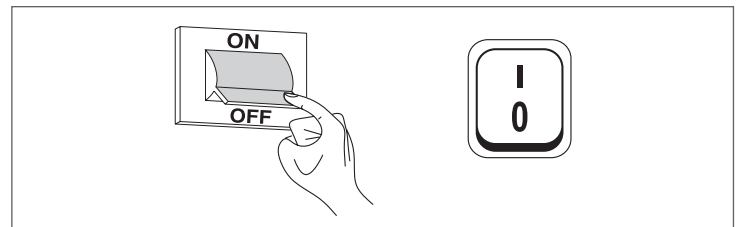
- Make sure the drain cock (1) is closed before you start filling the system



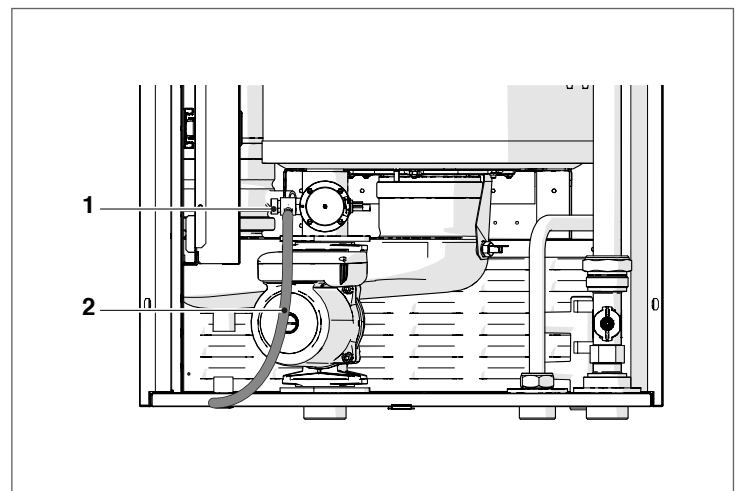
5.4.2 How to drain

Before starting to empty the appliance and the storage cylinder:

- Switch the system's master switch to the OFF position and the boiler's master switch to (0).



- Close the water supply shut-off cocks;
- In order to empty the appliance, fit a rubber hose (2) (inner diameter int. $\varnothing = 1/2"$ (13mm)) to the boiler's drain valve (1).



6 WHAT IF

6.1 What if i suspect a gas leak

If you suspect a gas leak, turn off the gas supply at the gas meter and contact your installer or local gas supplier from outside of the building. If you require further advice please contact a qualified Service Technician.

6.2 What if I have to frequently to increase the system pressure

- If the system regularly requires the pressure to be increased, it may indicate a leak. Please contact your installer and ask him to inspect the system.

6.3 What if the appliance is due its annual service

- If you are a tenant
- Your landlord should arrange for servicing.
- If you are the building owner:

 **NOTE:** Please contact your qualified local service technician to have your appliance serviced. If you do not have a service technician, please contact your local **RIELLO** distributor and they will provide you with a recommendation.

 **WARNING:** Failure to have the boiler properly serviced and inspected on a regular basis by a qualified service technician may result in property damage, serious injury or death.

 **WARNING:** Failure to keep the Vent and Combustion Air-intake clear of ice, snow, and other debris may result in property damage, serious injury, or death.

6.4 What if i need to call a service technician

If you think your boiler may have developed a fault, please contact your installer or your local **RIELLO** distributor. Have all your details in hand including full address, relevant contact numbers and your complete boiler serial number.

7 MAINTENANCE

7.1 Suggested minimum maintenance schedule

Regular service by a qualified service agency and maintenance must be performed to ensure maximum operating efficiency. It allows for the reduction of consumption, polluting emissions and keeping the product reliable over time.

The frequency of servicing will depend upon the particular installation conditions, but in general, once per year should be sufficient. It is the law that any service work is carried out by a competent person such as a qualified service agency of the gas supplier.

NOTE: The boiler heat exchanger must be cleaned on a minimum annual basis to prevent particulate build-up and premature failure of the heat exchanger as well as to optimize efficiency. Failure to do so will void warranty on the heat exchanger. Please consult your local **RIELLO** distributor for proper cleaning instructions.

NOTE: A combustion analysis shall be performed annually to prevent particulate build-up in the heat exchanger, optimize efficiency and prevent improper firing.

WARNING: Service should only be carried out by a qualified service technician. This appliance produces carbon monoxide (CO) gases. The venting should never be taken apart by anyone other than a qualified technician. The venting should not be separated. Failure to comply may result in severe personal injury or death.

