

Dear Customer,
Our company is confident our new product will meet all your requirements. Buying one of our products guarantees all your expectations: good performance combined with simple and rational use.
Please do not put this booklet away without reading it first: it contains useful information for the correct and efficient use of your product.

Our company declares that these products are marked **CE** in compliance with the essential requirements of the following Directives:

- Gas regulation (EU) **2016/426**
- Efficiency Directive **92/42/EEC**
- Electromagnetic Compatibility Directive **2014/30/EU**
- Low Voltage Directive **2014/35/EU**
- Ecodesign directive **2009/125/EC**
- Regulation (EU) No **2017/1369** (for boilers with Power<70kW)
- Ecodesign regulation (EU) No **813/2013**
- Energy labelling regulation (EU) No **811/2013** (for boilers with Power<70kW)



Our company, constantly striving to improve the products, reserves the right to modify the details given in this documentation at any time and without notice. These Instructions are only meant to provide consumers with use information and under no circumstance should they be construed as a contract with a third party.

The appliance can be used by children aged 8 or over and by people with reduced physical, sensory or mental faculties, or who do not have the required experience or knowledge, provided they are supervised or have received instructions on using the appliance safely and understanding its intrinsic hazards. Children must not play with the appliance. The cleaning and maintenance operations reserved to the user must not be performed by unsupervised children.

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DESCRIPTION OF SYMBOLS



WARNING

Risk of damage to, or malfunction of the appliance. Pay special attention to the warnings concerning danger to people.



DANGER OF BURNS

Wait for the appliance to cool down before working on the parts exposed to heat.



DANGER - HIGH VOLTAGE

Live components - electrocution hazard.



DANGER OF FREEZING

Possible formation of ice due to low temperatures.



IMPORTANT INFORMATION

Information to read with particular care as it is useful for the correct operation of the boiler.



GENERIC PROHIBITION

It is forbidden to do/use the things indicated alongside the symbol.

SAFETY WARNINGS

SMELL OF GAS

- Switch off the boiler.
- Do not activate any electrical device (such as switching on the light).
- Put out any naked flames and open the windows.
- Call an Authorised Service Centre.

SMELL OF COMBUSTION FUMES

- Switch off the boiler.
- Open all the doors and windows to ventilate the room.
- Call an Authorised Service Centre.

FLAMMABLE MATERIAL

Do not use and/or store highly flammable material (thinners, paper, etc.) near the boiler.

SERVICING AND CLEANING THE BOILER

Switch off the boiler before working on it.



The appliance is not intended to be used by persons with reduced physical, sensory or mental capacities, or who lack experience or knowledge, unless, through the mediation of a person responsible for their safety, they have had the benefit of supervision or of instructions on the use of the appliance.

GENERAL PRECAUTIONS

This boiler has been designed to heat water to a temperature lower than boiling point at atmospheric pressure. It must be connected to a central heating system and to a domestic hot water supply system according to its performance and power output. Before having the boiler installed by a qualified service engineer, make sure the following operations are performed:

- Make sure that the boiler is adjusted to use the type of gas delivered by the gas supply. To do this, check the markings on the packaging and the data label on the appliance.
- Make sure that the flue terminal draft is appropriate, that the terminal is not obstructed and that no exhaust gases from other appliances are expelled through the same flue duct, unless the latter has been specially designed to collect exhaust gas from more than one appliance, in compliance with current laws and regulations.
- Make sure that, if the boiler is connected to existing flue ducts, these have been thoroughly cleaned as residual products of combustion may detach from the walls during operation and obstruct the flow of fumes.
- To ensure correct operation and maintain the warranty, observe the following precautions:

1. DHW circuit

1.1 If the water is harder than 20 °F (1 °F = 10 mg calcium carbonate per litre of water), install a polyphosphate dispenser or an equivalent treatment system, compliant with current regulations.

1.2 Thoroughly flush the system after installation of the appliance and before use.

1.3 The materials used for the DHW circuit comply with Directive 98/83/EC.

2. Heating circuit

2.1 New system: Before installing the boiler, the system must be cleaned and flushed to eliminate residual thread-cutting swarf, solder and any solvents, using suitable off-the-shelf non-acid and non-alkaline products that do not damage metal, plastic and rubber parts. To protect the system from scale, use inhibitors such as SENTINEL X100 and FERNOX protector for heating circuits. Use these products in strict compliance with the manufacturers' instructions.

2.2 Existing system: Before installing the boiler, drain the system and clean it to remove sludge and contaminants, using suitable proprietary products. Recommended cleaning products are: SENTINEL X300 or X400 and FERNOX regenerator for heating circuits. Use these products in strict compliance with the manufacturers' instructions. Remember that the presence of foreign bodies in the heating system can adversely affect boiler operation (e.g. overheating and excessive noise of the heat exchanger).

Initial lighting of the boiler must be carried out by an authorised Service Engineer who must first ensure that:

- The rated data correspond to the supply (electricity, water and gas) data.
- That the installation complies with current regulations.
- The appliance is correctly connected to the power supply and earthed.



Failure to observe the above will render the warranty null and void. Prior to commissioning, remove the protective plastic coating from the boiler. Do not use any tools or abrasive detergents to do this as you may damage the painted surfaces.



Do not leave any packaging (plastic bags, polystyrene, etc.) within the reach of children as they are a potential source of danger.

ENERGY-SAVING TIPS

Adjustment in the heating mode

Adjust the boiler flow temperature depending on the kind of system. For systems with radiators, set a maximum heating water flow temperature of approximately 60°C and increase this value if the required room temperature is not reached. For systems with radiant floor panels, do not exceed the temperature indicated by the system designer. Use the External Sensor and/or Control Panel to automatically adjust the flow temperature to atmospheric conditions or the indoor temperature. This ensures that no more heat than that effectively necessary is produced. Use room thermostats to adjust the temperature without overheating the rooms. Every extra degree centigrade means consuming approximately 6% more. Also room ambient temperature depending on how the rooms are used. For example, the bedroom or the least used rooms can be heated to a lower temperature. Use the programmable timer and set the night-time room temperature at approximately 5°C lower than that during the day. There is no appreciable saving to be achieved by setting it any lower. Only in case of a prolonged absence, such as a holiday, should the temperature setpoint be lowered. Do not cover radiators as this prevents the air from circulating correctly. Do not leave the windows partially open to ventilate the rooms but open them completely for a short period.

Domestic hot water

Setting the domestic hot water at the required temperature without mixing it with cold water saves a lot of money. Additional heating wastes energy and creates additional scale.

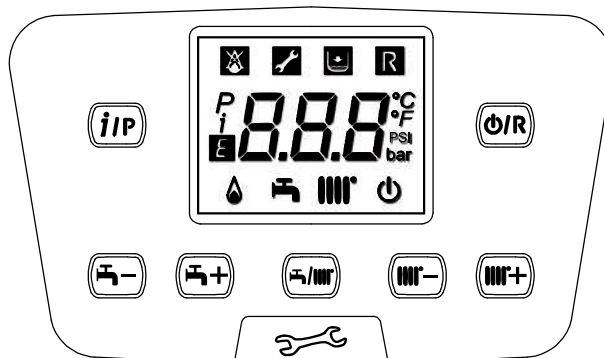
1. COMMISSIONING THE BOILER

To light the boiler correctly, proceed as follows:

- Check that the system pressure is correct (section 7);
- Power the boiler;
- Open the gas tap (yellow, positioned under the boiler);
- Select the required heating mode (section 1.2).

Key to BUTTONS

	DHW temperature adjustment (+ to increase the temperature and – to decrease it)
	Heating water temperature adjustment (+ to increase the temperature and – to decrease it)
	Boiler operating information
	Operating mode: DHW – DHW & Heating – Heating Only
	Off – Reset – Exit menu/functions



Key to SYMBOLS

	Off: heating and DHW disabled (only boiler anti-freeze protection is active)		Burner lit
	Fault preventing the burner from lighting		DHW operating mode enabled
	Boiler/system water pressure low		Heating mode enabled
	Technical Service Centre call-in		Programming menu
	Manually resettable fault ()		Boiler information menu
	Fault in progress		Set unit of measurement (SI/US)

1.1 ADJUSTING THE CH AND DHW FLOW TEMPERATURE

Press and respectively to adjust the CH and DHW flow temperature (if an external storage boiler is fitted). When the burner is lit, the display shows the symbol

HEATING: while the boiler is operating in the heating mode, the display shows the flashing symbol and the heating delivery temperature (°C).

When connected to an External Sensor, indirectly adjust the room temperature (factory setting 20°C).

DHW: connect an external storage boiler to produce domestic hot water. While the boiler is operating in the DHW mode, the display shows the flashing symbol and the heating flow temperature (°C).

When the function of pre-heating is active, the symbol is flashing even without any D.H.W. request.

1.2 OPERATING MODES

SYMBOL DISPLAYED	OPERATING MODE
	DHW
	DHW & HEATING
	HEATING ONLY

To enable the appliance in **DHW - Heating** or **Heating only** press repeatedly and choose one of the three available modes.

To disable the boiler operating modes whilst keeping the anti-freeze function enabled, press for at least 3 seconds. Just the symbol appears on the display (the display backlighting flashes if the boiler is blocked).

2. PROLONGED SHUTDOWN. ANTI-FREEZE PROTECTION

Do not drain the whole system as filling up with water again could cause unnecessary and harmful scale to build up inside the boiler and the heating elements. If the boiler is not used during winter and is therefore exposed to the danger of frost, add some specific anti-freeze to the water in the system (e.g.: propylene glycol coupled with corrosion and scale inhibitors). The electronic boiler management system includes a "frost protection" function for the heating system which, when delivery temperature falls below 5°C, lights the burner until a delivery temperature of 30°C is reached.



The function is operative if: the boiler is electrically powered, there is gas, system pressure is normal and the boiler is not blocked.

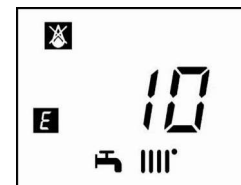
3. GAS CONVERSION

The boilers can operate both on natural gas (G20) and LPG (G31) . All gas conversions must be made by the AUTHORISED TECHNICAL SERVICE CENTRE.

4. FAULTS

The faults shown on the display are identified with the symbol **E** and a number (fault code). For a complete list of faults, see the following table.

If **R** appears on the display the fault must be RESET by the user.
To RESET the boiler, press and hold down **ON/R** for 2 seconds. If faults are displayed frequently, call the Authorised Service Centre.



FAULTS TABLE

E	Description of fault	E	Description of fault
10	External probe sensor	125	No circulation safety trip (control performed via a temperature sensor)
20	NTC flow sensor	128	No flame
28	NTC fumes sensor	130	Fumes NTC tripped due to overtemperature
40	NTC return sensor	133	Ignition failure (4 attempts)
50	NTC DHW sensor (only for heating-only model with storage boiler)	151	Boiler board internal fault
52	Solar DHW sensor (if connected to a solar plant)	152	Generic parameter setting error
73	Solar manifold sensor (if connected to a solar plant)	153	Forced reset when the Reset button is pressed and held for more than 10 seconds (see section "FAULTS THAT CANNOT BE RESET BY THE USER")
83	Communication problem between boiler board and control unit. Probable short circuit on wiring.	160	Fan fault
84	Address conflict between control units (internal fault)	321	NTC domestic hot water sensor faulty
98	Accessory not detected or recognized (*)	343	Generic parameter setting error of solar plant (if connected to a solar plant)
109	Air in boiler circuit (temporary fault)	384	Abnormal light (parasite flame – internal fault)
110	Safety thermostat tripped due to overtemperature. (pump blocked or air in heating circuit)	385	Input voltage too low
111	Safety thermostat tripped due to overtemperature.	386	Fan speed threshold not reached
117	Pressure in hydraulic circuit too high	430	No circulation safety trip (control performed via a pressure sensor)
118	Pressure in hydraulic circuit too low	432	No functional earth or safety thermostat tripped due to over temperature (E110)

(*) After powering up the boiler (or after a Reset for lockout), the error appears on the display once the self-check is completed. The fault code is displayed permanently if the accessory is not recognized.



In the event of a fault, the display backlighting indicates the error code. 5 reset attempts can be performed after which the boiler shuts down. Wait 15 minutes before attempting to reset the boiler again.

5. BOILER INFORMATION MENU

Press **[iP]** to display the information indicated in the following table. Press **[O/R]** to exit.

i	Description	i	Description
00	SW Diagnostic Code	12	Ion current
01	Heating flow temperature	13	Burner working hours
02	Outdoor temperature (if the outdoor sensor is fitted)	14	Zone 1 heating mode
03	External storage tank temperature (fitted models)	15	Zone 2 heating mode
04	DHW temperature (fitted models)	16	DHW circuit operating mode
05	Water pressure in heating system	17	Boiler operating mode
06	Heating return temperature	18	Solar plant operating mode
07	Flue sensor temperature	19	Manufacturer information
08	Not used	20	Manufacturer information
09	Solar collector temperature	21	Gas energy consumption in HEATING
10	Zone 1 heating flow temperature	22	Gas energy consumption in DHW
11	Zone 2 heating flow temperature	23	Gas energy consumption in HEATING + DHW



Items 21, 22 and 23 are displayed alternatively with the gas energy consumption value expressed in millions, thousands and units of kWh. e.g.: 121 / 033 / 145 / 827 corresponds to a gas energy consumption in HEATING of 33.145.827 kWh.

6. SWITCHING OFF THE BOILER

To turn off the boiler, disconnect the electric power supply using the two-pole switch. In the "Off" operating mode **[O]** the boiler stays off but the electrical circuits remain powered and the anti-freeze function remains active.

7. FILLING THE SYSTEM

Regularly check that the pressure displayed on pressure gauge **B** is 1 - 1.5 bar, with the boiler cold. If the pressure is too low, open loading taps "A" on the union support (figure to side). It is recommended that the opening of these taps is done very slowly, to facilitate the bleeding of any air.

In case of overpressure, open drain valve "C" using a fixed 14 mm wrench.

