METAL-FACH
HEATING TECHNOLOGY

Technical and operational documentation

SE MAX II 15-50

Wood gasification boiler

English

Original Instructions Edition I, 07/2025

Contents:

Introduction

Dear Customer, thank you for purchasing a heating boiler from METAL-FACH Technika Grzewcza Sp. z o.o. We hope that the operation of the device will meet your expectations and provide a lot of satisfaction. The heating boiler has been designed and manufactured in accordance with applicable norms and standards, guaranteeing safe and reliable operation. Operation in strict compliance with the recommendations contained in the instructions attached to the device will ensure optimal and reliable operation of the central heating boiler for many years. The product is not intended for use by persons with reduced physical / mental fitness or lacking experience and knowledge, if these persons are supervised or instructed by a person responsible for their safety. Operation by children is prohibited.

Symbols used in the manual

ATTENTION!
Very important information, always familiarize yourself with it if it appears in a given place.

TIP!
It is worth familiarizing yourself with this information, it makes operation easier.

Introductory activities

(User)

Activities to be performed during the acceptance of the METAL-FACH Technika Grzewcza Sp. z o.o. boiler:

- carefully check the completeness of the delivered boiler (Chapter: Boiler equipment) and whether the boiler has not been damaged during transport,
- compare the nameplate mounted on the boiler casing on the left or right side with your order,
- read the instruction manual carefully - it contains information necessary for the correct use of the boiler.

In case of any problems, please contact the service department or an authorized service center of METAL-FACH Technika Grzewcza Sp. z o.o.. These persons have the appropriate training and access to original parts enabling the correct performance of service activities and assembly of METAL-FACH Technika Grzewcza Sp. z o.o. boilers, confirmed by a certificate issued at the company's headquarters.

General information

(User)

The Technical and Operation Documentation is one of the parts of the product, delivered together with the purchased central heating boiler. The Technical and Operation Documentation contains data on the construction, assembly and method of use of the SE MAX II series boilers. Careful reading of the contents of the operating instructions ensures correct and safe use of our boiler .

ATTENTION!

The user is advised to follow all instructions regarding the device contained in this Technical and Operational Documentation, the Warranty Terms and Conditions and in generally applicable legal regulations.

The boilers are delivered assembled. They are set up and permanently attached to the pallet. Additional protection is provided in the form of foil packaging.
During transport of the boiler, it should be secured against shifting or rotation on the cargo bed of the vehicle using securing equipment, e.g. belts. Transport of boilers should be carried out in accordance with the rules for the transport of materials. Loading and unloading should be carried out using lifting equipment (forklift) with a lifting capacity of more than 1000 kg.

Application

(User | Installer)

Steel water boilers are designed to heat utility water in central heating systems. They are designed to heat residential buildings such as: single-family and multi-family houses, utility buildings, public utility buildings. Thanks to the use of modern design solutions, the SE MAX II boiler achieves efficiency of ≤81%. Correct operation and achieving full boiler capabilities depends on the quality of the installation, appropriate chimney draft, correct operation and maintenance of the boiler .

ATTENTION!

The boilers are designed to operate in open and closed water systems with gravity or forced circulation, equipped with safeguards in accordance with the requirements of the applicable standard PN-B-02413 Heating and District Heating and a closed system in accordance with the standard PN-EN 12828 Heating systems in buildings. Design.

Boiler equipment

(User)

The scope of delivery includes both basic and additional elements, depending on the order placed. Upon receipt, the product should be carefully inspected to ensure that it has not been damaged during transport and to check the completeness of the equipment. The elements included in the basic and additional equipment are described below.

Basic equipment	Unit of measurement	Quantity
Central heating boiler	pcs	1
Thermometer	pcs	1
Ash drawer	pcs	1
Boiler cleaning tools: - poker - brush - scraper	set	1
Boiler leveling feet	pcs	4

Additional equipment	Unit of measurement	Quantity
Thrust meter	pcs	1

Documentation	Unit of measurement	Quantity
Technical and operational documentation of the boiler	pcs	1

ATTENTION!

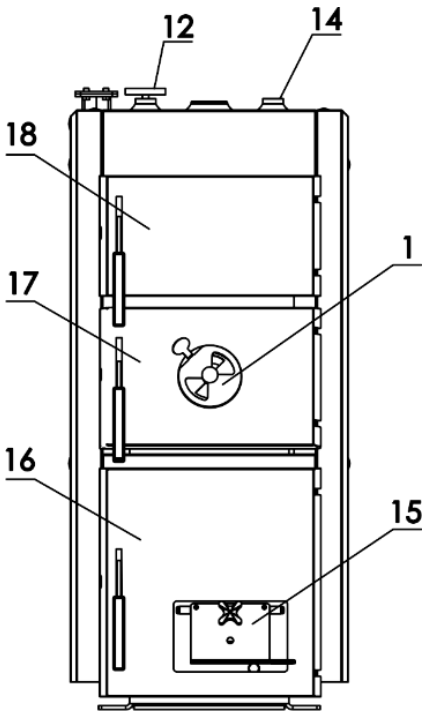
METAL-FACH Technika Grzewcza Sp. z o. o. reserves the right to introduce changes to the technical parameters, equipment and specifications of the goods offered without prior notice.

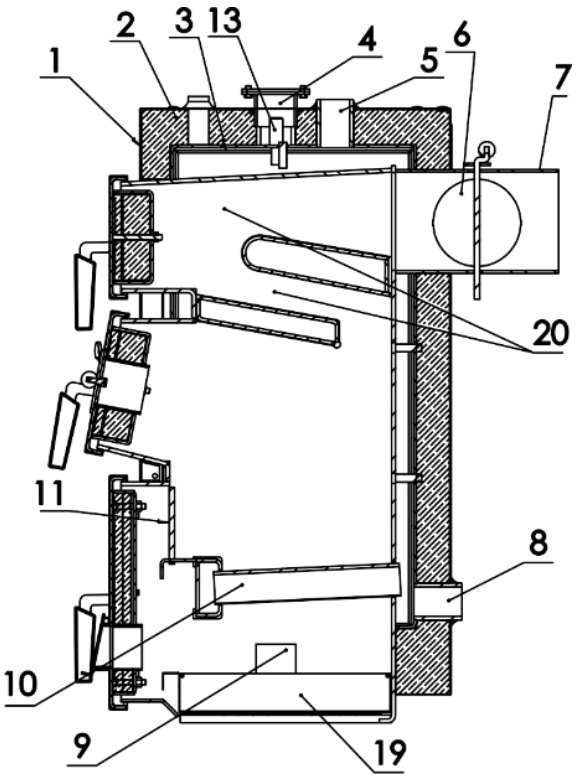
Basic elements of boiler construction

(User | Installer)

The water body is made as a welded structure from certified P265GH steel sheets (for elements in contact with exhaust gases) and S235JR+N (for other elements).

SE MAX II 15 boiler

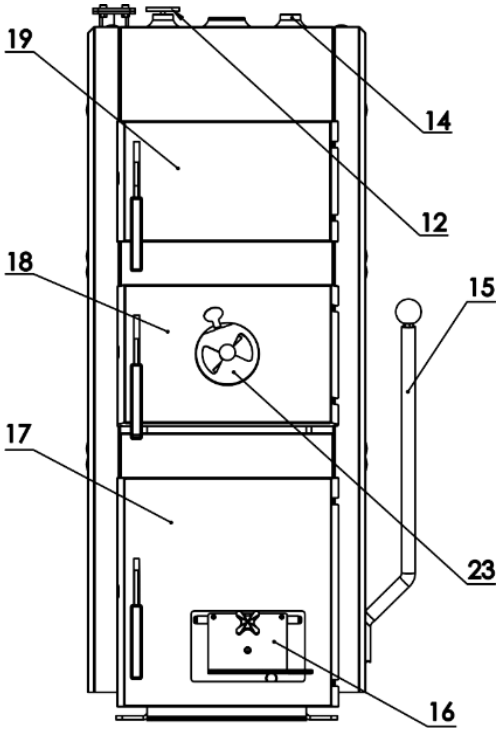


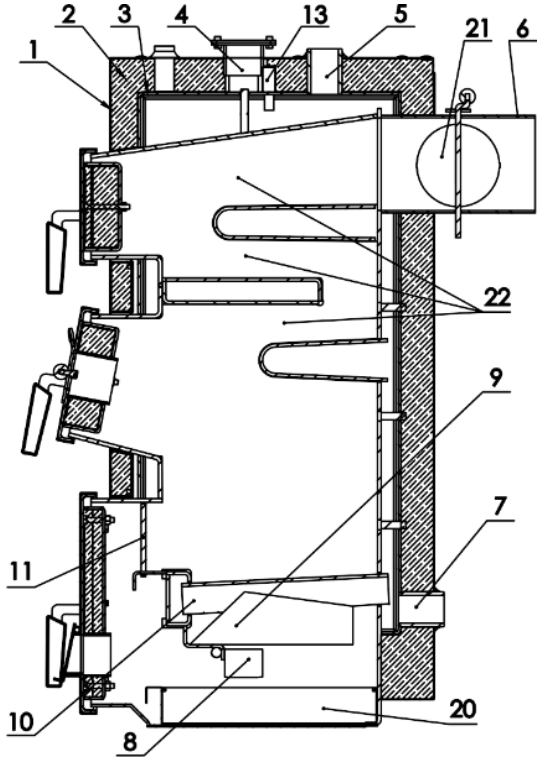


Legend:

1. Boiler casing
2. Thermal insulation
3. Boiler body
4. Fan mount
5. Supply connector
6. Exhaust gas damper
7. The pipe
8. Return pipe
9. Blower window
10. Water grate
11. Slatted doors
12. Thermometer
13. Temperature sensor sockets
14. Draft regulator connector
15. Air dispenser
16. Ash pan grate doors
17. Infeed doors
18. Clean doors
19. Drawer
20. Convection channels
21. Secondary air damper

SE MAX II 20 boiler

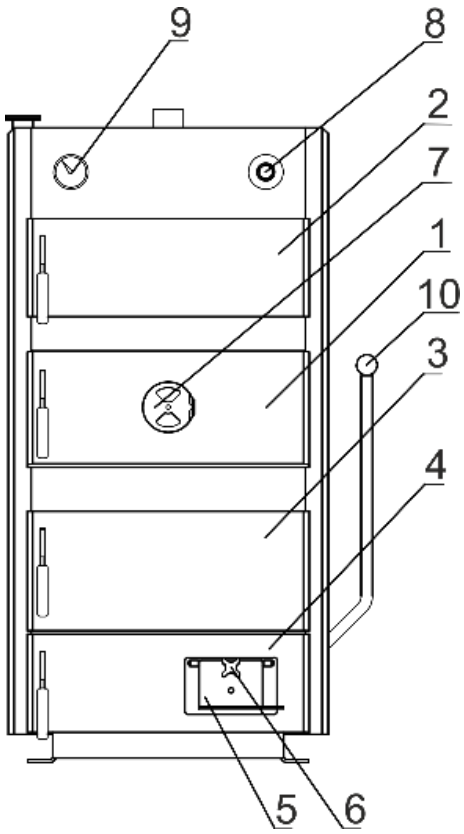


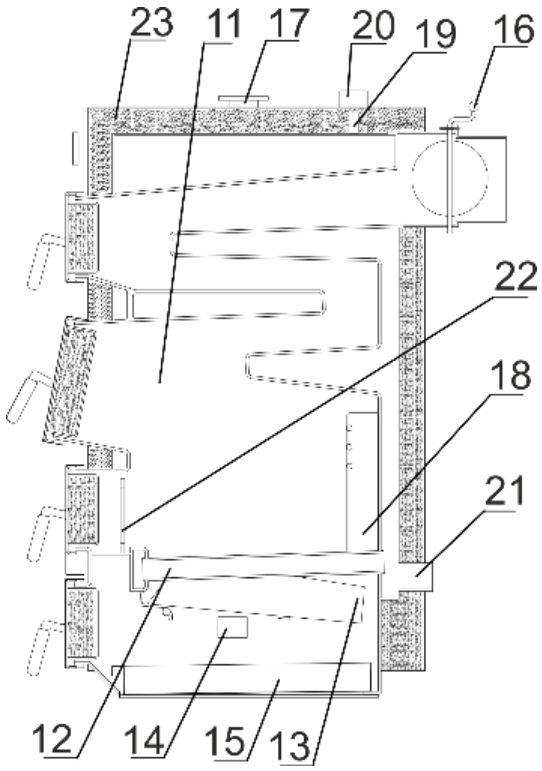


Legend:

1. Boiler casing
2. Thermal insulation
3. Boiler body
4. Fan mount
5. Supply connector
6. The pipe
7. Return pipe
8. Blower window
9. Moving grate
10. Water grate
11. Slatted doors
12. Thermometer
13. Temperature sensor sockets
14. Draft regulator connector
15. Scaffolding lever
16. Air dispenser
17. Ash pan grate doors
18. Infeed doors
19. Clean doors
20. Ash drawer
21. Exhaust gas damper
22. Convection channels
23. Secondary air damper

SE MAX II 25-50 boiler





Legend:

1. Feed door
2. Cleanout door
3. Slatted door
4. Ash pan door
5. Air door
6. Dispenser adjustment knob
7. Secondary air damper
8. Draft regulator connector
9. Thermometer
10. Movable grate lever
11. Boiler body
12. Water grate
13. Moving grate
14. Blower window
15. Ashpan
16. Exhaust gas damper
17. Blower channel
18. Blower channel
19. Temperature sensor sleeve
20. Outlet connector
21. Return pipe
22. Pre-grate door
23. Boiler insulation

Technical data of the SE MAX II 15-50 boiler

(User | Installer)

Parameters		SE MAX II			
		15	**20**	**25**	**30**
Nominal thermal power	[kW]	15	20	25	30
Heating surface	[m^2]	0.85	1.15	1.56	2.19
Water capacity	[L]	30	41	56	71
Maximum operating pressure	[bar]	3	3	3	3
Maximum operating temperature	[^{o}C]	80	80	80	80
Test pressure	[bar]	4.5	4.5	4.5	4.5
Boiler class	[-]	-	-	-	-
Boiler efficiency	[%]	-	-	-	-
Fuel	[-]	Firewood - logs (split) with moisture content Wc = 12-20%			
The circumference of the clearings (splitter)	[cm]	-	-	-	-
Length of logs (split)	[cm]	-	-	-	-
Electrical connection	[-]	-			
Temperature controller setting range	[^{o}C]	-			
Required chimney draft	[Pa]	-	-	-	-
Design flow resistance ΔT [10K]	[mbar]	0.14	0.23	2.77	8.79
Design flow resistance ΔT [20K]	[mbar]	0.07	0.12	1.19	2.19
Boiler weight	[kg]	160	198	260	330

*Boiler weight +/- 5kg.

Parameters		SE MAX II		
		35	**40**	**50**
Nominal thermal power	[kW]	35	40	50
Heating surface	[m^2]	2.27	2.48	2.70
Water capacity	[L]	87	93	111
Maximum operating pressure	[bar]	3	3	3
Maximum operating temperature	[^{o}C]	80	80	80
Test pressure	[bar]	4.5	4.5	4.5
Boiler class	[-]	-	-	-
Boiler efficiency	[%]	-	-	-
Fuel	[-]	Firewood - logs (split) with moisture content Wc = 12-20%		
The circumference of the clearings (splitter)	[cm]	-	-	-
Length of logs (split)	[cm]	-	-	-
Electrical connection	[-]		-	
Temperature controller setting range	[^{o}C]		-	
Required chimney draft	[Pa]	-	-	-
Design flow resistance ΔT [10K]	[mbar]	12.88	17.75	26.51
Design flow resistance ΔT [20K]	[mbar]	3.22	4.43	6.62
Boiler weight	[kg]	350	370	395

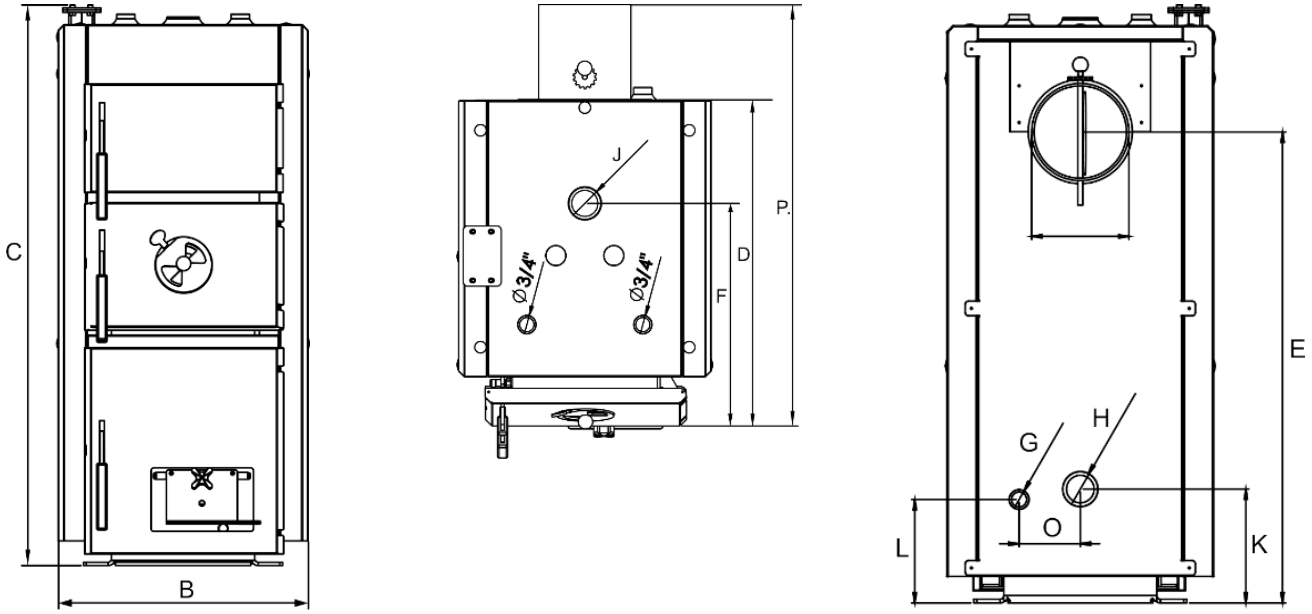
*Boiler weight +/- 5kg.

