

**Pellet Comfort water boiler with nominal heat capacity of: 7, 10, 16 and 25 kW  
with automatic solid fuel feeding, using pellet.**

**TECHNICAL AND MAINTENANCE DOCUMENTATION  
OPERATION AND MAINTENANCE MANUAL  
WARRANTY**

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Orte Polska Sp. z o.o.  
Słoneczna 1,  
96-321 Oddział



Manufactured in Poland

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## Operation and maintenance manual

**Before installation and operation of the Pellet Comfort boiler (hereinafter referred to as the device or boiler), read and strictly adhere to this manual and read the terms of your warranty.**

**REMEMBER!!! IF YOU WANT TO TURN OFF THE DEVICE – USE THE STOP BUTTON ON THE CONTROL PANEL. DO NOT UNPLUG THE DEVICE BECAUSE OF THE RISK OF EXPLOSION!**

**National and local provisions regarding installation and operation must be complied with.**

**A filled Installation Protocol must be sent (scan, xerox) to the Manufacturer within 14 days from the start-up of the device. OTHERWISE, THE WARRANTY IS INVALID.**

### **1. GENERAL INFORMATION**

Boilers comply with the requirements of class 5 according to PN EN 303-5:2012.

This Technical and Maintenance Documentation is an integral part of the device and must be delivered to the user together with the machine.

Electric connections must be performed by an electrician with appropriate permissions. Electric installation must be designed and performed by persons with appropriated permissions and additionally secured with a differential switch (residual current 30mA).

Before connecting the device, a chimney sweeper with appropriate permissions must perform an acceptance test.

Connection and commissioning of the boiler must be performed by an authorized installer with appropriate permissions, designated by the Seller.

The manufacturer reserves the right to make technological changes, amend technical data, dimensions, appearance, equipment, without prior notification, if the differences are not significant and do not affect the operation of the device.

Orte Polska Sp. z o.o. is not liable for damages resulting from improper installation of the boiler, unauthorized modifications, using spare parts not authorized by the manufacturer, or failure to comply with the terms and conditions included in the Technical and Maintenance Documentation (hereinafter: TMD).

## 2. TECHNICAL SPECIFICATION

TYPE with RK 2006-SPGM controller	PELLET COMFORT 7	PELLET COMFORT 10	PELLET COMFORT 16	PELLET COMFORT 25
<b>TECHNICAL DATA</b>				
Area of a house built according to the current energy standards (m <sup>2</sup> )	120	150	240	350
Max. power supplied with fuel (kW)	8.3	12	18	26.6
Nominal power	7.3	10.3	16	23.6
Partial power	Not applicable	Not applicable	Not applicable	7.3
Dust emission class according to EN 303-5:2012	5	5	5	5
CO emissions class according to PN EN 303-5:2012	5	5	5	5
OGC emission class according to PN EN 303-5:2012	5	5	5	5
Efficiency class	5	5	5	5
Efficiency for max. power (%)	88.1	88.1	88.4	88.7
Efficiency for min. power (%)	Not applicable	Not applicable	Not applicable	87.2
Power supply (V)	230	230	230	230
Power consumption at stand-by (W)	2.7	2.7	2.7	2.7
Power consumption at rated power (W)	90	90	90	90
Power consumption at partial power (W)	Not applicable	Not applicable	Not applicable	90
Water capacity of the boiler (litres)	59	59	94	94
Max. operating temperature (boiler output) (°C)	80	80	80	80
Max. operating pressure (bar)	1.5	1.5	1.5	1.5
Safety heat exchanger	0	0	0	0
Fuel consumption at rated power (kg/h)	1.74	2.45	3.8	5.58
Exhaust temperature at max. power (°C)	82	100	107	115
Exhaust temperature at min. power (°C)	Not applicable	Not applicable	Not applicable	75
Exhaust stream at max. power (g/s)	18	19	17.5	16.23
Exhaust stream at min. power (g/s)	Not applicable	Not applicable	Not applicable	7.55
Safety temperature limit (°C)	80	80	80	80
Stack effect at max. power (Pa)	20	20	25	25
Required protection (A)	5	5	5	5
Frequency (Hz)	50	50	50	50
Safety systems	6	6	6	6
Min. amount of air required for proper fuel combustion (m <sup>3</sup> )	80	100	150	150
<b>BOILER DIMENSIONS</b>				
Height (mm)	1095	1095	1216	1216
Width of the boiler (mm)	390	390	490	490
Width of the boiler together with the tray (mm)	970	970	1141	1141
Depth with the burner (mm)	1400	1400	1500	1500
Weight (kg)	360	360	520	520
Water outlet/return tube (threaded)	G1 ½ external thread			
Exhaust pipe outlet (mm)	159	159	159	159
Chimney cross-section (cm x cm)	14 x14	14 x14	20 x14	20 x14
<b>TYPE OF FUEL</b>				
A1 class pellet according to EN ISO 17225-2:2014	s	s	s	s
<b>TANK</b>				
Standard – near the boiler (kg)	100	100	150	150

