Heiztechnik®

flat

OPERATION MANUAL

(OPERATION & MAINTENANCE MANUAL)
INSTALLATION, USE,
MAINTENANCE

ECO design Rozp. UE 2015/1189

5 klasa PN-EN 303-5:2012

WARRANTY CARD

Version 09.2022

DEKLARACJA ZGODNOŚCI UE / DECLARATION OF CONFORMITY UE

Nr. 1/10/2020

Heiztechnik Spółka z ograniczoną odpowiedzialnością
83-250 Skarszewy, Ul.Drogowców 7

DEKLARUJE / DECLEARS

z pełną odpowiedzialnością, że produkt / with all responsibility, that the product
Kocioł grzewczy z automatycznym zasypem paliwa / Heating Boiler with Automatic Fuel Charge

FLAT / FLAT Basic

został zaprojektowany, wyprodukowany i wprowadzony na rynek zgodnie z następującymi dyrektywami /
has been designed, manufactured and placed on the market in conformity with directives:

Dyrektywa / Directive EMC 2014/30/UE - Kompatybilność elektromagnetyczna
Dyrektywa / Directive 2014/35/UE - Urządzenia elektryczne niskonapięciowe
Dyrektywa / Directive MAD 2006/42/WE - Bezpieczeństwo maszyn
Dyrektywa / Directive ROHS2 2011/65/UE - Ograniczenie stosowania niebezpiecznych substancji w sprzęcie elektrycznym i elektronicznym
Rozporządzenie Delegowane Komisji (UE) / Commission Delegated Regulation (EU) 2015/1187
Dyrektywa / Directive ErP 2009/125/WE - Ekoprojekt dla produktów związanych z energią
Rozporządzenie Komisji (UE) / Commission Regulation (EU) 2015/1189
i niżej wymienionymi normami zharmonizowanymi / and that the following relevant Standards:
PN-EN 303-5:2012 (EN 303-5:2012)

Wyrób oznaczono znakiem / Product has been marked:

CE

Ta deklaracja zgodności traci swą ważność, jeżeli w kotle FLAT / FLAT BASIC wprowadzono zmiany, został przebudowany bez naszej zgody lub jest użytkowany niezgodnie z instrukcją obsługi. Niniejsza deklaracja musi być przekazana wraz z kotłem w przypadku odstąpienia własności innej osobie.
This Declaration of Conformity becomes invalid if any changes have been made to the **FLAT / FLAT BASIC** boiler, if its construction has been changed without our permission or if the boiler is used not in accordance with the operating manual. This Declaration shall be handed over to a new owner along with the title of ownership of the boiler.

Automatyczny kocioł c.o. FLAT / FLAT BASIC jest wykonywany zgodnie z dokumentacją techniczną przechowywaną przez
Automatic central heating boiler the **FLAT / FLAT BASIC** boiler has been manufactured according to technical documentation kept by:
Heiztechnik Spółka z ograniczoną odpowiedzialnością, 83-250 Skarszewy, ul.Drogowców 7

Imię i nazwisko osoby upoważnionej do przygotowania dokumentacji technicznej: Zdzisław Kulpan
Name of the person authorised to compile the technical documentation: Zdzisław Kulpan

Imię i nazwisko oraz podpis osoby upoważnionej do sporządzenia deklaracji zgodności w imieniu producenta: Zdzisław Kulpan
Name and signature of the person authorised to compile a declaration of conformity on behalf of the manufacturer: Zdzisław Kulpan

Zdzisław Kulpan

Zdzisław Kulpan
Prezes Zarządu

Skarszewy, 01.09.2022r.
miejsce i data wystawienia
place and date of issue

LIST OF CONTENT

Introduction

Heiztechnik thanks and congratulates you on the selection and purchase of our heating device.

Boilers of **FLAT / FLAT BASIC** series are designed for automatic combustion of **PELLET.**

Thanks to innovative design and application of the latest developments in the field of steel processing in the production process, we created a device which constitutes a cheap energy source for your houses, plants and business facilities with heat demand of up to 11 kW. When designing the boilers of **FLAT / FLAT BASIC** series, we wanted to meet your needs, which is why we were basing on many years of observations and opinions of the users. This resulted in the development of a modern boiler with high thermal efficiency, which at the same time meets the highest requirements for exhaust emissions (class 5).

THIS MANUAL INCLUDES RECOMMENDATIONS ON PROPER INSTALLATION, USAGE AND OPERATION OF THE BOILER.

BEFORE STARTING THE INSTALLATION AND OPERATION, PLEASE READ THE MANUAL CAREFULLY.

Compliance with the recommendations included in this manual shall be the guarantee of proper and long-term operation of the device.

Recommendations

Preliminaries

Check completeness of delivery, consignment state (check whether the package has not been damaged during transport) and compare data from the data plate with the warranty card.
Before starting installation of the boiler, carefully read this Operation & Maintenance Manual.

In case there are any problems with the boiler, contact technical service:

Monday - Friday 8:00 a.m. - 6:00 p.m.
Saturday - 8:00 a.m. - 4:00 p.m.
Phone: +48 664 784 500
Phone: +48 664 784 600
Phone: +48 664 784 700

CAUTION!
- Ensure protection of the boiler and its units against mechanical damages during transport.
- Till the time of installation, the boiler should be stored in a dry place.
- Boiler's connection to electricity, water system and chimney must be compliant with the valid regulations, standards and operation manual.
- The manufacturer shall not be liable for damages caused by improper installation of the device.
- In case of failure, immediately contact the authorized service.
- Incompetent intervention may result in damage to the boiler.
- During repairs, use only original spare parts.
- Warranty on the boiler body shall be granted for the period of up to five years (in case of meeting requirements included in the warranty card). a two-year warranty on the controller and fuel-feeding system.
- The igniter is covered by a 12-month warranty. The warranty does not cover mechanical damage as well as damage caused by excessive dirt on the burner.
- The guarantee is counted from the date of purchase but no longer than 18 months from the date of manufacture.
- This warranty shall not cover consumables such as: insulation rope, insulation mats with covering sheets, handles, screws, sealing, feeder's flexible connector, slag scraper, thermal and voltage protections (10A fuse and varistor).
- Warranty card along with the warranty terms shall be enclosed to this manual.

Disturbances and irregularities in the operation of the boiler arising due to ignorance of the Operation & Maintenance Manual shall not be subject to complaint – in particular:

- Improper connection of the boiler (e.g. lack of return thermal protection).
- Use of improper fuel (type, calorific value, humidity).
- Protection of the boiler inconsistent with PN-91/B-02413 (open systems) or PN-EN 12828 (closed systems)
- Use of the chimney inconsistent with the requirements
- Lack of regular cleaning and maintenance of the boiler
- Mechanical damages
- Improper ventilation of the boiler room
- Lack of or improper aeration of the boiler room
- Incorrectly set combustion process in the burner

The boilers meet requirements of EU directives within the scope of safety of the product which is confirmed by the declaration of conformity and marked by the “CE” sign.

The declaration of conformity shall constitute an integral part of this operation manual (Operation & Maintenance Manual).

Structural changes in the boiler are forbidden.

Responsibility of the installer:

The installer shall be obliged to install the device and comply with the following recommendations:

- Perform the installation in accordance with the valid regulations and the manufacturer's recommendations.
- Verify correctness of execution of boiler room (chimney draft, aeration, ventilation).
- Check the connections of devices of the boiler room (pumps, servo-motors, etc.) and the boiler (fan, sensors, feeder) to the controller or order this activity to the specialist company.
- Perform the first start-up of the boiler, boiler room and installation or order this activity to the specialist company.
- Train the user within the scope of operation of the boiler, boiler room and installation or order the conduct of training to the specialist company.
- Draw the user's attention to the obligation to regularly control and maintain the device.
- Hand over the manuals to the user.
- Enter the dates of the boiler room start-up in the warranty card and fill in the "Protocol of the boiler room's start-up".

Responsibilities of the user:

In order to ensure optimum operation of the device, the user must comply with the following recommendations:

- Read and comply with the instructions specified in the manuals.
- Order the boiler installation to the authorized installer.
- Ask the installer to conduct a training within the scope of operation of the boiler, boiler room and installation or order the conduct of training to the specialist company.
- Set the controller's operation parameters depending on the fuel quality or order this activity to the specialist company.
- Once every three months, check the safety valve (pressure test the valve according to the direction marked on the valve.)
- Regularly clean the boiler exchanger and the burner of sediment (frequency depends on the quality of fuel and controller settings) or order this activity to the specialist company.
- Periodically clean the fan, feeder and automation (in accordance with the operation manuals of these devices) of impurities (the frequency depends on the degree of contamination) or have them cleaned by a specialist company.

Use of boilers

FLAT / FLAT BASIC is a steel, low-temperature water boiler designed for heating of facilities with the heat demand within the range of from 2,4 – 11 kW and for cooperation with the tank utility water heater. Fuel firing takes place with the use of chute burner connected to the feeder. The entire unit is controlled by a microprocessor controller.

