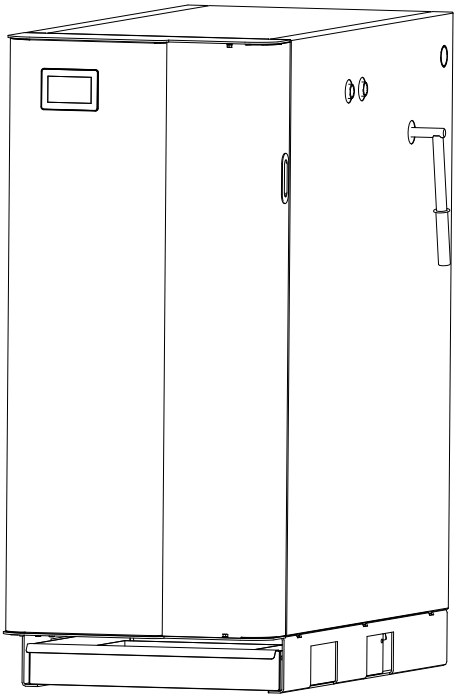
Mareli Systems

STEP FORWARD



LCG Lambda 22 / 32 / 40 / 50 KW

WOOD GASIFICATION BOILER

Assembly and exploitation manual

Observing the prescriptions of the present manual is in the user's favour and is one of the warranty conditions. Compliance with this instruction is in the interest of the consumer and one of the warranty terms.

These instructions are an integral part of this product. All rights reserved. Reproduction of content of this document and transfer to third parties is not allowed without written approval from manufacturer. Make sure the instructions are always with the device, even if its sale / transfer of another owner to the user or staff authorized for maintenance or repairs to consult.

INSTRUCTIONS FOR SECURITY:

- This appliance is not intended for use by people (including children) with limited physical, sensory or mental abilities or lack of experience and knowledge. The installation must be performed by a qualified expert in the field of heating installations or authorized by "Marelli Systems' service. The place and way of connecting the boiler should be selected carefully in accord with the safety instructions. Install away from flammable objects!
- Before starting any operation, the user must read and fully understand the contents of this instruction manual. Incorrect setup may cause hazardous conditions and / or incorrect function of the boiler;
- Do not wash the boiler with water. Water can get inside the fireplace and damage the electronics and cause an electric shock;
- Do not put clothes to dry on the boiler. Any clothes hangers and other objects must be located within a reasonable distance from the fireplace. Fire hazard;
- The user is fully responsible for the proper use of the product which exempts the company from liability of any users errors or misbehaviour or omissions;
- Any intervention or replacement that is made by unauthorized people or using non original spare parts for the product can be risky for the user and release the company from all liability;
- Most surfaces of the boiler are extremely hot (the bottom door, glass, flue pipe, etc.). Avoid contact with these parts before assuring yourself that you use temperature resistant gloves as well as suitable temperature resistant instruments;
- Under no circumstances should the fire be ignited with the doors open or broken glass. For igniting the boiler, only the middle door must be opened.
- The product must be electrically connected to a system equipped with an effective earth conductor. (Must be grounded);
- Turn off the boiler in case of failure or malfunction;
- When installing the product all fire safety requirements must be respected.
- Periodically check and clean the smoke outlet ducts of the boiler (connection to the flue pipe);

TECHNICAL DATA

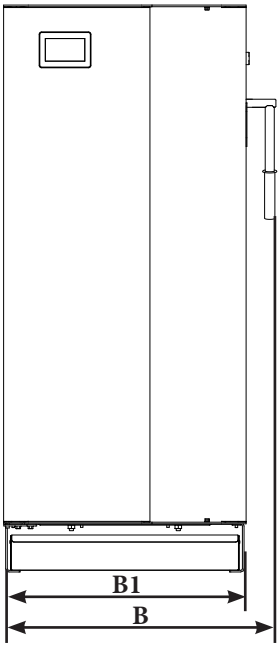
LCG Lambda	22	32	40	50
Nominal heat output (kW)	22	32	40	50
Heat output range (kW)	11-22	16-32	20-40	25-50
Boiler class EN 303-5:2021	5			
Required chimney underpressure (Pa)	12			
Water amount in boiler	130	140	150	163
Exhaust gas temperature at nominal heat output	165	160	150	150
Exhaust gas temperature at minimal heat output	100	100	100	95
Minimum operating time at rated power (nominal Q) (h)	3	3	3	3
Min. inlet water tem. at the boiler supply water connection (°C)	60			
Max. temp. (°C)	90			
Fuel type	A, wood logs, by norm 14964-5			
Fuel moisture content (%)	max 25 %			
Fuel length (mm)	600	600	600	600
Fuel loading chamber capacity (L)	120	120	120	154
Combustion chamber type	UNDERPRESSURE			
Required minimum accumulation volume(tank) next to boiler	by EN 303-5:2021			
Supply voltage (V~)	230			
Frequency (Hz)	50			
Weight (kg)	518	539	567	620
Max. operating pressure (bar)	3			
Flue gas tube - external diameter (mm)	149			
Heating appliance working	with fan			
Heating appliance working	under non-condensing conditions			
Energy efficiency class of boiler	A+			

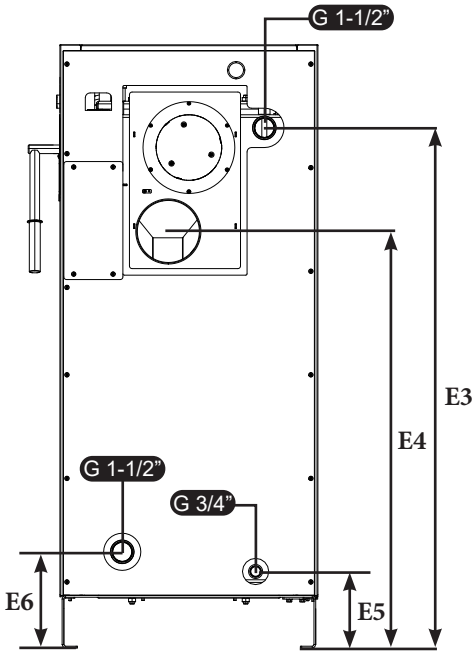


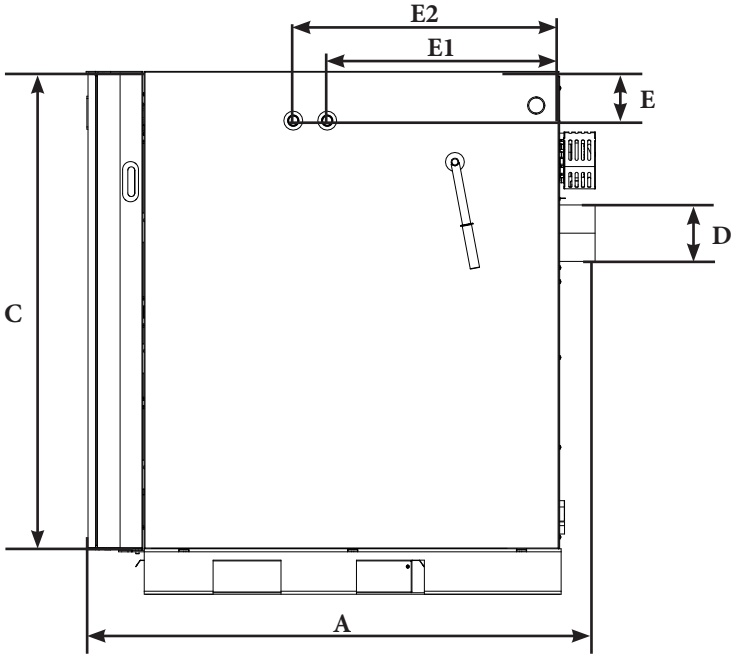
READ THESE INSTRUCTIONS CAREFULLY BEFORE INSTALLING THE BOILER TO HEATING SYSTEM!

BOILER MUST NOT OPERATE IN FLAMMABLE AND EXPLOSIVE ENVIRONMENT.

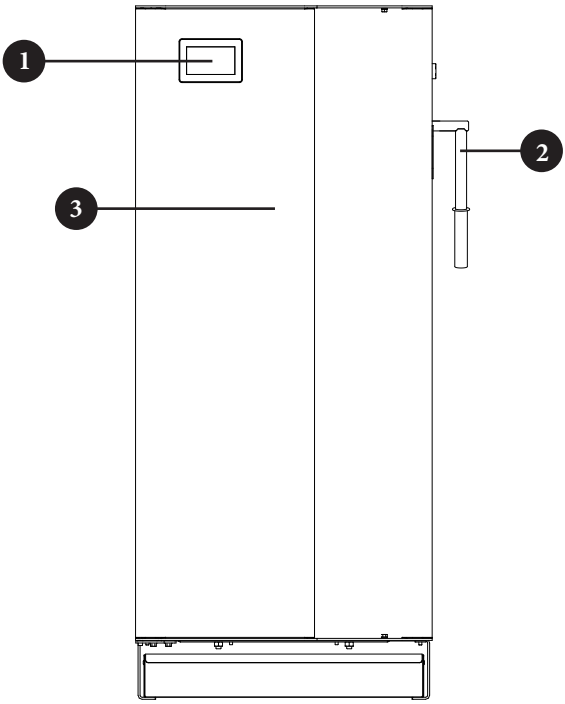
BEFORE ANY WORK ON THE BOILER, ELECTRIC ENERGY MUST BE SWITCHED OFF.

