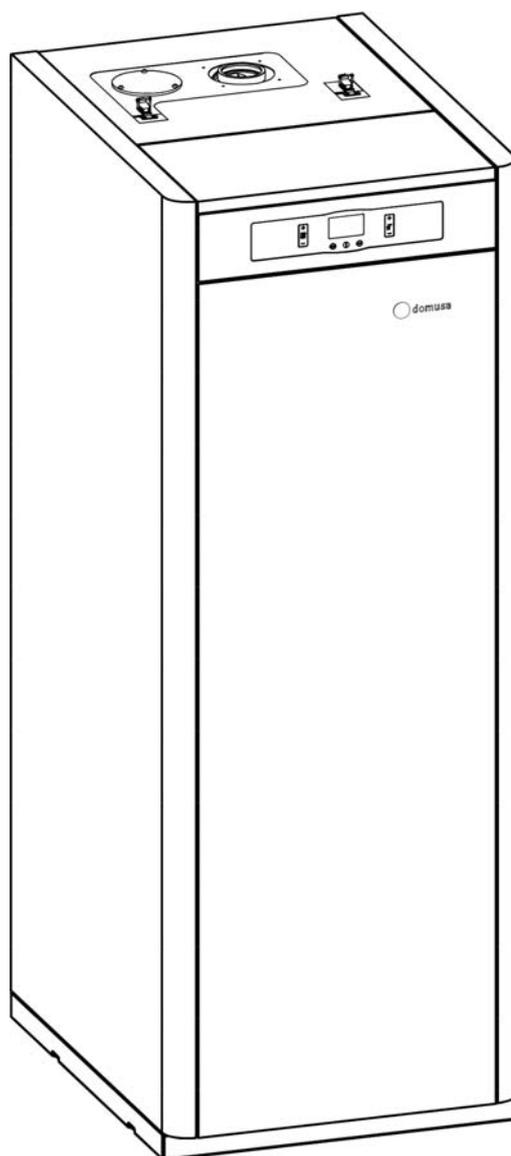


INSTALLATION AND OPERATING INSTRUCTIONS

→ AVANTTIA



DOMUSA
T E K N I K

Thank you for choosing a DOMUSA TEKNIK heating boiler. From the range of **DOMUSA TEKNIK** products you have chosen the **Avanttia** model. With a suitable hydraulic installation, this boiler is capable of providing you with the temperature comfort suitable for your home, as well as balanced and economical Domestic Hot Water (DHW) production.

This manual forms an essential part of the product and it must be given to the user. Read the warnings and recommendations in the manual carefully, as they contain important information on the safety, use and maintenance of the installation.

These boilers are to be installed by skilled personnel only, in accordance with the legislation in force and following the manufacturer's instructions.

The start-up of these boilers and any maintenance operations must only be carried out by **DOMUSA TEKNIK's** Authorised Technical Assistance Services.

The instructions shall include the substance of the following: This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

Incorrect installation of these boilers could result in damage to people, animals or property, and the manufacturer will hold no liability in such cases.

ÍNDICE

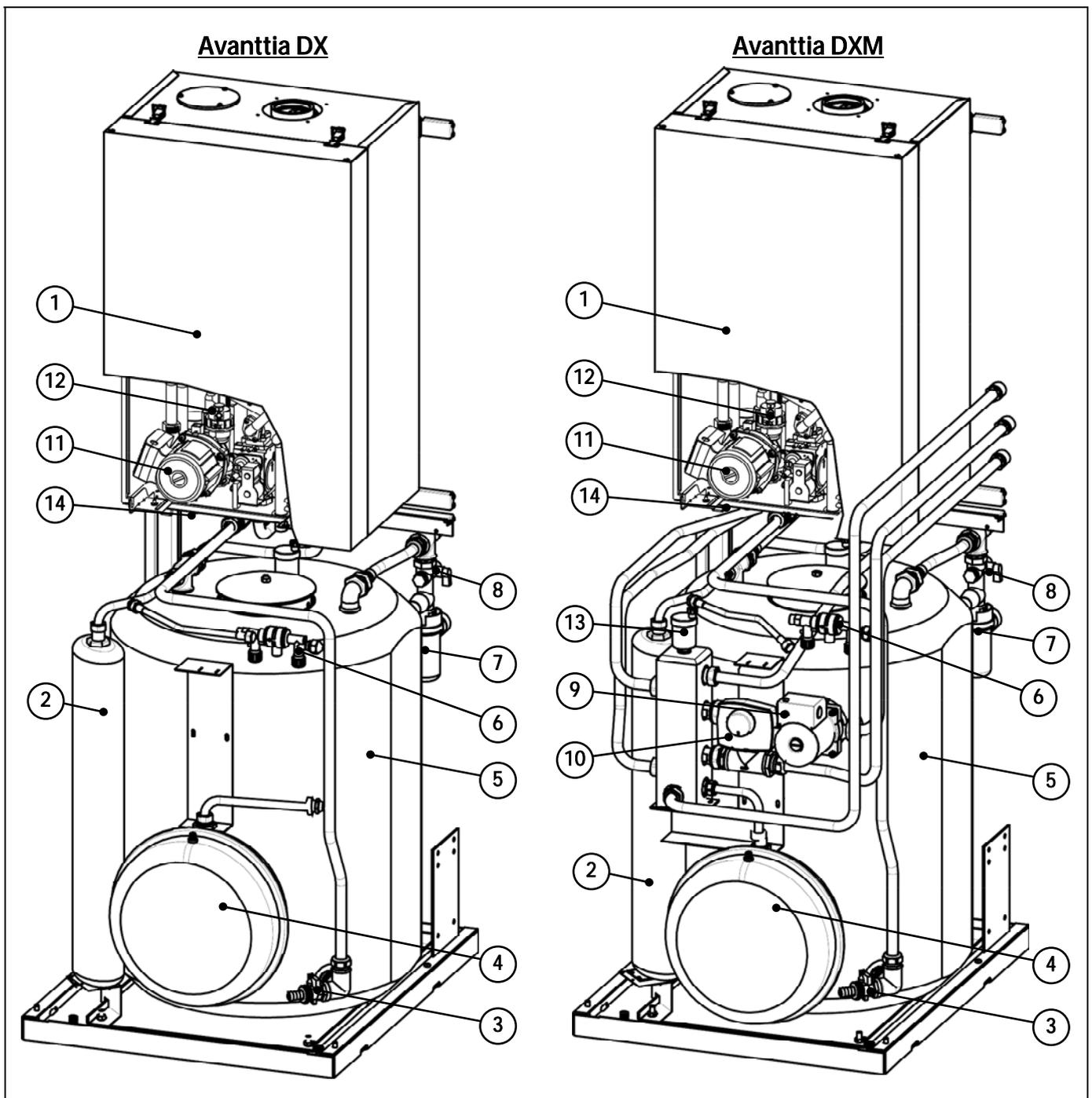
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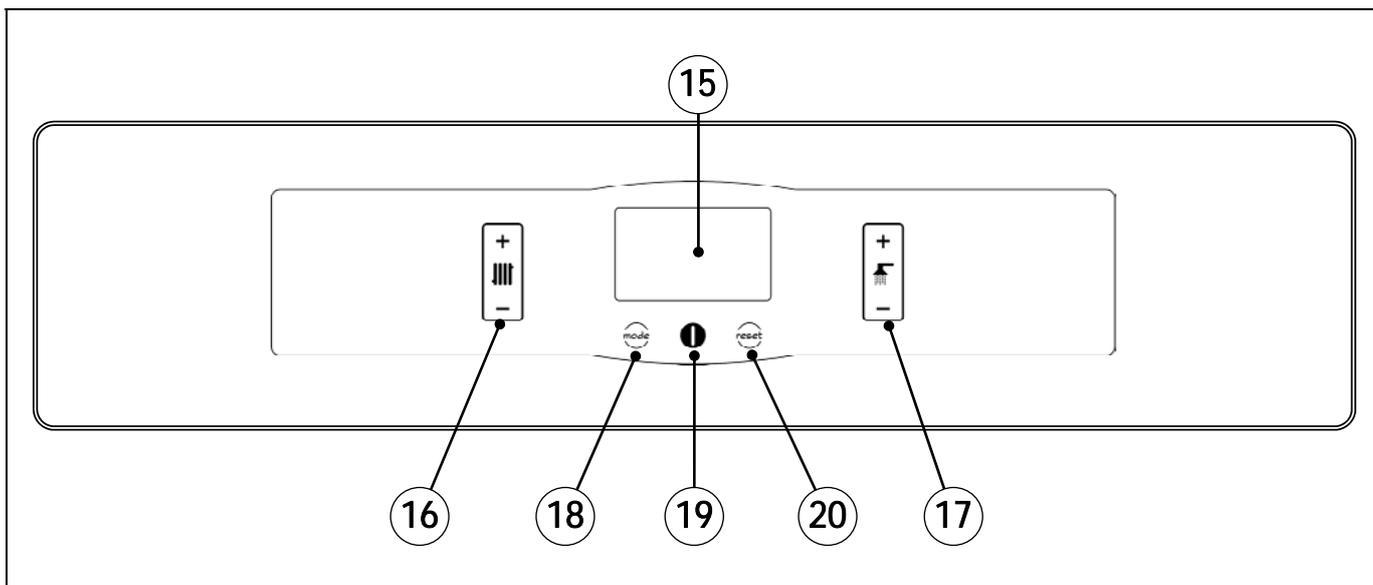
1 COMPONENTS DIAGRAM



- 1. Heat exchanger.
- 2. DHW expansion vessel.
- 3. Main primary circuit drain.
- 4. Heating expansion vessel.
- 5. DHW storage tank Inox.
- 6. Disconnect fill.
- 7. Siphon safety group.

- 8. Safety group.
- 9. Heating mixed circuit circulation pump.
- 10. Motorized 3 way valve.
- 11. Heating circuit circulation pump.
- 12. Automatic boiler drain valve.
- 13. Automatic air vent.
- 14. Main heating circuit drain.

2 CONTROL ELEMENTS



15. Digital display:

This is the main boiler functioning display, on which all the operating information, settings and values appear. This display is also used to access the appliance's user and service settings. In standard operating mode (default display), the actual boiler temperature is shown. If malfunction occurs, an alarm code will appear on the digital display instead of the temperature.

16. Boiler temperature touch button:

This is used to select the boiler setpoint temperature. It is also used to disable the hot water function.

17. DHW temperature touch button:

This is used to select the setpoint temperature for domestic hot water. It is also used to disable the DHW function.

18. MODE touch button:

This button is used to access and browse the different menus.

19. ON touch button:

This button switches the boiler on and off.

20. RESET touch button:

When the boiler is in lock-out mode, the RESET button is pressed to reset the lock-out and restore "Standard" functioning. If you are modifying any of the settings or browsing the menus, you may press the RESET button to exit the menu WITHOUT SAVING and return to the previous menu level.

3 INSTALLATION INSTRUCTIONS

The installation of this boiler is to be carried out by qualified personnel and the Laws and Provisions in force concerning this subject are to be complied with for its proper installation, which in general are defined as the "Basic Standards for Gas Installation", "Regulations for the Installation of Heating, Air Conditioning and Hot Water" and the other local regulations.

This boiler is suitable to heat water at a temperature lower than that of boiling point at atmospheric pressure. It is to be connected to a heating installation and/or domestic hot water utility, and always in such a way to be compatible with its performance and power.

The use of this unit will only be intended for the expressly projected purpose. Any other uses will be considered as improper and, therefore, dangerous. On no account shall the manufacturer be responsible for the damage produced by improper, wrong and unreasonable uses.

Once the whole packaging has been removed, check for the full contents. If in doubt, do not use the boiler and contact the supplier. The packaging is to be kept away from children, as they could make up potential hazardous sources.

When it is decided that the boiler is going to be no longer used, those parts being capable of making up potential hazardous sources should be deactivated.

3.1 Location

The boiler should be placed in a well vented room, so holes for a direct communication to outside are necessary. The boiler must be placed avoiding any obstruction of venting holes, and making easy any maintenance service.

3.2 Heating circuit and D.H.W. hydraulic installation

The hydraulic installation must be made by qualified personnel. The applicable installation legislation is to be complied with, and the following recommendations should also be taken into account:

- The inside of the installation piping should be thoroughly cleaned before switching on the boiler.
- We recommend inserting cut-off valves between the installation piping and the boiler, to simplify maintenance tasks.
- If the boiler is installed at a lower height than the heating installation, it is recommendable to create a siphon at the boiler outlet, to prevent the installation from overheating due to natural convection, when heating is not required.
- When the D.H.W. supply pressure is over 0.7 MPa (7 bars), a pressure reducer must be fitted.
- **The condensation pipe must lead to a drain outlet**, as the Avanttia boiler is a condensation boiler and a large amount of water may be generated. Also, before starting up the boiler, it is recommended to fill the condensation outlet siphon tube with water, so that the fumes do not exit through this pipe.

Avanttia

3.3 Electrical Connection

The boiler is equipped for connection at 220 VAC, 50 Hz to terminals 1 and 2 of terminal strip **J1** (see "*Electrical Connection Diagram*"). **Remember to earth the appliance.**

The boiler has two terminal strips, **J4** (TA₁) and **J6** (TA₂) for connecting room thermostats or room chronothermostats (see "*Electrical Connection Diagram*") for remote control of heating circuits 1 and 2 respectively. To correctly connect the room thermostats, remove the bridge joining the terminals on the corresponding terminal strip (**J4**).

IMPORTANT: Before carrying out any work on the boiler's electrical installation, always ensure it is disconnected from the mains.

IMPORTANT: To access the electrical connection terminal strip, remove the protection box under the main board.

3.4 Gas circuit connection

To install any kind of gas, the installer must be an authorized person, and must respect the standards in force.

The gas connection is to be performed with rigid piping, interspersing a shutoff valve. The gas line diameter is not specified by the boiler connection, but it has to be calculated according to its length and subsequent pressure drop.

Finally, the gas sealing is to be checked.

3.5 Combustion product evacuation

The combustion product exhaust ducts must be installed by qualified personnel and must comply with current legislation and standards.

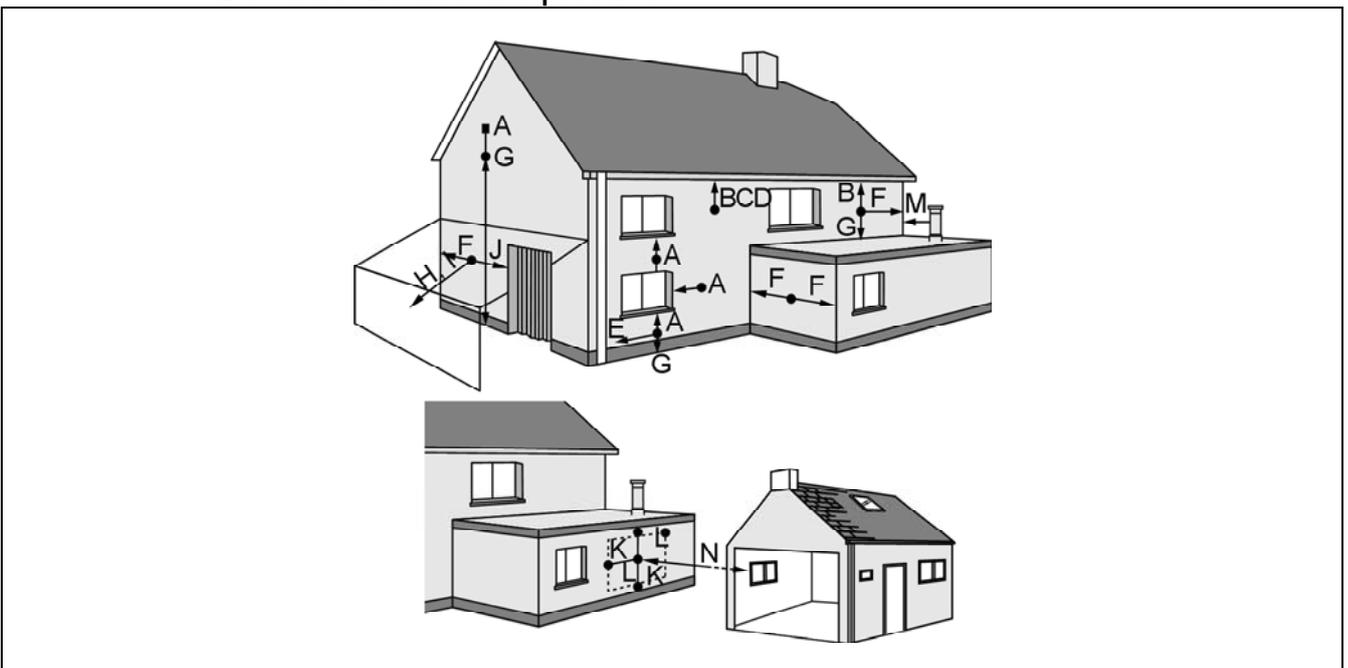
The **Avanttia** boiler is a sealed gas boiler, and the combustion products are therefore removed through an outlet pipe, with a separate air intake from outside. We recommend that the position of the outside exhaust duct is as shown in the figures and in the table below:

Flue gases terminal position	Minimum distance (cm)
A From openings (e.g. doors, windows, ventilation grilles)	60(*)
B Under a cornice or drainpipes	30
C Under a gutter	30(**)
D Under a balcony	30
E From vertical or horizontal pipes	30(**)
F From internal and external corners of the building	30
G From the ground, roof or balconies	250
H From opposite wall of a roof (when no other outlet is installed)	60
I From the wall with the pipe to the front wall	120
J From openings (e.g. doors, windows) under the roof	120
K Between two vertical ducts	150
L Between two horizontal ducts	100
M From an adjacent vertical duct	50
N From a front surface with openings	200

(*) The end of the removal duct must be at least 40 cm from any opening in the façade.

(**) If the pipe is made of materials sensitive to the action of the combustion gases, this distance should be at least 50 cm.

IMPORTANT: All accessories used for combustion product removal and air intake must be DOMUSA TEKNIK brand products.



Avanttia

3.6 Installation with one heating circuit

All the boilers in the **Avanttia** range are standard equipped to control one heating circuit. Unlike the **Avanttia DX** boiler, which is standard equipped with a circulating pump (11), the **Avanttia DXM** boiler is also equipped with a circulating pump (10) and a 3-way motorised valve (9). There follows a description of how to make the electrical connection for the heating circuit, in accordance with the particular boiler.

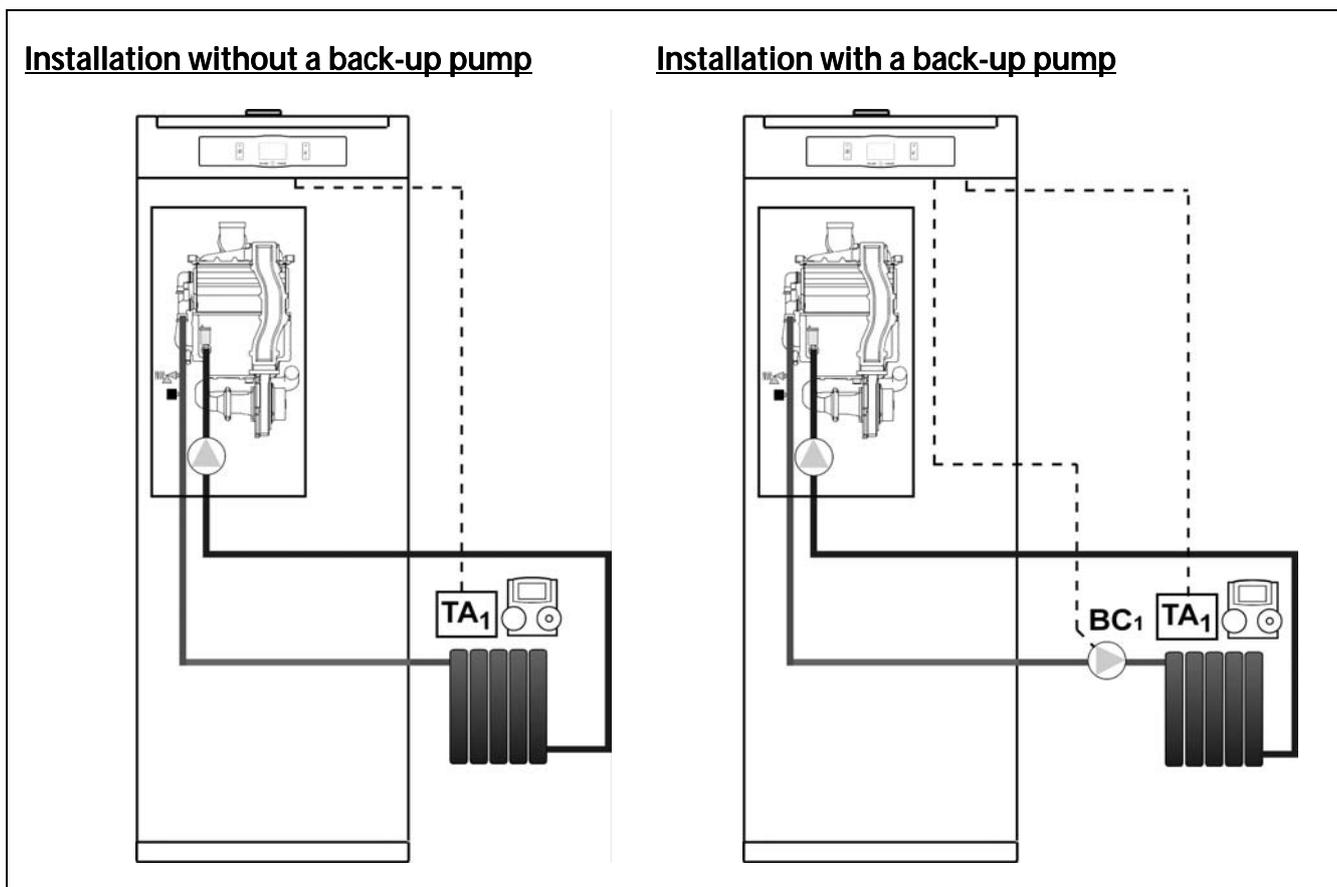
Avanttia DX

The **Avanttia DX** boiler is standard equipped with an external temperature sensor. If you wish the boiler to function in accordance with the outside weather conditions, the external temperature sensor should be connected between terminals 4 and 5 of terminal strip **J7** (see "Connection Diagram").

The **Avanttia DX** boiler has an option for connecting a LAGO FB OT+ remote control or a chronothermostat. To install the LAGO FB OT+ remote control in the installation, it should be connected to terminal strip **J5** (see "Connection Diagram"). However, if the installation already has a chronothermostat (**TA₁**), it should be connected to terminal strip **J4**.

If the installation's pressure drop requires installation of a back-up pump (**BC₁**), this should be electrically connected between terminals N and 7 of terminal strip **J2** (see "Connection Diagram").

IMPORTANT: Before any servicing, disconnect the boiler from the mains and cut off the gas supply.