TYPE with RK-2006 SPGM controller	PELLET COMFORT 7	PELLET COMFORT 10	PELLET COMFORT 16	PELLET COMFORT 25
Custom: 270, 380l, 560l.	0	0	0	0
External feeding	0	0	0	0
Fuel feeding from the tank to the burner	S	S	S	S
BURNER				
Steel grade:1.4828	S	S	S	S
Cylindrical burner	S	S	S	S
Furnace made of chrome heat-resistant steel	S	S	S	S
Top-loading burner	S	S	S	S
Automatic ash push-out	S	S	S	S
Heating-burning element	S	S	S	S
Jet fan	S	S	S	S
Motoreducer x 2	S	S	S	S
Photocell – optical flame control sensor	S	S	S	S
Pellet burning grill	S	S	S	S
RK 2006 SPGM CONTROLLER				
MEASURING INPUTS				
Boiler temperature sensor	S	S	S	S
Return temperature sensor	S	S	S	S
CO temperature sensor behind the valve	S	S	S	S
External temperature sensor	S	S	S	S
Feeder temperature sensor	S	S	S	S
Photodetector	S	S	S	S
Room thermostat	S	S	S	S
CO circuit room thermostat with valve	S	S	S	S
CONTROL OUTPUTS				
Fan	S	S	S	S
CO pump	S	S	S	S
CO2 pump behind the valve	S	S	S	S
SWU pump or return pump	S	S	S	S
Mixing valve	S	S	S	S
Lighter	S	S	S	S
External feeder (STOKER)	S	S	S	S
External feeder	S	S	S	S
Cleaning mechanism	S	S	S	S
Fan	S	S	S	S
FUNCTIONS				
Memory: 4 types of fuel-pellet. 1)	S	S	S	S
Possibility of using wood	S	S	S	S
Support for two CO circuits	S	S	S	S
Weather-related control	S	S	S	S
Data transmission 2)	S	S	S	S
On-line control 3)	S	S	S	S

1) Ability to set burning parameters for four types of pellet. Changes in the operation of the fan, feeder and lighter are stored for the currently selected type of fuel.

2) An **additional** room thermostat with RT-208GT data transmission is required. Ability to control and set all boiler parameters on the room thermostat.

3) An **additional** Internet module UMI-1 WI-FI or LAN is required.

The manufacturer reserves the right to make technical changes at any time.

### **3. INTENDED USE AND CHARACTERISTICS**

#### **3.1. Intended use**

Water boilers Pellet Comfort are delivered as integrated heating devices that consist of a boiler with a capacity of 7.3 or 23.6 kW along with a burner, pellet tray and feeder. The devices are designed for heating in buildings where there is a central heating water installation (C.O.) and/or a usable water installation (CWU). **7-16 kW boilers are adapted to work in an open system**, which means, among others, that the hydraulic system must have an open expansion vessel with an overflow pipe and be carried out in accordance with the applicable standards for open systems or adapted to work in the system **with closed buffer**.

There are Pellet Comfort boilers where the flow of heated water depends on the type of water system and water pumps used. The boilers are designed for use with cubic capacity of up to 700 m<sup>3</sup>.

In standard, the kit includes:

- Technical and Maintenance Documentation along with the warranty,
- Technical and Maintenance Documentation of the controller,
- rake,
- pellet tray

#### **3.2. Information about the boiler**

This manual contains important information regarding safe installation, commissioning and maintenance of the boiler.

The boiler should be installed by a qualified installer.

In order to ensure intended use, you must adhere to the manual, information on the nameplate and technical data. It is forbidden to install the boiler in apartments and corridors. Boilers can be installed in accordance with local and national regulations and in accordance with safety rules described in the section "Safety".

Installation and use of the boiler are allowed only in rooms with constant and proper ventilation. The boiler may be used to heat water and for indirect preparation of usable warm water.

The boiler must work at the minimum return temperature of 42÷60°C. One must ensure this limit temperature by using appropriate devices, e.g. thermostatic mixing valve.

#### **3.3. Installation guide**

***INFO One must adhere to regulations and national standards during installation and operation.***

During installation of the heating system, one must adhere to the following regulations:

- local building regulations concerning the conditions of installation
- local building regulations concerning air supply for combustion and exhaust discharge.
- regulations and standards concerning equipping the heating system with automation safety devices.

### 3.4. Operation guide

When using the heating system, adhere to the following tips:

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- The boiler should be working at the minimal return temperature from 42 ° C to 60 °C. Do not exceed 80°C at the system supply.
- Ensure this limit temperature by using appropriate device or its settings.
- The boiler can only be operated by adults familiar with its use.
- Ensure that children do not remain unattended near the working boiler.
- Do not add any liquids or water to increase the power of the boiler.
- Ash should be placed in a non-combustible container with a lid.
- Do not place on the boiler or in its vicinity (within safe minimum distance) flammable objects or substances (e.g. kerosene, oil).
- To clean the boiler, use only gentle cleaning agents.
- Do not use the boiler without the recommended operating pressure.
- During the boiler operation, do not open the doors of the combustion chamber.
- Comply with the operating manual.
- The installer must provide the user with information about the operation and proper use of the boiler.
- Do not use the boiler in case of danger of explosion, fire, leaks of combustible gases or vapours (e.g. when gluing linoleum, PVC etc.).
- Pay attention to the flammability of construction materials.

