HANDBOOK
INSTALLATION AND USE

BOILER MSS ECO PLUS

MIKLOS STEEL STOVE

www.miklossteel.ro

ATTENTION! Strictly OBSERVE!

To protect against acid condensation and avoid the formation of tar attacking the boiler body, it is imperative to correctly install some of the following equipment: thermal mixing valve or recirculation pump with thermostat control (bypass pump)

The operating temperature of the boiler should be in the range of 70-85 °C and the minimum return temperature of 60 °C.

The fuel used must be of high quality, straw briquettes or wood-free biomass with a maximum humidity of 10%, calorific value: 4000-4400 Kcal/kg.

When determining the dimensions of a central heating boiler, you need to consider the correct calculation of the need for heat, **do not overdo the boiler!**

The number of briquettes in one batch should not exceed 50% of the volume of the hearth!

The chimney must be of the appropriate size with a minimum traction of 20 Pa, insulated, equipped with a condensate receiving system and a test door. We do not recommend the use of bricks or pipes that are not insulated.

Failure to comply with the above requirements leads to a loss of warranty!!

FOLLOW THE INSTRUCTIONS FOR USE!
USE ONLY RECOMMENDED FUEL!
DO NOT USE THE BOILER AS A BURNER!
DO NOT MAKE CHANGES TO THE DEVICE!

WHEN INSTALLING THE BOILER, IT IS NECESSARY TO COMPLY WITH ALL APPLICABLE LOCAL, STATE AND EUROPEAN REGULATIONS (NORMS, STANDARDS, TECHNICAL INSTRUCTIONS, ETC.)!

CONTENT

Dear buyer!

You have become the owner of the **MSS ECO PLUS** solid fuel boiler, an innovative and modern product with special properties and performance for central heating with a hot water thermal agent.

Our belief is that when choosing one, you made a very good decision boiler with excellent technical characteristics. This product can give you a maximum satisfaction if you use the boiler according to the recommendations here in the manual. We guarantee you a long period of operation, if you put it the operation of the boiler is carried out by authorized personnel.

To ensure smooth operation, please read the boiler manual very carefully and follow the instructions exactly!

This manual covers the assembly, installation, operation and maintenance of the product.

Having carefully studied the instruction, you will get important information so that this boiler can be operated with maximum safety, thereby obtaining optimal performance and long service life.

To introduce the product to the market and the compliance of the product with the essential safety requirements specified in the European directives, the boilers were tested and certified.

Certification body ÉMI-TÜV SÜD Kft.

Echipa Miklos steel

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1. GENERAL INFORMATION

Important note:

➤ *This guide is an integral and essential part of the product and must be passed on to the user. It must be kept for the entire period of operation of the product and, if the owner of the product changes, it must be handed over to him.*

➤ *Read this guide carefully and keep it carefully for future use.*

➤ *After unpacking, check and list the ingredients so that they are present and intact. Packaging elements must not be scattered in the environment or left accessible to children. Before installing the ECO PLUS boiler, carefully read the chapter "Installation instructions".*

➤ *Installation should be carried out only by authorized personnel in accordance with the current regulations (STAS7132-86; STAS 3417-85; Normative 113-94; Norm 113/1-96; PT C 9-2010; PT A1-2010; ISCIR Collection; GP 051-2000; P 118-99). All the instructions in this manual must be followed, any deviation may lead to damage without the manufacturer's responsibility.*

➤ *In the event of a boiler malfunction, turn it off. Never use a boiler if it does not work properly. Never use a boiler with safety devices removed or damaged. In the event of a breakdown, only original parts will be used for replacement.*

➤ *This boiler will be designed for use for which it is intended. Any other use will be considered inappropriate.*

➤ *In order to be able to guarantee the efficiency and safety of the boiler operation, an annual inspection by specialized and authorized personnel is recommended, subject to the conditions of the manufacturer.*

➤ *Read the instructions in this manual carefully before starting, using or servicing. Most accidents occur due to non-compliance with the rules of simple safety measures and operating procedures.*

➤ *Never perform cleaning or maintenance operations while the boiler is in use.*

➤ *When the boiler is put into operation for the first time, an unpleasant odor or smoke may occur, this is normal and disappears after a short period of use.*

➤ *The room where the boiler is installed must be constantly clean, dry and well ventilated.*

➤ *It is forbidden to operate the boiler for children or people without insight. The boiler is allowed to be serviced only by trained adult people, it is not allowed to leave children unattended around the boiler.*

➤ *Do not touch the hot pot with your bare hands, use gloves. Attention The hot parts of the boiler can cause serious burns.*

➤ *It is forbidden to use the boiler empty or partially filled with water. Using a boiler empty or partially filled with water can cause an explosion. Periodically it will be checked the water pressure in the heating system. Charging, filling with a thermal agent a this is done only with the boiler turned off and cold.*

➤ *Storage of objects or materials on and around the boiler is prohibited Flammable.*

➤ *The boiler body must be connected to the protective shield so that there is grounding and eliminates the risk of electric shock in case of damage to electrical components.*

REMEMBER

Any liability of the manufacturer for damages resulting from installation or use errors and non-compliance with the manufacturer's instructions is excluded.

➤ The fuel used must have a maximum moisture content. 20%, briquettes made of straw or non-woody biomass, with a calorific value: 4000 - 4400 kcal/kg. humidity max. 10%

➤ In the process of combustion, soot, tar and acidic condensate can form. To reduce their quantity, the boiler must operate with optimal parameters (the temperature of the heater in the boiler should be 75 85 °C, and the temperature of the return heat carrier should be at least 60 °C

►The boiler can be placed flush with the heating rooms or in the basement, and it can work with gravitational (natural) or forced (pump) circulation. Placing the boiler in living quarters and access corridors is prohibited.

►With strict observance of fire safety rules, there should be enough space for storing fuel.

➤ The floor, ceiling and walls must be made of fireproof materials in accordance with current standards.

➤ The thermal power plant must be equipped with openings or fresh air intake channels with a section of 400cm². Mechanical discharge is not allowed. Flue gas pipes must be well closed and insulated, have a minimum section according to the "technical data" table, and the chimney must be high enough to ensure proper boiler traction.

➤ The boiler will be connected to an open or closed expansion tank of the appropriate size.
A closed expansion tank can be used if the operation of the recirculation pump is ensured by installing UPS for thermal power plants (this is the uninterruptible power supply of thermal power plants, automated, which ensures the operation of the pump in case of power outages and the boiler can be protected from overheating) and the installation of a second pressure valve on the installation, except for the one that will be installed on the boiler. On the shuttle safety pipes for connecting the boiler to the vessel expansion, no closing or throttling devices will be installed.

➤ Periodically, the chimneys will be cleaned through the upper door. Cleaning The chimneys will be carried out only when the boiler is turned off and allowed to cool. By design, the boiler has an ash drawer. Ash should be removed from the ash pit whenever necessary (overload with ash reduces the intake of air in the boiler). This operation will be performed only when the boiler is turned off and cold.

➤ Installation and commissioning will be carried out by authorized personnel at ISCIR (conf. recipes PT C9/2010), in compliance with the requirements of the technical book of the product.

➤ ECO boilers in operation must be monitored. ECO PLUS type boilers are designed for agent heating systems thermal hot water. They are used for heating houses, workshops, outbuildings, halls, greenhouses with gravity systems or with forced circulation (with a pump). Boilers are of different capacities and form a family of products from which you can choose a boiler with the optimal power for your needs.

These boilers were built on solid fuel, straw briquettes or woodless for burning biomass.

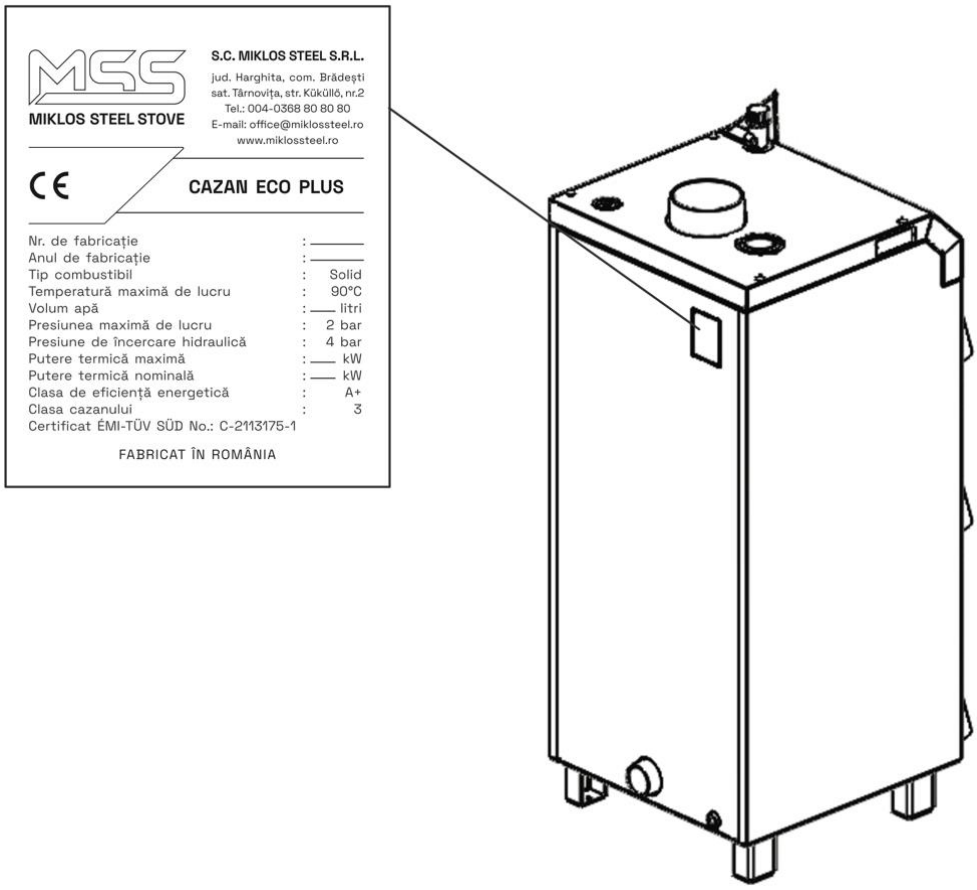
The use of boilers is simple, they are equipped with large feeding doors and with a water-cooled grill.

When carrying out minimal periodic maintenance work, a boiler is provided operation in optimal parameters.

! THE INSTALLATION IS NOT USED ON COKE!

1.1. IDENTIFICATION OF THE DEVICE

Each boiler is equipped with an identification plate

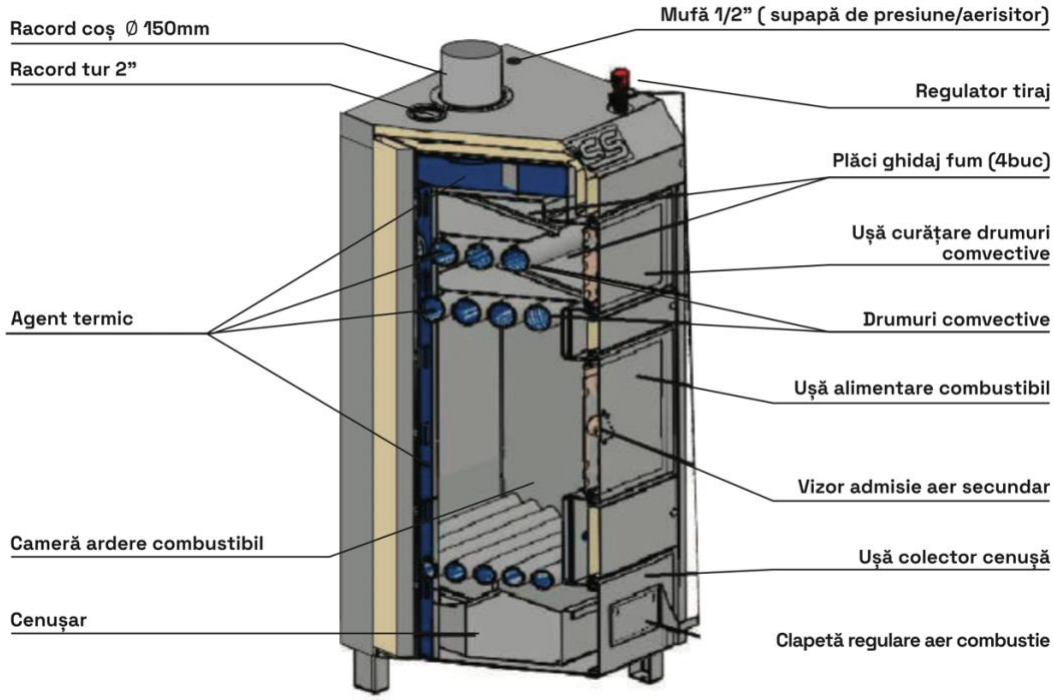


2. TECHNICAL DATA

Technical data of MSS ECO PLUS type boilers:

Model	***ECO PLUS 30 kW***	***ECO PLUS 40kW***	***ECO PLUS 50kW***
Maximum heat output	*30*	*40*	*50*
Rated heat output [kW]	*27*	*37*	*47*
Weight [kg]	*209*	*265*	*321*
Height [mm]	*1460*	*1460*	*1460*
Width [mm]	*535*	*585*	*635*
Depth [mm]	*655*	*705*	*775*
Water volume [L]	*66*	*76*	*88*
Dimensions of the firebox (A x W x D) [mm]	*500 x 380 x 400*	*500 x 430 x 450*	*500 x 480 x 520*
Maximum fuel length [mm]	*380*	*430*	*500*
Flue gas temperature [°C]	*247*	*242*	*268*
Energy efficiency class	*A+*	*A+*	*A+*
Energy efficiency index	*106*	*106*	*106*
Seasonal efficiency [%]	*75*	*75.1*	*75*
Boiler efficiency [%]	*78*	*78.1*	*78*
Maximum working pressure	*2 bar*		
Pressure of evidence	*4 bar*		
Maximum heater temperature	*90 °C*		
Boiler class according to NE 303-5	*3*		
Recommended fuel	*Straw briquettes with max. humidity 10%Non-wood biomass with max. humidity 20%*		
Thickness of the walls of the combustion chamber	*5 mm*		
Thickness of the walls of the heat exchanger	*3 mm*		
Required traction at the base of the chimney [Pa]	*16-25*		
Chimney connection D	*D 150 mm*		
Connection	*2"*		
Temperature sensor connection	*1/2"*		
Draught regulator connection	*3/4"*		
Filling/discharge connection	*1/2"*		
Regulator towing, thermobarometer	*Yes*		
Distance tangled with adjacent combustible materials			
Rear	*400 mm*		
Sides	*400 mm*		
Ceiling	*1500 mm*		
Front	*1000 mm*		
Floor (flammable)	*800 mm*		

3. CONSTRUCTIVE INFORMATION



3.1. Boiler body

The boiler body consists of an outer shell and an inner shell made of sheet steel by welding. The boiler has three doors. for ease of use. Fuel is supplied to the firebox through the middle door, equipped with a sight in which secondary air is regulated. The lower door serves to remove ash, slag generated during operation, while the air necessary for combustion can be adjusted - through the inlet valve. The combustion air intake valve is made in such a way that it is possible to install a draft regulator, the sensor of which connects to a 3/4" socket. Installation is recommended to be done by a specialist! We recommend placing the boiler on a steel plate so that coal does not fall on the floor during cleaning the boiler.

3.2. Lattices

The water-cooling grill is made of a pipe corresponding to the size of the boiler,
with high resistance.

3.3. Shell

The boiler body has a thermal insulation outer shell, which is protected by steel sheet, secured with screws. To aesthetic design of the boiler, its body is painted with heat-resistant paint, and the outer shells with electrostatic paint.

3.4. Accessories

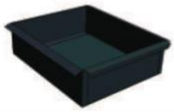
The boiler is supplied with the following accessories:

Installation, commissioning, use and maintenance instruction 1 pc

Automatic draft regulator 1 pc

Thermobarometer 1 pc

Smoke guide plates 4 pieces



Ash drawer 1 pc

3.5. ACCESSORIES RECOMMENDED ON A MANDATORY BASIS

Safety valve 2 bar (2 pcs.)

- Atvērta izplešanās tvertne

vai

- Atveriet izplešanās trauku

- Recirkulācijas un/vai cirkulācijas sūknis

vai

- Termiskais sajaukšanas vārsts TV 60°C(25, 32, 40) - ieslēgts TV 72°C(25,32,40) - ieslēgta plūsma

- 2 virzienu termostata dzesēšanas vārsts

vai

- UPS termoelektrostacijas

4. INSTALLATION, TRANSFER TOGETHER

The boiler can be installed only in rooms where it is possible to connect to a chimney and heating system of the appropriate size. On the perimeter of 1.5 m from the boiler, the floor and walls should be made of fireproof material.
The installer/performer is responsible for the correct installation of the boiler.
The manufacturer **is NOT** responsible for damage caused by improper installation / operation of the boiler. The boiler must be protected (against overheating and overpressure) so as not to exceed the permitted operating parameters.

CAREFULLY!!! The maximum working pressure of the boiler is 2 bar!

4.1. CHIMNEY AND NECESSARY

PROJECT Recommended as mandatory:

➤ The chimney must be double insulated (basalt wool is recommended), equipped with a condensate collection system (drip) and an inspection door. Smoke channels are provided with inspection and control openings, which can be tightly closed with heat-insulating metal covers or doors located at the beginning of the smoke channel, changing direction. At the base of the chimney there is a hatch with a sealed door, for viewing and cleaning, at the bottom of the chimney there is a nozzle for draining condensate.

➤ It is not recommended to use a brick chimney (especially not plastered) or an uninsulated pipe (to avoid a decrease in the temperature of the combustion gases below the temperature of the dew point and provide the necessary traction).

➤ Masonry chimneys are contraindicated to be extended through uninsulated tin flues, as they create a cold zone that prevents circulation.

➤ The minimum chimney height (thermally insulated) should be 8.5 m from the floor. When determining the correct height, the boiler power, the slope of the roof, the distance from the roof ridge, the position relative to other tall buildings and even climatic conditions are considered.

➤ The chimney is insulated from the combustible elements of the structure, according to the technical rules in the field, does not cause a fire due to heat transfer or the release of hot gases, flames, sparks

► If the chimney passes through combustible or temperature-sensitive materials, protective measures must be observed in accordance with STAS 6793-86 and standard P118-99.

► Before connecting the boiler, the chimney must be inspected and cleaned by a specialist.

► To connect the boiler to the chimney, we recommend that you call or consult a specialist. Connecting elements (socket, gutters) must be installed tightly, durable in order to avoid smoke escaping and so that they do not clog the passage section of the chimney.

► The drain must be at least the diameter of the boiler nozzle.

► It is recommended to use a separate basket for each boiler. If the same chimney is used for several heating devices, the size of the chimney must allow this. The examination should be carried out by a specialist.

► Connecting the boiler to the chimney should provide periodic inspection and cleaning. The connection should be carried out in the shortest possible way between the boiler and the chimney. It is recommended that horizontal pipes do not exceed a length of 1.5 m and have an ascending slope towards the chimney min. 15°. Pipes (down streams) are inserted into each other in the

sense of the direction of movement of combustion gases. On the entrance to the chimney, gutter or connecting elbow should be inserted into the gutter wall. The wall gutter should not exceed the inner edge of the chimney. It is recommended to provide one of the gutters with a viewing window.

► It is forbidden to connect to the chimney to which the boiler is connected, devices working on gaseous fuel.

► Rooms equipped with well-closed doors and windows cannot in all cases provide sufficient air supply to the boiler. Fresh air for combustion can be provided from other rooms or from the outside. In such cases, it is necessary to ensure a constant supply of fresh air by re-ventilation or equipping the room with a separate air intake. For useful advice, contact a specialist in this matter.

The amount of air required for combustion:

ECO PLUS 30	*40 m3/h*
ECO PLUS 40	*60 m3/h*
ECO PLUS 50	*80 m3/h*

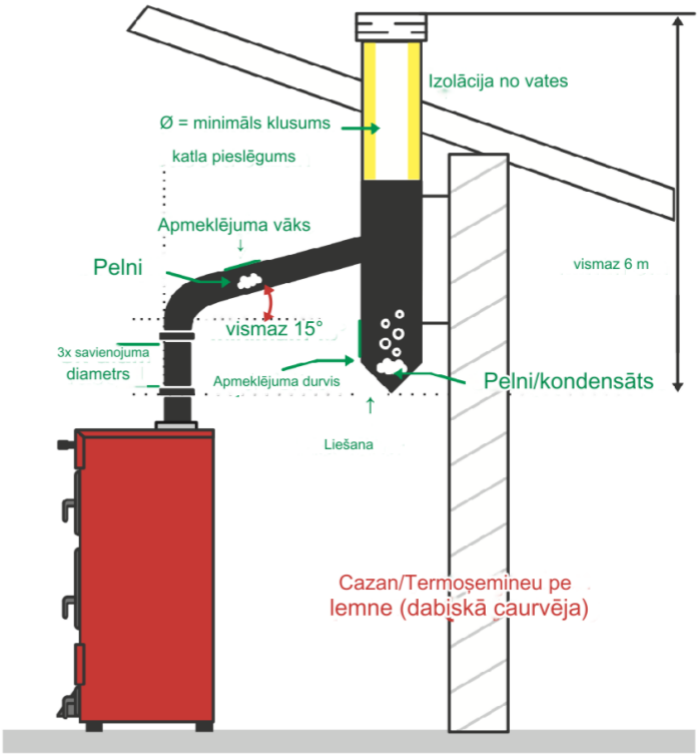
► Exhaust fans located in the same room as solid fuel boilers can cause traction problems.

► **It is forbidden to pass the chimney through other rooms**, right-angled bends will be avoided. Do not use more than one curved elbow to connect the boiler to the chimney. The first deflection element or bend will be installed at a distance of at least 3 times greater from the diameter of the chimney connection. The chimney must be built in accordance with the current regulations in accordance with the authorized persons of STAS 6793 and STAS 3417.

Attention!
Chimneys with insufficient traction impair boiler performance,
In turn, great traction will create phenomena of thermal inertia!

CONNECTION TO WATER

PAREIZI



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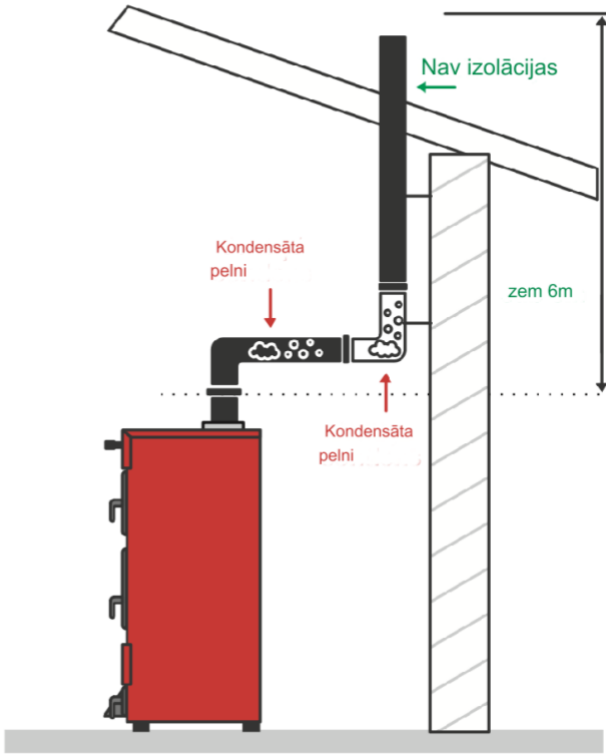

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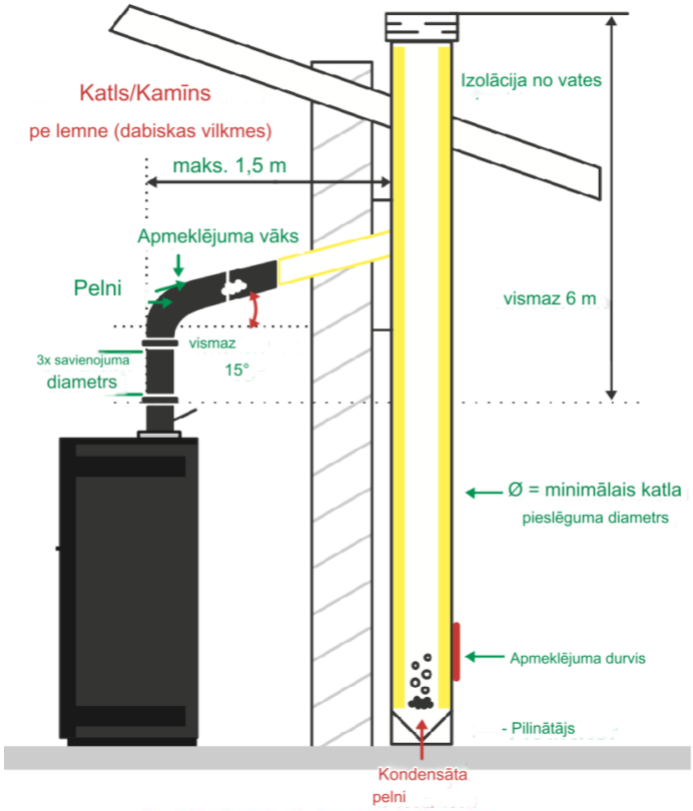

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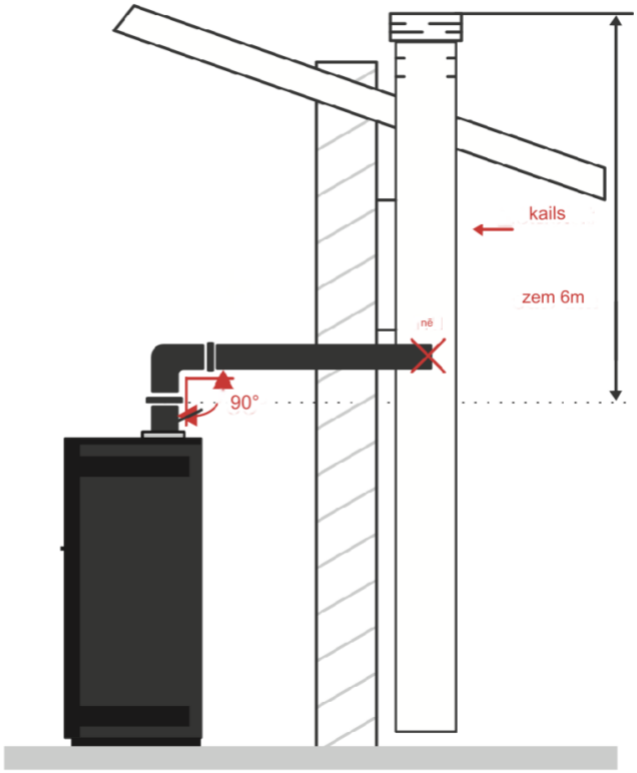

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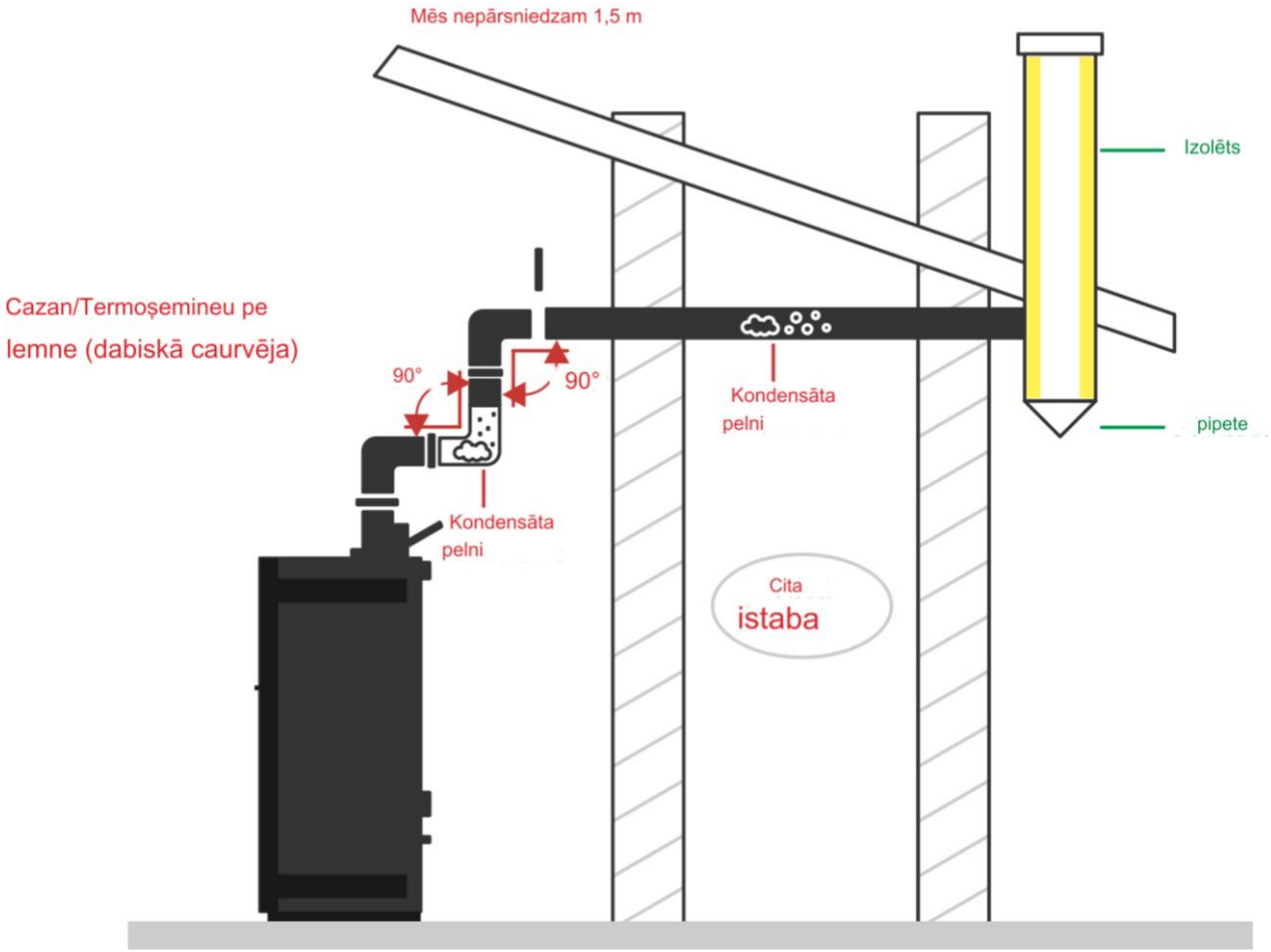
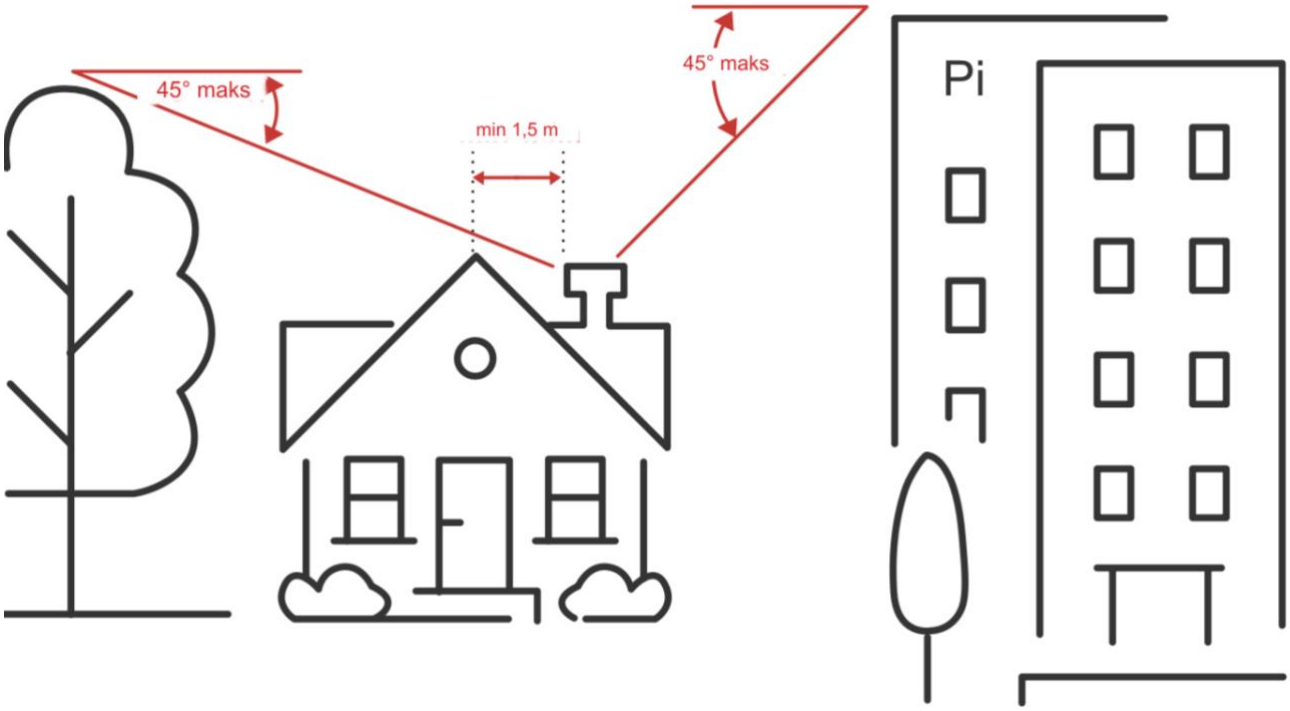
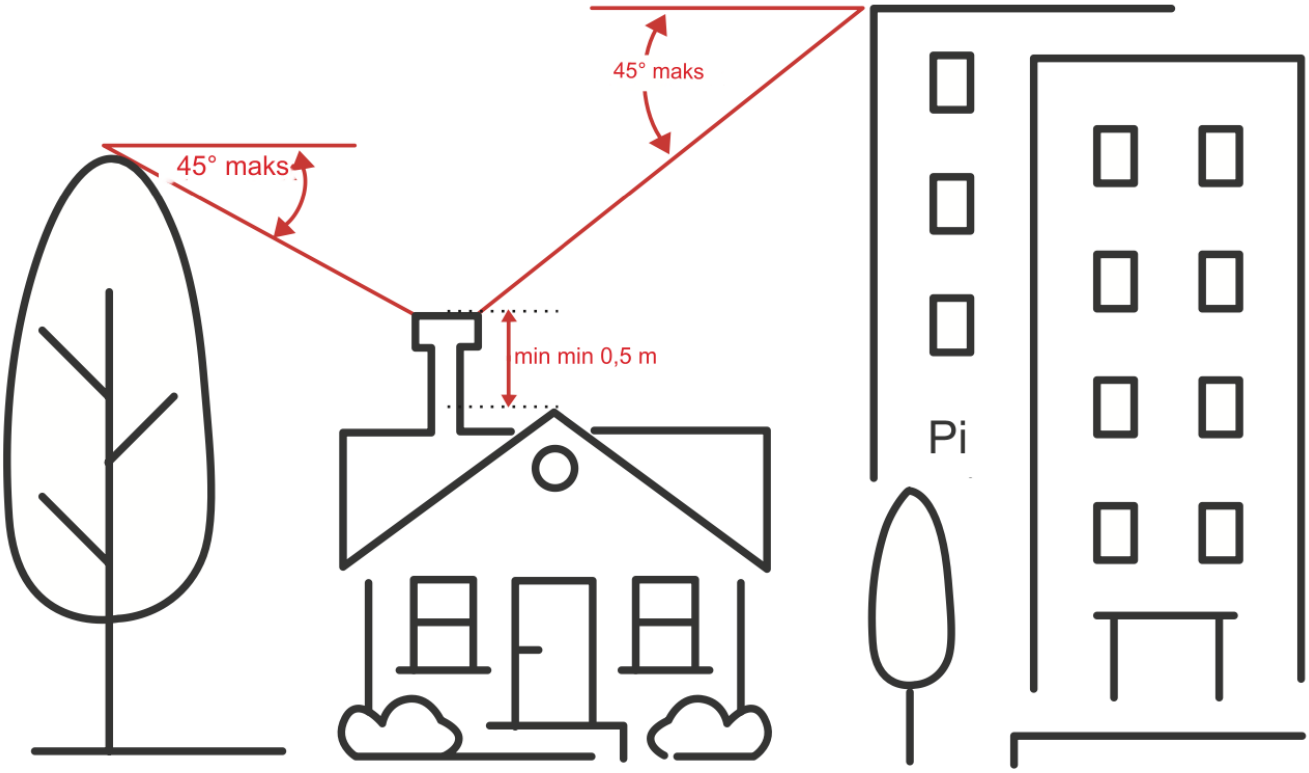


CHIMNEY LOCATION





4.2. HEATING SYSTEM

Hot water heating system connected to the boiler after assembly engineering projects, it is recommended to be carried out by a specialist. The boiler can be connected to a gravitational or forced system (with a pump). The boiler can be connected to an open or closed system with a restriction that the hydrostatic pressure does not exceed 2 bar. The connection to the installation is carried out through two connections with a 2" internal thread.

Closed system

If the boiler is connected to a closed system, it is imperative to install the following components:

- Safety valve (two valves up to 2 bar)
- Closed expansion tank
- Recirculation pump for 2-way thermostatic cooling valve (where water from the mains is flowing) or UPS boilers, ensuring the operation of the pump for recirculation of the heat carrier in the event of a power outage.

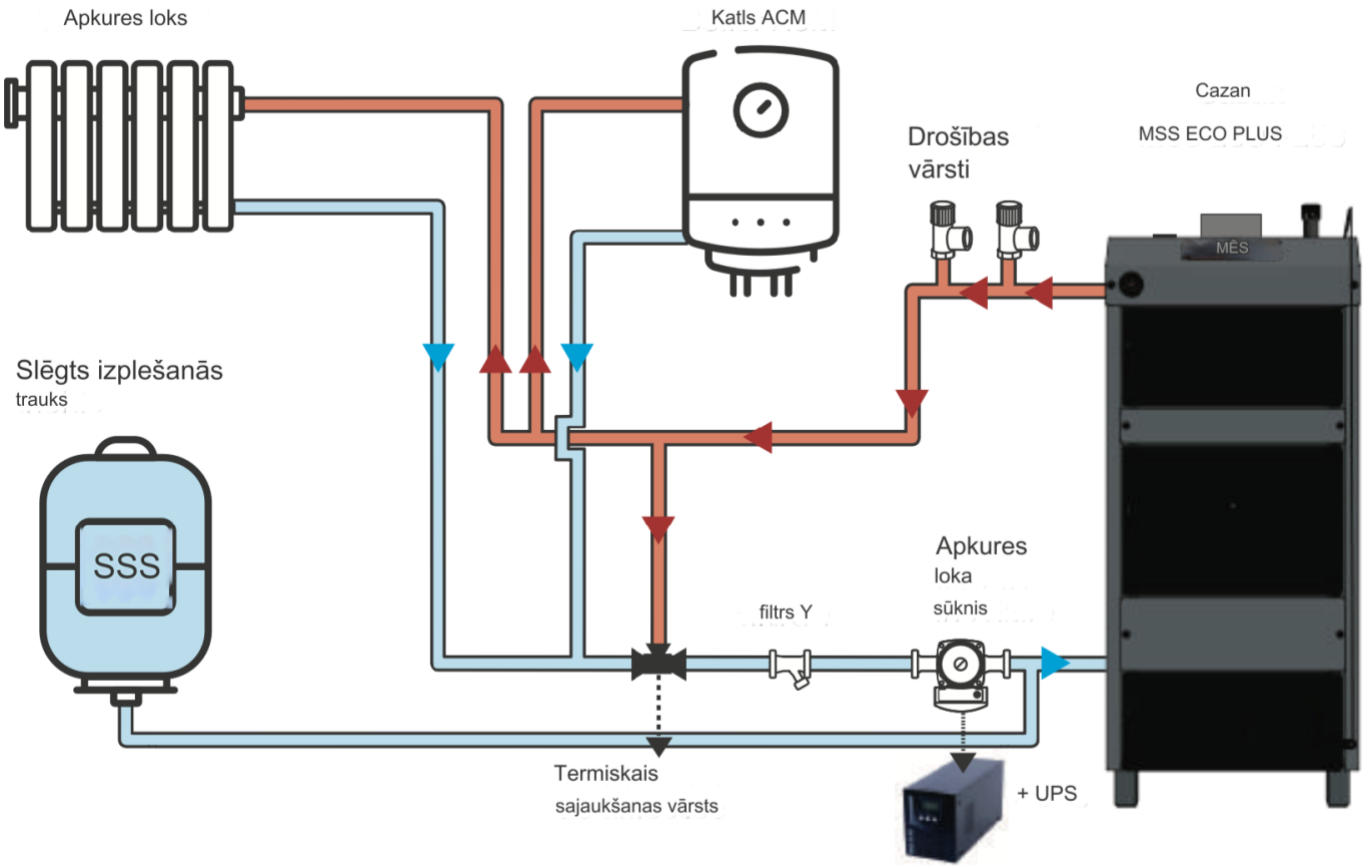
The closed expansion tank must be measured according to the amount of water in the installation and boiler to take over the expansion of the water and the system.

Calculation of the capacity of the closed vessel:

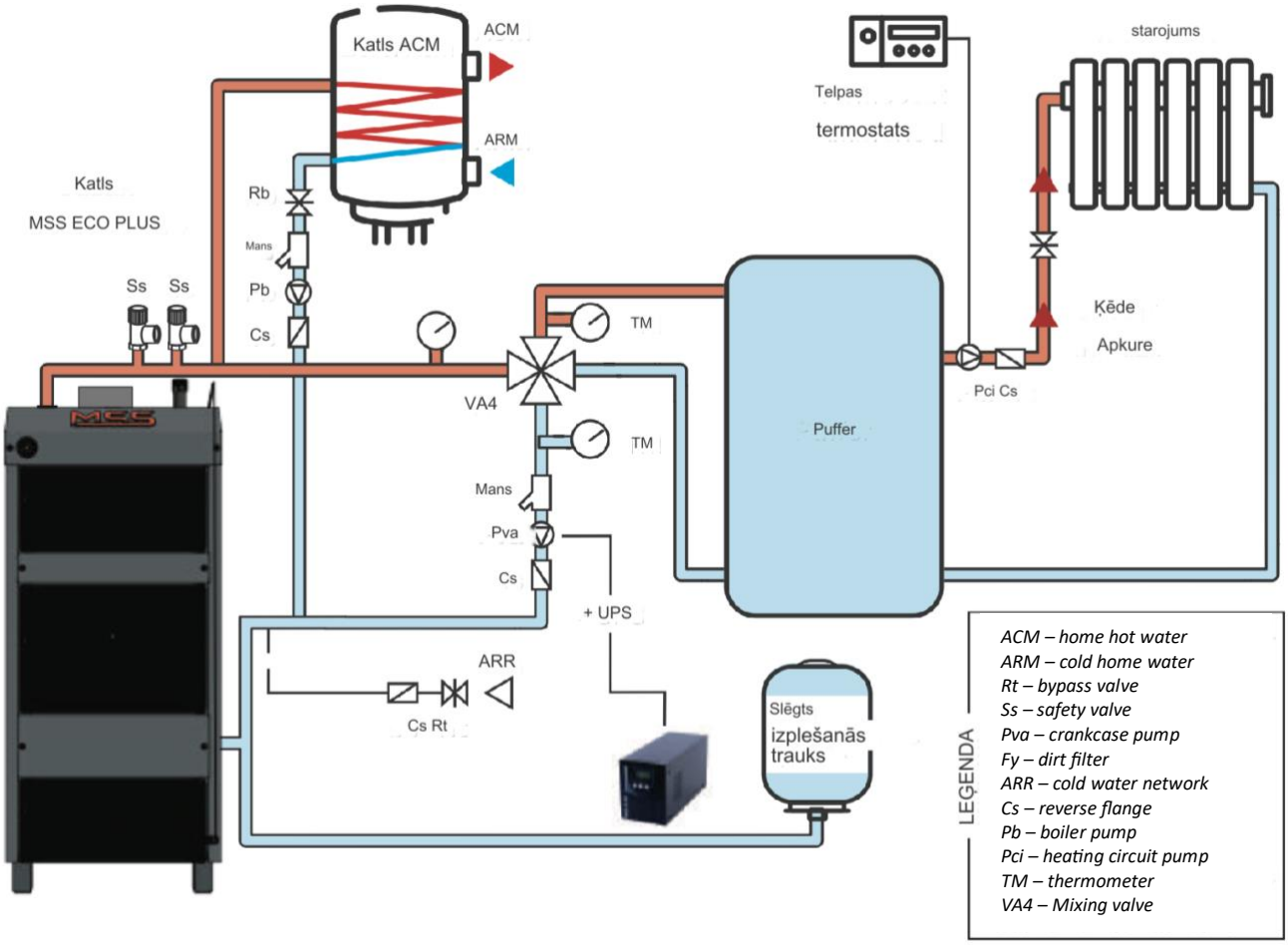
Q= v x (P1 + B) / B x 1.3; where:
Q – tank capacity
P1 – hydrostatic pressure [kPa]
B – pressure difference (50 kPa)
v - volume of water in the system after heating v = G x Δv
G - mass of water [kg] 1.3 - safety factor
ΔV - increase in the volume of water at a certain temperature
(e.g. at Δt = 80°C Δv =0.0355 [l/kg])

At least once a year, check the integrity of the membrane of the expansion tank and the air pressure in it.

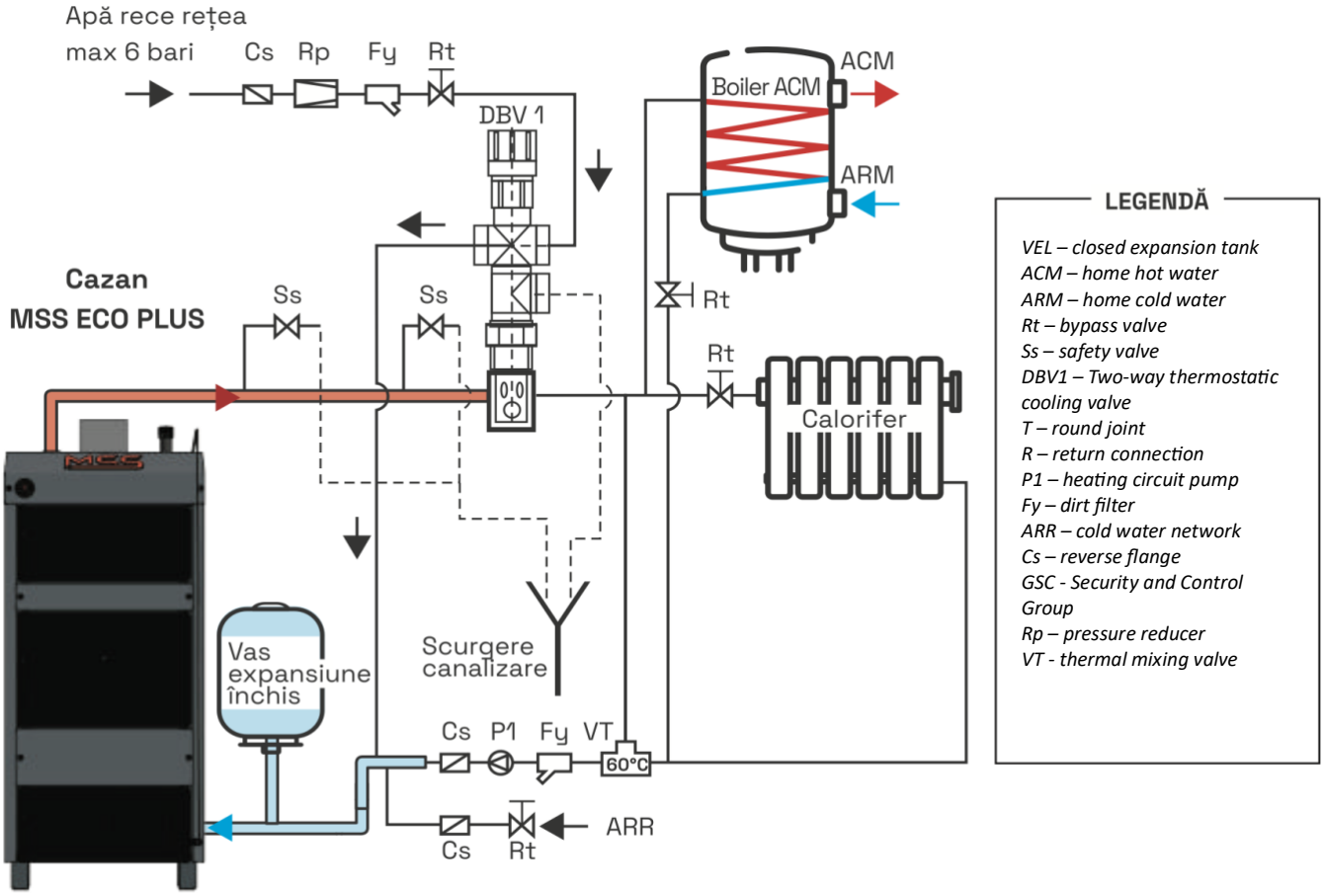
4.2.1. SIMPLIFIED ASSEMBLY SCHEME, CLOSED FILLING SYSTEM WITH ACM BOILER



4.4.2. INSTALLATION DIAGRAM FOR A CLOSED HEATING SYSTEM WITH A HOT WATER BOILER AND BUFFER



4.2.3. HYDRAULIC CONNECTION DIAGRAM WITH A CLOSED EXPANSION TANK, TWO-WAY THERMOSTATIC COOLING VALVE AND STORAGE BOILER *(ONLY IF A CONSTANT SUPPLY OF WATER FROM THE NETWORK IS ENSURED)*



Open system:

The open expansion tank will be installed at the highest point of the installation, but not more than 20m in height, measured from the water intake pipe to the boiler and as close as possible to the vertical axis of the boiler. It will be thermally insulated and protected from frost.

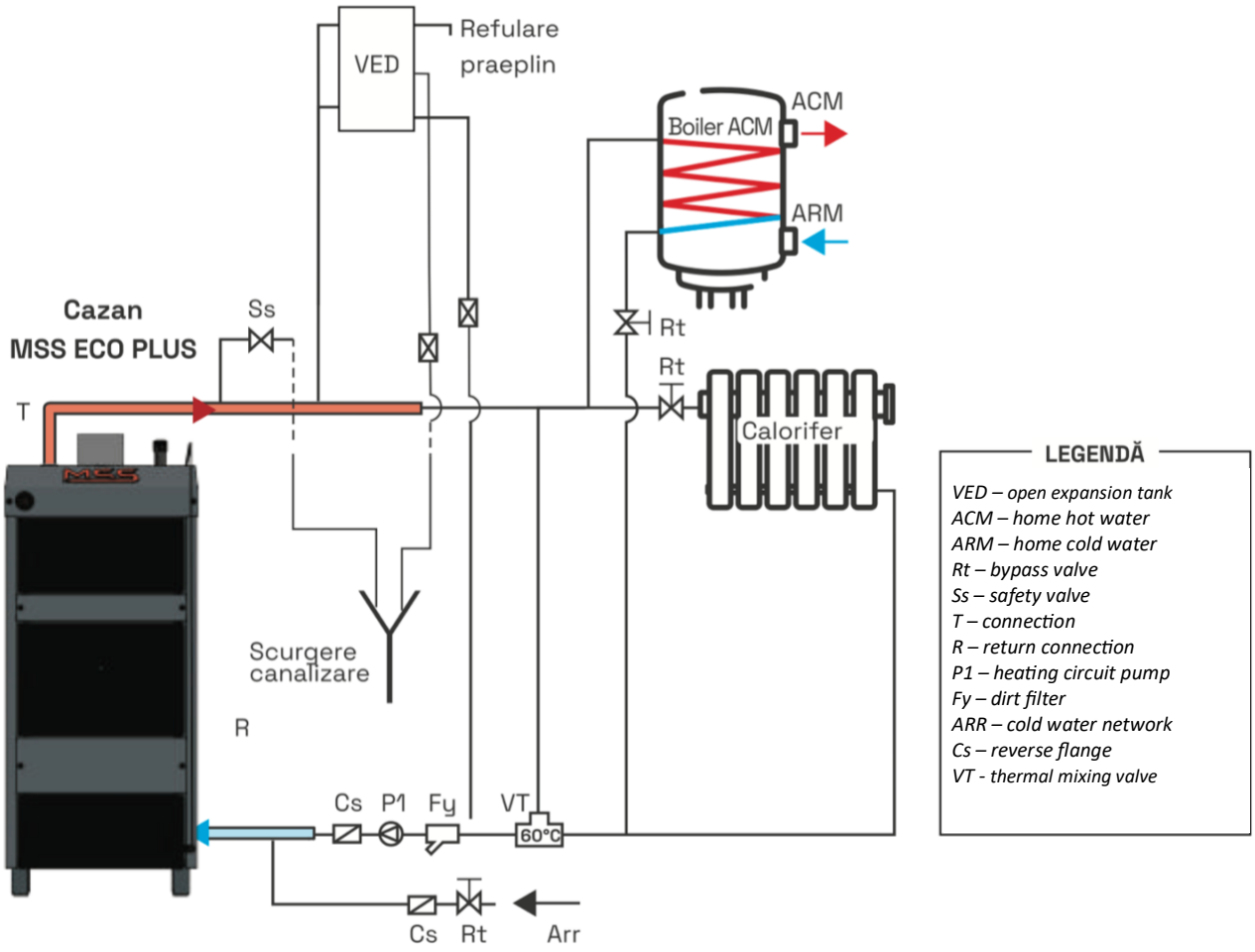
The bottom of the expansion tank must exceed the highest level of the equipment by at least 1,5 m;

Hydraulic balancing of the installation is necessary to ensure optimal supply of all heating elements. This is achieved by:

- selection of pipeline tracks;
- determination of pipe sizes;
- use of circulation pumps

An open expansion vessel is **absolutely indispensable** in equipment with gravity circulation (thermal siphons).

4.2.4. HYDRAULIC CONNECTION DIAGRAM WITH AN OPEN EXPANSION VESSEL AND A HOT WATER BOILER



4.2.5. ENSURING THE MINIMUM TEMPERATURE FOR RETURNING THE BOILER:

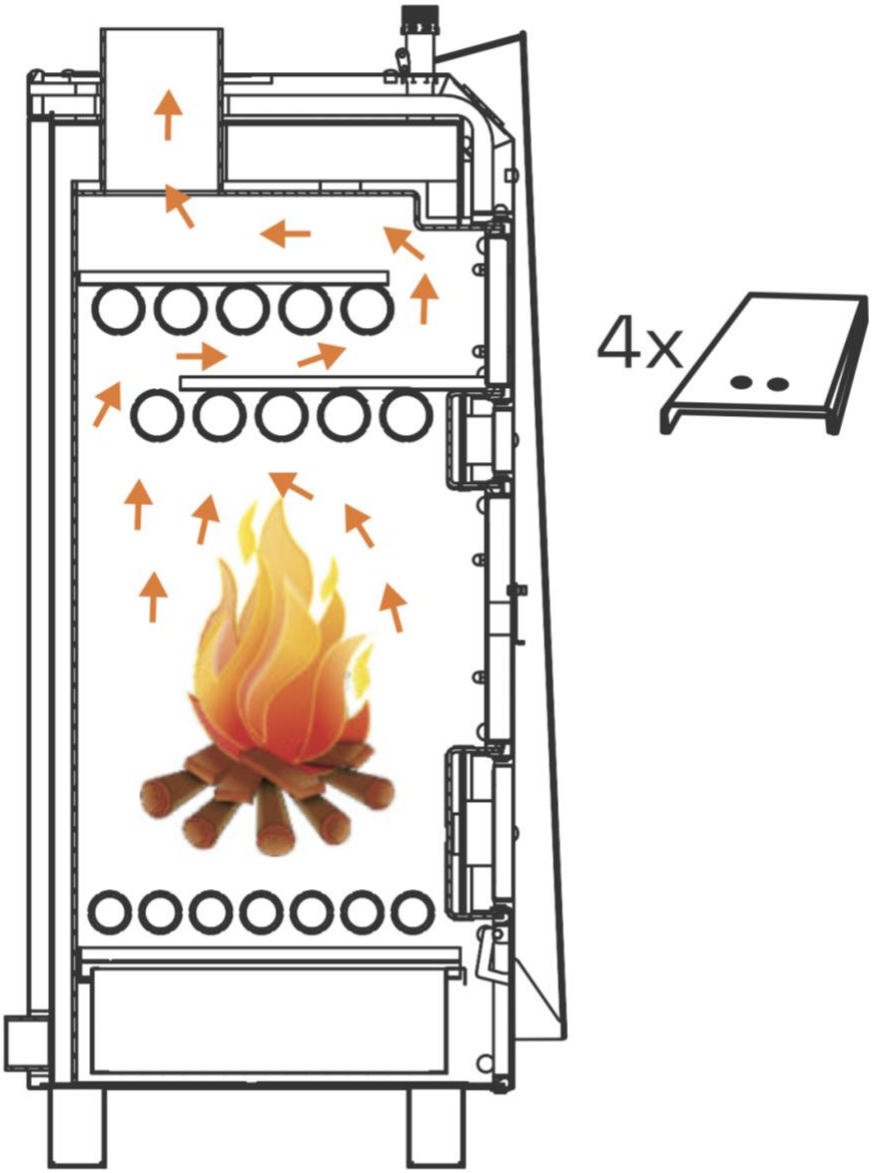
It is important that the temperature of the heating medium does not drop below 60°C in reverse.

Below this temperature, the phenomenon of tar deposition occurs.

To avoid this phenomenon, it is recommended to install a mixing valve or bypass pump with a thermostat and/or blower (storage tank). In this regard, consult with an authorized installer.

4.2.6. PLACEMENT OF GUIDES AND SMOKESTACKS

Installation of 4 conductive plates on the water jacket*:*



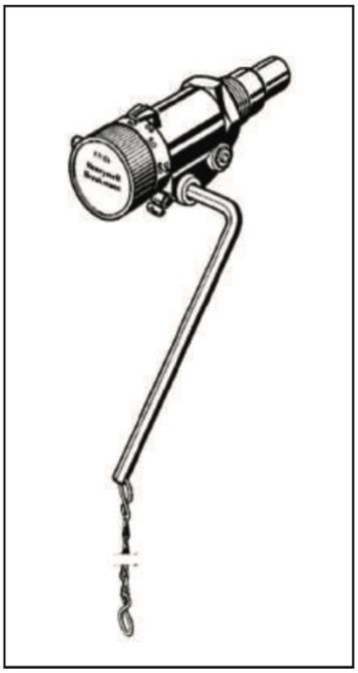
4.3. HYDRAULIC CONNECTION (WATER FILLING)

Once the installation is complete, the system must be filled with water through the filling/draining connection. The filling valve is connected to the boiler in the lower back using a 1/4" connection. With the help of a filling valve, you can refill or, if necessary, drain the water from the equipment. Before filling the installation, it is necessary to open the radiator taps. Filling begins slowly and is considered full when water appears at the overflow of the expansion tank. In the case of a closed system installation, after the appearance of water in the vents, the vents must be closed, and the filling continued to the required pressure. Filling the system ends with closing the tap from the connection to the water network, after which we close the boiler filling tap.

The first filling is recommended to be done by an authorized installer!

5. THERMOSTATIC TUG REGULATOR

The operation of the boiler is controlled and controlled by the draft regulator of the thermostat.



The traction regulator automatically controls the intake of combustion air into the boiler, thereby controlling the intensity of the fire to maintain water at the desired temperature, which allows you to save fuel and increase autonomy.

Assembly instructions:

Screw the 31/2" mount into the hole in the boiler. Tighten and carefully secure so that the arrow is at the top and middle. Insert the locking ring into the recess of the thermostat body, insert the hexagonal handle into it and tighten the latch. screw Install the chain in a hexagonal handle. If you disassemble the regulator, be careful to put it back in the same position. Turn the thermostat to 60°C, fix the hexagonal handle with a slight slope towards the floor so that the circuit is in line with the circuit opening in the air intake valve of the boiler. Adjust the length of the circuit between the regulator and the air intake valve of the boiler. When the boiler reaches a temperature of 60°C, leave for a few minutes for the regulator to stabilize and adjust the circuit so that the air intake valve is closed, and the circuit is stretched. After that, you can adjust the thermostat to the desired temperature. If the boiler has not exceeded the minimum value (about 30 °C) and the regulator is set to 60 °C, the circuit must be stretched, and the inlet valve opened.

6. USE

Proper use of the boiler is more than a simple duty to put out a fire in the boiler, it also requires monitoring, cleaning and maintenance of the central heating system, as well as periodic control. Before starting the fire, make sure that the equipment is completely filled with water and check that the taps are in the correct position. In the case of a pumping heating system, check their power supply. Their release can lead to a malfunction of the boiler, as if a larger amount of cold water accidentally got into a hot boiler. EXPLOSION DANGEROUS!

6.1. LIGHTING THE FIRE IN THE BOILER

Starting a fire in a boiler can be carried out in the following ways:

a) Open the firebox door (feed door) and place enough fuel (wood chips) and pieces of paper on the grill. Ignite the fuel and wait a few minutes until the injected amount of fuel burns and a bed of coal is formed. After the coal layer is formed, carry out the supply of the firebox with briquettes (load no more than 60% of the volume of the firebox) and close the door.

b) In the case of upper ignition, which is practiced for a longer burn, se fill the boiler firebox with fuel. Mack. 60% of the volume. Enough fuel (wood chips) and pieces of paper are injected onto a layer of briquettes, and it ignites. After ignition of the fuel, the fuel door is closed, and the necessary fuel is provided primary air through the adjustable hole and through the grate.

Adjust the desired amount of water in the boiler on the draft regulator of the thermostat, working values between 75-85 °C are recommended.

From now on, the operation of the boiler is provided by a draft regulator depending on the temperature of the heater.

The combustion air, absorbed through the door flap of the ashtray, is distributed under the hearth and is directed between the pipes in the zone of flame formation.

The boiler does not require any other intervention, except to feed it with fuel and remove combustion residues.

Depending on the quality of the fuel after combustion, a larger amount of ash may form, which must be periodically removed to ensure effective combustion.

CAREFULLY! The use of gasoline or other flammable liquids is strictly prohibited!

6.2. FUEL RULES

Recommended consumption of solid fuel per hour by type of boiler

Name	**ECO PLUS 30**	**ECO PLUS 40**	**ECO PLUS 50**
Straw briquettes (kg)	6-7	9-10	11-12
Sunflower shell briquettes (kg)	5-6	7-8	9-10
Sawdust briquettes (kg)	5-6	7-8	9-10
Wooden (kg)	6-7	9-10	11-12

- straw briquettes, humidity 8-10%, calorific value 14-15 MJ/kg,
- Briquettes from sunflower residues, humidity 5-8%, calorific value 17-18 MJ/kg.
- Sawdust briquettes, humidity 8-10%, calorific value 18-19 MJ/kg,
- Firewood with humidity of 20-22%, calorific value 13-14 MJ/kg

The use of larger amounts of these fuels can lead to instability in the operation of the boiler.

7. MAINTENANCE

Properly designed and impeccably performed hot water central heating equipment does not require special maintenance, but periodic cleaning of the boiler must be ensured.

With the help of a scraper, deposits that form on the inner wall of the boiler and on the heat exchanger can be easily cleaned even on a daily basis. For maximum efficiency, the boiler should be cleaned no more than every 2-3 days.

It is also necessary to clean the grate at the bottom of the boiler from deposits.

During the heating season, it is recommended to use a means that removes tar deposits in the combustion chamber and in less accessible places (at least once during the heating season).

Before each start, it is recommended to clean the combustion chamber and slag collector.

- It is forbidden to store sediment in the boiler room.
- It is recommended to check the amount of water and pressure in the system daily. If applicable, damages are compensated.

The heating power of the boiler largely depends on the quality of the fuel used, but the heating process must also be experienced, practiced. Using briquettes from sunflower residues, we can get a higher heating capacity (17-18 MJ/kg) than using straw briquettes (14-15 MJ/kg).

The installation of 4 conductive plates on the water jacket ensures the operation of the boiler with greater efficiency! (they can be removed during boiler maintenance). See sketch 4.2.5.

8. DAMAGE

Damage	Possible cause	Solution
Scale noise during combustion.	Air in the system	Try to empty the system.
Smoke comes out the door.	- impermeable sealing cord - damaged sealing cord insufficient - traction at the chimney	- clean the wire from the boiler door and lubricate the wire with graphite oil. - is replaced - check the chimney with a specialist
The combustion chamber precipitates tar, the boiler does not provide the rated utility, the fuel is completely does not burn.	- dirty or rough walls of the smoke channel, insufficient - traction at the chimney	- check the chimney with a specialist - clean the boiler
Scale noise during combustion in the hearth after refueling.	Insufficient air in the hearth, insufficient traction	This is a natural phenomenon that occurs because of the accumulation of combustion gases. Adjusts the draft to provide more air for combustion.
The boiler does not reach set temperature Low useful power	- insufficient amount of water in the system; - too much pump flow; - undersized boiler; - incorrect fuel quality; - insufficient circulation; - blocked air intake, - uncleaned boiler - improper ignition	- is complete; - the pump speed is adjusted; - design problem; - fuel is changed; - new or cleaned basket; - it's been cleaned up - see "Action"
High water temperature in the heating elements of the boiler, but low water temperature in the heating elements	- high hydraulic resistance in the heating system, incorrectly - incorrectly installed mixing thermostatic valve between boiler flow and return	- increasing pump speed - change of connection position
High water temperature in the boiler and Cauldron wins	- oversized boiler, undersized heating elements, undersized water pump - complex temperature control	- design problem; - the pump speed is regulated; - too large chimney section; - guardian of the combustion air and adjustment of the draft regulator;
The fuel chamber is formed condensation, and black comes out of the fuel door liquid	- boiler power greater than necessary - the water temperature in the boiler is too low	- pour less fuel into the fuel tank - raising the operating temperature so that the temperature of the return water is at least 60 °C
Smoke emission at the boiler chimney connection	- insufficient circulation. - dirty or rough walls of the chimney;	- problems related to Stack - the smoke channel is cleaned

9. USEFUL INFORMATION

► An assembly engineer is responsible for designing the heating system, and a good design is also a guarantee that you have a good and safe system.

► Hot water discharge from the system is prohibited! To obtain hot water, a heating boiler or heat exchanger is connected to the boiler. In the case of a heated floor, it is again necessary to use a heat exchanger.

► To ensure optimal boiler operation, it is necessary to ensure that the temperature of the heating agent does not drop below 60°C in the return direction. Otherwise, tar is deposited, and a tar layer 1 mm thick reduces the yield by 7-8%.

► During operation, make sure that the water temperature in the system is not higher than 80-85°C. The maximum allowable temperature is 90°C.

► It is forbidden to fill or drain water from the system during boiler operation. Filling, emptying is recommended to be carried out only at temp. max. 30°C.

► It may happen, especially on the first ignition, that wet smoke condenses on the body of a cold boiler, as water dissolves slag and black liquid comes out of the ashes. When the boiler heats up, it stops.

► If the temperature of the heating water rises very sharply, immediately open the valves closed in the system and ensure the operation of the circulation pump!

► If the water temperature reaches 90°C, it is recommended to close the air passages and stop the fuel supply. (in these cases, steam begins to form around on the grill, and a rustling sounds noise).

► During the heating season and when the outdoor temperature is below zero, again the boiler is not turned on for a longer time, in order to avoid their damage due to frost, the system must be drained from water or filled with special antifreeze.

► We are not responsible for damages/accidents that occur
due to improper installation and use of the boiler (not in accordance with the instruction).

10. OTHER INFORMATION

► The boiler can be installed only in rooms where there is no danger of fire and explosion. It is recommended to install the boiler in a room where it is easily accessible and access to fresh air is enough.

► On the perimeter of 1.5 m from the boiler, the floor and walls must be made of fireproof material. We recommend placing a steel plate under the boiler body, which exceeds the dimensions of the boiler in front by 0.6m and behind the boiler by 0.6m.

► In rooms where the boiler is located, it is recommended to store fuel for a day, at a distance of at least 1.5 m from the boiler. It is forbidden to use flammable liquid substances (gasoline, diesel fuel, solvent, alcohol, etc.) in a campfire boiler.

► Use paper, shavings for the campfire!

At the beginning of the heating season or after a longer break in operation, it is recommended to check the boiler chimney before commissioning (if it is well fixed).

11. WARRANTY CONDITIONS

1.1. The warranty condition of the device is its commissioning by companies authorized by ISCIR and approved by the manufacturer (commissioning by an authorized person provides the customer with a guarantee that the product is correctly installed and functions within the limits of the parameters set by the manufacturer, life and safety are not subject to danger).
1.2. When purchasing a product, the Buyer is obliged to make sure that the warranty certificate is filled in with all the necessary data, the seller's signature and seal; at the same time request data on the type of transportation, storage, installation, use and proper maintenance of the product, except as indicated in the technical book. All our products are accompanied by a technical book (with instructions for installation, maintenance and operation), a warranty certificate and a declaration of conformity.
1.3. If you find manufacturing defects or product non-conformities, please contact us immediately. It is important that you do this before installing or using the product (if/if applicable);
1.4. Installation, operation and maintenance shall be carried out in accordance with the manufacturer's requirements set out in the manual/instructions for use attached to the product. If you notice that the product is not accompanied by technical documentation, report this problem to the seller.
1.5. The warranty is valid only in the territory of Romania.