A	Boiler/system filling taps
B	Pressure gauge
C	Boiler/system drain taps



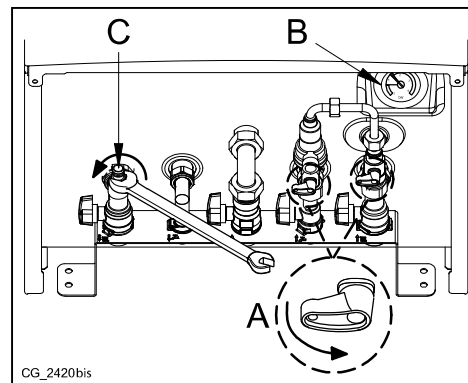
Take special care when filling the heating system. In particular, open any thermostat valves in the system, ensure the water enters slowly in order to prevent the formation of air inside the primary circuit until operating pressure is reached. Lastly, vent any radiators in the system. CHAPPEE declines all liability for damage deriving from the presence of air bubbles in the primary exchanger due to the incorrect or imprecise observance of the above.



The boiler is fitted with a hydraulic pressure gauge which prevents the boiler from working if there is no water.



If pressure drops occur frequently, have the boiler checked by the AUTHORISED TECHNICAL SERVICE CENTRE.



8. ROUTINE MAINTENANCE INSTRUCTIONS

To keep the boiler efficient and safe, have it checked by the Authorised Service Centre at the end of every operating period. Careful servicing ensures economical operation of the system.

INSTRUCTIONS PRIOR TO INSTALLATION

The following notes and instructions are addressed to fitters to allow them to carry out trouble-free installation. Instructions for lighting and using the boiler are contained in the 'Instructions for Users' section. Installation, servicing and running of domestic gas-fired systems must be performed by qualified technicians, in compliance with current regulations.

Additionally, bear in mind the following:

- When installing the unit in environments with temperatures lower than 0°C, take the necessary precautions to avoid the formation of ice in the siphon and in the condensation drain.
- This boiler can be connected to any type of double- or single-pipe convector plate, radiator or thermoconvector. Design the system sections as usual, though, bearing in mind the available flow-head at the plate, as shown in section 17.
- Do not leave any packaging (plastic bags, polystyrene, etc.) within the reach of children as they are a potential source of danger.
- Initial lighting of the boiler must be carried out by an authorised Service Engineer, as indicated on the attached sheet.

Failure to observe the above will render the guarantee null and void.

ADDITIONAL PUMP WARNING

If an additional pump is used on the heating system, position it on the boiler return circuit. This will allow the correct operation of the water pressure switch.

SOLAR WARNING

If the instantaneous (mixed) boiler is connected to a system with solar panels, the maximum temperature of the domestic hot water entering the boiler must not exceed 60°C.



Do not leave any packaging (plastic bags, polystyrene, etc.) within the reach of children as they are a potential source of danger.

9. INSTALLING THE BOILER

The template outline is shown in annex "SECTION" C at the end of this manual.

After deciding the exact location of the boiler, fix the template to the wall (supplied as an accessory). Connect the system to the gas and water inlets present on the lower bar of the template. The union support (supplied as an accessory), comprising shut-off valves and unions, and allowing important maintenance work to be performed without having to drain the entire heating system, should be installed. If you are either installing the boiler on an existing system or replacing one, as well as the above, fit a settling tank under the boiler on the system return line in order to collect any deposits and scale circulating in the system after flushing. After fixing the boiler to the template, connect the flue and air ducts, supplied as accessories, as described in the following sections. Connect the siphon to a drain trap, making sure the slope is continuous. Avoid horizontal stretches.



Tighten the boiler water connections with care (maximum tightening torque 30 Nm).



Do not lift the boiler exerting pressure on the plastic parts like the siphon and the flue turret.



Before starting up the boiler, fill the water siphon to prevent the fumes from diffusing in the room.

9.1 CONTENTS OF PACK

- Boiler support bar
- 8 mm expansion grips and pressure screws

9.2 EQUIPMENT SUPPLIED AS ACCESSORY

The union support installation instructions are shown in annex "SECTION" C

- Heating delivery valve (1).
- Hot DHW outlet union (2a) / DHW storage boiler delivery tap (2b).
- Gas supply valve (3).
- Domestic cold water inlet valve (4).
- Heating return valve (5).
- Union support (6).
- Disconnecter (7).
- DHW storage boiler return connection (8).
- Template (see figure in annex "SECTION" C).
- Gaskets.

9.3 BOILER DIMENSIONS AND GAS WATER CONNECTIONS

The dimensions of the boiler and the relative installation positions of the water connections are shown in the annex "SECTION" C at the end of the manual.

A	Condensate drain point	D	GAS inlet
B	Heating flow	E	Cold domestic water inlet / System filling tap
C	D.H.W. outlet (G1/2") / Boiler heating flow (G3/4")	F	Heating return

10. INSTALLING THE DUCTS

The boiler is easy and flexible to install thanks to the extensive range of available accessories, as described below. The boiler has been designed for connection to a vertical or horizontal coaxial flue-air duct. The boiler can also be used with separate ducts using the accessory splitting kit.

WARNINGS

C13, C33 The terminals for separate flues must be fitted inside a 50 cm square. Detailed instructions are provided with the individual accessories.

C53 Do not fit the flue and air duct terminals on opposite walls of the building.

C63 The pressure drop of the ducts must not exceed **100 Pa**. The ducts must be certified for this specific use and for a temperature in excess of 100°C. The flue terminal must be certified to EN 1856-1.

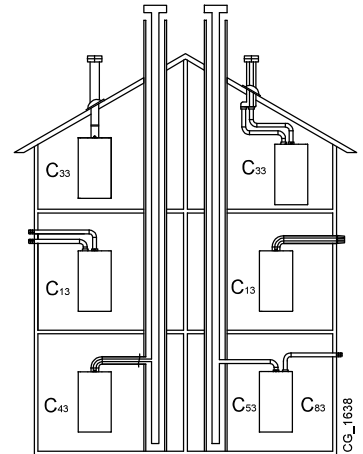
C43, C83 The flue terminal or flue duct must be suitable for the purpose.



For optimal installation, the accessories supplied by the manufacturer should be used.



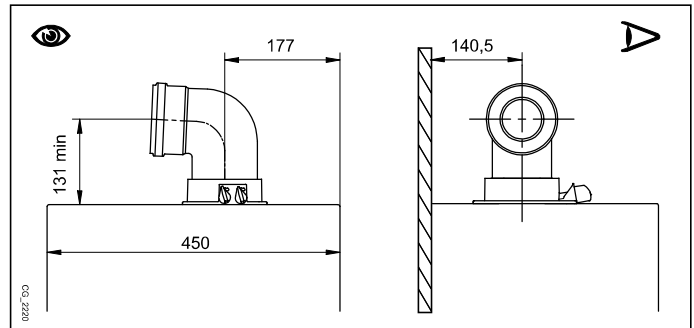
To optimise operating safety, make sure the flue ducts are firmly fixed to the wall with suitable brackets. The brackets must be positioned over the joints at a distance of approximately 1 metre from one another.



10.1 CONCENTRIC DUCTS

This type of duct is used to discharge exhaust fumes and draw combustion air both outside the building and if a LAS flue is fitted. The 90° coaxial bend allows the boiler to be connected to a flue-air duct in any direction as it can be rotated by 360°. It can also be used as a supplementary curve combined with a coaxial duct or a 45° curve. If fumes are discharged outside the building, the flue-air duct must protrude at least 18 mm from the wall to allow an aluminium weathering surround to be fitted and sealed to avoid water infiltrations.

- A 90° bend reduces the total duct length by 1 metre.
- A 45° bend reduces the total duct length by 0.5 metres.
- The first 90° bend is not included when calculating the maximum available length.



Fasten the suction pipes using two galvanised Ø 4,2 mm self tapping screws with minimum length 19 mm. If not included with the supply, screws with the same characteristics must be sourced on the market separately.



Before securing the screws, make sure that at least 45 mm of the pipe is inserted into the gasket (see the figures in annex "SECTION" D at the end of this manual).



Make sure there is a minimum downward slope of 5 cm per metre of duct towards the boiler.



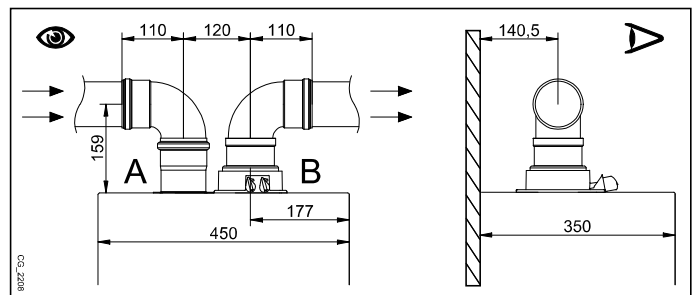
SOME OUTLET DUCT INSTALLATION EXAMPLES AND THEIR RELATIVE MAXIMUM LENGTHS ARE SHOWN IN ANNEX "SECTION" D AT THE END OF THIS MANUAL.

10.2 SEPARATE DUCTS

This type of installation makes it possible to discharge exhaust fumes both outside the building and into single flue ducts. Comburent air can be drawn in at a different location from that of the flue terminal. The accessory splitting kit comprises a flue duct adaptor (80) (B) and an air duct adaptor (A). For the air duct adaptor, fit the screws and seals previously removed from the cap.

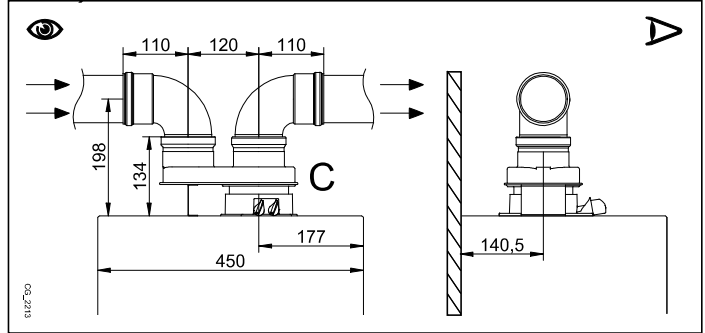
The 90° bend is used to connect the boiler to the inlet and outlet ducts, adapting them to various requirements. It can also be used as a supplementary curve combined with a duct or a 45° bend.

- A 90° bend reduces the total duct length by 0.5 metres.
- A 45° bend reduces the total duct length by 0.25 metres.
- The first 90° bend is not included when calculating the maximum available length.



SINGLE SPLITTING KIT (ALTERNATIVE ACCESSORY)

For special installations of the fumes inlet/outlet ducts, the single splitting kit (C), supplied as an accessory, can be used. This accessory, in fact, can be used to move the inlet and outlet in any direction. This type of installation makes it possible to discharge exhaust fumes both outside the building and into single flue ducts. Comburent air can be drawn in at a different location from that of the flue terminal. The splitting kit is fixed to the boiler turret (100/60 mm) and allows the comburent air and outlet fumes to enter/leave the two separate ducts (80 mm). For further information, read the assembly instructions supplied with the accessory.



SOME OUTLET DUCT INSTALLATION EXAMPLES AND THEIR RELATIVE MAXIMUM LENGTHS ARE SHOWN IN ANNEX "SECTION" D AT THE END OF THIS MANUAL.

11. ELECTRICAL CONNECTIONS

This machine is only electrically safe if it is correctly connected to an efficient earth system in compliance with current safety regulations. Connect the boiler to a 230V single-phase earthed power supply using the supplied three-pin cable, observing correct Live-Neutral polarity.

Use a double-pole switch with a contact separation of at least 3 mm.

When replacing the power supply cable, fit a harmonised "HAR H05 VV-F" 3x0.75 mm² cable with a maximum diameter of 8 mm. The 2A fast-blowing fuses are incorporated in the power supply terminal block (to check and/or replace the fuse, pull out the black fuse carrier).

Rotate the control box downwards and access terminal blocks **M1** and **M2**, used for the electrical connections, by removing the safety cover.



Make sure that the overall rated power input of the accessories connected to the appliance is less than 2A. If it is higher, install a relay between the accessories and the electronic board.



Terminal block **M1** is at high voltage. Before making connections, make sure the appliance is disconnected from the power supply.

TERMINAL BLOCK M1 (observe the polarity L - N)

(L) = Live (brown) (N) = Neutral (light blue).

⊕ = Earth (yellow-green).

(1) (2) = contact for Room Thermostat.

TERMINAL BLOCK M2

Terminals 1 (back-lighting) - 2 (earth) - 3 (+12V): connection to wall-fitted Control Panel (low voltage).

Terminals 4 - 5 (common): External Probe connection (supplied as an accessory).

Terminals 6 - 5 (common): 2nd Auxiliary Probe (probes for solar plant, cascade system, etc.).

Terminals 7 - 5 (common): 1st Auxiliary Probe (probes for solar plant, cascade system, etc.).

Terminal 8: not used.

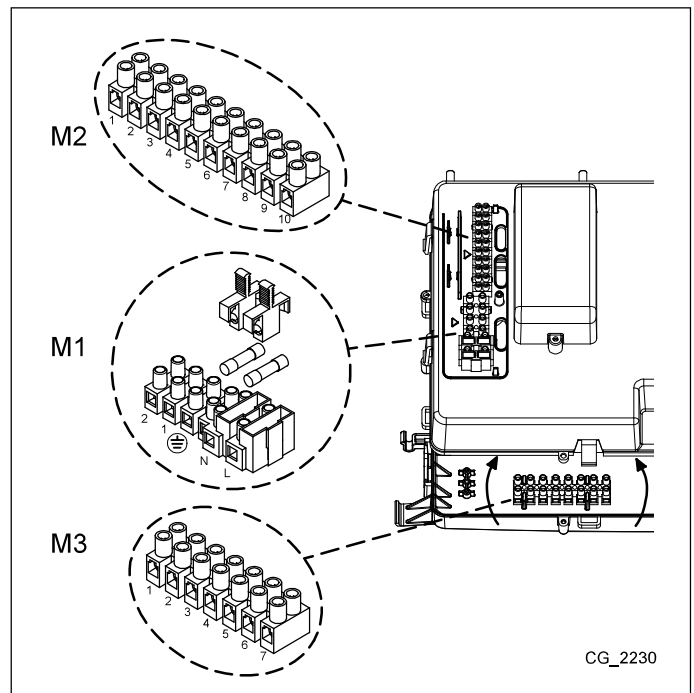
Terminals 9-10: connection of the DHW boiler probe (for heating only boilers).