CAUTION!
It is prohibited to install an additional grate for burning other fuels.

Fuel

The fuel used should meet the PN-EN 17225-2:2014 or PN-EN 14961-2 standard.

Recommended fuel

Pellet specification A1:
- Pellet diameter: 6 - 8mm (6mm recommended);
- Pellet length: 5 - 45mm;
- Calorific value: > 17MJ/kg;
- Sulphur content: max. 0,03%;
- Moisture: < 10%;
- Content of ashes: < 0,5%;
- Bulk density: > 600kg/m^3;
- Fuel class: C1 biofuel

Additional fuel

- **Pellet specification A2:**
- Pellet diameter: 6 - 8mm (6mm recommended);
- Pellet length: 5 - 45mm;
- Calorific value: > 17MJ/kg;
- Sulphur content: max. 0,03%;
- Moisture: < 10%;
- Content of ashes: < 1,0%;
- Bulk density: > 600kg/m^3;
- Fuel class: C1 biofuel

Pellet specification B:
- Pellet diameter: 6 - 8mm (6mm recommended);
- Pellet length: 5 - 45mm;
- Calorific value: > 17MJ/kg;
- Sulphur content: max. 0,03%;
- Moisture: < 10%;
- Content of ashes: < 1,5%;
- Bulk density: > 600kg/m^3;
- Fuel class: C1 biofuel

Selection of boiler for the installation

In order to properly select the boiler, the calculated heat demand due to the transfer losses, heat for the needs of ventilation and domestic hot water and in the case of heating of the complex of facilities - heat transfer losses should be taken into account.

Proper selection of the boiler size determines its economics and efficiency. The basis for selection of the boiler is the heat balance of the heated facility developed in compliance with PN-B-03406:1994.

Characteristics of boilers

1. Boilers are made of high quality, attested steel sheets. The housing is made of a sheet coated with a layer of powder paint.

2. Construction

All boilers of the **FLAT / FLAT BASIC** series are based on the high-performance heat exchanger.
At the front of the body there is a combustion chamber in which a chute burner is installed.

Vertical fire-tube exchanger is equipped with flue gas turbulators, which also serve as cleaning elements of the exchanger.

In **FLAT / FLAT BASIC** boilers, combustion takes place in the chute burner to which the fuel is fed by a screw conveyor located over the burner. Fuel is fed through the feeding flap of the tank. Then, using the screw, driven by an electric motor coupled to a gear motor, the fuel is supplied to the burner. The exhaust fan ensures the flow of air through the furnace.

3. Inflow and outflow of water from the boiler is made of pipes with external thread G 1" .

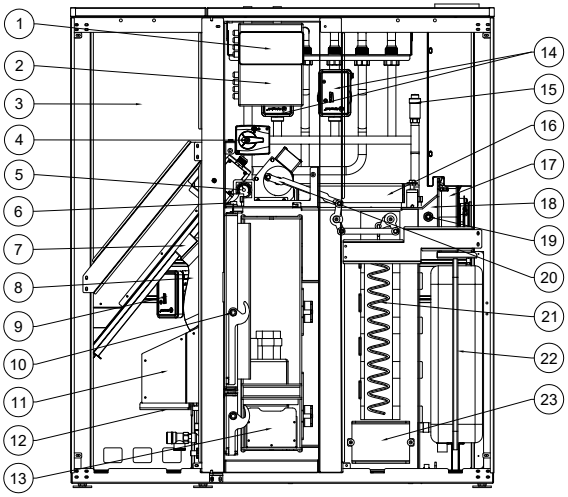
4. Smoke conduit of the boiler with an internal diameter of 120 mm is placed in the rear part of the boiler.

5. Connector pipe G 1/2" is used for filling in or draining water from the boiler.

6. The **FLAT boilers** are equipped with a **hydraulic system according to the diagram below**.

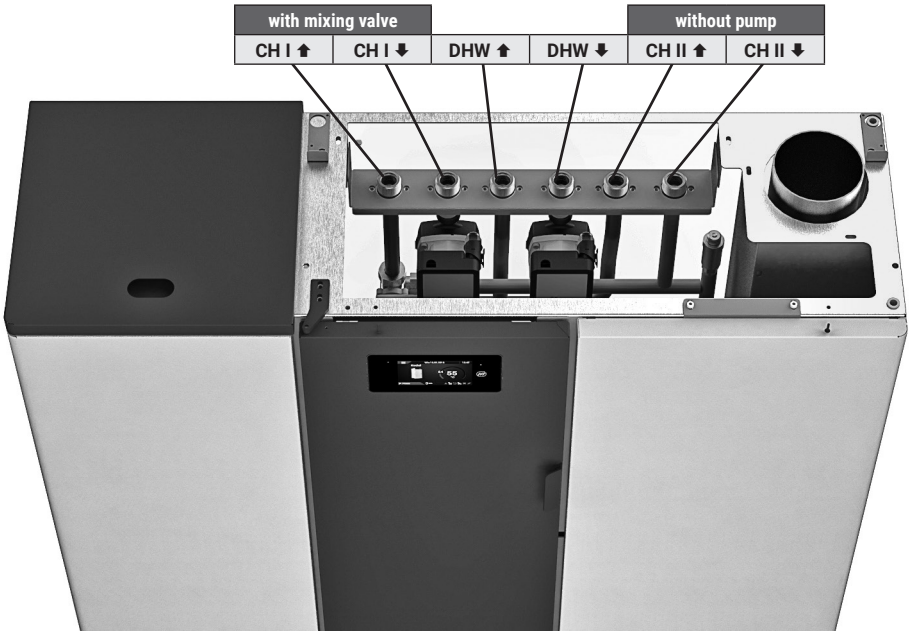
7. The **FLAT BASIC boilers** are equipped **only** with a return protection pump.

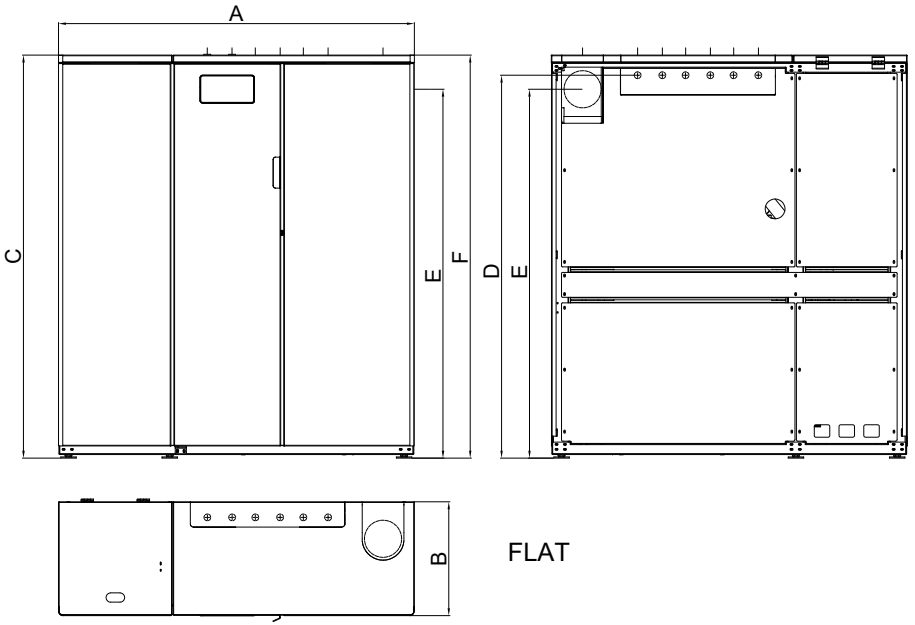
8. The boiler should be connected to a chimney providing underpressure behind the boiler recommended in the table (page 8).