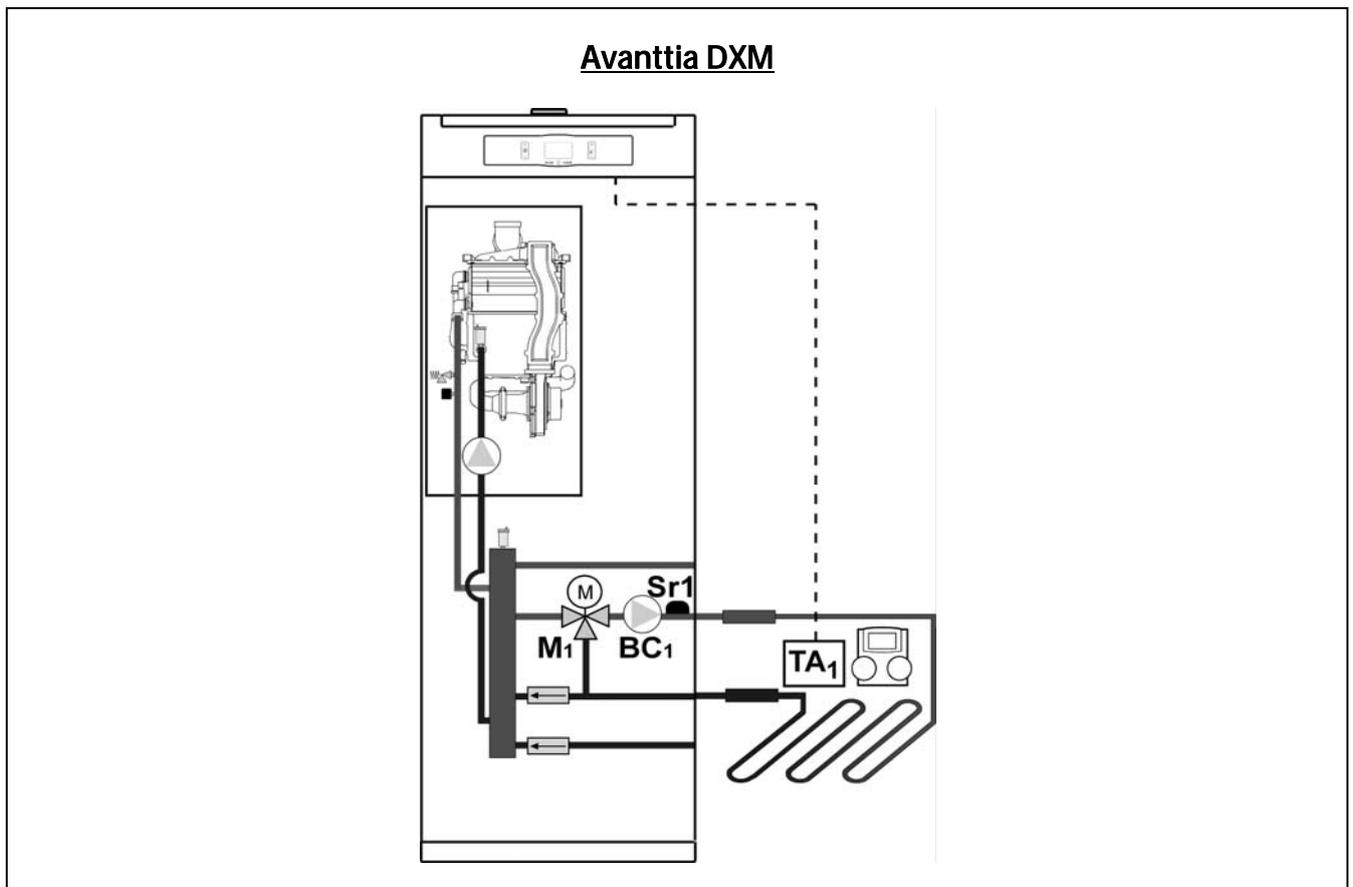


Avanttia DXM

The **Avanttia DXM** boiler is standard equipped with an external temperature sensor. If you wish the boiler to function in accordance with the outside weather conditions, the external temperature sensor should be connected between terminals 4 and 5 of terminal strip **J7** (see "*Connection Diagram*").

The **Avanttia DXM** boiler has the option of connecting a LAGO FB OT+ remote control or a chronothermostat. The LAGO FB OT+ remote control should be connected to terminal strip **J5** (see "*Connection Diagram*"). However, if the the installation have a chronothermostat (**TA₁**), it should be connected to terminal strips **J4** (see "*Connection Diagram*").

IMPORTANT: Before any servicing, disconnect the boiler from the mains and cut off the gas supply.



Avanttia

3.7 Installation with two heating circuits

All the boilers in the **Avanttia** range are standard equipped to control one heating circuit, although they have an option for controlling a second heating circuit.

The **Avanttia DX** boiler is standard equipped with a circulating pump **(11)**, while the **Avanttia DXM** boiler is also equipped with a circulating pump **(10)** and a 3-way motorised valve **(9)**.

There follows a description of how to electrically connect two heating circuits, depending on the boiler in question.

Avanttia DX

The **Avanttia DX** boiler is standard equipped with an external temperature sensor. If you wish the boiler to function in accordance with the outside weather conditions, the external temperature sensor should be connected between terminals 4 and 5 of terminal strip **J7** (see "*Connection Diagram*").

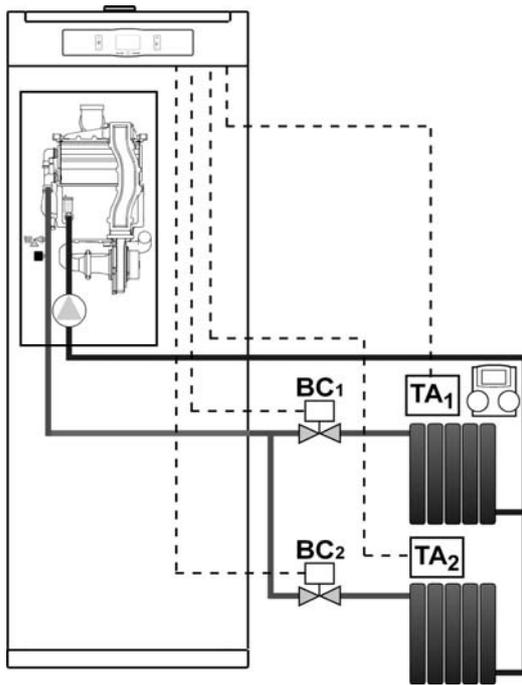
A motorised valve should be installed on each heating circuit (**BC₁** and **BC₂**). The motorised valve installed on heating circuit 1 (**BC₁**) should be electrically connected between terminals N and 7 of terminal strip **J2**, and on heating circuit 2 (**BC₂**) it should be connected between terminals N y 10 (see "*Connection Diagram*").

If the installation's pressure drop means a back-up pump needs to be installed on circuit 1 or 2 (**BC₁** and **BC₂** respectively), these pumps should be connected to the motorised valve micro switch of the corresponding circuit.

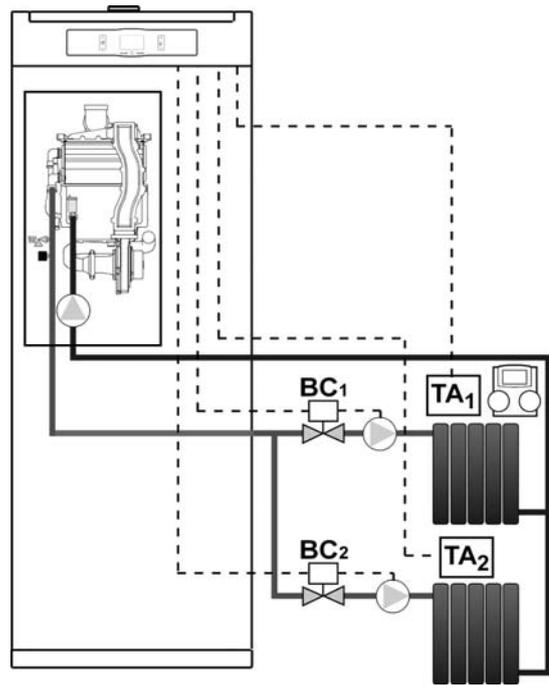
The **Avanttia DX** boiler has the option of connecting a LAGO FB OT+ remote control or a chronothermostat on heating circuit 1, and a chronothermostat on heating circuit 2. To install the LAGO FB OT+ remote control on circuit 1, it should be connected to terminal strip **J5** (see "*Connection Diagram*"). However, if heating circuits 1 and 2 have a chronothermostat (**TA₁** and **TA₂**), they should be connected to terminal strips **J4** and **J6** respectively (see "*Connection Diagram*").

IMPORTANT: Before any servicing, disconnect the boiler from the mains and cut off the gas supply.

Installation without a back-up pump



Installation with a back-up pump



Avanttia

Avanttia DXM

The **Avanttia DXM** boiler is standard equipped with an external temperature sensor. If you wish the boiler to function in accordance with the outside weather conditions, the external temperature sensor should be connected between terminals 4 and 5 of terminal strip **J7** (see "*Connection Diagram*").

All the boiler models in the **Avanttia DXM** range are standard equipped with a circulating pump (**10**) and a 3-way motorised valve (**11**) connected to heating circuit 1. All the models are additionally designed to control a second circulating pump (**BC₂**) and/or a 3-way motorised valve (**M₂**) on a second heating circuit (circuit 2).

The hydraulic installation of heating circuit 2 is to be made using the **optional flow circuit (IC)** and the **optional return circuit (RC)** on the rear of the boiler (see "*Diagrams and Measurements*"). If you wish to install the SR1 AV kit on heating circuit 2, the procedure is as follows:

- Connect a flow temperature sensor (supplied with the kit) to terminal strip **J3** (terminals 17 and 18), first removing its resistance (**Rr₂**) (see "*Connection Diagram*").
- Fit the temperature sensor bulb according to the instructions enclosed with the kit.
- Connect the heating pump (**BC₂**) to terminals N and 10 on supply terminal strip **J2** (see "*Connection Diagram*").
- Connect the 3-way mixer valve motor (**M₂**) to terminals N, 9 (+) and 11 (-) of supply terminal strip **J2** (see "*Connection Diagram*").

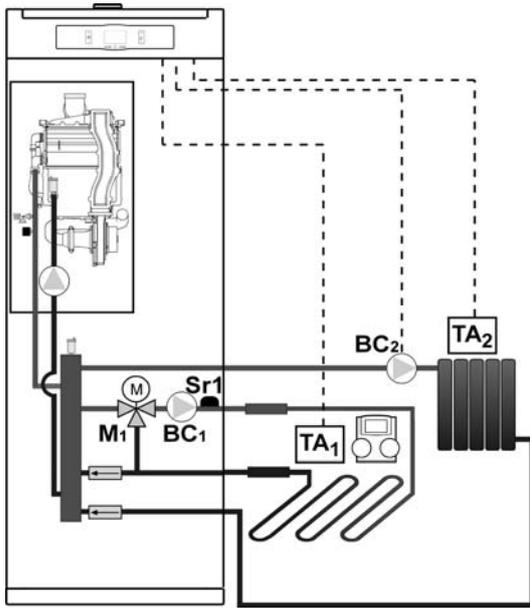
For correct hydraulic installation, carefully follow the assembly and connection instructions enclosed with the SR1 AV kit.

If heating circuit 2 is being installed with one circulating pump (**BC₂**), this pump should be electrically connected between terminals N and 10 on terminal strip **J2** (see "*Connection Diagram*").

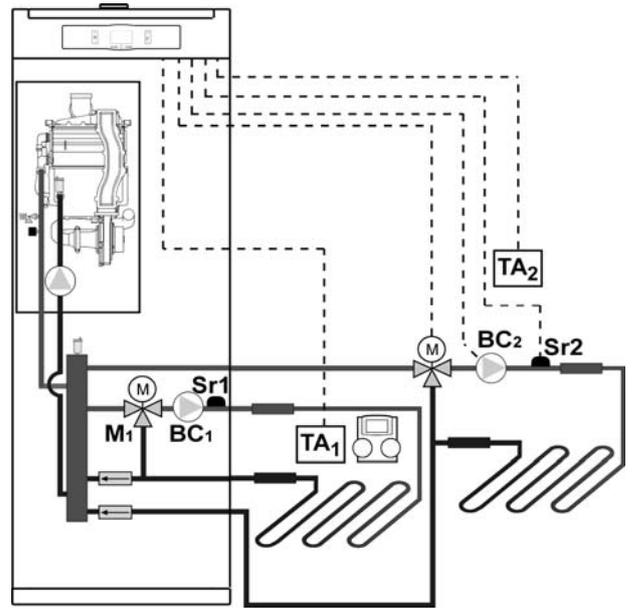
The **Avanttia DXM** boiler has the option of connecting a LAGO FB OT+ remote control or a chronothermostat on heating circuit 1, and a chronothermostat on heating circuit 2. The LAGO FB OT+ remote control should be connected to terminal **J5** (see "*Connection Diagram*"). However, if heating circuits 1 and 2 have a chronothermostat (**TA₁** and **TA₂**), they should be connected to terminal strips **J4** and **J6** respectively (see "*Connection Diagram*").

IMPORTANT: Before any servicing, disconnect the boiler from the mains and cut off the gas supply.

Mixed circuit N°1 and Direct Circuit N°2



Mixed Circuit N° 1 and N° 2



4 COMBUSTION PRODUCT REMOVAL

The gas removal and air intake systems may be oriented in any direction (north, south, east or west). Some special components such as elbows are used to help reach certain positions. Each removal terminal kit includes an adapter for connection to the boiler and a removal terminal.

The total length of the tubes must not exceed the maximum value defined. If the removal installation includes elbows, on calculating the total length you must take into account that each elbow has a resistance equal to a specific linear Leq "equivalent length" (see table).

There are two different types of terminals (horizontal and vertical), for both the coaxial removal system and the dual duct removal system.

Carefully study the diagrams representing the different types of removal and select the one that best suits the conditions of your installation. To choose the removal accessories required for each installation, see the list of accessories on the DOMUSA TEKNIK price list.

Maximun total length:

Type	Pipe diameter [mm]	Orientation	Maximun length [m]
Coaxial	Ø60/100	Horizontal	20
		Vertical	21
	Ø80/125	Horizontal	68
		Vertical	70
Dual Duct	Ø80/80	Horizontal	110
		Vertical	

Equivalent length of elbows and adapters:

Type	Pipe diameter [mm]	Elbow	Equivalent length [m]
Coaxial	Adaptador Ø60/100 -> Ø80/125	-	0,5
		Ø60/100	45°
	90°		1,3
	Ø80/125	45°	1,0
		90°	2,2
	Dual Duct	Ø80/80	45°
90°			2,2

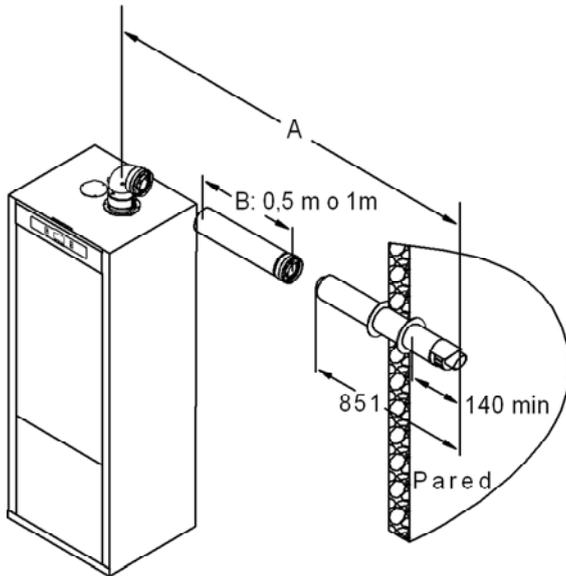
All accessories used for combustion product removal and air intake must be DOMUSA TEKNIK brand products.

4.1 Type C₁₃ horizontal coaxial removal and intake systems

Removal of combustion products and air intake may be made via concentric Ø60/100 pipes (60 mm for combustion product removal and Ø100 mm for air intake) or through concentric Ø80/125 pipes (80 mm for combustion product removal and Ø125 mm for air intake).

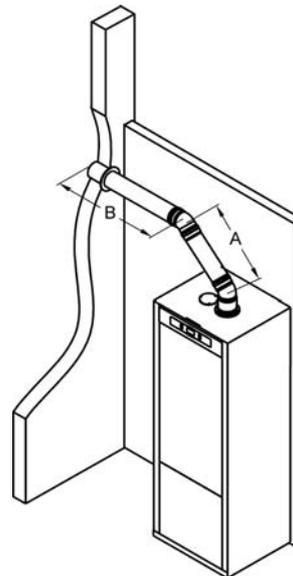
It is recommended that the flue gases outlet pipe be fitted slightly upwardly-inclined 2° to 3° thus preventing water and condensate projections from being ejected outside.

Standard removal system



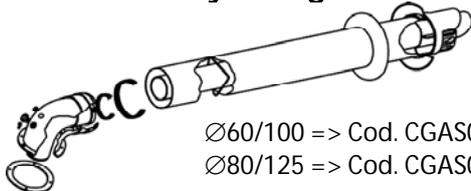
Ø60/100
=> Maximum total length: A = 20 m.
Ø80/125
=> Maximum total length: A = 68 m.

Extended removal system



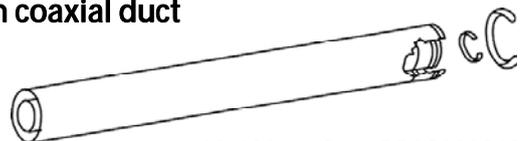
Ø60/100
=> Max. length: A + B - (1x elbow 45°)=20 - 1,0=19 m.
Ø80/125
=> Max. length: A + B - (1x elbow 45°)=68 - 1,0=67 m.

1 m horizontally-arranged outlet kit



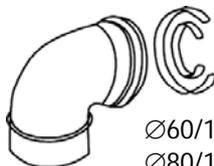
Ø60/100 => Cod. CGAS000312
Ø80/125 => Cod. CGAS000322

1 m coaxial duct



Ø60/100 => Cod. CGAS000318
Ø80/125 => Cod. CGAS000082

90° coaxial elbow



Ø60/100 => Cod. CGAS000316
Ø80/125 => Cod. CGAS000080

45° coaxial elbow



Ø60/100 => Cod. CGAS000317
Ø80/125 => Cod. CGAS000081

Vertical adapter Ø60/100



Cod. CGAS000321

Elbow adapter Ø60/100



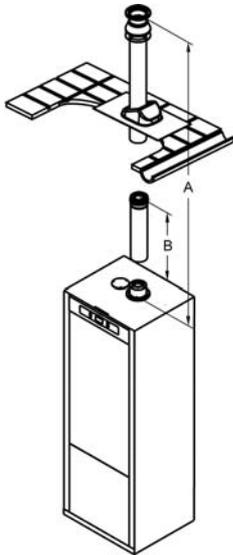
Cod. CGAS000320

Avanttia

4.2 Type C₃₃ vertical coaxial removal and intake system

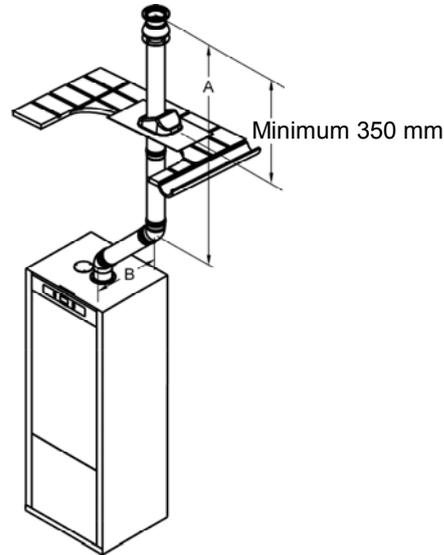
Removal of combustion products and air intake may be made via concentric Ø60/100 pipes (60 mm for combustion product removal and Ø100 mm for air intake) or through concentric Ø80/125 pipes (80 mm for combustion product removal and Ø125 mm for air intake).

Standard removal system



Ø60/100
=> Maximum total length: A = 20 m.
Ø80/125
=> Maximum total length: A = 68 m.

Extended removal system



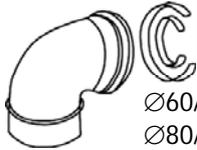
Ø60/100
=> Max. length.: A + B - (1x elbow 45°) = 21 - 1 = 20 m.
Ø80/125
=> Max. length.: A + B - (1x elbow 45°) = 70 - 1 = 69 m.

1 m horizontally-arranged outlet kit



Ø60/100 => Cod. CGAS000313
Ø80/125 => Cod. CGAS000315

90° coaxial elbow



Ø60/100 => Cod. CGAS000316
Ø80/125 => Cod. CGAS000080

45° coaxial elbow



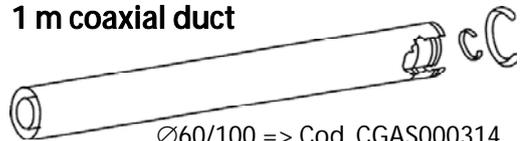
Ø60/100 => Cod. CGAS000317
Ø80/125 => Cod. CGAS000081

Vertical adapter Ø60/100



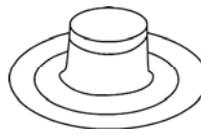
Cod. CGAS000321

1 m coaxial duct



Ø60/100 => Cod. CGAS000314
Ø80/125 => Cod. CGAS000082

Flat roof



Black tile
Cód. CGAS000074

Sloped roof



Black tile
Cód. CGAS000075

Elbow adapter Ø60/100



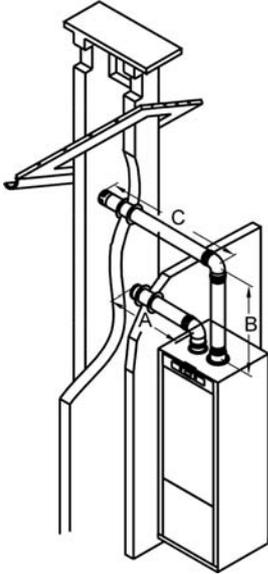
Cod. CGAS000320

4.3 Type C₅₃ horizontal dual duct removal and intake system

In this type, the combustion products exhaustion and air intake are carried out with separated pipes of Ø80 mm., by means of the dual-duct outlet Kits of Ø80/80 code CGAS000325.

It is recommended that the flue gases outlet pipe be fitted slightly upwardly-inclined 2° to 3° thus preventing water and condensate projections from being ejected outside.

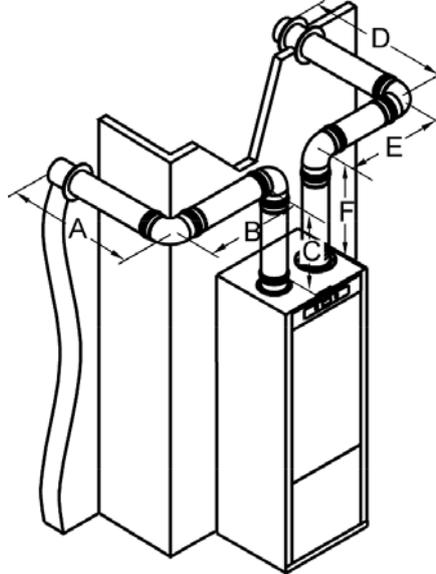
Standard removal system



Ø80/80

=> Max. length: A + B + C - (1 x elbow 90°)
=> Max. length: 110 - 2,2 = 107,8 m.