Terminals 9-10: Multifunction relay contact (for 2.25-2.29-2.33-2.40 boilers).

TERMINAL BLOCK M3 (for heating only boilers)

Terminals 1...5: not used.

Terminals 6 - 7: Multifunction relay contact



If the appliance is connected to an underfloor system, install a limit thermostat to prevent the latter from overheating.



Use the relative cable grommets at the bottom of the boiler to thread the cables through to the terminal blocks.

11.1 CONNECTING THE ROOM THERMOSTAT



The connections in terminal block **M1** are high voltage (230 V). Before making connections, make sure the appliance is disconnected from the power supply. Respect polarity L (LIVE) - N (NEUTRAL).

To connect the Room Thermostat to the boiler, proceed as described below:

- switch off the boiler;
- access the terminal block **M1**;
- remove the jumper from the ends of contacts 1-2 and connect the wires of the Room Thermostat;
- switch on the boiler and make sure the Room Thermostat works correctly.

11.2 ACCESSORIES NOT INCLUDED IN THE SUPPLY

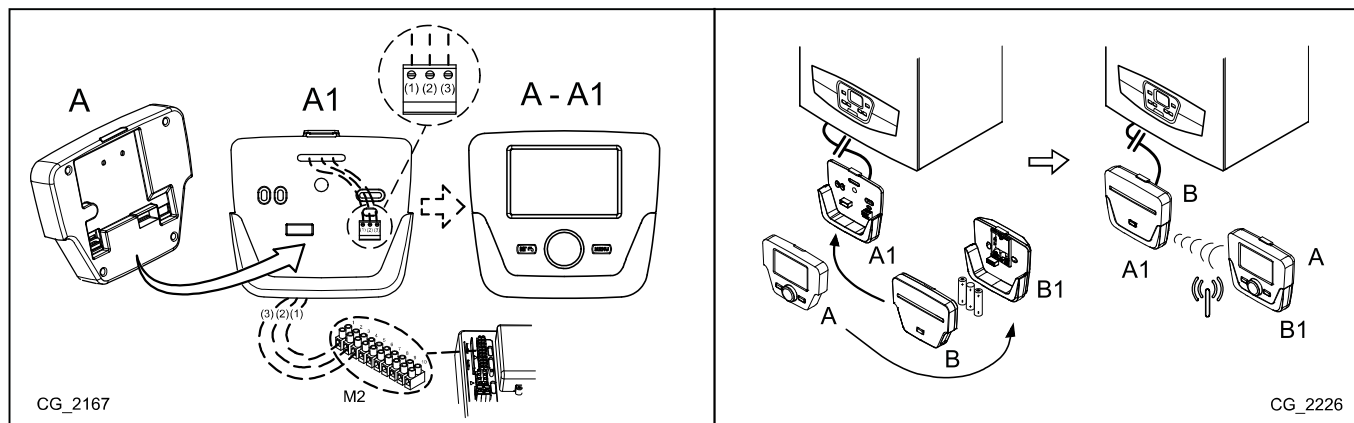
11.2.1 REMOTE CONTROL



The wire (1) from the boiler terminal block **M2** powers the display backlighting (12 V). It is not necessary to connect this wire to make the Remote Control work.

To operate the boiler with the Remote Control mounted on the wall, purchase accessory **A** supplied with the base **A1**. Also see the mounting and operation instructions supplied with the kit **A**. Proceed as follows:

- Switch off the boiler.
- Pass the three wires from the boiler terminal block **M2** through the hole in the base **A1** to apply to the wall.
- Connect wires **1-2-3** of the boiler terminal block **M2** to terminals **(1)-(2)-(3)** of the base terminal block **A1** respectively.
- Fix the base **A1** to the wall using the expansion grips and screws supplied with the accessory.
- Apply the Control Panel **A** to the base fixed to the wall, taking care not to apply excessive force.
- Power the boiler making sure that the Remote Control lights up.



A	Control Panel	A1	Base for wall-mounted Control Panel
B	Led interface accessory	B1	Base for Led interface accessory
(1)	Display backlighting +12V	(2)	Earth connection
		(3)	Power input/Signal +12V



Use the Remote Control to set the programmable timer for heating and DHW. See the instructions supplied with the accessory.

SETTING PARAMETERS USING THE REMOTE CONTROL

SYMBOLS FOR REMOTE CONTROL			
	Turn knob B		Display shows
	Press knob B		Press button A and knob B together
	Press button A or C		Press buttons A and C together

KEY TO FIGURE MENU

1	Enduser	3	Engineer
2	Commissioning	4	OEM

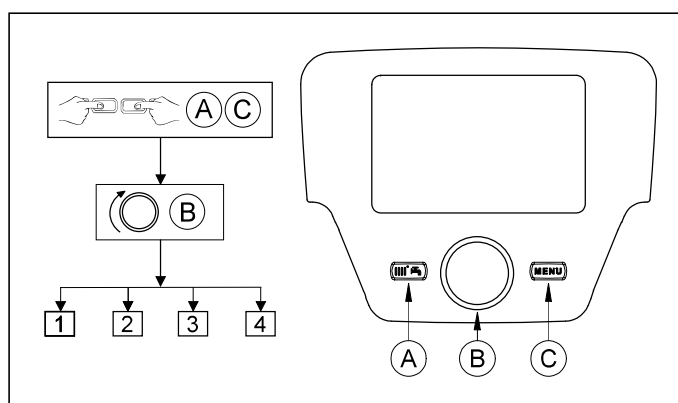
The following procedure is used to access the four boiler programming menus:

- from the main menu **C**.
- **A** and **C** (hold down for approx. 6 seconds) **B** menu **1-2-3-4** (see figure to side and key).
- **C** to go back one menu at a time to the main menu.

When the Control Panel is wall-mounted enable the **room sensor** and **flow temperature modulation** as follows:

A) ROOM SENSOR

- Access menu **2**.
- **B** **Operator unit** **B** to confirm.
- **B** programme row **40** (Used as) **B**.
- **B** (anti-clockwise) **Room unit 1** **B** to confirm (the room sensor is now active).



B) FLOW TEMPERATURE MODULATION

To set flow temperature modulation, disable parameter **742** (HC1). Proceed as follows:

- Access menu **2**.
- **B** **Temps / mode CH1** **B** to confirm **B** **742** (Flow temp setpoint room stat) **B** to confirm.
- **B** (anti-clockwise) **"---**" then **B** to confirm.



If, when turning the knob B on the main menu, the display visualises the boiler flow temperature instead of the ambient temperature, parameter 742 has not been set correctly.

After every system configuration (e.g.: solar combination, connection an external storage boiler, etc.) perform the following procedure to update the boiler board to the new configuration:

- Access menu 2 as indicated at the beginning of this section.
- **B** **Configuration** **B** **programme row 6200** then **B**.
- **B** **Yes** then **B** to confirm.

ZONE SYSTEM WITH INSTALLATION OF THE REMOTE CONTROL

The electrical connection and the adjustments required to manage a system divided into zones with use of the Remote Control differs according on the accessories connected to the boiler. To install and configure, see the instructions of the **Expansion Module** supplied as an accessory.

ADJUSTING THE TEMPERATURE OF THE HIGH TEMPERATURE HEATING SYSTEM

To avoid frequent starting and stopping, raise the minimum temperature setpoint of the boiler in the heating mode by setting parameters **740**, to not less than 45°C, using the procedure described in point **B**.

TEMPERATURE ADJUSTMENT ON LOW TEMPERATURE HEATING SYSTEM

For a low temperature system (such as underfloor heating), reduce the maximum CH temperature setpoint on the boiler by setting parameter **741** (point B) to a value not greater than 45°C.

11.2.2 CONNECTION TO A LOW TEMPERATURE DIRECT SYSTEM

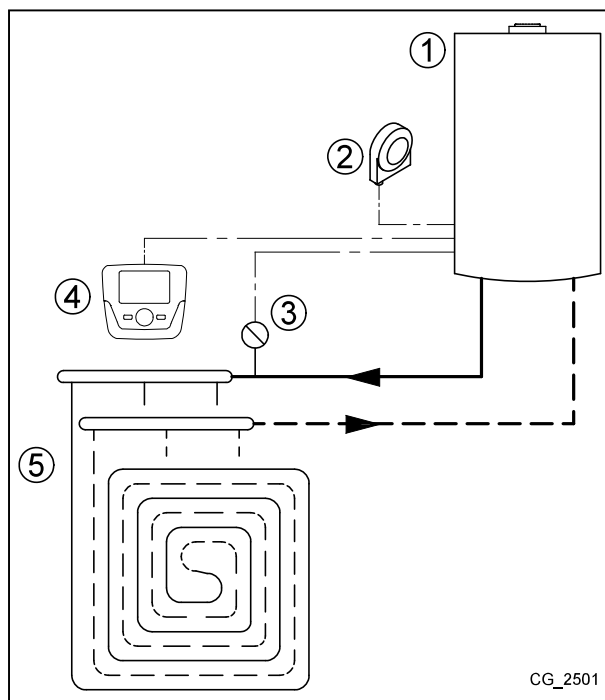
The boiler can manage a low temperature zone without mixing valve.

For a low temperature system (such as underfloor heating), reduce the maximum CH temperature setpoint on the boiler by setting parameter **741** (point B) to a value not greater than 45°C.

1	Boiler
2	External probe
3	Underfloor heating system safety thermostat
4	Remote control
5	Low temperature underfloor heating system

For this system configuration, it will be necessary to have a Remote Control (available as optional accessory) set as ambient unit 1. With this configuration, it is possible to manage heating zone 1 and the DHW functions.

- Access menu 2 as described in section 11.1.2.
- **B** **Configuration** **B** to confirm
- **B** **programme row 5977** (Function input H5) then **B** to confirm
- **B** **Heat generation lock** **B** to confirm
- **B** **programme row 5978** (Contact type H5) then **B** to confirm
- **B** **NC** **B** (Now the safety thermostat is enabled)
- To set the possibility of DHW operation in case of triggering of the safety thermostat:
- **C** to return to the previous menu then **B** **Boiler settings** **B**
- **B** **programme row 2301** (Boiler pump on heat gen lock) then **B** to confirm
- **B** **On** **B**
- **B** **programme row 2305** (Impact heat generation lock) then **B** to confirm
- **B** **Heating mode only** **B**



CG_2501



This type of system requires the installation of a safety overheating thermostat (triggering temperature 50°) on the delivery manifold on the floor system. The electric connection must be to contacts 1-2 of the M1 terminal box.

BOILER PUMP PERFORMANCE

The maximum CH power cannot exceed the values below. Total system losses cannot exceed 2 m of H₂O and the minimum flow rate cannot be lower than 400 l/h.

CH power (kW)	Heating circuit flow rate (l/h)	Minimum speed head (m H ₂ O)	Maximum speed head (m H ₂ O)
6	1032	-	2,7
5	860	2,5	3,3
4	688	3,3	4,2
3	516	4,5	4,7

ΔT=5 °K --- Flow temperature 35°C

CH power (kW)	Heating circuit flow rate (l/h)	Minimum speed head (m H ₂ O)	Maximum speed head (m H ₂ O)
8	983	-	2,7
6	737	3,5	4
5	614	4	4,5
4	491	4,5	4,7

ΔT=7 °K --- Flow temperature 35°C

CH power (kW)	Heating circuit flow rate (l/h)	Minimum speed head (m H ₂ O)	Maximum speed head (m H ₂ O)
12	1032	-	2,7
10	860	2,5	3,3
8	688	3,3	4,2
6	516	4,5	4,7
5	430	4,7	5

ΔT=10 °K --- Flow temperature 35°C

11.2.3 FAN SPEED SETTINGS (MAXIMUM POWER)

The maximum heating power of the boiler can be reduced to suit the requirements of the heating system it serves. A table indicating fan speed values depending on the required maximum power output is shown below.

To access parameter **P30 (2441)** and modify the speed value, proceed as described in chapter 14.

Boiler model - Revs/min (rpm)														
kW	1.12 (*)		1.24 (*)		1.28 (*)		2.25		2.29		2.33		2.40	
	G20	G31	G20	G31	G20	G31	G20	G31	G20	G31	G20	G31	G20	G31
9	5000	-	-	-	-	-	-	-	-	-	-	-	-	-
11	5750	5500	3000	3000	-	-	3000	3000	-	-	-	-	-	-
12	6150	5850	3300	3200	3000	3000	3200	3200	3000	3000	-	-	-	-
14	-	-	3700	3600	3500	3300	3700	3600	3400	3200	3000	3000	-	-
16	-	-	4200	4000	3900	3700	4200	4100	3700	3500	3400	3200	-	-
18	-	-	4700	4500	4300	4100	-	-	4200	3900	3700	3500	3500	3400
20	-	-	5200	4900	4800	4600	-	-	4600	4200	4100	3800	3700	3700
22	-	-	5600	5400	5200	5000	-	-	-	-	4500	4200	4000	4000
24	-	-	6100	5800	5600	5400	-	-	-	-	4800	4500	4400	4400
26	-	-	-	-	6000	5700	-	-	-	-	-	-	4700	4700
28	-	-	-	-	6500	6200	-	-	-	-	-	-	5000	5000
30	-	-	-	-	-	-	-	-	-	-	-	-	5400	5400
32	-	-	-	-	-	-	-	-	-	-	-	-	5750	5500

(*) for these boiler models, also change parameter **P61 (9529)** using the same values of parameter **P30 (2441)**.