### 3.5. Safety systems

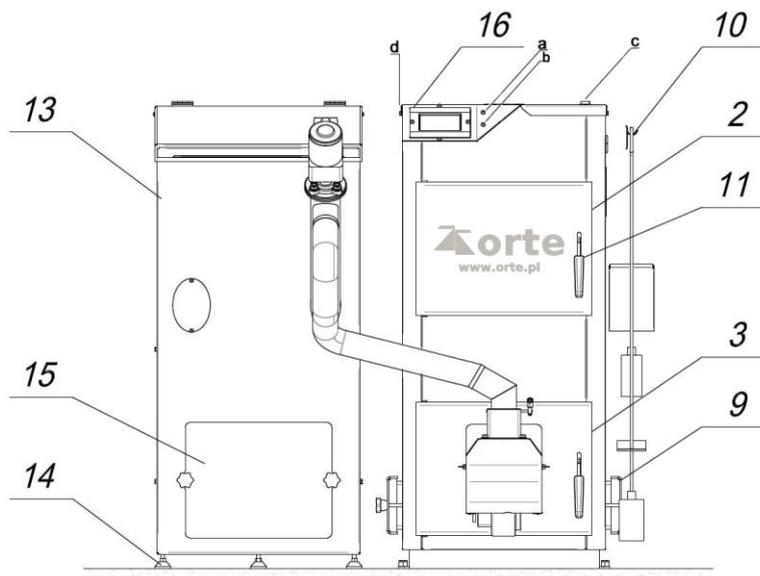
Each boiler is equipped with 6 interdependent safety systems.