WARNING: To avoid electric shock, disconnect electrical supply before performing maintenance.

WARNING: Annual service should ONLY be performed by a qualified service agency. Schedule annual service by calling a licensed service agency.

- Visually check top of vent for soot. Call service person to clean. Some sediment at the bottom of vent is normal.
- Visually inspect all flue product carrying areas of the boiler including the venting system and main burner for proper function, deterioration or leakage. Ensure that condensate drains are inspected and ensure that condensate is being directed to appropriate condensate management system or drain, as required by local codes.
- Check that the area is free from combustible materials, gasoline, and other flammable vapors and liquids.
- Check for and remove any obstruction to the flow of combustion or ventilation air to heater.
- Check operation of safety devices. Refer to manufacturers' instructions.

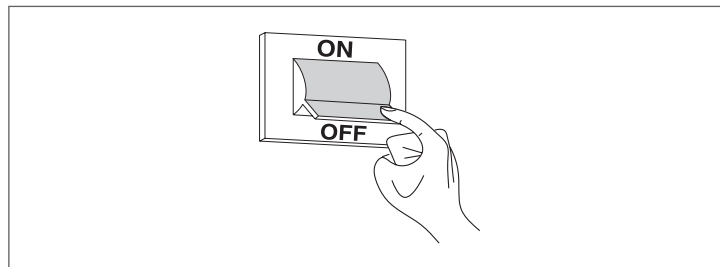
Listen for water flow noises indicating a drop in boiler water flow rate:

- To avoid the potential of a severe burn, DO NOT REST HANDS ON OR GRASP PIPES. Use a light touch; return piping will heat up quickly.
- Check fan and fan motor.
- Check for piping leaks around pumps, relief valves and other fittings. Repair, if found. DO NOT use petroleum-based stop leak products.
- Check the relief valve. Refer to manufacturer's instructions on valve.
- Check the condensate check valve dispositive and, if necessary, please contact your Service Technician.
- Verify proper operation after servicing.

WARNING: The pressure relief valve lever must be operated at least once a year by qualified personnel during annual maintenance to ensure that water-ways are clear.

7.2 Cleaning and removing internal components

Before any cleaning operation, disconnect the electrical power supply by switching the main system switch to "off".



OUTSIDE

Clean the casing, the control panel, the painted parts and plastic parts with damp cloth, using soap and water. In the case of stubborn stains, moisten the cloth with a 50% water and an alcohol mixture for specific products.

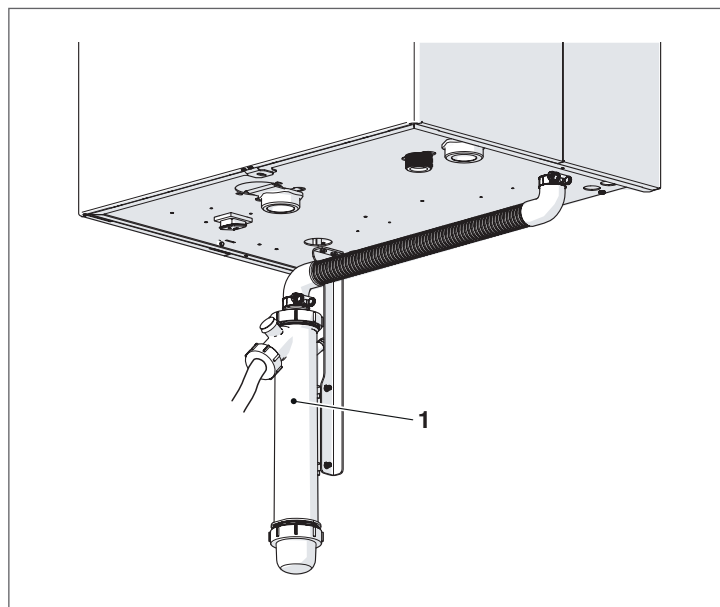
CAUTION: Do not use fuels, sponges with abrasive solutions or powder detergents.