11.2.4 EXTERNAL SENSOR

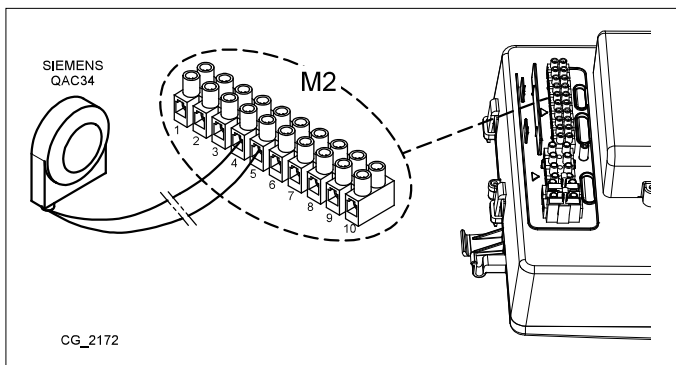
To connect this accessory, see figure to side (terminals 4-5) and the instructions supplied with the sensor.

With the External Sensor connected, on the boiler control panel move the set climate curve **Kt** in parallel (see annex "SECTION" E and parameter **P03** in the table in section 14). To increase room temperature press **+**, to decrease press **-**.

SETTING THE "Kt" CLIMATE CURVE

To set the required kt climate curve, proceed as follows:

- Access the menu as described in section 14.
- Select parameter **P03**.
- Select the climate curve from among those available, see the curve chart in annex "SECTION" E at the end of this manual (the preset curve is 1.5).



KEY TO CURVE CHART Kt - "SECTION" E

	Flow temp		Outside temp
--	-----------	--	--------------

11.2.5 EXTERNAL STORAGE BOILER

The boiler can be electrically connected to an external storage boiler. A diagram of the hydraulic connection of the external storage boiler is shown in annex "SECTION" F. Connect the DHW priority sensor NTC to terminals 9-10 on terminal block **M2**. The sensitive element of the NTC sensor must be inserted in the special well located on the storage boiler. Make sure that the exchange capacity of the storage boiler coil is appropriate for the power of the boiler. Adjust DHW temperature (+35°C...+60°C) by pressing .

12. INITIAL IGNITION - SPECIAL FUNCTIONS

When the boiler is powered up, the code "311" appears on the display and the boiler is ready for "initial ignition". Follow the procedure "SYSTEM AIR EXTRACTION FUNCTION" as described in the section below and enable programme 312. After this operation, the boiler is ready to ignite the burner.



During this phase it is recommended to keep the pressure in the system at a value between 1 and 1.5 bar.

12.1 SYSTEM AIR EXTRACTION FUNCTION

This function is used to facilitate the elimination of the air inside the heating circuit when the boiler is first installed or after maintenance when the water is drained from the primary circuit.

To enable the system air extraction function press buttons together for 6 seconds. When the function is active, **On** appears on the display for a few seconds, followed by programme row **312**.

The electronic board will activate a pump on/off cycle lasting 10 minutes. The function will automatically stop at the end of the cycle. To manually exit this function, press the above buttons together for 6 seconds once again.

12.2 CALIBRATION FUNCTION

To calibrate the gas valve, proceed as follows:

- Press buttons and together for at least 6 seconds. When the function is enabled, the displays shows "On" for a few seconds followed by programme row "304" alternated with the % of boiler power.
- Press to gradually adjust power (sensitivity 1%).
- To exit press both buttons together for at least 6 seconds, as described in point one



Press to display the instantaneous flow temperature for 15 seconds.

12.3 CHIMNEY SWEEPER

When this function is enabled, the boiler generates maximum heating power. To enable the function, proceed as follows:

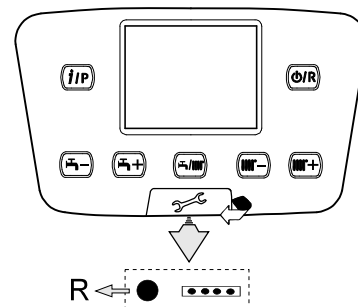
- press together for 6 seconds. The display shows "303" alternated with the power output of the boiler.
- Press and to adjust boiler power 1=minimum, 2=maximum DHW, 3=maximum heating.
- To interrupt the function repeat the procedure described in point one.

12.4 PRE-HEAT FUNCTION

The pre-heating function ensures better comfort, with the possibility of instant hot water at the optimum temperature. The function activates after DHW use. When the function is active, the boiler is active at the minimum temperature, and the display shows the symbol.

13. FAULTS THAT CANNOT BE RESET BY THE USER

In case of **FAULTS** that cannot be reset by pressing  (such as E151, E162 or exceeding 5 manual RESET attempts by the user) RESET the board by pressing the black button (**R**) located under the rubber cap (symbol ) of the front control panel (figure to side).



14. PARAMETERS SETTING

To programme the parameters of the boiler electronic board, proceed as follows:

- Press   together and hold them down for 6 seconds until programme row "**P02**" appears on the display alternated with the set value (°C);
- Press  and hold down for 6 seconds until "On" appears on the display. Release the button and "P01" appears on the display;
- Press   to scroll the list of parameters;
- Press , the value of the selected begins flashing, press   to change the value;
- press  to confirm the value or press  to exit without saving.



Further information concerning the parameters listed in the following table are supplied together with the required accessories.

(a)	(b)	ZONE 1 HEATING PARAMETERS (main zone)		Factory setting	
				1.12-1.24-1.28	2.25-2.29-2.33-2.40
P01	700	*Operating mode (0=Frost Protection, 1=Timed, 3=T.comfort)	-	3	
P02	712	*Reduced ambient temperature	°C	16	
P03	720	*"Kt" curve slope	-	1,5	
P04	721	*"Kt" curve drift	-	0	
P05	726	*"Kt" curve adaptation (0=off)	-	1	
P06	740	Flow temperature setpoint (minimum value)	°C	25	
P07	741	Flow temperature setpoint (maximum value)	°C	80	
P08	742	*Enable modulating temperature if set = "----"	°C	80	
P09	750	*Room influence ("----" = disabled)	%	50	
P10	834	*Opening/Closing speed of mix valve	S	30	

ZONE2 HEATING PARAMETERS (with accessory Expansion Unit)

P11	1000	*Operating mode (0= Frost Protection, 1=Timed, 3=T.comfort)	°C	3	
P12	1010	*Comfort room temperature	°C	20	
P13	1012	*Reduced room temperature	°C	16	
P14	1020	*"Kt" curve slope	-	1,5	
P15	1021	*"Kt" curve drift	-	0	
P16	1026	*"Kt" curve adaptation (0=off)	-	1	
P17	1040	Flow temperature setpoint (minimum value)	°C	25	
P18	1041	Flow temperature setpoint (maximum value)	°C	80	
P19	1042	*Enable modulating temperature if set = "----" (flow temp. setpoint if P63=0)	°C	80	
P20	1050	*Room influence ("----" = disabled)	%	50	
P21	1134	*Opening/Closing speed of mix valve	s	30	

DHW PARAMETERS

P22	1620	Operating mode in DHW (with Remote Control) 0=always enabled, 1=according to hourly heating programme, 2= according to hourly DHW programme.	-	2	0
P23	1640	Anti-legionella function Disabled 0=disabled, 1=periodic (depending on P24)	-	0	
P24	1641	Periodic anti-legionella function enable (only if P23 =1) 1=daily, 2..6=intervals of 2..6 days, 7=once a week	-	7	
P25	1663	Circulation temperature setpoint (additional DHW pump)	°C	45	
P26	5470	Preheating time for DHW circuit (1=10' -- 144=1440')	min	0	6

BOILER PARAMETERS

P27	2243	Minimum boiler off time	min	3	
P28	2217	Frost Protection setpoint	°C	5	
P29	2250	Pump post-circulation time	min	3	
P30	2441	Max. fan speed (heating)	rpm	xxx	
P31	2455	Minimum boiler off differential	°C	5	
P32	2720	Not used (Do NOT change this parameter)	-	0	
P33	2721	Not used (Do NOT change this parameter)	-	1	

SOLAR PLANT PARAMETERS (with accessory Expansion Unit)

P34	3810	Temperature - on differential	°C	8
P35	3811	Temperature - off differential	°C	4
P36	3830	Pump start function ("---" = disabled)	min	---
P37	3850	Solar panel manifold overheating protection ("---" = disabled)	°C	---
P38	5050	DHW boiler tank charging temperature max	°C	65
P39	5051	Maximum temperature of storage tank	°C	90

CONFIGURATION

P40	5700	Not used (Do NOT change this parameter)	-	---
P41	5710	Zone 1 heating circuit (1=enabled)	-	1
P42	5715	Zone 2 heating circuit (1=enabled)	-	0
P43	5730	DHW sensor (1=Tank sensor, 2=Thermostat, 3=instantaneous sensor)		1 3
P44	5890	Not used (Do NOT change this parameter)	-	39
P45	5931	*BX2 sensor input (first auxiliary sensor – section 11)	-	0
P46	5932	*BX3 sensor input (second auxiliary sensor – section 11)	-	0
P47	5977	*Input H5 (multifunction input – 18=Room thermostat)	-	18
P48	6020	*Configuration of accessory Expansion Unit	-	0
P49	6024	Input EX21 module 1 (configuration of HC Safety Thermostat)	-	0
P50	6046	Input H2 module 1 (multifunction input)	-	0
P51	6097	Sensor type collector (1= NTC, 2= Pt 1000)	-	2
P52	6110	Building time constant	h	15

P53	6220	Software version	-	---
P54	6600	LPB device address	-	1
P55	6601	LPB segment address	-	0
P56	6640	Clock time source	-	0

MAINTENANCE

P57	7045	Time after maintenance	month	xxx
P58	6704	View/Hide secondary fault internal code (0=no)	-	1

BURNER CONTROL

P59	9512	Required ignition speed	rpm	xxx
P60	9524	Required minimum operating speed (low speed)	rpm	xxx
P61	9529	Required maximum operating speed (high speed)	rpm	xxx

BOILER CONTROL PANEL PARAMETERS

P62	-	Unit of measurement (1=bar, °C – 2=PSI, °F)	-	1
P63	-	Control panel operation: (1=central, 0=local)	-	1
P64	-	Software version	-	xx

* see "Accessories not included in supply"

xx: the value depends on the software version xxx: the value depends on the type of boiler

(a): parameters read on the front boiler panel (fixed control panel) (b): parameters read on the Remote Control

15. GAS CONVERSION METHODS

Only an Authorised Technical Assistance Service can convert boiler operation from G20 to G31 gas or vice-versa. To calibrate (and select the correct nozzle), see **TABLE 1** and proceed as follows:

- Replace the nozzle of the gas valve, supplied as a kit, as illustrated in the figure to the side;
- Set the board parameters, fan revs (rpm);
- Enable the calibration function (see previous section);
- Calibrate the gas valve as described in section 15.1 points 1 and 2.

To access the parameters indicated in **table 1**, see the procedure described in section 14.



When the gas change is completed the boiler data plate must be amended to indicate the new gas data.

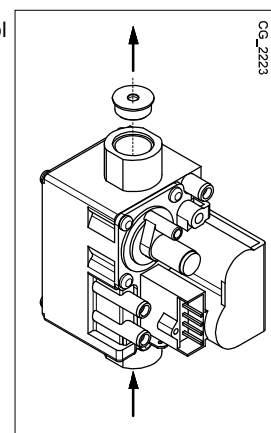


TABLE 1: FAN SPEED PARAMETERS AND GAS NOZZLE

	PARAMETERS - rpm								Ø GAS NOZZLE (mm)	
	P60 (a)		P30 (a)		P61 (a)		P59 (a)			
Boiler model	Min. power		Pmax heating		Pmax DHW		Ignition power			
	G20	G31	G20	G31	G20	G31	G20	G31	G20	G31
2.40	1500	1400	5750	5500	7400	6800	3500	2500	7,0	4,8
2.33	1600	1500	4800	4500	6500	6100	3000	2500	7,0	4,6
2.29	1500	1400	4600	4400	6650	6250	3000	2500	6,2	4,2
2.25	1400	1400	4200	4000	6400	6100	3000	3000	5,6	3,8
1.28	1400	1400	6500	6200	-	-	3000	2500	6,2	4,2
1.24	1400	1400	6100	5800	-	-	3000	3000	5,6	3,8
1.12	1500	2150	6150	5850	-	-	5000	5500	4,0	2,8

(a) value read on the boiler front panel display to multiply x 10 (e.g.: 150 corresponds to 1500 rpm).

15.1 GAS VALVE CALIBRATION

To calibrate the gas valve, enable the calibration function as described in section 15 and carry out the following operations:

1) Calibrating MAXIMUM heat output.

Check that the CO_2/O_2 measured on the flue duct, with the boiler operating at maximum heat capacity, matches that indicated in table 1B. If it does not, turn the adjustment screw (V) on the gas valve. Turn the screw clockwise to decrease the level of CO_2 and clockwise to increase it.

2) Calibrating REDUCED heat output

Check that the CO_2/O_2 measured on the flue duct, with the boiler operating at minimum heat capacity, matches that indicated in table 1B. If it does not, turn the adjustment screw (K) on the gas valve. Turn the screw clockwise to increase the level of CO_2 and anticlockwise to decrease it.

PI	Gas supply pressure tap	PI	Airtight chamber pressure signal
Pout	Burner gas pressure tap	V	Gas flow adjustment screw
P	OFFSET measurement pressure tap	K	OFFSET adjustment screw

For each CO_2/O_2 value found at the maximum thermal capacity, there is a range of CO_2/O_2 values at the minimum thermal capacity shown in the same line of the table. The nominal calibration values of the gas valve for each type of gas used are shown in bold. The CO_2/O_2 values are with the cover closed. The maximum permitted CO value must be lower than 400 ppm.

Measure the CO value in the flue gasses. If the CO level is above 400 ppm perform following actions:

- Check if the flue exhaust is installed correctly.
- Check if the used gas type corresponds with the boiler settings.
- Check if the burner is not damaged and remove pollution from the burner.
- Recheck the correctness of the gas/air ratio.
- Contact your supplier if the CO level is still above 400 ppm.



If CO level is still above 1000 ppm turn off the appliance and get in contact with your supplier.