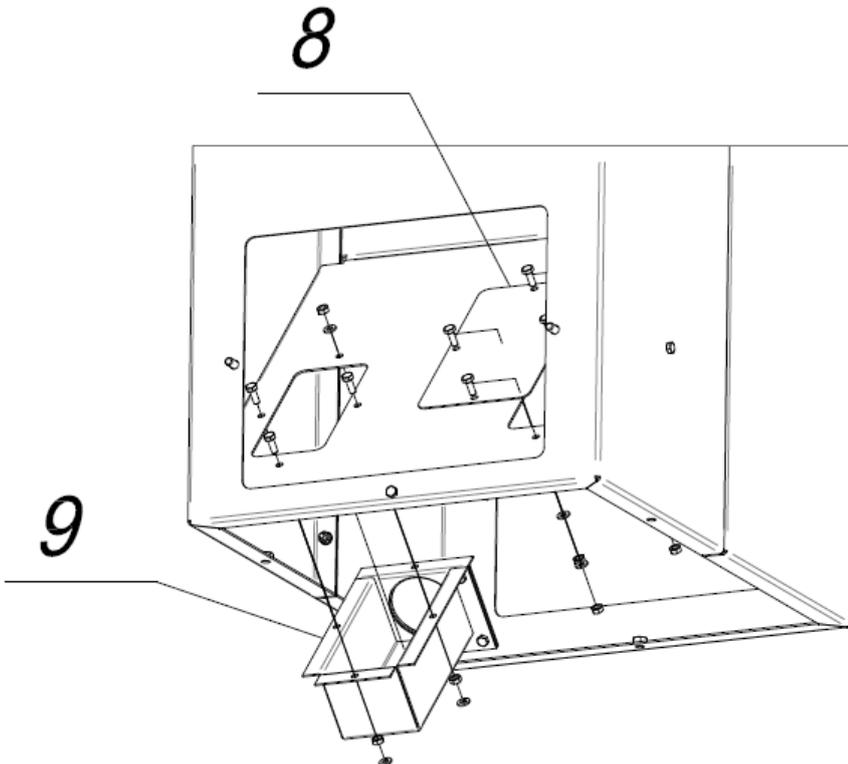
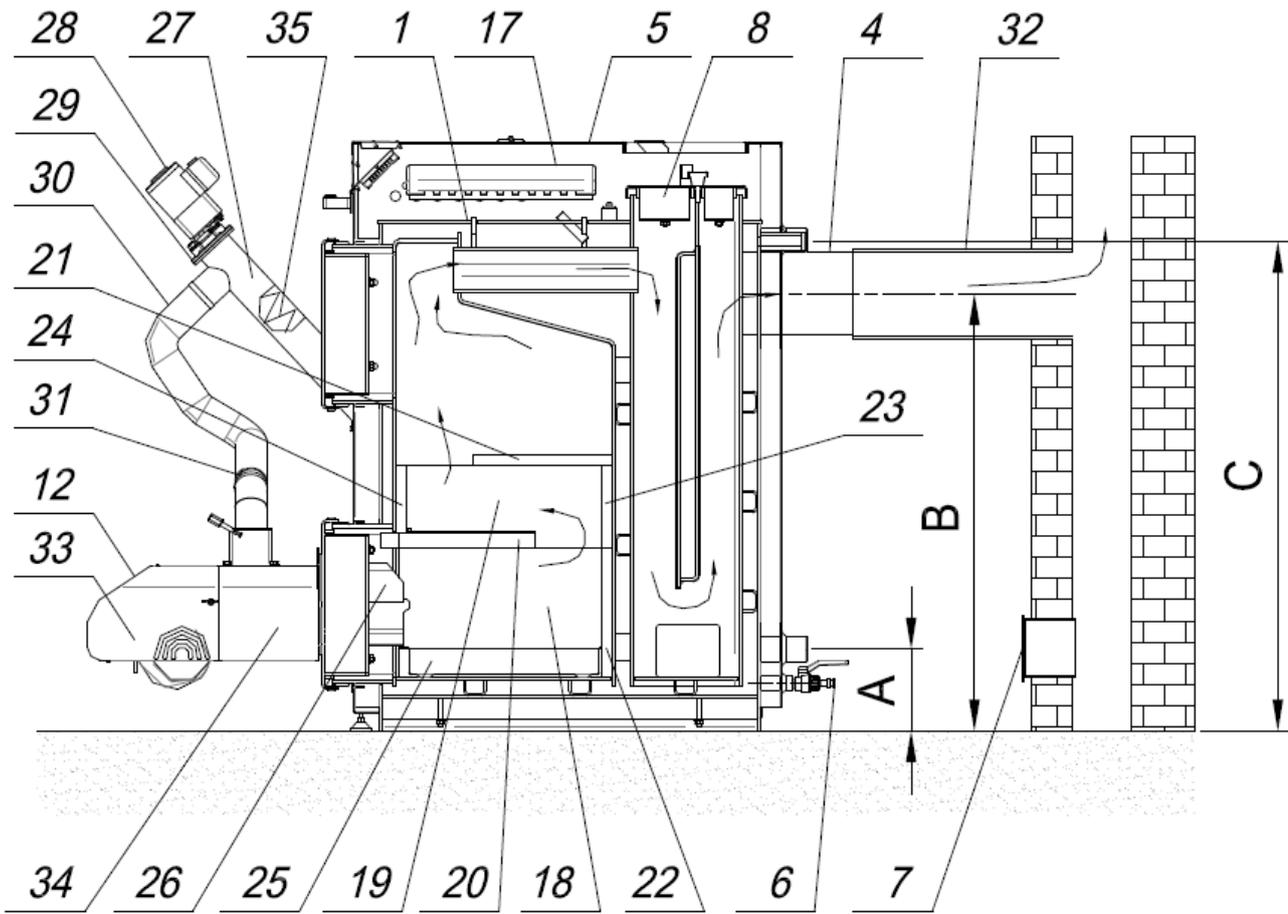
1. **Feeder temperature sensor** Installed during the commissioning in a smaller tube between the burner and the flexible pipe connected to the feeder. The sensor informs about the backflow of fire to the tray and an increase of the feeder temperature above 45°C.
2. **Elastic tube between the metal pipe of the burner and the feeder.** If the temperature sensor of the feeder is damaged or improperly installed, the fire that goes back to the feeder dissolves the elastic pipe within 2-3 seconds, cutting of the fire from the feeder where pellet is stored. Additionally, the elastic pipe is not placed directly over the burner, but on the side.
3. **Boiler overheating sensor.** If the water temperature exceeds 80°C, the burner automatically goes into putting-out mode. This prevents the burner from working in the case of a limited heat perception.
4. **Photoelement** defines the quality of the combustion process. If there is not enough air in the furnace, the fire's brightness drops below the pre-set level. The burner automatically goes from the maximum power mode (feeding large amount of fuel) to the firing up mode (small amount of fuel). If the situation does not change, the fire's brightness remains at the level not exceeding the required brightness. The burner will display "no fuel" error and will stop fuel supply, which will prevent excessive carbon monoxide emission.
5. **STB** with manual lock deletion.
6. The controller has a password on service parameters.

### 3.6. Construction of the boiler

Pellet Comfort boiler consists of the following assemblies: heat exchanger, automation/controller, burner along with a feeder, electrics, wiring and a tray. The controller is installed in the upper part of the boiler cover. Near the controller, there are fuses 5A (**a**) and 2.5A (**b**) a central switch is on the top plate of the boiler (**c**). STP is near the controller, on the left side of the boiler (**d**). The feeder is made of high-quality powder-coated sheet metal. The combustion chamber is lined with ceramic tiles.