7.2.1 Condensate drain siphon cleaning

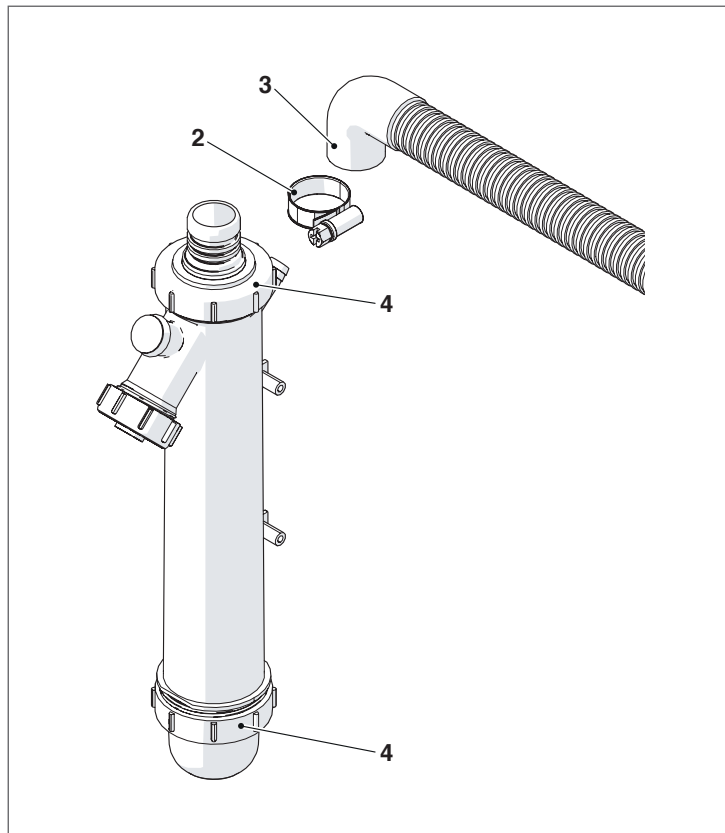
Before starting to disassemble components, close any fill valves to the unit.

The condensate trap must be periodically disassembled and cleaned as part of a regular maintenance plan. Failure to clean the trap regularly can cause condensate drain blockage leading to boiler malfunction, property damage and even personal injury.

- Locate the condensate drain trap (1), mounted under the appliance.



- Loosen the clamp (2), detach the condensate drainage corrugated tube (3), remove the siphon and remove it using the two screw plugs (4)
- Remove the float and clean all internal components.



Once the maintenance is complete, refit the components working in the opposite direction of what was described.

⚠ Fill the siphon with water before you start up the boiler to prevent combustion gases escaping into the room during the first few minutes of boiler functioning.

7.3 "Service reminder" function

The boiler is equipped with a function that reminds the user of the need to carry out planned maintenance on the appliance after a number of hours defined in the maintenance plan.

When this maintenance activity is required, the following text appears on the normal display: **"Maintenance required!"**

This text will remain active until a qualified service agency resets the internal meter after maintaining the appliance.

The user can check at any time how many hours until the next planned maintenance activity by accessing the "Information" menu

Menu	
Central Heating (CH)	i
Domestic Hot Water (DHW)	
Information	
Settings ▼	

and selecting "Maintenance" using the ▲ / ▼ buttons

Information	
Service ▲	i

The menu also shows the hours from the last maintenance activity performed and access to a log that lists the dates of the last 15 maintenance activities, if this function has been utilized.

Service	
Service history	
Burn hours since last service	
Burn hours till service	
Reset Service Reminder ▼	

8 COMMISSIONING LOG FOR THE APPLIANCE

NOTE: Please complete a separate log for each appliance.

Home owner/operator:					
Last name, first name			Number, Street		
Telephone/fax			ZIP code, town		
System installer:					
Order number:					
Appliance type					
FD (Date of manufacture):					
Date commissioned:					
☐ Individual appliance					
Installation location:		☐ Basement ☐ Garage ☐ other: Room air only: Number and size of ventilation openings			
Vent pipe routing:		☐ Twin pipe system (Rigid) ☐ Twin pipe system (Flex) ☐ Concentric pipe system ☐ Room air ☐ Sealed combustion ☐ PP ☐ 4" ☐ other: Total length: Approx. ft (m) Elbows 90°: Qty Elbows 15 - 45°: Qty Flue tightness check completed: ☐ yes ☐ no CO ₂ value in the exhaust air at maximum nominal output: O ₂ value in the exhaust air at maximum nominal output:			
Notes regarding under or over pressure operation:					
Get setting and flue gas test:					
Gas conversion: ☐ NG ☐ LPG (propane)					
Gas pressure		"W.C. (mbar)		Gas static supply pressure:	
Selected maximum output:		MBH (KW)		Selected minimum output:	
Flow rate at maximum nominal output:		gpm (l/min)		Flow rate at minimum nominal output:	
Net calorific value H ₁₈ (per gas supplier):		MBTU/ft ³ (kwh/m ³)		gpm (l/min)	
CO ₂ at maximum nominal output:		%		CO ₂ at minimum nominal output:	
O ₂ at maximum nominal output:		%		O ₂ at minimum nominal output:	
CO at maximum nominal output:		ppm		CO at minimum nominal output:	
Flue gas temperature at maximum nominal output:		°F (°C)		Flue gas temperature at minimum nominal output:	
Maximum measured supply temperature:		°F (°C)		Minimum measured supply temperature	
System hydraulics:					
☐ Low-loss header, type:		☐ Additional expansion tank			
☐ Heating pump:		Size/pre-charge pressure:			
☐ Primary secondary piping:		Automatic air vent present? ☐ yes ☐ no			
☐ DHW tank/type/number/heating surface output:					
☐ System hydraulics checked, notes:					