1.	CONTROL PANEL
2.	BOILER AUTOMATION
3.	FUEL TANK
4.	THREE-PASS VALVE
5.	MANOMETER
6.	TEMP SENSOR MUFF. BOILER AND STB
7.	FUEL FEEDER
8.	FLEXIBLE CONNECTOR
9.	RETURN PROTECTION PUMP
10.	REVISION DOORS
11.	BURNER
12.	ASHTRAY DOOR
13.	ASHTRAY
14.	PUMP GROUP
15.	AIR VENT RELEASE VALVE
16.	COVER OF THE SMOKE TUBES CHAMBER
17.	EXHAUST FAN
18.	BOILER FLUE
19.	LAMBDA PROBE
20.	EXCHANGER CLEANING MECHANISM
21.	EXHAUST GAS SWIRLERS
22.	DIAPHRAGM VESSEL
23.	LOWER CHAMBER REVISION SMOKE TUBES

FLAT BOILER CONNECTIONS





FLAT

Basic dimensions and specifications			
Rated power	kW	**8**	**11**
Power range	kW	2,4 - 8	3,3 - 11
Min. chimney draft	Pa	10	12
Max. work temperature	°C	85	85
Regulator setting range	°C	55-85	55-85
Noise emission	dB	>55	>55
Water capacity	l	33	33
Maximum operating pressure	Bar	2	2
Installation connection	"	GZ 1	GZ 1
Water flow resistance Δt=20K	mBar	61	64
Chimney connection	mm	120	120
Boiler mass	kg	236	243
Tank volume	dm^3	70	70
A - Boiler width	cm	115	115
B - Body depth	cm	37	37
C - Body hight	cm	130	130
D - Height of hydraulic system connectors	cm	114	114
E - Hight to chimney mid (outlet at the back or side of the boiler)	cm	113	113
F - Chimney height (upward exit)	cm	130	130
Exhaust gas mass flow - nominal power	g/s	10	10
Exhaust gas mass flow - minimum power	g/s	10	10
Exhaust gas temperature - nominal power	°C	109	122
Exhaust gas temperature - minimum power	°C	65	65
Electricity consumption - nominal power	kW	0,031	0,027
Electricity consumption - minimum power	kW	0,031	0,031
Electricity consumption at standstill	kW	0,005	0,05

The dimensions shown may differ from the real dimensions by up to 2%.
In order to improve our products, Heiztechnik reserves the right to change parameters and equipment. This prospectus does not constitute an offer within the meaning of commercial law.

Assembly of boilers

ONE PLUS / ONE PLUS BASIC Boiler

- operation manual of the boiler along with automation and warranty cards,
- complete boiler with integrated tank and fuel-feeding system
- scraper, cleanout.

The boiler is delivered on a pallet. It is recommended that the packaged boiler is transported as close to the place of installation as possible, which will minimize the possibility of damage of the boiler housing. All packing materials should be removed so that they do not cause danger to people and animals.

The scope of delivery may also include different types of controls or other automations depending on the intended use of the device and on the user intention.

Transport of the boiler

Lifting and lowering of the boiler should be executed with the use of mechanical lifts using transport instrumentation for this purpose. When transporting the boiler, it is necessary to protect it against shifting and tilting on the vehicle platform with the use of belts, wedges or wooden blocks. The boiler should be transported in an upright position. Otherwise, the boiler's steel insulation jacket may be damaged.

Location of the boiler

After delivery of the boiler to the destination, it is necessary to check completeness of the delivery and connect the components delivered separately in accordance with the operation manual (feeder, burner, storage tank, controller).

The boiler should be installed in conditions meeting the requirements of the valid standards. Minimum distance from the wall in the contour of the boiler should be 200 mm. Minimum distance of the front of the boiler from the doors 'side is 1000 mm. It is also necessary to keep a safe distance from combustible materials as well as electrical and gas system.

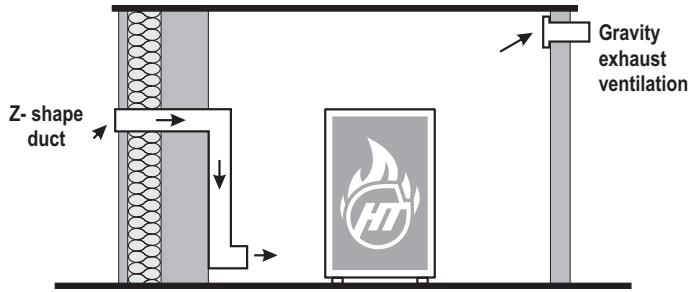
It is recommended that the boiler is located on a pedestal made of non-combustible materials, the width of contour of which is 100 mm greater, and in front of the boiler - 300 mm greater. The pedestal height should be 60 - 100 mm.

It is unacceptable to place the boiler on a wet or damp surface or in the place in which there is inflow of groundwater (e.g. in Spring during thaw).

The boiler room should meet requirements of PN-EN 87/B-024411 standard and have gravity ventilation; it is necessary to provide fresh air in an amount corresponding to the demand of a given boiler. The room in which the boiler will be located should have two vents.

The intake duct made as a "Z-shaped" duct should be 150 mm above the floor with a cross-section of at least 200 cm^2.

Exhaust duct with a cross-section of no less than 200 cm^2 situated in the upper part of the boiler room. This condition is necessary for the proper operation of the boiler as well as for safety conditions.



CAUTION!
Use of mechanical exhaust ventilation in the boiler room is forbidden.
In specific cases and for boilers with larger power, the ventilation system should be designed by a qualified person.

Connection to electric network

Fan automatics controlling the device should be connected to an efficient electric network executed in accordance with applicable regulations. The boiler should be connected directly to the socket equipped with reset pin. The socket should be within reach in case it is necessary to instantly disconnect the boiler.

Connecting the boiler to be installed with the use of extension cords, temporary installations and makeshifts pose danger and cause damages and destruction of the device, therefore is a reason for denial of the warranty repair. Automation of the boiler must be connected in accordance with the automation operation manual delivered along with the device.

It is absolutely necessary to connect the device to the PE earthing system. That kind of connection is to protect the device against damage due to overvoltages and to ensure its correct operation by reducing of electrical interference.

Electrical connections should be made by a person with appropriate qualifications required by local regulations. The parameters of the supply voltage and the installation should be consistent with the parameters required for the device. Failure to follow the above rules may result in electric shock, death, explosion, damage to the device and property. Particular attention should be paid to: maintaining the appropriate cross-sections of the power cables and their correct connection to the device terminals, selection of the appropriate protection size, correct execution of the earthing installation. Do not connect the grounding wire to the lightning rod, teleinformatic lines, gas or water pipes. The electric power supply system of the boiler should be equipped with appropriate value of overcurrent protection, residual current device and overvoltage protection. Turn off electrical power during installation, inspection, or service work. If the power is not turned off, there is a risk of electric shock, burns from hot components, and possible injury from the rotating fan.

Connecting the boiler to the installation through extension cords, temporary and temporary installations is a safety hazard and causes damage and destruction of the device, therefore it is a reason for depriving the right to a warranty repair. Boiler automatics should be connected in accordance with the automatics manual delivered with the device.

Connection of the boiler to the chimney

Boilers in the central heating system must be connected to an independent chimney flue. Connection to the chimney must be compliant with the valid regulations, executed by the authorized company.

Proper height and cross-section of the chimney flue matched to the boiler power have significant impact on the operation of the boiler and boiler units. This guarantees safe operation and high efficiency of the boiler. Improper size of the chimney flue may cause a malfunction of the boiler's operation causing the smoke's coming into boiler rooms, inability to obtain the nominal power of the boiler, overheating of the burner.

The required chimney draft is specified in table for each boiler size (negative pressure in Pa is related to the diameter of the chimney connection in the boiler), see pages 9 and 10.

The FLAT / FLAT BASIC solid fuel boiler must be connected to a chimney with a minimum diameter of 150 mm or cross-wise-section dimensions of 140 x 140 mm. The chimney for the boiler must be made of stainless steel with seals. The boiler connection to the chimney must be made of stainless steel with a diameter of 120 - 150 mm.

It is recommended to install a maximum of two 90 degree bends at the connection between the boiler and the chimney. The connection of the boiler to the chimney should be made using stainless steel pipes with gaskets suitable for operation at a maximum temperature of 200 degrees °C.

The pipe should be placed firmly and tightly to prevent uncontrolled outflow of flue gas.

The chimney should protrude min. 60 cm above the highest edge of the roof. The chimney flue should be free from other connections. Walls of the chimney flue should be smooth, tight and without constrictions and bends. Thermal insulation of the flue gas extraction system improves chimney draft and reduces condensation. New ceramic chimney should be dried before firing up the boiler.

CAUTION!
The boiler manufacturer shall not be liable for selection and proper operation of the chimney, therefore, in order to check the technical condition and parameters of the chimney it is necessary to call chimney sweep who will make chimney expertise.

For safety reasons it is recommended to mount smoke and carbon monoxide sensor in the boiler room.

Parameters of heating water for filling the boiler:

- pH > 8.2
- hardness < 2 °dH

Connection of the boiler to the central heating system

Installation of the boiler in open system

Executed central heating system must meet all requirements of PN-EN-91/B-02413 standard concerning protection of heating devices of open system and expansion vessels.

The boilers are designed for operation at operating pressure of up to 2 bars.

The maximum permissible height of the water column must not exceed 20 m.

The boiler must be installed by a technician trained in the field of central heating system. The boiler may be mounted only in a room meeting requirements of the boiler room regulations.

Before filling the system, check the fasteners of the installation. Vibrations during transport can loosen connections.

Supply and return connection pipes are equipped with external thread G 1". Valve allowing drainage of water from the boiler should be mounted on the connection pipe, G 1/2" in the rear part of the boiler body. The boiler should be connected to the system with the use of mounting elements, in a detachable manner.