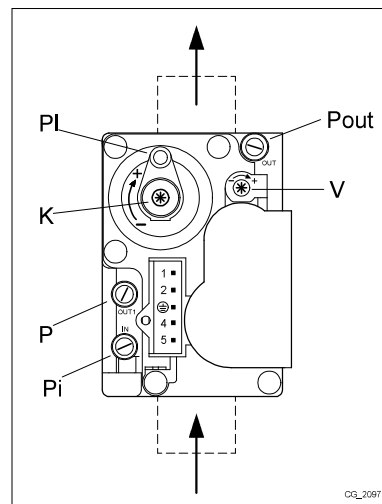
FOR THE MODEL INITIA+ 1.24 HTE, 2.25 HTE, 2.29 HTE ONLY: This appliance is suitable for G20 gas containing up to 20% hydrogen (H_2). Due to variations in the percentage of H_2 , the percentage of O_2 may vary over time. (For example: 20% H_2 in the gas may lead to a 1.5% rise in O_2 in the flue gases). Under these conditions, it is recommended NOT to adjust the gas control valve.

TABLE 1B

G20				G31			
CO_2 (%)		O_2 (%)		CO_2 (%)		O_2 (%)	
P max	P min	P max	P min	P max	P min	P max	P min
9,2	8,7÷9,1	4,5	4,7÷5,4	10,7	10,1÷10,6	4,6	4,8÷5,5
9,1	8,6÷9	4,7	4,8÷5,6	10,6	10÷10,5	4,8	4,9÷5,7
9	8,5÷8,9	4,8	5÷5,7	10,5	9,9÷10,4	4,9	5,1÷5,8
8,9	8,4÷8,8	5	5,2÷5,9	10,4	9,8÷10,3	5,1	5,2÷6
8,8	8,3÷8,7	5,2	5,4÷6,1	10,3	9,7÷10,2	5,2	5,4÷6,1
8,7	8,2÷8,6	5,4	5,6÷6,3	10,2	9,6÷10,1	5,4	5,5÷6,3
8,6	8,1÷8,5	5,6	5,7÷6,5	10,1	9,5÷10	5,5	5,7÷6,4
8,5	8÷8,4	5,7	5,9÷6,6	10	9,4÷9,9	5,7	5,8÷6,6
8,4	7,9÷8,3	5,9	6,1÷6,8	9,9	9,3÷9,8	5,8	6÷6,7
8,3	7,8÷8,2	6,1	6,3÷7	9,8	9,2÷9,7	6,0	6,1÷6,9
8,2	7,7÷8,1	6,3	6,5÷7,2	9,7	9,1÷9,5	6,1	6,4÷7,1



G20: when using mixes up to 20% hydrogen (H_2), only refer to the $\text{O}_2\%$ value.



16.ADJUSTMENT AND SAFETY DEVICES

The boiler has been designed in full compliance with European reference standards and in particular is equipped with the following:

- **Limit thermostat**

Thanks to a sensor placed on the CH flow line, this thermostat interrupts the flow of gas to the burner if the water in the primary circuit overheats.

 It is forbidden to disable this safety device

- **NTC fumes sensor**

This device is positioned on the fumes-water exchanger. The electronic board stops gas from flowing to the burner in case of over heating.

 It is forbidden to disable this safety device

- **Flame ionisation detector**

The flame sensing electrode guarantees safety of operation in case of gas failure or incomplete ignition of the main burner. In these conditions, the boiler blocks.

- **Hydraulic pressure switch**

This device allows the main burner to be ignited only if system pressure is higher than 0.5 bars.

- **Pump post-circulation**

The electronically-controlled pump post-circulation function lasts 3 minutes and is enabled, in the heating mode, if the ambient thermostat causes the main burner to go out.

- **Antifreeze device**

The electronic boiler management system includes an "antifreeze" function for the heating and DHW systems which, when flow temperature falls below 5° C, operates the burner until a flow temperature of 30° C is reached. This function is enabled when the boiler is switched on, the gas supply is open and the system is correctly pressurised.

- **Anti-block pump function**

If no heat demand is received in the heating and/or DHW modes for 24 consecutive hours, the pump will automatically start and operate for 10 seconds.

- **Three-way valve anti-blockage function**

If no heat demand is received for a period of 24 hours, the three-way valve performs a complete switching cycle.

- **Hydraulic safety valve (heating circuit)**

This device is set to 3 bar and is used for the heating circuit. Connect the safety valve to a drain trap. Do not use it to drain the heating circuit.

- **Heating pump pre-circulation**

In case of a heat demand in the heating mode, the appliance can pre-circulate the pump before the burner is ignited. This pre-circulation phase last from a few seconds to a few minutes, depending on the operating temperature and installation conditions.

17.PUMP CAPACITY/ HEAD

This is a high static head pump fit for installation on any type of single or double-pipe heating systems. The automatic air valve incorporated in the pump allows quick venting of the heating system.

KEY TO PUMP CHARTS - "SECTION" E

Q	WATER FLOW RATE	MIN	Minimum speed of modulation
H	HEAD	MAX	Maximum speed of modulation

18.ANNUAL SERVICING



If the boiler was operating, wait for the combustion chamber and pipes to cool down.



Before commencing any maintenance operations, make sure the boiler is disconnected from the power supply. After servicing, reset the original operating parameters of the boiler if they were changed.



Do not clean the boiler with abrasive, aggressive and/or easily flammable substances (such as petrol, acetone, etc.).

To optimise boiler efficiency, carry out the following annual controls:

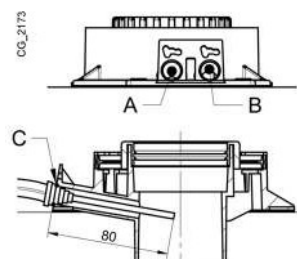
- Check the appearance and airtightness of the gaskets of the gas and combustion circuits. Replace any worn seals with new original spares;
- Check the state and correct position of the ignition and flame-sensing electrodes;
- Check the state of the burner and make sure it is firmly fixed;
- Check for any impurities inside the combustion chamber. Use a vacuum cleaner to do this;
- Check the pressure of the heating system;
- Check the pressure of the expansion vessel;
- Check the fan works correctly;
- Make sure the flue and air ducts are unobstructed;
- Check for any impurities inside the siphon (for condensation boilers); remove the siphon from inside the boiler and clean it with a jet of water. Fill the siphon with clean water and put back in place, making sure that it is properly connected;
- Check the magnesium anode, where present, for boilers fitted with storage boilers.

18.1 COMBUSTION PARAMETERS

To measure combustion efficiency and the toxicity of the products of combustion, the boiler is fitted with two dedicated test points. One connection point is connected to the flue gas discharge circuit (A), and allows monitoring of the quality of the combustion products and the combustion efficiency. The other is connected to the combustion air intake circuit (B), allowing checking of any recycling of the combustion products in case of coaxial pipelines. The following parameters can be measured at the connection point on the flue gas circuit:

- temperature of the combustion products;
- oxygen (O₂) or carbon dioxide (CO₂) concentration;
- carbon monoxide (CO) concentration.

The temperature of the comburent air must be measured on the test point located on the air intake flue (B) by inserting the measurement sensor by about 8 cm (C).



To enable the "CHIMNEY SWEEPER" consult section 12.3.

18.2 HYDRAULIC UNIT

For special areas, where the water is harder than 20 °F (1 °F = 10 mg calcium carbonate per litre of water), install a polyphosphate dispenser or an equivalent treatment system, compliant with current regulations.

LEGEND - "SECTION" F

A	DHW exchanger fixing screw
B	DHW priority sensor with filter
C	Boiler/system drain tap (C-1 & C-2: access to tap C - bottom of boiler)
D	Boiler/system drain tap
E	DHW temperature NTC probe
F	Heating circuit water pressure sensor

18.2.1 CLEANING THE COLD WATER FILTER

The boiler is fitted with a cold water filter located on the hydraulic assembly (B). To clean, proceed as follows:

- Drain the domestic hot water system.
- Remove the nut on the DHW priority sensor unit
- Pull out the flow sensor and its filter.
- Remove any impurities.

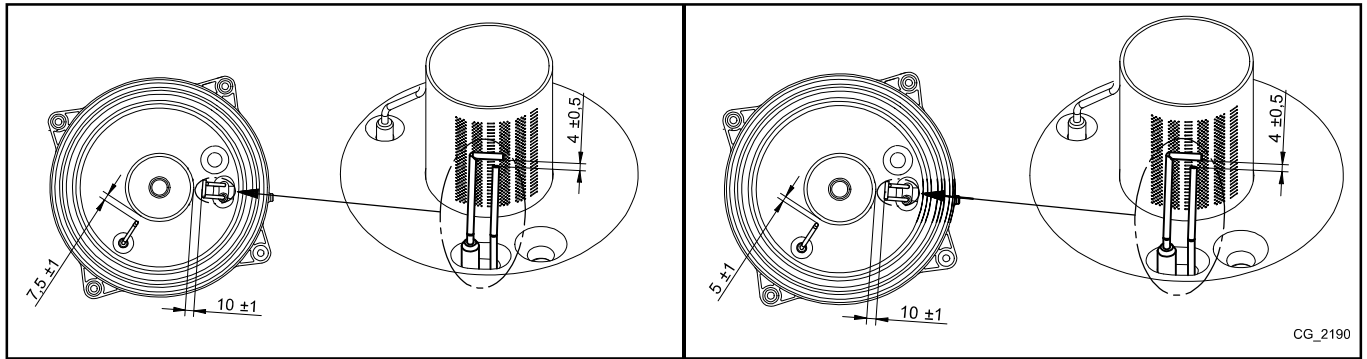


When replacing and/or cleaning the O-rings on the hydraulic assembly, only use Molykote 111 as a lubricant, not oil or grease.

18.3 POSITIONING THE ELECTRODES

1.24 - 1.28 - 2.25 - 2.29 - 2.33 - 2.40

1.12



18.4 REPLACEMENT OF PARTS

If one or more of the following components are replaced:

- Water-fumes exchanger
- Fan
- Gas valve
- Gas nozzle
- Burner

check and adjust the CO₂% value.

19. DISMANTLING, DISPOSAL AND RECYCLING



Only qualified technicians are authorised to service the device and system.

Before dismantling the appliance, be sure to disconnect the power supply, close the gas inlet shutoff valve and secure all of the boiler and system connections.

Dispose of the appliance correctly according to the laws and regulations in place. The appliance and accessories cannot be discarded along with normal household waste.

More than 90% of the materials that make up the appliance are recyclable.

20. TECHNICAL SPECIFICATIONS

Model: INITIA+ HTE		1.12	1.24	1.28	2.25	2.29	2.33	2.40
Cat.		II2H3P						
Gas used	-	G20 - G31						
Rated heat input for DHW circuit	kW	-	-	-	25,7	30	34	41,2
Rated heat input for heating circuit	kW	12,4	24,7	28,9	16,5	20,6	24,7	33
Reduced heat input 2H (G20)	kW	2,1	4,1	4,8	4,1	4,8	5,7	6,9
Reduced heat input 3P (G31)	kW	4,0	4,1	4,8	4,1	4,8	5,7	6,9
Rated heat output for DHW circuit	kW	-	-	-	25	29	33	40
Rated heat power 80/60°C	kW	12	24	28	16	20	24	32
Rated heat power 50/30°C	kW	13,1	26,1	30,5	17,4	21,8	26,1	34,9
Reduced heat output 80/60°C - 2H (G20)	kW	2,0	4,0	4,7	4,0	4,7	5,5	6,7
Reduced heat output 80/60°C - 3P (G31)	kW	3,9	4,0	4,7	4,0	4,7	5,5	6,7
Reduced heat output 50/30°C - 2H (G20)	kW	2,2	4,3	5,0	4,3	5,0	6,0	7,3
Reduced heat output 50/30°C - 3P (G31)	kW	4,2	4,3	5,0	4,3	5,0	6,0	7,3
Rated efficiency 50/30°C	%	105,8	105,7	105,7	105,8	105,7	105,8	105,7
Max./Min. pressure of water in heating circuit	bar	3,0 / 0,5						
Capacity of water in expansion vessel	l	8	8	8	8	8	10	10
Minimum pressure of expansion vessel	bars	0,8						
Max. pressure of water in DHW circuit	bars	-	-	-	8,0	8,0	8,0	8,0
Min. dynamic pressure in DHW circuit	bars	-	-	-	0,15	0,15	0,15	0,15
Minimum flow of water in DHW circuit	l/min	-	-	-	2,0	2,0	2,0	2,0
Production of DHW with $\Delta T = 25^\circ\text{C}$	l/min	-	-	-	14,3	16,6	18,9	22,9
Production of DHW with $\Delta T = 35^\circ\text{C}$	l/min	-	-	-	10,2	11,9	13,5	16,4
Specific flow "D" (EN 13203-1)	l/min	-	-	-	12	14	16	19,3
Temperature range in heating / DHW circuit	°C	25+80 / 35+60						
Fumes typology	-	C13 - C33 - C43 - C43P - C53 - C63 - C83 - C93 - B23 - B23P						
Coaxial / Separate flue duct diameter	mm	60-100 / 80-80						
Max. mass flow rate of fumes	kg/s	0,006	0,012	0,014	0,012	0,014	0,016	0,019
Min. mass flow rate of fumes	kg/s	0,001	0,002	0,002	0,002	0,002	0,003	0,003
Max. temperature of fumes	°C	75	80	80	80	80	80	80
NOx Class	-	6						
Natural gas supply pressure 2H (G20)	mbar	20						
Propane gas supply pressure 3P (G31)	mbar	37						
Power supply voltage / frequency	V/Hz	230 / 50						
Power supply frequency	W	77	82	92	87	95	95	121
Net weight	kg	34,5	34,5	36	36	36	38	39
Dimensions height / width / depth	mm	763 / 450 / 345						
Protection-limit against humidity (EN 60529)	-	IPX5D						
EC certificate	n°	0085CL0219						

CONSUMPTION AT HEAT INPUT Qmax and Qmin

Qmax (G20) - 2H (34,02 MJ/m³)	m³/h	1,31	2,61	3,06	2,72	3,17	3,60	4,36
Qmin (G20) - 2H (34,02 MJ/m³)	m³/h	0,22	0,43	0,51	0,43	0,51	0,60	0,73
Qmax (G31) - 3P (46,30 MJ/Kg)	kg/h	0,96	1,92	2,25	2,00	2,33	2,64	3,20
Qmin (G31) - 3P (46,30 MJ/Kg)	kg/h	0,31	0,32	0,37	0,32	0,32	0,44	0,54