Modified service functions: (select the modified service functions and enter the values here).	
Example: Vent Length Parameter changed from 1 to 2	
Heating control:	
Gas type setting (par 98 "Gas Type") ☐ NG ☐ LPG	
CH set point (par. 3) :	DHW set point (par. 48) :
Other:	
Heating control programmed, notes:	
☐ Documented the modified settings of the heating control in the control operating/ installation instructions	
The following work has been carried out:	
☐ Electrical connections checked, notes:	
☐ Condensate trap filled	☐ Carry out a combustion air/flue gas test
☐ Proper operation of all modes and settings check carried out	☐ Leak test carried out on the gas and water sides
☐ Venting installed and secured properly per the vent manufacturer instructions	
Commissioning includes checking the settings, a visual heating leak test and a functional check of the boiler and control. The system installer conducts a test of the heating system.	
This system has been checked to the extent described.	The documents have been handed over to the home owner/operator. The home owner/operator has been instructed regarding safety and operation of the boiler and accessories, including the need for regular scheduled maintenance.
Name of service installing contractor	Date, owner/operator signature
	Affix the test report here.
Date, system installer's signature	

9 COMMONWEALTH OF MASSACHUSETTS

9.1 Important instructions for the commonwealth of Massachusetts

The Commonwealth of Massachusetts requires compliance with regulation 248 CRM 4.00 and 5.00 for installation of through – the – wall vented gas appliances as follows:

a) For all side wall horizontally vented gas fueled equipment installed in every dwelling, building or structure used in whole or in part for residential purposes, including those owned or operated by the Commonwealth and where the side wall exhaust vent termination is less than seven (7) feet above finished grade in the area of the venting, including but not limited to decks and porches, the following requirements shall be satisfied:

INSTALLATION OF CARBON MONOXIDE DETECTORS: At the time of installation of the side wall horizontal vented gas fueled equipment, the installing plumber or gasfitter shall observe that a hard wired carbon monoxide detector with an alarm and battery back-up is installed on the floor level where the gas equipment is to be installed. In addition, the installing plumber or gasfitter shall observe that a battery operated or hard wired carbon monoxide detector with an alarm is installed on each additional level of the dwelling, building or structure served by the side wall horizontal vented gas fueled equipment. It shall be the responsibility of the property owner to secure the services of qualified licensed professionals for the installation of hard wired carbon monoxide detectors.

- In the event that the side wall horizontally vented gas fueled equipment is installed in a crawl space or an attic, the hard wired carbon monoxide detector with alarm and battery back-up may be installed on the next adjacent floor level.
- In the event that the requirements of this subdivision cannot be met at the time of completion of installation, the owner shall have a period of thirty (30) days to comply with the above requirements; provided, however, that during said thirty (30) day period, a battery operated carbon monoxide detector with an alarm shall be installed.

APPROVED CARBON MONOXIDE DETECTORS: Each carbon monoxide detector as required in accordance with the above provisions shall comply with NFPA 720 and be ANSI/UL 2034 listed and IAS certified.

SIGNAGE: A metal or plastic identification plate shall be permanently mounted to the exterior of the building at a minimum height of eight (8) feet above grade directly in line with the exhaust vent terminal for the horizontally vented gas fueled heating appliance or equipment.

The sign shall read, in print size no less than one-half (1/2) inch in size, "GAS VENT DIRECTLY BELOW. KEEP CLEAR OF ALL OBSTRUCTIONS".