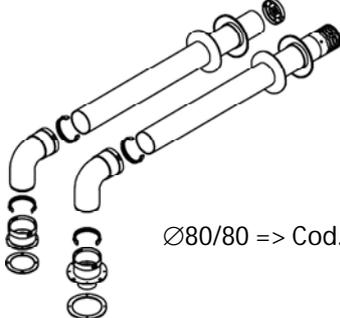
Extended removal system



Ø80/80

=> Max. length: A + B + C + D + E + F - (4 x elbow 90°)
=> 110 - 4 x 2,2 = 101,2 m

1 m dual-duct outlet Kit



Ø80/80 => Cod. CGAS000325

90° elbow



Ø80/80 => Cod. CGAS000084

45° elbow



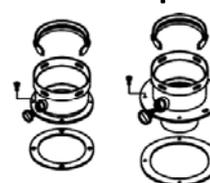
Ø80/80 => Cod. CGAS000085

1 m duct



Ø80/80 => Cod. CGAS000086

Ø60/80 Adapter



Cod. CGAS000324

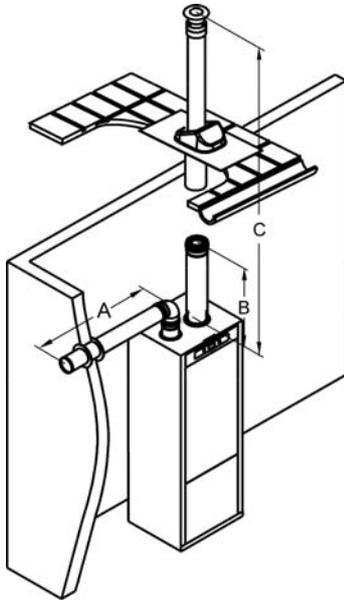
Avanttia

4.4 Type C₈₃ vertical dual duct removal and intake system

In this type, the combustion products exhaustion and air intake are carried out with separated pipes of Ø80 mm., by means of the dual-duct outlet Kits of Ø80/80 code CGAS000325.

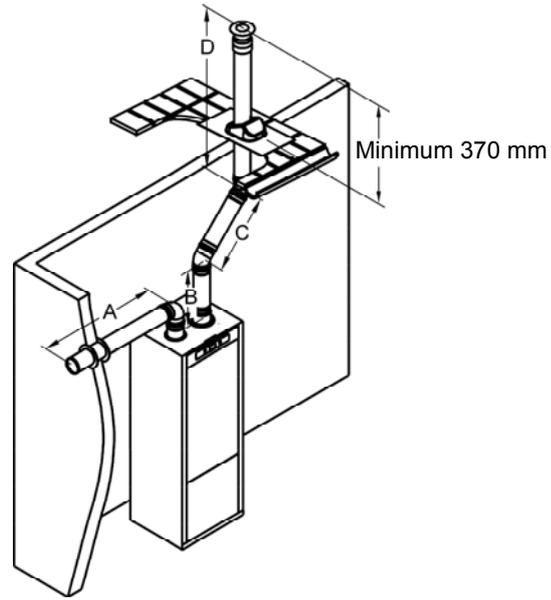
It is recommended that the flue gases outlet pipe be fitted slightly upwardly-inclined 2° to 3° thus preventing water and condensate projections from being ejected outside.

Standard removal system



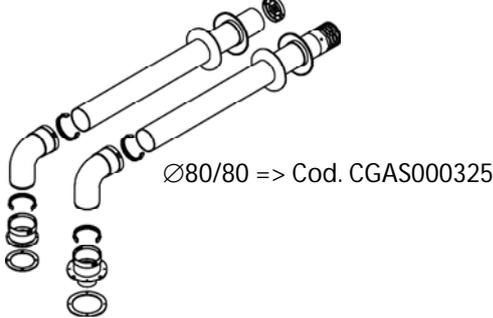
Ø80/80
=> Max. length: $A + B + C = 110$ m.

Extended removal system

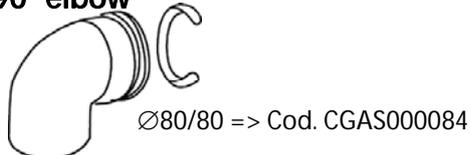


Ø80/80
=> Max. length: $A + B + C + D - (2 \times \text{elbow } 45^\circ)$
=> $110 - 2 \times 1,4 = 107,2$ m

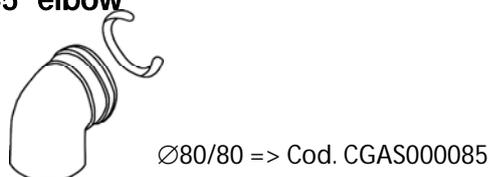
1 m dual-duct outlet Kit



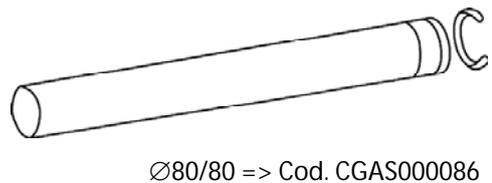
90° elbow



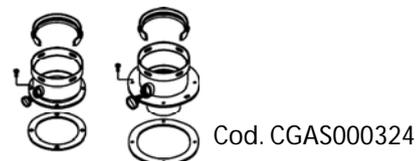
45° elbow



1 m duct



Ø60/80 Adapter



Deflector for vertical outlet Ø80



5 START-UP

5.1 Prior warning

Repair and maintenance of the boiler must be carried out by a qualified professional, authorised by DOMUSA TEKNIK. For optimum functioning and conservation of the boiler, it should be serviced annually.

Carefully read this instructions manual and keep it in a safe, easily-accessible place.

Before any servicing, disconnect the boiler from the mains and cut off the oil supply. Any manipulation of the sealed parts of the boiler is prohibited.

DOMUSA TEKNIK will not be liable for any damages caused by failure to follow these instructions.

5.2 Filling the domestic hot water tank

The hot water tank must be filled before filling the heating circuit. Open the flow of domestic hot water to the hot water tank, and turn on a hot water tap in the installation. When the tap begins to run freely, turn it off, as this means the hot water tank is full.

5.3 Filling the heating circuit

The **Avanttia** boiler is equipped with a filling disconnect. Filling is carried out by opening the filling disconnect, provide inside the boiler, until the pressure is between 0.1 and 0.15 MPa (1 and 1.5 bar). The circuit should be filled slowly and with the air bleed valve cap loose, to let the air out of the installation. The air should also be bled from the rest of the installation using the air bleed valves provided.

The **Avanttia** boilers have a pressure sensor for controlling the pressure of the installation. If it drops below de minimum pressure, a low pressure alarm ("E02") will appear on the display.

NOTE: Switching on the boiler with no water inside could result in serious damage.

5.4 Gas connection

For the installation of any type of gas, the installer must be authorised by the Ministry of Industry and strictly follow the applicable Gas Regulations. The gas installation must comply with the Gas Installation Regulation (RIGLO).

However, the following recommendations must be complied with, at the least:

- Before installing the gas pipes, check the type of gas is compatible with the boiler.
- Check that the gas meter in the home can measure the rate of gas supply required.
- The gas pipe diameter is not determined by the boiler connection. It should be calculated in accordance with its length and consequently its pressure drop.
- The pipes must be directly connected to the main gas supply pipe, not connected in parallel to other gas appliances.
- Check there are no leaks from the installation.
- The gas supply company is the sole responsible for connecting the gas meter to the gas installation.
- The gas installation pipes must be made of suitable materials and comply with the applicable legislation to this respect (RIGLO).

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- The gas connection must be made using a rigid pipe, inserting a shut-off valve between the boiler and the pressure regulator.
- All the pipes must be suitably fixed in place.
- If the boiler is used with propane, a gas regulator suitable for this type of gas must be installed. The connection and installation must be made in accordance with the applicable regulations and standards at the time of installation (RIGLO).

To correctly connect the gas installation, carefully follow the steps below:

1. Connect the gas supply pipe to the connector on the rear of the boiler.
2. On completing the gas installation, check there are no leaks and bleed the air from all the pipes, following the procedures described in the applicable standards to this respect.

5.5 Electrical connection

The boiler is prepared for a 220V – 50 Hz main power connection. **It is compulsory to make a connection to ground and to respect the phase and neutral.**

5.6 Start-up

The start-up of the boiler, for the **validity of warranty** to be in force, is to be carried out by an **authorised Technical Assistance Service**. Prior to proceeding to such a start-up, the following steps will be performed:

- Check that the boiler is properly connected to the electric power supply.
- Check that the installation is filled with water (the pressure gauge must indicate a pressure between 0.1 and 0.15 MPa (1 and 1.5 bar).
- Check for the proper chimney installation.
- Check that the gas supply connection is properly installed.
- Drain the air off the boiler gas circuit by opening the shutoff valve of the gas line and loosening lightly the valve gas intake pressure tapping for a moment as, otherwise, the air would be forced to come out slowly through the pilot burner injector.
- Check that the heating circuits outlet and return flow valves are opened, if any.
- Turn the chronothermostat or LAGO FB OT+ remote control (if these are fitted) to the desired setting.
- It is compulsory to do a combustion analysis in the boiler, using a proper tester. The combustion test will be done through the hole for this purpose, placed in the plastic pipe of combustion products exhaustion inside the boiler. If test is out of margins described in the section "Combustion adjustment", it will be necessary to adjust the combustion.

To start up the boiler, hold down the **I** button, select the desired setpoint temperatures and turn the chronothermostat or LAGO FB OT+ remote control (if these are fitted) to the desired setting.

5.7 Boiler delivery

The Technical Assistance Service, once the first start-up has been carried out, will explain the boiler operation to the users by informing them about the most necessary remarks.

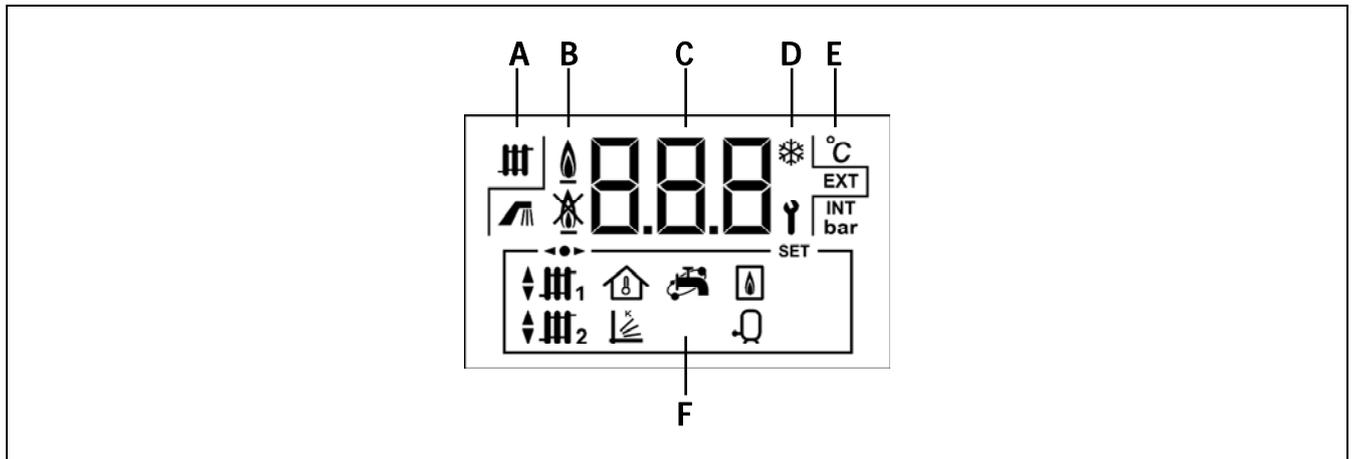
The installer will be responsible for explaining to the users the operation of any control or regulation device that is a part of the installation and it is not supplied with the boiler.

6 DIGITAL DISPLAY

the **Avanttia** boilers are electronic and have a display **(15)** for viewing the different boiler settings. The display has various zones where different icons and numbers appear to indicate the different statuses.

6.1 Operation in “standard” display mode

Display presentation in “standard” mode:



- A** Indication of boiler status:
- Heating function enabled.
 - DHW production enabled.
- B** Indication of burner status:
- Burner functioning.
 - Boiler lock-out.
- C** Numerical display.
- D** Special operating icons.
- Anti-frost function:** This flashes when the boiler’s anti-frost function is enabled.
 - Servicing spanner:** Steady: When any of the boiler’s technical settings on the “*Service menu*” are being browsed or modified.
Flashing: When manual functioning of any of the outlets is forced.
- E** Auxiliary icons.
- °C** Steadily lit when the digits show a temperature.
 - bar** Steadily lit when a value or setting connected with the boiler water pressure is shown.
 - EXT** Steadily lit when a value or setting connected with the outside temperature is shown.
 - INT** Steadily lit when a value or setting connected with the temperature inside the home or settings connected with the LAGO FB OT+ are shown.
- F** Operating mode icons (see next page).

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 **cd1 radiator:** This appears on the display when the circulating pump of direct circuit 1 is switched on (**BC1** on and **Sr1** not connected) or when a value or setting connected with direct circuit 1 is shown.

 **cd2 radiator:** This appears on the display when the circulating pump of direct circuit 2 is switched on (**BC2** on and **Sr2** not connected) or when a value or setting connected with direct circuit 2 is shown.

 **cm1 radiator:** This appears on the display when the circulating pump of mixed circuit 1 is switched on (**BC1** on and **Sr1** connected) or when a value or setting connected with mixed circuit 1 is shown. The arrows appear according to the mixed circuit 1 mixer valve control. The upper arrow indicates that the hot channel of the valve is open, and the lower arrow shows that the hot channel of the valve is closed.

 **cm2 radiator:** This appears on the display when the circulating pump of mixed circuit 2 is switched on (**BC2** on and **Sr2** connected) or when a value or setting connected with mixed circuit 2 is shown. The arrows appear according to the mixed circuit 2 mixer valve control. The upper arrow indicates that the hot channel of the valve is open, and the lower arrow shows that the hot channel of the valve is closed.

 **House:** Steadily lit when a value or setting connected with the temperature inside or outside the home or settings connected with the room thermostat or remote controls are shown.

 **K curves:** Steadily lit when a value or setting connected with operating in accordance with outside weather conditions or K curves is shown.

 **Recirculation:** Steadily: When any value or parameter related to the recirculation of DHW is displayed or when it's ON the recirculation of DHW function (the auxiliary input of the controller is closed).

Flashes: When the DHW recirculation pump is ON (Auxiliary boiler relay activated).

 **Boiler:** Steadily when viewing any value or parameter related to the gas boiler.

 **Hot water tank:** Steadily lit when a value or setting connected with the DHW hot water tank temperature or functioning is shown.

 **Browser:** Steadily lit when any of the "User Menus" or "Service menus" are being browsed.

SET Flashes when access is made to modify any of the settings.

6.2 Changing the settings

The boiler adjustment settings are located in the *"User Menu"* and the *"Service menu"*. To access the *"User Menu"*, press . Then press  repeatedly to progress sequentially through the user settings. If the setting shown can be modified, SET will flash on the display and the setting can be changed by pressing the "+" and "-" symbols for DHW (17) and heating (16).

To access the *"Service menu"*, hold down  and  for 3 seconds so that the "cod" setting for accessing the *"Service menu"* appears on the display. Press . Three digits will appear on the digital display. The first digit will flash and can be changed by pressing . For the next digit, press  (the next digit will flash) and then press  again until the desired number appears. When you have entered the access code (123 by default), press  to validate and access the menu.

When you have entered the correct code, you can use the Heating "+" and "-" symbols (16) to browse through the menu settings. When an adjustable setting is shown (the SET symbol will flash on the display), you can press  to view the value of the setting and you can change it using the DHW "+" and "-" symbols (17). When you have selected the desired setting, press  again to save the new value and go back to the *"Service menu"*. From the *"Service menu"* or from any of its settings, you can press  to go back to the previous display level without saving any settings.

7 OPERATION

The **Avanttia** boiler is designed to heat a heating installation and provide domestic hot water, instantly and/or by collection.

Standarizing functioning:

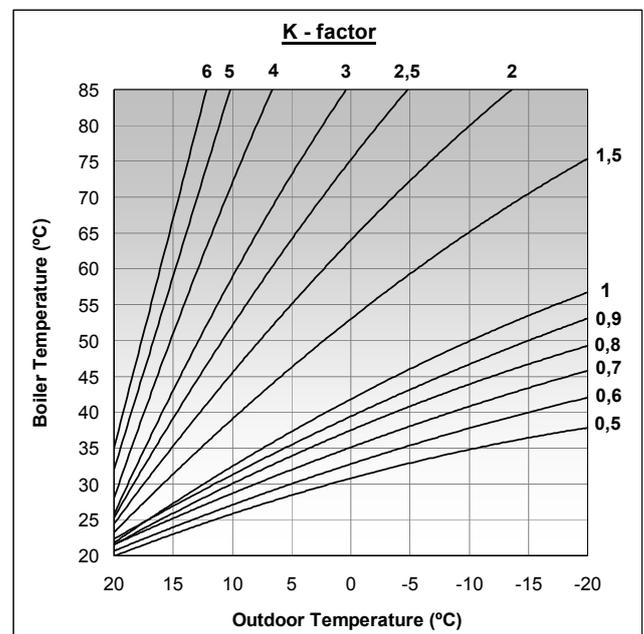
The boiler provides both heating and DHW in this mode. The burner and the circulating pump will switch on and the diverter valve will switch to DHW mode. When the DHW storage tank reaches the DHW setpoint temperature selected, it was ready to warm the heating installation, by putting the diverter valve in heating mode. The burner will shut down when the boiler reaches its selected setpoint temperature. The circulation pump will stop when the room temperature reaches or exceeds the temperature set on the installation's room thermostat (if it has one).

Functioning according to outdoor temperature conditions

When the boiler is connected to an outdoor temperature sensor (supplied with the boiler), functioning may be activated according to the outdoor temperature conditions, using parameter **P.10** on the *"Technical Menu"*.

When this operating mode is activated, the boiler and/or heating output temperature are determined in accordance with the K curve set (for parameter **P.11** of the *"Technical Menu"* for circuit 1 and **P.31** for circuit 2) and the outdoor temperature measured. If the installation is correctly dimensioned, the boiler temperature and/or output temperature calculated will ensure the room temperature is in accordance with the set point programmed.

The K curve relates the outdoor temperature reading on the sensor installed outside the home to the boiler temperature setpoint. The graph shows the temperature ratio for each point on the K curve.



IMPORTANT: To connect the outdoor temperature sensor to the boiler, carefully follow the connection instructions provided in the *"Electrical Connections"* section.

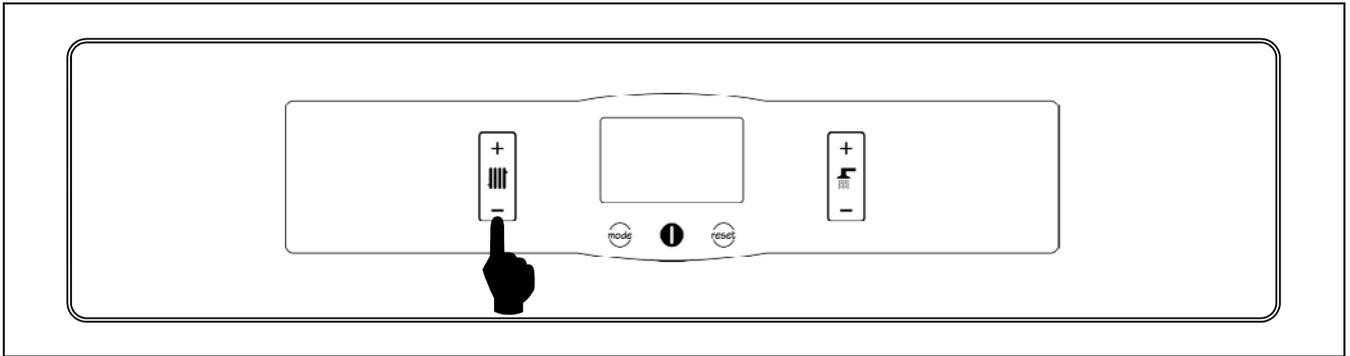
Disabling the heating function (Summer Mode):

In this mode, the boiler provides DHW but not heating. To disable the heating function, press the heating "—" symbol (**16**) until "OFF" appears on the display.

Disabling the DHW function:

In this mode the boiler provides heating but not DHW. To disable the DHW function, press the DHW "—" symbol (**17**) until "OFF" appears on the display. The burner, the circulation pump and the diverter valve are in heating mode. The burner will shut down when the boiler reaches its selected setpoint temperature. The circulation pump will stop when the room temperature reaches or exceeds the temperature set on the installation's room thermostat (if it has one).

7.1 Selecting the boiler setpoint temperature



Depending on the boiler configuration, the Heating “+” and “—” symbols **(16)** may be used to select the desired boiler functioning temperature, as well as enabling and/or disabling the heating function.

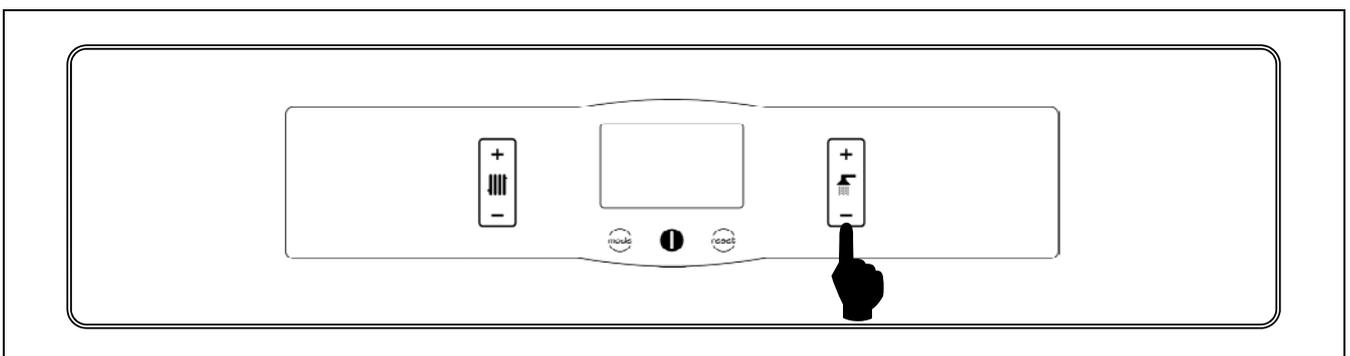
Providing there is a direct circuit that is not functioning according to the outside weather conditions (**P.11 = OFF** and/or **P.31 = OFF**), or when no second heating circuit is installed, the Heating “+” and “—” symbols **(16)** can be used to selected the desired boiler functioning temperature, in addition to enabling and/or disabling the heating function.

The boiler setpoint temperature can also be selected by pressing  until the icon  appears on the display, with the word **SET** flashing. The setting can be changed by pressing the Heating “+” and “—” symbols **(16)**.

In all other cases, pressing the Heating “+” and “—” symbols **(16)** will only enable and/or disable the heating function.

The permitted boiler setpoint temperature range is 25 - 85 °C. Model **Avanttia** boilers are condensing boilers. In order to obtain maximum boiler performance and energy savings, it is recommended to select a setpoint temperature of 60 - 70 °C, providing this is permitted by the heating system installed and the insulation conditions of your home.