Proceed as follows:
- Install the filter on the system return (min. 200 meshes per 1 m^2). It is recommended to install an electromagnetic filter.
- Connect the boiler supply connection pipe with the central heating system in the designated place.
- Connect the boiler return connection pipe with central heating system in the designated place.
- Connect the pipes of the safety system in compliance with PN-EN 91/B-02413.
- Fill the central heating system with water until obtaining a continuous transfer from signaling pipe. Connect the control device and check for proper execution of the electrical system.

The boiler is equipped with a pump to protect the boiler return from a too low temperature.

The most important requirements concerning safety devices include:
- Expansion vessel of the open system with capacity in compliance with PN-91/B-02413.
- Safety pipe with diameter dependent on the boiler's thermal power.
- Expansion, signaling, overflow, vent as well as circulation pipe allowing for maintenance of the proper temperature in the vessel. Use of valves or bolts on the safety valve is not allowed. This pipe should be free from constrictions and sharp bends at the entire length. In case it is impossible to route safety pipes in the shortest and simplest way to the vessel, the method of their routing as well as their diameter should be compliant with PN-91/B-02413.

Check technical condition of the pipe in case of mounting it to the existing central heating system.

Wielkości rur zabezpieczających kocioł w układzie otwartym wg PN-91/B-02413					
Moc cieplna kotła [kW]		Rura bezpieczeństwa [mm]		Rura wzbiorcza [mm]	
od	do	Średnica nominalna	Średnica wewnętrzna	Średnica nominalna	Średnica wewnętrzna
2,4	11	25	27,2	25	27,2

Installation of the boiler in closed system

Pursuant to the Regulation of the Minister of Infrastructure dated 12.03.2009 amending regulation on the technical conditions to be met by buildings and their location, Journal of Laws No. 56 item 461 of 2009, in particular § 133 sec. 7, the use of closed systems with membrane vessels for protection of the low-temperature solid fuel water boilers with thermal power of up to 300 kW is allowed.

Pursuant to the Regulation of the Minister of Economics and of Labor and Social Policy dated 09.07.2003, Journal of Laws no. 135 item 1269, the boilers of this type shall be subject to simplified or limited technical supervision.

Boilers of the **FLAT** series are designed for operation in closed system. The boiler is equipped with a membrane vessel (it is necessary to verify whether the capacity of the vessel is optimal for the heating system) and a safety valve. **FLAT BASIC boiler does not have a membrane vessel**, it is necessary to select the correct capacity of the vessel for the heating system. Install a filter in the return from the installation (min. 200 meshes per m^2). Installation of an electromagnetic filter is recommended.

Operation of the boiler without the safety valve or with improper and inoperative safety valve is not allowed as it may cause malfunction and pose a threat to human life and health. The requirements specified in the safety valve operation and maintenance manual must be strictly observed.

For boilers installed in closed systems, it is necessary to comply with requirements of PN-EN 12828 standards and other valid regulations.

The boilers are designed for operation at operating pressure of up to 2 bars.

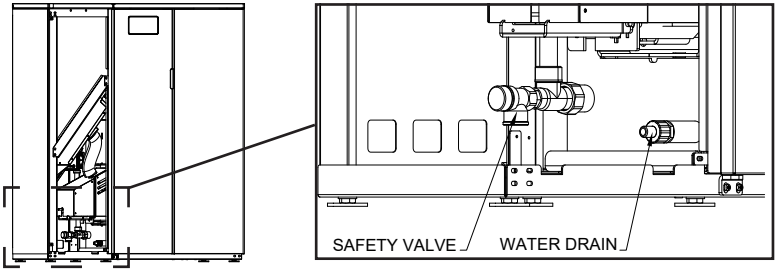
The boiler must be installed in compliance with the aforementioned requirements and valid regulations by the authorized installation company, and the boiler's start-up must be executed by the trained service of the manufacturer or authorized installation company.

For proper installation of the boiler and its repair responsible shall be installation - service company which conducts the first start-up of the boiler and records it in the warranty card of the boiler.

Any interference and manipulation in the system of protection and regulation of the boiler's operation or connecting of additional control devices not referred to in this manual poses threat and may invalidate the warranty. Repairs and renovation of the boiler may only be conducted by the installation -service company trained by the manufacturer.

Check the safety valve once every three months (blow out the valve according to the direction marked on the valve)

For information on how to remove the cover, see page 17 in the manual.



Boiler start-up

The boiler may be operated only by an adult person familiarized with the boiler function and its operation. The person operating the boiler must follow the instructions included in the operation manual, adjust the preset heating water temperature, stop operation of the boiler and control its operation. After mounting of the boiler and putting it into operation, the installer, accredited service or factory service must train people within the scope of operation and use of the device. The user shall be obliged to familiarize himself/ herself with the boiler, automatics, burner and feeder. The presence of children in the vicinity of the boiler during operation is not allowed. Interference in the operation of the boiler which could threat health or life of service staff or any other person is strictly forbidden.

The planned scope of documentation should include - technical description of the boiler, documents concerning CE marking, drawing of the boiler, documents concerning safety valve and membrane vessel, operation manual – boiler operation and maintenance manual, scheme of installation and location of the boiler and safety devices in the boiler room.

The final scope of the documentation should be agreed with the relevant body of technical inspection unit.

The boiler may be operated only by an adult person.

Boiler start-up may be executed by the installer or an employee of the authorized service company or factory service against payment. Improper adjustment of the burner may lead to its damage not covered by the warranty repair.

In case there are any problems with the boiler, contact technical service:
Monday - Friday 8:00 a.m. - 6:00 p.m.
Saturday 8:00 am - 4:00 pm
+48 664 784 500
+48,664,784,600
+48,664,784,700

Steps to be taken before the first start-up:
- Read the boiler's operation manual.
- Check whether the heating system and devices are installed in accordance with the design.
- Check whether the heating system with the boiler is tight, filled with water and bled.
- Check the chimney draft (compare with the values given in the table).
- Read carefully the automation's operation manual.
- Check the efficiency of the feeder.
- Enter boiler's operating settings into the automation system.
- Activate the relevant modules in the service menu (e.g. DHW, valve, thermostat).
- Set parameters for control of devices in the boiler room (valves, thermostats, domestic hot water pumps and others depending on the type of automation and equipment) in the automation.
- Familiarize the user with the safe and efficient operation of the boiler.
- Record the date of the first start-up in the warranty card.
- Fill in the "Protocol of the boiler room's start-up" and send to Heiztechnik Company in order to obtain the extended warranty.

Before starting the boiler one should check the feeder efficiency:
- Pour pellet into the storage tank.
- Remove the bottom part of the flexible connector between the burner and feeder and place it in a container (e.g. an empty pellet bag).
- Start the feeder through "output test" in automation system until pouring through the flexible connector is obtained. Wait approximately 3-5 minutes until the steel pipe is filled up completely. Empty the container.
- Start the feeder for 10 minutes and wait until pellet is poured to the container.
- Weigh the container contents and multiply the obtained value by 6 (there are 6 cycles per hour, 10 minutes each).
- Enter the obtained value in Service settings > Burner settings > Work > Feeder efficiency.

Each time when changing the type of fuel or its batch, it is obligatory to weigh the feeder efficiency.

Operation of the boiler

Combustion of pellet in the automatic burner

Open the feeding flap of the tank, pour minimum 20 kg of fuel into it. Automatics has preset combustion parameters (maximum power, blower efficiency). It is recommended to adjust the combustion using a flue gas analyzer. Combustion process in the burner should be adjusted in case of each change of the fuel (granulation, quality and batch).

After turning on the controller, the burner will be switched into the "firing up" mode with the use of the heater. The initiated flame will be seen by the photo element and will activate "Operation" mode.

The fuel should be fed periodically by filling the whole feed hopper. After filling the tank with the fuel, close the tank.

Make sure that there are no stones, pieces of wood, ropes and other unwanted items in the fuel mass. Only proper fuel should be stored in the tank. Use of the tank for other purposes is strictly forbidden.

If the boiler is turned off for more than 7 days, the boiler should be cleaned by emptying the tank and fuel feeder.

Ash removal

The ash should be removed at various intervals depending on the quality of the fuel used, however, at the frequency so that the ash does not cover the bottom part of the burner. We recommend to remove ash every time the fuel is fed.

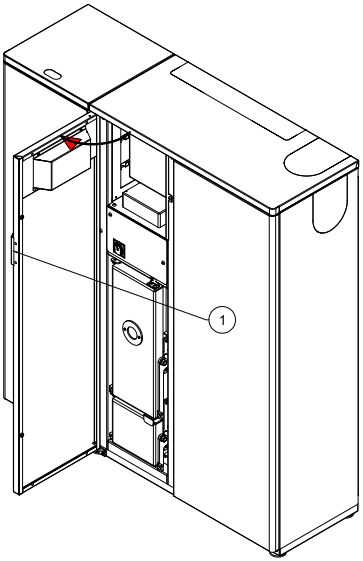
At least twice a year the ash should be removed from the air chamber behind the ash trap (the inspection flap screwed with two screws) and the top of the vertical exchanger should be cleaned by unscrewing the top cover beforehand.