INSPECTION: The state or local gas inspector of the side wall horizontally vented gas fueled equipment shall not approve the installation unless, upon inspections, the inspector observes carbon monoxide detectors and signage installed in accordance with the provisions of 248 CRM 5.08(2)(a) 1 through 4.

b) EXEMPTIONS: The following equipment is exempt from 248 CRM 5.08(2)(a) 1 through 4:

- The equipment listed in Section 10 entitled "Equipment Not Required To Be Vented" in the most current edition of NFPA 54 as adopted by the board;
- Product Approved side wall horizontally vented gas fueled equipment installed in a room or structure separate from the dwelling, building or structure used in whole or in part for residential purposes.

c) MANUFACTURERS REQUIREMENTS – GAS EQUIPMENT VENTING SYSTEM REQUIRED: When the manufacturer of Product Approved side wall horizontally mounted gas equipment provides a venting system design or venting system components with the equipment, the instructions provided by the manufacturer for the installation of the equipment and venting shall include:

- Detailed instructions for the installation of the venting system or the venting system components;
- A complete parts list for the venting system design or venting system.

d) MANUFACTURERS REQUIREMENTS – GAS EQUIPMENT VENTING SYSTEM NOT PROVIDED: When the manufacturer of Product Approved side wall horizontally vented gas fueled equipment does not provide the parts for the venting of flue gases, but identifies "special venting systems", the following requirements shall be satisfied by the manufacturer:

- The referenced "special venting systems" shall be included with the appliance or equipment installation instructions;
- The "special venting systems" shall be Product Approved by the Board and the instructions for that system shall include a parts list and detailed installation instructions.

e) A copy of all instructions for all Product Approved side wall horizontally vented gas fueled equipment, all venting instructions, all parts lists for venting instructions and/or venting design instructions shall remain with the appliance or equipment at the completion of the installation.

10 LIMITED WARRANTY – TERMS AND CONDITIONS

GENERAL NOTE

This limited warranty is provided by Riello Canada Inc. ("Riello") the following Riello products sold and installed in the United States and Canada:

Condexa PRO NA 75 P
Condexa PRO NA 117 P

This warranty is provided to the original purchaser as long as the boiler remains installed at its original place of installation. This warranty is provided in respect of the boiler heat exchanger and its insulation, casing and approved accessories designated by Riello.

The warranty is conditional upon:

- The proper installation of the boiler by a qualified HVAC mechanical contractor or installer trained and certified in accordance with applicable laws and regulations of the jurisdiction in which the boiler is installed ("the Qualified Contractor"); and
- Proper operation and maintenance of the boiler in accordance with the boiler operation manual and service bulletins as issued by Riello from time to time and the mandatory maintenance schedule provided in the Riello Installation & Operation Manual For Contractors.

Installation or maintenance of the boiler by a person other than a Qualified Contractor shall void this warranty.

Any component of a boiler returned to Riello in connection with this warranty agreement remains the property of Riello.

WARRANTY TERMS & CONDITIONS

PARTS WARRANTY

Riello warrants that the boilers and approved accessories designated by Riello shall be free of defects in manufacture, material and workmanship for 18 months from shipment or TWELVE (12) MONTHS from start-up (whichever comes first).

Furthermore, Riello will warrant parts for boilers mentioned in this certificate for an additional FOUR (4) YEARS bringing the total parts warranty to FIVE (5) YEARS provided the boiler is registered on the riello website, www.riello.com, within NINETY (90) DAYS.

The obligation of Riello under this warranty shall be to repair or replace those parts determined by Riello to be defective in material or workmanship.

This warranty is only in respect of boilers for which payment has been made in full.

TEN (10) YEAR WARRANTY OF PRIMARY and SECONDARY PLATE HEAT EXCHANGERS

Riello warrants that the heat exchanger(s) of the boiler shall be free from leakage, thermal shock and condensate corrosion, and shall be free from defects in material and workmanship for TEN (10) YEARS from the date of manufacture, which date is found within the boilers serial number on the data plate so long as the boiler has been registered at www.riello.com.

The obligation of Riello under this ten year heat exchanger warranty shall be to repair or replace those parts of the heat exchanger determined by Riello to be defective in material and workmanship in the heat exchanger as determined by Riello.