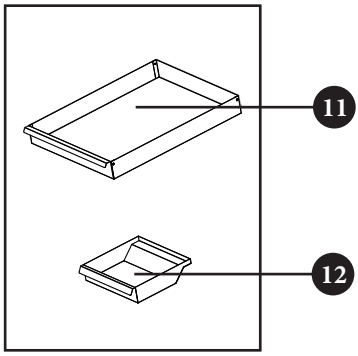

B1
B

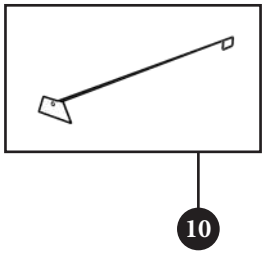

G 1-1/2”
E3
E4
G 1-1/2”
G 3/4”
E6
E5

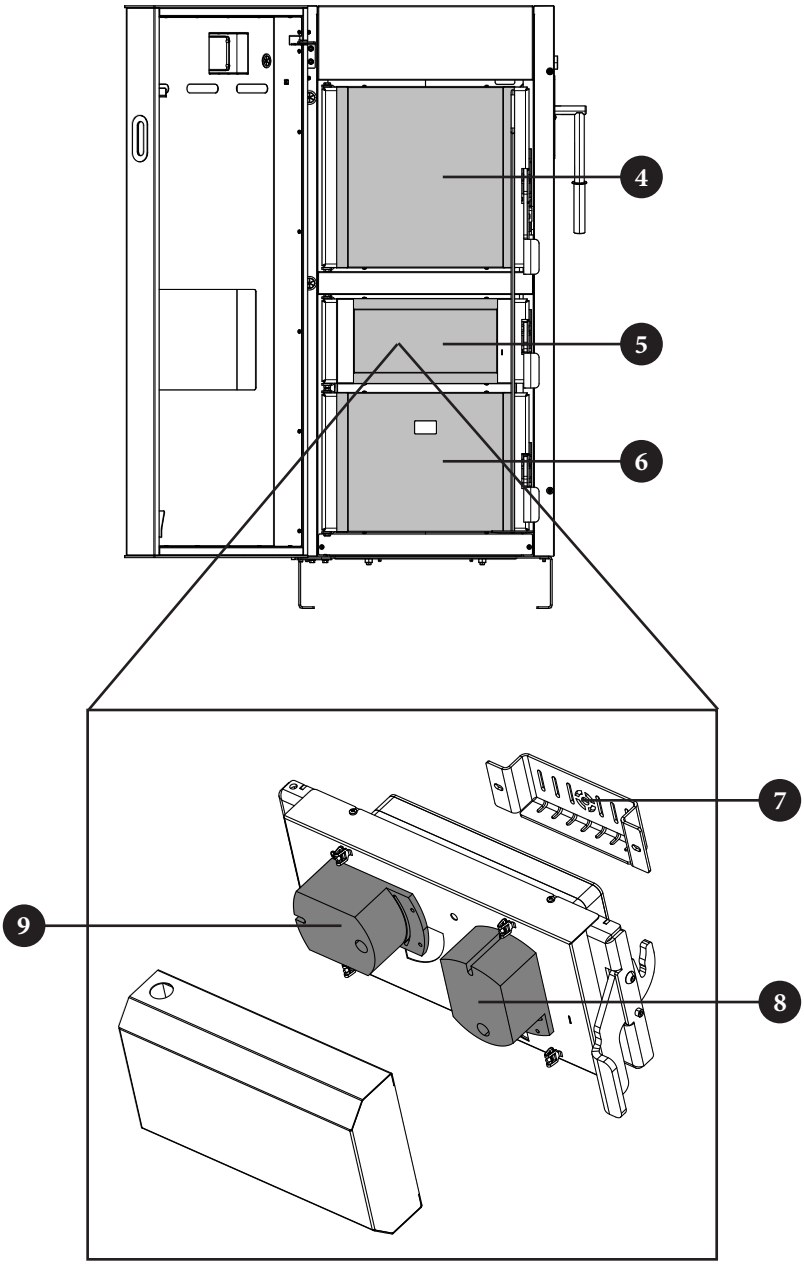

E2
E1
E
D
C
A

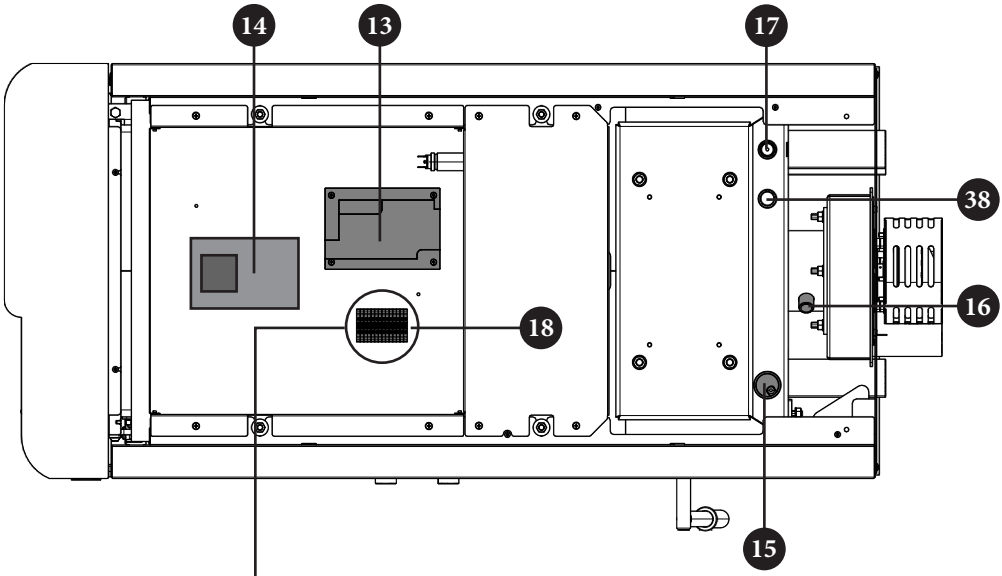
LCG	A (mm)	B (mm)	B1 (mm)	C (mm)	D (mm)	E (mm)	E1 (mm)	E2 (mm)	E3 (mm)	E4 (mm)	E5 (mm)	E6 (mm)
22	1284	663	590	1380	Ø149	130	566	656	1190	953	175	220
32	1334	663	590	1380	Ø149	130	614	704	1190	953	175	220
40	1404	663	590	1380	Ø149	130	686	776	1190	953	175	220
50	1404	663	590	1530	Ø149	130	686	776	1340	1103	175	220

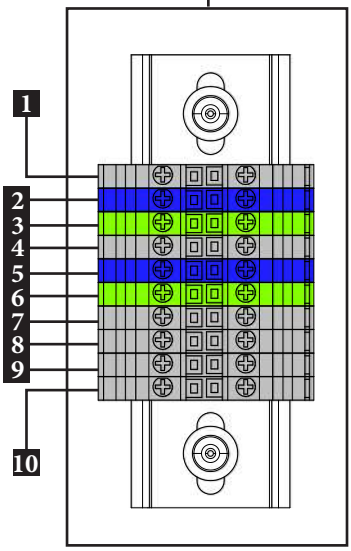




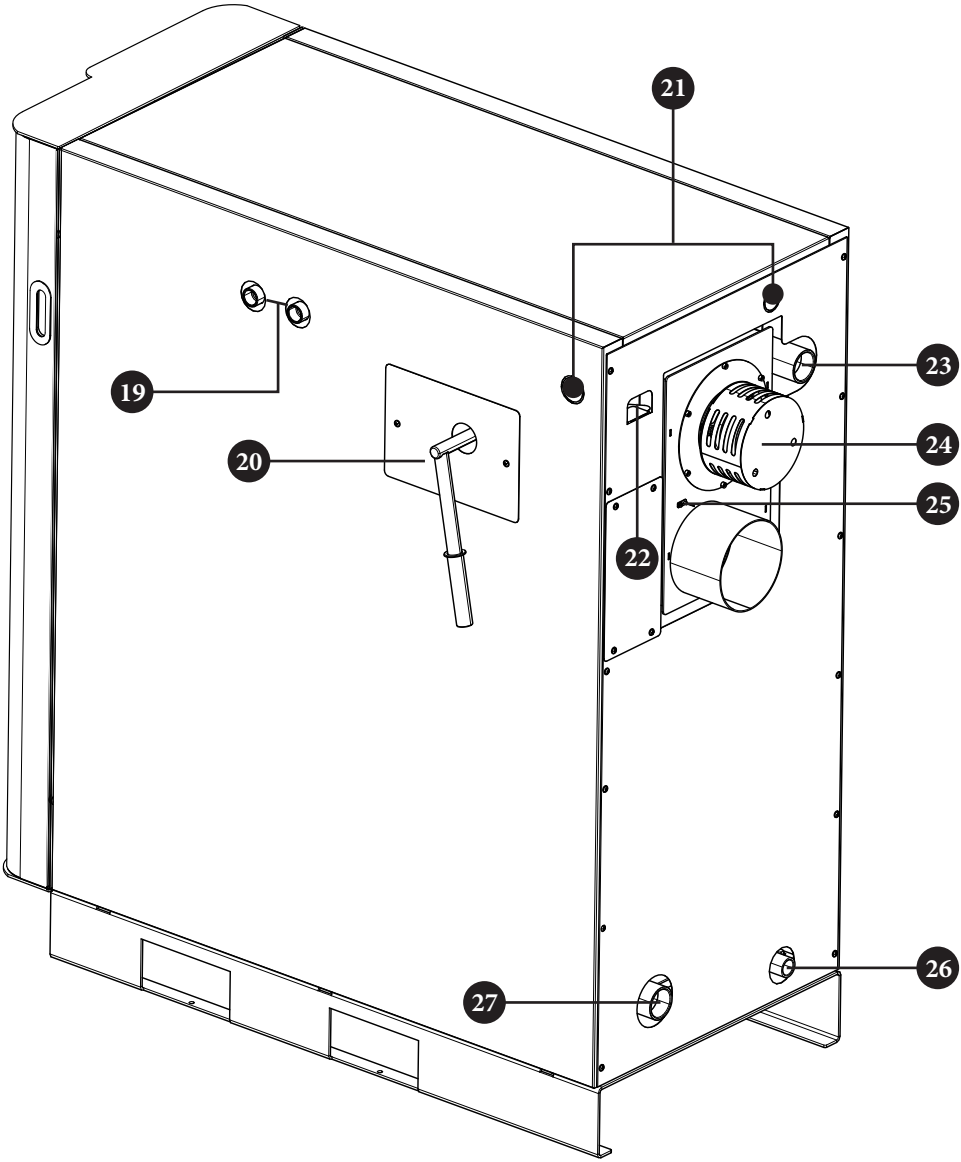


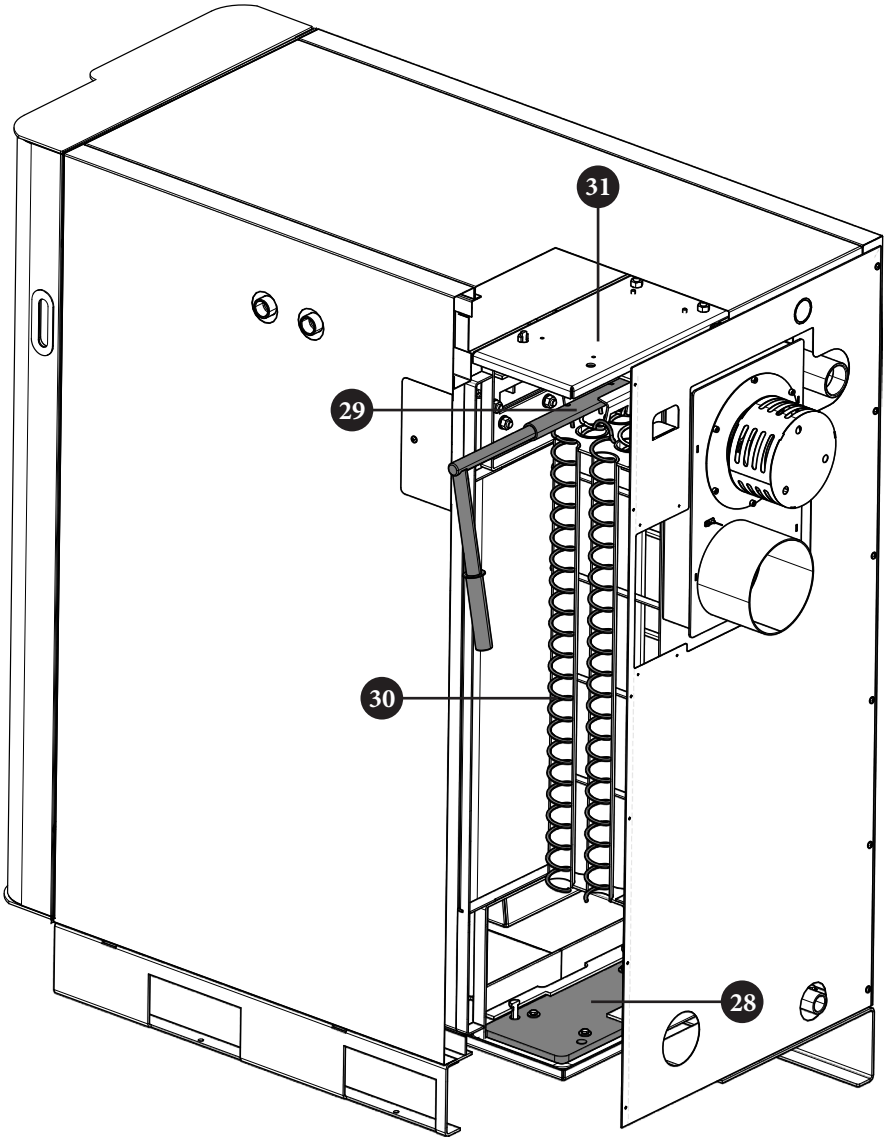

4
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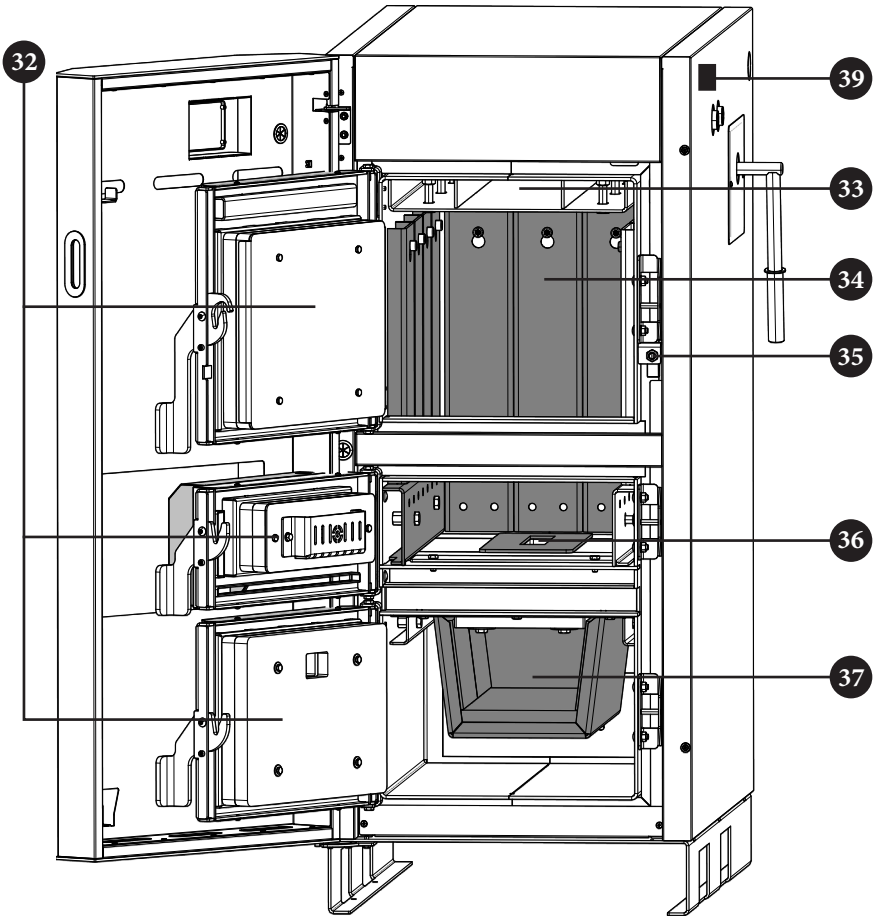