When operating the boiler, be careful of the hot surfaces behind the main door:
- furnace door
- the handle of the furnace door
- boiler body,

The automation has the ANTI-STOP function. This function protects the pumps against stagnation. Every 14 days the pumps are activated for 15 sec. The boiler must be connected to the power supply at all times.

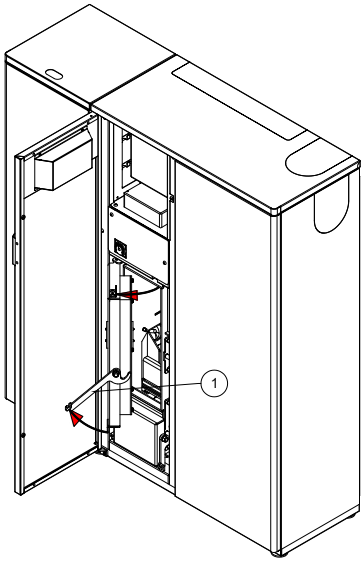
Ash removal

1



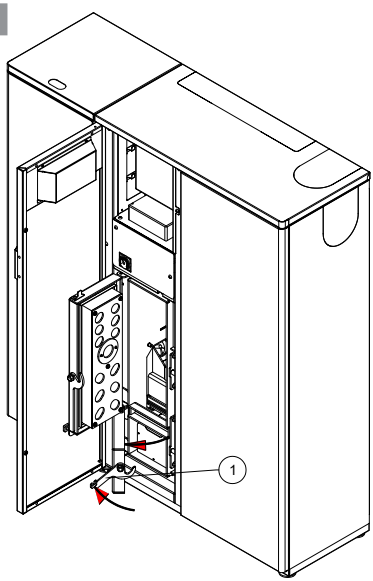
1. Open the main door. Grab the door handle (1) and pull.

2



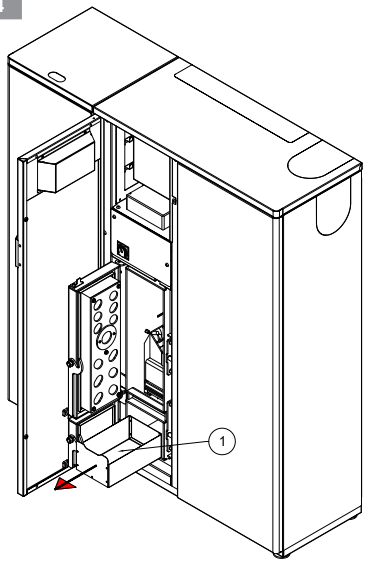
2. Opening the door to the furnace chamber. Grab the handle (1) and pull it to open the door.

3



3. Opening the door to the ash drawer chamber. Grab the handle (1) and pull it to open the door.

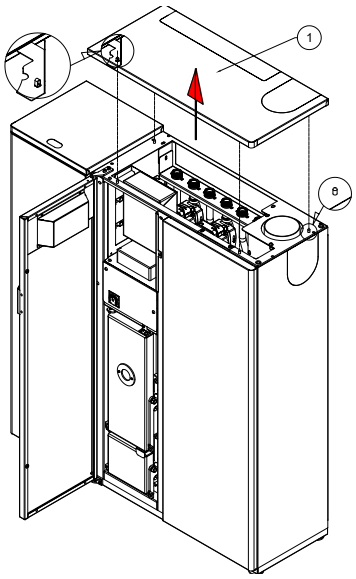
4



4. Grab the ash drawer (1) and pull it

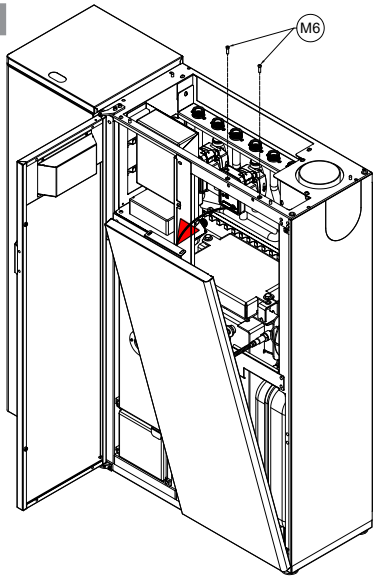
Cleaning smoke tubes

5



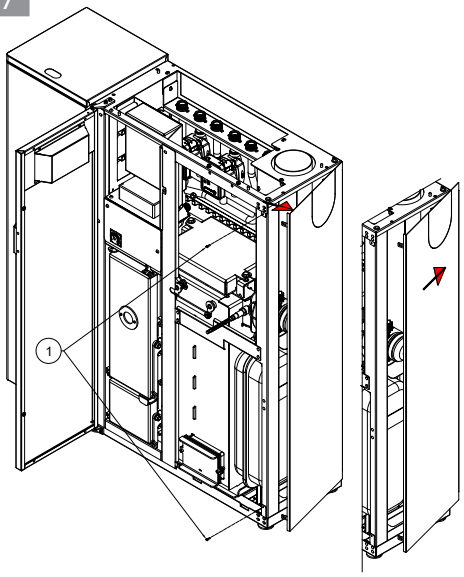
5. Removing the top cover. Grab the cover (1) and pull upward

6



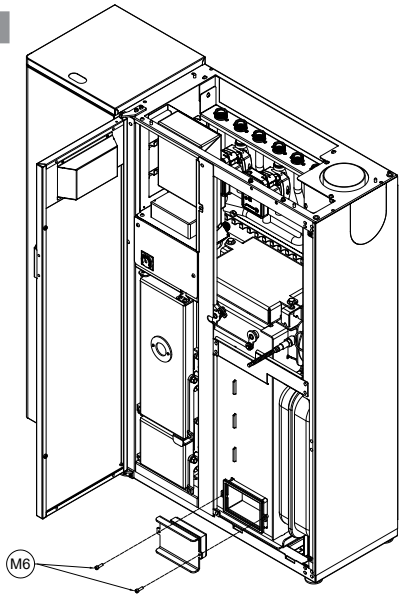
6. Removing the right front cover. Remove the two screws (M6) with a 5mm allen wrench and open the cover

7



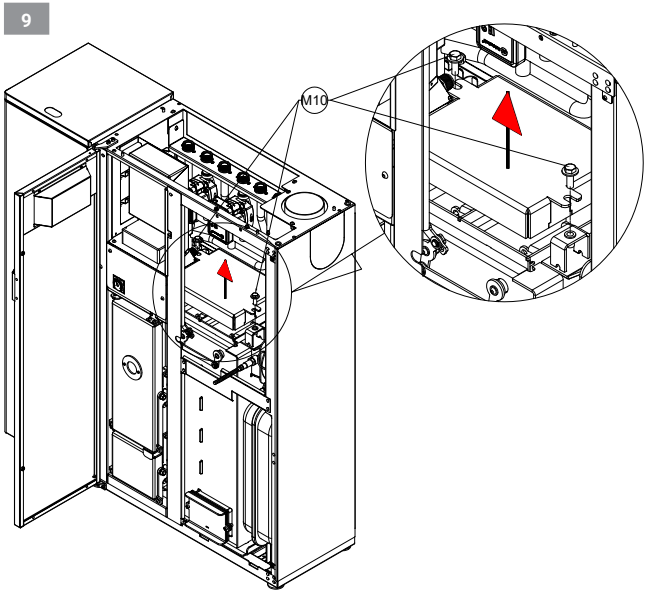
7. Removing the right side cover. Unscrew the two sheet metal screws (1) Then tilt the cover and push.

8



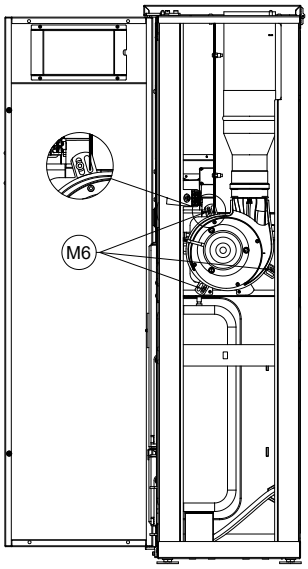
8. Cleaning the lower chamber of the smoke tubes unscrew two screws (m6) Allen wrench 5mm

9



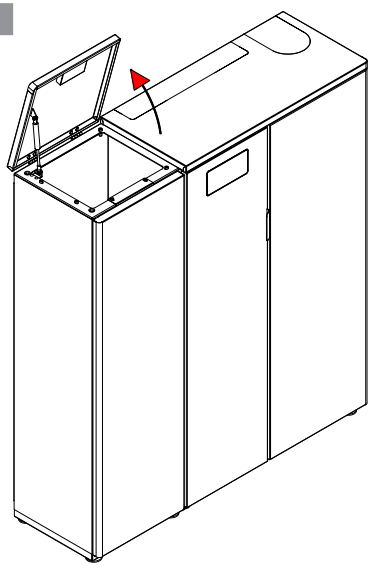
9. Removing the cover of the upper chamber of the flame tubes - cleaning. Remove the two screws (M10).

