METAL-FACH
HEATING TECHNOLOGY

Technical and operating documentation

SE MAX II

English language

Original instructions, edition 01/2022

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Introduction

Dear customer, thank you for purchasing METAL-FACH heating boiler. We hope that the operation of the device will meet your expectations and provide much satisfaction. The heating boiler has been designed and manufactured in accordance with the applicable norms and standards, guaranteeing safe and reliable operation. Operation with strict adherence to the recommendations contained in the instructions supplied with the appliance will ensure optimum and reliable operation of the central heating boiler for many years. The product is not intended for use by persons with reduced physical/mental capacity or lack of 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

NOTE!
Very important information, always familiarise yourself with it if it is present.

TIP!
It is worth reading this information, it makes it easier to use.

Definitions of terms used in the manual

(User | Installer)

Central heating boiler - an appliance for burning various types of solid fuels in order to heat the heat carrier (usually water) circulating in the central heating circuit.

Draught metering device - a device whose function is to regulate the temperature in solid fuel boilers. As the temperature rises, the air supply to the furnace is reduced, which slows down the combustion of the fuel. As the temperature falls, the air supply increases, allowing the fuel to ignite again.

Flue draught regulator - used to stabilise and reduce excessive negative pressure in flue pipes.

Introductory activities

(User)

Activities to be carried out during acceptance of the METAL-FACH boiler:

- Check carefully that the boiler has been delivered complete (Chapter: Boiler accessories) and that it has not been damaged during transport,
- Compare the rating plate mounted on the boiler casing on the left or right with your order,

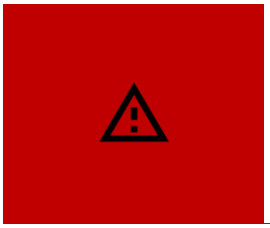
- Carefully read the instruction manual - it contains the information you need to use your boiler correctly.

In the case of any problems encountered, please contact the service department or METAL-FACH Jacek Kucharewicz authorized service staff. These persons have appropriate training and access to original parts, which enable the proper performance of service and assembly of boilers manufactured by METAL-FACH Jacek Kucharewicz, confirmed by a certificate issued at the company's headquarters.

General information

(User)

The Technical and Operational Documentation is one of the parts of the product, it is delivered together with the purchased central heating boiler. The Technical and Operation Manual contains data on the construction and assembly as well as the method of operation of the SE MAX II series boilers. Careful reading of this manual ensures correct and safe use of our boiler.



NOTE!

The user is advised to observe all the instructions concerning the appliance contained in this Technical and Operating Documentation, the Warranty Conditions and the generally applicable legal provisions.

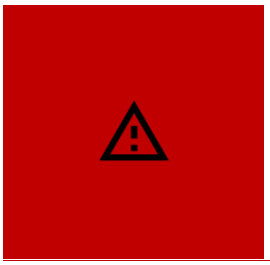
The boilers are delivered assembled. They are set up and fixed permanently to the pallet. Additional protection in the form of foil packaging is used.

When transporting the boiler, it should be secured to prevent it from moving or rotating on the load bed of the vehicle by means of safety equipment such as belts. The 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 for heating water in central heating systems. They are designed to heat residential facilities such as: single-family and multi-family houses, outbuildings, public utility buildings. Thanks to the application of modern design solutions, the SE MAX II boiler reaches efficiency of ≤81%. Correct operation and achieving the full capacity of the boiler depend on the quality of the executed installation, appropriate chimney draught, correct operation and maintenance of the boiler.



NOTE!

The boilers are designed for operation in open and closed water systems with gravitational or forced circulation, with safeguards in accordance with the requirements of the current PN-B-02413 Heating and Heat Engineering standard and closed system in accordance with PN-EN 12828 Heating installations in buildings. Design.

Boiler equipment

(User)

The scope of delivery includes both basic and additional components, depending on the order. During acceptance, the product must be carefully examined to ensure that it has not been damaged during transport and that the equipment is complete. The elements included in the basic and additional equipment are described below.

Basic equipment:	Unit of measurement	Quantity
Central heating boiler	pcs.	1
Ash drawer	pcs.	1
Tools for cleaning the boiler: ● poker ● brush	pcs.	1
Thermometer	pcs.	1
Additional equipment:	**Unit of measurement**	**Quantity**
Draught metering device	pcs.	1
Documentation:		
Technical and propulsion documentation for the boiler	pcs.	1

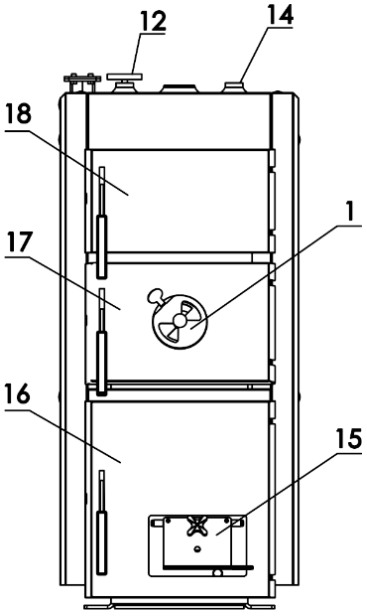
NOTE!
METAL-FACH reserves the right to make changes to the technical parameters, equipment and specifications of the goods offered without prior notice.

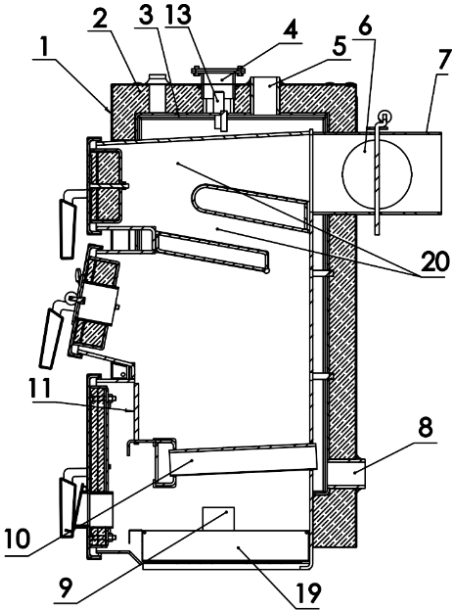
Basic elements of boiler construction

(User | Installer)

The water body is made as a welded construction from certified steel plates 6 mm P265GH (for components in contact with the flue gas) and 4 mm (for other components) S235JR+N.

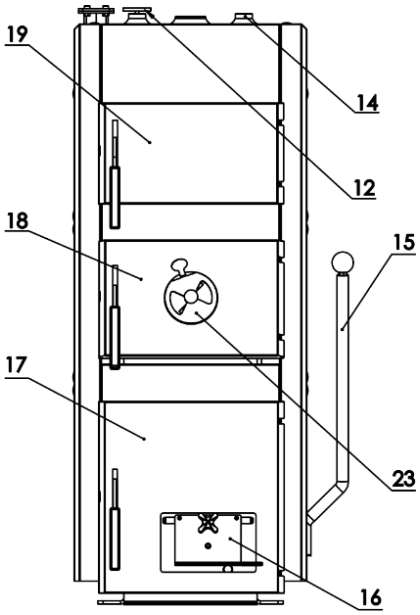
SEMAX II 15kW boiler

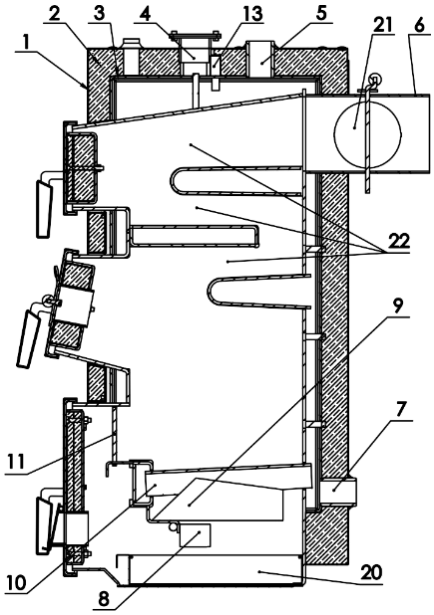




1. Boiler casing
2. Thermal insulation
3. Boiler body
4. Fan attachment
5. Supply spigot
6. Flue gas damper
7. Flue
8. Return spigot
9. Blow-up window
10. Water grate
11. Grid doors
12. Thermometer
13. Sockets for temp sensors
14. Air vent spigot
15. Air dispenser
16. Ash grate door
17. Feed doors
18. Clearance doors
19. Drawer
20. Convection channels
21. Secondary air damper