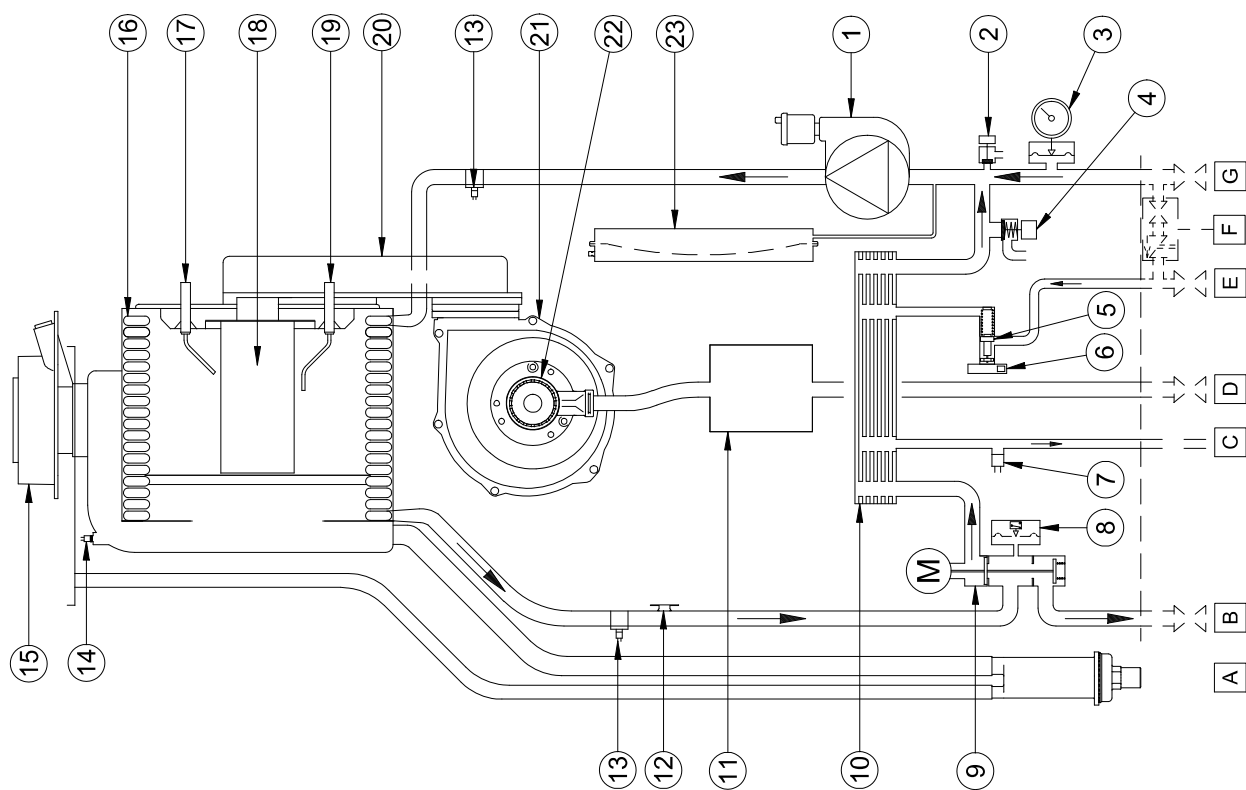
21. TECHNICAL PARAMETERS

CHAPPEE INITIA+			1.12 HTE	1.24 HTE	1.28 HTE	2.25 HTE	2.29 HTE	2.33 HTE	2.40 HTE
Condensing boiler			Yes	Yes	Yes	Yes	Yes	Yes	Yes
Low-temperature boiler ⁽¹⁾			No	No	No	No	No	No	No
B1 boiler			No	No	No	No	No	No	No
Cogeneration space heater			No	No	No	No	No	No	No
Combination heater			No	No	No	Yes	Yes	Yes	Yes
Rated heat output	P_{rated}	kW	12	24	28	16	20	24	32
Useful heat output at rated heat output and high temperature regime ⁽²⁾	P_4	kW	12.0	24.0	28.0	16.0	20.0	24.0	32.0
Useful heat output at 30% of rated heat output and low temperature regime ⁽¹⁾	P_1	kW	4.0	8.0	9.4	5.3	6.7	8.0	10.7
Seasonal space heating energy efficiency	η_s	%	93	93	93	93	93	93	93
Useful efficiency at rated heat output and high temperature regime ⁽²⁾	η_4	%	88.1	87.9	87.9	88.0	87.9	88.0	87.9
Useful efficiency at 30% of rated heat output and low temperature regime ⁽¹⁾	η_1	%	98.2	98.0	98.0	98.0	98.0	98.1	98.0
Auxiliary electricity consumption									
Full load	el_{max}	kW	0.035	0.045	0.050	0.025	0.025	0.030	0.040
Part load	el_{min}	kW	0.014	0.014	0.014	0.014	0.014	0.014	0.014
Standby mode	P_{SB}	kW	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Other items									
Standby heat loss	P_{stby}	kW	0.035	0.035	0.040	0.035	0.035	0.040	0.045
Ignition burner power consumption	P_{ign}	kW	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Annual energy consumption	Q_{HE}	GJ	37	74	87	50	62	74	99
Sound power level, indoors	L_{WA}	dB	55	53	56	48	49	50	55
Emissions of nitrogen oxides	NO_x	mg/kWh	20	24	22	19	19	22	24
Domestic hot water parameters									
Declared load profile						XL	XL	XL	XXL
Daily electricity consumption	Q_{elec}	kWh				0.228	0.241	0.358	0.264
Annual electricity consumption	AEC	kWh				50	53	79	58
Water heating energy efficiency	η_{wh}	%				83	82	81	85
Daily fuel consumption	Q_{fuel}	kWh				23.250	23.740	23.710	28.160
Annual fuel consumption	AFC	GJ				18	18	18	22
(1) Low temperature means for condensing boilers 30°C, for low temperature boilers 37°C and for other heaters 50°C return temperature (at heater inlet).									
(2) High temperature regime means 60°C return temperature at heater inlet and 80°C feed temperature at heater outlet.									

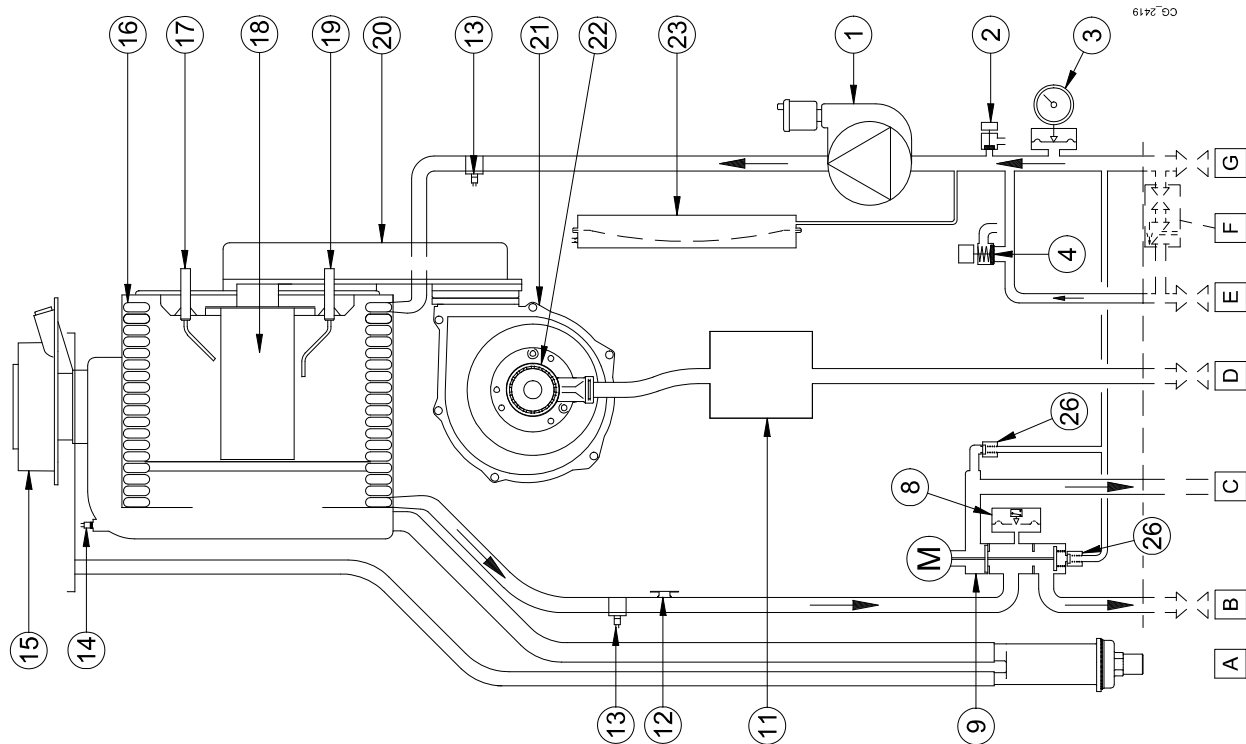
22.PRODUCT FICHE

CHAPPEE INITIA+		1.12 HTE	1.24 HTE	1.28 HTE	2.25 HTE	2.29 HTE	2.33 HTE	2.40 HTE
Space heating - Temperature application		Medium	Medium	Medium	Medium	Medium	Medium	Medium
Water heating - Declared load profile					XL	XL	XL	XXL
Seasonal space heating energy efficiency class		A	A	A	A	A	A	A
Water heating energy efficiency class					A	A	A	A
Rated heat output (<i>Prated or Psup</i>)	kW	12	24	28	16	20	24	32
Space heating - Annual energy consumption	GJ	37	74	87	50	62	74	99
Water heating - Annual energy consumption	kWh ⁽¹⁾ GJ ⁽²⁾				50 18	53 18	79 18	58 22
Seasonal space heating energy efficiency	%	93	93	93	93	93	93	93
Water heating energy efficiency	%				83	82	81	85
Sound power level L _{WA} indoors	dB	55	53	56	48	49	50	55
(1) Electricity (2) Fuel								

2.25 - 2.29 - 2.33 - 2.40



1.12 - 1.24 - 1.28

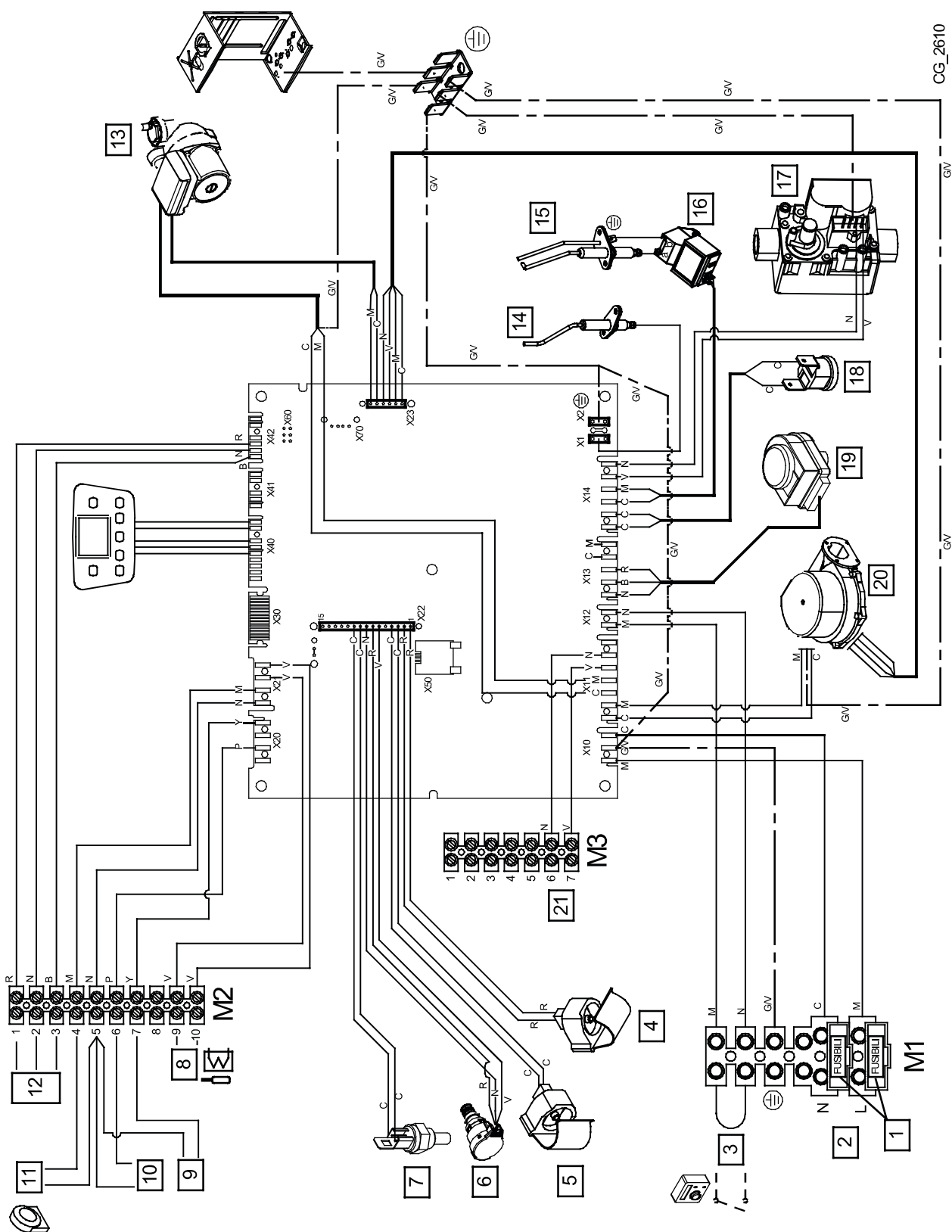


CG 2419

	fr	en
1	Pompe avec séparateur d'air	Pump with air separator
2	Robinet d'évacuation chaudière	Boiler drain tap
3	Manomètre	Pressure gauge
4	Soupape de sécurité hydraulique	Hydraulic Safety valve
5	Capteur de flux avec filtre et limiteur de débit	Flow sensor with water filter and flow limiting device
6	Capteur de priorité sanitaire	DHW priority sensor
7	Sonde NTC sanitaire	NTC DHW sensor
8	Capteur de pression hydraulique	Hydraulic Pressure Sensor
9	Vanne motorisée à trois voies	3-way valve with motor
10	Échangeur sanitaire	DHW heat exchanger
11	Vanne gaz	Gas valve
12	Thermostat de sécurité	Safety thermostat
13	Sonde NTC chauffage	NTC heating sensor
14	Sonde fumées	Fumes sensor
15	Raccord coaxial	Coaxial connector
16	Échangeur eau-fumées	Water-fumes exchanger
17	Électrode d'allumage	Ignition electrode
18	Brûleur	Burner
19	Électrode de détection de flamme	Flame detection electrode
20	Collecteur mélange air-gaz	Air/gas blend manifold
21	Ventilateur	Fan
22	Venturi	Venturi
23	Vase d'expansion	Expansion vessel
26	By-pass automatique	Automatic by-pass
A	Siphon avec évacuation des condensats	Siphon with condensate drain
Équipement disponible en tant qu'accessoire :		
B	Robinet départ eau de chauffage avec robinet de vidange	Heating flow tap with boiler drain tap
C	Raccord sortie eau chaude sanitaire/Ballon	DHW / Storage boiler outlet connection
D	Robinet entrée GAZ	Gas inlet tap
E	Robinet entrée eau froide sanitaire	Cool DHW inlet tap
F	Groupe de remplissage chaudière (disconnecteur / robinet)	Filling loop system (disconnecter / tap)
G	Robinet retour eau chauffage	Heating return tap