WARRANTY EXCLUSION

- If the boiler is not installed by a qualified, Riello-trained heating contractor.
- Any costs for labor for the examination, removal or re-installation of allegedly defective Boiler parts, and transportation thereof to and from Riello facilities in North America or Italy, or as determined by Riello.
- Failures or malfunctions resulting from: Failure to properly install, operate or maintain the Boilers in accordance with our published Installation, Operation and Maintenance Manual or Users Information Manual provided with the product.
- Failure to install a low loss header or provide proper hydronic separation where required.
- Damage to the Boilers or any of its original or authorized replacement parts or other accessories designated by Riello as standard equipment caused by excessive temperatures or pressures, unsuitable fuels, fuel impurities, improper fuel mixture, fuel or gas explosion, electrical, chemical or electrochemical reaction, water impurities, unsuitable water conditions which may have caused unusual deposits within the water side and heat exchanger combustion area of the pressure vessel within the Boiler, water treatment chemicals, or water conditioning systems, electrical failures, insurrection, riots, war, or acts of God, combustion air contaminated externally, air impurities, sulfur or sulphuric action or reaction, dust particles, corrosive vapors, oxygen corrosion, and situating the Boiler in an unsuitable location or continuing use of the Boiler after onset of a malfunction or discovery of a defect.
- Deformation occurs due to freezing; improper storage or handling.
- If the appliance is not installed in accordance with all applicable local and national codes and regulations.
- If the boiler is not installed in a clean, dry area.
- Any alterations are made without written authorization by the manufacturer.

WARRANTY DAMAGES AND LIMITATIONS

The obligations of Riello here under shall also be subject to the following terms and conditions;

- Any repaired or replaced component of a Boiler and approved accessories will be warranted only for the remaining unexpired term of the warranty applicable to the original Boiler.
- Negotiations, intermediate acts, discussions, disagreements or denials concerning alleged defects or deficiencies shall not extend any warranty herein and shall not waive or be deemed to waive any requirement for notification of defect or deficiency.
- Additional costs arising out of the performance of this warranty including but not limited to transport, labor, installation, assembly, testing and putting a Boiler back into operational use are the responsibility of the owner.
- RIELLO IS NOT RESPONSIBLE FOR ANY INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES CAUSED BY A Boiler.
- Riello does not extend this warranty to any Boiler or related parts or products that are not supplied and sold directly by Riello.

ASSIGNABILITY

This warranty is not assignable.

WARRANTY NOTIFICATION

- All warranty enquiries must notify Riello in writing, within FOURTEEN (14) DAYS of the discovery of the alleged defect or deficiency, and provide the following data:
 - Serial number of the affected Boiler, list of the alleged parts with a short description of the failure and of the conditions under which the failure happened.
 - Information about the hydraulic system, flow rate, length of the venting system, installation scheme and total heating power of the system.
 - Identify of the Qualified installer who performed the Boiler start-up.

Written permission is required for the return of any parts or equipment and any such return must be made on the basis of transportation charges prepaid. Shipments may be refused unless prior written permission is obtained and goods returned prepaid.

Written permission must be obtained through a local Riello distributor and must be obtained by your qualified service technician.

Contact your installing/service contractor to initiate a claim. Do not contact Riello as they cannot provide technical assistance unless you are a qualified service technician.

Parts under warranty will be replaced or credited only. Credits will only be issued to authorized wholesalers.

Maintain a copy of all service records and combustion tests as these may be required for any warranty claim.

APPLICABLE LAW, JURISDICTION AND DISPUTE RESOLUTION

All disputes, claims or demands arising from or relating to this warranty shall be determined in accordance with the laws within the Province of Ontario, Canada and the Courts of Ontario shall have exclusive jurisdiction to adjudicate all such disputes, claims or demands.

If you have any questions about the coverage provided by this warranty, contact Riello at one of the addresses set out below

Riello Burners North America – Canada

2165 Meadowpine Blvd.
Mississauga, ON L5N 6H6

Riello Burners North America – America

35 Pond Park Rd.
Hingham, MA 02043

RIELLO

RIELLO S.p.A.
Via Ing. Pilade Riello, 7
37045 - Legnago (VR) - Italy
www.rielloboilers.com

Riello North America
2165 Meadowpine Blvd.
Mississauga, ON L5N6H6
CANADA

Technical Support Hotline: **1.800.474.3556**
Professional Resources: www.riello.com

The manufacturer strives to continuously improve all products: appearance, dimensions, technical specifications, standard equipment and accessories are subject to change without notice.