#### 3.6.1. Boiler diagram

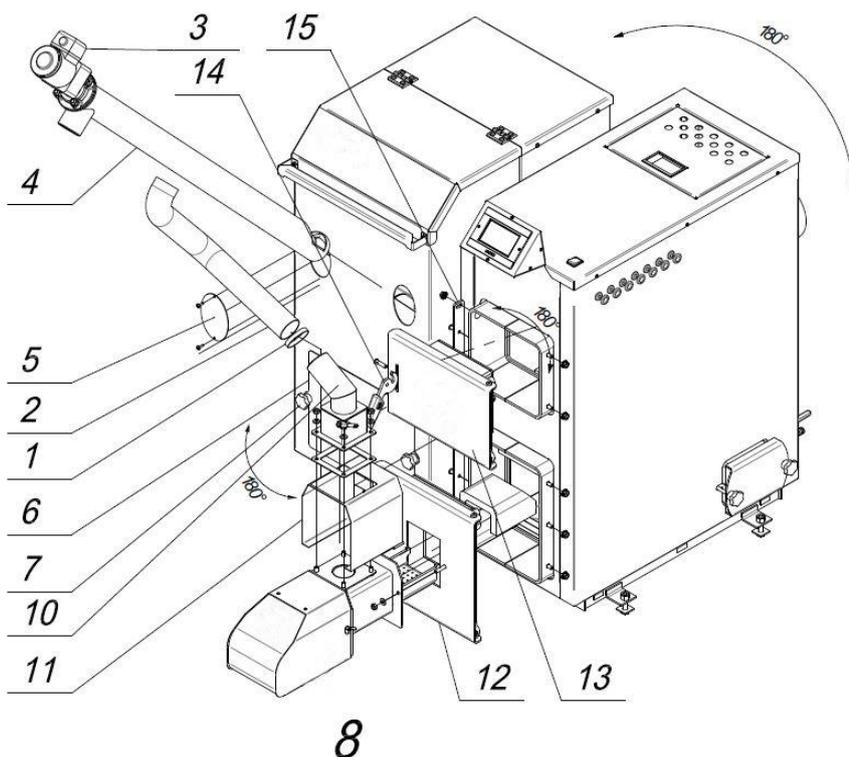




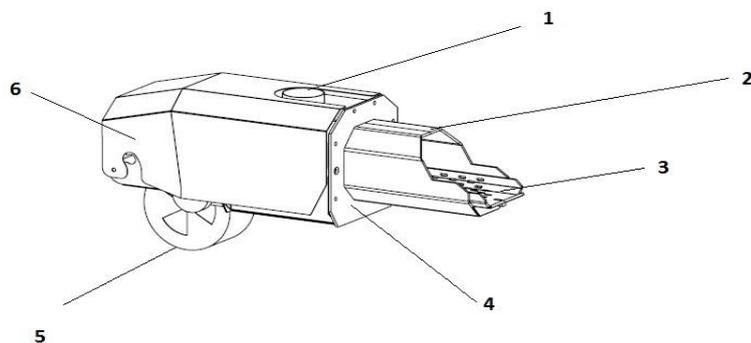
- |                                    |                                   |
|------------------------------------|-----------------------------------|
| 1 – steel body;                    | 19 – side ceramic tile II;        |
| 2 – upper door;                    | 20 – upper ceramic tile I;        |
| 3 – lower door;                    | 21 – upper ceramic tile II;       |
| 4 – flue;                          | 22 – back ceramic tile I;         |
| 5 – external jacket;               | 23 – back ceramic tile II;        |
| 6 – water drain pipe;              | 24 – front ceramic tile;          |
| 7 – chimney chamber cleaning hole; | 25 – drawer;                      |
| 8 – upper cleaning hole;           | 26 – ceramic cover of the burner; |
| 9 – lower cleaning hole;           | 27 – external feeder;             |
| 10 – hardware;                     | 28 – feeder drive assembly;       |
| 11 – clamp;                        | 29 – bearing assembly;            |
| 12 – burner;                       | 30 – feeder flexible pipe;        |
| 13 – charging hopper;              | 31 – band clip;                   |
| 14 – adjustment foot;              | 32 – boiler attachment;           |
| 15 – bin cleaning hole;            | 33 – burner back cover;           |
| 16 – controller;                   | 34 – burner upper cover;          |
| 17 – controller run-time module;   | 35 – feeder snail;                |
| 18 – side ceramic tile I;          |                                   |

### 3.6.2.

Diagram presenting the disassembly of the bin and the feeding system on the opposite side of the boiler.



### 3.6.3. Diagram of the burner



- |                     |                                 |
|---------------------|---------------------------------|
| 1 - fireplace inlet | 4 - burner front panel          |
| 2 - burner pipe     | 5 - fan cover                   |
| 3 - burner grill    | 6 - burner upper and back cover |

### 3.7. Operation and storage conditions

Before installation, read the requirements of this manual and the requirements of national and local laws. The installation design should be performed by a contractor with appropriate permissions which, in consultation with a chimney sweeper specialist and fire-fighting specialist, will issue a written opinion on the condition of installation and operation of the device, in particular on the insulation, floor bearing capacity, ventilation and gas exhaust installation.

During installation, take into consideration the requirements of applicable regulations. In case of doubt, consult a fire protection expert.

The room where the heating device is placed must have insulation, floor bearing capacity and ventilation in accordance with appropriate provisions, and must be connected to an individual exhaust pipe/chimney.

#### Storage conditions:

- temperature between -10°C and 50°C
- humidity between 5% and 70%
- atmospheric pressure between 800hPa and 1200hPa
- good ventilation – meeting the required standards (supply air at least as extract air)
- low dust level and lack of chemical pollution
- room free of flammable materials

If the boiler is stored longer than 2 years from the date of manufacture, it should be started in the premises of the manufacturer in order to verify proper operation.

### 3.8. Minimal distances and flammability of construction materials

**INFO:** *Depending on the country, different minimum distances may apply – please consult an installer or a chimney-sweeper.*

No flammable materials allowed in the room.