7.2 Selecting the DHW setpoint temperature

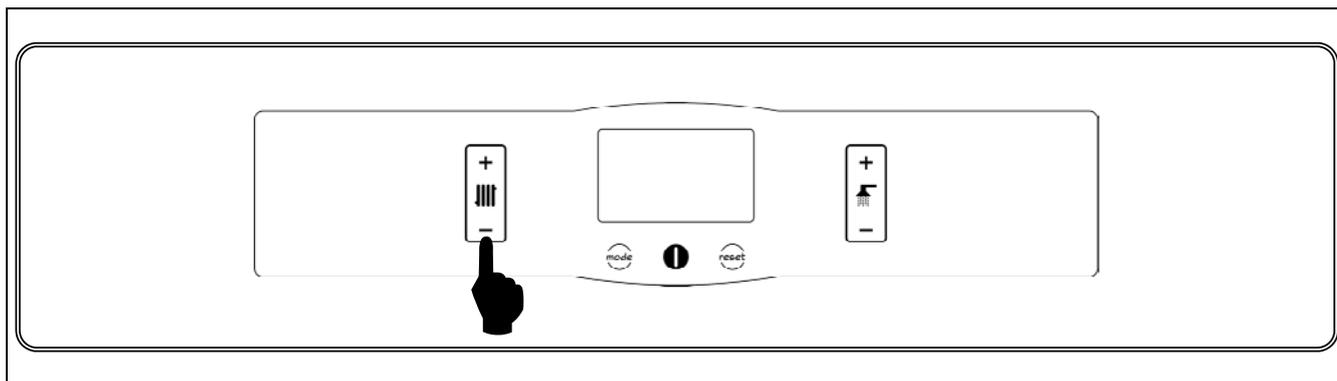


The desired DHW temperature can be selected by pressing the DHW “+” and “—” symbols **(17)**. If they are not pressed for 2 seconds, the display will return to “standard” mode.

The DHW setpoint temperature can also be selected by pressing  until the icon  appears on the display, with the word **SET** flashing. The setting can be changed by pressing the DHW “+” and “—” symbols **(17)**.

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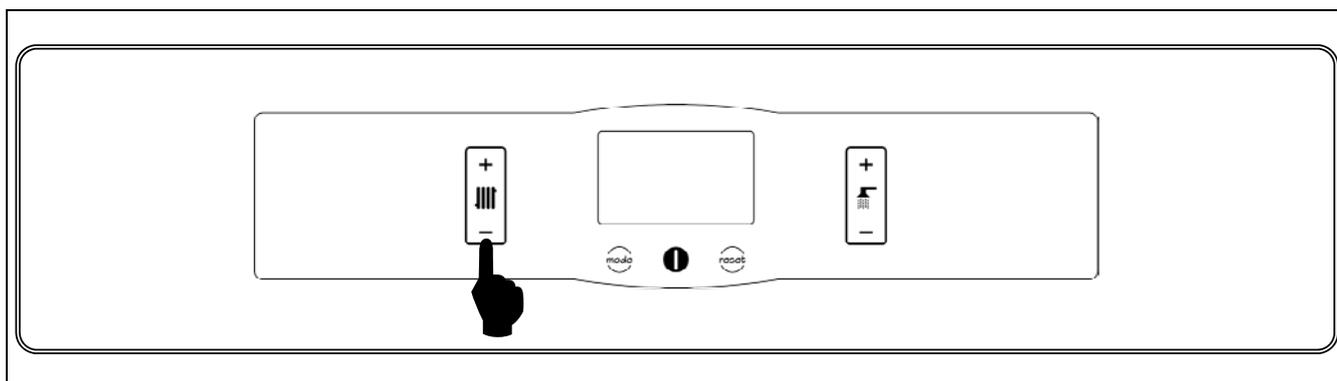
7.3 Selecting the setpoint temperature of heating circuit 1



The flow temperature of the circuit may be selected, providing heating circuit 1 is a mixed circuit (heating pump of circuit 1 (BC_1) and the mixer valve (M_1) and sensor (Sr_1)) and it is not functioning in accordance with outside weather conditions ($P.11 = \text{oFF}$). To select it, press **mode** to browse until the icon $\updownarrow III_1$ appears on the display with the **SET** symbol flashing. The temperature can be changed by pressing the Heating “+” and “—” symbols (*16*).

However, if the boiler is functioning according to outside weather conditions (external EVT sensor connected and $P.10 = \text{oN}$ and $P.11$ not oFF), the circuit flow temperature cannot be selected; only the K curve can be selected with the $P.11$ setting.

7.4 Selecting the setpoint temperature of heating circuit 2



The flow temperature of the circuit may be selected, providing heating circuit 2 is a mixed circuit (heating pump of circuit 1 (BC_2) and the mixer valve (M_2) and sensor (Sr_2)) and it is not functioning in accordance with outside weather conditions ($P.31 = \text{oFF}$). To select it, press **mode** to browse until the icon $\updownarrow III_2$ appears on the display with the **SET** symbol flashing. The temperature can be changed by pressing the Heating “+” and “—” symbols (*16*).

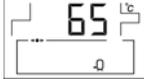
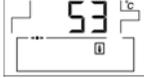
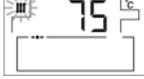
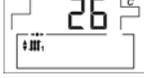
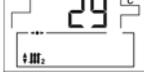
However, if the boiler is functioning according to outside weather conditions (external EVT sensor connected and $P.10 = \text{oN}$ and $P.11$ not oFF), the circuit flow temperature cannot be selected; only the K curve can be selected with the $P.31$ setting.

When both the boiler's circuits are functioning with an external sensor, the Heating “+” and “—” symbols (*16*) can only be used to enable or disable the heating function.

8 USER MENU

The "User Menu" shows the settings connected with boiler functioning at each given time, on the digital display.

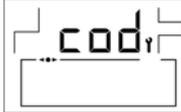
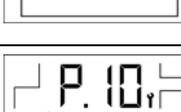
To access this display mode, press . Press this button repeatedly to browse through the different settings available (see point 6.2). These settings are listed in the table below:

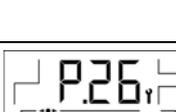
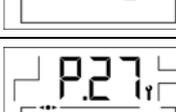
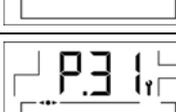
Nº.	Setting	Type	Range	Display
1	DHW setpoint temperature	Modificable	Off, 15 – 65 °C By default: Off	
2	Actual DHW temperature	Visual		
3	Boiler setpoint temperature	Modificable	Off, 25 – P.08 By default: Off	
4	Actual boiler temperature	Visual		
5	Water pressure	Visual		
6	Boiler setpoint temperature enabled	Visual		
7	Setpoint flow temperature of mixed circuit 1	Modificable	Off, 10 – 45 °C By default: Off	
8	Actual flow temperature of mixed circuit 1	Visual		
9	Setpoint flow temperature of mixed circuit 2	Modificable	Off, 10 – 45 °C By default: Off	
10	Actual flow temperature of mixed circuit 2	Visual		
11	Actual outdoor temperature	Visual		
12	Heating demand	Visual		
13	Display contrast	Modificable	1 – 5 By default: 3	

9 SERVICE MENU

The "Service Menu" consists of a series of boiler operating settings that may be modified, although this must be done by a person with sufficient knowledge of the meaning of each setting or by sufficiently qualified staff.

To access the "*Service Menu*", first hold down  and  for 5 seconds and then enter the access code (see point 6.2).

N°.	Setting	Type	Range	Display
Code	Access code		0 – 999 By default: 123	
P.02	Minimum heating power adjustment	Modifiable	20% - 80% By default: 20%	
P.03	Maximum heating power adjustment	Modifiable	(P.02+20%) - 100% By default: 100%	
P.04	Minimum DHW power adjustment	Modifiable	20% - 80% By default: 20%	
P.05	Maximum DHW power adjustment	Modifiable	(P.04+20%) - 100% By default: 100%	
P.06	Functioning at minimum power: Indicates whether switch n° 3 is enabled or disabled	Visual	Off - On By default: Off	
P.07	Functioning at maximum power: Indicates whether switch n° 2 is enabled or disabled	Visual	Off - On By default: Off	
P.08	Maximum boiler temperature	Modifiable	40 °C – 85 °C By default: 85 °C	
P.09	Gas type: Indicates the gas type selected on the switches	Visual	0: Natural gas. 1: Butane. 2: Propane. By default: 0	
P.10	Functioning according to outside weather conditions (K curves)	Modifiable	Off - On By default: Off	
P.11	K curve selection (circuit 1)	Modifiable	Off, 0,5 – 6 By default: 1	

Nº.	Setting	Type	Range	Display
P.12	Post-circulation of circulating pump	Modifiable	3 – 40 min By default: 3 min	
P.13	Post-circulación time of DHW pump	Modifiable	0 – 20 min By default: 5 min	
P.14	Burner anti-cycling function	Modifiable	0 – 20 min By default: 3 min	
P.17	Antilegionella function	Modifiable	0: Off, 1: On By default: 0	
P.19	Circulating pump operating mode adjustment	Modifiable	0: Standard, 1: Continius By default: 0	
P.20	Multifunction relay: The functioning will depend on the value selected.	Modifiable	0: Off 1: External DHW tank. 2: External security alarm. 4: Boiler error. By default: 0	
P.26	Reset default values	Modifiable	No, Ok	
P.27	Set access code	Modifiable	0 – 999	
P.31	K curve selection (circuit 2)	Modifiable	Off, 0,5 – 6 By default: Off	

10 HEATING CIRCUIT ADJUSTEMENTS

The **Avanttia** boiler is equipped with an electronic control for efficiently regulating the automatic functioning of the boiler. It also has the following additional control features:

10.1 Heating output adjustment

The **Avanttia** boiler is configured to modulate between minimum and maximum burner output. Parameters **P.02** and **P.03** may be used to adjust the minimum and maximum heating output.

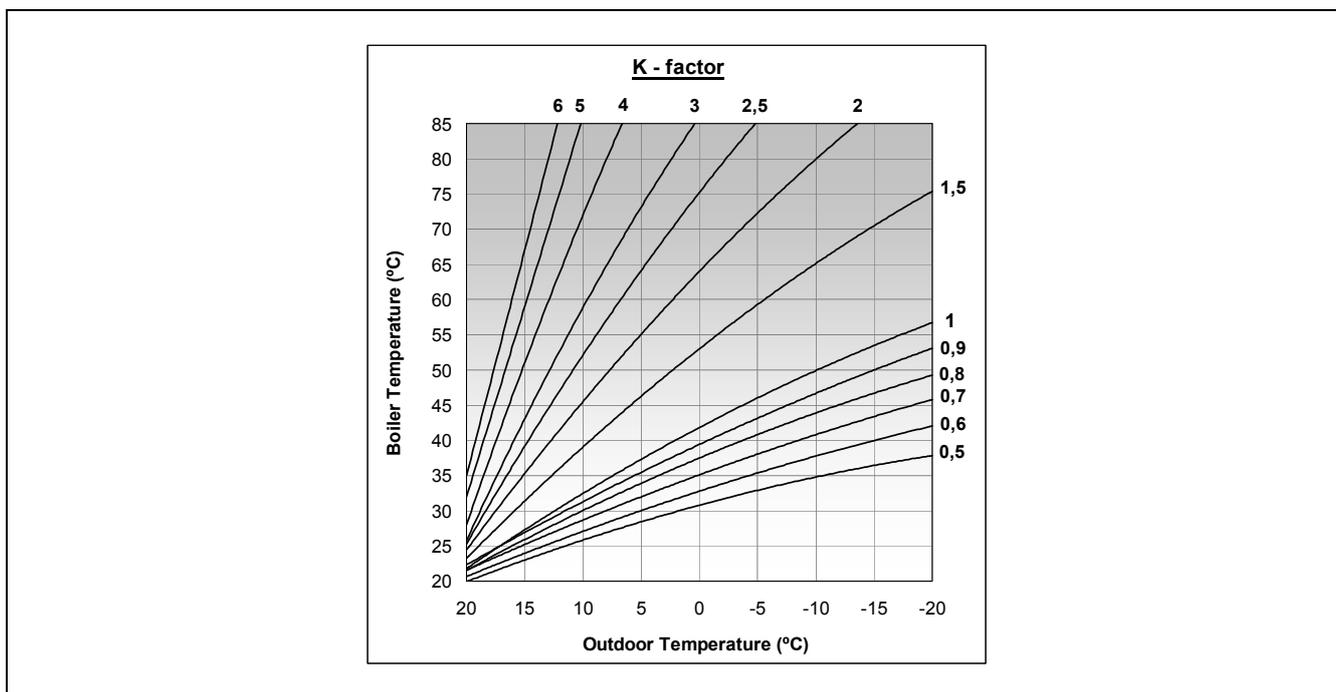
10.2 Adjustment of the maximum boiler setpoint temperature

Setting **P.08** can be used to adjust the maximum heating setpoint temperature (85°C by default) to adjust it to the characteristics of each particular installation, optimising the system's energy efficiency.

10.3 Functioning according to outdoor temperature conditions

Parameter **P.10** can be used to activate functioning with an outdoor temperature sensor (supplied with the boiler) in Heating Mode. To activate this operation mode, an outdoor temperature sensor needs to be connected to the boiler.

The value of the slope, selected using corresponding parameter (**P.11** for circuit 1 and **P.31** for circuit 2), indicates the relation between the boiler setpoint temperature value calculated and the outdoor temperature. The following diagram shows the different slope curves that can be selected:



Depending on the type of heating installation, the recommended values for the slope are as follows:

- Underfloor heating or low temperature installations: K-factor = 0.5 - 1.
- Radiator or high temperature installations: K-factor = 1.5 - 6.

IMPORTANT: When parameter P.11 and P.31 are activated, only the Heating function can be enabled and disabled using the temperature selector (14).

10.4 Circulating pump function

By default, the boiler is programmed for the circulating pump to continue functioning for 3 minutes when there is no further heating demand (post-circulating time). However, this time can be modified using parameter **P.12**, between 3 and 40 minutes.

The circulation pump operating mode can also be changed using parameter **P.19**. The operating modes are as follows.

1: Standard.

2: Continuous: The pump continues functioning, providing the heating temperature selector is not turned to its furthest left position (OFF). If there is a room thermostat or remote control connected to the boiler, the electronic control will govern burner functioning according to heating demand, keeping the pump running continuously.

11 DHW CIRCUIT ADJUSTMENTS

11.1 DHW output adjustment

The **Avanttia** boiler is configured to modulate between minimum and maximum burner output. Parameters **P.04** and **P.05** may be used to adjust the minimum and maximum DHW production output.

11.2 Antilegionella function

Using the **P.17** parameter, it is possible to activate the function of protection against Legionella bacterium. With the feature enabled, every 7 days, DHW or DHW recirculation circuit tank temperature rises up to 65 °C.

11.3 Post-circulation time of DHW pump

Using the parameter **P.13** fits while postcirculacion pump continues running once heated tank DHW, the default time is 5 minutes. This time can be set between 0 and 20 minutes.

12 ADDITIONAL FUNCTIONS

The **Avanttia** boiler has the following additional control functions:

12.1 Burner anti-cycling functioning

Parameter **P.14** is used to adjust the minimum interval between burner start-ups. It is used in installations with very low thermal inertia, to prevent excessively consecutive burner ignition and extinction cycles, ensuring smoother burner functioning and avoiding premature wear to the burner components.

12.2 Resetting to factory default values

If these settings are wrongly adjusted or if the boiler functions incorrectly, all the original settings of all the parameters can be restored by selecting **oH** in parameter **P.26**.

12.3 Changing the access code

Parameter **P.27** can be used to change the access code. While **P.27** appears on the display, proceed as follows:

1. Press the  button. The current access code will appear, the first digit will flash.
2. Press the  button repeatedly to increase the value of the digit selected.
3. Press the  button to change the digit.
4. Repeat steps 2 and 3 until you have selected the desired access code.
5. Press the  button to confirm the code.

12.4 Pump anti-block function

This feature prevents the boiler circulation pumps from seizing up if they have been out of use for a long period. This system remains enabled while the boiler is plugged into the mains.

12.5 Anti-frost function

This function protects the boiler from freezing up during cold weather. If the boiler temperature drops to below 6 °C, the heating circulation pump will start up. If the boiler temperature continues to drop and reaches 4 °C, the burner will start up, heating the installation. When this function has been activated, it will continue working until the boiler reaches 8 °C. This system remains on standby while the boiler is plugged into the mains.

12.6 Boiler pressure sensor function

This function prevents boiler failure caused by a low water level and excess pressure in the boiler. The pressure is detected by a pressure sensor, and its value appears on the control panel display (on the *"User Menu"*). If the pressure drops below 0.05 MPa (0.5 bar), the electronic control switches off the boiler and triggers an alarm on the display ("**E02**"). When the boiler pressure exceeds 0.25 MPa (2.5 bar), an alarm is triggered on the display ("**HI**") to warn of the excess pressure. If this should occur, we recommend calling the nearest **Technical Assistance Service**, and draining the boiler until the pressure is between 0.1 and 0.15 MPa (1 and 1.5 bar).

12.7 Connecting the LAGO FB OT+remote control

The boiler has a terminal strip, **J5**, for connecting the LAGO FB OT+ remote control (see "*Connection Diagram*"). This allows the heating mode for circuit 1 to be switched off, according to the room temperature.

Installing the LAGO FB OT+ remote control enables the heating and DHW system to adapt to the scheduled times for use of the installation. It also optimises the installation's functioning, adapting the heating setpoint temperature to the room temperature and improving comfort.

12.8 Room thermostat connection

The boiler has two terminal strips, **J4** and **J6**, for connecting room thermostats or room chronothermostats (TA₁ and TA₂, see "Electrical Connection Diagram"). This allows the heating mode for each circuit installed to be switched off according to the room temperature. To connect it, remove the bridge joining the terminals of each terminal strip, **J4** and **J6**, and connect room thermostat N° 1 or N° 2 for circuits 1 or 2 respectively.

Installing a room thermostat will optimise the performance of the installation, adapting the heating to your home's requirements and obtaining enhanced comfort. Also, if the thermostat allows the hours of functioning to be programmed (chronothermostat), it can adapt the heating system to the hours of use of the installation.

13 FUNCTIONING OF HEATING CIRCUIT 2 (OPTIONAL)

All the boiler models in the **Avantia** range may optionally control a second heating circuit. For this second circuit to be controlled, a second circulating pump (**BC₂**) needs to be installed on the boiler if a direct circuit is required, or a pump (**BC₂**) and a mixer valve (**M₂**) if a mixed circuit is required. For correct installation, carefully follow the instructions given in the "*Installation with two heating circuits*" section of this manual.

Direct circuit functioning

Heating circuit 2 will work with the selected boiler setpoint temperature and the temperature of room thermostat 2 (**TA₂**) (if the boiler has one). When circuit 2 is functioning with an external sensor (**P.10** = ON and **P.31** not OFF), the boiler temperature will depend on the outside temperature and the curve selected in setting **P.31**.

Mixed circuit functioning

Heating circuit 2 will work with the selected setpoint flow temperature for mixed circuit 2 and the temperature of room thermostat 2 (**TA₂**) (if the boiler has one). When circuit 2 is functioning with an external sensor (**P.10** = ON and **P.31** not OFF), the setpoint flow temperature will depend on the outside temperature and the curve selected in setting **P.31**.

In both cases, the burner, the heating pump of circuit 2 (**BC₂**) and the mixer valve (**M₂**) (if the installation has one) will begin to function until the selected temperature is reached in the installation or on room thermostat 2 (if the installation has one). When the temperature of the installation drops below the selected boiler temperature, the burner will start up again, running the heating cycle.

14 "MULTI-FUNCTION RELAY" FUNCTIONS

The **Avanttia** boiler is equipped with an auxiliary input and an auxiliary relay output, which are used to select a series of functions that increase the possibilities, features and comfort of the installation.

The different options of setting **P.20** can be used to select the "multi-function relay" operating mode. The default value of this setting is 0 (disabled). The following sections include a description of the functions that can be selected.

14.1 External safety alarm (P.20=2)

With this option, the signal for any external safety device (e.g. boiler room gas leak detector, flood detector, etc.) can be connected to the boiler via the auxiliary input **Taux** on the terminal strip **J7**, so that when the device is activated the boiler will block (an alarm code will appear) and the **Raux** multi-function relay output will be activated (a buzzer sounds, an alarm light comes on, etc.):

- **Enabling the function:** When a closed circuit signal is detected at the **Taux** input, the boiler blocks and the **Raux** relay output supplies voltage (230 V~) between terminals n° 1: "**C**" and n° 2: "**NO**" of the terminal strip **J7** (see "*Electrical Diagram*").
- **Disabling the function:** When an open circuit signal is detected at the **Taux** input, the boiler is reset and the **Raux** relay output supplies voltage (230 V~) between terminals n° 1: "**C**" and n° 3: "**NC**" of the terminal strip **J7** (see "*Electrical Diagram*").

14.2 Boiler alarm signal (P.20=4)

If this multi-function relay function is selected, when the boiler shows error or functioning alarm the **Raux** relay output will be activated, supplying voltage (230 V~) between terminals n° 1: "**C**" and n° 2: "**NO**" of the terminal strip **J7**, where any external alarm signalling device may be connected to warn of boiler malfunctioning.

When the boiler blocking function is reset, the **Raux** relay output will supply voltage again (230 V~) between terminals n° 1: "**C**" and n° 3: "**NC**" of the terminal strip **J7**.

15 LAGO FB OT+ REMOTE CONTROL (OPTIONAL)

A remote control (LAGO FB OT+) can optionally be supplied together with the **Avantia** boiler. This remote control can be used to fully operate the boiler from anywhere in the room in which it is installed. The LAGO FB OT+ remote control governs the parameters of heating circuit N° 1 and the installation's domestic hot water production.

This remote control allows the hours of home comfort to be programmed for heating circuit N° 1, adjusting the installation to the particular requirements of the home by measuring the room temperature and consequently adapting the installation temperature. The remote control can also be used to adjust the hot water and heating set point temperatures at any time, and for viewing the different boiler operation parameters. It also warns of any functioning anomalies affecting the boiler.

The LAGO FB OT+ remote control may optionally be connected to an external sensor, for measuring the outside temperature. With this option installed, the remote control can adjust the home comfort level (circuit N° 1) according to the weather conditions at each particular time, optimising fuel consumption and heating comfort in the home.

The LAGO FB OT+ remote control takes over the control of the boiler when it is connected to it. The different selectable boiler temperatures must be modified using the remote control. It is easy to install, only requiring 2 wires for communication between the boiler and the LAGO FB OT+ control. It is connected to the boiler by connecting the two wires on terminal strip **J6** (see "Electrical Connection Diagram"). For correct installation and functioning, carefully read the instructions enclosed with the remote control.

The following sections contain a general explanation of the different operating modes and options of the LAGO FB OT+ remote control.

NOTE: The "AF outdoor temperature sensor" indicated in the instructions manual of remote controller is not compatible with the boiler, so it is compulsory the use of "EVT outdoor sensor" (provided within the boiler) to measure the outdoor temperature.

15.1 Functioning without an outdoor sensor

Conventional heating installation (direct circuit)

The maximum temperature for heating circuit N° 1, the heating times and the desired room temperatures can be selected on the remote control. The LAGO FB OT+ remote control will calculate the boiler temperature required at each particular time, depending on the temperature of the room, and it will activate or disable the heating mode of circuit N° 1 depending on the heating times and room temperatures programmed.