10



14. Disassembly of the exhaust fan. Remove the three M6 screws with a 5mm Allen key

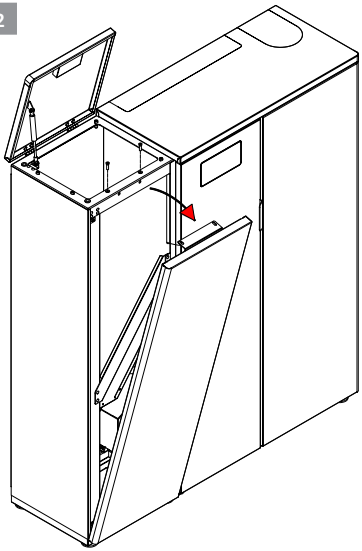
11



15. Fuel tank. Open the cover and pour out the fuel.

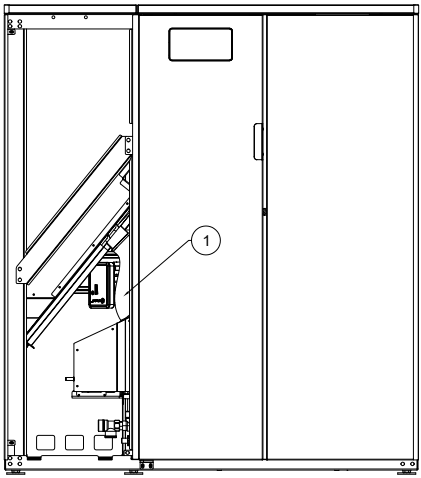
Fuel rebalancing - check the feeder efficiency

12



16. Removing the front cover - left
Remove the two screws (M6) with a 5mm Allen key and and tilt the cover

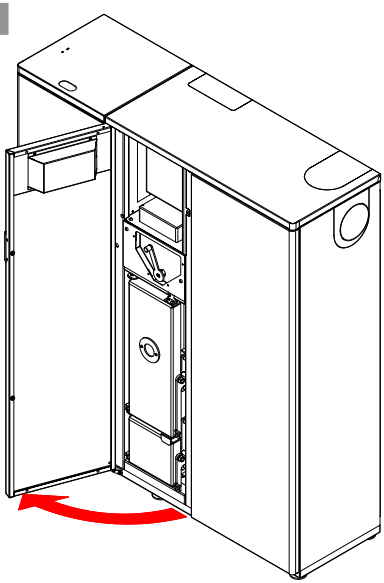
13



17. Flexible connector, fuel rebalancing. Pull the connector (1) off the burner.

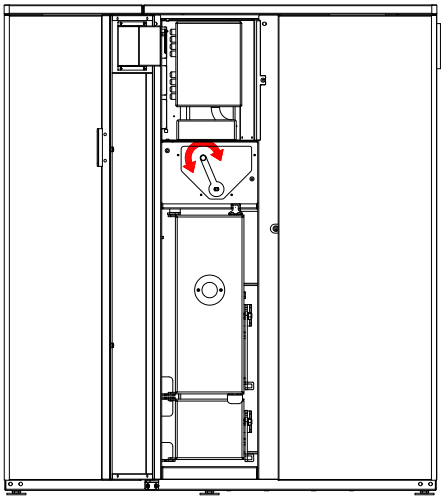
FLAT BASIC - boiler cleaning

1



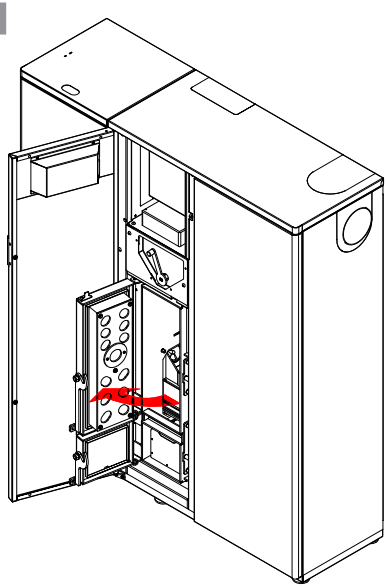
1. Opening the exterior door.

2



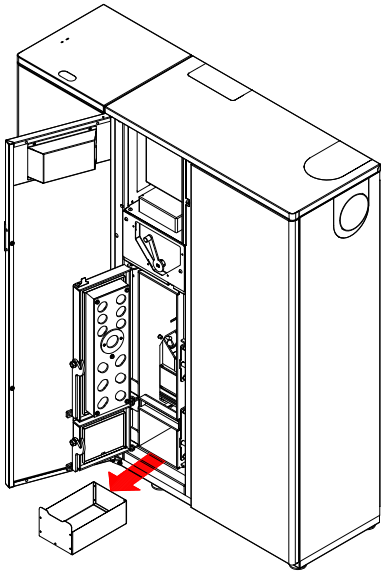
2. Manual cleaning. Lever for manual cleaning of smoke tubes.

3



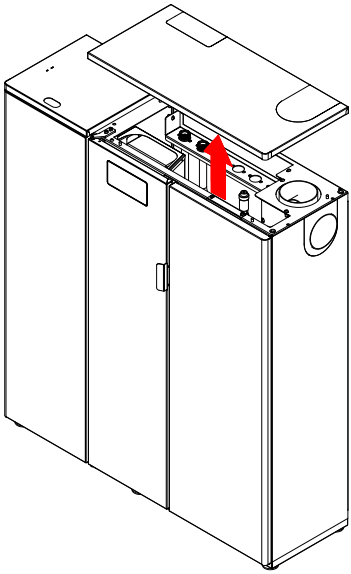
3. Opening of internal doors.

4



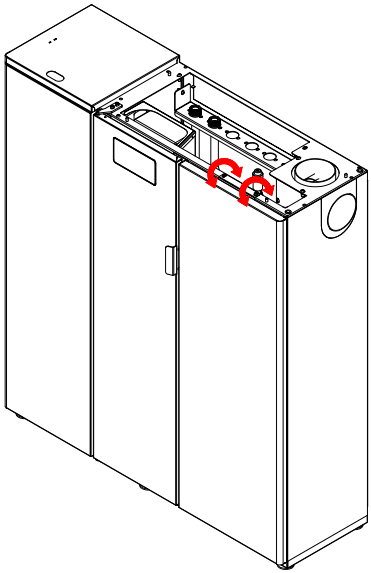
4. Removed ash drawer .

5



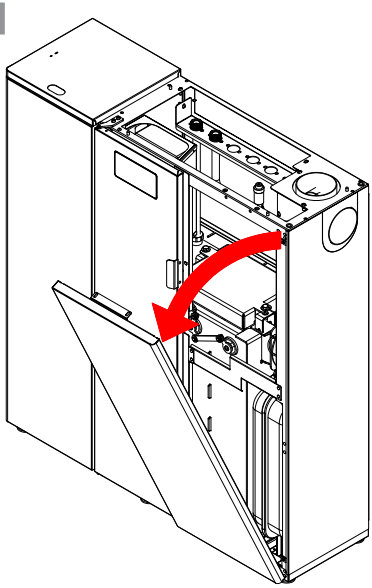
5. Removing the cover

6



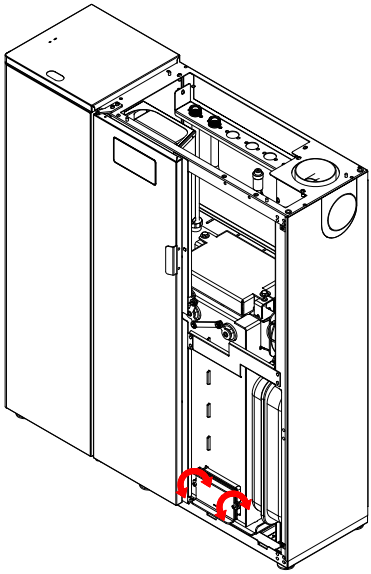
6. Unscrewing the front panel

7



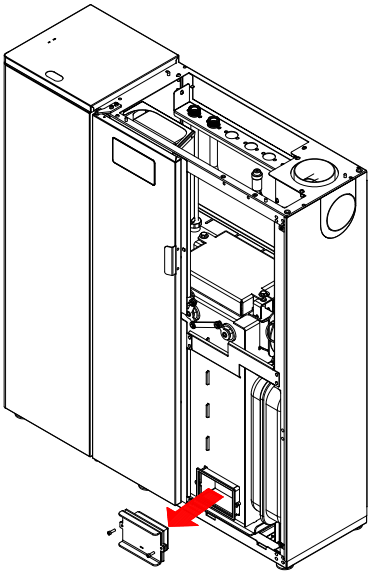
7. Front panel tilt.