Dimensions of the SE MAX II 15-50 boiler

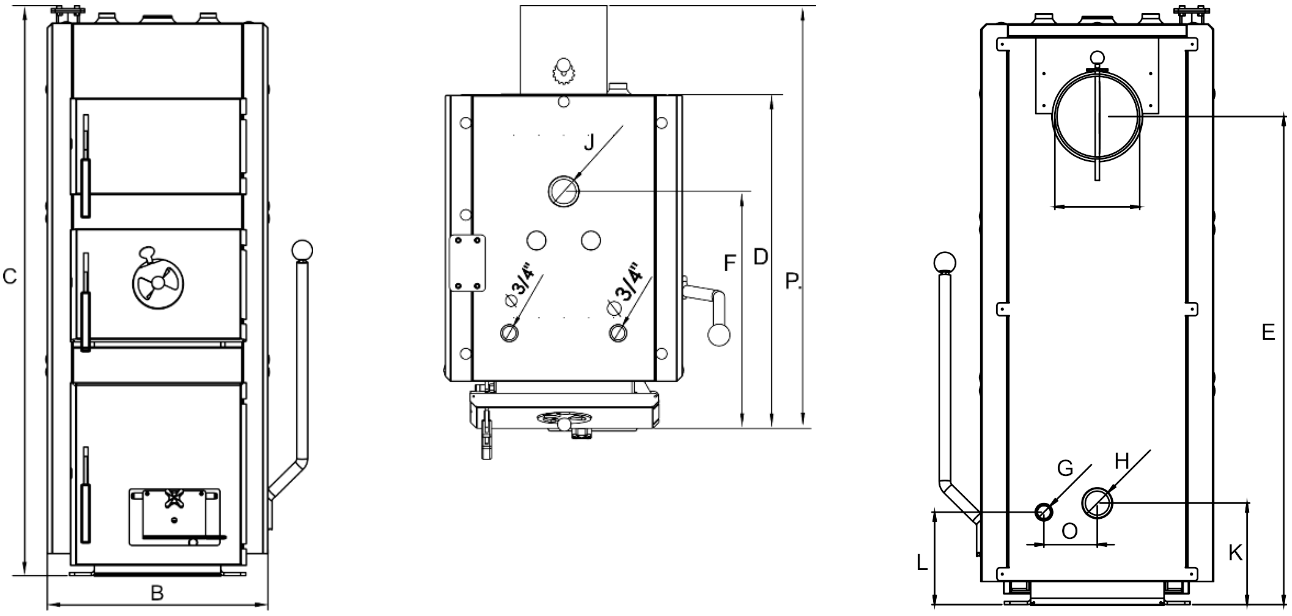
(User | Installer)

ATTENTION!
The boilers have 30 mm high feet.

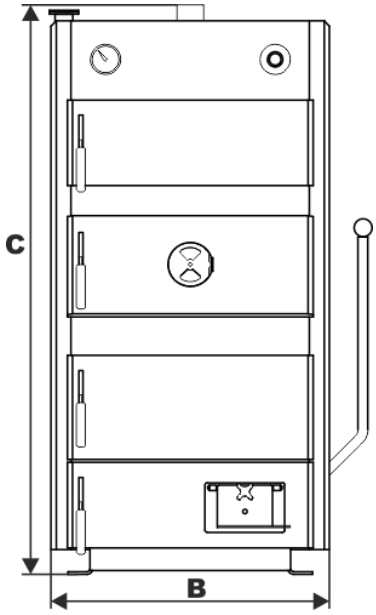
SE MAX II 15 boiler

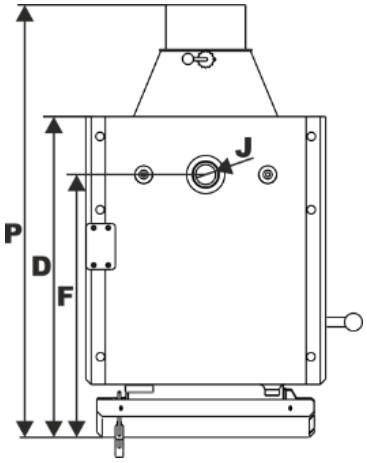


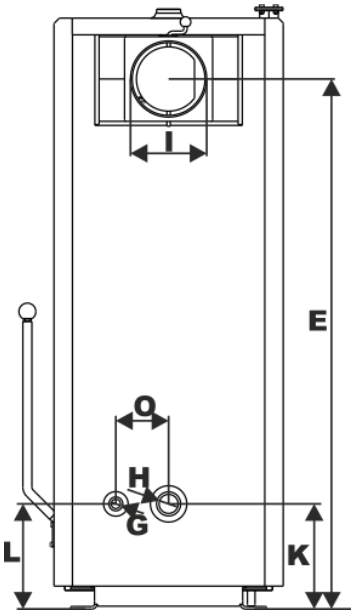
SE MAX II 20 boiler



SE MAX II 25-50 boiler







Dimensions	SE MAX II						
	15	**20**	**25**	**30**	**35**	**40**	**50**
A	-	-	-	-	-	-	-
B	436	436	450	510	530	580	630
C	962	1122	1201	1256	1256	1256	1256
D	561	613	695	804	804	804	804
E	770	914	1035	1090	1090	1090	1090
F	383	435	547	671	671	671	671
G	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
H	1.5"	1.5"	1.5"	1.5"	1.5"	1.5"	1.5"
I	160	160	180	180	180	180	180
J	1.5"	1.5"	1.5"	1.5"	1.5"	1.5"	1.5"
K	186	190	253	253	253	253	253
L	169	173	241	241	241	241	241
M	-	-	-	-	-	-	-
N	-	-	-	-	-	-	-
O	100	100	125	125	125	125	125
P	726	777	921	1029	1029	1029	1029
R	339	312	351	323	323	323	323
S	332	376	420	520	520	520	520
T	238	238	258	318	338	388	438
Loading hole	238x190	238x190	258x190	318x238	338x238	388x238	438x238

*The dimension does not include the height of the boiler leveling feet

Fuel

(User)

The fuel used to fire the boiler is wood chips, logs of hardwood, the dimensions and moisture content are given in the chapter "Fire data".
technical boiler".

- humidity 12 – 20%,
- ash content ≤ 1%,
- calorific value >17 MJ / kg.

Requirements for boiler rooms and boiler installation

(User | Installer)

In Poland, boiler rooms built for solid fuel should meet the requirements of the standard PN-87/B-02411 "Boiler rooms built for solid fuel" and Journal of Laws 2015.0.1422. They have been divided into two types:

1. For small boiler rooms up to 25kW, the following requirements should be met:

- the boiler should be placed as centrally as possible in relation to the heated rooms and in a separate room;
- the material from which the floor in the boiler room is made should be non-flammable, in the case of flammable material the floor should be covered with 0.7 mm thick steel sheet at a distance of at least 50 cm from the edge of the boiler; the boiler should be placed on a foundation made of non-flammable materials, protruding 0.05 m above the floor level and edged with steel angles;
- There should be artificial lighting in the room, but natural lighting is also recommended;
- the positioning of the wheel in the room should allow free access to the boiler during cleaning and maintenance; the distance of the back of the boiler from the wall should not be less than 70 cm, the side of the boiler from the wall not less than 100 cm, and the front of the boiler from the opposite wall not less than 200 cm;
- the height in new buildings should be at least 220 cm, in the case of existing buildings the height of the boiler room is at least 190 cm, with proper ventilation (supply and exhaust);
- supply ventilation should be provided by means of a non-closing opening with a minimum cross-section of 200 cm^2 and located no higher than 100 cm above the floor;
- exhaust ventilation should be carried out using an exhaust duct made of non-flammable material with a minimum cross-section of 14 x 14 cm with an inlet opening under the ceiling of the boiler room; the exhaust duct should extend above the roof and be placed near the chimney; the exhaust duct must not have any devices that would allow it to be closed;
- the cross-section of the chimney should be no less than 20 x 20 cm;
- There should be a floor drain in the floor of the boiler room;
- the optimal place for storing fuel is a separate room located near the boiler room;
- ash and slag should be collected in appropriate containers that can be emptied daily.

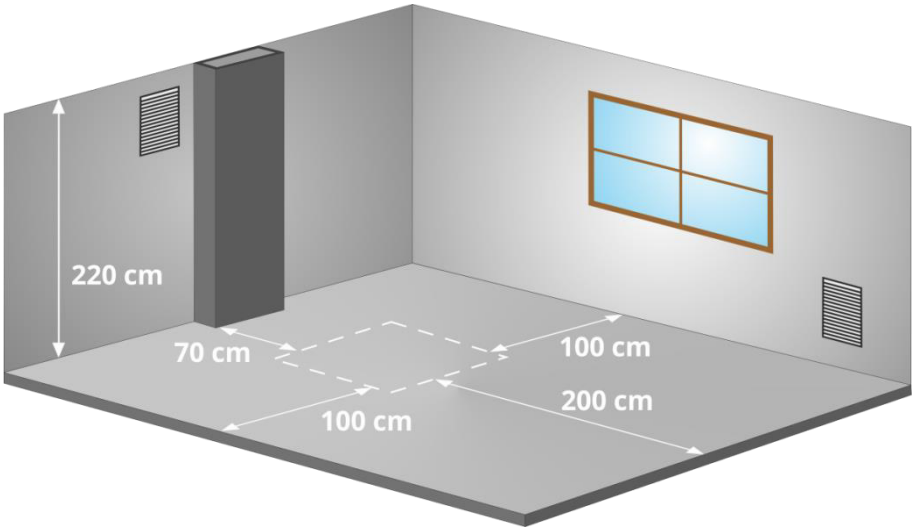
2. Boiler rooms with a thermal power of 25 kW or more should additionally meet the following requirements:

- the distance of the boiler furthest from the chimney, with gravity draft, cannot exceed 50 cm of the chimney height;
- the fuel storage and slag storage should be located next to the boiler room at a storage height of up to 220 cm with a free space above the fuel of at least 50 cm;
- devices and equipment allowing vertical and horizontal transport of fuel and slag should be taken into account;
- the fuel storage room should have natural, unforced ventilation, allowing for one full air exchange per hour in the fuel storage room and three full air exchanges per hour in the slag storage room;
- the entrance door to the boiler room should be non-flammable (fire resistance class EI30), minimum width 90 cm, opening outwards; they should have a handle -less closing system enabling them to be opened outwards under pressure, inwards using a handle;
- the requirements for ventilation are the same as for boiler rooms with lower power; additionally, in boiler rooms with power exceeding 400 kW, in addition to the supply and exhaust ventilation, there should be mechanical

ventilation, switched on periodically when fuel is being charged and boilers are being deslagged, ensuring at least 10 full air changes per hour;

- in the boiler room, natural lighting should be provided, illuminating the boiler from its front, and the area of the windows should be at least 1/15 of the floor area of the boiler room; half of the installed windows should be openable; electric lighting and an electrical socket with a voltage not exceeding 24 V should also be located in the room;
- there should be a sewage well in the floor to allow for cooling of the water, and its capacity should be equal to the water capacity of the largest boiler, but not greater than $2m^3$;
- in the boiler room, the heat pipes should be insulated;
- The boiler setup with the minimum required distances is shown in the boiler room diagram below.

Minimum distances for setting the boiler in the boiler room



ATTENTION!
Mechanical exhaust ventilation should not be used in the boiler room.

ATTENTION!
Ensuring a sufficient supply of fresh air to the boiler room will enable efficient fuel combustion.

ATTENTION!
It is important to prevent the formation of excessive amounts of carbon dioxide in the room.

ATTENTION!
More detailed information on the requirements for the construction of boiler rooms can be found in the Regulation of the Minister of Infrastructure of 12 March 2009.

TIP!
The above-mentioned provisions are guidelines that need to be verified as the regulation is subject to amendment.

Boiler installation

(User | Installer)

An important element of the installation is the correct positioning and leveling of the SEMAX II boiler, these boilers do not require special foundations. Leveling the boiler is facilitated by adjustable feet. The boiler must stand vertically.

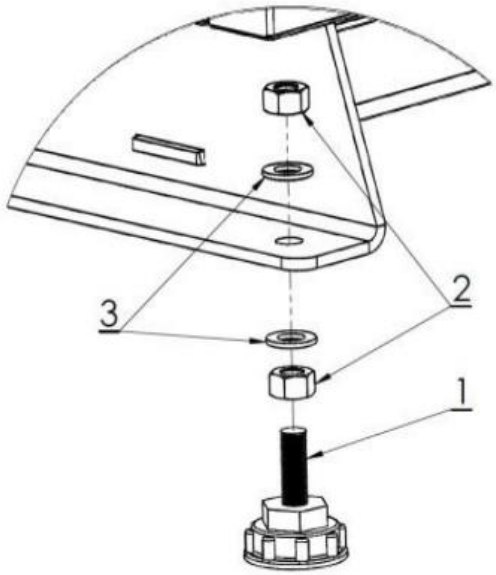
1. Check that the set includes four feet.
2. Level the boiler with the help of a spirit level. If the boiler is in a horizontal position, the installation of feet is not required.
3. Screw the four feet into the designated holes.
4. Use a spirit level to level the boiler.

ATTENTION!
An incorrectly leveled boiler may be damaged.

ATTENTION!
It is unacceptable to place the boiler in a damp or wet room, as this accelerates corrosion, quickly leading to the destruction of the boiler.

Method of installing the boiler leveling feet

1. Adjusting foot, pcs. 4
2. M10 nut, pcs. 8
3. Washer Ø10, pcs. 8



The boiler should be placed on a heat-insulating, non-flammable base, which should be 2 cm larger than the boiler base on each side. If the boiler is located in the basement, it is recommended that it is placed on at least 5 cm of foundation. The strength of the base, as well as fire protection conditions are key guidelines when positioning the boiler in the right place, these include:

- 20 cm safe distance from flammable materials,
- 40 cm for flammable materials with a flammability class of C3,
- 40 cm if flammability rating is unknown.

Flammability level of building materials and products	Building materials and products
A - Non-flammable	Sandstone, concrete, bricks, fireproof plaster, mortar, ceramic tiles, granite
B - Difficult to burn	Wood-cement boards, glass fibers, mineral insulation
C1 - Difficult to burn	Beech wood, oak wood, plywood
C2 - Medium Burning	Pine, larch and spruce cork, sawn wood boards, rubber floor coverings
C3 - Easily combustible	Asphalt plywood, celluloid masses, polyurethane, polystyrene, polyethylene, plastic, PVC

Connecting the boiler to the heating system

(Installer)

The boiler should be connected to the central heating system by a company authorized by the manufacturer, and the correct connection should be confirmed on the warranty card attached to this manual. The boiler should be connected according to the manufacturer's recommendations, in accordance with this manual.

ATTENTION!

It is recommended that the first start-up of the boiler be performed in accordance with the guidelines contained in the Technical and Operation Documentation by a person with valid authorizations.

Information on persons authorized to start up the boiler is available from the Manufacturer at +48 85 711 94 54 ext. 17.

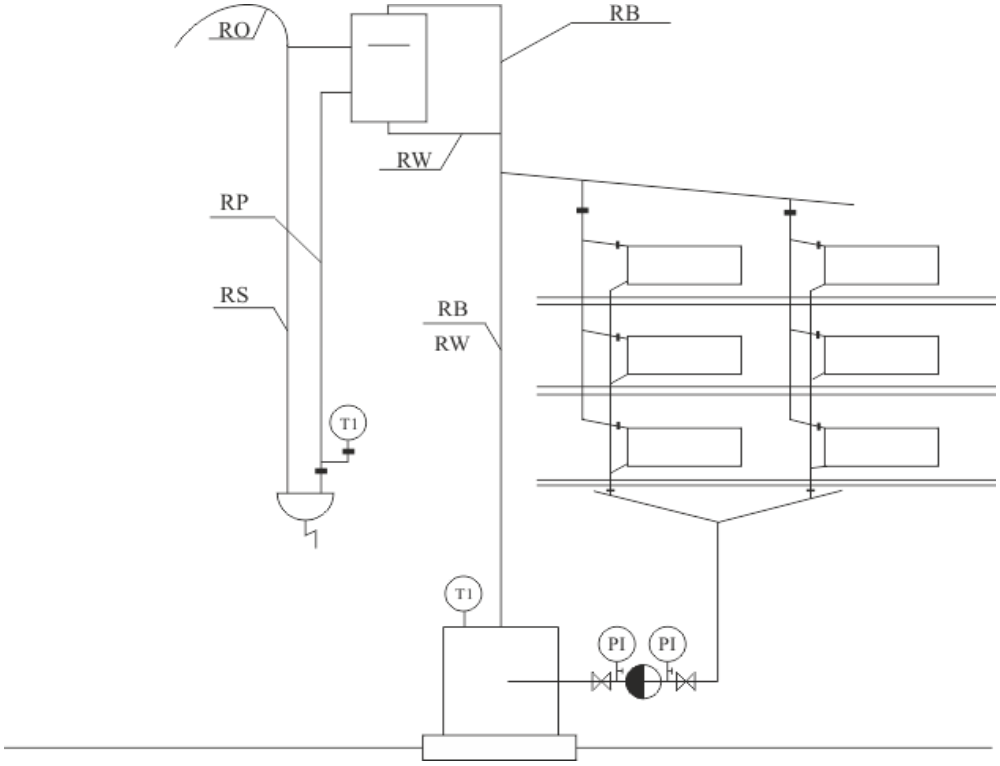
ATTENTION!

The temperature of the water returning from the installation to the central heating boiler should not be lower than 45ºC.

ATTENTION!

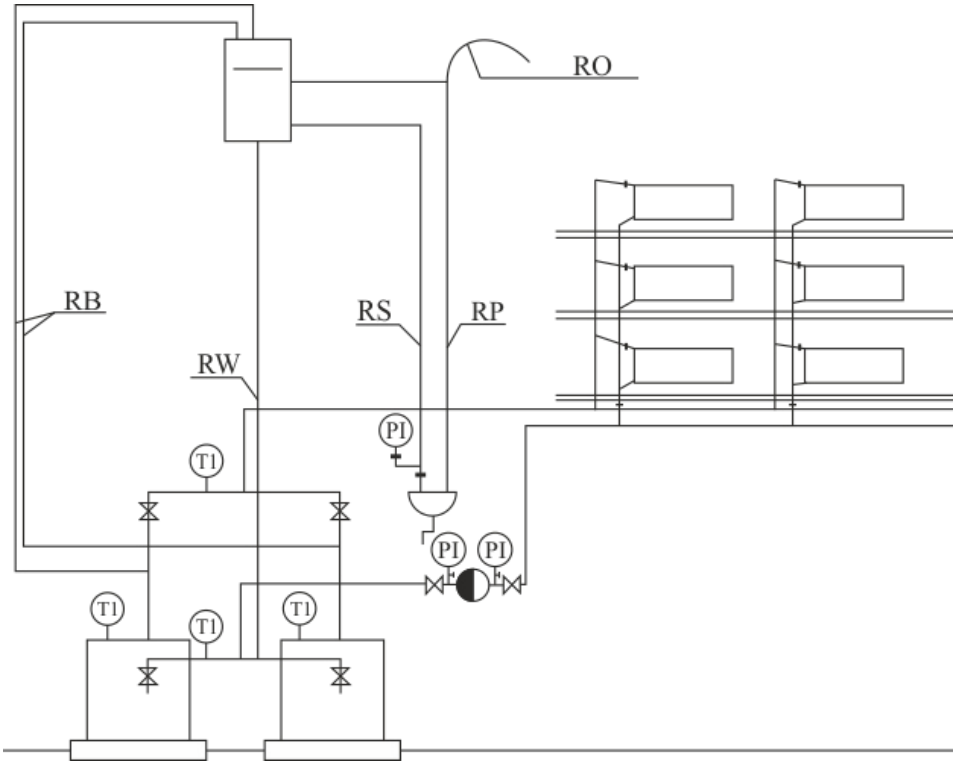
Installation of an APV valve is required (min. 45ºC).

Connection diagrams of boilers to the heating system in accordance with the PN - 91/B - 02420 standard



Designation	Description
RO	Vent pipe
RW	Expansion pipe
RS	Signal pipe
RP	Overflow pipe
RB	Safety pipe
T1	Temperature
P1	Pressure

Connection diagrams of boilers to the heating system in accordance with the PN - 91/B - 02420 standard



Designation	Description
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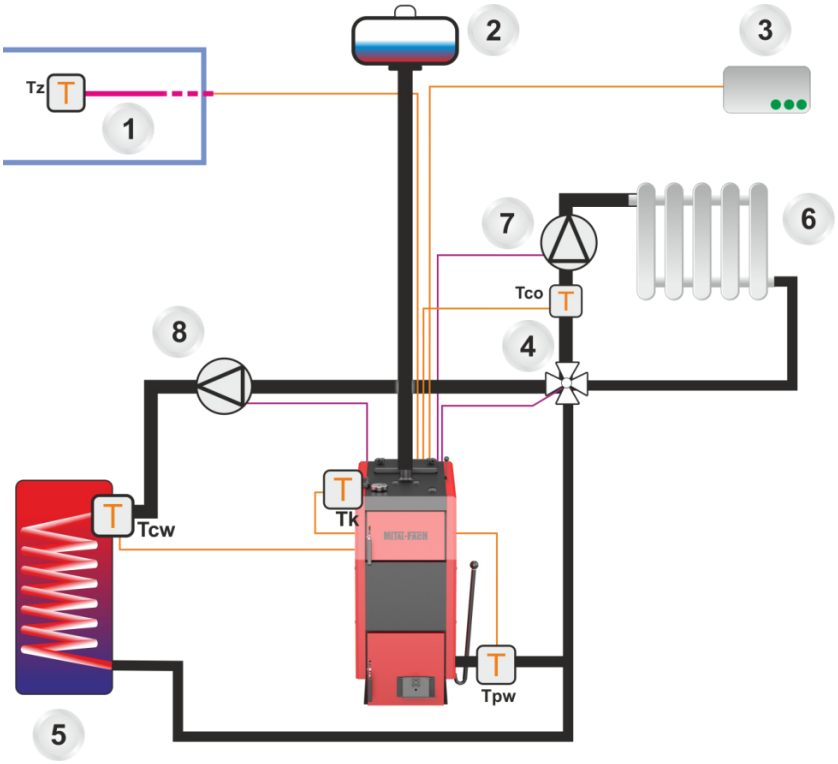
Connecting the boiler to the heating system

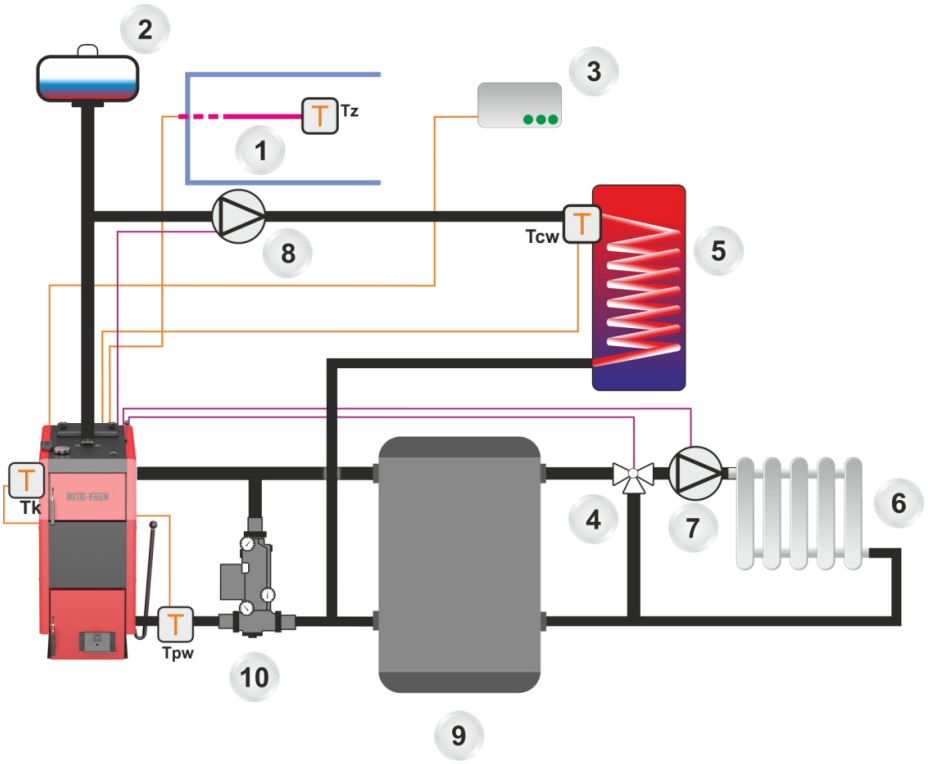


Legend

1. Outside the building
2. Collecting vessel
3. Room regulator
4. Mixer
5. Heater
6. Heating circuit
7. Central heating pump (CH)
8. Domestic hot water pump (DHW)
9. Buffer
10. Laddomat

Designation	Description
T	Temperature sensor
Tk	Boiler temperature sensor
Tz	Outside temperature sensor
Tcw	Domestic hot water temperature sensor
Tco	Central heating temperature sensor
Tpw	Boiler return temperature sensor
Tpod	Feeder temperature sensor

Connecting the boiler to the heating system



Legend

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Designation	Description
T	Temperature sensor
Tk	Boiler temperature sensor
Tz	Outside temperature sensor
Tcw	Domestic hot water temperature sensor
Tco	Central heating temperature sensor
Tpw	Boiler return temperature sensor
Tpod	Feeder temperature sensor

Expansion tank requirements

(Installer)

Each open system heating system should be equipped with an expansion tank , the task of which is to take over the increase in the volume of water filling the system and to vent it. This tank should be installed at the highest point of the system, if possible in a vertical line above the boiler (boilers).
the expansion tank can be estimated by assuming that the unit capacity in relation to one kW of thermal output is 1-2 dm^3.
The expansion tank is equipped with a nozzle for connecting the rising safety pipe, the falling safety pipe and the overflow pipe and the connected vent. The diameter of the vent pipe and the overflow pipe is at least:

$$d = 15 + 1{,}39\sqrt{\dot{Q}} \quad \text{[mm]}$$

$\dot{Q}$ - boiler efficiency [kW]

The most important requirements for safety devices are as follows:

- the expansion tank should have a volume of approximately 3.5% of the volume of water in the heating system, including the boiler,
- each boiler must have a safety pipe and an overflow pipe,
- the installation should be equipped with a signal and expansion pipe as well as a venting connector for the expansion tank .

In the case of multiple boilers, each of them should be equipped with a safety pipe in accordance with the principles given in PN-91/B02413 - protection of open water heating systems. No shut-off valves may be installed on safety and overflow pipes, and the pipes and the vessel must be protected against freezing.

Connecting the boiler to the electrical installation

(Installer)

The boiler is designed for connection to 230V/50Hz. The installation should be performed by a qualified person. The 230V/10A connection socket with grounding should be easily accessible. The boiler power supply and the boiler room lighting should have a different circuit.
The completion of the assembly and the heating test must be recorded in the Warranty Card. The completed Warranty Card should be sent to the manufacturer's address by the user in order to register the user in the company's system.

ATTENTION!

The first start-up of the boiler must be performed only by service personnel trained by the manufacturer, with a current certificate of an Authorized Service Technician, Distributor of METAL-FACH Technika Grzewcza or a person with SEP qualifications up to 1.5kW.

Connecting the boiler to the chimney

(Installer)

Smoke pipes

The purpose of smoke ducts is to reliably discharge exhaust fumes and draw in air for fuel combustion. The chimney draft required for this depends on:

- temperature difference between hot exhaust gases and cold air;
- effective chimney height;
- chimney cross-section not less than 20 x 20 cm;
- construction of the chimney (internal surfaces as smooth as possible) and tightness of the joints;

The effective height of a chimney is the difference in height between the highest firebox and the chimney outlet. The effective height of individual chimneys must be at least 4 m, and of common chimneys for solid and liquid fuels, at least 5 m. The difference in height between two fireboxes must not exceed 6.5 m. In the case of sloping roofs, chimneys should end within the ridge (the highest point of the roof), in the area of free wind flow. This avoids draft disruptions. Always pay attention to the location of the building in relation to other buildings.

Selecting a chimney

In most cases, the approximate method or selection according to the chimney manufacturer's diagrams is sufficient for selecting a chimney. In special cases (unfavourable pressure and temperature dependencies, large volume of exhaust gases), chimneys are calculated according to the PN-EN 13384-1+A2:2008 standard.

Chimneys for solid fuel boilers

It should be noted that solid fuel furnaces with a nominal thermal output of >20 kW and without a fan require their own chimney. Single-layer brick chimneys can be used for solid fuel furnaces. Currently, three-layer chimneys with a smooth surface and good thermal insulation are used.

The pipe

The boiler is connected to the chimney by means of a flue and a flue pipe. The flue pipe consists of pipes and fittings that are installed in rooms. Flue pipes meet fire protection requirements for chimneys and are often made of the same material as the main chimney. Smoke pipes should be made of non-flammable products. The flues or casing of smoke pipes should meet the requirements specified in the Polish Standard concerning fire tests of small chimneys. It is permissible to make the casing from 12 cm thick solid bricks, built on cement-lime mortar, with external plaster or pointing. Connectors should be as short as possible and installed with a rise to the chimney in order to avoid heat loss and additional resistance. They cannot be led to other floors. Flue pipes should not be installed in rooms where fireplaces cannot be installed, and they should also not be placed in walls and ceilings. Due to the low temperature of exhaust gases, in order to protect the chimney from moisture and draft limitation, acid-resistant or ceramic chimney liners should be used, with condensate draining to a drain grate. A distance of at least 6 m should be maintained between the chimney and the nearest edge of the tree crown.

Starting the boiler

(User | Installer)

Before starting to light the fire in the boiler, check whether the central heating system has been installed correctly and whether it is properly filled with water - until it overflows through the overflow pipe from the collecting vessel. For filling the entire system or topping up losses, the most suitable would be softened water/chemically treated water, distilled water or rainwater. In addition, check whether the grate is cleaned of any unburned fuel, ash and slag from the previous burning and whether the ash has been removed from the ash pan.
Recommended ignition (correct - from the top) - fill the prepared grate deck with fuel (when burning wood - full charge - to the lower edge of the hopper, logs are placed across the boiler), place a lighting layer on the surface (paper, wood chips) and light it. Start the boiler with the primary air feeder flap ajar located in the lower door (grate-ash door) and with the secondary air damper in the hopper door open. The boiler is operated in the top combustion system in a cyclic fuel charge system, which means that after the fuel portion fed into the combustion chamber is completely burned out and the ash is removed from it, the chamber is refilled and a new portion of fuel is ignited using the lighting fuel . We do not recommend lighting the fuel "from the bottom" in top combustion type hopper boilers. Before lighting the fire, make sure that the chimney provides sufficient draft. The phenomenon of insufficient draft is most often encountered when the boiler is started for the first time or after a longer break in operation, when the boiler and chimney have cooled down. To check the chimney draft, bring a lit piece of wood close to the air inlet channel with the throttle open. If we find that the flame is not being drawn intensively into the boiler, this indicates insufficient chimney draft.

In such a case, before lighting the layer, you should "warm up" the chimney as follows:

- insert a few pieces of wood into the flue channel and light it;
- keep the fire burning until the chimney draft increases (the flame is drawn into the chimney);
- After the wood has burned out, scoop out the unburned remains and throw them into the ash pan.

Once the desired water temperature in the boiler is reached, the combustion intensity should be adjusted. The combustion intensity is regulated by appropriately setting the adjustment screw of the primary air feeder flap and by appropriately adjusting the secondary air throttle. During normal boiler operation, the fuel should be periodically checked and replenished in the manner described above. in the case of hard coal, the fuel should be caused to slide by hitting the hook.

When opening the hopper door, special care should be taken, as sudden opening may result in explosive ignition of gases (degassing products). When opening the hopper door, stand to the side of the boiler, open the door slightly, wait a moment until the combustion gases are discharged from the fuel container to the chimney, and then slowly open the door completely. Also, do not stand opposite the door opening. A similar principle should be adopted when opening the other doors during boiler operation.

ATTENTION!

If for any reason there is a lack of water in the boiler-network system, do not refill it with cold water. Cool the boiler to 30°C as quickly as possible and only after cooling the boiler refill the water and start burning again .

ATTENTION!

The inflow of cold water onto the boiler walls when they are hot (red hot) may result in the explosion of the boiler and, consequently, the destruction of heating devices. In extreme cases, it may result in damage to buildings and injuries to people .

When starting the boiler when cold or for the first time, the "boiler sweating" phenomenon may occur. This gives the impression of a leak. In such a case, an intensive burning process (70-80ºC) should be carried out to dry and heat the boiler and chimney for up to 2-3 days.
To increase the service life of the boiler, it is recommended to maintain the exhaust gas temperature at 180ºC above the ambient temperature, and the water temperature in the boiler should not be lower than 60ºC.

In this situation, maintaining an appropriately low temperature in radiators in autumn or spring can be achieved, among other things, by:

- correct selection of the boiler for the size of the heated rooms;
- using three- or four-way mixing valves between the water supply and return, controlled manually or automatically.

Improper insulation of the expansion (overflow) tank can also cause a boiler explosion with all the negative consequences. Water frozen in the expansion tank breaks the connection between the central heating system and the boiler with the atmosphere and when the boiler water temperature increases, an uncontrolled increase in pressure in the system occurs, which can consequently lead to a boiler explosion.

ATTENTION!
When opening the door, do not stand in front of the boiler, as this may result in burns.

When using the boiler, please remember

(User)

- the boiler may only be operated by adults who are familiar with the operating instructions;
- It is forbidden for children to stay near the boiler without the presence of adults;
- if flammable gases or vapours enter the boiler room or during work that increases the risk of fire or explosion (gluing, painting, etc.), the boiler must be switched off before starting such work;
- when cleaning carbon deposits in the burner or gutter, the boiler should be turned off ("STOP" position);
- when adding fuel to the tank, the boiler must be turned off ("STOP" position);
- do not use flammable liquids to light the boiler, the boiler should light automatically (using an igniter);
- before cleaning the boiler, the device must be turned off ("STOP" position) and allowed to cool down;
- During operation, the boiler must not be overheated in any way;
- no flammable objects may be placed on the boiler or in its immediate vicinity;
- when removing ash, flammable materials must not be located at a distance less than 150 cm from the boiler;
- the ashes should be placed in ovenproof containers with lids;
- when the boiler is operated at a temperature lower than 60°C, the steel exchanger may condense and thus cause corrosion due to the low temperature, which shortens the life of the exchanger; therefore, the temperature during boiler operation must be at least 60°C;
- At the end of the heating season, the boiler and the smoke pipe should be thoroughly cleaned;
- the boiler room should be kept clean and dry.

ATTENTION!
The product is not intended for use by persons with reduced physical/mental abilities or lacking experience and knowledge, unless they are supervised or instructed by a person responsible for their safety.

ATTENTION!
Any independent interference with the electronics or construction of the boiler is prohibited.

Boiler cleaning and maintenance

(User)

ATTENTION!
The boiler may only be cleaned when the device is disconnected from the power supply.

In order to save fuel, the combustion chamber and convection channels of the boiler should be kept clean. The walls and shelves in the combustion chamber should be cleaned through the cleaning and inspection doors. The boiler exchanger and ash pan should also be cleaned regularly.
Cleaning should be done using wire brushes on extension cords. The above activities should be done during the boiler's periodic standstill, preferably every 100 hours of boiler operation. Thorough cleaning of the boiler should be done once a month.

Instructions for disposing of the boiler after its service life has elapsed

(User)

Before scrapping the boiler, all electronic components must be disconnected from it. They are subject to disposal in accordance with the principles of European Directive 2002/96/EC regarding the use of electronic and electrical equipment. For correct disposal, contact the manufacturer of electronic components according to the above-mentioned European Directive.
The steel elements from which the boiler is made should be scrapped in designated places (scrap collection point).

ATTENTION!
A used boiler intended for scrapping and its components should not be disposed of with general waste.

Spare parts list

(User | Installer)

Spare parts	Article
-	-

Examples of failures and devices

(User)

Before you call for service, read the most frequently asked questions.

ATTENTION!
In the event of an unjustified service call, the customer covers the costs of labor and travel, the price list is available at www.metalfachtg.com.pl/kontakt-z-serwisem

TIP!
Online report: www.metalfachtg.com.pl/zglos-problem-online
Infoline: +48 85 711 94 54 ext. 17
FAQ: www.metalfachtg.com.pl/kontakt-z-serwisem
Instructional videos: https://www.youtube.com/@mf.metalfachtg

Condition and warranty

User Declaration:
I hereby declare that the boiler (hereinafter also referred to as the "device") was delivered to me in accordance with the order, new and complete. The Seller familiarized me with the operation of the device and provided me with complete documentation (including in particular: Technical and Operational Documentation containing, among others, the device assembly and operating instructions, warranty conditions). I acknowledge the manufacturer's recommendation to subject the device to regular annual technical inspections, which should be confirmed in the warranty card.

Date and legible signature of the User

Scope of warranty:
1. Liability under the warranty covers only defects resulting from causes inherent in the device at the time of its delivery to the User.
2. The warranty for the device is provided by the manufacturer (also referred to as the "Guarantor"): Jacek Kucharewicz conducting business activity under the name of METAL-FACH Technika Grzewcza Sp. z o.o., 16-100 Sokółka, st. Sikorskiego 66, NIP: 545-182-60-12, REGON 050073833, telephone +48 85 711 94 54 ext. 17.
3. Under the guarantee, the User is entitled to free repair of the device if the device defects are revealed during the guarantee period. If the Guarantor determines that the device or its parts cannot be repaired, the Guarantor reserves the right to replace the device or its parts with new ones.

Warranty period:
For the device (boiler) – 2 years from the date of sale, but no longer than 36 months from the date of its production except:
a) exchanger – which is guaranteed for 5 years from the date of sale;
b) moving elements, cast iron, mechanical, worm – for which the warranty is 1 year from the date of sale;
c) consumables (including sealing cord, gaskets, vermiculite , fireclay), electrical components, screw securing the worm clutch, cotter pins – which are not covered by the warranty.

Terms of use of the guarantee:
1. Installing the device in accordance with the Technical and Operational Documentation (in particular connecting the boiler to a correctly executed installation, performing the first start-up in accordance with the device manufacturer's guidelines, using devices protecting the boiler against the return of cold water (four-way valve with actuator, ice-breaker , etc.).
2. Returning a copy of the properly completed warranty card, signed and stamped by the seller, to the Manufacturer’s address within 30 days from the date of sale of the device.
3. Presentation of a correctly completed warranty card (signed and stamped by the seller) when submitting a complaint and substantiation of the circumstances of purchase of the device (e.g. receipt, invoice). In the event of loss of the warranty card by the User, a duplicate will not be issued.
4. The User must comply with the recommendations contained in the Technical and Operational Documentation of the device.
5. The first start-up of the boiler, within 6 months from the date of installation of the device by the installer in accordance with the guidelines contained in the Technical and Operational Documentation, by a person with valid authorizations (Information on persons authorized to start the boiler is available from the Guarantor +48 85 711 94 54 ext. 17), confirmation of this fact in the warranty card and sending a start-up report to the Guarantor. The first start-up of the boiler is a paid service and its cost is covered by the User.
6. Carrying out annual inspections of the device, in accordance with the guidelines contained in the Technical and Operational Documentation, by specialist companies with appropriate authorizations (a sample list of specialist

companies is available from the Manufacturer - at +48 85 711 94 54 ext. 17) and recording their performance in the warranty card. The inspection of the device is a paid service.
7. Performing service on the device (e.g. device adjustment, cleaning, measurements, exhaust gas analysis) by specialist companies with appropriate authorizations (an example list of specialist companies is available from the Manufacturer - at +48 85 711 94 54 ext. 17), in accordance with the guidelines included in the Technical and Operational Documentation and recording service services in the warranty card. The User may report the need for service interventions to the Guarantor (Hotline +48 85 711 94 54 ext. 17, www.metalfachtg.pl/zglos-problem-online). The service is subject to payment.
8. Warranty repairs are to be carried out only by specialist companies with appropriate authorisations (a list of specialist companies is available from the Guarantor - tel. +48 85 711 94 54 ext. 17), and recorded in the warranty card.
9. Use of spare parts and consumables that meet the parameters specified by the manufacturer. It is recommended to use original parts.
10. The warranty covers the territory of the Republic of Poland.

The warranty does not cover device defects resulting from:
1. Failure by the User to comply with the conditions contained in the Technical and Operational Documentation and, among others, the instructions contained therein regarding the transport, assembly, operation, use and maintenance of the device;
2. Improper storage and transportation by the User;
3. Damage to device components due to the use of improper electrical voltage by the User. In the case of powering the device directly or indirectly through generators, UPS systems or devices, the User should consult the parameters of the power supply devices with the manufacturer;
4. Device defects caused by a faulty heating installation connected to the device;
5. Overheating of the boiler by the User;
6. The User connects the boiler to a closed system without using an appropriate cooling device;
7. The User uses inappropriate, poor quality fuel;
8. Any unauthorized modifications to the device made by the User

Complaints procedure:
1. If you notice that the device is not operating correctly, before filing a complaint, make sure that everything has been done in accordance with the Technical and Operational Documentation.
2. The User should report the need to repair the device under warranty immediately, preferably within 7 days from the date of noticing the defect. The report can be made directly to the Seller or to the Guarantor (www.metalfachtg.pl/zglos-problem-online or hotline +48 85 711 94 54 ext. 17).
3. It is recommended to refrain from using the faulty device.
4. The user is obliged to provide free access to the device (in particular, enabling removal of the device casing and access to valves).
5. Warranty repairs will be performed by the Guarantor or a specialist company indicated by the Guarantor.
6. The obligations arising from the warranty will be fulfilled within 14 working days from the date the device is made available (at the place of installation) by the User.
7. The date of making the device available is agreed between the User and the Guarantor.
8. Depending on the scope of the repair, it may be performed at the User's, at the place of installation of the device, or at the plant of the Guarantor or a specialist company performing the activities on behalf of the Guarantor.
9. The repair performed under warranty must be confirmed in the warranty card.
10. The warranty is extended by the time during which the user was unable to use the device due to a defect in the device covered by the warranty.
11. The warranty does not exclude, limit or suspend the buyer's rights arising from the provisions on warranty for defects in the sold item.

Confirmation of inspection, warranty repair, service

Date of execution	Description of activities performed	Signature and stamp of the contractor
1.		
2.		
3.		
4.		
5.		
6.		

	Date of execution	Description of activities performed	Signature and stamp of the contractor
7.			
8.			
9.			
10.			
11.			
12.			

EC/EU Declaration of Conformity

Producer:	**Product name and purpose:**
	Steel central heating boiler for solid fuel with automatic fuel feeding.
METAL-FACH Technika Grzewcza Sp. z o.o. st. Sikorskiego 66 16-100 Sokółka NIP 545-182-60-12	**Type:** SE MAX II
	Factory number:
	Year of production:

The above mentioned subject of this EU declaration of conformity complies with the applicable requirements of the Union harmonisation legislation .

Reference documents:

1. Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery
2. Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility
3. Directive 2014/68/EU of the European Parliament and of the Council of 15 May 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of pressure equipment.
4. Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits
5. /Commission Regulation (EU) 2015/1189
   Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products
6. /Commission Regulation (EU) 2015/1187
   Directive 2010/30/EU of the European Parliament and of the Council of 19 May 2010 on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products
7. /Commission Regulation (EU) 2015/863 (ROSHIII)
   Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment
8. /Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006

Technical documentation :

1. Standard PN-EN 303-5:2021-09 Heating boilers for solid fuels with manual and automatic fuel feeding with a nominal power up to 500 kW.
2. PN EN 1708-1:2020 Welding Basic solutions for welded steel joints Part 1. Pressure-bearing components.
3. PN EN 60335-1 2012 Household and similar electrical appliances - Safety - Part 1: General requirements.
4. PN EN 60335-2-102 2006/A1:2010- Household and similar electrical appliances - Safety - Part 2-102: Particular requirements for gas, oil and solid-fuel burning appliances having electrical connections.
5. PN EN 61000-6-2:2008 Electromagnetic compatibility (EMC) -- Part 6-2: Generic standards - Immunity for industrial environments.
6. PN EN 61000-6-3:2008/A1:2012 Electromagnetic compatibility (EMC) -- Part 6-3. Generic standards - Emission standard for residential, commercial and light-industrial environments.
7. PN-EN IEC 63000:2019-01 Technical documentation for the assessment of electrical and electronic products with regard to the restriction of hazardous substances.

This declaration of conformity is issued under the sole responsibility of the manufacturer.

The product is marked with the following marks:	**Place and date:**
CE	Sokółka, 02.2024

Approving Persons:

Chairman of the Board:
Jacek Kucharewicz

PREZES ZARZĄDU
Jacek Kucharewicz

Production Director:
(Person authorized to prepare technical documentation)
Eliasz Kasperuk

DYREKTOR PRODUKCJI
Eliasz Kasperuk

Warranty card

Central heating boiler with power [kW]: Type:

Number:

Production date of the boiler: Boiler sale date:

Buyer's name and surname:

Buyer's address

Date of purchase and stamp Customer Signature

I accept the warranty terms: ✓

Personal data provided in this form are processed by Jacek Kucharewicz conducting business activity under the name METAL-FACH Technika Grzewcza Sp. z o.o., 16-100 Sokółka, st. Sikorskiego 66, NIP: 545-182-60-12, telephone +48 85 711 94 54 ext. 17 in order to implement the provisions contained in the warranty conditions - in accordance with the Act of 29 August 1997 on the Protection of Personal Data (consolidated text: Journal of Laws of 2014, item 1182). The user has the right to access the content of his personal data, to correct it, to submit a request to discontinue processing of data and to object to data processing in cases indicated by law. All correspondence concerning the processing of personal data should be sent to the following address: METAL-FACH Technika Grzewcza Sp. z o.o., 16-100 Sokółka, st. Sikorskiego 66. Providing personal data is voluntary. In accordance with the Act of 29 August 1997 on the Protection of Personal Data (consolidated text: Journal of Laws of 2014, item 1182), we inform you that the personal data provided in this form will be protected against access by unauthorized persons.

Complaint submission

Customer data	**Boiler data co**
Name and surname	Product name:
Residential address	Model:
Phone	Factory No.
Purchase document no.:	Warranty period Includes | Does not include
Debt settlement document number:	
	Detailed description of the fault:

Seller's signature

Conditions for initiating the complaint repair procedure:

1. Confirmation by the point of sale that the payment for the complained product has been made is the basis for initiating the complaint procedure.
2. The warranty card is the only basis for free repair.
3. The person filing the complaint undertakes to reimburse the costs incurred by METAL-FACH Technika Grzewcza Sp. z o.o. in the event of an unjustified call for a service team or failure to comply with points 1 or 2 (each started hour of the service technician's work PLN 70 net, travel PLN 1 net/km in both directions).
4. The legible signature of the person submitting the complaint confirms that he or she has read the basic terms and conditions of the complaint procedure.

Date of purchase and stamp Customer Signature

I declare that I have read the warranty terms and conditions on the basis of which I am making a complaint and I consent to the processing of my personal data for the purposes of the complaint process in accordance with the Personal Data Protection Act of 29 August 1997 (Journal of Laws No. 133, item 833).

Legible signature of the person submitting the complaint

The manufacturer undertakes to perform warranty repairs within 14 days from the date of receipt by the user of a written notification of damage on the manufacturer's complaint form.

Personal data provided in this form are processed by Jacek Kucharewicz conducting business activity under the name METAL-FACH Technika Grzewcza Sp. z o.o., 16-100 Sokółka, st. Sikorskiego 66, NIP: 545-182-60-12, telephone +48 85 711 94 54 ext. 17 in order to implement the provisions contained in the warranty conditions - in accordance with the Act of 29 August 1997 on the Protection of Personal Data (consolidated text: Journal of Laws of 2014, item 1182). The user has the right to access the content of his personal data, to correct it, to submit a request to discontinue processing of data and to object to data processing in cases indicated by law. All correspondence concerning the processing of personal data should be sent to the following address: METAL-FACH Technika Grzewcza Sp. z o.o., 16-100 Sokółka, st. Sikorskiego 66. Providing personal data is voluntary. In accordance with the Act of 29 August 1997 on the Protection of Personal Data (consolidated text: Journal of Laws of 2014, item 1182), we inform you that the personal data provided in this form will be protected against access by unauthorized persons.

Report on the first start-up of the boiler

(Copy of METAL-FACH Technika Grzewcza)

In order to verify the purchase and to recognize the validity of the warranty, a report must be sent within 30 days of the first start-up date. This can be done by:

1. E-mail - where a scan or photo of the report will be posted.
2. Letter - in which a copy of the report will be sent to the company METAL-FACH Technika Grzewcza Sp. z o. o., the company's address is at the end of the Technical and Operational Document

Boiler		**Comment**
The conditions included in the DTR in the chapter "Requirements for the boiler room and boiler installation" are met.	☐	
The conditions included in the operation and maintenance manual in the chapter "Connecting the boiler to the chimney" are maintained.	☐	
Central heating system		**Comment**
The conditions included in the operation and maintenance manual in the chapter "Connecting the boiler to the heating system" are maintained.	☐	
The conditions contained in the Operation and Maintenance Manual in the chapter "Requirements for the expansion tank " are maintained.	☐	
There is no other source of heating. If there is, does it affect the boiler's operation and how?	☐	
Protecting the system against freezing.	☐	
Connecting elements to the electrical installation		**Comment**
The conditions included in the operation and maintenance manual in the chapter "Connecting the boiler to the electrical installation" are maintained.	☐	
Equipment Test		**Comment**
The sensors are located in the right place.	☐	
Sensor readings are consistent with the actual condition.	☐	
The direction of fan rotation is correct.	☐	
Opening the fan flap using blowing force.	☐	
The direction of rotation of the screw is correct.	☐	
Boiler start-up		**Comment**
The tightness of the hydraulic connection of the boiler to the installation is maintained.	☐	
Test the FIREMAN system (if installed).	☐	
Checking the connection of the fuel feeder to the boiler.	☐	
Filling the fuel tank with fuel.	☐	
Checking the fuel supply through the feeder.	☐	
Firing up the boiler in accordance with the section “Starting the	☐	

boiler”.	
Initial adjustment of boiler operating parameter settings.	☐
Final adjustment of boiler operating parameter settings.	☐

Confirmation of user training in the field	**Comment**
Instructions for the user on how to safely operate the boiler are included in the chapter "When using the boiler, remember to".	☐
Instruction in the operation of the boiler regulator and regulation of the combustion process.	☐
Fan speed settings.	☐
Boiler maintenance chapter "Cleaning and maintenance of the boiler"	☐
Required fuel quality chapter "Fuel"	☐
Procedure in case of emergency, chapter "Examples of device failure"	☐

Launch date	Boiler name	Boiler power [kW]	Serial number

Name and surname of service technician	Owner's name and surname
Address	Address
Company seal	Contact number
Signature	Signature

Personal data provided in this form are processed by Jacek Kucharewicz conducting business activity under the name METAL-FACH Technika Grzewcza Sp. z o.o., 16-100 Sokółka, st. Sikorskiego 66, NIP: 545-182-60-12, telephone +48 85 711 94 54 ext. 17 in order to implement the provisions contained in the warranty conditions - in accordance with the Act of 29 August 1997 on the Protection of Personal Data (consolidated text: Journal of Laws of 2014, item 1182). The user has the right to access the content of his personal data, to correct it, to submit a request to discontinue processing of data and to object to data processing in cases indicated by law. All correspondence concerning the processing of personal data should be sent to the following address: METAL-FACH Technika Grzewcza Sp. z o.o., 16-100 Sokółka, st. Sikorskiego 66. Providing personal data is voluntary. In accordance with the Act of 29 August 1997 on the Protection of Personal Data (consolidated text: Journal of Laws of 2014, item 1182), we inform you that the personal data provided in this form will be protected against access by unauthorized persons.

Report on the first start-up of the boiler

(Copy of the boiler owner)

In order to verify the purchase and to recognize the validity of the warranty, a report must be sent within 30 days of the first start-up date. This can be done by:

1. E-mail - where a scan or photo of the report will be posted.
2. Letter - in which a copy of the report will be sent to the company METAL-FACH Technika Grzewcza Sp. z o. o., the company's address is at the end of the Technical and Operational Document

Boiler		**Comment**
The conditions included in the DTR in the chapter "Requirements for the boiler room and boiler installation" are met.	☐	
The conditions included in the operation and maintenance manual in the chapter "Connecting the boiler to the chimney" are maintained.	☐	
Central heating system		**Comment**
The conditions included in the operation and maintenance manual in the chapter "Connecting the boiler to the heating system" are maintained.	☐	
The conditions contained in the Operation and Maintenance Manual in the chapter "Requirements for the expansion tank " are maintained.	☐	
There is no other source of heating. If there is, does it affect the boiler's operation and how?	☐	
Protecting the system against freezing.	☐	
Connecting elements to the electrical installation		**Comment**
The conditions included in the operation and maintenance manual in the chapter "Connecting the boiler to the electrical installation" are maintained.	☐	
Equipment Test		**Comment**
The sensors are located in the right place.	☐	
Sensor readings are consistent with the actual condition.	☐	
The direction of fan rotation is correct.	☐	
Opening the fan flap using blowing force.	☐	
The direction of rotation of the screw is correct.	☐	
Boiler start-up		**Comment**
The tightness of the hydraulic connection of the boiler to the installation is maintained.	☐	
Test the FIREMAN system (if installed).	☐	
Checking the connection of the fuel feeder to the boiler.	☐	
Filling the fuel tank with fuel.	☐	
Checking the fuel supply through the feeder.	☐	
Firing up the boiler in accordance with the section “Starting the	☐	

boiler”.	
Initial adjustment of boiler operating parameter settings.	☐
Final adjustment of boiler operating parameter settings.	☐

Confirmation of user training in the field	**Comment**
Instructions for the user on how to safely operate the boiler are included in the chapter "When using the boiler, remember to".	☐
Instruction in the operation of the boiler regulator and regulation of the combustion process.	☐
Fan speed settings.	☐
Boiler maintenance chapter "Cleaning and maintenance of the boiler"	☐
Required fuel quality chapter "Fuel"	☐
Procedure in case of emergency, chapter "Examples of device failure"	☐

Launch date	Boiler name	Boiler power [kW]	Serial number

Name and surname of service technician	Owner's name and surname

Address	Address

Company seal	Contact number

Signature	Signature

Personal data provided in this form are processed by Jacek Kucharewicz conducting business activity under the name METAL-FACH Technika Grzewcza Sp. z o.o., 16-100 Sokółka, st. Sikorskiego 66, NIP: 545-182-60-12, telephone +48 85 711 94 54 ext. 17 in order to implement the provisions contained in the warranty conditions - in accordance with the Act of 29 August 1997 on the Protection of Personal Data (consolidated text: Journal of Laws of 2014, item 1182). The user has the right to access the content of his personal data, to correct it, to submit a request to discontinue processing of data and to object to data processing in cases indicated by law. All correspondence concerning the processing of personal data should be sent to the following address: METAL-FACH Technika Grzewcza Sp. z o.o., 16-100 Sokółka, st. Sikorskiego 66. Providing personal data is voluntary. In accordance with the Act of 29 August 1997 on the Protection of Personal Data (consolidated text: Journal of Laws of 2014, item 1182), we inform you that the personal data provided in this form will be protected against access by unauthorized persons.

Online form

Video instructions

Website

Contact with service:
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