Installation of heating circuit N° 2 (optional)

If the boiler is supplied with an second heating circuit, this circuit is adjusted and controlled via the boiler control panel (see "*Functioning of heating circuit N° 2 (optional)*").

15.2 Functioning with an external sensor (Optional)

If the LAGO FB OT+ remote control is fitted with an outdoor temperature sensor, it can calculate the heating temperature of heating installation N° 1 according with the outside weather conditions at each particular time, with optimum adjustment of the heating installation conditions for improved heating comfort in the home and energy savings.

The maximum temperature and an operating curve for heating circuit N° 1, the heating times and the room temperatures desired can all be selected on the remote control (see instructions enclosed with the LAGO FB OT+ remote control). The LAGO FB OT+ remote control calculates the required boiler temperature at each particular time, depending on the temperature inside the home and the outside weather conditions, in accordance with the operating curve selected (parameter 01 on the "User Menu" of the LAGO FB OT+), switching the heating on and off in accordance with the heating times and the room temperatures programmed.

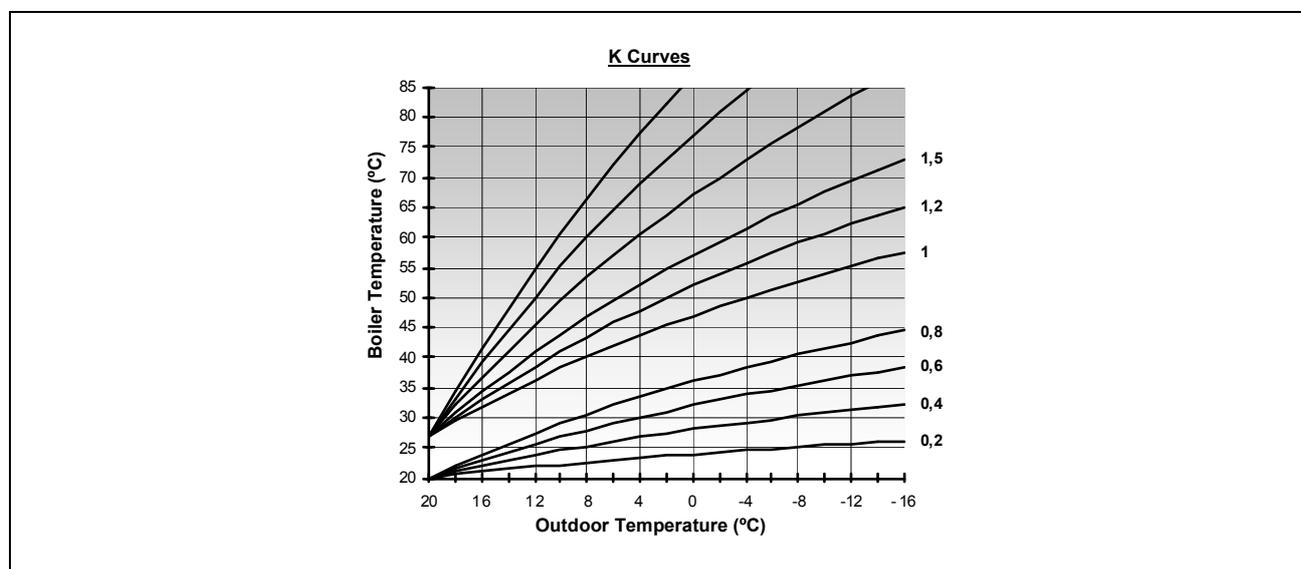
Depending on the type of heating circuit, the following adjustments should be made:

Conventional heating installation (direct circuit)

In setting 01 of the LAGO FB OT+ "User Menu", select a curve of at least 1. The maximum boiler temperature can also be selected on the LAGO FB OT+ remote control.

Installing low temperature heating (mixed circuit)

In setting 01 of the LAGO FB OT+ "User Menu", select a curve of less than 0.8. We also recommend selecting a maximum flow temperature NO HIGHER THAN 85°C, to protect the underfloor heating installation from overheating. To do this, select the maximum flow temperature of heating circuit 1 in setting 07 of the LAGO FB OT+ "Service Menu".



NOTE: The "AF outdoor temperature sensor" indicated in the instructions manual of remote controller is not compatible with the boiler, so it is compulsory the use of "EVT outdoor sensor" (provided within the boiler) to measure the outdoor temperature.

15.3 DHW function

When the remote control is connected to an **Avanttia** boiler, the desired DHW temperature and the desired hours for DHW use can be selected on the LAGO FB OT+ remote control. The LAGO FB OT+ remote control regulates the DHW tank temperature at each particular time, and enables or disables the DHW function according to the times scheduled.

16 SHUTTING DOWN THE BOILER

To switch off the boiler, hold down the **ⓘ** button. In **Off mode, while the boiler is plugged into the mains and connected to the fuel installation**, its heating and hot water functions will be switched off but the anti-frost protection and pump anti-block functions will remain activated.

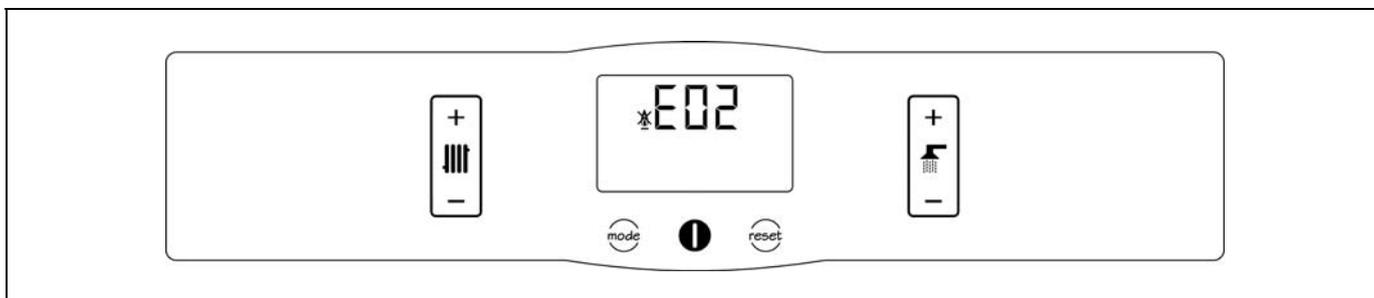
To shut down the boiler functioning completely, unplug it from the mains and cut off the fuel supply.

17 DRAINING THE BOILER

The water is drained from the boiler by opening the air drain valve **(12)**, located inside the boiler on the lower left hand side of the heat exchanger. Connect a flexible tube to this valve and run it to a drain. After draining the boiler, close the valve again and remove the flexible tube.

18 SAFETY CUT-OUTS

The boiler's electronic control system may activate the following safety cut-outs to stop the boiler functioning. When one of these safety cut-outs occurs, the boiler will stop functioning, a cut-out code will flash on the display and the red alarm warning pilot light will flash on the control panel.



If any of the safety cut-outs described below should occur repeatedly, switch off the boiler and call your nearest official technical assistance service.

18.1 Temperature safety cut-out

When this cut-out occurs, the **"E30"** code (temperature alarm) will begin to flash on the digital display and the alarm warning pilot light will flash on the control panel. The burner will switch off and stop heating the installation.

This occurs when the boiler exceeds a temperature of 110 °C. To unblock it, wait until the boiler drops to below 100 °C and press the button .

18.2 Burner cut-out

When this cut-out occurs, the code **"E09"** will begin to flash on the digital display and the flame failure symbol. The burner will switch off and stop heating the installation.

This occurs as a result of an anomaly in the burner or in the fuel installation. To unblock it, press the button .

18.3 Low pressure cut-out

When this cut-out occurs, the code **"E02"** will begin to flash on the digital display and the flame failure symbol. The burner and the boiler circulation pumps will switch off, cutting off the heating and water flow to the installation.

This occurs when the boiler pressure drops to below 0.05 MPa (0.5 bar), preventing the boiler from functioning when the water is drained from the installation, due to either leakage or maintenance operations. To unlock it, press the button .

19 BOILER MAINTENANCE

To maintain the boiler in perfect working order, a yearly overhaul is to be performed by DOMUSA TEKNİK's authorised personnel.

Boiler and flue maintenance

The most important aspects to be checked are as follows:

- The water pressure in the heating installation, **when the water is cold**, must be between 0.1 and 0.15 MPa (1 and 1.5 bar). If it is not between these values, it must be filled until they are reached.
- The control and safety devices (thermostats, gas valve, etc.) must function correctly.
- The burner and the inside of the boiler chamber must be clean. Soft brushes or compressed air are recommended for cleaning the boiler, to prevent damage. **Do not use chemical products.**
- The expansion vessel must be full, in accordance with the specifications on the vessel plate.
- Check the gas and water installations are completely sealed.
- The flues must be free of any obstacles and have no leaks.
- The gas flow must remain between the values indicated on the *Specifications Sheet*.
- The circulating pumps and mixer valves (if the boiler is equipped with these) must not be blocked.

Cleaning the boiler

The boiler does not require any special maintenance. **Yearly cleaning** at the end of the heating season will be sufficient. **The boiler chamber and burner should not be cleaned using chemical products or steel brushes.** After any cleaning operation has been carried out, it is important to ensure that several ignition cycles are performed to check all the elements are functioning correctly.

After checking the boiler is functioning correctly, ensure there are no leaks.

Draining the condensation water

The boiler condensation water drain outlet should not be altered in any way and it must be kept free of obstructions. Yearly cleaning of the condensation collection siphon is recommended.

If a neutralisation system is installed at the condensation drain outlet, it should undergo periodical maintenance, in accordance with the manufacturer's instructions.

Cleaning products

Never use chemical products to clean the boiler. A plastic brush is sufficient, if the cleaning is carried out annually.

The cleaning of the boiler and hydraulic circuit will have lasting effects if water with a hardness of over 25°F is treated previously. For softer water no treatment is required. In any case, a descaling pump should be used to carry out the descaling process.

Avanttia

Anti-frost precautions

The **Avanttia** boiler, have a function to prevent the installation from freezing, ensuring that the boiler is connected to the electrical power supply. In any case, and mainly in geographical zones where very low temperatures are usual, it is advisable to add anti-freezing liquid to heating circuit. When a very long period the boiler is not going to work, it is advisable **to empty the boiler totally**.

Boiler water characteristics

In case of water hardness of over 25-30°F, we recommend using treated water in the heating installation to avoid any scale deposits on the boiler.

Bear in mind that a scale deposit of even a few millimetres will cause a major reduction in boiler performance, as scale is a poor thermal **conductor**.

It is essential to treat the water used in the heating circuit in the following cases:

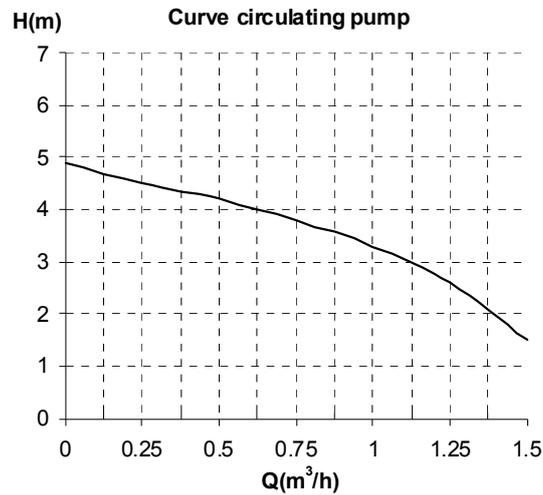
- Very long circuits (containing a large amount of water).
- Frequent filling of the installation.

If repeated partial or total draining of the installation is necessary, we recommend filling it with treated water.

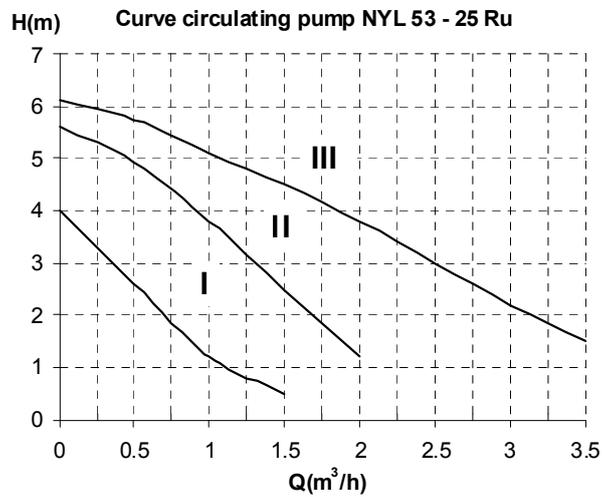
20 HEATING CIRCULATION PUMP FLOW CURVES

It will be possible to obtain, in the following diagrams, the hydrodriving pressure available in the installation at the boiler exit, having taken the boiler pressure drop into account. These diagrams include the curves corresponding to the speeds of the circulating pumps provided with the boiler.

Avanttia DX

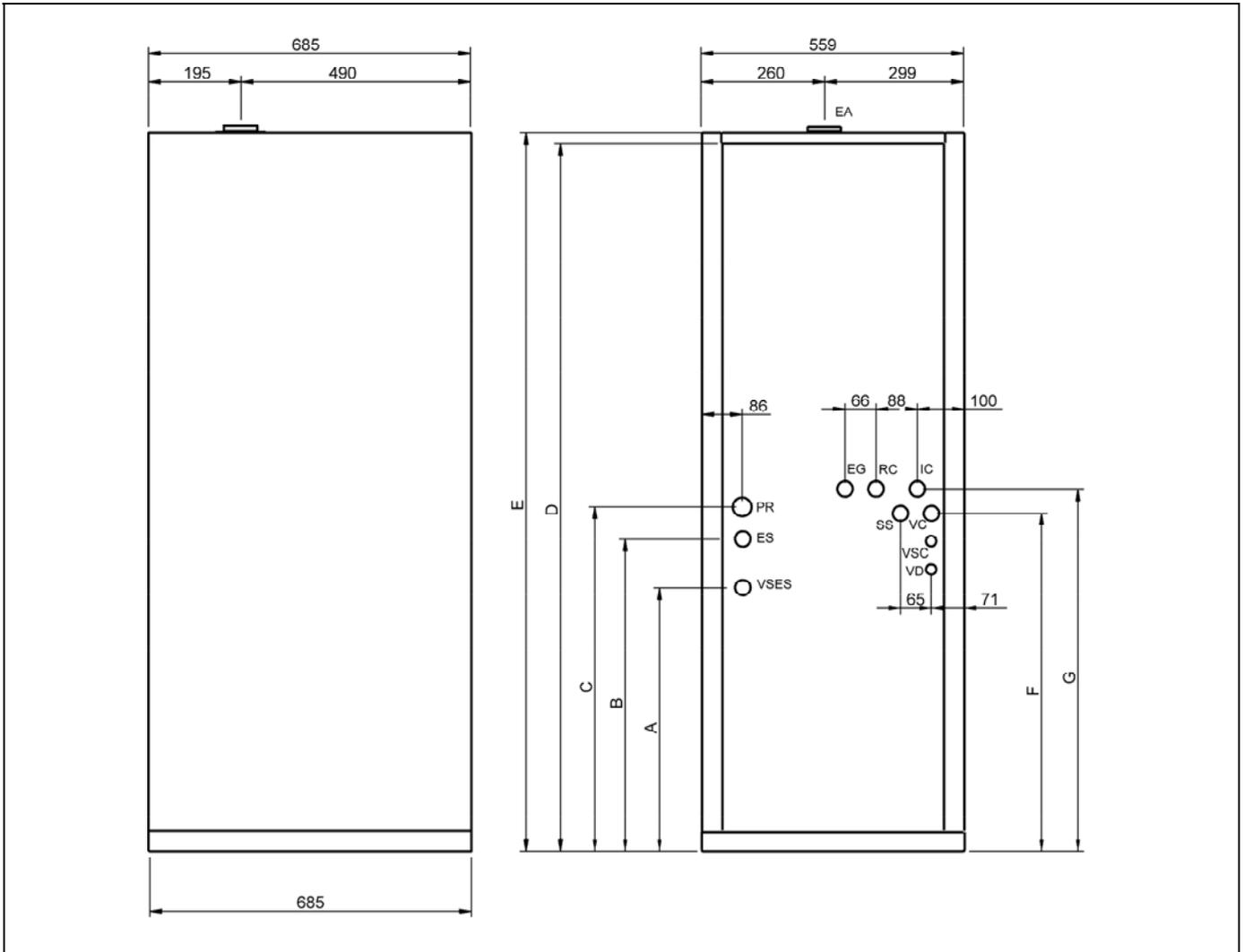


Avanttia DXM



21 DIAGRAMS AND MEASUREMENTS

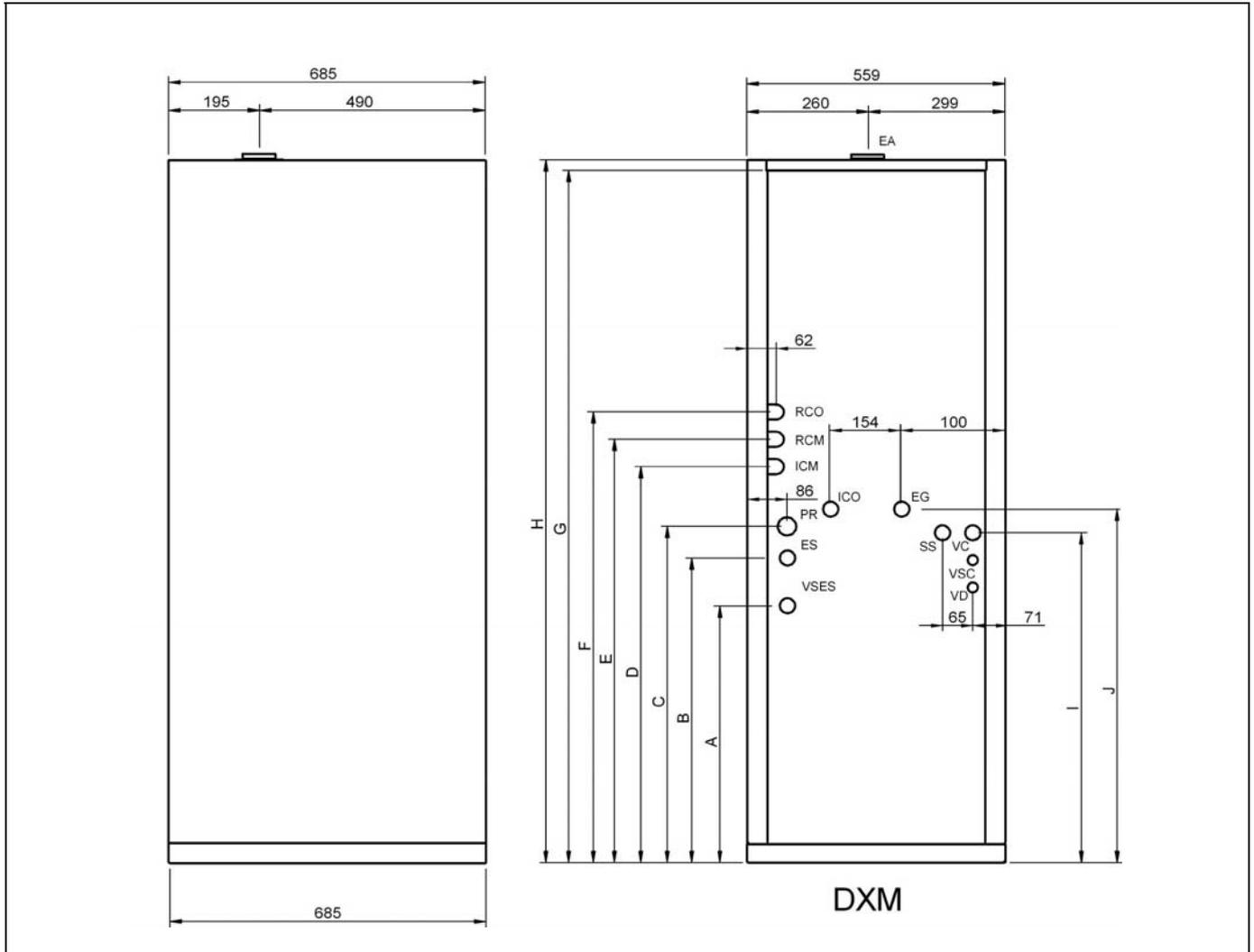
21.1 Avanttia DX



	Connection
IC: Heating output.	3/4" M
RC: Heating return.	3/4" M
EG: Gas inlet.	3/4" M
ES: DCW inlet.	3/4" M
SS: DHW outlet.	3/4" M
PR: Recirculation outlet.	1/2" M
VSES: DHW safety valve.	-
VD: Disconnect exit.	-
VSC: Heating safety valve.	-
VC: Condensate drain.	-
EA: Gas removal / Air intake.	Ø60-100

	Avanttia 25 DX	Avanttia 37 DX
A	565	665
B	670	770
C	735	835
D	1520	1620
E	1545	1645
F	725	825
G	780	880

21.2 Avanttia DXM



	Connection
ICO: Heating output optional circuit.	3/4" M
RCO: Heating return optional circuit.	3/4" M
ICM: Heating output mixed circuit	3/4" M
RCM: Heating return mixed circuit.	3/4" M
EG: Gas inlet.	3/4" M
ES: DCW inlet.	3/4" M
SS: DHW outlet.	3/4" M
PR: Recirculation outlet.	1/2" M
VSES: DHW safety valve.	-
VD: Disconnect exit.	-
VSC: Heating safety valve.	-
VC: Condensate drain.	-
EA: Gas removal / Air intake.	Ø60-100

	Avanttia 25 DXM	Avanttia 37 DXM
A	565	665
B	670	770
C	735	835
D	870	970
E	930	1030
F	990	1090
G	1520	1620
H	1545	1645
I	725	825
J	780	880