1	L	POWER SUPPLY
2	N	
3	GROUND	
4	L	PUMP
5	N	
6	GROUND	
7		LOW BUFFER
8		
9		HIGH BUFFER
10		


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1	Digital boiler display	**21**	STS thermal safety valve pass-through connections
2	Flue gas tube cleaning lever	**22**	Cable routing canal
3	Front main door	**23**	Water outlet
4	Upper boiler door	**24**	Exhaust fan
5	Middle boiler door	**25**	Exhaust temperature sensor
6	Lower boiler door	**26**	Drainage valve
7	Pellet reservoir for automatic ignition	**27**	Water inlet
8	Motor for secondary air regulator	**28**	Bottom service door
9	Motor for primary air regulator	**29**	Cleaning mechanism for flue gas tube
10	Cleaning tool	**30**	Turbulator
11	Main ash container	**31**	Top service door
12	Ash container for loading chamber	**32**	Heat resistant plate
13	LCG Lambda main control board	**33**	Duct for smoke absorption
14	Lambda regulation control board	**34**	Protection cladding
15	Air vent valve	**35**	Open door sensor
16	Lambda regulation probe	**36**	Burner
17	Water temperature sensor	**37**	Burning chamber
18	Periphery connection unit	**38**	STS thermal safety valve capillary bulb
19	Safety coil connection	**39**	ON / OFF switch
20	Side service door		

1. GENERAL INFORMATION

Steel boilers LCG Lambda, with an rated thermal output 22, 32, 40 and 50 kW are constructed for wood firing and aimed for heating of small and middle sized premises. Due to the applied wood gasification principle, wood is totally burned. Widely sized combustion chamber enables the firing with wood pieces of 600 mm.
One filling period lasts min. 3 hours, with the possibility of prolonging it to the whole day, if the heating requirement is decreased. The functioning of the boiler is steered by the built-in regulation system. The boiler must be connected to the central heating system through an appropriately sized water tank.

The LCG Lambda boiler is produced in compliance with the EN 303-5 norm, which enables the required level of functioning and minimal environmental pollution, through the firing with wood. The boiler is aimed for firing with wood. The system of flue gases conduction and their additional burning out, enables its high efficiency, which makes this product extremely economical. Widely sized combustion chamber door enables firing with large pieces of wood and a very simple and easy cleaning and maintenance. One filling period lasts minimum 3 hours, depending on the nominal thermal output. There is also a possibility of prolonging the firing process to the entire day, if the heating requirement is decreased.

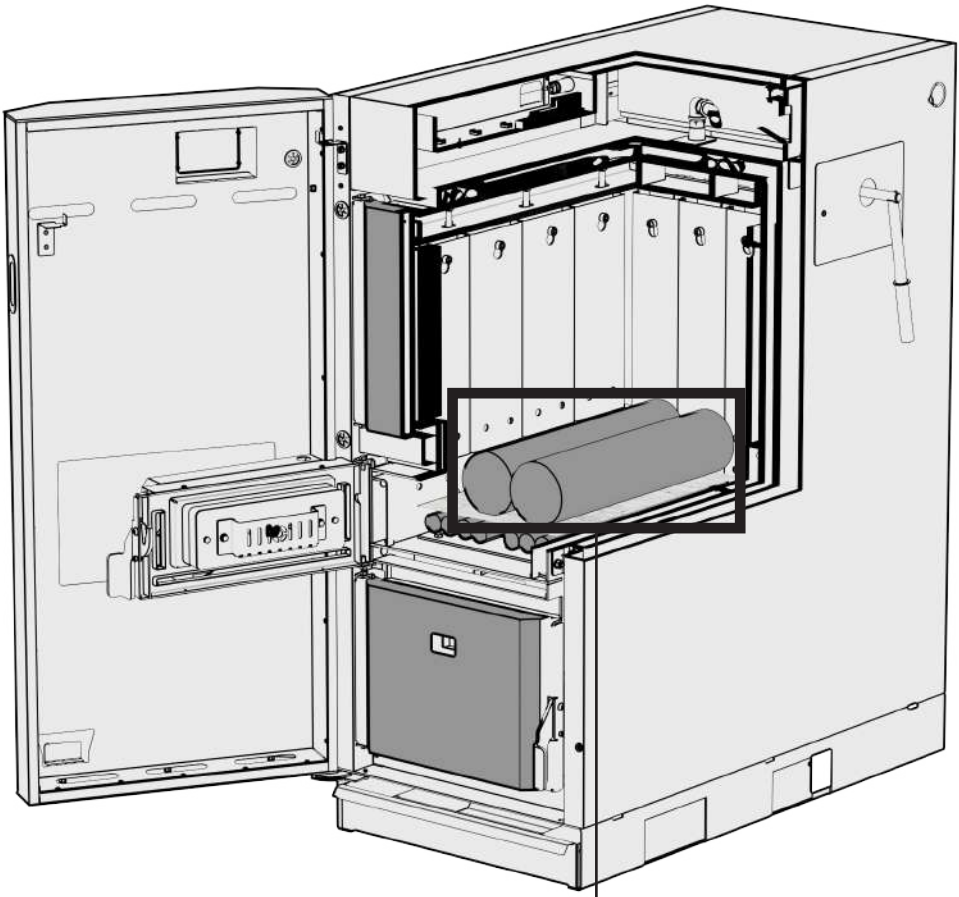
An integrated controller regulation system controls the functioning of the boiler as well as the circulation pump and the primary heating circuit. The LCG Lambda boiler is very simple to handle, while the built-in regulation enables its reliable functioning. Through the compulsory connection of the water tank to the heating system, the optimal functioning of the boiler is achieved and the produced heat is preserved, which enables consumption exactly according to the need. The firing process can be implemented in suitable period of the day. If the outdoor temperature is not very low, the room heating and the sanitary hot water production can be extended to the period of few days. The boiler is delivered together with thermal insulation, covered by a metal casing and it is pre-wired.

LAMBDA PROBE

The Lambda system improves the quality of combustion through the analysis of the exhausting smoke. The system controls the devices regulating combustion, keeping it within optimal set-point parameters, by managing both secondary post-combustion and primary combustion.







The maximum wood length is 60 cm.

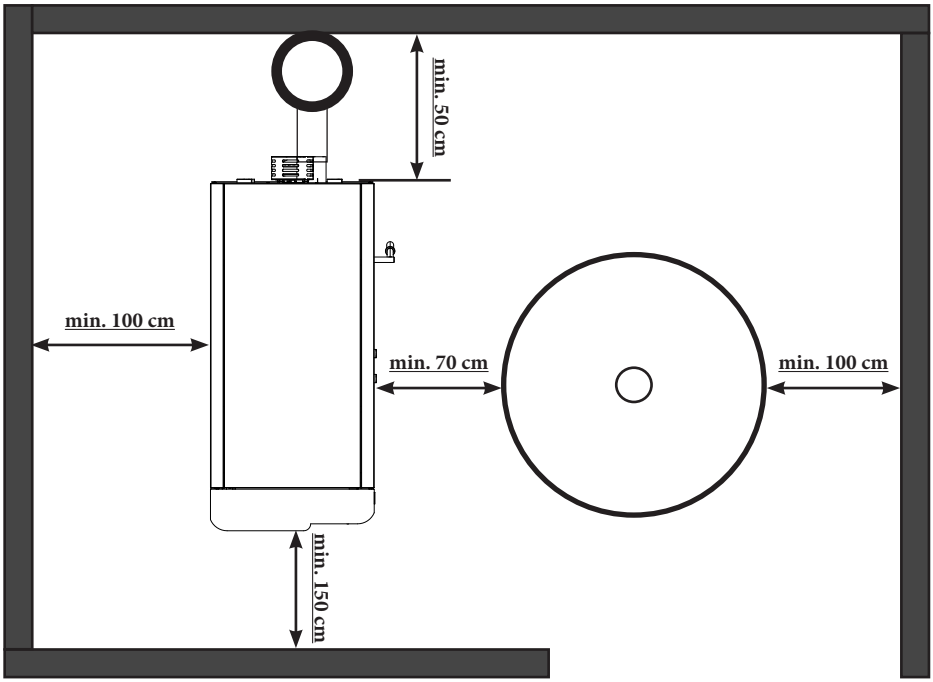
Fuel: wood having moisture content to 20% (max. 25%).

This demand for moisture content is fulfilled with wood dried on air at least 12 months.

2. POSITIONING AND ASSEMBLY

The installation of the boiler has to be carried out by the authorized person. We suggest the boiler to be installed on the solid concrete basis, which height is between 50-100 mm. The boiler room has to be absolutely protected from freezing and properly ventilated. The boiler has to be set up in order to enable it's connection to the chimney as well as it's servicing during the functioning process, cleaning and maintenance. The connection boiler to the central heating system is obligatory through one or more water tanks, in accordance to the boiler power. It is recommended to connect a minimum of 12 liters water to each 1 L of fuel loading chamber capacity (i.e. for the 40 kW boiler the recommended water tank should be 1440 liters). The boiler should not be used without being connected to the water accumulation tank. It must be connected to the water tank exclusively through an 3-way thermic valve **maintains minimum temperature of return water into the boiler above 60°C**.

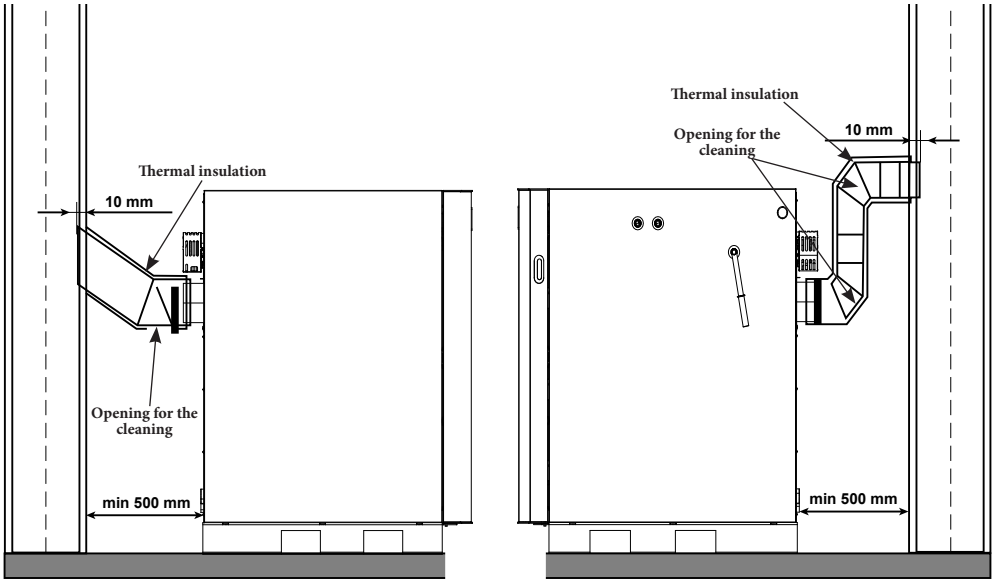
MINIMUM DISTANCE FROM THE ROOM WALLS



FLAMMABLE ITEMS MUST NOT BE PLACED ON THE BOILER AND WITHIN THE MINIMUM DISTANCES SHOWN

3. CONNECTION TO THE CHIMNEY

Properly calibrated and built chimney is the precondition for a safe operation of the boiler and economic heating. The chimney has to be well insulated, gas-proof and smooth. On the lower part of the chimney, a cleaning door has to be built in. Brick layed chimney has to have 3 layers with an stone wool thermal insulation in the middle. The thickness of the insulation should be 30 mm, if the chimney is situated inside the building, i.e. 50 mm if the chimney is situated outside the building. Inside chimney diameter dimensions depend on its height and on the boiler capacity. The temperature of the flue gases on their exit point should be minimum 30°C higher then the temperature of their condensation point. The choice and the construction of the chimney should be performed by an authorized person. Minimal distance between boiler and the chimney is 500 mm. The flue gas tube has to have an inclination of 30-45°. In order to unable entering of the condensate from the chimney into the boiler, 10 mm of the flue gas tube length has to be inserted deeper inside the chimney. It is recommended to insulate the chimney connection tube with a mineral wool of 30-50 mm thickness. All installation works must be made in accordance with valid national and European standards. At connecting a boiler to the chimney, flue gas tubes and elbows must not pass behind the fan since in that case the cleaning and maintenance will not be possible.