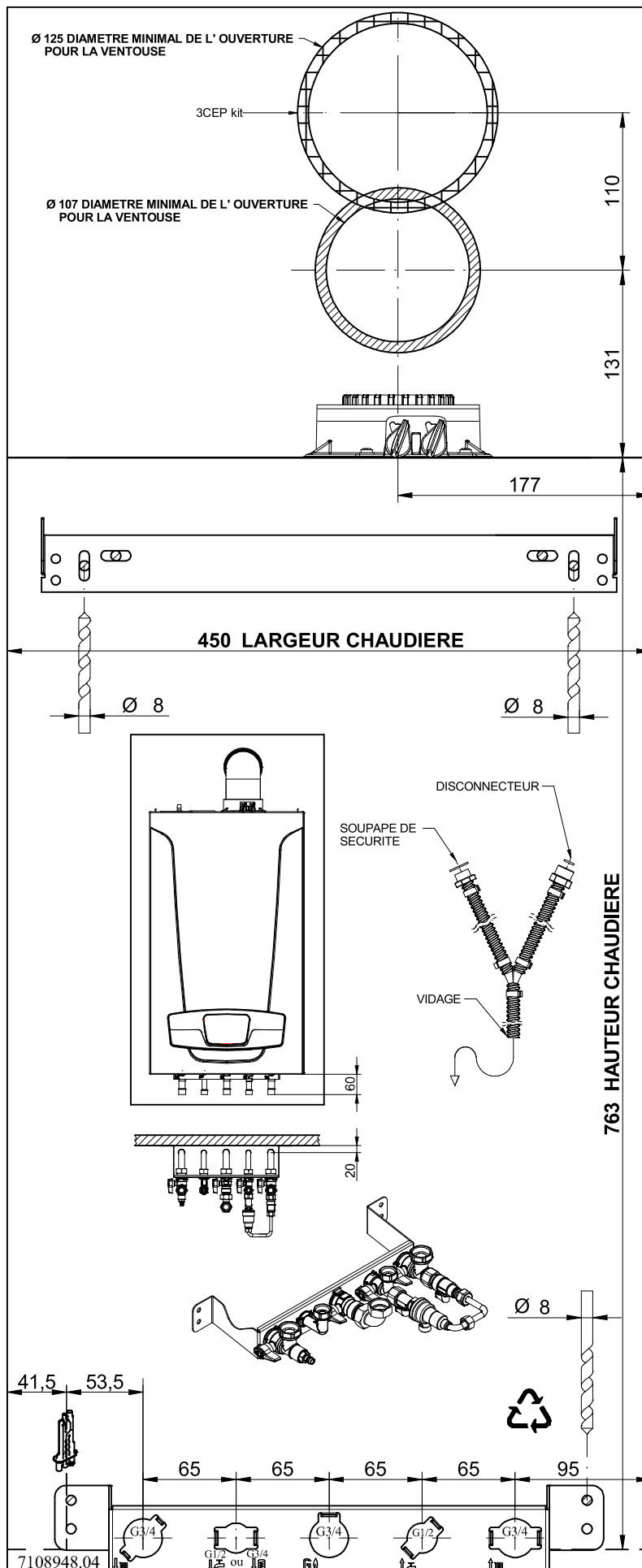


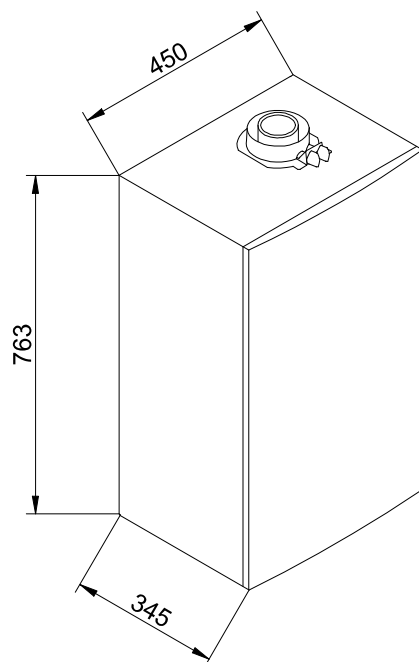
	fr	en
1	Fusibles	Fuses
2	Alimentation électrique 230 V	230 V Power Supply
3	Thermostat d'Ambiance (TA)	Room Thermostat (RT)
4	Sonde départ chauffage	Heating flow sensor
5	Sonde retour chauffage	Heating return sensor
6	Capteur de pression	Water pressure sensor
7	Sonde fumées	Fumes sensor
8	Capteur de priorité sanitaire	DHW priority sensor
9	Sonde auxiliaire 1	Auxiliary Sensor 1
10	Sonde auxiliaire 2	Auxiliary Sensor 2
11	Sonde extérieure	Outdoor sensor
12	Panneau de Contrôle (mural)	Control Panel (wall mounted)
13	Sonde NTC sanitaire	NTC DHW sensor
14	Pompe	Pump
15	Électrode de détection de flamme	Flame sensor electrode
16	Électrode d'allumage	Ignition electrode
17	Allumeur	Igniter
18	Vanne gaz	Gas valve
19	Thermostat de sécurité 105 °C	Safety Thermostat 105 °C
20	Vanne motorisée à trois voies	Diverter valve motor
21	Ventilateur	Fan
22	Relais multifonctions	Multifunction relay
C	Bleu	Blue
M	Marron	Brown
N	Noir	Black
R	Rouge	Red
G/V	Jaune/Vert	Yellow/Green
V	Vert	Green
B	Blanc	White
G	Gris	Grey
Y	Jaune	Yellow
P	Violet	Violet



CG_2610

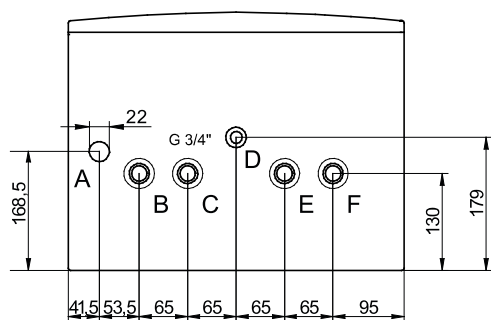
	fr	en
1	Fusibles	Fuses
2	Alimentation électrique 230 V	230 V Power Supply
3	Thermostat d'Ambiance (TA)	Room Thermostat (RT)
4	Sonde départ chauffage	Heating flow sensor
5	Sonde retour chauffage	Heating return sensor
6	Capteur de pression	Water pressure sensor
7	Sonde fumées	Fumes sensor
8	Sonde ballon sanitaire	DHW tank sensor
9	Sonde auxiliaire 1	Auxiliary Sensor 1
10	Sonde auxiliaire 2	Auxiliary Sensor 2
11	Sonde extérieure	Outdoor sensor
12	Panneau de Contrôle (mural)	Control Panel (wall mounted)
13	Pompe	Pump
14	Électrode de détection de flamme	Flame sensor electrode
15	Électrode d'allumage	Ignition electrode
16	Allumeur	Igniter
17	Vanne gaz	Gas valve
18	Thermostat de sécurité 105 °C	Safety Thermostat 105 °C
19	Vanne motorisée à trois voies	Diverter valve motor
20	Ventilateur	Fan
21	Relais multifonctions	Multifunction relay
C	Bleu	Blue
M	Marron	Brown
N	Noir	Black
R	Rouge	Red
G/V	Jaune/Vert	Yellow/Green
V	Vert	Green
B	Blanc	White
G	Gris	Grey
Y	Jaune	Yellow
P	Violet	Violet



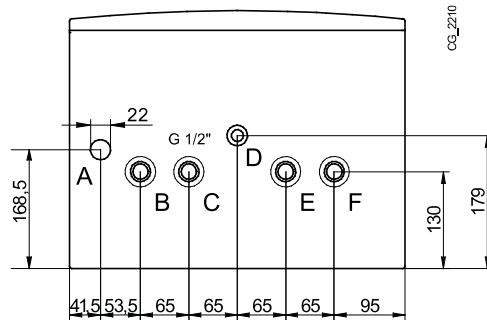


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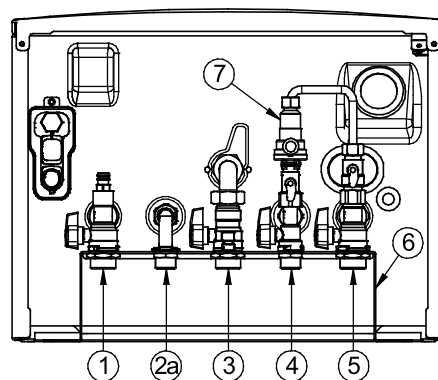
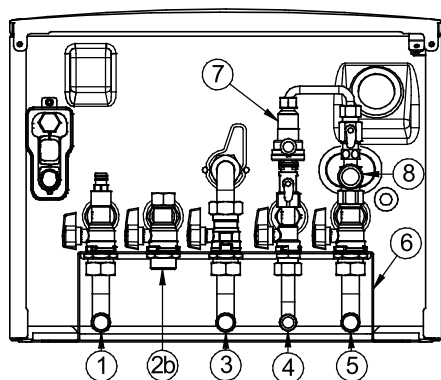
1.12 - 1.24 - 1.28



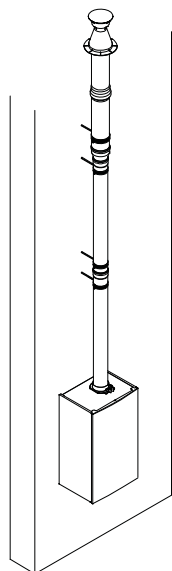
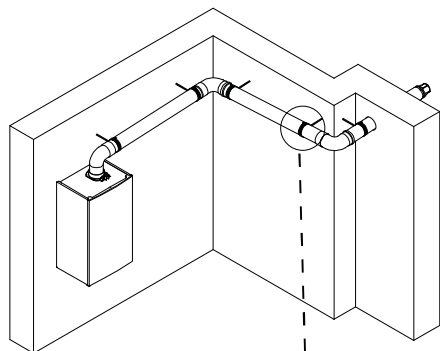
2.25 - 2.29 - 2.33 - 2.40



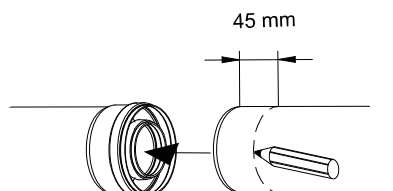
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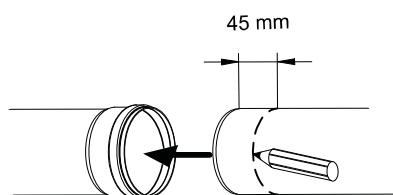
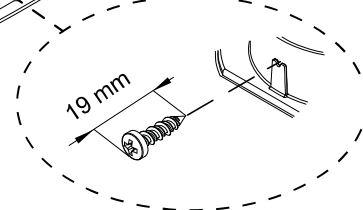
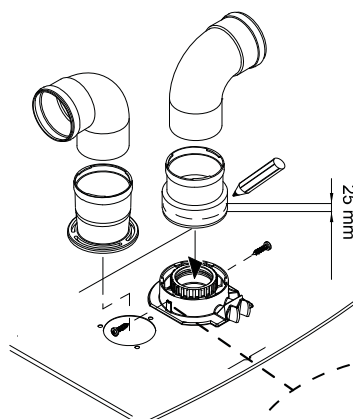
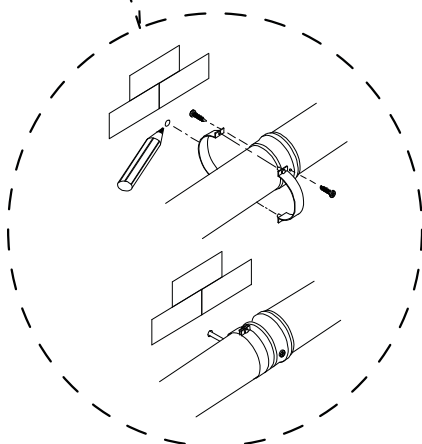
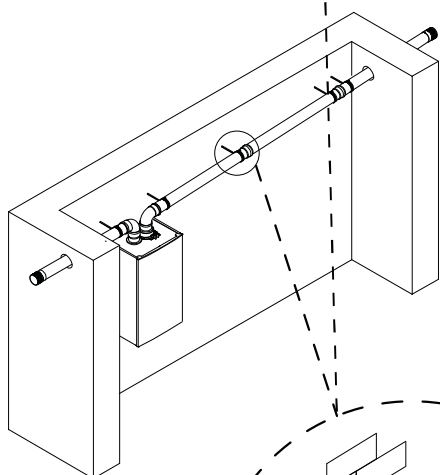
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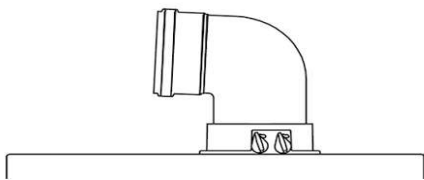