22 TECHNICAL CHARACTERISTICS

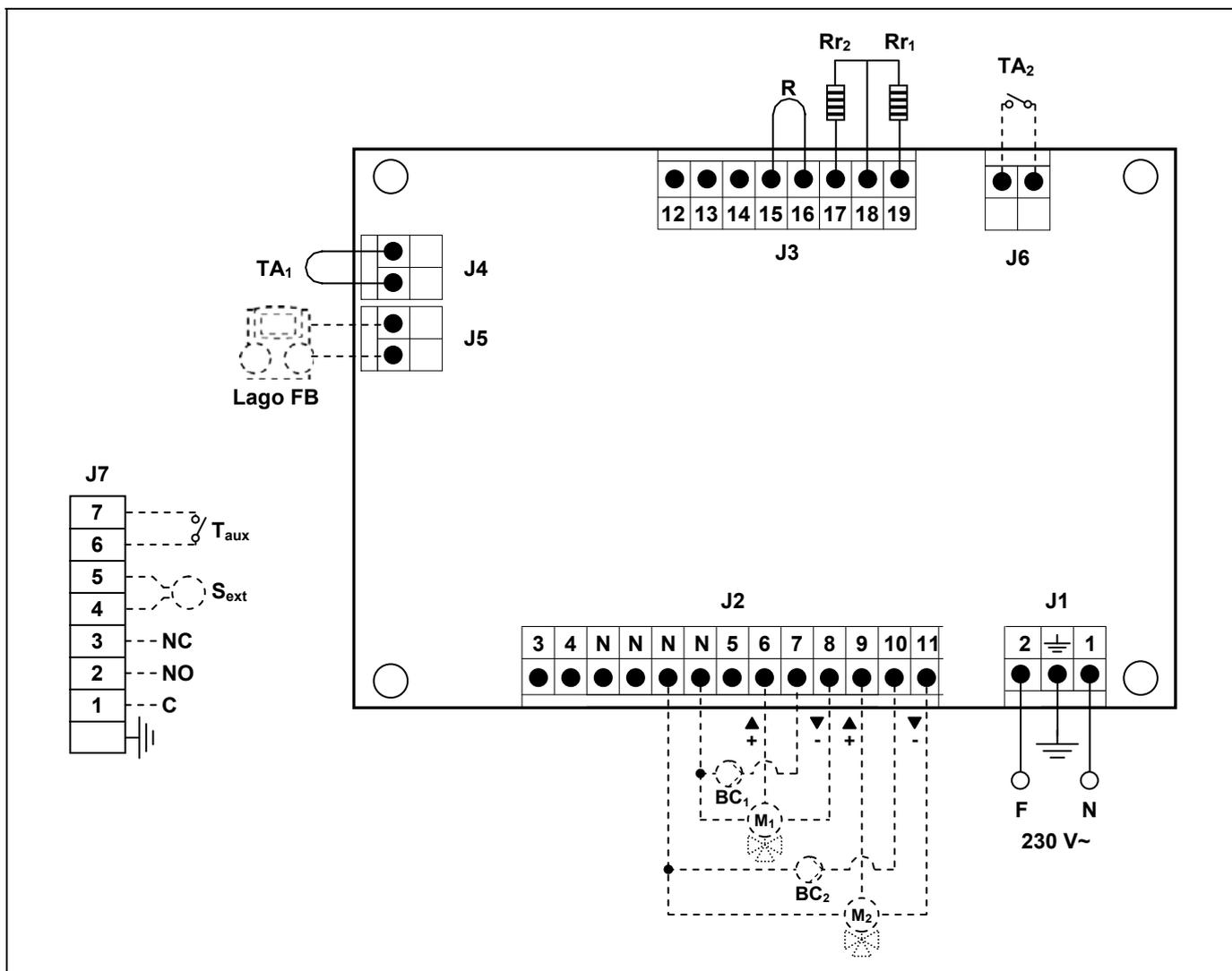
Specifications		Avanttia	
		25 DX / DXM	37 DX / DXM
Heating consumption (Max/Min)	kW	23,5 / 4,9	34,9 / 7,0
DHW heat consumption (Max/Min)	kW	23,5 / 4,9	34,9 / 7,0
Heating output (Max/Min) at 80/60 °C	kW	23,1 / 4,8	34,2 / 6,8
DHW output (Max/Min)	kW	23,1 / 4,8	34,2 / 6,8
Condensing heating output (Max/Min) at 50/30 °C	kW	25,2 / 5,2	37,6 / 7,5
Full load efficiency at Max/Min output, at 80/60 °C	%	98,1 / 97,4	98,0 / 97,6
Full load efficiency at Max/Min output, at 50/30°C (condensation)	%	107,2 / 106,9	107,7 / 106,9
Partial load (30%) efficiency, with 47 °C return temperature	%	101,6	101,9
Partial load (30%) efficiency, with 30 °C return temperature	%	108,4	108,3
Heat Loss through the case with burner switched on	%	0,1	0,1
Heat Loss through the chimney with burner switched on	%	1,8	1,9
Seasonal efficiency rate (SEDBUK rating)	-	A	
NOx class	-	5	
Category	-	II2H3P	
Type	-	Heating and instantaneous hot water production	
Heating output adjustment	-	Adjustable over entire Max/Min output range	
Type of heating installation	-	Close circuit	
Maximum heating pressure	MPa	0,3 (3 bar)	
Maximum heating temperature	°C	110	
Adjustable heating temperature range	°C	25 - 85	
Expansion heating vessel volume	l	7,5	12
Expansion heating vessel pre-load	MPa	0,1 (1 bar)	
Expansion DHW vessel volume	l	8	
Expansion DHW vessel pre-load	MPa	0,3 (3 bar)	
Minimum DHW pressure	MPa	0,7 (7 bar)	
Adjustable tank DHW temperature range	°C	15 – 65	
Capacity of storage tank	L	100	130
D.H.W. production in 10 min. $\Delta T = 30$ °C	L	245	359
D.H.W. production in 1 hour. $\Delta T = 30$ °C	L	830	1240

Specifications		Avanttia	
		25 DX / DXM	37 DX / DXM
Electrical supply	-	230 V~ / 50 Hz	
Nominal current	A	0,6	0,6
Electrical maximum consumption (DX/DXM)	W	315 / 415	
Electrical protection	-	IP X5D	
Boiler mounting system type	-	Standing	
Flue exhaust/Air intake system types	-	B23-B33-B53-C13-C33-C43-C53-C63-C83	
Flue exhaust/Air intake system diameters	mm	Coaxial Ø60/100 and Ø80/125 – Dual duct Ø80/80	
Maximum gas pipe pressure drop	Pa	167	167
Flue gas temperature	°C	63	63
Maximum flow of fumes	g/s	10,2	10,2
Max. horizontal coaxial length Ø60/100	m	20	
Max. vertical coaxial length Ø60/100	m	21	
Equivalent elbow length at 90° Ø60/100	m	1,3	
Equivalent elbow length at 45° Ø60/100	m	1	
Max. horizontal coaxial length Ø80/125	m	68	
Max. vertical coaxial length Ø80/125	m	70	
Equivalent elbow length at 90° Ø80/125	m	2,2	
Equivalent elbow length at 45° Ø80/125	m	1	
Equivalent length of adapter Ø60/100 => Ø80/125	m	0,5	
Max. dual duct length Ø80-Ø80	m	110	
Equivalent elbow length at 90° Ø80	m	2,2	
Equivalent elbow length at 45° Ø80	m	1,4	
Hydraulic connection diameter	Heating	3/4	3/4
	DHW	1/2	1/2
	Gas inlet	3/4	3/4
Dimensions (Width x Depth x Height)	mm	559 x 685 x 1545	559 x 685 x 1545
Weight	Kg	180 / 191	195 / 202

23 ELECTRICAL CONNECTION DIAGRAM

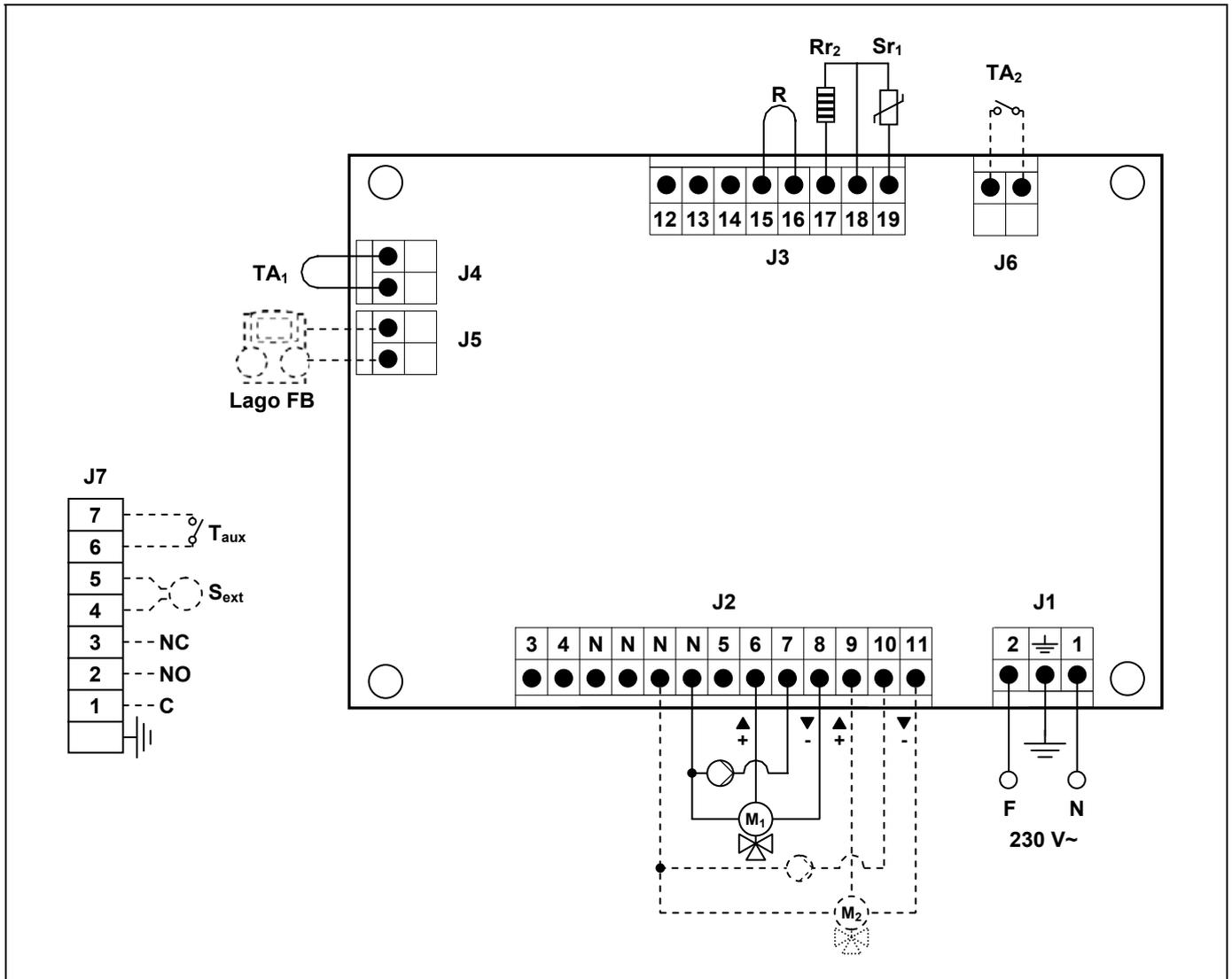
There are a series of removable terminal strips located on the rear of the control panel, for connecting the various options and components of this model. To connect them correctly, carefully follow the indications shown below:

23.1 Avanttia DX



- | | |
|---|--|
| F: Phase. | C: Common of auxiliary relay. |
| N: Neutral. | NO: Normally open of auxiliary relay. |
| BC ₁ : Heating circuit N. 1 circulating pump. | NC: Normally closed of auxiliary relay. |
| BC ₂ : Heating circuit N. 2 circulating pump. | S _{ext} : Exterior room sensor. |
| M ₁ : Underfloor 3 way valve motor circuit 1. | T _{aux} : Auxiliary entrance. |
| M ₂ : Underfloor 3 way valve motor circuit 2. | J1: Power supply connector |
| TA ₁ : Heating circuit N. 1 room thermostat. | J2: Components connector. |
| TA ₂ : Heating circuit N. 2 room thermostat. | J3: Sensor connector. |
| Rr ₁ : Underfloor circuit N.1 option resistance. | J4: Room thermostat N. 1 connector. |
| Rr ₂ : Underfloor circuit N.2 option resistance. | J5: Remote control connector. |
| Raux: Auxiliary relay. | J6: Room thermostat N. 2 connector. |
| R: Phone relay. | J7: Principal connector (Orange). |

23.2 Avanttia DXM



F: Phase.

N: Neutral.

BC₁: Heating circuit N. 1 circulating pump.

BC₂: Heating circuit N. 2 circulating pump.

M₁: Underfloor 3 way valve motor circuit 1.

M₂: Underfloor 3 way valve motor circuit 2.

TA₁: Heating circuit N. 1 room thermostat.

TA₂: Heating circuit N. 2 room thermostat.

Sr₁: Heating circuit mixed 1 sensor.

Rr₂: Underfloor circuit N.2 option resistance.

Raux: Auxiliary relay.

R: Phone relay.

C: Common of auxiliary relay.

NO: Normally open of auxiliary relay.

NC: Normally closed of auxiliary relay.

Sext: Exterior room sensor.

Taux: Auxiliary entrance.

J1: Power supply connector.

J2: Components connector.

J3: Sensor connector.

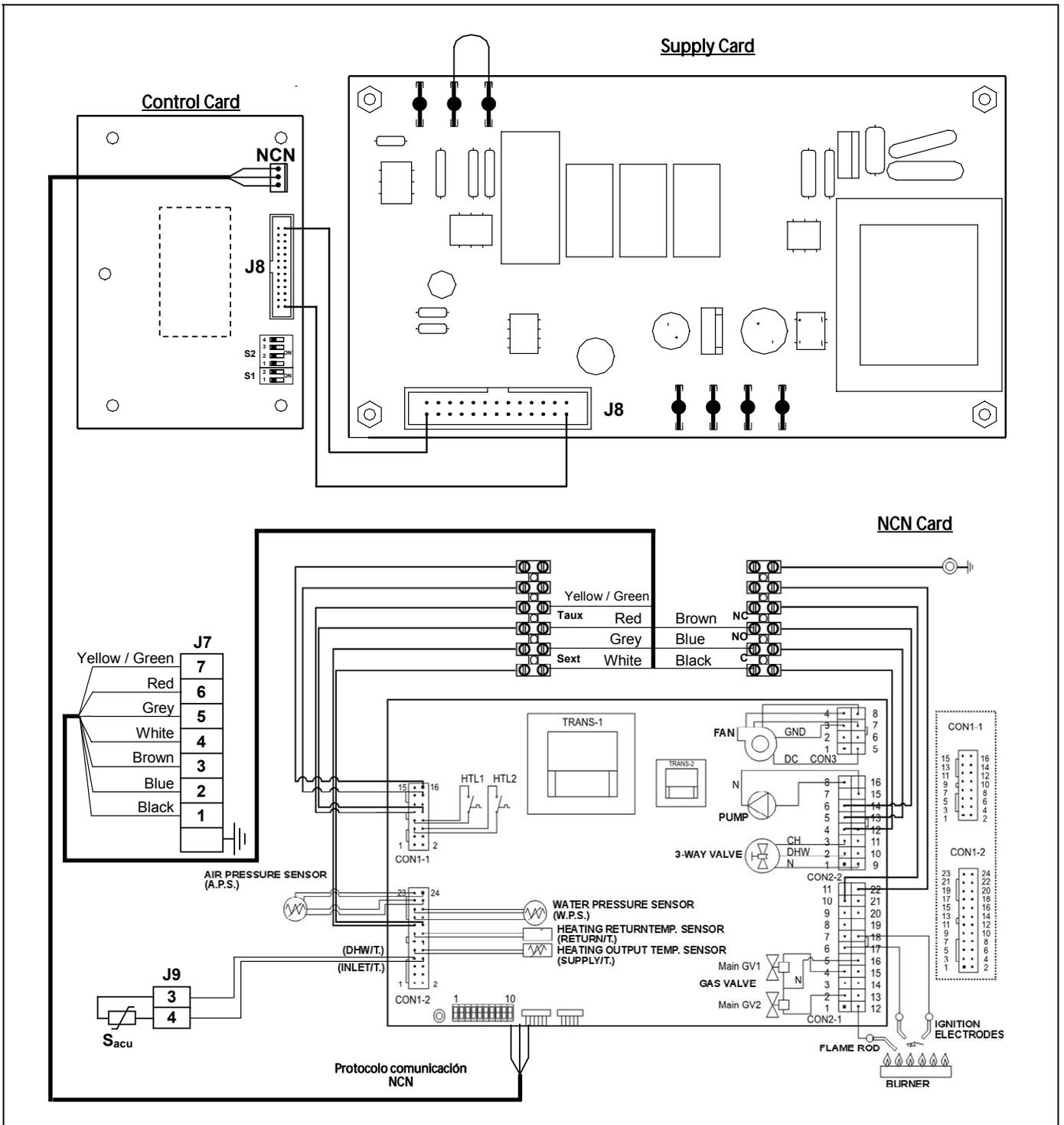
J4: Room thermostat N. 1 connector.

J5: Remote control connector.

J6: Room thermostat N. 2 connector.

J7: Principal connector (Orange).

24 ELECTRICAL DIAGRAM



NCN: Display of communication connector.

J7: Principal connector (Orange).

J8: Communication connector of plates.

J9: Sensor connector.

S1, S2: Boiler model selector.

25 ALARM CODES

The **Avanttia** boiler has an electronic circuit which performs continuous self-testing to detect any malfunctioning in the boiler. When the electronic control detects malfunctioning, this is indicated by an alarm code flashing on the display. The following list describes the alarm codes that may appear:

Cod.	Cause	Action required
E02	Low water pressure	If it occurs repeatedly, call the TAS.
E03	Ignition failure	Reset the boiler.
E04	Flame simulation	Call the TAS.
E05	Boiler temperature sensor: open	Call the TAS.
E06	Boiler temperature sensor: shorted	Call the TAS.
E07	Sensor_1: open	Call the TAS.
E08	Sensor_1: shorted	Call the TAS.
E09	Fan anomaly	Reset the boiler.
E10	Air pressure anomaly	Reset the boiler.
E11	Water pressure sensor failure	Call the TAS.
E12	Flame extinguished	Reset the boiler.
E15	BMC anomaly	Reset the boiler.
E16	Heat exchanger overheating	Reset the boiler.
E17	Switch selection error	Reset the boiler.
E18	Return temperature sensor: open	Call the TAS.
E19	Return temperature sensor: shorted	Call the TAS.
E21	Sensor_2: open	Call the TAS.
E22	Sensor_2: shorted	Call the TAS.
E27	Air pressure sensor anomaly	Reset the boiler.
E28	Water leak	Call the TAS.
E30	Fume outlet overheating	Reset the boiler.
E40	Outdoor temperature sensor: shorted	Call the TAS.
E41	Outdoor temperature sensor: open	Call the TAS.
E62	External safety system	Call the TAS.
E64	Safety valve anomaly	Call the TAS.
E65	External pump anomaly	Reset the boiler.
E82	Boiler communication failure	Call the TAS.
E93	Abnormal functioning of panel buttons	Call the TAS.
A01	Sr ₁ sensor: open circuit or shorted	Call the TAS.
A02	Sr ₂ sensor: open circuit or shorted	Call the TAS.
A03	Si sensor: open circuit or shorted	Call the TAS.
A05	Wrong button held down on control panel	Call the TAS.
A06	Boiler model configuration error	Call the TAS.
A07	NCN control communication error	Call the TAS.
CnF	Wrong micro switch configuration	Call the TAS.

NOTA: It will be very useful for the technical assistance service if you can inform them of the alarm code that has appeared on call-out

26 CHECKING AND ADJUSTING THE CO₂ VALUE

The checking and adjusting the CO₂ value must be made by a qualified technician authorised by DOMUSA TEKNIK. Any operation on the gas valve, regardless of this section of the manual, may cause damage to people, the boiler and the installation. DOMUSA TEKNIK not be liable for any damages caused by improper handling of the organs of power regulation of the boiler, carried out by personnel not authorized by the company.

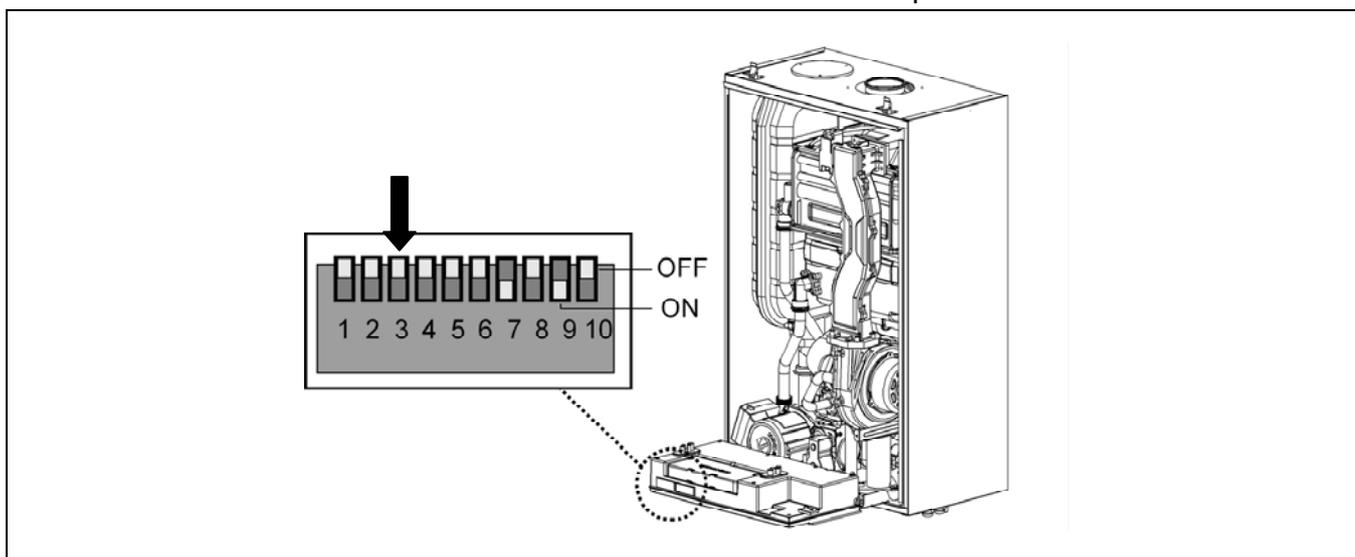
As described on the reference plate, the **Avanttia** boiler is preadjusted by default to run on Natural Gas. If the type of gas required for the installation is not the type specified on the reference place, the gas will be change (see "*Adaptation to other gas*").

When it is started up, check that the CO₂ value is within the values indicated in next table To check this, there is a measurement point at the gas removal adapter outlet, on top of the boiler.