2. DURATION OF THE WARRANTY:

2.1. The warranty period is 2 years, starting from the first commissioning of the goods (no later than 3 months from the date of purchase) authorized technical personnel and extended by the deadline that passes from the date of submission of the claim to the date of lifting compliance. Defects in transportation, storage, assembly, use or improper maintenance, use of incompatible or non-original parts, errors or changes made by the installer and/or buyer are not covered by the warranty.
2.2. Unless otherwise specified, the average duration of use of goods purchased in sales stores coincides with the warranty period offered for the goods in question in case of compliance with the conditions of transportation, handling, storage, assembly and operation. .

3. REPAIR/REPLACEMENT UNDER WARRANTY:

3.1. The warranty of the device is determined by its commissioning by ISCIR authorized service companies and approved by the manufacturer (when put into operation by an authorized person, gives the customer a guarantee that the product is installed correctly and works within the parameters set by the manufacturer, life and safety are not endangered).
3.2 Elimination of product defects or replacement of products for which it does not comply within the warranty period that are not applicable to the consumer shall do so within a maximum of 15 calendar days from the moment when the economic operator became aware of the relevant deficiencies. In case of hidden defects, the maximum period (15 days) shall start from the date of completion of the technical examination.

3.3 The warranty for repair or replacement covers any defect in the material or defects in manufacture that would appear during the warranty period is granted if the installation, commissioning and maintenance of the products is carried out by authorized personnel in accordance with the manufacturer's instructions, so that the product does not suffer damage due to installation and maintenance. which would affect its proper functioning or cause it to be discontinued.
3.4. It is recommended to carry out the conformity first of all by repairing the product (it is an immovable product and in most cases the provision of conformity could be carried out without significant inconvenience to the consumer). The customer may also choose to replace the product, unless the chosen corrective measure would be impossible or, compared to any other available corrective measure, would impose disproportionate costs on the seller. 3.5. If the non-conformity is eliminated by repair, the time period provided for in the commercial guarantee of durability is extended by the time of non-operation of the goods from the moment when attention was paid to the non-compliance. the guarantor until the actual delivery of the product to the consumer in good condition, normal use.
3.6. If the non-conformity is eliminated by replacement, the period provided for in the commercial guarantee of durability for the goods replacing the non-conforming goods shall start to run from the date of replacement.

4. LOSS OF WARRANTY:

The product warranty lapses or does not apply in the following circumstances:
4.1 Defects due to improper handling and transportation.
4.2 The defect of the claim is due to faulty installation, unauthorized failure to comply with the requirements of the personnel and the manufacturer. The correct size and installation of the product is carried out by authorized personnel on the basis of the installation project.
4.3. Lack of commissioning (PIF) of ISCIR authorised personnel.
4.4 Installation of the product outside the borders of Romania.

The buyer, when buying a product, is obliged to make sure that the warranty certificate is filled in with all the necessary data, the seller's signature and seal; At the same time, it may request data on the type of transportation, storage, installation, use and proper maintenance of the goods, except as indicated in the technical book.

In order to exercise the rights provided by the warranty, the buyer will present to the seller a warranty certificate, an act of commissioning and the original of the purchase document, as well as a detailed presentation of the detected defect (if possible, images of the product). installation and failure of the product, it helps a lot to reduce the time to solve the complained problem).

The warranty offered does not affect the rights of consumers.

Consumables (descending parts) are covered by the warranty only if they have manufacturing defects at the time of purchase. For proper functioning of the product, warranty granting and inclusion in the average period of use/operation, we recommend checking the descending parts

listed below both at the beginning and at the end of the service season (twice a year) and replacing them as needed.

NON-CASTING PARTS/CONSUMABLES (for an additional fee):

- Heat-resistant wire (door seal)
- Door handle + closing system (roller, nut, etc.)
- Secondary combustion air intake visor + operating and fixation button
- Ash drawer (ash collector)
- Conductive plates (4 plates placed on convection paths)

The parts listed above, due to overheating, aggressive external influences, frequency of use or improper use, have a shorter service life than the service life of the heat exchanger.

If these parts are free from visible manufacturing defects at the time of sale, they are not covered by warranty.

CONTACT SERVICE DEPARTMENT

- Customer Service Analyst 0368.808.080 / 0799.309.000 service@fagmic.ro
- Director service: 0720.100.040 - mail: janos@fagmic.ro
- Responsible for automation (electrical, electronic) 0799.409.409

GUESSES AND INTERVENTIONS ABOUT THE PRODUCT

No.	Product name	Date of submission of complaints	Claimed fault	Service activity performed	Date of repair	Service (parakts, stamp)	Owner's signature	Anot her
1.								
2.								
3.								
4.								

WARRANTY CERTIFICATE

PRODUCT: MSS ECO PLUS boiler. ---------- SERIES.....
MANUFACTURER: SC MIKLOS STEEL SRL
IMPORTER: ----------
SELLER (name and address): ----------
BUYER (name and address): ----------
FISCAL DOCUMENT NO. (invoice/receipt): ----------
BOILER BODY WARRANTY PERIOD: 2 YEARS
AVERAGE DURATION OF USE OF THE PRODUCT: 10 YEARS.
METHOD OF PROVIDING SERVICES: COMPLIANCE
PROVISION OR REPLACEMENT.

The warranty provided to the buyer by the seller is in accordance with the legislation in force in Romania, which is aligned with the legislation of the European Union: the product has a commercial guarantee (in accordance with the conditions specified in the declarations of warranty and related advertising), as well as a legal guarantee of conformity (if the non-conformity appears within 2 years from the delivery of the product) in accordance with GEO 140/28.12.2021.

1. The repair or replacement guarantee covers any defect in the material or manufacturing defect that appears during the warranty period, is granted if the installation, commissioning and maintenance of the product is carried out by authorized personnel in accordance with the manufacturer's instructions, so that the product must not suffer any damage due to installation and maintenance that could affect its correct operation or cause it to be withdrawn from service; Ensuring the conformity of the product will mainly be carried out by repairing the product.
2. The guarantee is valid only on the territory of Romania.
3. The warranty period is 2 years, starting from the date of first commissioning of the goods by the authorized technical personnel and extending by the period that elapses from the date of submission of the complaint to the date of conformity or replacement of the product. product. The warranty does not cover defects resulting from transportation, storage, assembly, improper use or maintenance, use of incompatible or non-original parts, errors or alterations made by the installer and/or buyer.
4. The warranty of the device depends on whether it is transferred by ISCIR approved service companies.
5. Elimination of the defects of the goods or replacement of goods that do not comply with the warranty period, which are not applicable to the consumer, shall be performed not longer than within 15 calendar days from the moment when the merchant became aware of the relevant deficiencies. In case of hidden defects, the maximum period (15 days) shall start from the date of completion of the technical examination.
6. The buyer, when purchasing the product, is obliged to make sure that the warranty certificate is filled in with all the necessary data, the seller's signature and seal; At the same time, it may request data on the type of transportation, storage, installation, use and proper maintenance of the goods, except as indicated in the technical book.
7. In order to exercise the rights provided by the warranty, the buyer is obliged to present to the seller this warranty certificate, the deed of commissioning and the original of the purchase document, as well as a detailed presentation of the detected defect. If the warranty documents are not presented, modified or damaged, the warranty is not offered.
8. In case of defects, the repair of which is out of warranty, upon request, the supplier shall carry out the necessary repairs for a fee.
9. By signing this certificate, the buyer expresses his consent to what is contained in this act and confirms that he has taken over the product in good condition, understood his obligations in order to benefit from the guarantee granted by the seller, in accordance with the legislation. Force.

The warranty offered does not affect the rights of consumers.

CONDITIONS FOR ACCEPTING A WARRANTY CLAIM

When formulating a claim for warranty repair, before dismantling the equipment, 3 photos should be attached - on how to install it in the system, connect safety elements, in which the presence and position of the safety valve, the presence and position of the expansion tank. etc. are clearly visible.

These photos, together with the product and the message, are sent to the service center of MIKLOS STEEL SRL. In the absence of these photographs confirming the presence of security features, the warranty on the product ceases to be valid.

The Buyer confirms that he has read all the points of this warranty certificate and agrees to them.

Salesman	Buyer

Identification data of authorised installation personnel: ----------
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COMPLIANCE DECLERATION

DECLARAȚIE DE CONFORMITATE

(conform cu ANEXA IV din Directiva Europeană 2014/68/EC)

CE

Noi, producătorul **S.C. MIKLOS STEEL S.R.L.** cu sediul în Târnovița, str. Küküllő, nr. 2, Jud. Harghita, C.U.I. RO 26115187, J19/460/2009 declarăm că produsele:

- ☐ **CAZAN MSS ECO PLUS 30 kW**
- ☐ **CAZAN MSS ECO PLUS 40 kW**
- ☐ **CAZAN MSS ECO PLUS 50 kW**

IDENTIFICARE:

Număr de fabricație..... _____
An de fabricație..... _____
Putere termică nominală..... ___kW
Presiune maximă de lucru.....2 bar
Presiunea de încercare.....4 bar
Randament energetic (%).....>78%
Temperatură maximă agent termic.....90°C
Combustibil.....biomasă nelemnoasă

respectă cerințele esențiale de securitate și sunt fabricate în conformitate cu:

- Hotărârea de guvern HG 123/2015 - DIRECTIVA 2014/68/UE
- standardul SR EN 303-5: CAZANE DE ÎNCĂLZIT

Procedura de evaluare a conformității aplicate: modul B.
Organism certificare: : ÉMI-TÜV SÜD Kft, Budapesta.
Adresa: Str. Dózsa György, nr. 26, Szentendre, HU.
Nr. și data certificare : C-2113175-1 / 20.06.2023

Data / Locul
_____ / Târnovița

Semnătura

exemplar producător

MIKLOS STEEL SRL 5 MSS MIKLOS STEEL STOVE J19/460/2009 RO26115187 TÂRNOVIȚA, STR. KUKULLO NR.2 HR. ROMÂNIA