8



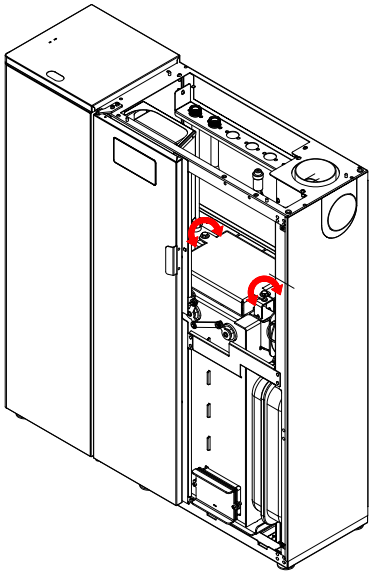
8. Unscrewing the revision

9



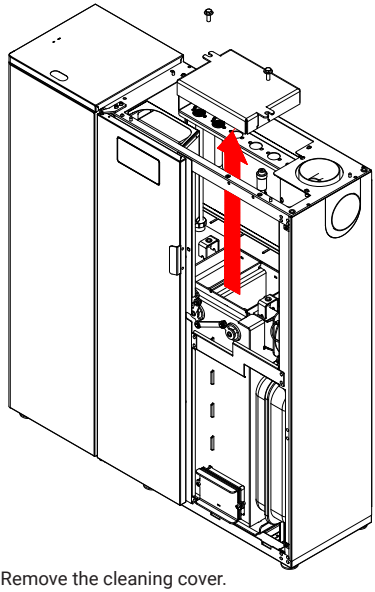
9. Take of the revision

10



10. Unscrew the cleaning cover.

11



11. Remove the cleaning cover.

Thermal protection

The boiler should be operated at the supply and return temperature difference within 10-20°C and at the return temperature not lower than 55°C.

In order to avoid the accumulation of excessive amounts of condensate from the flue gas and thus extend the service life of the boiler, it is recommended to keep the temperature in the boiler at least at 70°C. In order to obtain the best economics, it is recommended to use a mixing valve on the installation. It is recommended to use clean, soft, preferably distilled, treated or boiled water as a heat medium.

Low-temperature corrosion

During operation of the boiler at a temperature of the heat medium below 55°C, the water steam included in the flue gas condenses on the boiler's walls and combined with toxic compounds contained in the combustion products creates corrosive substances.

Long-term use at lower temperatures may cause corrosion and thus shorten the service life of the boiler. We do not recommend operating the boiler at a temperature set point below 70°C.

Maintenance of the boiler

It is recommended to carry out a general inspection of the boiler at least once a year. During the inspection, the condition of the boiler exchanger, burner, fuel feeder and controller should be checked.

The inspection should be carried out by an authorized installer, specialist service company or boiler factory service.

At least once a week the boiler exchanger should be cleaned of sediment and dust (at a frequency depending on the accumulation of sediment).

Periodically clean the boiler controller, preventing the accumulation of dust and ash on this component.

After finishing of the heating season, do not drain water from the boiler, but carefully clean the boiler, furnace, flue gas channels, doors, covers, smoke conduit and inspect and maintain the burner, controller, feeder in accordance with the Operation & Maintenance Manual of these devices and replace the damaged parts.

It is recommended to inspect the level of heating water in the boiler and in the whole heating system every 14 days. In case of insufficient level of water in the heating system, it should be filled up. Should there be any creases of the

sealing rope and the rope no longer fulfills its function, one may make adjustments on the closure and the hinge, and in the last resort one should take the rope off the door groove, turn it by 90° and place it again in the door groove. This is only a temporary solution, so we have to reckon with immediate replacement of the sealing rope.

After each heating season, it is necessary to thoroughly clean the boiler. The amount of soot and fly ash depends on the quality of the used fuel and the operating conditions. Should the power of the boiler be greater than necessary or if the boiler is operated at too low temperatures, deposit of soot and fly ash may be greater.

Replacement of the sealing rope in the doors

Remove the old sealing rope from the door groove with the use of screwdriver and clean the groove into which the rope was inserted. New sealing rope should be inserted into the cleaned groove. Insert one end of the rope into the groove in the doors in the horizontal part. Press the rope into the groove in the doors perimeter with hand or by gentle patting it with the use of a small hammer. Then, close the doors and try to press the rope into the grove so that it is possible to close the doors.

Emergency stop of the boiler

In case of emergencies such as exceeding the temperature of 100°C, pressure increase, finding a sudden large water leak in the boiler or the central heating system, cracking of pipes, heaters, auxiliary fittings (valves, gate valves, pumps) and other threats to further operation of the boiler, one should:

- switch the controller off which will cause stoppage of the fuel feeder
- find the cause of the failure and, after removing it and determining that the boiler and the system are technically efficient, proceed with the boiler start-up.

Fire safety conditions

- The boiler is made of non-combustible materials confirmed by appropriate certificates.
- It is strictly forbidden to operate the boiler with open ash/ hopper doors and cleaning hatches' openings.
- It is forbidden to store fuel and combustible materials in direct vicinity of the boiler – keep safe distances of min. 1.5m. In case it is necessary, execute fencing or screens made of non-combustible materials.
- Boiler room must be equipped with a fire extinguisher and easy access to the water supply.
- Every 2-3 months, have the chimney sweep to clean the chimney flue in order to remove soot and eliminate the risk of inflammation.

Environment protection

The boiler is made of materials which are neutral for the environment. After exploitation and wear of the boiler, it should be disassembled and scrapped. Disassembly of particular components of the boiler does not require a special description due to simplicity of its structure. Worn metal parts should be scrapped. Other parts should be stored in accordance with
the requirements in this area, and then handed over to the points dealing with disposal.

Noise

Due to the intended use and specification of the feeder, elimination of noise in the source itself is impossible, however, this type of noise generally does not pose a threat as the operation of the feeder is short and cyclic.

Final remarks

The boiler may be installed only by a person with proper qualifications and authorizations for boilers' installation. Boiler's connection to the central heating, chimney and electrical system must be compliant with the Operation & Maintenance Manual and the valid standards.

For safety reasons and in the user's interest is to ensure that the installation is in compliance with the Building Law and that the installation company grants warranty for the correctness and high quality of the executed works which should be confirmed with the seal and signature on the last page of the manual.

In case of power failure, the boilers operating in the automatic fuel feeding mode are automatically turned off and do not pose risk - fuel fed is automatically stopped.

The manufacturer shall not be liable for improper operation of the boiler caused by faulty and inconsistent installations with the requirements: central heating, venting, flue gas, electrical system as well as by the selection of the boiler and technical condition of the chimney which are faulty and incompliant with the requirements.

Warranty and post-warranty repairs as well as periodical inspections may only be executed by the manufacturer service or a specialized installation or service company.

Residual risk

In case of assessment and presentation of the residual risk, the boiler is treated as a device which till the moment of commencing production was designed and executed according to the present state of the art in accordance with sound engineering practice.

Residual risk is not associated with the structure or defective execution of the boiler but results from faulty or improper behavior of the person operating the boiler and it is present in case of failure to comply with the specific recommendations and conditions for safe operation of the boiler.

Warranty

The manufacturer grants warranty for the boiler installed in compliance with the valid regulations and installation manual.

We inform the customers that all boilers manufactured by HEIZTECHNIK must be put into operation and serviced by the installer with appropriate qualifications or by the authorized company. In case of installation inconsistent with this manual, the warranty shall not be granted and no warranty complaint shall be accepted.

The manufacturer reserves the right to any modifications introduced within the framework of technical improvements of the product.

Each complaint must be notified immediately after finding the fault.

Complaint must be submitted in a written form: by e-mail - serwis@heiztechnik.pl, by fax - +48 58 588 08 21, by letter, personally in the Company's seat, at the seller's or via the form which can be found at www.heiztechnik.pl (available for registered users).

PRODUCENT

Heiztechnik Sp. z o.o.
ul.Drogowców 7
83-250 Skarszewy

phone no. +48 58 560 85 57
email: biuro@heiztechnik.pl

Monday - Friday 8:00 a.m. - 4:00 p.m.

MANUFACTURER'S TECHNICAL SERVICE

Heiztechnik Sp. z o.o.
ul. Drogowców 7
83-250 Skarszewy

phone no. +48 58 560 85 57
+48 664 784 500
+48 664 784 600
+48 664 784 700

e-mail: serwis@heiztechnik.pl
Monday - Friday 8:00 a.m. - 6:00 p.m.
Saturday 8:00 am - 4:00 pm

Conditions for safe operation of the boilers

The basic condition for safe operation of boilers is execution of the installation in accordance with PN-91/B-02413 (open system) or PN-EN 12828 (closed system).