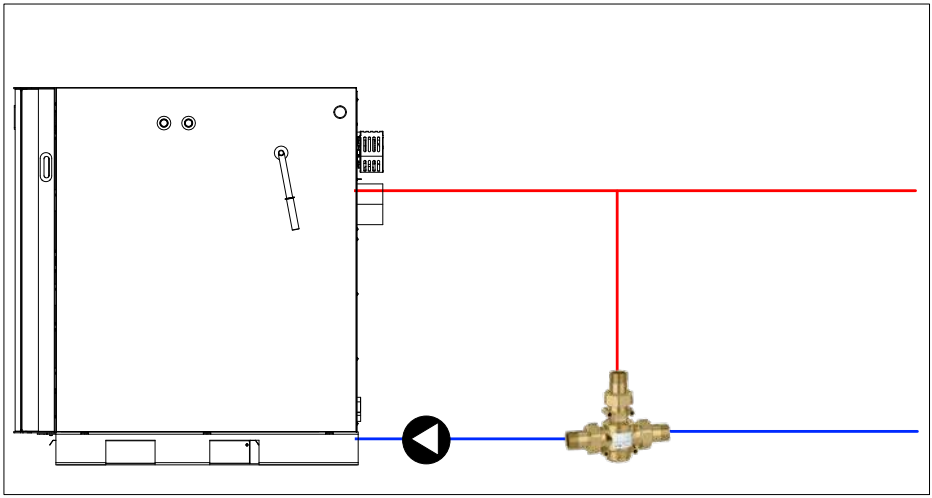


FRESH AIR OPENING

Each boiler room must be equipped with an opening for supply of make up air which is dimensioned in accordance with boiler output (minimum opening area according to the below shown equation). Such opening must be protected with a net or grate. All installation works have to be performed in accordance with valid national and European standards. Boiler must not operate in flammable and explosive environment.

A = 6,02 x Q
A - opening area in cm2 Q - boiler output in kW

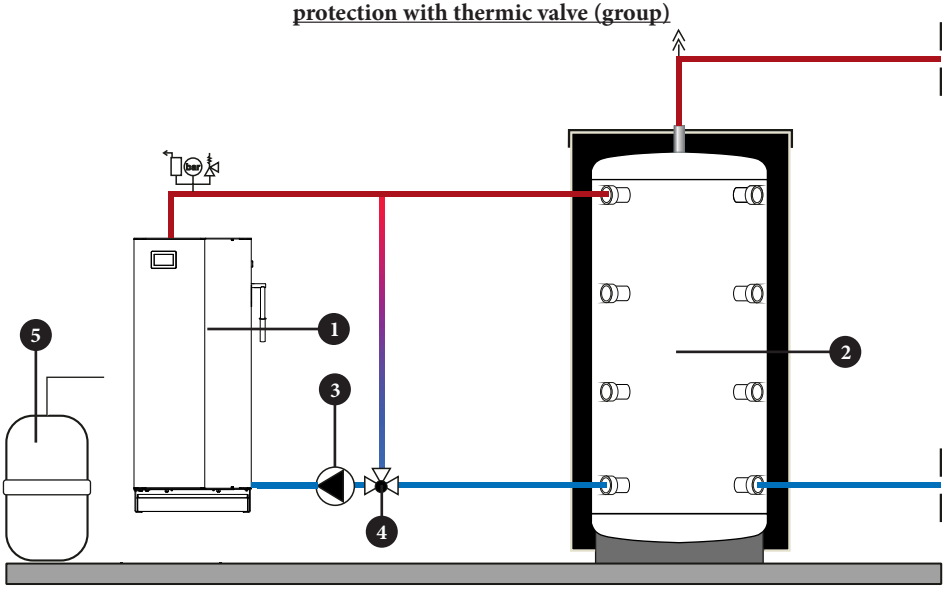
Example scheme for installation of an anti-condensation valve. It is recommended that the valve be at least 60 C. At the discretion of the installer, a valve with a higher return water temperature may be installed.



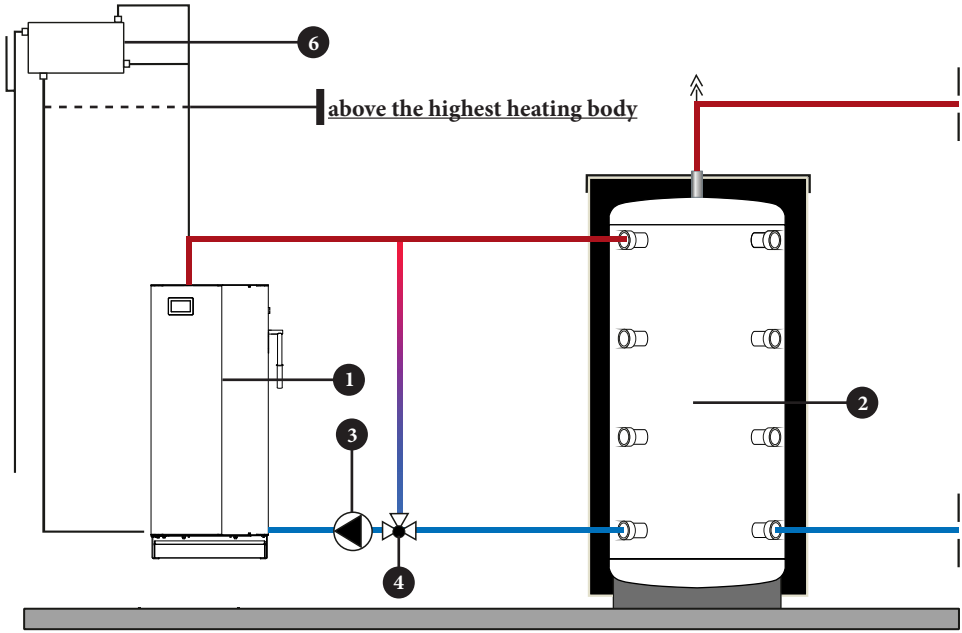
4. CONNECTION TO THE CENTRAL HEATING SYSTEM

All installation works must be made in accordance with valid national and European standards. Boiler LCG Lambda can be built to closed and open central heating systems. In both cases boiler must be fired with wooden logs. Installation has to be made, in according to technical standards, by a professional who will be responsible for proper boiler operation. The inlet pipe from the boiler to the central heating system must not pass above the top back casing cover, otherwise the removal of the turbulators and cleaning of flue gas tubes is impossible. Before connecting boiler to central heating system, the system has to be flushed to remove impurities remaining after system installation. It prevents boiler overheating, noise within the system, disturbances at a pump and mixing valve. Boiler should always be connected to central heating system by connectors, never by welding.

Example scheme 1 for boiler instalation on closed central heating system with return flow protection with thermic valve (group)



Example scheme 2 for boiler instalation on open central heating system with return flow protection with thermic valve (group)



1 — **LCG LAMBDA BOILER**

2 — **Water storage tank**

3 — **Boiler pump**

4 — **Return flow protection 3-way thermic valve (min. temp 60°C) or 3-way mixing valve with motor drive (protection valve)**

5 — **Expansion vessel for closed heating systems (approx. 10% of the total volume of installation)**

6 — **Open expansion vessel for open heating systems (approx. 7% of total volume of installation)**

4.1 CONNECTION TO THE OPEN CENTRAL HEATING SYSTEM

If the boiler is aimed to be integrated into an open central heating system, one of possible way how to connect the boiler to the system is shown on Example scheme 2. In case of the LCG Lambda boilers, the boiler pump obligatory has to be connected to the boiler control unit, in order to make turning on and off of the pump depending on the temperature of the water in the boiler, to avoid boiler condensation.

Connection to an open central heating system requires the implementation of an open expansion vessel above the level of the highest heating body (radiator). If the expansion vessel is situated inside the non heated room, it has to be insulated. The volume of the open expansion vessel is about 7% of the volume of entire heating installation. The boiler has to be connected with one or more water tanks, depending on its nominal power. It is recommended to connect a minimum of 12 liters water to each 1 L of fuel loading chamber capacity (i.e. for the 40 kW boiler the recommended water tank should be 1440 liters). The boiler should not be used without being connected to the water accumulation tank. It must be connected to the water tank exclusively through an 3-way thermic valve **maintains minimum temperature of return water into the boiler above 60°C**.

4.2 CONNECTION TO THE CLOSED CENTRAL HEATING SYSTEM

In closed heating system (as in Example scheme 1) it is obligatory to build in certified safety valve with opening pressure of 2,5 bar, minimum seat diameter of 15 mm, minimum inlet connection of 1/2", minimum exit connection of 3/4" and a membrane expansion vessel. Safety valve and expansion vessel must be built in accordance with professional rules and any valve must not be located between safety valve and expansion vessel and boiler. The closed heating system must have the installed expansion vessel of larger volume (vessel volume must be approx. 10% of the heating installation volume). In all boiler types the heating pump must be connected to boiler control unit so that the heating pump switching on and off would depend on water temperature in the boiler.

The boiler has to be connected with one or more water tanks, depending on its nominal power. IIt is recommended to connect a minimum of 12 liters water to each 1 L of fuel loading chamber capacity (i.e. for the 40 kW boiler the recommended water tank should be 1440 liters). The boiler should not be used without being connected to the water accumulation tank. It must be connected to the water tank exclusively through an 3-way thermic valve **maintains minimum temperature of return water into the boiler above 60°C**.

BOILER THERMAL PROTECTION

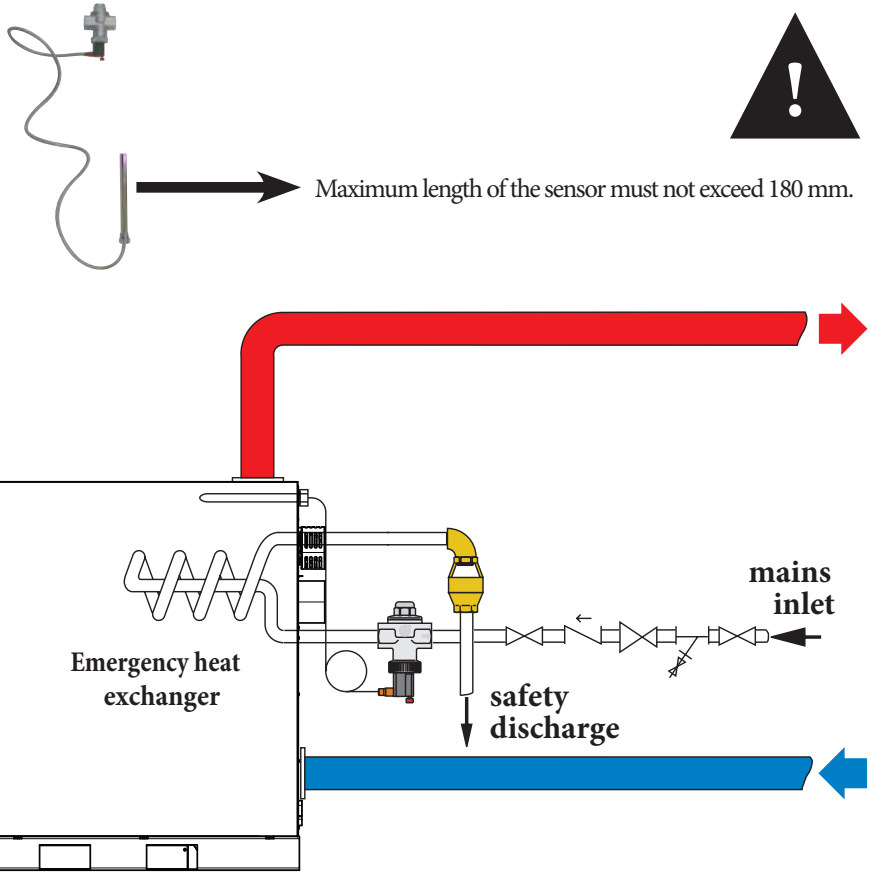
According to European EN standards, boiler thermal protection must be installed in closed heating system. Boiler is factory prepared for installation of thermal protection.