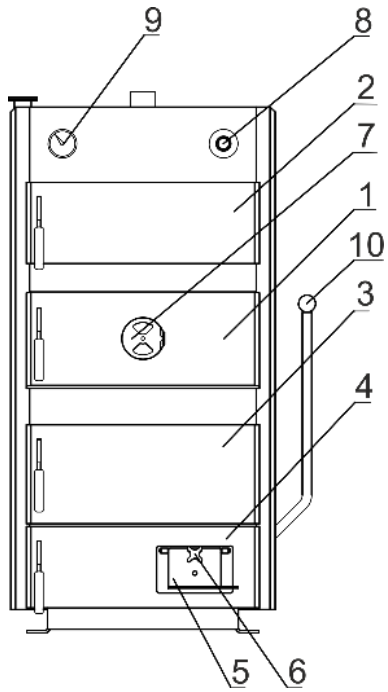
SEMAX II 20kW boiler

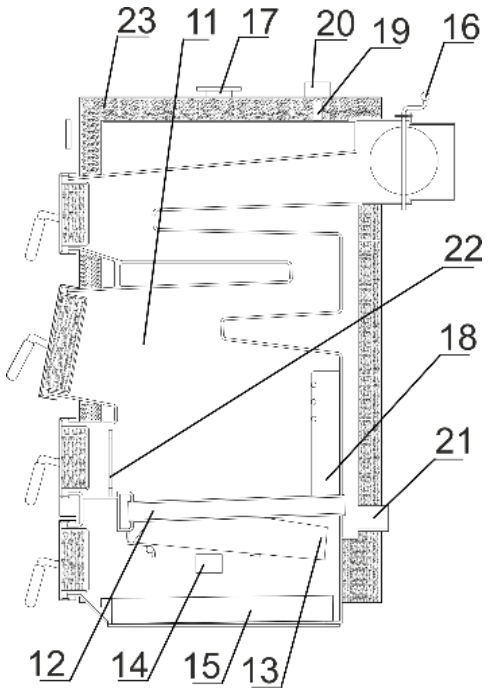




1. Boiler casing
2. Thermal insulation
3. Boiler body
4. Fan attachment
5. Supply spigot
6. Flue
7. Return spigot
8. Blow-up window
9. Movable grate
10. Water grate
11. Grid doors
12. Thermometer
13. Sockets for temp sensors
14. Air vent spigot
15. Lever for the redrawing
16. Air dispenser
17. Ash grate door
18. Feed doors
19. Clearance doors
20. Ash drawer
21. Flue gas damper
22. Convection channels
23. Secondary air damper

SEMAX II boiler 25-50kW





1. Feed doors
2. Clean-out door
3. Grate doors
4. Ash door
5. Air door
6. Dispenser adjustment knob
7. Secondary air damper
8. Air vent spigot
9. Thermometer
10. Movable grate lever
11. Boiler body
12. Water grate
13. Movable grate
14. Blow-up window
15. Ashtray
16. Flue gas damper
17. Blower duct
18. Blow channel
19. Temperature sensor sleeve
20. Outlet spigot
21. Return spigot
22. Pre-pipe door
23. Boiler insulation

Boiler specifications

(User | Installer)

Parameters	S.I. Unit.	Boiler model			
		SE MAX II-15	SE MAX II-20	SE MAX II-25	SE MAX II-30
Nominal heat output when burning hard coal	[kW]	15	20	25	30
Heating surface	[m2]	0,85	1,15	1,56	2,19
Area that can be heated	[m2]	80	80-120	150	150-200
Water capacity	[L]	30	41	56	71
Maximum operating pressure	[bar].	1,5	1,5	1,5	1,5
Maximum operating temperature	[°C]	80	80	80	80
Test pressure	[bar].	4	4	4	4
Length of billets	[cm]	Firewood - hornbeam logs (slabs) with moisture content W_c =15-20%			
Calculation flow resistance ΔT	[10K]	0,14	0,23	2,77	8,79
Calculation flow resistance ΔT	[20K]	0,07	0,12	1,19	2,19
Weight of the boiler	[kg]	160	198	260	330

*Boiler weight +/- 5kg.

Parameters	S.I. Unit.	Boiler model		
		SE MAX II- 35	SE MAX II- 40	SE MAX II- 50
Nominal heat output when burning hard coal	[kW]	35	40	50
Heating surface	[m2]	2,27	2,48	2,70
Area that can be heated	[m2]	210-270	270-320	320-380
Water capacity	[L]	87	93	111
Maximum operating pressure	[bar].	1,5	1,5	1,5
Maximum operating temperature	[°C]	80	80	80
Test pressure	[bar].	4	4	4
Length of billets	[cm]	Firewood - hornbeam logs (slabs) with moisture content W_c =15-20%		
Calculation flow resistance ΔT	[10K]	12,88	17,75	26,51
Calculation flow resistance ΔT	[20K]	3,22	4,43	6,62
Weight of the boiler	[kg]	350	370	395

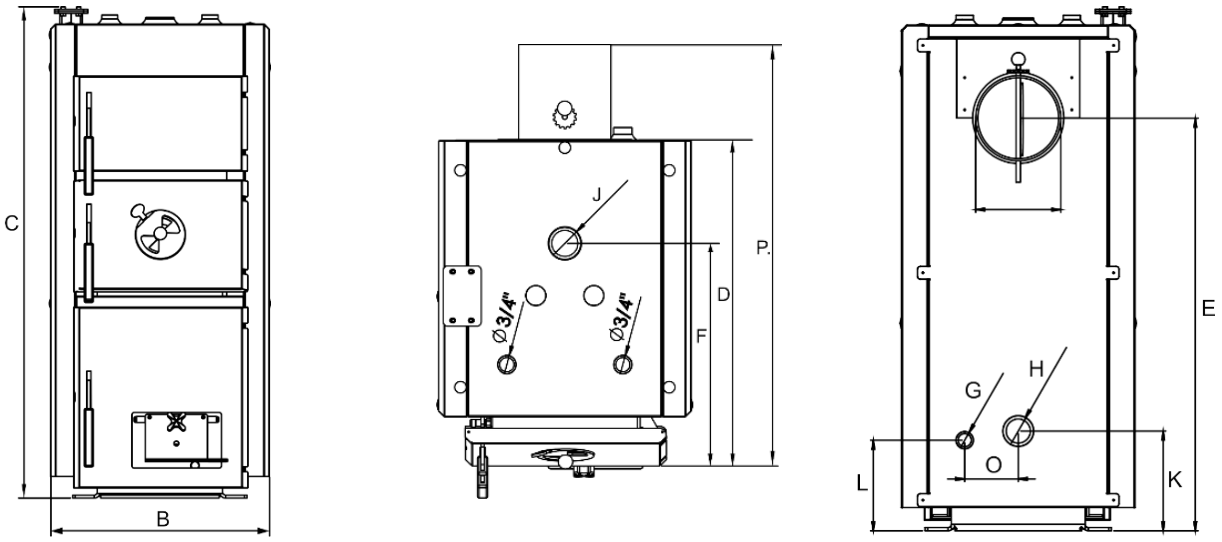
*Boiler weight +/- 5kg.

Boiler dimensions

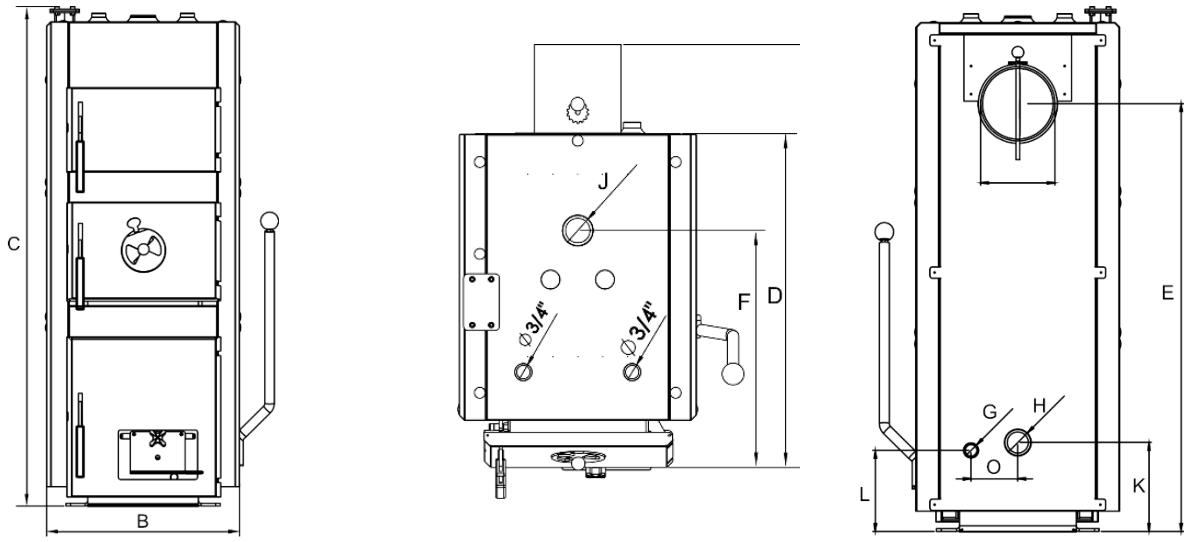
(User | Installer)

NOTE!
Boiler feet are present:
- SE MAX II 15 to SE MAX II 50
- Their height is 30 mm.

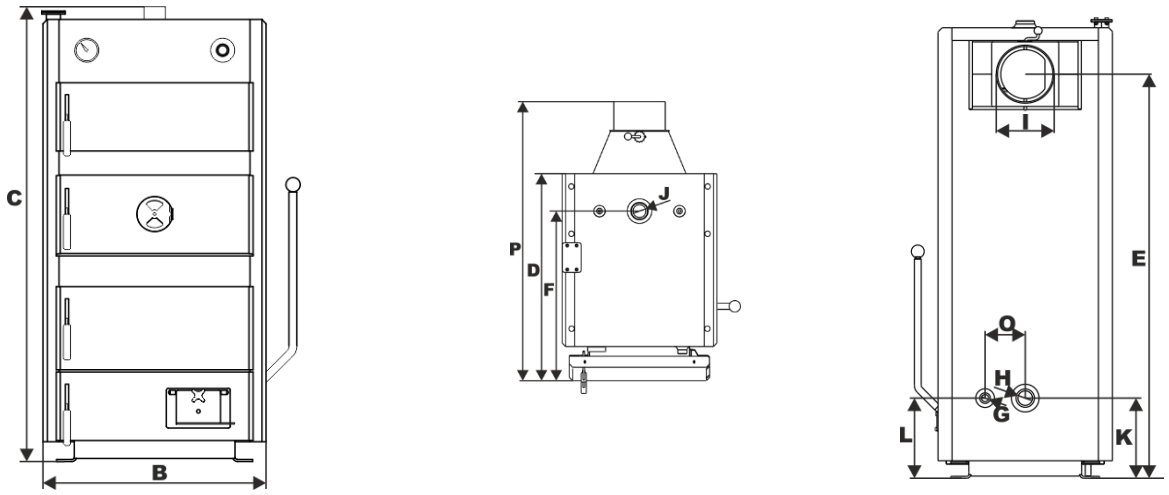
Dimensions of the SE MAX II 15kW boiler



Dimensions of the SE MAX II 20kW boiler



Dimensions of the SE MAX II 25-50kW boiler



Type	SE MAX II - 15	SE MAX II - 20	SE MAX II - 25	SE MAX II - 30	SE MAX II - 35	SE MAX II - 40	SE MAX II - 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
U	238x190	238x190	258x190	318x238	338x238	388x238	438x238

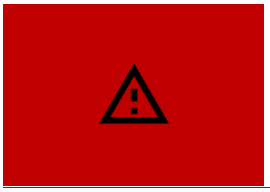
*Dimension does not include the height of the boiler levelling feet.

Fuel

(User)

The fuel for combustion of boilers of the SE MAX II series is hardwood not exceeding 20% humidity, hard coal of the OI range.

Hardwoods such as beech, hornbeam, oak, birch, alder and ash are recommended. The use of coniferous wood is not recommended as it causes burnt boilers and the need for more frequent cleaning.



NOTE!
When using wood with a moisture content of more than 20%, an acid-resistant steel insert is recommended in the flue pipe.

Requirements for the boiler room and boiler installation

(User | Installer)

In Poland, boiler houses built for solid fuel should meet the requirements of PN-87/B-02411 "Boiler houses built for solid fuel" and OJ. 2015.0.1422. They are divided into two types:

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

- The boiler should be positioned as centrally as possible to the rooms to be heated and in a separate room;
- The boiler should be placed on a foundation made of noncombustible materials, projecting 0.05 m above the floor level and edged with steel angles;
- there should be artificial lighting in the room, and natural lighting is also advisable;
- the position of the wheel in the room should allow free access to the boiler for cleaning and maintenance; the distance from the back of the boiler to the wall should not be less than 70 cm, from the side of the boiler to the wall not less than 100 cm, and from the front of the boiler to 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 should be at least 190 cm, with proper ventilation (supply and exhaust);
- Supply ventilation should be by means of an unsealed opening with a minimum cross-section of 200 cm^2 and located up to a maximum of 100 cm above floor level;
- the exhaust ventilation should be realised through 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 be led above the roof and placed near the chimney; there must be no devices on the exhaust duct allowing to close it;
- the section of the chimney should not be smaller than 20 x 20 cm;
- there should be a floor drain in the floor of the boiler room;
- The optimum place for storing fuel is in a separate room close to the boiler room;
- ash and slag must be collected in suitable containers for daily emptying.

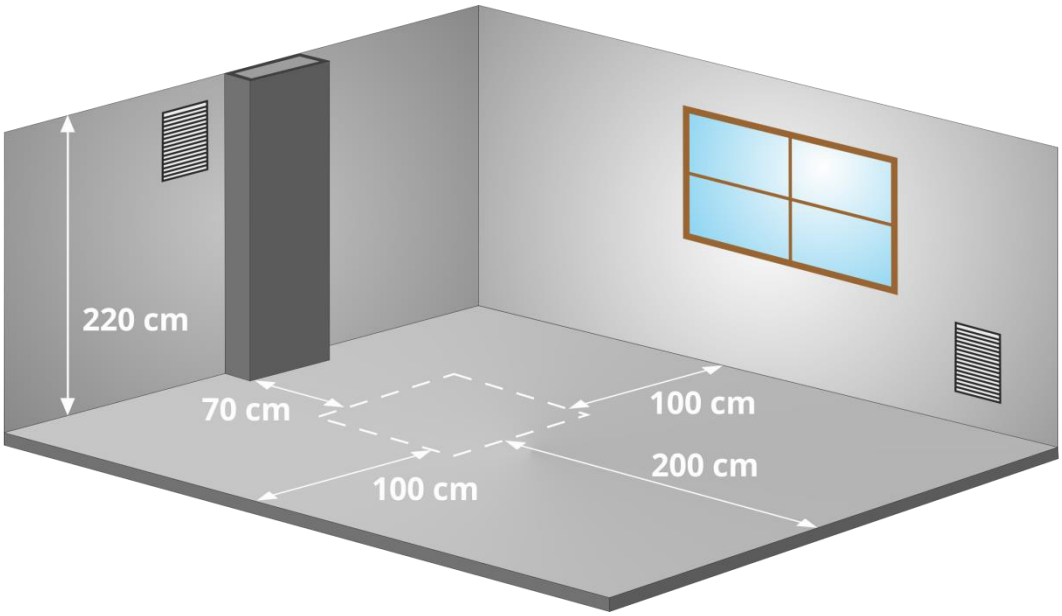
2. Boiler plants with a heat output of 25 kW or more should additionally meet the following requirements:

- The distance of the boiler furthest from the chimney, with gravity draught, must not exceed 50 cm of the chimney height;
- The fuel store and slag store should be located next to the boiler hall at a storage height of up to 220 cm with a minimum of 50 cm free space above the fuel;
- facilities and equipment must be included to allow vertical and horizontal transport of fuel and slag;
- the fuel store room shall have natural unforced ventilation, providing for one complete change of air per hour in the fuel store and three complete changes of air in the slag store;
- the entrance door to the boiler room should be non-combustible (class 0.5 fire resistance), minimum width 80 cm, opening outwards; it should have a handleless locking system allowing it to open outwards under pressure, inwards using the handle;
- the ventilation requirements are the same as for boiler rooms with smaller outputs; in addition, in boiler rooms with outputs in excess of 400 kW there should be, in addition to supply and exhaust ventilation,

mechanical ventilation, switched on periodically during fuel filling and slagging of the boilers, ensuring a minimum of 10 full air changes per hour;

- natural lighting should be included in the boiler room, illuminating the boiler from the front, and the window area should be a minimum of 1/15 of the boiler room floor area; half of those installed should be operable; electrical lighting and an electrical outlet not exceeding 24 V, should also be provided in the room;
- there should be a sump in the floor to allow cooling of the water and its capacity should be equal to the water capacity of the largest boiler, but not more than 2 m^3 ;
- in the boiler room, the thermal pipes should be insulated;
- The positioning of the boiler with the minimum distances required is shown in the boiler room diagram below.

Minimum distances for positioning the boiler in the boiler room



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

NOTE!
Ensuring that sufficient fresh air flows into the boiler room will enable the fuel to burn efficiently.

NOTE!
Excessive carbon dioxide in the room should be prevented.

NOTE!
For more detailed information on the requirements for the construction of a boiler room, see the Decree of the Minister of Infrastructure of 12 March 2009.

TIP!
The aforementioned provisions are guidelines to be reviewed as the regulation is subject to revision.

Assembly of the boiler

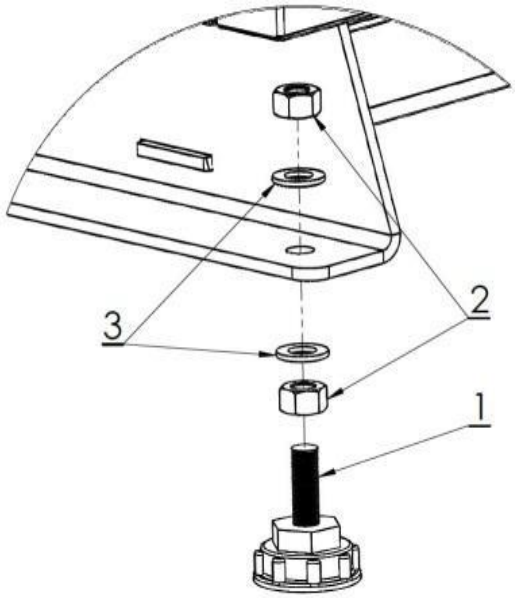
(User | Installer)

An important part of installation is the correct positioning and levelling of the SE MAX II type boiler, these boilers do not require special foundations. The boiler must stand vertically.

1. Check that four feet are included.
2. Use a spirit level to level the boiler to the ground. 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 align the boiler

Installation of the boiler levelling feet

1. Adjustment foot, pcs. 4
2. Nut M10, pcs. 8
3. Washer Ø10, pcs. 8



NOTE!
An improperly levelled boiler can be damaged.

NOTE!
The return water temperature from the system to the central heating boiler should not be below 45°C.

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

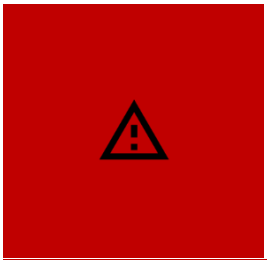
- 20 cm safe distance from flammable materials,
- 40 cm for flammable materials of flammability grade C3,
- 40 cm if the degree of flammability is not known.

Degree of combustibility of building masses and products	Building materials and products
A - Non-flammable	Sandstone, concrete, bricks, fireproofing plaster, mortar, ceramic tiles, granite
B - Hard to burn	Wood and cement boards, fibreglass, mineral insulation
C1 - Hard to burn	Beech wood, oak wood, plywood
C2 - Medium burning	Pine, larch and spruce cork, sawn wood planks, rubber floor coverings
C3 - Easy to burn	Asphalt plywood, celluloid, polyurethane, polystyrene, polyethylene, plastic, PVC

Connection of the boiler to the heating system

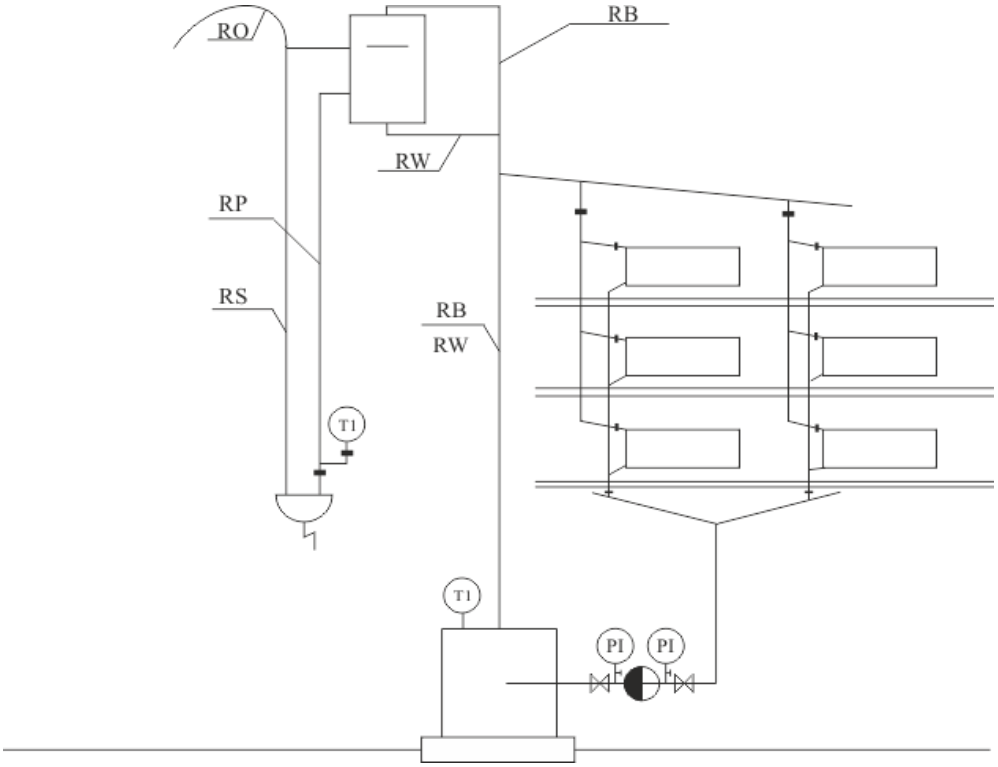
(Installer)

The connection of the boiler to the central heating system should be made by a firm authorised by the manufacturer and the fact of a correct connection should be confirmed on a guarantee card enclosed with this manual. The boiler should be connected according to the manufacturer's recommendations, in accordance with this manual.



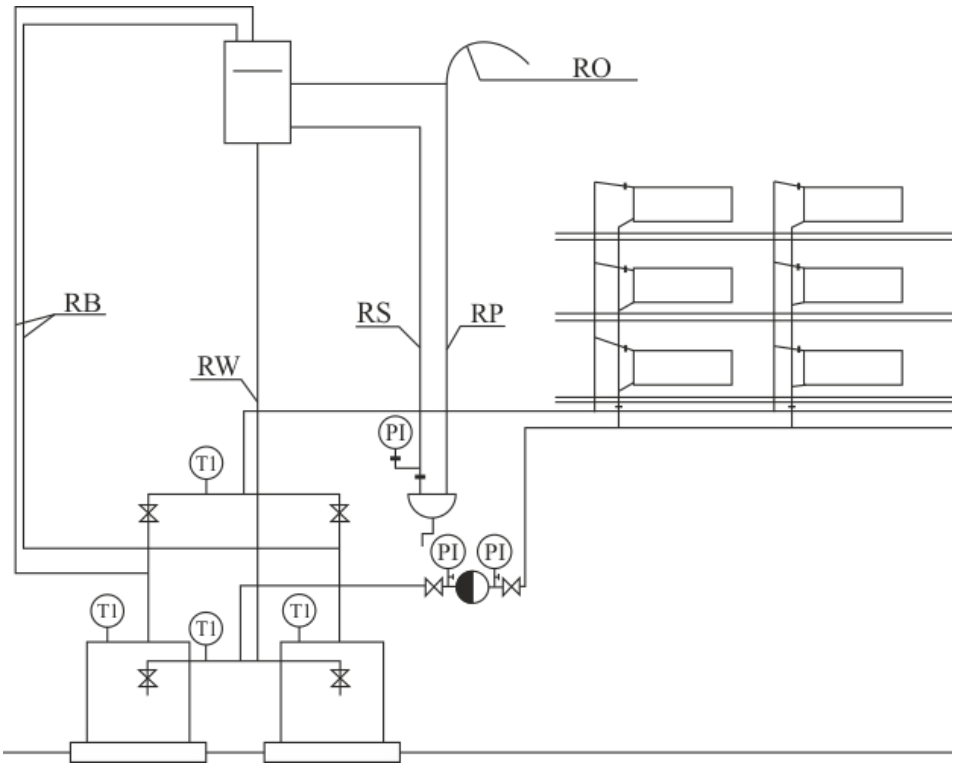
NOTE!
It is recommended that the first start up of the boiler is carried out in accordance with the instructions in the Technical Operation Manual by a person holding a valid licence (information on persons authorised to start up the boiler is available from the Producer - telephone: +48 85 711 94 56).

Boiler connection diagrams for the heating system in accordance with DIN 91/B-02420



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

Boiler connection diagrams for the heating system in accordance with DIN 91/B-02420



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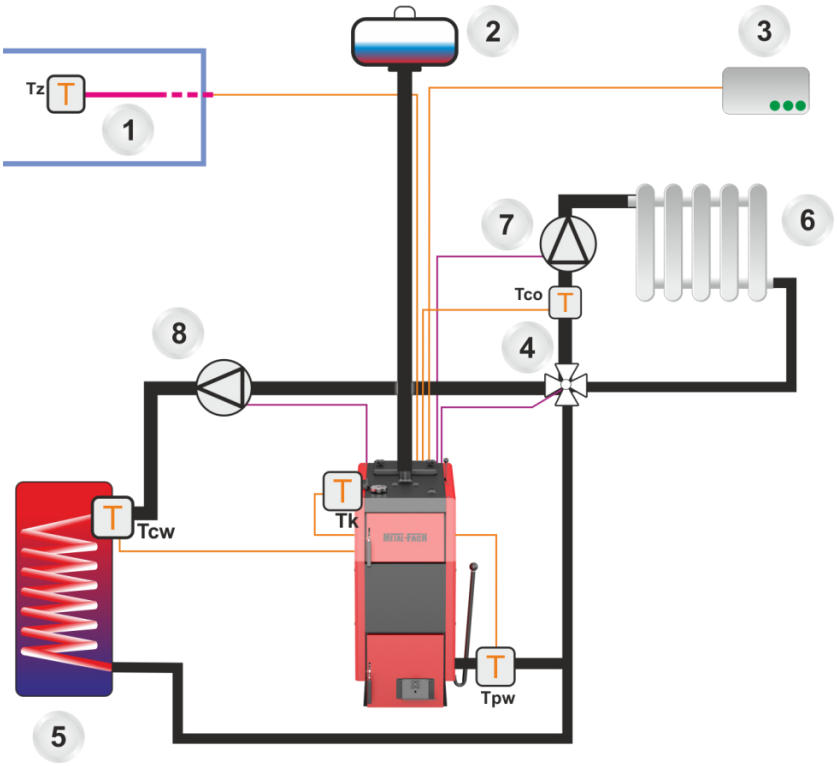
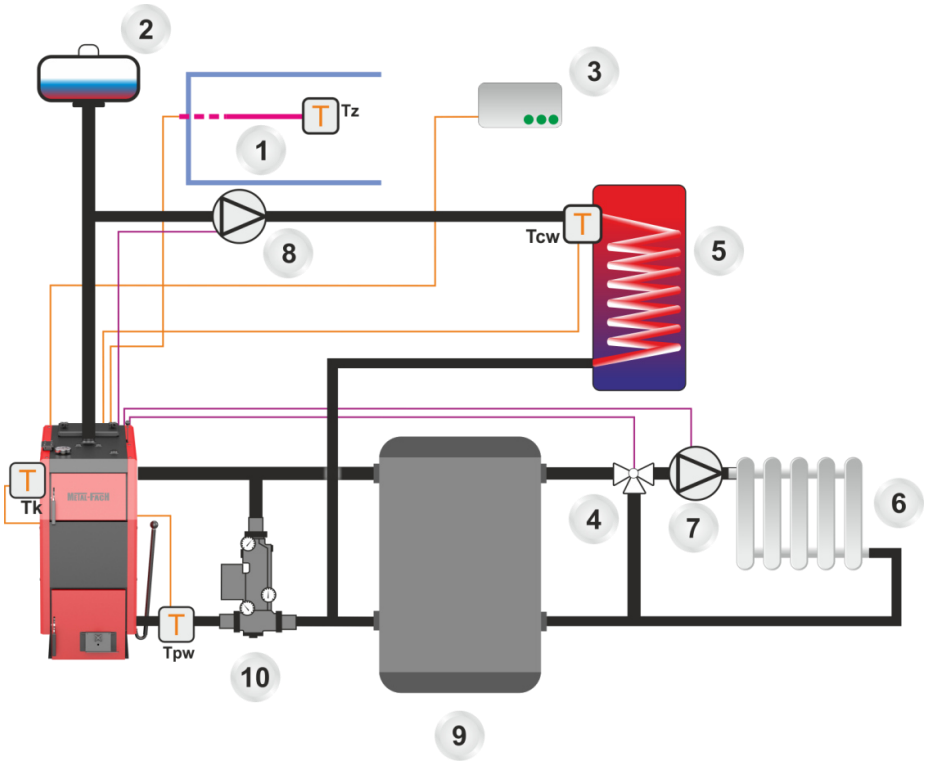


1. Outside the building
2. Collector vessel
3. Room controller
4. Mixer
5. Heater
6. Heating circuit
7. Central heating pump (C.O.)
8. Domestic hot water (DHW) pump
9. Buffer
10. Laddomat

Designation	Description
T	Temperature sensor
Tk	Boiler temperature sensor
Tz	Outdoor 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



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Requirements for the expansion vessel

(Installer)

Every open system heating system should be fitted with an expansion vessel whose function is to take up the increase in volume of the water filling the system and to vent. This vessel should be installed at the highest point of the system, if possible in a vertical line above the boiler(s).

The volume of the expansion vessel can be estimated by assuming the unit volume in relation to one kW of heat output is 1-2 dm^3 .

The expansion vessel is equipped with a spigot for connecting an ascending safety pipe, a descending safety pipe and an overflow pipe and connected vent.

The diameter of the vent pipe and overflow pipe is at least:

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

$\dot{Q}$ - boiler output [kW].

The most important requirements for safety devices are as follows:

- The expansion vessel should have a volume of approx. 3.5% of the volume of water contained in the heating system including the boiler,
- Every boiler should absolutely have a safety pipe and an overflow pipe,
- the system should be equipped with a signal and expansion pipe and an expansion vessel vent stub.

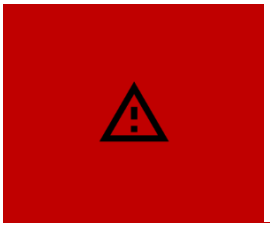
If several boilers are set up, each of them should be equipped with a safety pipe in accordance with the specified rules according to PN-91/B02413 - protection of open-system water heating installations. No shut-off valves may be fitted on the safety and overflow pipes, and the pipes and vessel must be protected against frost.

Connection of the boiler to the electrical installation

(Installer)

The boiler is designed for a voltage connection of 230V/50Hz. The installation should be carried out by a qualified person. The 230V/10A grounded connection socket should be easily accessible. The boiler power supply and the boiler room lighting should have a different circuit.

Completion of the installation 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.



NOTE!
The initial start-up of the boiler must only be carried out by a service technician trained by the manufacturer, with a current certificate from an Authorised Service Agent, METAL-FACH Distributor or a Person with an SEP licence up to 1.5 kW.

Connecting the boiler to the chimney

(Installer)

Smoke ducts

Flue pipes have the task of reliably drawing the flue gases to the outside and drawing in the air that allows the fuel to burn. The chimney draught required for this depends on:

- the temperature difference between hot flue gases and cold air,
- effective chimney height,
- a chimney section of not less than 20 x 20 cm,
- the execution of the chimney (as smooth internal surfaces as possible) and the tightness of the joints.

The effective height of the chimney is the difference in height between the highest hearth and the exit of the chimney. The effective height of individual chimneys must be at least 4m and that of common chimneys for solid and liquid fuels at least 5m. The height difference between two fireplaces must not be greater than 6.5m. On sloping roofs, chimneys should terminate within the ridge (the highest edge of the roof), in an area of free wind flow. This avoids draught interference. The position of the building in relation to other buildings must always be taken into account.

Chimney selection

In most cases, an approximate method or selection according to the chimney manufacturer's diagrams is sufficient for chimney selection. In special cases (unfavourable pressure and temperature relationships, large flue gas volume) chimneys are calculated according to the applicable standard. A low outlet flue gas temperature at the nominal boiler output can cause damp flue gases, soot deposits, insufficient chimney draught. This can lead to dampness and corrosion of masonry chimneys. The use of a chimney insert is recommended:

- In new buildings, a ceramic flue system resistant to condensation, thermally insulated and with a condenser is recommended,
- in existing buildings, it is recommended that the masonry chimney is upgraded with a stainless steel chimney system (designed for solid fuel boilers) single or double wall.

Flue

The boiler is connected to the chimney by means of a flue and a flue pipe. The flue is made up of pipes and fittings that are laid indoors. Flue pipes comply with the fire safety requirements for chimneys and are often made of the same material as the main flue. Smoke ducts should be made of non-combustible products. Smoke ducts or smoke duct cladding should meet the requirements of the Polish Standard for fire testing of small chimneys. An enclosure of 12 cm thick solid brick, built with cement-lime mortar, with external plaster or pointing is permitted. The joints should be as short as possible and laid with an upward slope to the chimney to avoid heat loss and additional resistance. They must not be routed to other floors. Flue pipes should not be laid in rooms where fireplaces cannot be installed, nor should they be placed in walls or ceilings. Due to the low temperature of the flue gases, acid resistant or ceramic chimney liners should be used to protect the chimney from damp and reduce draught. A distance of at least 6 m should be kept between the chimney and the nearest edge of a tree crown.

Commissioning the boiler

(User | Installer)

Before starting the fire in the boiler, check that the central heating system has been made correctly and that it is filled correctly with water - up to the overflow pipe from the collection vessel.

Softened/chemically treated water, distilled water or rainwater would be most suitable for filling the entire system or for replenishing cavities.

In addition, check that the grate is cleared of unburned fuel residue, ash and slag from previous burning and that the ash has been removed from the ash pan.

Recommended firing-up (correct from the top) - fill the prepared grate deck with fuel (when burning wood - full charge - to the lower edge of the inlet, place logs across the boiler) Place a layer of kindling (paper, wood) on the surface and set fire. Boiler start-up is performed with the primary air dosing flap in the lower door (grate and ash door) open and with the secondary air damper in the combustion door open.

Operation of the boiler in the top combustion system takes place in a system with cyclic fuel filling, which means that after the portion of fuel filled into the combustion chamber is completely burnt out and the ash is removed, the chamber is filled again and a new portion of fuel is ignited using kindling fuel.

We do not recommend firing the fuel "from below" in top-fired type boilers.

Before lighting the fire bed, make sure that the chimney provides sufficient draught. Insufficient draught is most often encountered when the boiler is started up for the first time or after a long break in operation when the boiler and chimney have cooled down. To check the chimney draught, place a lit piece of wood close to the air inlet duct with the damper open.

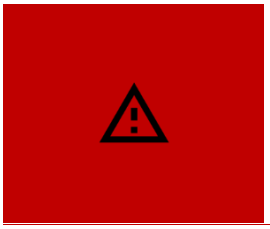
If it is found that the flame is not drawn intensively into the boiler, this indicates insufficient chimney draught.

In this case, the chimney must be 'warmed up' before the layer is set on fire by proceeding as follows:

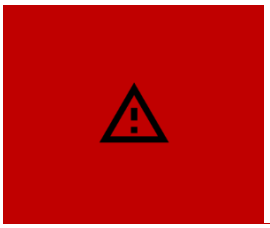
- insert a few sticks of wood in the flue pipe and set the fire;
- keep the fire burning until the draught increases (the flame is drawn up the chimney);
- after the wood has burned out, scoop up the unburned residue and dump it in the ash pan.

Once the boiler has reached the desired water temperature, the combustion intensity must be adjusted. The combustion intensity is adjusted by adjusting the adjustment screw of the primary air metering flap and by adjusting the secondary air damper accordingly. During normal operation of the boiler, the fuel should be periodically checked and topped up as specified above. In the case of hard coal, strike the hook to cause the fuel to slip.

When opening the combustion door, take particular care as explosive ignition of the gases (outgassing products) may occur if the door is opened abruptly. When opening the filling door, stand to the side of the boiler, slightly open the door, wait a moment until the combustion gases are discharged from the fuel tank into the chimney and then slowly open the door completely. Even then, do not stand in front of the door opening. A similar procedure should be followed when opening the other doors during boiler operation.



NOTE!
If for any reason there is a lack of water in the boiler - mains system, do not top up with cold water. Cool the boiler down to 30 °C as quickly as possible and only after the boiler has cooled down, top up with water and start firing again.



NOTE!
The flow of cold water onto the boiler walls when they are hot (lit) may cause the boiler to explode and consequently damage the heating equipment. In extreme cases, it can entail damage to building structures and injury to people.

When starting up the boiler cold or for the first time, the phenomenon of "boiler sweating" may occur. This gives the impression of leakage. In this case, carry out intensive firing (70-80°C) to dry and warm up the boiler and flue for up to 2-3 days.

To increase the service life of the boiler, it is recommended to maintain the temperature of the

180°C of flue gas above ambient temperature and the boiler water temperature should not be below 60°C.

Maintaining a sufficiently low temperature in the radiators in this situation during autumn or spring can be achieved, among other things, by:

- Correct choice of boiler for the size of the rooms to be heated;
- The use of three- or four-way mixing valves between the water supply and return, either manually or automatically controlled.

Inadequate insulation (insulation) of the expansion (overflow) vessel can also cause the boiler to explode with all the negative consequences.

Frozen water in the expansion vessel breaks the connection between the central heating system and the boiler and the atmosphere and, when the boiler water temperature rises, there is an uncontrolled increase in pressure in the system and this can lead to the boiler exploding.

NOTE!
When opening the door, do not stand in front of the boiler, burns may occur.

When using the boiler, remember

(User)

- The boiler may only be operated by adults who have read the operating instructions;
- It is forbidden for children to be near the boiler without an adult present;
- If flammable gases or vapours leak into the boiler room or during work which involves an increased risk of fire or explosion (gluing, varnishing, etc.), the boiler must be switched off before starting such work;
- When cleaning carbon deposits in the retort, trough, the boiler must be switched off ("OFF" position);
- When adding fuel to the hopper, switch the boiler off ("OFF" position);
- flammable liquids must not be used to light the boiler, it should light automatically (using an igniter);
- When cleaning the boiler, the appliance must be switched off ("OFF" position);
- The boiler must not be overheated in any way during operation;
- Do not place flammable objects on the boiler or in its immediate vicinity;
- When removing ashes, flammable materials must not be within 150 cm of the boiler;
- The ashes should be transferred to heatproof dishes with a lid;
- when the boiler is operated at a temperature lower than 60°C, the steel exchanger may dampen and thus corrode as a result of the low temperature, which shortens the life of the exchanger; therefore the temperature during boiler operation must be at least 60°C;
- the boiler and flue pipe must be thoroughly cleaned after the end of the heating season;
- The boiler room should be kept clean and dry.

NOTE!
The product is not intended for use by persons with reduced physical/mental capacity or lack of experience and knowledge unless they are supervised or instructed by a person responsible for their safety.

NOTE!
Any unauthorised interference with the electronics or the design of the boiler is prohibited.

Cleaning and maintenance of the boiler

(User)

NOTE!
The boiler must only be cleaned when the appliance is switched off from the mains.

The combustion chamber and the convection ducts of the boiler must be kept clean to save fuel. In the combustion chamber it is necessary to clean the walls and shelves through the cleaning and inspection doors. The boiler exchanger and ash pan must also be cleaned regularly.

Cleaning should be carried out using wire brushes on extension tubes. This should be done during periodic shutdown of the boiler, preferably every 100 h of boiler operation. Thorough cleaning of the boiler should be carried out once a month.

Instructions for disposal of the boiler at the end of its service life

(User)

Before scrapping the boiler, disconnect all electronic components from the boiler. These must be disposed of in accordance with the European Directive 2002/96/EC concerning the disposal of electronic and electrical equipment. For proper disposal, contact the manufacturer of the electronic components according to the above mentioned European Directive.

The steel components of the boiler must be scrapped at designated locations (scrap metal collection).

NOTE!
The used boiler to be scrapped and its components should not be disposed of with general waste.

Examples of equipment failure

(User)

Before you call for service read the frequently asked questions.

Online application: www.metalfachtg.com.pl/zglos-problem-online

Hotline: + 48 85 711 94 54 ext.17

Instructional videos: www.youtube.com/c/METALFACHTechnikaGrzewcza

FAQ: www. metalfachtg.com.pl/contact-with-service/#faq

Warranty conditions

(User)

User statement:

I hereby declare that the boiler (hereinafter also referred to as "appliance") has been delivered to me as ordered, new and complete. The seller has familiarised me with the operation of the appliance and provided me with a complete set of documentation (including, in particular: Technical and Operating Documentation containing, inter alia, installation and operating instructions for the appliance, warranty conditions). I acknowledge the manufacturer's recommendation that the appliance be subjected to regular annual technical inspections, to be confirmed in the warranty card.

Date and legible signature of the user

Warranty coverage:

1. Liability under the guarantee shall only cover defects arising from causes inherent in the equipment at the time it was handed over to the user.
2. The warranty for the device is provided by the manufacturer (also referred to as the "Guarantor"): Jacek Kucharewicz conducting business under the name Metal Fach Jacek Kucharewicz, 16-100 Sokółka, 66 Sikorskiego Street, NIP: 545-100-10-62, REGON 050073833, telephone +48 85 711 94 56.
3. Under the guarantee, the user acquires the right to have the unit repaired free of charge, provided that the defects of the unit become apparent during the guarantee period. If the Guarantor finds it impossible to repair the unit or its parts, the Guarantor reserves the right to replace the unit or its parts with new ones.

Guarantee period:

For the appliance (boiler) - 2 years from the date of sale but no longer than 36 months from the date of manufacture with the exception of:

a) exchanger - for which the guarantee is 5 years from the date of sale;
b) moving parts, cast iron, mechanical, auger - for which the warranty is 1 year from the date of sale;
c) consumable components (e.g. sealing cord, gaskets, vermiculite, chamotte), electrical components, screw securing the screw coupling, pins - which are not subject to warranty.

Conditions for exercising the guarantee:

1. Installation of the appliance in accordance with the technical and operating documentation (in particular, connection of the boiler to a properly executed installation, execution of the first start-up in accordance with the appliance manufacturer's instructions, use of devices protecting the boiler against cold water return (four-way valve with actuator, ice machine, etc.).
2. Sending back to the Producer's address a copy of the duly completed warranty card, signed and stamped by the dealer within 30 days from the date of sale of the device
3. Presenting at the time of claim a correctly filled warranty card (signed and stamped by the seller) and substantiating the circumstances of the purchase of the device (e.g. receipt, invoice). If the User loses the warranty card, a duplicate will not be issued.
4. Compliance by the user with the recommendations contained in the technical and operating documentation of the appliance.
5. Carry out the first start-up of the boiler, within 6 months from the date of installation of the appliance, by the installer, in accordance with the guidelines included in the technical and operating documentation, by a person holding a valid licence (information on persons authorised to start up the boiler is available from the Guarantor - +48 85 711 94 56), confirm this fact on the guarantee card and send the start-up report to the Guarantor. The first start-up of the boiler is a chargeable service and its cost is covered by the User.
6. Carrying out annual inspections of the appliance, in accordance with the guidelines contained in the technical and operating documentation, by specialist firms holding the appropriate authorisations (a sample list of specialist firms is available from the Manufacturer - under the telephone number +48 85 711 94 56 and recording their performance in the guarantee card. Inspection of the device is a chargeable service.
7. Servicing of the appliance (e.g. adjustment of the appliance, cleaning, measurements, flue gas analyses) should be performed by specialised companies holding the relevant authorisations (a sample list of specialised companies is available from the Manufacturer - under +48 85 711 94 56), in accordance with the guidelines included in the Technical and Operating Documentation, and the servicing services should be recorded in the guarantee card. The User may report the need for service interventions to the Guarantor (Infoline +48 85 711 94 56, www.metalfachtg.pl/zglos-problem-online). The service is chargeable.
8. Guarantee repairs should only be carried out by specialised companies with the appropriate authorisation (a list of specialised companies is available from the Guarantor - tel. +48 85 711 94 56) and recorded in the guarantee card.
9. Use of spare parts and consumables that meet the parameters specified by the manufacturer. The use of original parts is recommended.
10. The guarantee covers the territory of the Republic of Poland.

The warranty does not cover defects in the device resulting from:

1. Failure by the User to comply with the conditions contained in the Technical and Operating Documentation and the instructions contained therein, inter alia, with regard to transport, assembly, operation, use and maintenance of the equipment;
2. Inadequate storage and transport by the user;
3. Damage to the appliance's components through the use of incorrect voltage by the User. In the event that the appliance is powered directly or indirectly by generators, systems or UPS equipment, the user should consult the parameters of the power supply equipment with the manufacturer;
4. Defects in the appliance caused by a defective heating system connected to the appliance;
5. Overheating of the boiler by the user;
6. Connection of the boiler by the user to a closed system without using a suitable cooling device;
7. Use of inappropriate, poor quality fuel by the user;
8. Unauthorised modifications to the device made by the user.

Complaint procedure:

1. If a malfunction of the unit is found, make sure that everything has been done in accordance with the Technical and Operational Documentation before making a claim.
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 at the Seller or at the Guarantor (www.metalfachtg.pl/zglos-problem-online or infoline +48 85 711 94 56).
3. It is recommended that you refrain from using the faulty device.
4. The user is obliged to ensure free access to the appliance (in particular, to allow removal of the appliance housing, access to valves).
5. Warranty repairs will be carried out by the Guarantor or by a specialist company indicated by the Guarantor.
6. The fulfilment of the obligations under the guarantee will take place within 14 working days, starting from the day on which the equipment is made available (on site) by the User.
7. The date on which the device will be made available to the user shall be agreed with the Guarantor.
8. Depending on the extent of the repair, it may be carried out at the User's premises, at the place of installation of the device, or at the premises of the Guarantor or of a specialist company carrying out the activity on behalf of the Guarantor.
9. Repairs carried out under warranty must be confirmed on the warranty card.
10. The guarantee shall be extended by the time during which, due to a defect in the equipment covered by the guarantee, the user has not been able to use the equipment.
11. The guarantee does not exclude, limit or suspend the buyer's rights under the warranty provisions for defects of the goods sold.

Confirmation of inspection, warranty repair, maintenance service

L.p.	Date of implementation	Description of the activities carried out	Signature and stamp of the contractor
1.			
2.			
3.			
4.			
5.			
6.			
7.			

L.p.	Date of implementation	Description of the activities carried out	Signature and stamp of the contractor
8.			
9.			
10.			
11.			
12.			
13.			
14.			

EC/EU Declaration of Conformity

Manufacturer:	Product name and intended use:	
	Solid fuel central heating steel boiler with automatic fuel feed.	
METAL-FACH Jacek Kucharewicz 66 Sikorskiego Street 16-100 Sokółka NIP 545-100-10-62	Type:	SE MAX II
	Factory no:	
	Year of production:	

Reference documents:

1. Directive 2009/125/EC establishing a framework for the setting of ecodesign requirements for energy-related products - Commission Regulation (EU) No 2015/1189
2. Directive 2006/42/EC Machinery.
3. Directive 2010/30/EU labelling of energy-related products - Commission Regulation (EU) No 2015/1187

Technical documentation:

1. Standard PN-EN 303-5:2012 Solid fuel heating boilers with manual and automatic fuel feed with nominal power up to 500 kW.
2. PN EN ISO 12100:2012 Safety of machinery Basic concepts, general principles for design Part 1: Basic terminology, methodology.
3. PN EN 1708-1:2010 Welding basic solutions for steel welded joints - Part 1: Pressure parts.
4. PN EN ISO 9606-1:2014-02 Welding - Examination of welders Steels.
5. PN EN 60335-1:2012 Household and similar electrical appliances - Safety - Part 1: General requirements.
6. 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.
7. PN EN 61000-6-2:2008 - Electromagnetic compatibility (EMC) -- Part 6-2: Generic standards - Immunity for industrial environments
8. 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.

The product is marked with the marks:	Approvers:	Town: Sokółka, Date: 01.2022

CE

DYREKTOR PRODUKCJI
Julian Żukowski

WŁAŚCICIEL
Jacek Kucharewicz

Production Director	Owner

Warranty card

Central heating boiler of [kW]: Type:

Number:

Date of manufacture of central heating boiler: Date of sale of the boiler:

Name of buyer:

Buyer's address

Date of purchase and stamp	Customer signature

I accept the warranty conditions √

The personal data provided in this form is processed by Jacek Kucharewicz conducting business activity under the name Metal Fach Jacek Kucharewicz, 16-100 Sokółka, ul. Sikorskiego 66, NIP: 545-100-10-62, telephone +48 85 711 94 56 for the purpose of implementing the provisions contained in the warranty terms and conditions - in accordance with the Personal Data Protection Act of 29 August 1997 (consolidated text: Journal of Laws 2014, item 1182). The user has the right to access the content of his/her personal data, to correct it, to request the cessation of data processing and to object to data processing in cases indicated by law. Any correspondence regarding the processing of personal data should be addressed to: Metal Fach Jacek Kucharewicz, 16-100 Sokółka, 66 Sikorskiego St. Provision of personal data is voluntary. In accordance with the Personal Data Protection Act of 29 August 1997 (consolidated text: Journal of Laws 2014, item 1182), we inform you that the personal data provided in this form, will be protected against unauthorised access.

Notification of claim

Customer data	Central heating boiler data.
Name	Product name:
Address of residence	Model:
Phone	Serial No.
Purchase document no:	Guarantee period Includes | Does not include
No. of payment document:	Detailed description of the fault:
Seller's signature	

Conditions for initiating the complaint repair procedure:

1. Confirmation by the point of sale of payment for the claimed product is the basis for starting the complaint procedure.
2. The warranty card is the only basis for free repair.
3. The claimant is obliged to reimburse the costs incurred by METAL FACH Jacek Kucharewicz in case of unjustified calling of the service team or failure to meet points 1 or 2 (each started hour of the service technician's work 70 PLN net, travel 1 PLN net/km round trip).
4. The legible signature of the applicant confirms that he/she has read the basic terms of the complaints procedure.

Legible signature of the complainant	Signature of the person accepting the complaint

I declare that I have read the warranty terms and conditions, on the basis of which I make a claim and I agree to the processing of my personal data for the purpose of the claim process in accordance with the Personal Data Protection Act of 29.08.1997 (Journal of Laws No. 133 item 833).

Legible signature of the complainant

The manufacturer undertakes to carry out warranty repairs within 14 days of receiving the user's written notification of damage on the manufacturer's claim form.

Personal data provided in this form are processed by Jacek Kucharewicz conducting business activity under the name Metal Fach Jacek Kucharewicz, 16-100 Sokółka, ul. Sikorskiego 66, NIP: 545-100-10-62, telephone +48 85 711 94 56 in order to implement the provisions contained in the terms and conditions of the guarantee - in accordance with the Act of 29 August 1997 on personal data protection (consolidated text: Journal of Laws 2014, item 1182). The user has the right to access the content of his/her personal data, to correct it, to request the cessation of data processing and to object to data processing in cases indicated by law. Any correspondence regarding the processing of personal data should be addressed to: Metal Fach Jacek Kucharewicz, 16-100 Sokółka, 66 Sikorskiego St. Provision of personal data is voluntary. In accordance with the Personal Data Protection Act of 29 August 1997 (consolidated text: Journal of Laws 2014, item 1182), we inform you that the personal data provided in this form, will be protected against unauthorised access.

Report on the initial start-up of the boiler

(Copy of central heating boiler owner)

In order to verify the purchase and recognise the validity of the guarantee, a report must be sent within 30 days of the date of initial commissioning. This action can be performed by:

1. Email - in which a scan or photo of the report will be included.
2. Letter - in which a copy of the report will be sent to METAL-FACH Jacek Kucharewicz, the address of the company can be found at the end of the Technical and Operational Document.

Boiler room	Fulfils	Does not meet	Comment
The conditions contained in the DTR in chapter " Requirements for the boiler room and boiler installation" are complied with.			
The conditions contained in the DTR in chapter "Connecting the boiler to the chimney" are complied with.			
Central heating system.	Fulfils	Does not meet	Comment
The conditions contained in the DTR in chapter "Connection of the boiler with the heating system" are complied with.			
The conditions contained in the DTR in the chapter "Requirements for the expansion vessel" are observed.			
There is no other heating source. If there is does it exist and how does it affect the operation of the boiler?			
Protection of the system against freezing.			
Connection of components with electrical installation	Fulfils	Does not meet	Comment
The conditions contained in the DTR in chapter "Connection of the boiler with the electrical installation" are complied with.			
Accessory test	Fulfils	Does not meet	Comment
The sensors are positioned in the right place.			
Sensor readings are consistent with the actual condition.			
The direction of rotation of the fan is correct.			
Opening the fan flap using the blowing force.			
Boiler start-up	Fulfils	Does not meet	Comment
The tightness of the hydraulic connection of the boiler to the system is maintained.			
Fire up the boiler in accordance with the section "Starting up the boiler".			
Pre-adjustment of boiler operating parameter settings.			
Final adjustment of the boiler operating parameter settings.			

Confirmation of user training on	Yes	Not	Comment
Instructions for the safe operation of the boiler for the user can be found in the chapter "When using the boiler, remember".			
Instruction in the use of the boiler controller and the regulation of the combustion process.			
Fan speed settings.			
Boiler maintenance chapter "Cleaning and maintenance of the boiler"			
Required fuel quality Chapter "Fuel"			
Emergency procedures chapter "Examples of equipment failure"			

Launch date	Boiler name	Boiler output [kW]	Serial No.

Name of service technician	Name of owner
Address	Address
Company stamp	Contact number
Signature	Signature

The personal data provided in this form is processed by Jacek Kucharewicz conducting business activity under the name Metal Fach Jacek Kucharewicz, 16-100 Sokółka, ul. Sikorskiego 66, NIP: 545-100-10-62, telephone +48 85 711 94 56 for the purpose of implementing the provisions contained in the warranty terms and conditions - in accordance with the Personal Data Protection Act of 29 August 1997 (consolidated text: Journal of Laws 2014, item 1182). The user has the right to access the content of his/her personal data, to correct it, to request the cessation of data processing and to object to data processing in cases indicated by law. Any correspondence regarding the processing of personal data should be addressed to: Metal Fach Jacek Kucharewicz, 16-100 Sokółka, 66 Sikorskiego St. Provision of personal data is voluntary. In accordance with the Personal Data Protection Act of 29 August 1997 (consolidated text: Journal of Laws 2014, item 1182), we inform you that the personal data provided in this form, will be protected against unauthorised access.

Report on the initial start-up of the boiler

(Copy from METAL-FACH Technika Grzewcza)

In order to verify the purchase and recognise the validity of the guarantee, a report must be sent within 30 days of the date of initial commissioning. This action can be performed by:

1. Email - in which a scan or photo of the report will be included.
2. Letter - in which a copy of the report will be sent to METAL-FACH Jacek Kucharewicz, the address of the company can be found at the end of the Technical and Operational Document.

Boiler room	Fulfils	Does not meet	Comment
The conditions contained in the DTR in chapter " Requirements for the boiler room and boiler installation" are complied with.			
The conditions contained in the DTR in chapter "Connecting the boiler to the chimney" are observed.			
Central heating system.	Fulfils	Does not meet	Comment
The conditions contained in the DTR in chapter "Connection of the boiler with the heating system" are complied with.			
The conditions contained in the DTR in the chapter "Requirements for the expansion vessel" are observed.			
There is no other source of heating. If there is does it exist and how does it affect the operation of the boiler?			
Protection of the system against freezing.			
Connection of components with electrical installation	Fulfils	Does not meet	Comment
The conditions contained in the DTR in chapter "Connection of the boiler with the electrical installation" are observed.			
Accessory test	Fulfils	Does not meet	Comment
The sensors are positioned in the right place.			
Sensor readings are consistent with the actual condition.			
The direction of rotation of the fan is correct.			
Opening the fan flap using the blowing force.			
Boiler start-up	Fulfils	Does not meet	Comment
The tightness of the hydraulic connection of the boiler to the system is maintained.			
Fire up the boiler in accordance with the section "Starting up the boiler".			
Pre-adjustment of boiler operating parameter settings.			
Final adjustment of the boiler operating parameter settings.			

Confirmation of user training on	Yes	Not	Comment
Instructions for the safe operation of the boiler for the user can be found in the chapter "When using the boiler, remember".			
Instruction in the use of the boiler controller and the regulation of the combustion process.			
Fan speed settings.			
Boiler maintenance chapter "Cleaning and maintenance of the boiler"			
Required fuel quality Chapter "Fuel"			
Emergency procedures chapter "Examples of equipment failure"			

Launch date	Boiler name	Boiler output [kW]	Serial No.

Name of service technician	Name of owner
Address	Address
Company stamp	Contact number
Signature	Signature

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