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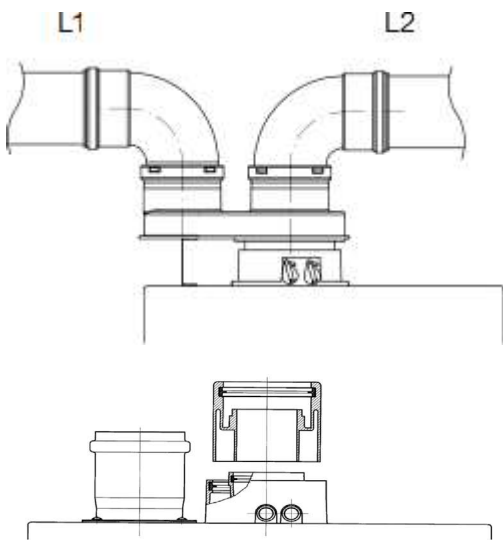


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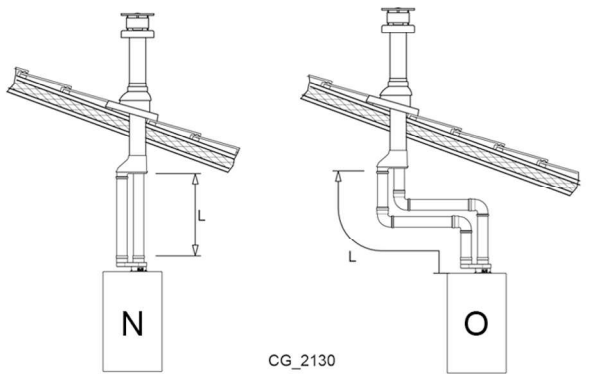
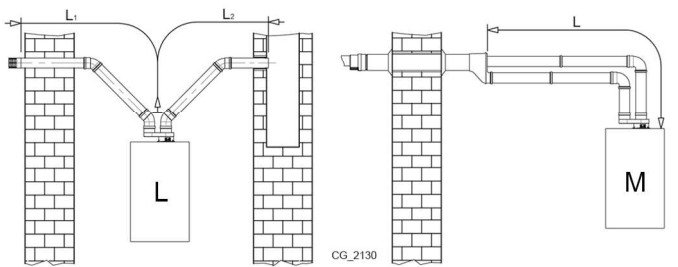
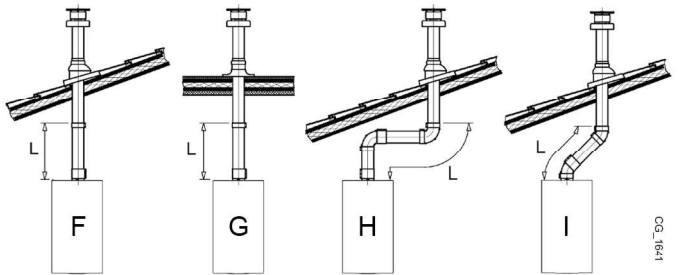
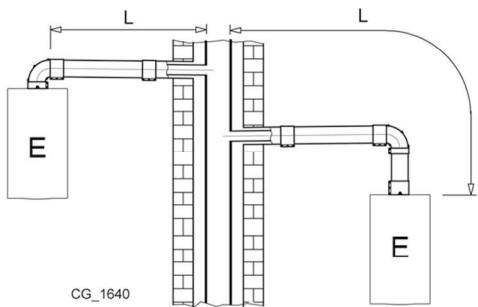
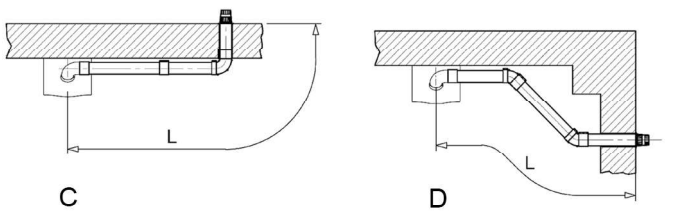
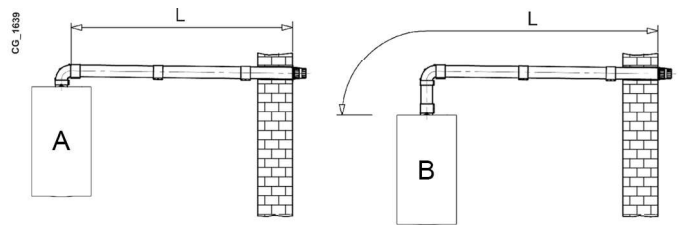




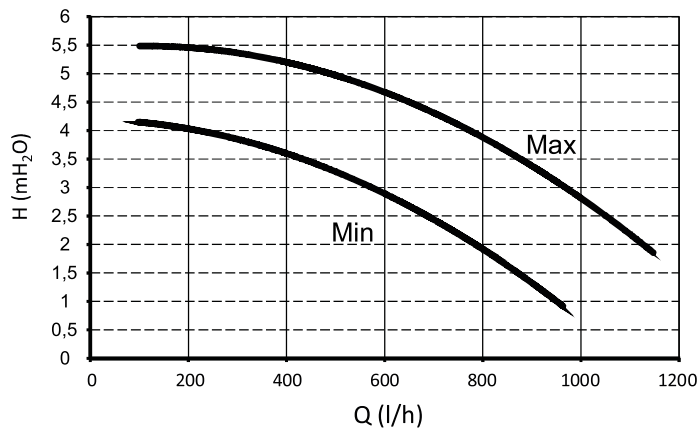
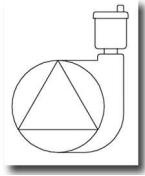
A B	Lmax = 10 m - Ø 60/100 mm
	Lmax = 25 m - Ø 80/125 mm
C D	Lmax = 9 m - Ø 60/100 mm
	Lmax = 24 m - Ø 80/125 mm
E	Lmax = 10 m - Ø 60/100 mm
	Lmax = 25 m - Ø 80/125 mm
F G	Lmax = 10 m - Ø 60/100 mm
	Lmax = 25 m - Ø 80/125 mm
H	Lmax = 8 m - Ø 60/100 mm
	Lmax = 23 m - Ø 80/125 mm
I	Lmax = 9 m - Ø 60/100 mm
	Lmax = 24 m - Ø 80/125 mm



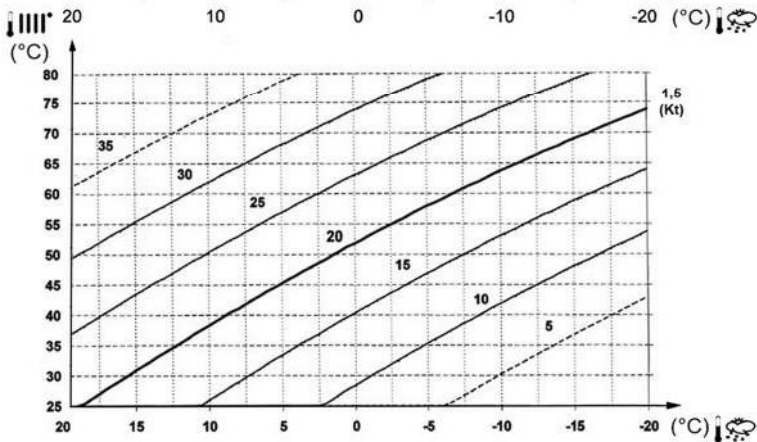
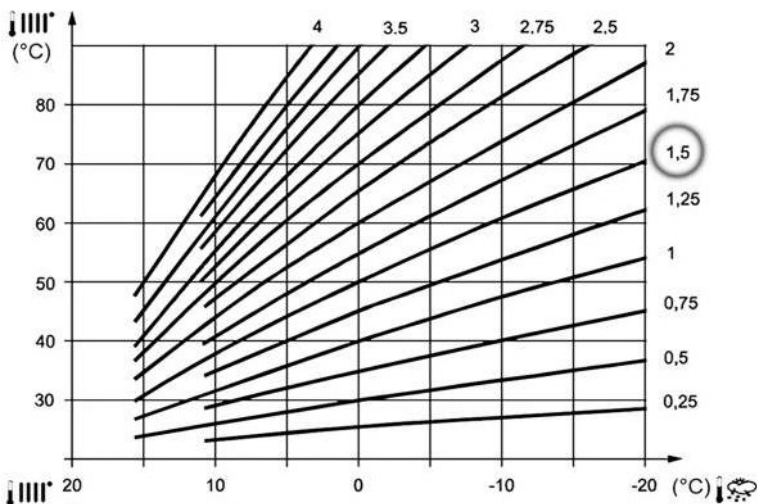
L	(L1+L2) max = 80 m - Ø 80 mm L1 max = 15 m
M	L max = 15 m
N	L max = 15 m
O	L max = 14 m



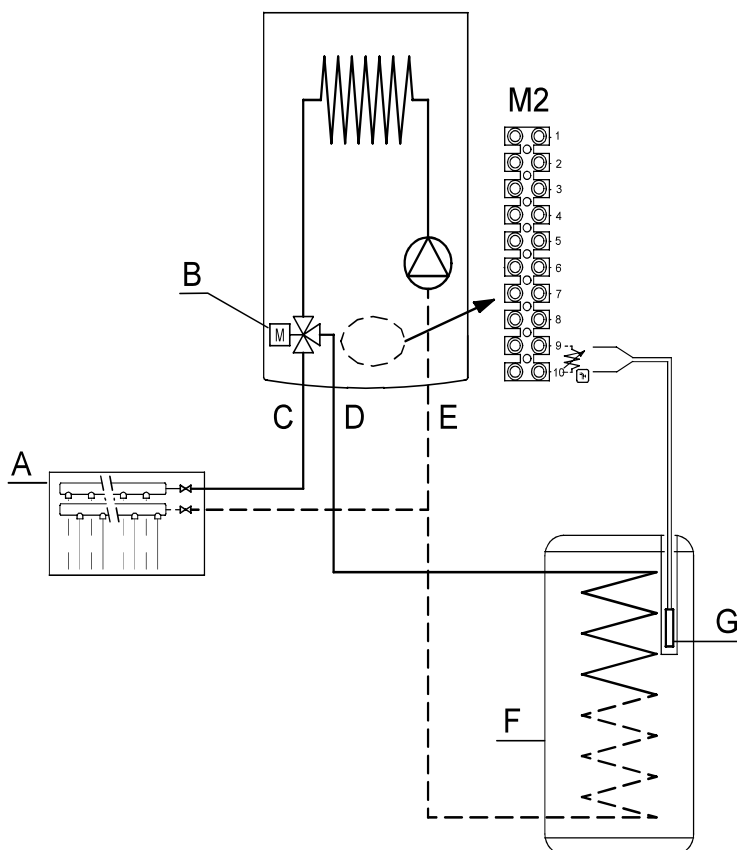
SECTION D



SIEMENS
QAC34

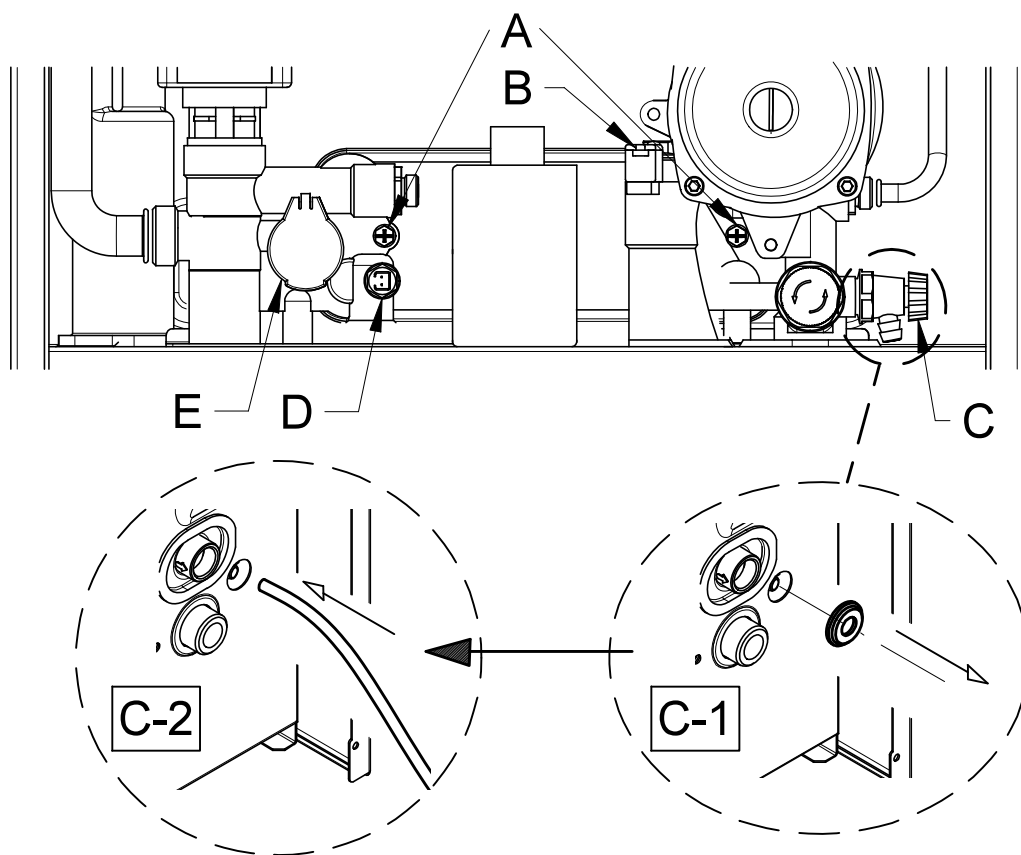


A



CG_2171

D



CG_2200

PARAMÈTRES MODIFIÉS

[illegible]

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