IMPORTANT:

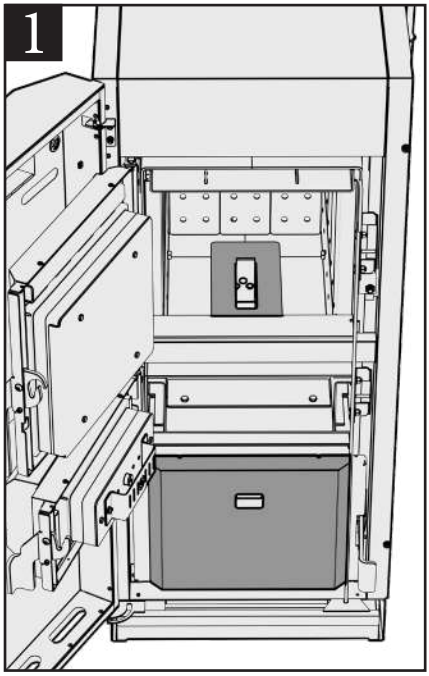
In case of any damage of boiler installed in the closed heating system due to its overheating, and boiler or system are not equipped with any thermal protection at all, or do not have properly installed thermal protection, guarantee will not be applied.

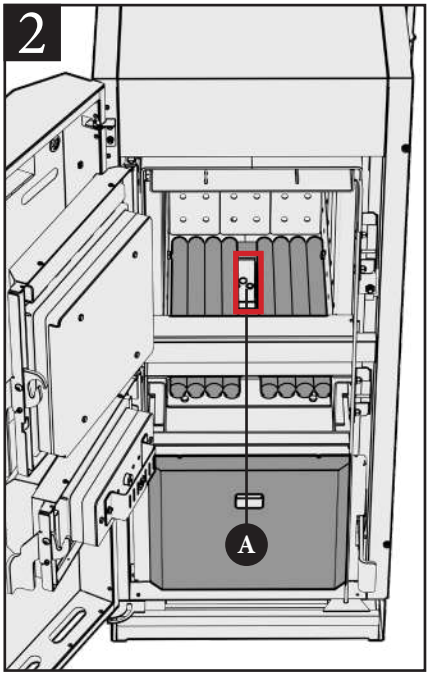
IMPORTANT:

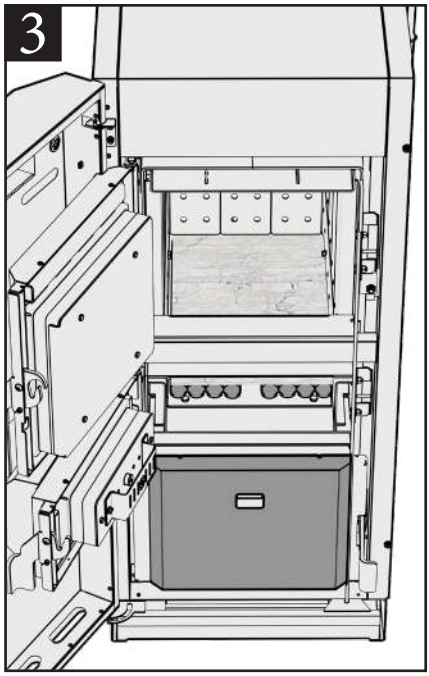
Thermal protection must be connected to the water supply installation of the premises supplied from the water supply line and not from hydrophor. Namely, in case of failure of power supply, boiler could be overheated, and then hydrophor is not able to ensure required water supply.

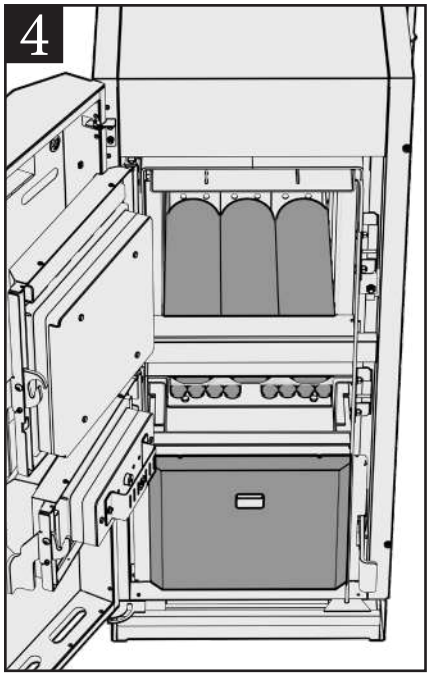


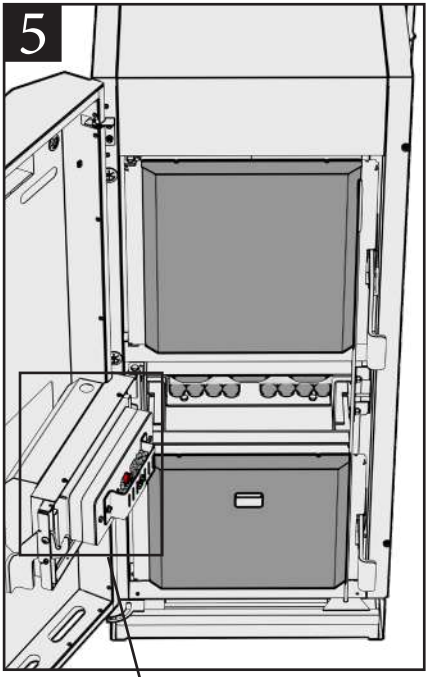
5. IGNITION PROCEDURE

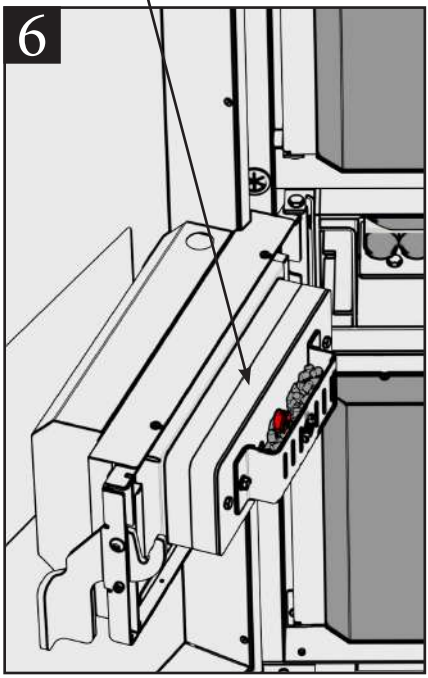


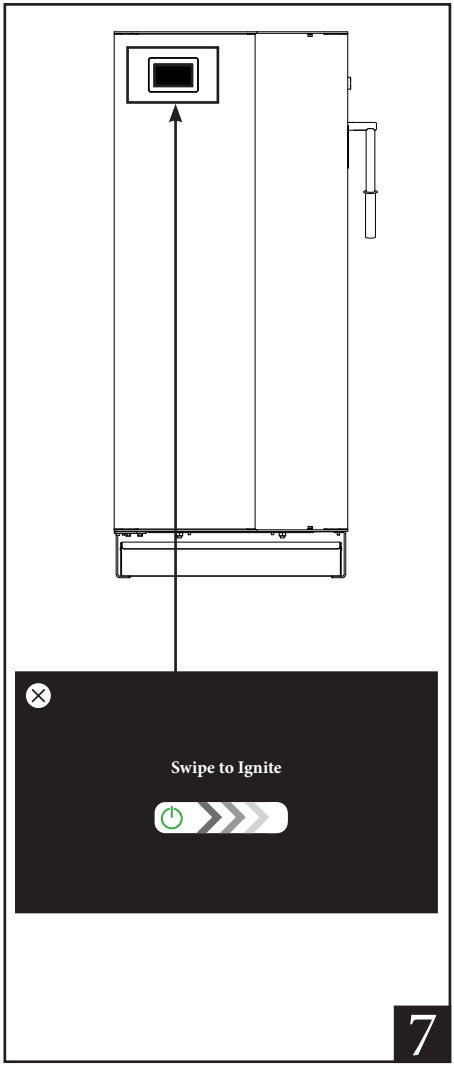







5


6


Swipe to Ignite
7

1	• Open the top and middle doors. • Check the ash level in the combustion chamber and empty if necessary. It is recommended that you do not remove the ash in the combustion chamber during each heating-up process, but rather when the middle row of holes of the combustion chamber guards is no longer visible. This protects the combustion chamber.
2	• Insert one layer of small firewood. • Use firewood with a length of max. 60 cm and arrange them lengthwise. • Do not completely cover the burner (A).
3	• After the first layer of wood, lay cardboard across the whole area for best ignition.
4	• Fill the fuel loading chamber and close the fuel loading chamber door.
5	• Keep the middle door open.
6	• Put pellets in the pellet container. • Close the middle door.
7	• Activate the ignition process with touch-screen display;

6. CLEANING AND MAINTENANCE OF THE BOILER

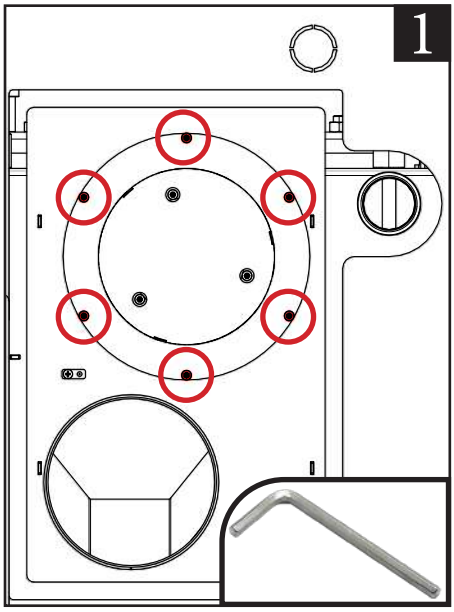
Protective gloves must be used. Ash remaining in boiler after solid fuel firing should be disposed into metal containers with a cover. As through the wood gasification principle the fuel burns out totally, the cleaning of the boiler is limited to the upper and lower combustion chamber once in a week and the cleaning of flue gas tubes on the back side of the boiler is necessary only after the heating season, i.e. min. once in one heating season. Cleaning the fan blade and fan box has to be performed when necessary.

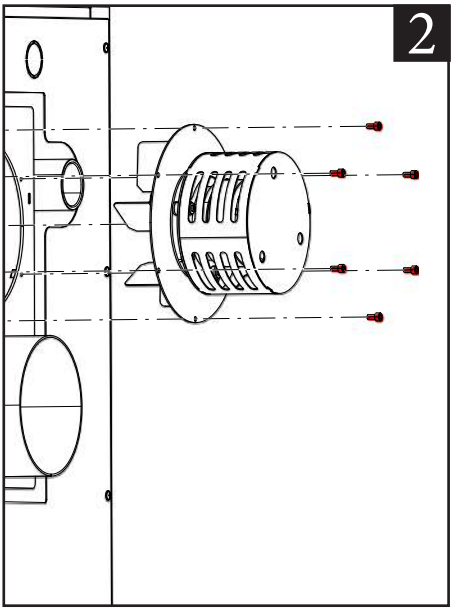
Before each starting of the boiler it is recommended to shake the flue gas tube cleaning lever few times.



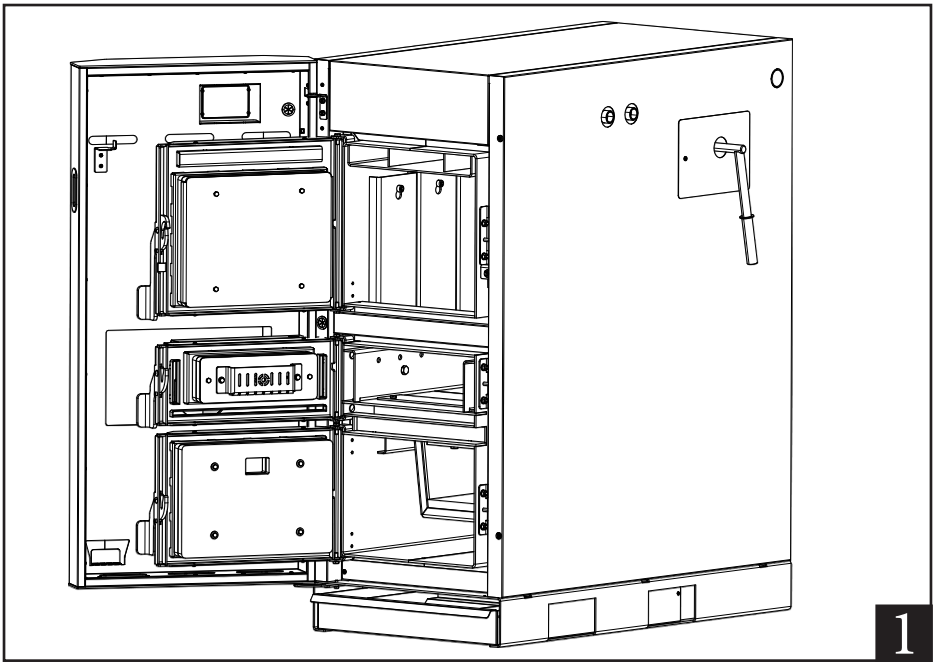
PROTECTIVE GLOVES ARE OBLIGATORY!

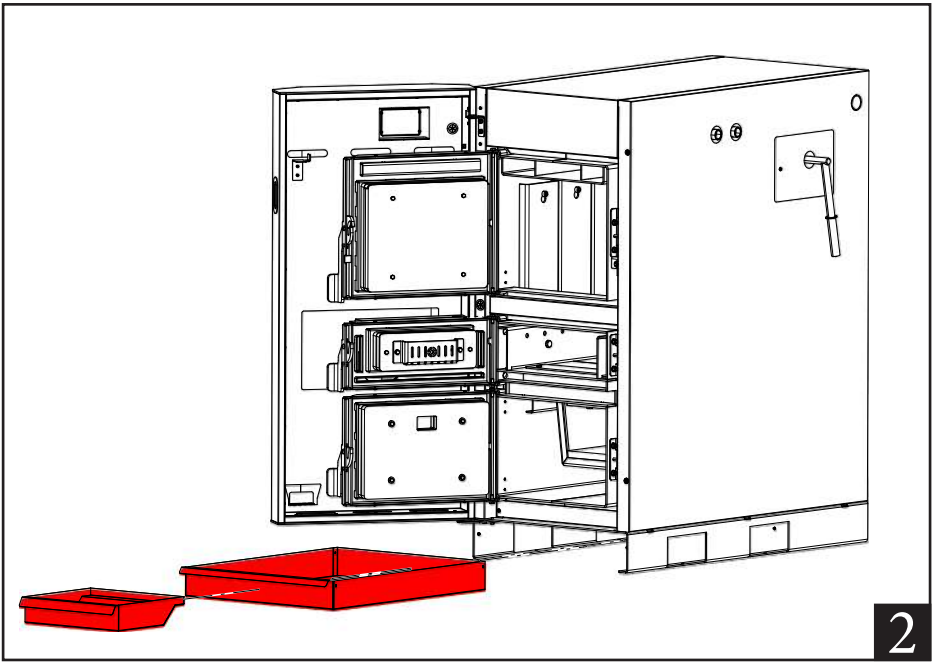
COMBUSTION FAN CLEANING

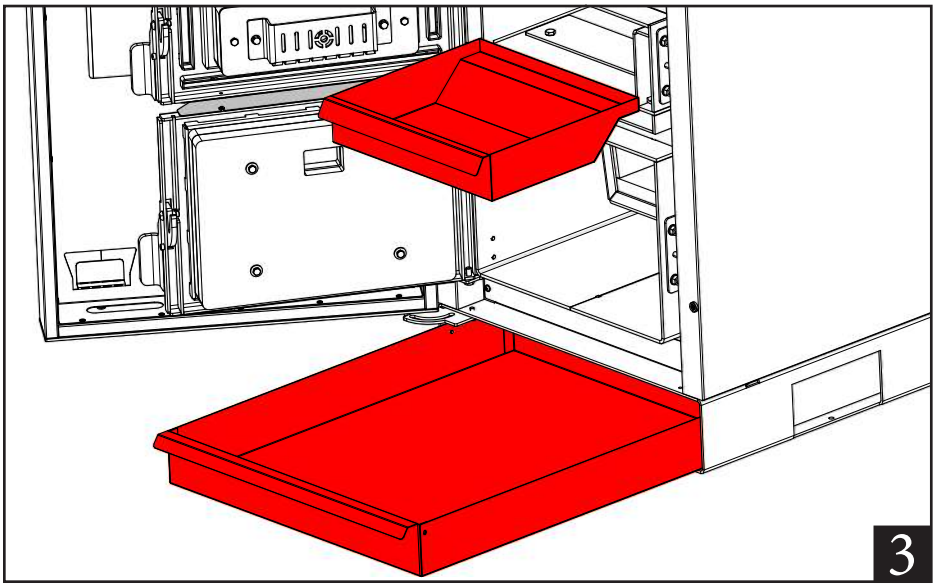


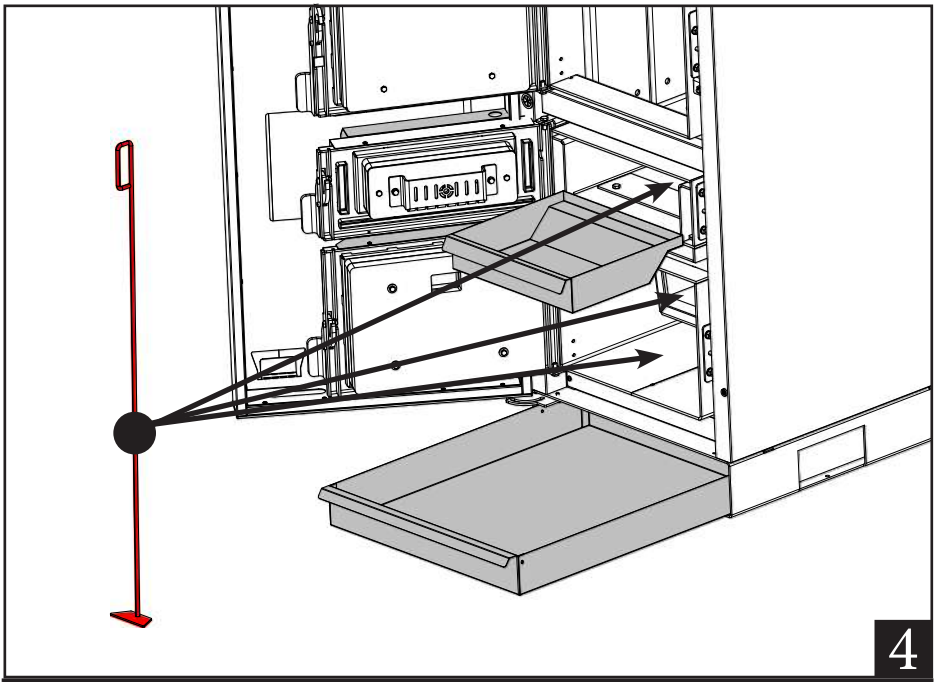


Remove the combustion fan from the connection points by unscrewing the 6 socket head cap screw ISO 4762 M5 x 10 holding it in place.


1

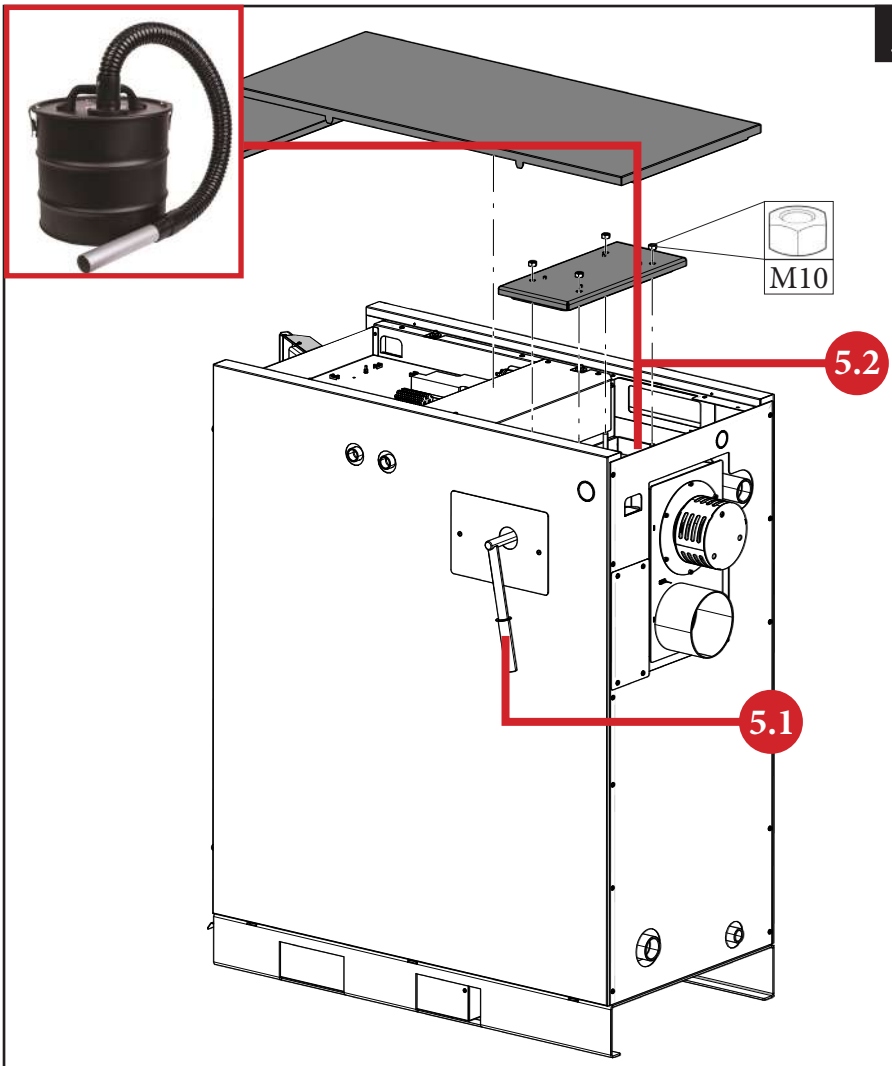

2





BEFORE EACH IGNITION

Before every ignition is necessary to clean the main combustion chamber from the ash. Use the special cleaning tool for this purpose.

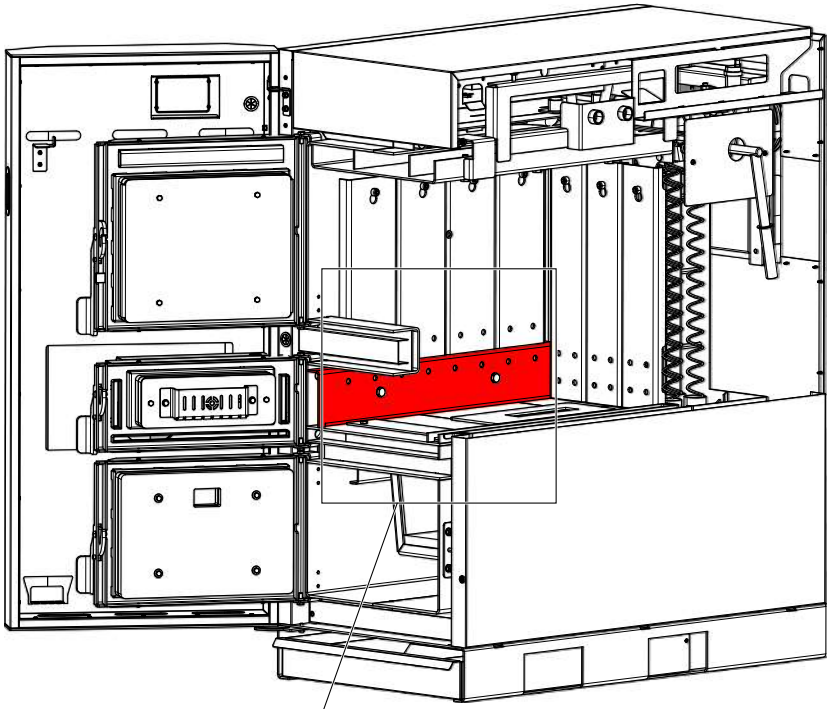


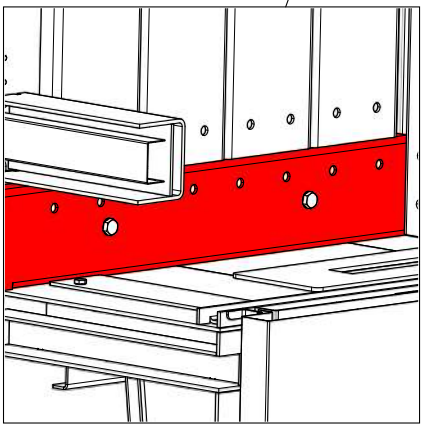
5.1 BEFORE REFILLING OF FUEL / BEFORE IGNITION

For flue gas tubes cleaning, it is necessary to pull lever left to right a few times.

5.2 AT LEAST ONCE PER YEAR

Cleaning of area over heat exchanger pipes with turbulators.
1 - Switch off the boiler and disconnect from power.
2 - Remove the top cover.
3 - Open the flue gas chamber by removing the 4 - M10 nuts.
4 - Use the metal vacuum cleaner to clean dust and ash in flue gas chamber.



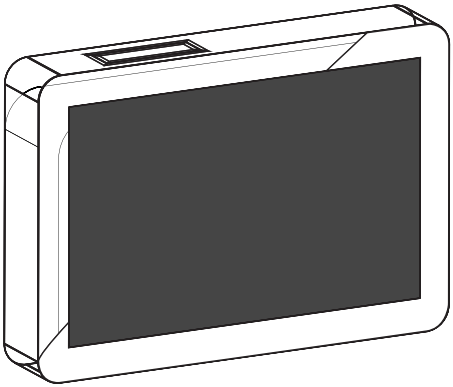


BEFORE EACH IGNITION

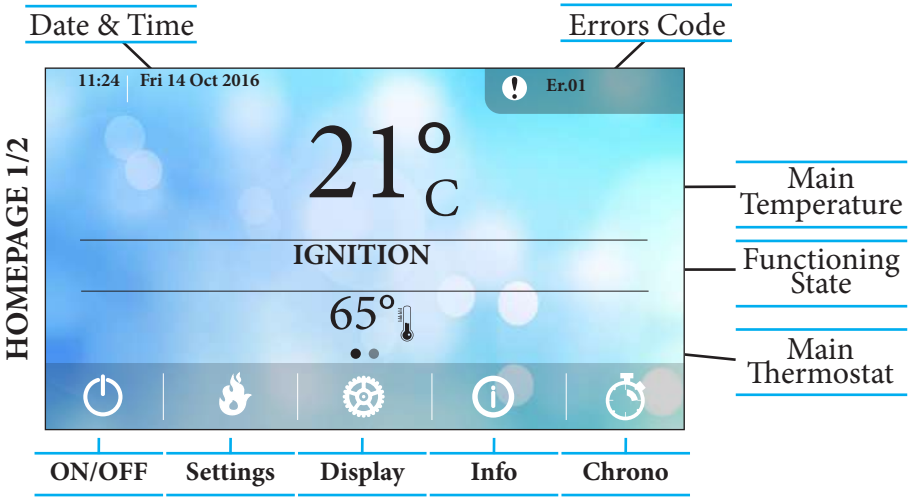
Before every ignition is necessary to inspect the primary air canals openings. They must always be clear of all residue. A small layer of ash and unburned coals inside the boiler, does not pose any issues. On the contrary, if a small layer of ash is left after cleaning, it will protect the components in contact with the fire, as ash is an insulator.

6

K400 TOUCH SCREEN DISPLAY



1. HOMEPAGE



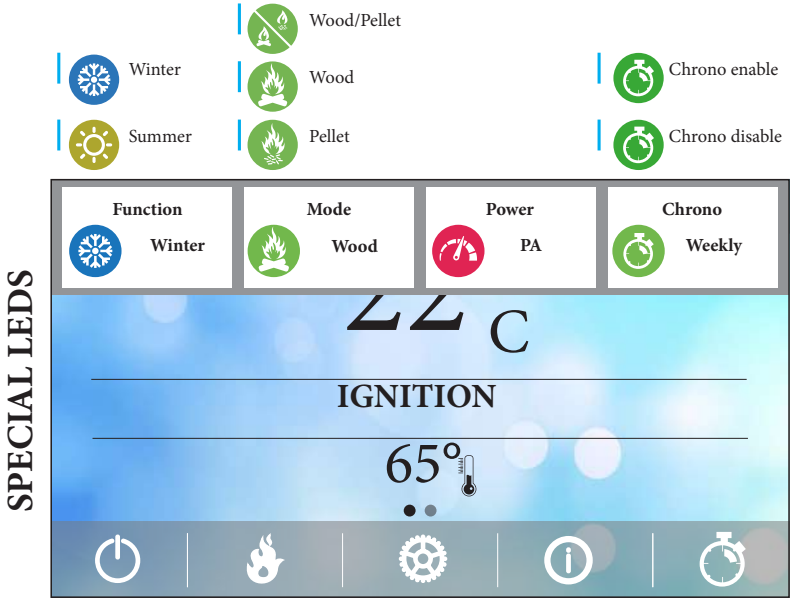
Main Commands

In order to go to Homepage 2 a horizontal swipe must be performed to the right side of the screen.



System activity LEDS

The Quick visualization of the system main function is accessed through a vertical swipe to the top side of the screen.



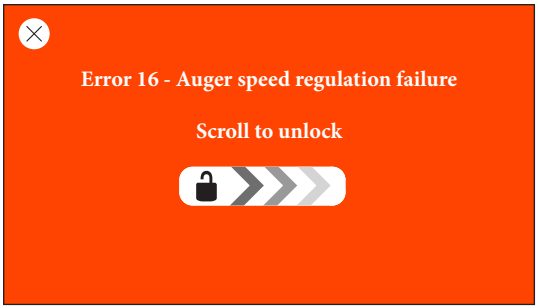
2. ERROR LIST



Blocking or non-blocking error is highlighted with a ! and the related error code. When pressed the error window opens

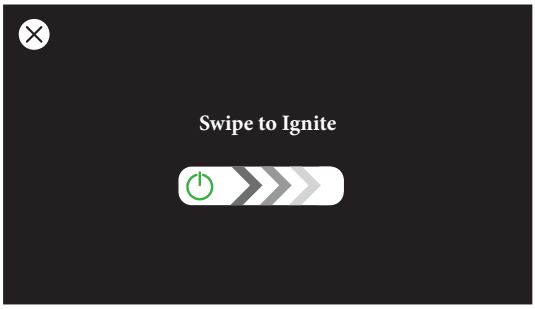


By clicking on (i) you can see the errors stored by date / time and description



When this message is on screen this means that the product is in blocking mode and you can remove the error. You can do this by swiping to the right in the center of the screen.

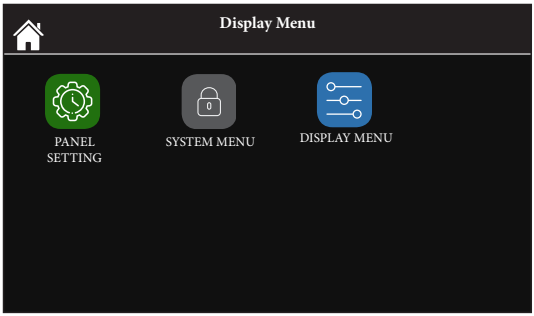
4. MAIN COMMANDS



ON/OFF Menu

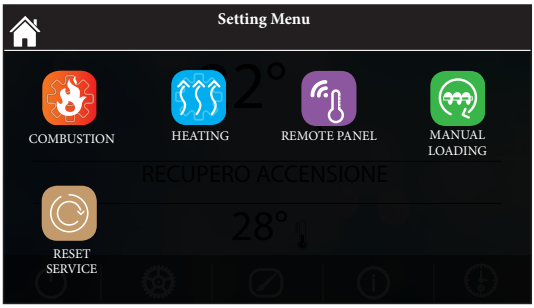
Screen image :

- System power ON
- System power OFF
- Alarms reset



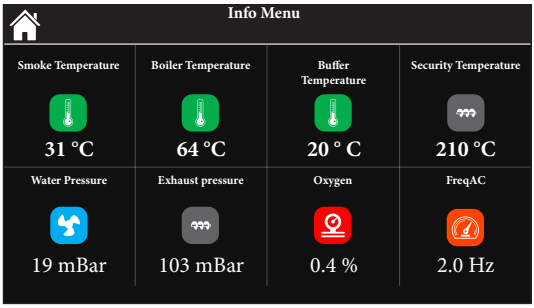
Display Menu

In this screen you can view all the variables of the control panel. Furthermore, it is possible to access the SYSTEM MENU which is reserved exclusively for technical personnel.



Settings Menu

From this screen it is possible to view all the variables for the proper functioning of the heating system.



Info Menu

From this screen it is only possible to display the values of all inputs and outputs.

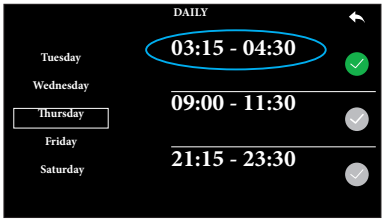
5. CHRONO



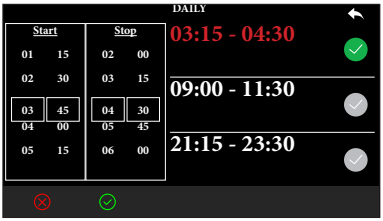
CHRONO

To select the desired CHRONO program, press on the respective tabs:
- Daily
- Weekly
- Weekend.

To change the chrono program, press on .
If the Chrono function is disabled all the tabs are grey.

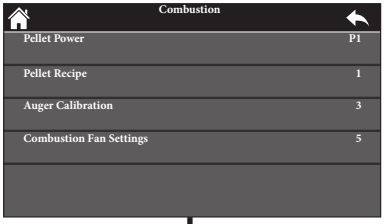


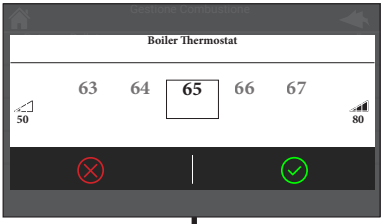
To edit the time slots, press on the corresponding Frame Time.



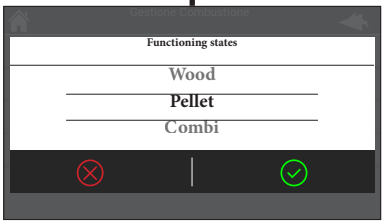
Scroll Up or Down to change the System on/off Time

5. INTERNAL MENU STRUCTURE





Here are the types of interface used to access, select and modify menu items.



5. INTERNAL MENU STRUCTURE



From the display Menu the user can access the panel settings and select one of 24 languages.



Brightness.



Minimum brightness: this function allows you to choose the minimum brightness level which the device automatically sets to after 30 sec. of inactivity.



Standby display: if enabled, this function will set the screen to standby after 1 minute of inactivity.



Control panel address: password-protected menu (1810) and used to set the control panel address.
In modbus, the address reserved for the local control panel is 16. The address of the first remote control panel is 17 and subsequently the others according to the number provided by the system.



Control panel restart: this function allows the control panel to be restarted.



Sound: this function allows the user to enable / disable the sounds emitted from the control panel.



Delete error list: this password protected function (the same as in the technical menu) allows the user to delete the list of errors recorded by the control panel. The errors recorded are 64.

Nodes list: this menu allows the user to view all the devices connected via Modbus, with their related firmware and revision.

Wallpaper: menu used to select wallpapers loaded in the device. 8 backgrounds are available.

Control panel info: this menu allows the user to view the firmware and revisions that make up the control panel in detail.