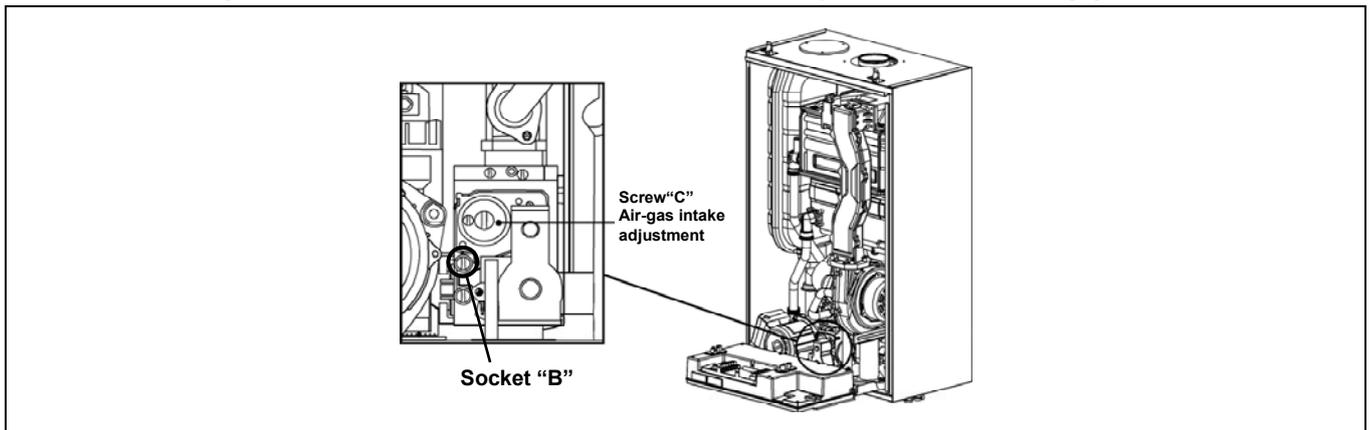
Gas type	Output	Avanttia 25	Avanttia 37
G20	Min.	9,1	9,2
	Max.	8,9 - 9,9	9,0 - 10,0
G31	Min.	10,0	10,0
	Max.	9,8 - 10,9	9,7 - 10,7

If a deviation from the established range of over 1% is observed on making the adjustment, check there are no leaks anywhere in the gas removal and air intake system and make sure there is no communication between them. The CO₂ value is adjusted as follows:

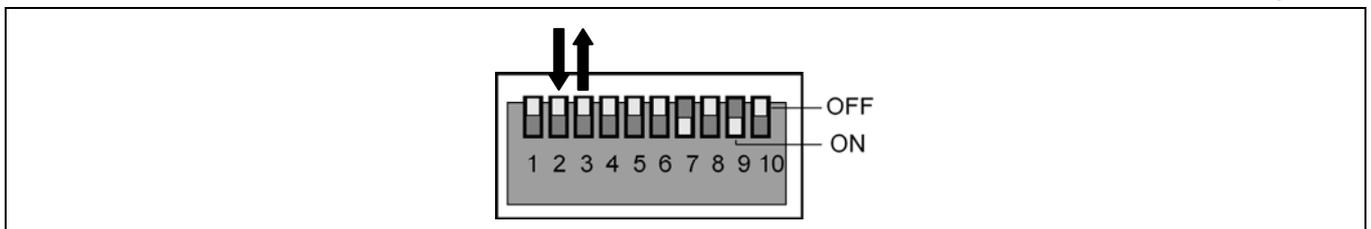
- 1.- Switch off the boiler.
- 2.- Close the main gas supply valve.
- 3.- Remove the front cover from the boiler.
- 4.- Connect an analyser at the fume extraction socket.
- 5.- Open the main gas supply valve and switch on the boiler.
- 6.- Turn switch n° 3 to ON. The boiler will now run at minimum output.



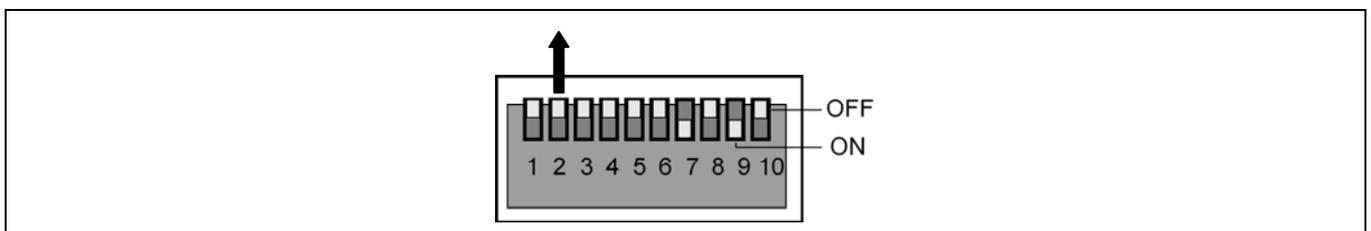
- 7.- When you have checked the gas intake pressure, measure the CO₂ level:
- If the value obtained shows a deviation of more than 1% from the range established, check all the seals in the gas removal installation to ensure there are no leaks.
 - If the measurement obtained is still not correct, adjust the CO₂ level using automatic gas valve screw "C", which regulates the mix of gas and combustion air. Remove the protective cap and turn it clockwise to increase the CO₂ level or anti-clockwise to reduce it.
- 8.- Note the values obtained in the start-up report.
- 9.- Check the pressure at gas valve socket "B".
- 9.1.- Connect a manometer as shown in the figure on the right.
- 9.2.- Wait for approximately 30 seconds.
- 9.3.- Read the result obtained.
- If the gas pressure is not between 0 and 1 mbar, adjust the value using gas valve screw "C".



- 10.- Turn switch n° 3 to OFF and switch n° 2 to ON. The burner will now work at maximum output.



- 11.- Check the CO₂ level again.
- 12.- Note the values obtained in the start-up report.
- 13.- Turn switch n° 2 to OFF.



- 14.- Switch off the boiler.
- 15.- Close the fume outlet socket and make sure gas valve pressure sockets B and C are totally closed.
- 16.- Check there are no leaks from pressure port "B".
- 17.- Replace the front cover.

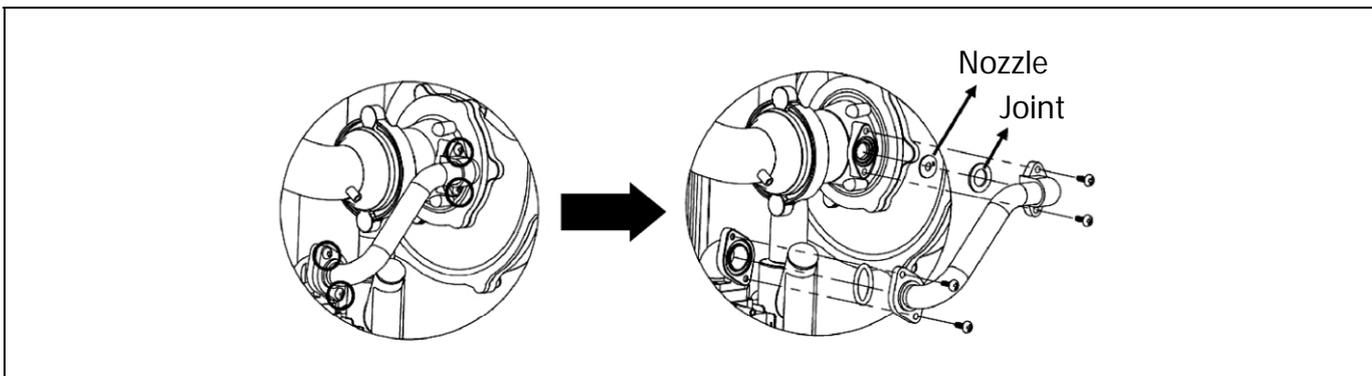
27 GAS TYPE CHANGE

The gas changeover must be made by a qualified technician authorised by DOMUSA TEKNIK. Any operation on the gas valve, regardless of this section of the manual, may cause damage to people, the boiler and the installation. DOMUSA TEKNIK not be liable for any damages caused by improper handling of the organs of power regulation of the boiler, carried out by personnel not authorized by the company.

As described on the reference plate, the **Avanttia** boiler is preadjusted by default to run on Natural Gas. If the type of gas required for the installation is not the type specified on the reference place, the "Gas changeover kit" will be required. The boiler is supplied with the "Gas changeover kit" for propane gas (included in documentation bag). For other gas types consult your nearest authorised TAS.

Change the gas by installing the changeover kit, adjusting the CO₂ level and proceeding as follows:

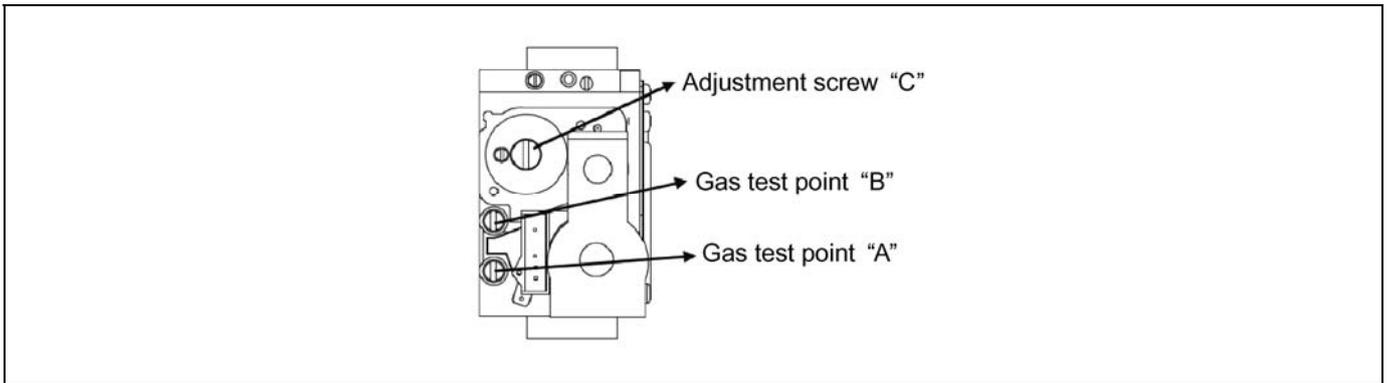
- 1.- Switch off the boiler.
- 2.- Close the main gas supply valve.
- 3.- Remove the front cover from the boiler.
- 4.- Replace the gas connection pipe nozzle.



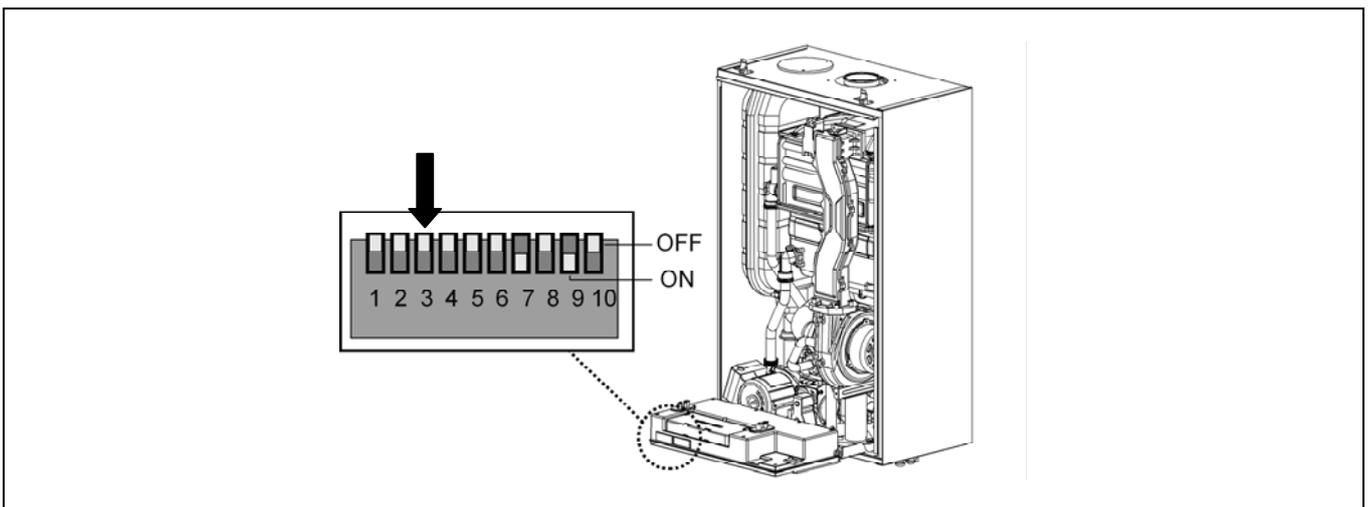
Gas type	Output	Avanttia 25	Avanttia 37
G20	Nozzle Ø	5,8	6,8
	Venturi tube Ø	20	24
G31	Nozzle Ø	4,4	5,3
	Venturi tube Ø	20	24

Gas type	Output	Avanttia 25	Avanttia 37
G20	Min.	9,1	9,2
	Max.	8,9 - 9,9	9,0 - 10,0
G31	Min.	10,0	10,0
	Max.	9,8 - 10,9	9,7 - 10,7

- 5.- Connect an analyser at the fume extraction socket.
- 6.- Open the main gas supply valve.
- 7.- Check there are no leaks from the gas nozzle.



- 8.- Loosen the screw on gas valve socket "A", connect a manometer and check the gas pressure (37 mbar for LPG).
- 9.- Tighten the screw on socket "A" again.
- 10.- Switch on the boiler.
- 11.- Turn switch n° 3 to ON. The boiler will now run at minimum output.



- 12.- When you have checked the gas intake pressure, measure the CO₂ level:
 - If the value obtained shows a deviation of more than 1% from the range established, check all the seals in the gas removal installation to ensure there are no leaks.
 - If the measurement obtained is still not correct, adjust the CO₂ level using automatic gas valve screw "C", which regulates the mix of gas and combustion air. Remove the protective cap and turn it clockwise to increase the CO₂ level or anti-clockwise to reduce it.
- 13.- Note the values obtained in the start-up report.

Gas type	Output	Avanttia 25	Avanttia 37
G20	Min.	9,1	9,2
	Max.	8,9 - 9,9	9,0 - 10,0
G31	Min.	10,0	10,0
	Max.	9,8 - 10,9	9,7 - 10,7

Avanttia

14.- Check the pressure at gas valve socket "B".

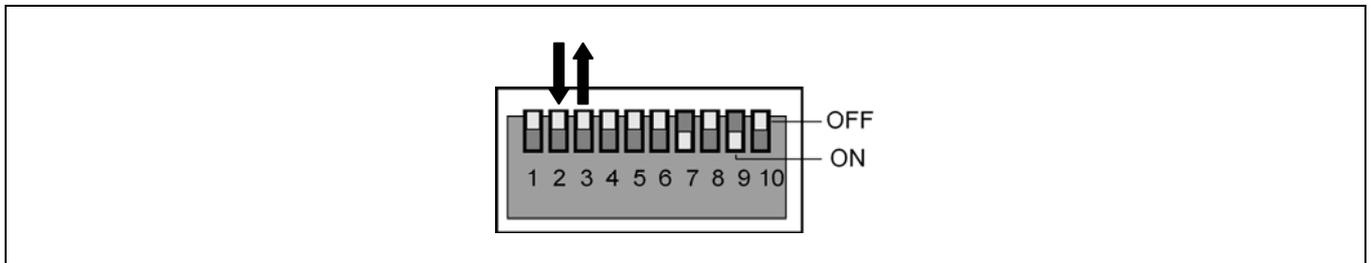
14.1.- Connect a manometer in the socket "B".

14.2.- Wait for approximately 30 seconds.

14.3.- Read the result obtained.

- If the gas pressure is not between 0 and 1 mbar, adjust the value using gas valve screw "C".

15.- Turn switch n° 3 to OFF and switch n° 2 to ON. The burner will now work at maximum output.

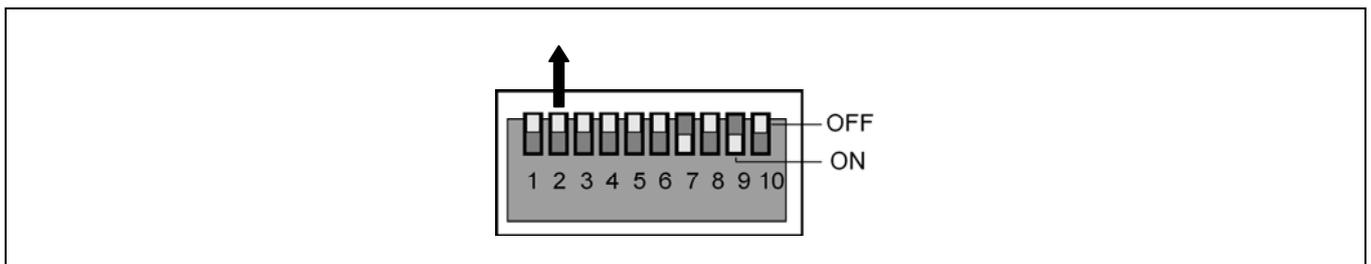


16.- Check the CO₂ level again.

- If the measurement shows a deviation of more than 1% from the established range, check all the seals to ensure there are no leaks.

17.- Note the values obtained in the start-up report.

18.- Turn switch n° 2 to OFF.



19. Switch off the boiler.

20.- Close the fume outlet socket and make sure gas valve pressure sockets B and C are totally closed.

21.- Check there are no leaks from pressure port "B".

22.- Replace the front cover.

23.- Affix a new reference label, indicating the new gas type and the new inlet pressure.

When you have ensured that all the pipes specified are correctly connected and that the CO₂ levels are as established, check the following:

- Check there is no flashback in the combustion chamber.
- Check the flame is not too high or separated from the burner.
- Check that all the sampling ports used during the gas change process are perfectly sealed.
- Check there are no gas leaks.

Adjust the CO₂ level

To ensure the CO₂ level is correct, check the corresponding maximum and minimum levels on the "CO₂ levels" table".

If the minimum level is not correct, adjust it by turning gas valve screw "C". Turn it clockwise to increase the CO₂ level and anti-clockwise to reduce it. After adjustment, check the maximum level again.

Adjust the gas valve pressure

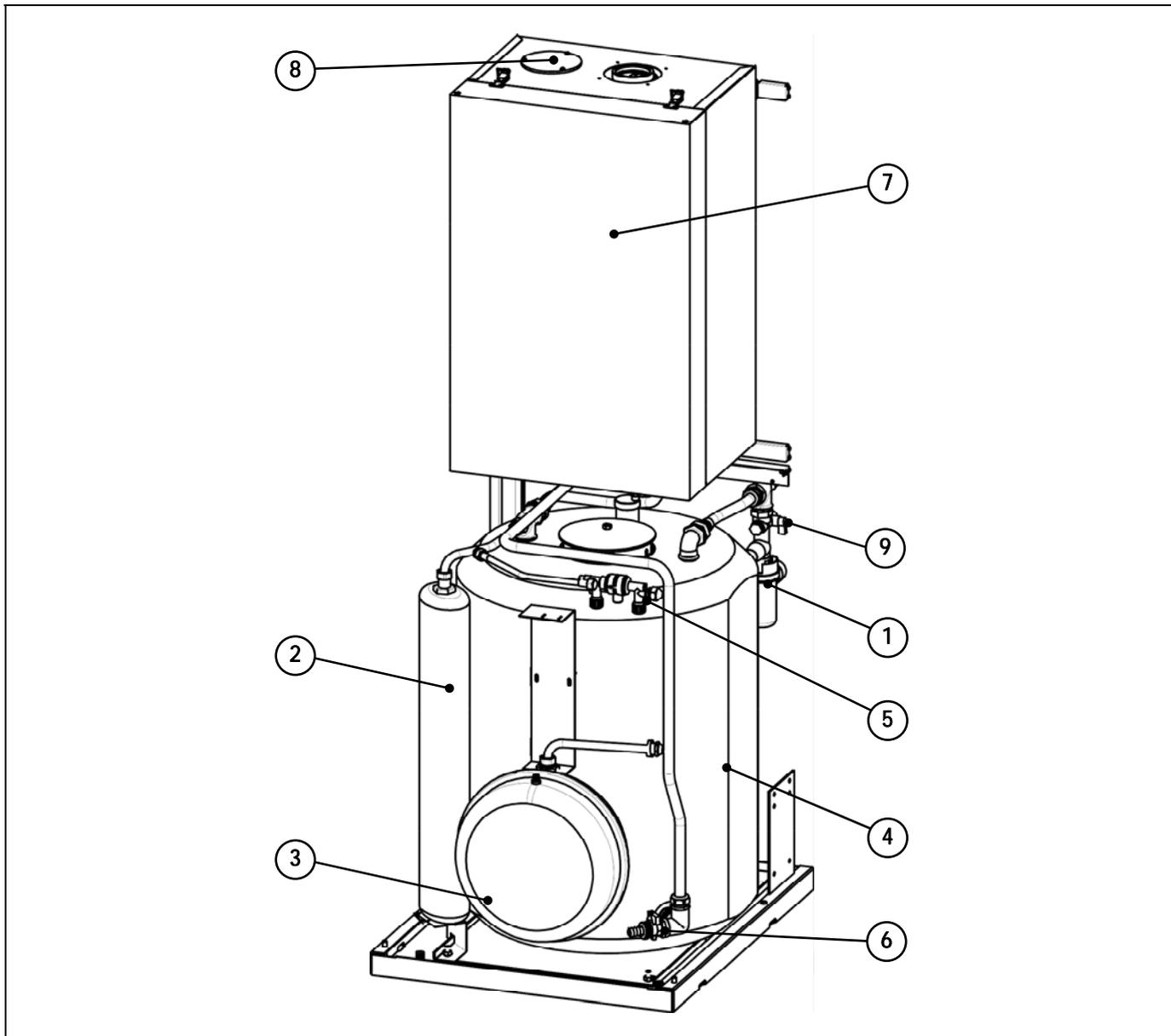
Adjust the valve pressure using screw "C", as this screw regulates the gas/air mixture proportion. The value should be between 0-0,1 mbar.

Gas pressure and consumption:

Model	Output			Consumption	Gas type	
					G20 [20 mbar]	G31 [37 mbar]
					Gas flow m ³ /h	Gas flow m ³ /h
Avanttia 15 / 20 / 25	Max.	19.866	23,1	23,5	2,513	0,955
	Min.	4.128	4,8	4,9	0,542	0,196
Avanttia 32 / 37	Max.	29.412	34,2	34,9	3,720	1,398
	Min.	5.848	6,8	7,0	0,750	0,281

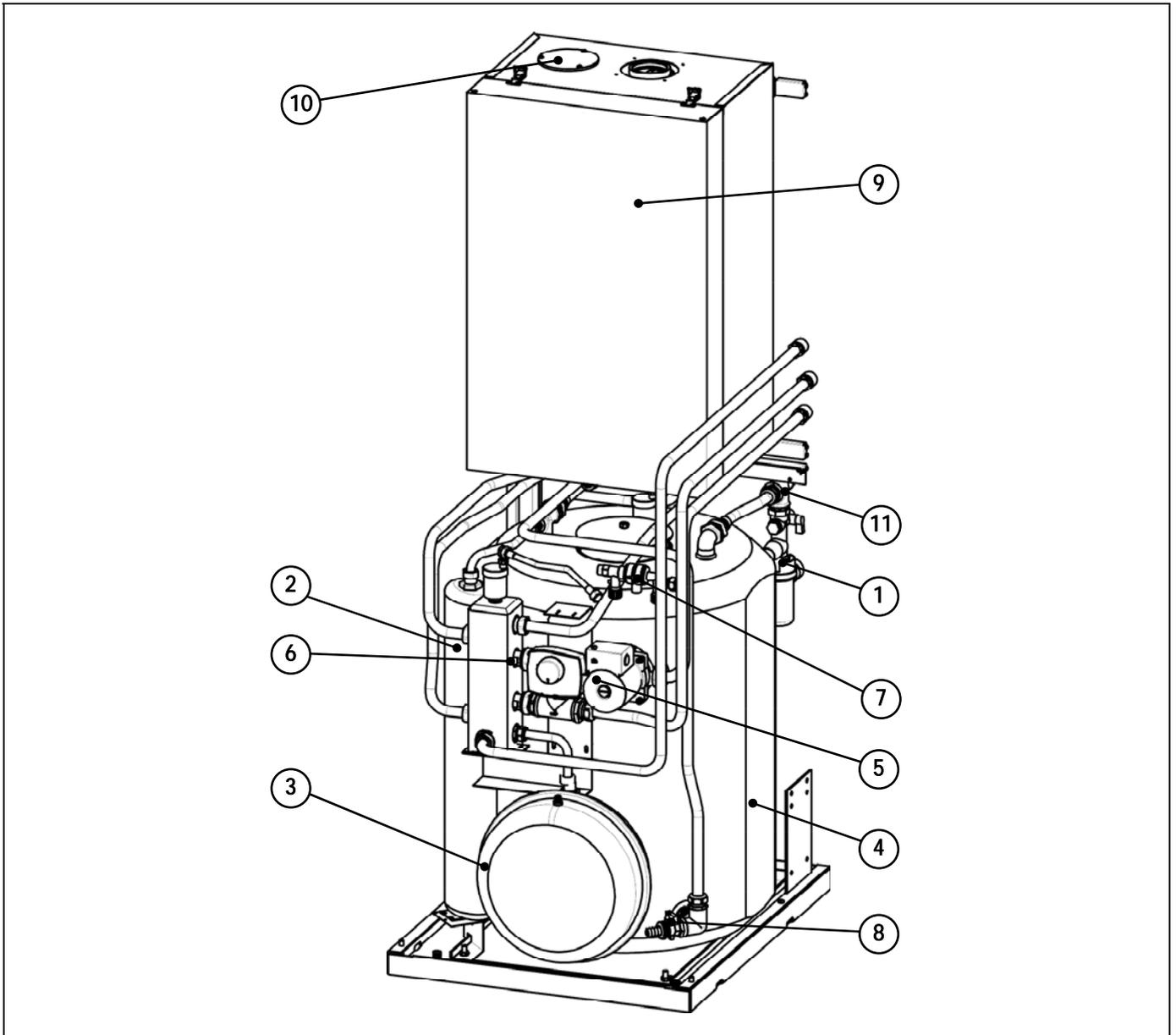
28 SPARE PARTS LIST

Avanttia 25 / 37 DX



N°	Code	Description
1	CFOV000072	Siphon
2	CFOV000068	DHW expansion vessel
3	CFOV000025	Heating expansion vessel (25)
	CFOV000005	Heating expansion vessel (37)
4	GDEPMCX000	DHW storage tank (25)
	GDEPMCX001	DHW storage tank (37)
5	CVAL000023	Filling disconnect
6	CVAL000034	Primary air drain valve
7	CEXT001233	Front cover
8	CEVT000014	Air intake cover
9	CFOV000001	Safety group

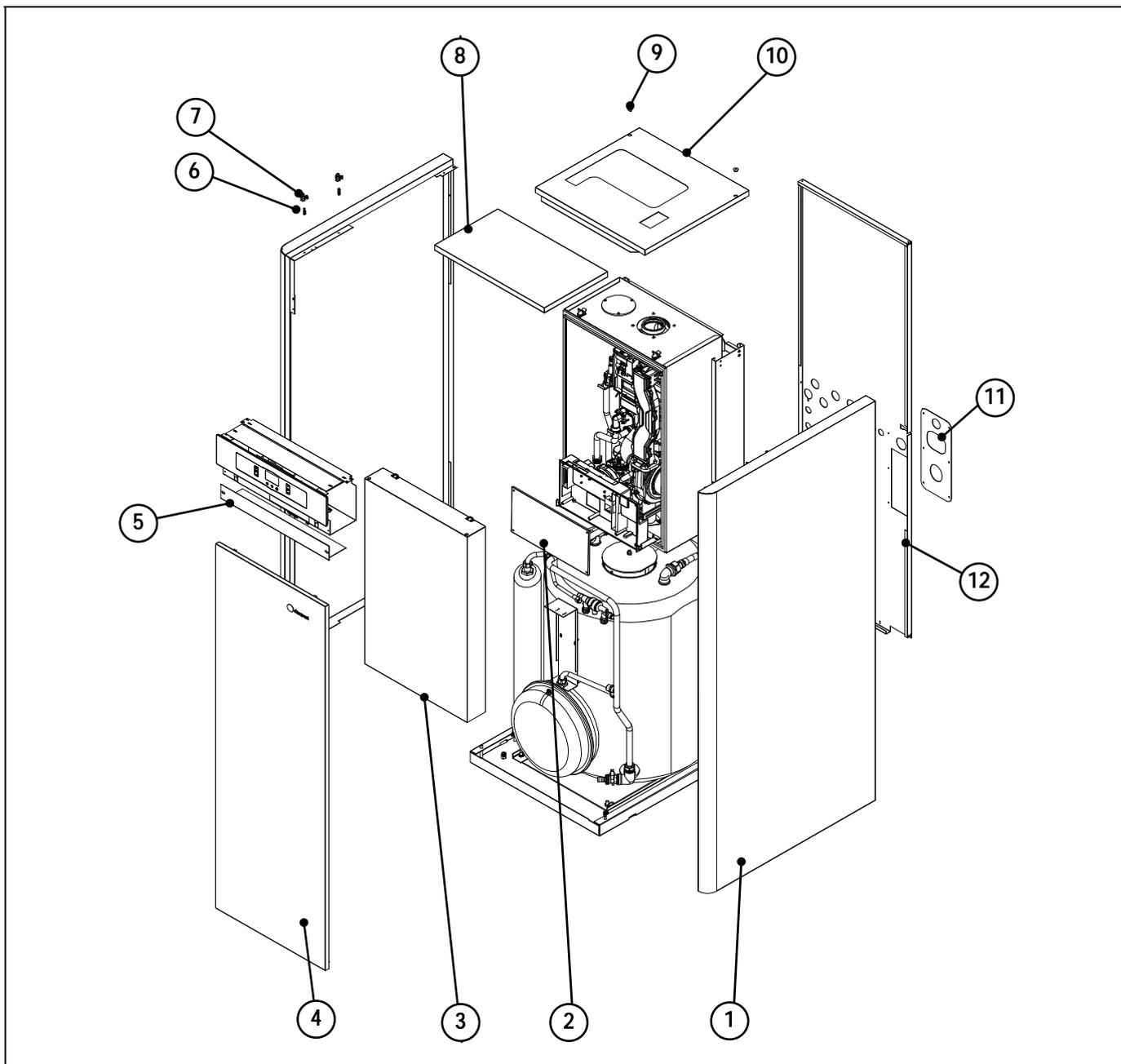
Avanttia 25 /37 DXM



N°	Code	Description
1	CFOV000072	Siphon
2	CFOV000068	DHW expansion vessel
3	CFOV000025	Heating expansion vessel (25)
	CFOV000005	Heating expansion vessel (37)
4	GDEPMCX000	DHW storage tank (25)
	GDEPMCX001	DHW storage tank (37)
5	CDOV000073	Heating circuit circulation pump.
6	CFOV000023	Motorized 3 way valve
7	CVAL000023	Filling disconnect
8	CVAL000034	Primary air drain valve
9	CEXT001233	Front cover
10	CEVT000014	Air intake cover
11	CFOV000001	Safety group

Avanttia

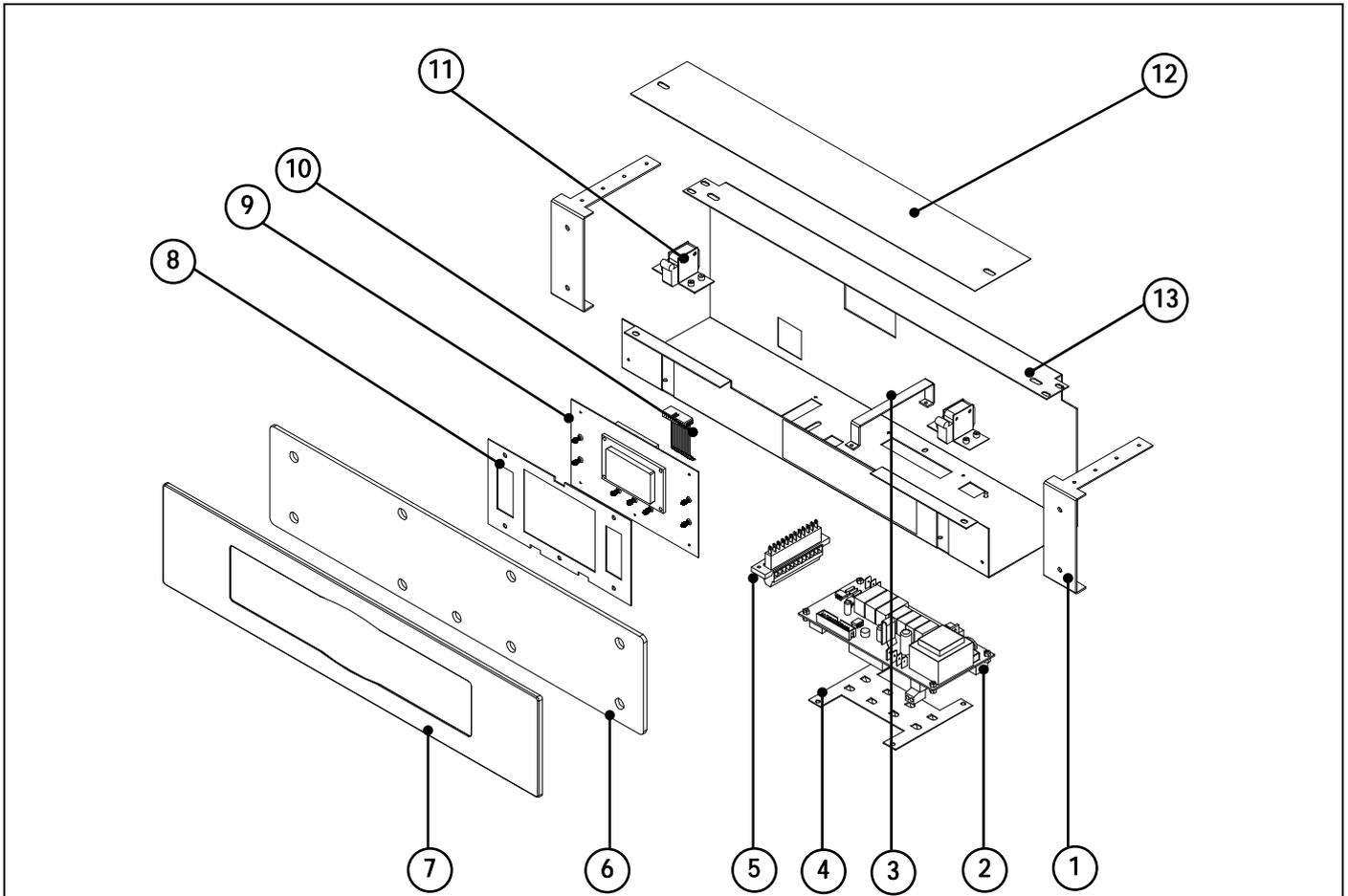
Avanttia 25 / 37



N°	Code	Description
1	CEXT001215	Left side (25)
	CEXT001214	Right side (25)
	CEXT001206	Left side (37)
	CEXT001207	Right side (37)
2	CEXT001212	Electric cap
3	CEXT001233	Front cover
4	CEXT001305	Door (25)
	CEXT001216	Door (37)
5	CEXT001201	Connections lid

N°	Code	Description
6	CTOE000012	Cover fixing clip
7	CFER000048	Click spring
8	CEXT001205	Front Top cover
9	CFER000138	Cap
10	CEXT001228	Back Top cover
11	CEXT001331	Lid acces safety group
12	CEXT001217	Rear (25)
	CEXT001210	Rear (37)

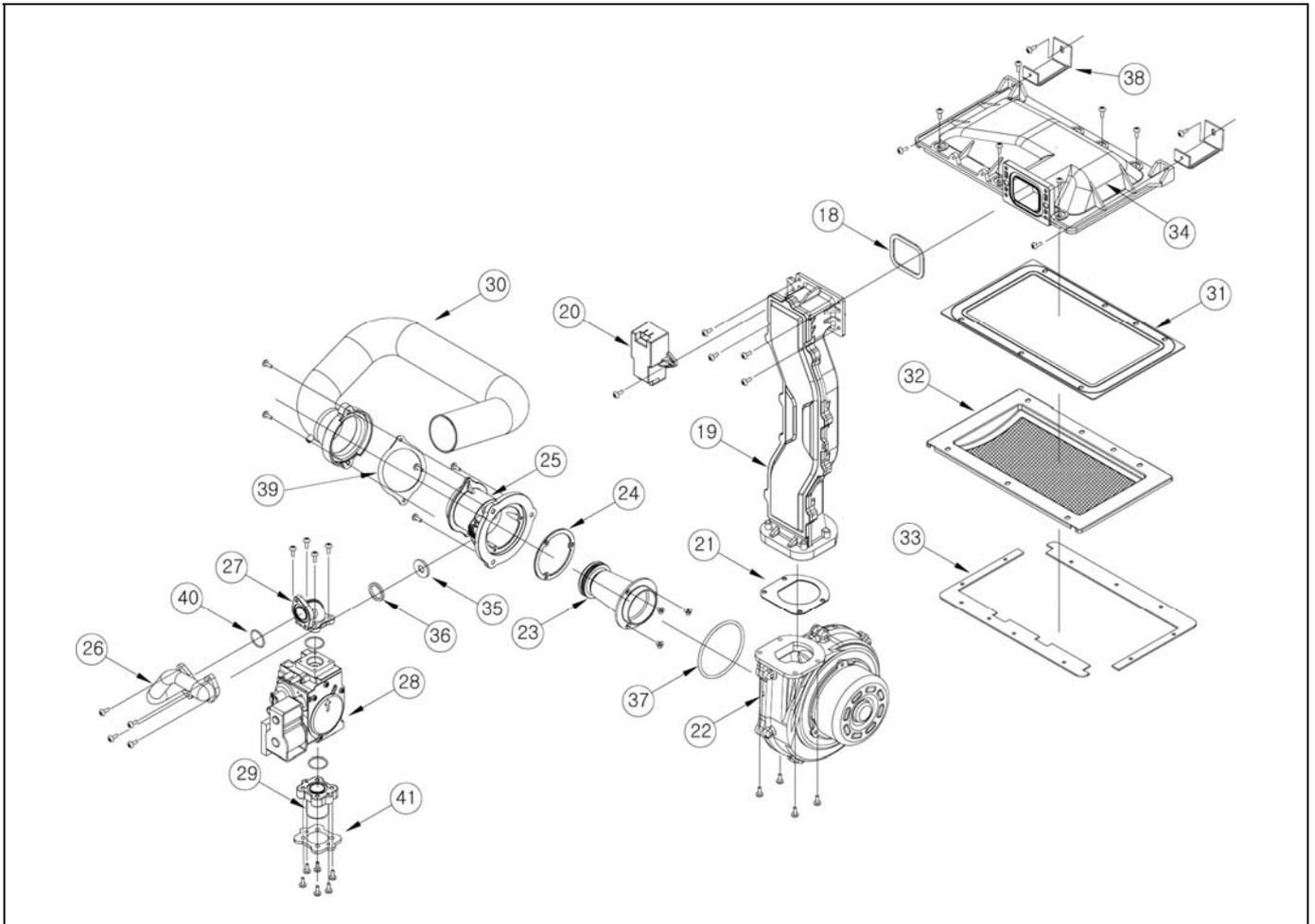
Electrical Board



Nº	Code	Description
1	CEXT001364	Panel fastening
2	CELC000244	Supply electronic card
3		Support plate
4		Ground plate
5	CELC000042	Weidmuller strip 12 poles
6	COTR000046	Main board glass
7	CELC000294	Control panel embellisher
8		Display fixing
9	CELC000286	Display card
10	CELC000298	Cards connection cable
11	CFER000059	Automatic closure
12	CEXT000859	Drawer cover
13	CEXT001202	Drawer

Avanttia

Burner parts

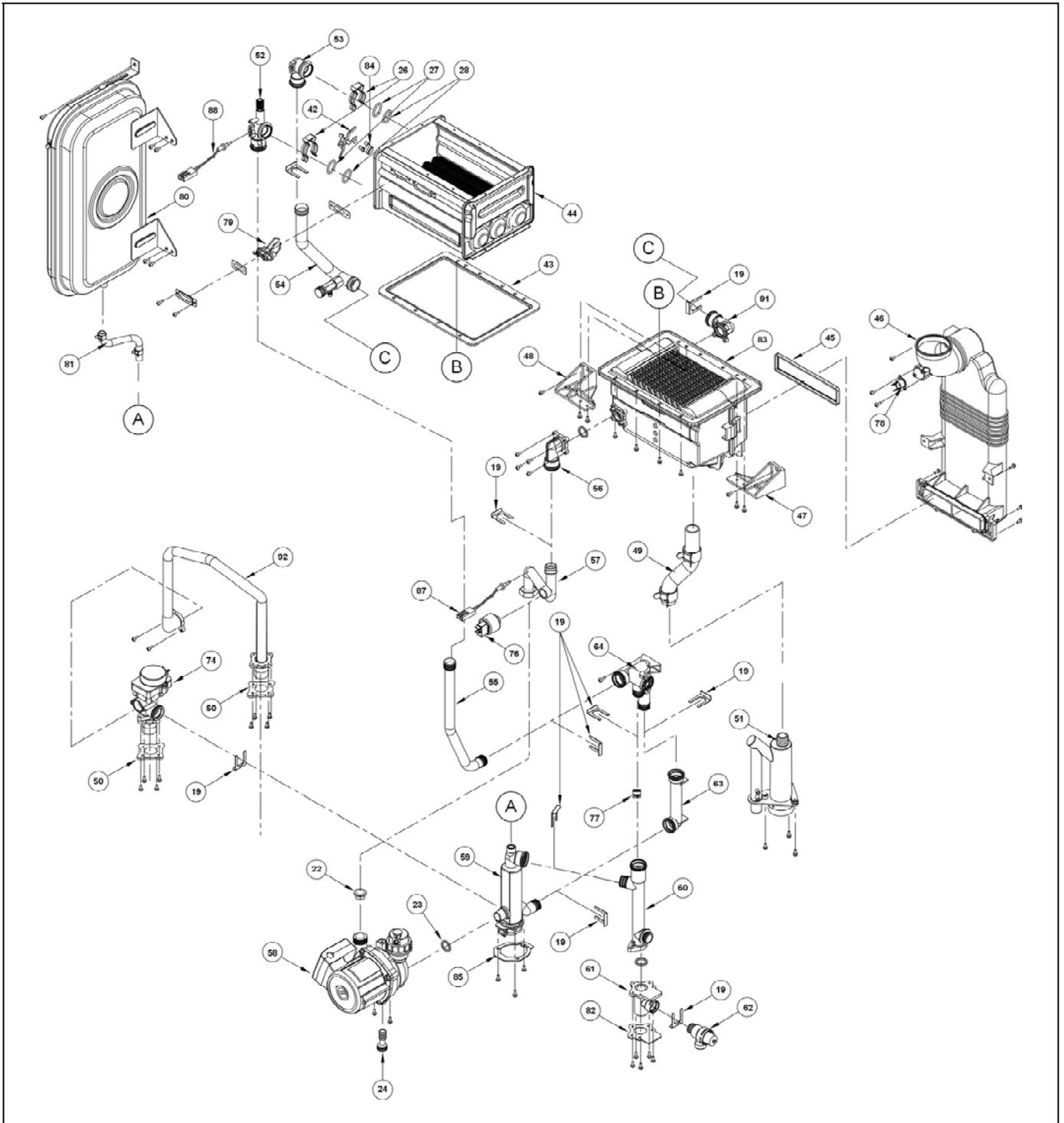


N°	Boiler model	Description
18	All	Burner ramp seal
19	All	Gas/air mixture pipe
20	All	Ignition transformer
21	All	Fan seal
22	All	Fan
23*	25 37	Venturi tube
24*	All	Venturi tube seal
25*	25 37	Air/gas mixer
26	25 37	Gas pipe
27	All	Gas valve outlet adapter
28	All	Gas valve
29	All	Gas valve intake adapter
30	25 37	Air intake pipe

N°	Boiler model	Description
31	25 37	Burner seal
32	25 37	Burner
33	25 37	Heat exchanger seal
34	25 37	Burner ramp
35	25 37	Gas nozzle
36	All	Gas nozzle seal
37	All	Mixer O-ring
38	All	Burner support
39	All	Air intake pipe seal
40	All	Gas valve O-ring
41	All	Gas intake seal

*Note: Spare parts 35, 36 and 37 are supplied assembled as a unit.

Hydraulic circuit parts



Avanttia

N°	Boiler-model	Description
19	All	Fixing
22	All	Circulating pump joint
23	All	O-ring n.23
24	All	Drain Plug
26	All	Clamp "A-1"
27	All	O-ring n.27
28	All	Joint n.28
42	All	Boiler safety thermostat clamp
43*	25	Main heat exchanger seal + Main heat exchanger + Condenser
44*	37	
83*		
45	All	Exhaust manifold seal
46	All	Exhaust manifold
47	All	Right condenser support
48	All	Left condenser support
49	All	Condensate tube
50	All	Exhaust manifold seal
51	All	Condensate siphon
52	All	Main heat exchanger output connection
53	All	Main heat exchanger return connection
54	25	Condenser heat exchanger pipe
	37	
55	25	Output tube from boiler
	37	
56	All	Condenser output connection
57	25	Condenser inlet pipe
	37	

N°	Boiler-model	Description
58	All	Circulating pump
59	All	Manifold
60	All	Return pipe "A"
61	All	Heating return
62	All	Safety valve.
63	All	Output pipe 1
64	All	Output pipe support
74	All	3-way reversing valve
76	All	Water pressure sensor
77	All	Bypass valve
78	All	Fume safety thermostat
79	25	Ignition/ionisation electrodes
	37	
80	All	Expansion vessel
81	All	Expansion vessel pipe
82	All	Heating return seal
84	25	Boiler safety thermostat
	37	
85	All	Manifold seal
87	All	Heating return temperature sensor
88	All	Heating output temperature sensor
91	All	Condenser outlet connection
92	All	Outlet load tube storage tank

*Note: Spare parts 43, 44 and 83 are supplied assembled as a unit.

29 COMMERCIAL GUARANTEE

DOMUSA TEKNIK's **commercial guarantee**(*) covers the standard functioning of the products manufactured by DOMUSA Calefacción S.Coop., in accordance with the following conditions and time periods:

1. This **commercial guarantee** is valid for the following periods, as from the **start-up** date:

2 Years for electric and hydraulic elements: pumps, valves, etc.

5 Years for heat exchangers.

5 Years for domestic hot water tanks.

During the 2-year period following the start-up date, DOMUSA TEKNIK will carry out any repairs of original flaws or defects totally free of charge.

After these 2 years have elapsed and until the end of the guarantee period, labour costs and call-out charges will be payable by the user.

2. The annual overhaul is not included in the terms of this guarantee.

3. The **start-up** and **annual overhaul** are to be carried out by personnel authorised by DOMUSA TEKNIK.

4. The **commercial guarantee** will be null and void in the following cases:

- If the annual overhaul by personnel authorised by DOMUSA TEKNIK has not been carried out.
- La caldera no haya sido instalada respetando las leyes y reglamentos vigentes en la materia.
- If the boiler has not been installed in accordance with the applicable laws and regulations for this type of appliance.
- If the boiler has not been started up immediately after its installation, by personnel authorised by DOMUSA TEKNIK.

Failures due to misuse or incorrect installation, use of non-suitable electrical power or fuel, supply with water with physical or chemical properties causing incrustation or corrosion, incorrect handling of the appliance and, in general, for any reason beyond DOMUSA TEKNIK's control, are excluded from this guarantee.

This guarantee does not affect the consumer's rights as stipulated by law.

Note: Start-up is included in the price of the boiler. **The call-out charge is not included.**

DOMUSA

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DOMUSA TEKNIK reserves the right to make modifications of any kind to its product characteristics without prior notice.



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