1. The boiler may be operated only by an adult person.
2. It is forbidden to use the boiler for purposes other than those described in the Operation & Maintenance Manual and for operations at low water level in the system below the level of the signaling pipe in the expansion vessel.
3. During operation, it is forbidden to put hands into dangerous and prohibited places, in particular into the feeder, storage tank, burner, ash trap, etc.
4. It is forbidden to operate the boiler with open: furnace, ash trap, cleaning hatches' doors. If necessary, when opening the doors, do not stand in front of the opening but stand aside and take special precautions.
5. Keep open flame away from half-open furnace doors during the fan stop or just after it is turned on as non-combusted gas may cause explosion.
6. Maintain order in the boiler room, where there should be no objects not related to boiler operation.
7. In case of cleaning and maintenance, use lighting with voltage not exceeding 24V.
8. Take care of good technical condition of the boiler and its associated central heating system, in particular of tightness of the furnace and ash trap doors and cleaning hatches' covers.
9. Any faults of the boiler should be removed immediately. After electrical repairs, check effectiveness of reseting of sockets and electrical equipment mounted on the boiler.
10. In winter, do not take breaks in heating which may lead to freezing of water in the system or its part, which is particularly dangerous as firing up the boiler with occluded central heating system can cause serious damages.
11. Check the content of the fuel and remove the unwanted items such as: stones, pieces of wood, ropes, etc.
12. Filling and starting-up of the system in winter must be performed carefully. In this season, the system must be filled with hot water in order to prevent freezing of water in the system during filling in.
13. In case there is any suspicion of freezing of water in the central heating system, and in particular in the boiler safety system, check the permeability of the system. In case of the lack of permeability, igniting the boiler is prohibited.
14. Ignition of the boiler with the use of means such as gasoline, kerosene and other flammable and explosive means is forbidden. In justified cases of fire risk in the facility, call the fire department (e.g. ignition of the fuel tank or soot in the chimney).
15. Arbitrary modifications and repairs of the electrical system is forbidden. Electrical system may be operated only by a qualified electrician.
16. It is forbidden to flood the furnace burner with water.
17. It is forbidden to use the fuel tank for purposes other than storage of the proper fuel and to place waste and unwanted objects in it.

Problems and their solutions

Type of fault	Possible cause of the problem	Suggested repair
Problems with reaching the preset temperature	Improper setups of the automation parameters	Properly set the combustion process in compliance with the operation manuals
	Poor quality pellet	Properly adjust the combustion process
	Dirty boiler	Clean the boiler
	Inappropriate selection of the device for the size of the heated building	Selection of appropriate parameters, possible contact with the service
Smoke coming from the door	Clogged chimney or channel supplying fresh air to the boiler room	Check the chimney and venting channel
	Worn door seals	Replace the sealing rope
	Too poor chimney draft	Modernize the chimney
	Dirty boiler	Clean the boiler
Excessive fuel consumption	Incorrectly set combustion parameters	Adjust the combustion parameters
	Poor quality fuel	Change fuel
	Inappropriate selection of the boiler for the size of the heated building	Selection of appropriate automation parameters, possible contact with the service
Inappropriate fuel combustion (slag formation, lack of thorough combustion)	Inappropriate selection of the amount of air in relation to the amount of fuel	Adjust the automation parameters
	Poor quality of fuel	Change fuel
Significant increase of temperature above the setpoint	Improper setup of the automation	Adjust the automation settings
	Too large chimney draft	Mount the chimney draft controller
Continuous operation of devices connected to the automation despite the turned off light on the desktop	Improper connection of devices to the automation	Check connection of devices
	Possible damage of the controller	Contact your technical service
Controller does not turn on	Damaged fuse, damaged varistor	Check the fuses
	Disconnected or poorly pressed cable connecting the controller desktop with output module	Check connection of the controller desktop with the module
Feeder does not work	STB disconnected the system	Reset the STB
	Clogged feeder pipe	Clean the feeder pipe
Water on the boiler's walls	Too low setting of the boiler operation temperature	Increase the boiler operation temperature (to 70 °C)
	Leaking exchanger	Contact your technical service
Message "Failed firing up"	Residual slag on the burner	Clean the burner
	No fuel	Add fuel to the tank
	Lack of response of: fan, heater, feeder	Check the operation of the devices in the manual control mode
Excessive noise coming from the combustion chamber.	Excess fuel in proportion to air	Test the feeder efficiency / combustion process adjustment
	Too low chimney draft	Improve the chimney draft, check the connection to the chimney (max. 2 bends)
	Air deficit	Perform the appropriate aeration of the boiler room

Product card

Heiztechnik	PRODUCT CARD ACCORDING TO EU REGULATION 2015/1187 SUPPLEMENTING DIRECTIVE 2010/30/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL	
Name and address of the equipment supplier	**HEIZTECHNIK** Spółka z ograniczoną odpowiedzialnością ul. Drogowców 7, 83 - 250 Skarszewy	
DEVICE PARAMETERS	**Measurement Unit**	**MODEL ID**
		FLAT 8 / FLAT BASIC 8 / **FLAT 11 / FLAT BASIC 11**
Energy efficiency class	-	A+ / A+
Rated thermal power	kW	8 / 11
Energy efficiency index (EEI)	-	121,82 / 122,61
Seasonal energy efficiency of space heating	%	82,16 / 82,79
Special precautions during assembly, installation or maintenance of the device	-	Before proceeding with installation, start-up and operation of the boiler read and follow the instructions in the Operation & Maintenance Manual of the device (OPERATION MANUAL (OPERATION AND MAINTENANCE MANUAL) INSTALLATION, USE, MAINTENANCE).

WARRANTY TERMS

- The manufacturer "Heiztechnik Sp. z o.o." grants the purchaser and the user the warranty for the purchased product.
- The manufacturer shall be liable under the warranty only when the defect results from causes laying in the device.
- The manufacturer shall have the right to choose whether to remove the defect or provide a device free from defects.
- Warranty repair is free of charge.
- The warranty shall cover only the devices mounted in compliance with the operation manual, warranty terms and valid regulations.
- The warranty period shall last 60 months for tightness of the boiler body (however, no longer than 66 months of the manufacture date), 24 months for control elements, fuel-feeding system, burner and blow system (however, not longer than 30 months of the manufacture date).
- The condition for obtaining a 60-month warranty for tightness of the boiler body is installation of a protection device protecting the boiler against inflow of heating medium with temperature lower than 55°C from the system. The warranty does not cover real wear parts such as: furnace elements direct contact with burning or hot fuel, furnace screens, igniter, motor capacitors, ash drawer, handles and catches, screws, flexible connectors, gaskets, insulation ropes, door insulation, sensors as well as thermal and voltage protections.
- The warranty does not cover damage to the automation, resulting from a failure of electrical installation or power grid (short circuit, overvoltage) and lightning.
- The warranty shall be valid only in case of confirmation of the device installation by the "Protocol of the boiler room's start-up". In order to start the warranty protection, send the completely filled in "Protocol of boiler room's start-up" together with signatures of the customer and the installer to the address of Heiztechnik (A prepaid return envelope is delivered with the protocol). Receipt of the document shall be confirmed by an employee of Heiztechnik. Lack of protocol shall result in shortening of the warranty period for the boiler body to 36 months (however not longer than 42 months from the date of manufacture).
- Complaint must be submitted in a written form: by e-mail - serwis@heiztechnik.pl, by fax: +48 58 588 08 21, by post, personally in the Company's seat, at the seller's or via the form which can be found at www.heiztechnik.pl (available for registered users).
- The warranty shall expire in case of alterations or misuse of the device.
- The warranty shall expire in case of finding that the boiler is installed in a closed (pressure) system without protections required by the law.
- The warranty shall expire in case of the boiler installation inconsistent with the regulations.
- The manufacturer shall not be liable for mechanical damages or damages associated with wear factors.
- In case of transport damage, it is necessary to present a damage protocol drawn up with the transport company. The repair of the device under warranty is not possible without the protocol and after signing the waybill without any objections.
- The warranty does not apply if the device is not used in accordance with the instructions in the Operating and Maintenance Manual.
- In matters not provided for herein, provisions of the Civil Code shall apply.
- The aforementioned warranty terms shall apply to the products of Heiztechnik Company installed and operated in the Polish territory.
- In case of an unjustified service call resulting from improper use of the device in a manner inconsistent with the provided operation manual, in particular if the call is a result of the user's failure to carry out the operation activities described in the operation manual, the Caller / User of the boiler shall bear all costs related to the arrival of the service technician and the performance of any service.

Service repair card

Repair no.	Date of repair	Defect	Comments	Service stamp

Warranty card, start-ups, sales, service reviews

Boiler's serial number:	Type of the boiler:
Date of submission for sale:	Stamp of the Manufacturer:
Date of sales:	Stamp of the sales point:
Date of installation:	Stamp of the installation company:
Date of service review:	Stamp of the authorized service: Remarks of the authorized service:
Date of review:	Stamp of the authorized service: Remarks of the authorized service:
Date of review:	Stamp of the authorized service: Remarks of the authorized service: