Container Hot Water System

Art number. BHM300, BHM500, BHM750

0902020V1.2pl

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DEAR CLIENT

Congratulations on acquiring the mobile container boiler room! You have become the owner of a modern heating installation that will bring you long-lasting satisfaction if you take good care of it. We wish you always pleasant warmth and safe operation!

Below, you can provide a series of data to facilitate the operation of device

Boiler room's own number:	Dealer's stamp
Date of the first burner service:	
Date of the second burner service:	

At the time of publication, this operating manual described the latest version of this series. However, minor changes may occur due to further design development. All information is non-binding.

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This document applies to the following models: BHM300 / BHM500 / BHM750

CONTENTS

1 .1 Used symbols

Below, the meaning of specific symbols has been explained.

	It denotes the expected response (e.g., operation or function).
	It denotes an unexpected response (e.g., operation or function)
	It denotes work requiring specialized knowledge and technical experience. For your own safety, such tasks should be entrusted to an authorized MTM Dariusz Seferyński service center or directly to the manufacturer. MTM service offers the care of specially trained specialists equipped with the necessary special tools for this purpose.Oznacza odsyłacz do numeru strony (na podanej stronie można znaleźć dodatkowe informacje).
	It denotes content with additional information or advice.
	It denotes the result after completing the verification stage.
	It denotes the end of a given activity, taking into account any corrections.
	

2.1 Purpose – use in accordance with its intended purpose

The container installation has been constructed and manufactured to withstand typical loads encountered during continuous use. This manual provides important safety guidelines for operation, assembly, and maintenance, and is an integral part of the product.

Information:
The boiler manual should be read before commencing assembly and operation. It should be carefully stored for future use. To fully and effectively utilize the device, it is essential to follow the content of the attached manual. Non-compliance and failure to adhere to the recommendations contained in the manual release the Manufacturer from any liability and void the warranty.

2.2 Improper use

The product should only be used according to its intended purpose. Use contrary to its intended purpose may pose risks to individuals, materials, and the environment. Any use of the boiler beyond the scope of its intended purpose constitutes improper use. Improper use also includes the use of consumables and auxiliary materials that do not meet the specifications required for a specific application.

2.3 Safety guidelines

For safety during the operation of the described product, it is necessary to adhere to several safety principles. Therefore, it is essential to follow this manual and all other included instructions within the scope of delivery. The location and method of placing the boiler room should be carefully chosen in accordance with safety instructions, away from flammable objects.

Information:
Various information and warning stickers have been placed in clearly visible areas of the described product. Do not remove any information or warning stickers. In their absence, you or others may overlook hazards and as a result, suffer injuries.

2.4 Stopnie zagrożenia i symbole

Hazard
Informuje o zagrożeniu, które w razie braku odpowiednich środków ostrożności prowadzi bezpośrednio i z pewnością do śmierci lub poważnych, trwałych obrażeń ciała.

Warning
It informs about a hazard that, in the absence of proper precautions, may lead to death or serious bodily injury.

Warning
It informs about a hazard that, in the absence of proper precautions, may lead to minor bodily injury.

Tip
It informs about a hazard that, in the absence of proper precautions, can cause serious damage to the machine or material damage.

Tip
It informs about a hazard that, in the absence of proper precautions, can lead to environmental pollution.

2.5 Warning about manipulation

It is prohibited to make any changes to the parts and components of the installation. The following activities or causing the given state are legally prohibited:

1 Disassembly or deactivation of any elements or parts of the installation with which the device is factory-equipped, before the sale or delivery of the installation to the end customer, or during the use of the installation, unless disassembly is carried out for maintenance, repair, or replacement purposes, and

2 Use of the installation after removal or deactivation of its elements or parts.

Examples of legally prohibited manipulations:

1 Removal or drilling of steel structural elements, buffer plates, heat exchangers, or parts emitting exhaust gases (chimney pipe),

2 Removal or drilling of parts of the fuel delivery system.

3 Use in a condition that does not comply with maintenance or service requirements.

4 Replacement of heating installation parts or parts of the fuel system or electrical system with parts not permitted by the manufacturer.

2.6 Operation safety

Warning

Electrical shock hazard

In case of water leakage: Immediately disconnect the boiler from the power supply, shut off the water supply, and immediately contact personnel with appropriate professional qualifications.

Do not start the vehicle if mental or physical condition does not allow it.

Warning

Poisoning hazard

Fuel vapors are toxic and can cause loss of consciousness and even death. In the presence of vapors or observing fuel leakage: Close the fuel shut-off valve located at the top of the tank.

Disconnect the electrical supply in the fuse box and disconnect the power cables from the power source.

Warning

Fire hazard During operation, some components of the installation become very hot. Do not touch such parts as the exhaust system, heat exchanger, smoke chamber.

Wait for the parts of the installation to cool down before starting work.

The installation can only be used in a state of full technical efficiency, in accordance with its intended purpose, while also remembering to adhere to safety and environmental protection principles.

Faults that affect safety must be promptly rectified by personnel with appropriate qualifications and professional authorizations. Observe the information provided on the information and warning stickers located inside the container.

2.7 Protective clothing

Warning

Risk of injury: Lack or insufficient protective clothing increases the risk of danger.

Always wear appropriate protective clothing during the operation of the installation, such as a helmet, high-top shoes, pants, and jacket.

Always use protective clothing that is in good condition and meets legal requirements.

For your own safety, MTM Dariusz Seferyński recommends using the installation only with appropriate protective clothing.

2.8 Work principles

Unless otherwise specified, before each work, it is mandatory to disconnect the installation from the power source (applies to all models of mobile boiler rooms).

Some tasks require special tools. These tools are not included in the installation equipment but can be ordered.

Unless otherwise specified, all tasks and descriptions require normal conditions.

Ambient temperature	20 °C
Ambient air pressure	1 013 mBar
Relative humidity	60 ± 5 %

Parts that cannot be reused (e.g., self-locking screws and nuts, expansion bolts, gaskets, sealing rings, O-rings, rivets, securing washers) must be replaced with new parts during work.

In some cases, it is necessary to use a screw securing agent (e.g., Loctite®), gasket sealant, and sealing paste. Adhere to the manufacturer's instructions regarding usage.

Elements to be reused after disassembly must be cleaned and checked for damage or wear.
Damaged or worn parts must be replaced. After completing the repair or servicing of the heating installation, its safety must be ensured..

2.9 Environmental protection

During the disposal of used oils, parts, and other materials and auxiliary substances, it is imperative to strictly adhere to the relevant guidelines applicable in the respective country and comply with the law.
Since container installations are not subject to the European Union directive on recycling, there are no statutory rules regarding the disposal of installations. Your distributor, MTM Dariusz Seferyński, will gladly provide you with assistance and information.

2.91 Fire safety

The container installation kit is equipped with an ABC powder fire extinguisher.

During normal operation, the device has hot parts such as the pipe and smoke chamber, which, without proper personal protection, can cause serious burns if accidentally touched.

Incorrect adjustment of closing doors or insufficient draft in the chimney duct can cause smoke to occur inside the boiler room, leading to fatal carbon monoxide poisoning, which is naturally colorless and odorless.
It is essential to check the ventilation openings in the container for clear passage.

2.92 Manual

Before the initial startup, it is essential to thoroughly read the entire user manual. The user manual contains a wealth of information and advice that facilitates operation, servicing, and use of the installation. Only by doing so can one learn how to best adjust the operation of the installation to their specific needs and protect against malfunctions.

Tips

Storing the user manual on the end device will ensure easy access to it whenever needed, facilitating quick access to relevant information and advice in any situation.

For more detailed information about the installation or if you have any questions, please contact the distributor MTM Dariusz Seferyński.

The user manual is an important element of the installation. In case of resale of the installation, the new owner must download the user manual again.

The user manual can be downloaded from the MTM Dariusz Seferyński manufacturer's website.

Additionally, the user manual is available for download from the MTM Dariusz Seferyński distributor's website and on the MTM Dariusz Seferyński website. A paper copy can also be ordered from the MTM Dariusz Seferyński distributor. International website of MTM Dariusz Seferyński: WWW.FIRMAMTM.PL

2.93 Electrical Safety

Before the initial operation of the electrical installation, it is essential to thoroughly read the entire user manual. The manual contains valuable information and tips to facilitate operation, servicing, and use of the installation. This is the only way to learn how to prevent electric shock.

Tips

We recommend seeking assistance from a qualified worker with electrical qualifications.

After positioning the container at its destination and connecting it, electrical measurements should be performed. The scope of electrical measurements must include:

- Insulation resistance of the electrical installation
- Continuity of protective conductors (both main and additional)
- Earth resistance
- Loop impedance
- Differential protective devices.

The electrical component measurements mentioned above should be conducted:

- At least twice a year under normal container operation

- Always when the container has been relocated to a different location

- After each (longer than one month) interruption in container usage

- After every electrical installation service or repair on the container.

Inspect the screw connections annually and tighten if any loosening is detected.

3.1 Manufacturer's warranty, liability

Service work may only be carried out by an authorized MTM Dariusz Seferyński service center, which must confirm their completion as the manufacturer, as otherwise all rights to warranty claims expire. The manufacturer's warranty expires in case of damage and consequential damages caused by manipulation and/or modification of the installation..

3.2 Consumables, auxiliary materials

Tips

Danger of environmental pollution: Improper handling of fuel poses a threat to the natural environment.

Fuel must not be allowed to enter groundwater, soil, or sewage..

Consumables and auxiliary materials should be used in accordance with the user manual and specifications.

3.3 Spare parts and technical equipment

For your own safety, only use spare parts and accessories approved and/or recommended by MTM Dariusz Seferyński. Their installation should be entrusted to authorized MTM Dariusz Seferyński service. MTM Dariusz Seferyński assumes no responsibility for other products and any damages caused by them.

Some spare parts and accessories are listed with specific descriptions in parentheses. Consult with your nearest MTM Dariusz Seferyński distributor for advice.

For current information about your heating installation, visit the website. MTM International Web Portal: WWW.FIRMAMTM.PL

3.4 Service

The key to trouble-free operation and preventing premature wear is the timely execution of service, maintenance, and adjustment tasks for the burner and fuel system, in accordance with the requirements outlined in the user manual. Improper burner adjustment can result in damage or improper operation of the heating system.

Operating the installation in challenging conditions, such as dusty environments, heavy rain, high air temperatures, or improper container transport, may cause excessive wear of components, such as the fuel supply system, fuel system, flue system, or structural fasteners. As a result, it may be necessary to inspect or replace certain parts even before the next scheduled service interval..

3.5 Pictures

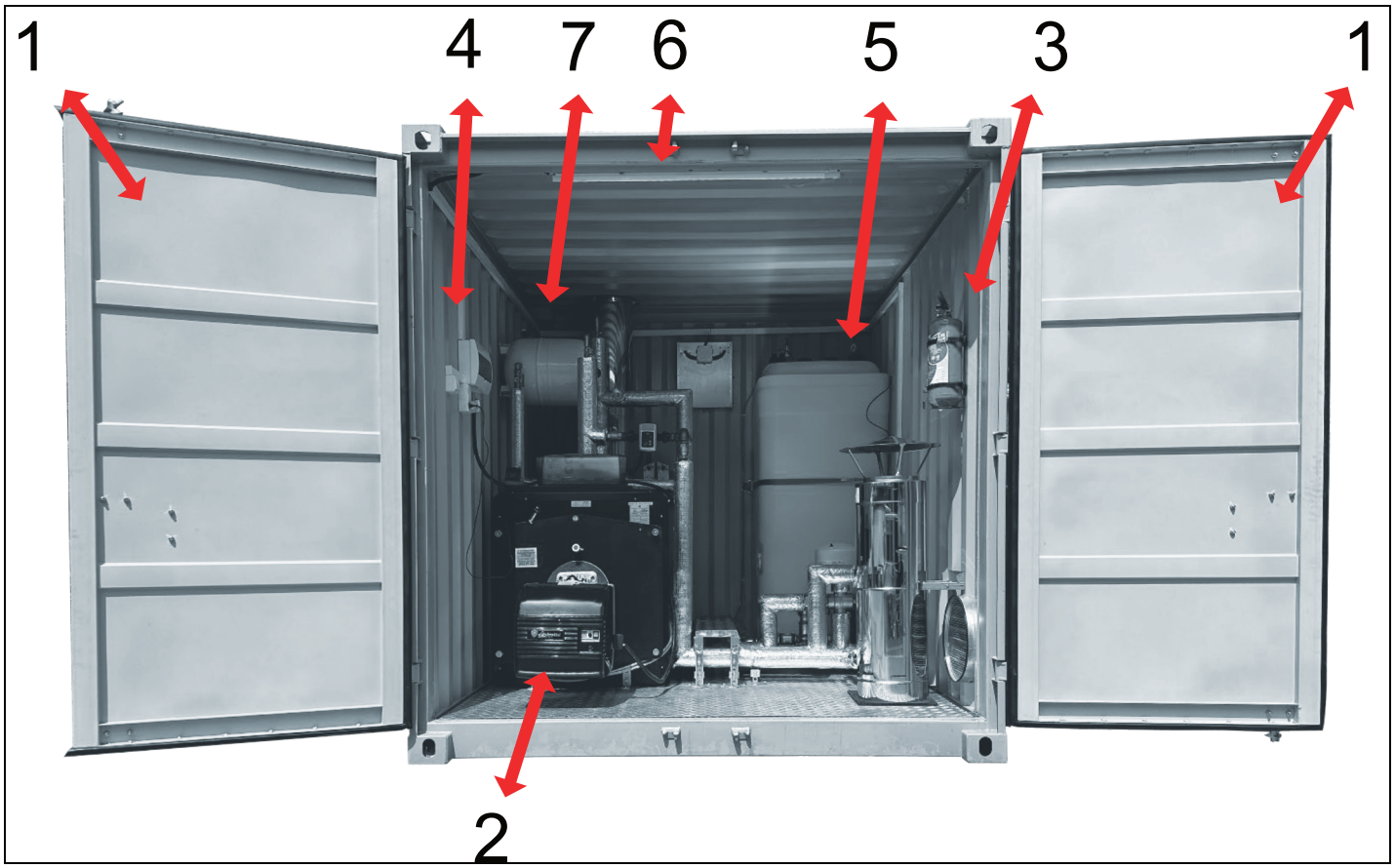
The illustrations included in this manual partially depict additional equipment as well. Some parts may be removed or not fully represented for better illustration or clarification. However, disassembly may not always be necessary. Pay attention to the textual description and follow it accordingly.

3.6 Customer Service

If you have any questions regarding the installation or MTM Dariusz Seferyński company, please contact the MTM Dariusz Seferyński distributor or directly with the manufacturer. You can find contact information for MTM Dariusz Seferyński on the MTM website.

International MTM Dariusz Seferyński web portal: WWW.FIRMAMTM.PL

4.1 Boiler room front view (symbolic view)

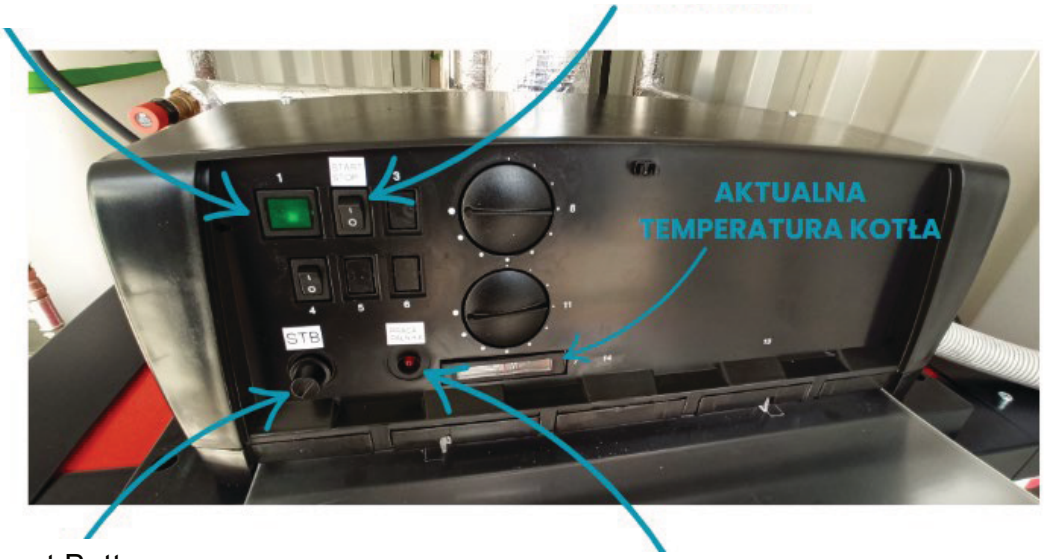


1 Doors
2 Burner section
3 Fire extuing ABC
4 Electrical distribution panel
5 Fuel tank
6 Ligtning
7 Expansion tank

5.1 Front view of the boiler control panel (symbolic view)

Power indicator

START/STOP burner button



STB Reset Button

Burner work indicator

6.1 TURNING ON

WARNING

Danger: Before starting up, remove the protective cap from the chimney and install the chimney pipe with a cap.

6.1.1 FOUNDATION CHECKING

The role of the recipient involves preparing the foundation (the container should be leveled) and securing the necessary electrical, thermal, and water connections for the proper operation of the boiler room. Equipment items that need to be installed after setting up the container are stored inside the boiler room during transport..

6.1.2 CONNECTING

Before starting up, you should fill the fuel tank and ensure that the electrical power supply is connected (verify the connection of the plug to the 5x32A socket at the back of the container). Additionally, check the activation of the electrical circuits in the fuse box.

WARNING

DANGER The hydrophore can only be activated after verifying the presence of water in the suction side of the current water (blue connections). In the absence of water, damage to the hydrophore pump may occur.

6.1.3 CHECKING THE WATER SEETINGS

The factory setting for the mixed water temperature (for typical parameters of hot and cold water installations) is 45°C, but the temperature can be adjusted within the range of 20°C to 65°C using the control knob, and only while the device is operating. The control knob is locked in the factory position with a set screw.

6.1.4 OUTPUT TEMPERATURE SEETINGS

To adjust the temperature, you need to loosen the securing screw and turn the knob according to the arrows:

Red - to increase the temperature,

Blue - to decrease the temperature.

Water outlet temperature

Regulation

7.1 POWERING ALL CONECTIONS

Before starting up, make sure to fill the fuel tank and check if the electrical power is connected (verify the connection of the plug to the 5x32A socket at the back of the container). Additionally, check the connection of the electrical circuits in the fuse box.

7.2 TURNING ON THE INSTALLATION VIA THE CONTROL PANEL

WARNING

DANGER Before starting up, remove the protective plug from the chimney and install the chimney pipe with a hood.

- The burner is started by briefly pressing the 'START STOP' button.
- Readiness for burner operation is indicated by the glowing burner operation indicator LED on the control panel. The LED may also indicate burner operation when the burner is off due to boiler heating, with simultaneous lack of heat uptake by the hydraulic installation.
- The burner is turned off by briefly pressing the 'START STOP' button.

7.3 TURNING ON THE INSTALLATION VIA SMS COMMANDS

The role of the recipient is to prepare the foundation (the container should be leveled) and secure the necessary electrical and plumbing connections for the proper operation of the boiler room. Equipment items that need to be installed after placing the container are placed inside the boiler room during transportation.

7.4 SMS COMMANDS FOR CONTROLLING THE OPERATION OF THE INSTALLATION

SMS MESSAGES SENT TO AUTHORIZED PHONE NUMBERS BY THE MOBILE BOILER SET:

1. Burner Failure
2. Burner Reset
3. POWER FAILURE
4. Power Restored
5. MANUAL RESET REQUIRED - overheating or low glycol level
6. Manual Reset Executed
7. Burner Start
8. Burner Stop

7.5 SYSTEM MESSAGES FOR BOILER CONTROL VIA SMS

7.5.1 Message 1: 'BURNER FAILURE':

Sent in case of a problem with starting the burner or emergency shutdown of the burner - possible causes:

- lack of fuel,

- clogged fuel filter,

- malfunction of one of the burner components (high-voltage transformer, electrodes, motor, photoresistor),
- leakage in the fuel line (fuel pump sucking air),
- misalignment of electrode settings during transport..

7.5.2 Message 2 "Burner reset"

Sent when the burner has been reset either through an SMS command or through on-site operation.

7.5.3. Message 3 "Failure POWER"

Sent in case of a boiler electrical power failure. Service intervention is required to determine the cause of the power failure.

7.5.4. Message 4 „Return POWER"

"Sent in case of the return of power supply to the boiler.

7.5.5 Message „Manual Reset Required"

Sent in case of boiler safety features activation:

- Boiler overheating above 110°C and activation of the safety thermostat STB,
- Low fluid level in the heating circuit.

Operator intervention is required to check the cause of the safety features activation and manually reset the safety features (STB thermostat or water level protection) depending on which safety feature was activated..

7.5.6 Message 6 „Manual RESET executed"

Manual RESET executed (STB protection or low water level).

7.5.7 Message 7 „START Burner"

Start of burner attempted. If the burner fails to start, Message 1 'BURNER FAILURE' will be sent.

7.5.8 Message 8 „STOP Burner”

Sent after stopping the burner operation. The message is sent in case of:

- manual shutdown of the burner on site,
- shutdown of the burner via SMS command, - heating the boiler to a temperature of about 800°C. In the event of heating the boiler to approximately 100°C after cooling down, the burner will attempt to start, and Message 7 'START of burner' will be sent.”

7.1 SMS COMMANDS RECEIVED BY THE SMS MODULE

1. „RESET”
2. „STARTSTOP”

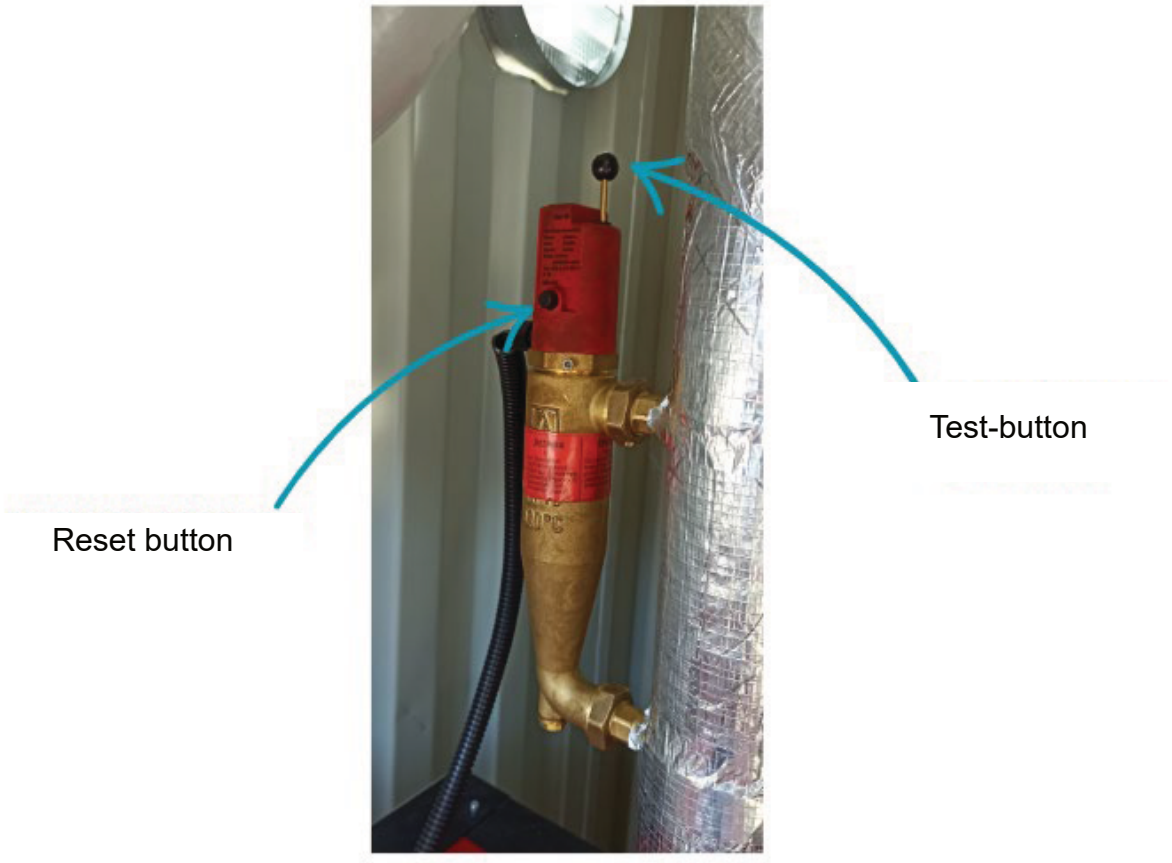
Sending the "reset" command to the container clears the burner malfunction and attempts to start the burner.

Sending the "startstop" command to the container initiates a burner startup attempt or stops the burner operation, depending on whether the burner is currently running or not. A message will be sent to all currently encoded numbers with the content: 'START burner' or 'STOP burner', depending on the current state of the burner.

8.1 MECHANISMS

8.1.1 Water level protection

The water level protection system is located on the hot water pipe above the boiler. Activation of the water level protection causes the burner power supply to be disconnected.



It is recommended to check the proper functioning of the safety features at least once a month. Press the test button and check its operation. After successful operation, press the reset button to restore the burner power supply.

8.1.2 Overheating thermostat (STB).

The boiler overheating thermostat (STB) safety feature is located on the hot water pipe above the boiler. When the boiler overheats, the STB safety feature activates and disconnects the burner power supply.

Black housing

White button

The activation of the STB thermostat results in the disconnection of the burner power supply. To reset the STB thermostat, you need to turn the black cover counterclockwise and press the white button.

Warning
Danger Before starting any service activities, you should:

- Disconnect the electrical power supply.
- Close the fuel supply.
- Use personal protective equipment required by standards and regulations.
- Wait for the boiler and installation to cool down.i

9.1 Periodic maintenance (once every 12 months) is essential for the safety and durability of the device. All operations must be carried out by qualified personnel. Before each maintenance procedure, the electrical power supply must be disconnected, and the fuel supply shut off.

9.2 Boiler

9.2.1 To ensure proper operation and maximum efficiency of the boiler, it is necessary to regularly clean the combustion chamber, smoke channels, and smoke chamber. During routine maintenance, after removing the turbulators, the burner and flame tubes should be cleaned. Check if the control and measuring elements of the boiler are functioning correctly. At this time, also check the amount of glycol in the system. The correct pressure of the "cold system" must be within the range of 0.5-2.0 BAR..

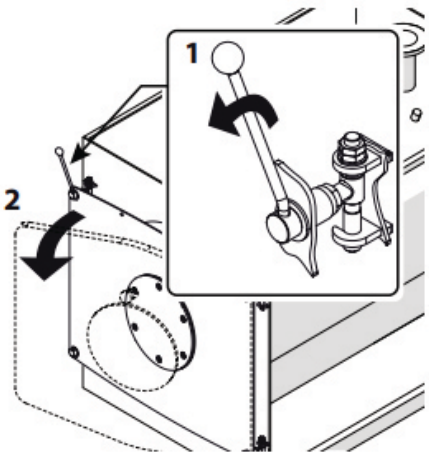
▪ External boiler cleaning.

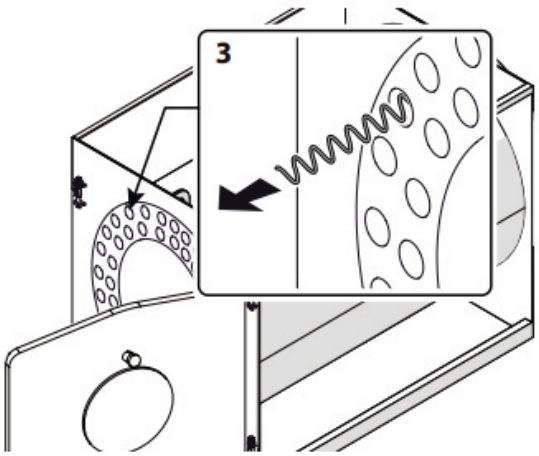
For external cleaning of the boiler (housing), use a cloth dampened with water mixed with denatured alcohol or special non-abrasive products. After cleaning, thoroughly dry the surfaces and ventilate the boiler room.

▪ Internal boiler cleaning.

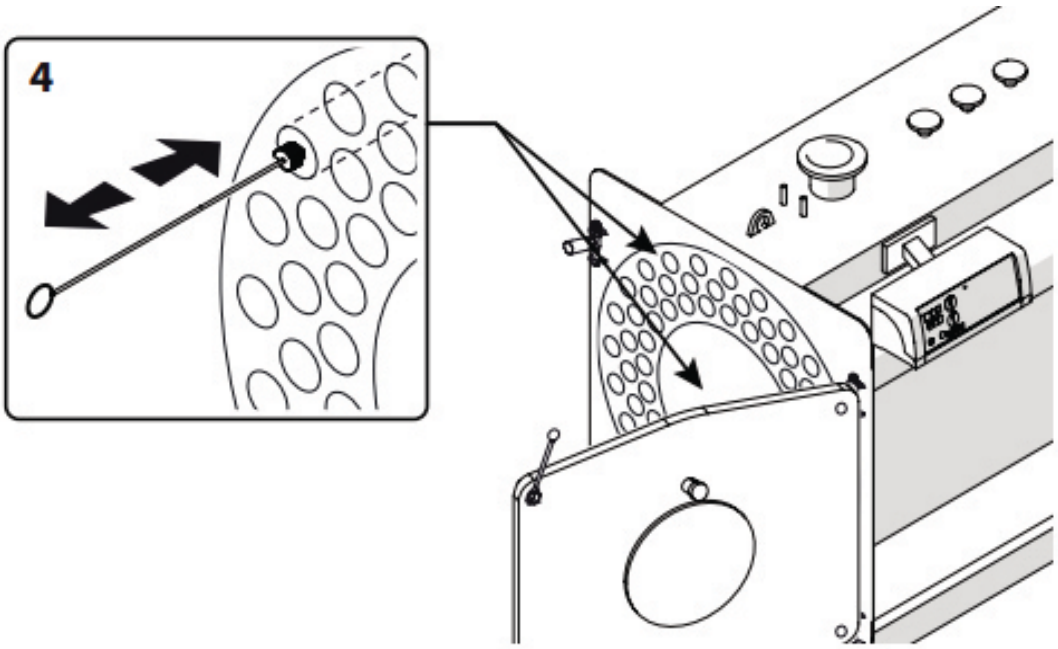
To perform internal cleaning:

- disconnect everything from the burner that prevents opening the doors (fuel lines connected to the burner, euroconnector cable)
- unscrew the rings using the handle (1), open the doors (2), and remove the turbulators (3)





– Clean the surfaces of the tube bundles and combustion chamber using a tube cleaning brush (4) and/or other suitable tools



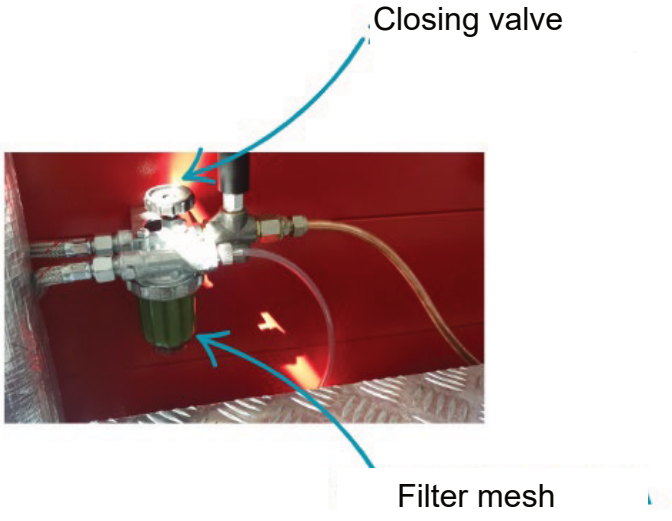
– Remove the inspection cover from the smoke chamber (back of the boiler)
– Vacuum the accumulated deposits through the inspection opening of the smoke chamber.

9.3 Burner

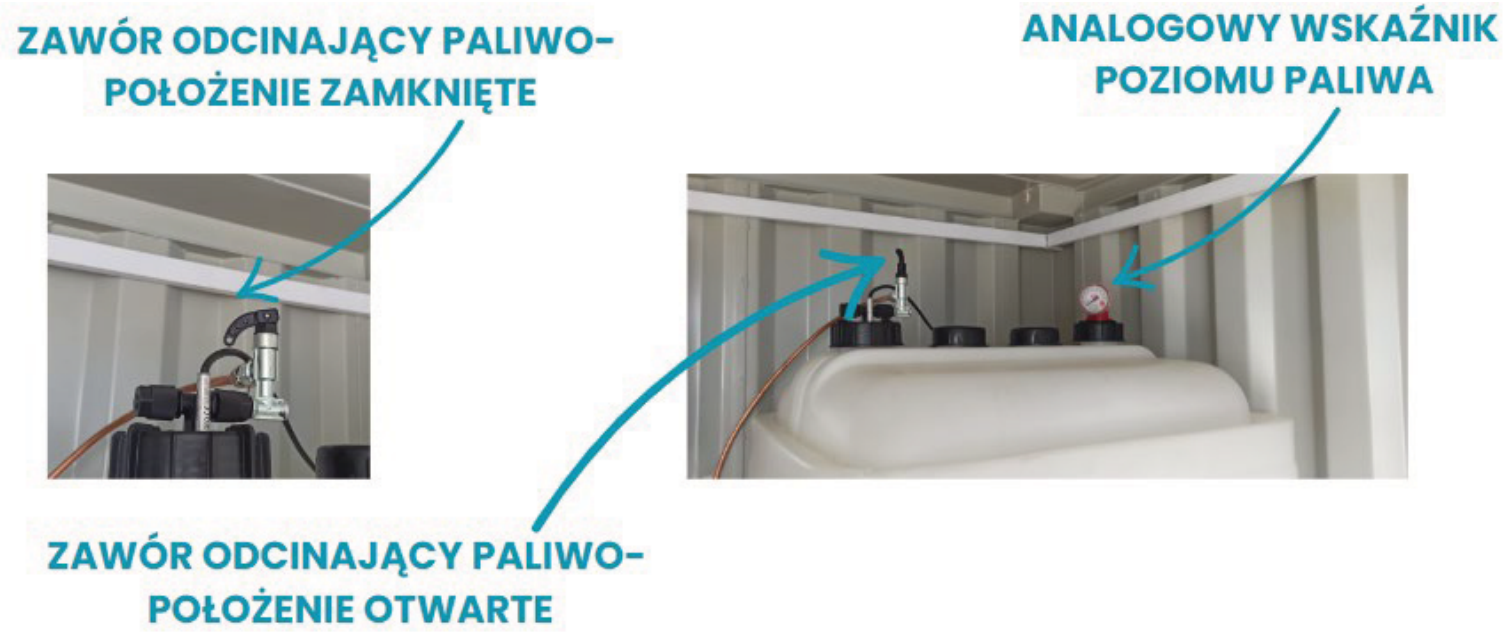
9.3.1 To conduct maintenance and cleaning of the burner, follow the guidelines provided in the burner manual or any additional instructions provided by the burner manufacturer.

9.4 FILTR PALIWA

9.4.1 It is recommended to replace the filter cartridges every 6 months with continuous use of the mobile boiler set. To replace the cartridge, close the shut-off valve, unscrew the retaining ring holding the glass, and gently replace the cartridge by twisting it. When reassembling, ensure the sealing o-ring is correctly positioned. Once the elements are properly reassembled, open the shut-off valve.



9.5 ZBIORNIK PALIWA



9.6 CHIMNEY

9.6.1 At least once a year, or whenever necessary, the chimney should be cleaned.

10.1 PREPARING TO TRANSPORTATION

To prepare the mobile boiler room for transport to another location, follow these steps:

- Cool down the installation.
- Disconnect the power supply.
- Drain the water side of the hydraulic installation and disconnect the hydraulic connection.
- Dismantle the chimney pipe with the chimney cap located above the boiler room's roof and place it in the designated space inside the boiler room, securing it in the dedicated holder.
- Attach a cap with a strap to the external chimney stub.
- Empty the fuel tank.
- Close the fuel shut-off valve on the tank.

11.1 POSSIBLE ANOMALIES AND SOLUTIONS

ANOMALY	CAUSE	REMEDIAL MEASURES
The boiler gets dirty easily	Improperly adjusted burner	Check the burner adjustment (flue gas analysis)
	Clogged chimney flue.	Clean the flue chamber and chimney flue
	Dirty air pathway of the burner	Clean the air pathway of the burner
The boiler does not reach the temperature	Dirty combustion chamber	Clean the combustion chamber
	Misconnection of the boiler/burner	Compare the burner data with the connections indicated in the table
	Insufficient burner power	Check the burner adjustment
	Incorrect adjustment	Check for proper operation
The boiler triggers the thermal safety lock	Incorrect adjustment	Check for proper functioning
		Check the set temperature
		Check the electrical wiring
		Check the STB thermostat probe
	Lack of glycol	Check the pressure in the circuit
	Presence of air	verify the pressure in the circuit
		To check the air release valves
The boiler has reached temperature, but the heating system remains cold	The presence of air in the installation	To bleed the installation
	Circulation pump failure	To unblock the circulation pump
	Incorrect adjustment of the minimum temperature thermostat (when present).	To check the set temperature
	Failure of the minimum temperature thermostat (when present)	To check the efficiency
The smell of unburned products.	Dispersal of flue gases into the surroundings	To check the cleanliness of the boiler body
		To check the cleanliness of the flue duct
		To check the tightness of the boiler, flue duct, and chimney duct
		Check the tightness of the doors
Frequent interventions of the safety valve	Excessive pressure in the system installation	Check the inlet pressure
		Check the pressure reducer
	The expansion tank of the installation is malfunctioning	Check the calibration
		Sprawdzić wydajność

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