Errors

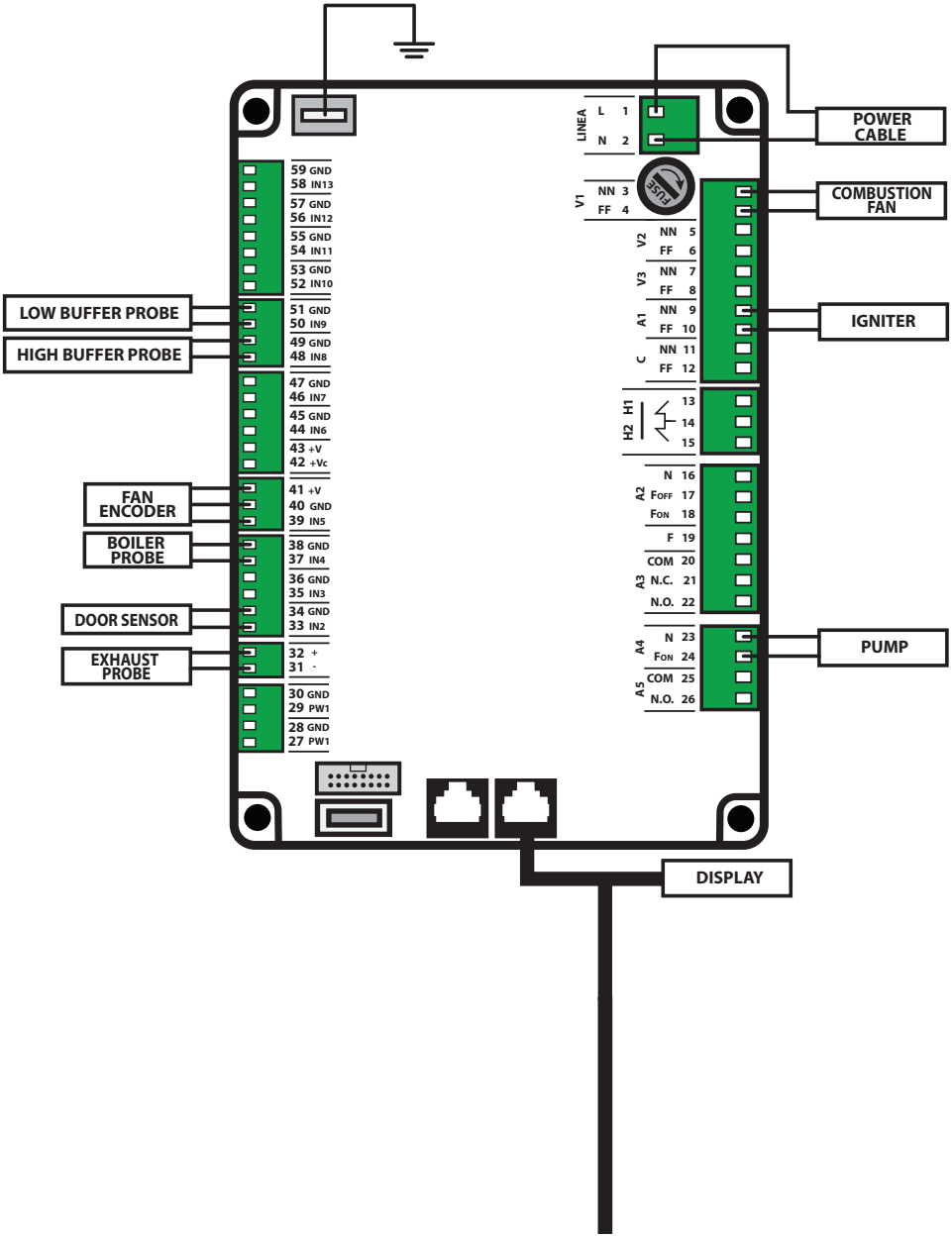
Er03 - Low Exhaust flue gas temperature
Er04 - Water Over-temperature
Er05 - Exhaust flue gas Over-temperature
Er07 - Error Encoder. The error can occur for lack of Encoder signal
Er08 - Error Encoder. The error can occur for problems in the regulation of the number of revolutions
Er11 - Clock Error The error occurs for problems with the internal clock
Er12 - Extinguishing for Failed Ignition
Er15 - Extinguishing for lack of Voltage supply for more thanT89
Er16 - Communication Error RS485
Er22 - Lambda Regulation Failed
Er23 - Boiler Probe or DHW Probe or Boiler Supply/Return Probe or open Buffer tank Probes
Er44 - Open door error

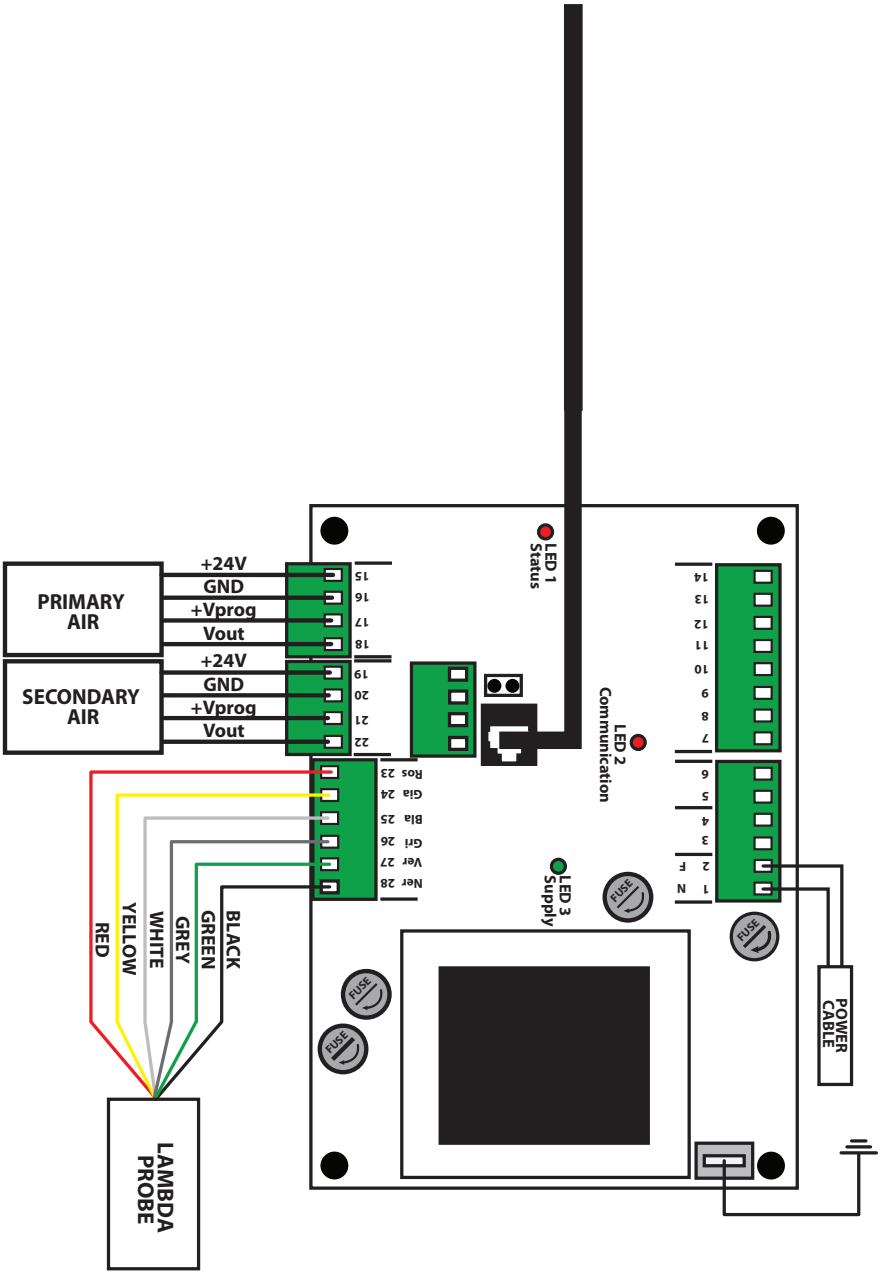
Errors Lambda Sensor

EL00 - Generic Error: switch off and on the control board
EL01 - Heating sensor ground short-circuited: Switch off the board and check the Lambda sensor connections. Replace the sensor.
EL02 - Heating sensor open: Switch off the board and check the Lambda sensor connections. Replace the sensor.
EL03 - Heating sensor short-circuited at +12V: Switch off the board and check the Lambda sensor connections. Replace the sensor.
EL04 - Lambda Sensor ground short-circuited: Switch off the board and check the Lambda sensor connections. Replace the sensor.
EL05 - Heating voltage supply too low: Disconnect Lambda Module from 230Vac and check all the fuses of the board. Check that the line voltage is 230Vac + / - 20%.
EL06 - Lambda Sensor voltage supply too low: Disconnect Lambda Module from 230Vac and check all the fuses of the board. Check if there are short-circuits in the board due to dirt. Check that the line voltage is 230Vac + / - 20%.
EL07 - Heating Sensor failure: Check that the sensor is heated. Switch off and on the board and verify a new heating procedure.
EL08 - Lambda Sensor over-temperature: The sensor should not be exposed to flames or exhaust flue gas over 700 ° C. Move the sensor or lower the temperature.

Messages

Probes - Visualization of the state of temperature probes. The message is displayed during Check Up phase and shows that the temperature detected by one or more probes is equal to minimum or maximum value (depending on the considered probe). Check that the probes aren't open (minimum value of the temperature scale). or in short-circuit (maximum value of the temperature scale).
Service - It notifies that the planned hours of functioning have been reached (parameter T66). Call the Licensed Technical Service Centre.
Cleaning - It notifies that the planned hours of functioning have been reached (parameter T67). The stove or boiler needs to be cleaned.
Block - Message alternated to current state, it appears only if the system is turned off during Ignition (after Pre-load) by an external device: the system will stop only when it reaches the Run Mode.
Door - The door is open.
Night Mode - System in Night Mode.
Link Error - The Panel and the Control Board cannot communicate.
Transfer failed - The message is displayed if the transfer of a value of a modified parameter fails. Try again to modify the parameter.


LINEA
L 1
N 2
POWER CABLE
V1
NN 3
FF 4
FUSE
COMBUSTION FAN
V2
NN 5
FF 6
V3
NN 7
FF 8
A1
NN 9
FF 10
IGNITER
C
NN 11
FF 12
H1
H2
13
14
15
59 GND
58 IN13
57 GND
56 IN12
55 GND
54 IN11
53 GND
52 IN10
LOW BUFFER PROBE
HIGH BUFFER PROBE
51 GND
50 IN9
49 GND
48 IN8
47 GND
46 IN7
45 GND
44 IN6
43 +V
42 +Vc
FAN ENCODER
41 +V
40 GND
39 IN5
BOILER PROBE
38 GND
37 IN4
36 GND
35 IN3
DOOR SENSOR
34 GND
33 IN2
EXHAUST PROBE
32 +
31 -
30 GND
29 PW1
28 GND
27 PW1
A2
N 16
FOFF 17
FON 18
F 19
COM 20
A3
N.C. 21
N.O. 22
A4
N 23
FON 24
PUMP
COM 25
A5
N.O. 26
DISPLAY


PRIMARY AIR
+24V
GND
+Vprog
Vout
SECONDARY AIR
+24V
GND
+Vprog
Vout
15
16
17
18
19
20
21
22
23
24
25
26
27
28
Ros
Gia
Bla
Gri
Ver
Ner
LED 1 Status
LED 2 Communication
LED 3 Supply
14
13
12
11
10
9
8
7
6
5
4
3
2
F
1
N
FUSE
FUSE
FUSE
FUSE
POWER CABLE
RED
YELLOW
WHITE
GREY
GREEN
BLACK
LAMBDA PROBE

IMPORTANT !!!

1. The fuel to be used is only wood under 25% humidity content (wood dried min. 1 year).
2. The outlet temperature always has to be over 60°C. This can be reached by obligatory connection of the 3-way thermic valve which blocks the boiler temperature from falling under the 60°C level.
3. The connection of water tank is obligatory.
4. To the closed central heating system an expanding vessel has to be connected (the volume of the expanding vessel is about 10% of the installation volume).
5. To the open central heating system an open expanding vessel has to be connected, which volume has to be about 7% of the installation volume.

Mareli Systems

STEP FORWARD

Mareli Systems
Industrial Zone
Simitli, 2730
Region Blagoevgrad
Bulgaria

info@mareli-systems.com
www.mareli-systems.com

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