### 3.9. Minimal reflux temperature

The boiler must operate with a minimum reflux temperature of  $42 \div 60$  ° C.

- Ensure the limit temperature by using appropriate device (mixing valve with pump).

### 3.10. Tools, materials and auxiliary measures

Installation and maintenance of the boiler require standard tools used by installers of heating and water systems.

Cleaning tools are delivered along with the boiler.

## 4. SAFETY

The device must be installed and accepted only by an authorized installer with confirmed qualifications. The boiler must be installed, placed and used in accordance with applicable regulations. Strictly adhere to the instructions contained in Technical and Maintenance Documentation. Do not install the boiler in places at risk of fire, explosion, flooding or freezing. The boiler must be connected to an electrical outlet – grounded and with a differential protection. The boiler is adapted to an open system, which means that the hydraulic system must have an open expansion vessel with an overflow pipe.

Unattended minors and pets cannot be near the operating boiler.

Do not exceed maximum power. Ensure proper air circulation – in accordance with appropriate regulations. Ensure chimney-sweep inspection in accordance with applicable regulations, not less frequently than once every 3 months or in accordance with local regulations.

Ventilation of the room where the boiler is placed must be made in accordance with applicable regulations.

In order to operate properly, the boiler needs **fresh air and the required chimney draft.**

Air should be supplied to the burner in order to carry out proper combustion processes in the boiler chamber.

Do not connect several heating devices to the same chimney. However, if there are other heating devices installed in the room (connected to other chimneys), supply sufficient amount of air to ensure combustion in each device and ensure sufficient air for room ventilation, taking into account all the devices.

It is forbidden to open the device during operation due to the **risk of burns.**

No flammable materials allowed in the room.

**Fuel storage** – in accordance with relevant regulations and standards (in a different room than the boiler).

An ABC type powder **extinguisher** must be placed near the device.

In the event of a **chimney fire**, immediately put out the burner by pressing the central switch – position 0, placed above the controller. Do not open the ash pan, cut off all access of air needed for combustion. Do

not open windows. Then, secure the chimney outlet using the chimney sieve. It is intended to reduce the intensity of soot combustion in the chimney by suppressing the fire, and to prevent the escape of burning soot from the chimney, consequently protecting the roofs and nearby buildings against fire. The chimney sieve can be replaced with a wet cloth to cover the chimney outlet in case of fire. Damp the cloth with water until the soot is burnt-out. Do not extinguish chimney fire with water, because rapid cooling of the chimney and water evaporation can cause cracks in the chimney and the spreading of fire. Page 13

If the device is operating in **adverse weather conditions**, e.g. during an unfavourable chimney draft (too low draft) or bad weather conditions (e.g. cold, strong wind), extinguish the device to avoid the return of fumes. Before re-igniting the device, wait until weather conditions improve.

In the case of a **longer break in operation**, perform chimney sweep inspection, because there is a risk of clogging.

Basic **requirements and standards of fire protection** in the Republic of Poland applicable in the case of Pellet Comfort devices:

- 1) regulations of the Minister of Internal Affairs and Administration:
  - on the reconciliation of a construction project in terms of fire safety, of 16 June 2003, Journal of Laws no 121, item 1137 (amendments – regulation of the Ministry of Internal Affairs and Administration of 16 July 2009, Journal of Laws no. 119, item 998)
  - on fire-fighting water supply and access roads, of 24 July 2009, Journal of Laws no. 124, item 1030,
  - on the fire protection of buildings, other construction works and areas, of 07 June 2010, Journal of Laws no. 109, item 719,
- 2) regulation of the Minister of Infrastructure:
  - on the technical requirements to be met by buildings and their location, of 12 April 2002, Journal of Laws no. 75, item 690 with further amendments),
- 3) PN-B-02411 Heating. Built-in solid fuel boilers – Requirements.

The owner must strictly comply with the Technical and Maintenance Documentation.

## 4.1. Safety Tips

### General Safety Tips

Failure to follow these instructions can result in serious injuries, including death, and can cause damage to property and the environment.

- Ensure that the system, connection of the flue duct connector, as well as the first start-up, maintenance and repairs are performed only by an authorized installation company.
- Ensure that the installation acceptance is performed by an authorized supervisory body.
- Clean the boiler depending on the intensity of use. Follow the frequency of cleaning indicated in the chapter "Cleaning". Immediately remove any identified deficiencies.
- Perform maintenance at least once a year. During maintenance, check the proper operation of the entire system. Immediately remove any identified deficiencies.

- Before starting up the system, carefully read safety tips.

**Threat due to non-compliance with safety rules in emergency situations, e.g. in case of fire**

- Never put yourself in life-threatening situations. Your own safety always comes first.

**Damage due to improper operation**

Operation errors can lead to injuries and/or damage to property.

- Ensure that the boiler can only be accessed by persons who are able to properly operate it.
- Only authorized installers can install, commission and maintain the boiler.

**Installation and operation**

- Only an authorized installation company can install the boiler.
- Do not modify any parts of the exhaust system.
- Do not use the boiler without enough water.
- Do not connect the boiler directly to a hydrophore.
- During operation, openings (doors, inspection hatch, filling holes) must always be closed.
- Use fuels according to the nameplate.
- Do not close or decrease supply-exhaust openings in doors, walls and windows.

**Inspection/maintenance**

- Recommendation: conclude an agreement for inspection and maintenance with an installation company; order boiler maintenance every year.
- The user is responsible for the safety, environmental performance and reliable operation of the system.
- Adhere to the safety instructions contained in the chapter "Maintenance and cleaning".
- The manufacturer is not responsible for damages due to the use of parts not delivered by the manufacturer.
- Use only original spare parts and hardware.

**Risk of carbon monoxide poisoning**

- Insufficient air supply can cause the production of carbon monoxide during the combustion process.
- Do not close or decrease supply-exhaust openings.
- Appropriate carbon monoxide and smoke sensors should be installed in the boiler room.
- If this deficiency is not removed immediately, further use of the boiler is not allowed.
- If fumes are present in the boiler room, ventilate and leave the room; call the fire department, if necessary.

**Burn hazard**

- Hot air on the boiler, exhaust system and pipes, exhaust gas, as well as hot water flowing from the protection automation devices can cause burns.
- Touch hot surfaces only when using appropriate safety equipment.
- Opening the boiler doors is forbidden.
- Before performing any work on the boiler, wait until it cools down.
- Children must not remain near the hot boiler unattended.

**Risk of damage to the system due to deviations from the minimal chimney draft.**

- In case of major chimney drafts, the fumes temperature increases and the boiler system is under heavier load and may be damaged. The efficiency of the boiler decreases.
- Ensure that the chimney and exhaust connections correspond to applicable regulations.
- Ensure proper chimney drafts.
- Ask an authorized company to check that the required chimney draft is ensured.
- Adhere to local regulations regarding maintenance of the chimney.

**Explosives and flammable materials**

No flammable materials allowed in the room.

#### **Combustion air/air in the room**

- Combustion air/air in the room must be isolated from aggressive substances (e.g. alkyl halides/fluorocarbons, substances containing chlorine or fluorine compounds). This is to avoid corrosion.
- Ensure the supply of a sufficient amount of air through the openings leading to the outside.

#### **Risk of damage to the system due to overpressure**

- In order to avoid damage to the system due to overpressure, hot water can flow from the heating circuit safety valve when heating water and preparing usable warm water.
- Never close safety valves.
- Never cut off the heating water circuit.
- Never turn off the cooling water circuit.

#### **Instruction to the customer (user)**

- Explain the method of operation to the customer.
- Explain that the customer may not make any modifications or repairs.
- Instruct the customer that children cannot be in the vicinity of the heating system without adult supervision.
- Fill up the commissioning and handover protocol included in this document and provide it to the user.
- Deliver the technical documentation to the customer.

## **5. TRANSPORT AND INSTALLATION**

### **5.1 Transport**

The device is protected against damage in transit. During transport, loading and unloading, the device must be protected against impact, damage, crushing and against adverse environmental conditions, as they may cause damage to the device. In case of damage to the device in transit (consignments must always be checked on delivery), return the device to the service department in order to remove the resulting defects. On delivery, check the completeness of the shipment. Potential objections and problems should be reported to the supplier who is responsible for insurance.

#### **WARNING: Risk of injuries due to moving too heavy objects and due to improper protection during transport!**

- **Ensure that the boiler is lifted and moved by a sufficient number of people.**
- **Use appropriate means of transport, e.g. trolleys with fastening belts or lift trolleys.**
- **Secure the boiler against falling.**

#### **NOTE: Damage to the system due to frost!**

- **Install the heating system in a room protected from frost.**

***INFO: Observe construction supervision provisions, in particular, the current provisions related to furnaces, construction requirements with respect to installation rooms and their ventilation.***

In order to reduce the weight of the boiler during transport, the tray and the exchanger are packed separately.

The boiler is delivered on a pallet.

- Position a lift trolley to the back wall of the packaged boiler.
- Secure the boiler on the transport device with a fastening belt.

- Move the boiler to the place of installation.
- During transport, make sure not to damage the boiler.
- If possible, transport the boiler secured on the pallet to the place of installation.
- Unpack the boiler.
- Dispose of the packaging in accordance with environmental protection requirements.

## 5.2. Installation

The Pellet Comfort boiler (if not otherwise requested by the customer) is delivered, depending on the power and the selected tray, on one or two wooden pallets. The burner is fixed to the device. The tray is delivered folded. The boiler must be connected to the tray as shown in the picture.

Ensure that the tray overheating sensor is inserted into a thin tube secured to the fireplace tube (stainless steel chimney-elbow). Connect the chimney with a flexible tube, and then connect the tube with the tray outlet.

**DANGER: Putting any objects into the tray during operation of the boiler can cause serious injuries.**

The tray should be covered from the top with the cover. It is forbidden to insert any objects into the tray during feeder operation, as this may cause disability. Remember to fill up the tray with pellet before operating the burner with the operating mode on the display set to "STOP".

After installing the feeder inside the tray and filling up with pellet, disconnect the flexible pipe from the burner and check the feeder usage. In order to determine the correct amount of the fuel quantity, use the following formula: 0.2 kg / h pellet times the amount of kW of device power. E.g.  $0.2 \times 24 = 4.8$ . The obtained result will give us in kilograms per hour (kg / h) the information we need the amount of fuel from obtaining the desired thermal power in kW. The burner, when working in a given cycle, should give the amount of fuel for an hour that comes out of the formula. It is recommended that the feeder's working cycle should not exceed 75%. So if the feeder gives, for example, 25 kg in a fixed cycle, set the FUEL FOR MAX POWER at 19% ( $4.8: 25 = 0.19$ ).

## 5.3. Installation conditions

In order to install the boiler, certain conditions (at the site) must be met. The user and the installation company are responsible for meeting these conditions.

The installation site must meet the following conditions:

- Safe operation of the boiler must be ensured at the site of installation.
- The site of installation must be protected from frost.
- Installation and use of the boiler are allowed only in rooms with constant and proper ventilation.
- Ensure the supply of a sufficient amount of air.
- The floor under the boiler must have sufficient bearing capacity, and must be levelled and flat.
- The boiler can be placed only on a non-combustible surface.

The **chimney** must meet the following conditions:

- The chimney and exhaust gas connection must comply with applicable regulations.
- The chimney must be insensitive to moisture.

## 5.4. Distance from the walls

**DANGER: Fire hazard due to flammable materials or liquids!**

- **Do not place or store flammable materials or liquids in the boiler room.**

**WARNING: Damage to the system due to too small distance from the walls!****In case of non-compliance with the minimum distances, cleaning of the boiler is impossible.**

- **Keep minimum distances.**

Place the boiler on an incombustible surface, keeping the required distances from the walls. The surface or foundation for the boiler must be level and flat. If the foundation is not level, in order to provide better ventilation and flow, the side with the connection (back wall) can be placed 5 mm higher. The foundation must be larger than the boiler base: at the front, at least 300 mm, and approx. 100 mm on other sides.

**5.5. Distance from flammable materials****DANGER: Fire hazard due to flammable materials or liquids!**

- **Do not place or store flammable materials or liquids in the boiler room.**
- **Instruct the user to keep minimum distances from flammable materials in relation to flash resistant materials.**

**5.6. Exhaust connection****DANGER: Fire hazard due to improper connection to the chimney and incorrect selection of the chimney!**

- **Chimney sweep acceptance must be performed before operating the boiler.**

***INFO: The boiler draws in air needed for combustion from the environment.***

- ***Install and operate the boiler only in rooms with constant and proper ventilation.***
- 

**NOTE: Damage to the system and the boiler due to insufficient chimney draft!**

- **Ensure the required chimney draft.**

***INFO: Chimney draft depends on the diameter, height, surface unevenness inside the chimney and the temperature difference between combustion products and external air. It is recommended to use a chimney with liner.***

- Before connecting the boiler to the chimney, check whether the chimney diameter is sufficient and the chimney is not connected to other heating devices.
- The internal surface of exhaust pipes should be resistant to the destructive effects of exhaust gases.
- An installer or a chimney sweeper should precisely calculate the chimney.
- The chimney must be insulated and not shorter than 5 m (minimum 1 m protruding above the roof).
- **Chimney sweep acceptance must be performed before operating the boiler.**

**5.6.1 Exhaust connection to the chimney**

***INFO: The boiler must be connected to the chimney in accordance with local construction laws and in cooperation with a chimney sweeper.***

A chimney with a proper chimney draft is the main factor determining the correct operation of the boiler. This has a significant impact on the power and efficiency of the system. The boiler can be connected to a chimney with sufficient chimney draft – see technical data.

In order to make calculations, use the exhaust mass flow at the total rated heat output. The effective length of the chimney is calculated from the point of entry of exhaust gases to the chimney. Page | 18

- Install the flue gas outlet with inspection opening for cleaning.
- Mount the exhaust pipe to the chimney with a 5 mm rivet or screw, using the existing holes. The exhaust pipe should be as short as possible and should be elevated upwards from the boiler to the chimney.
- Connect the flue to the chimney with the boiler connection (figure 3, item 32)
- made of 3 mm sheet metal. Place it onto the flue outlet, embed inside
- the chimney and seal.
- Exhaust pipe, mounted only to the chimney and placed onto the exhaust connection pipe, should be mounted very carefully to prevent sliding out.
- Pipes longer than 2 m should be additionally fastened. All parts of the exhaust pipe must be made of non-combustible materials.

**TIP Chimneys made of steel pipes should be higher by 15-20% than brick chimneys.**

***INFO: Due to the low temperature of exhaust gases at the rated thermal output, the boiler can emit wet fumes, lead to the deposition of soot, and cause insufficient chimney draft. This can lead to moisture and corrosion of brick chimneys.***

***It is recommended to use a chimney liner:***

- *in the case of modernization of the existing chimney ducts and adapting them to year-round operation of the boiler, it is recommended to use one-sided or double-sided (depending on the place of installation) exhaust system made of stainless steel (acid- and heat-resistant),*
- *in newly-constructed buildings and in the case of year-round operation of the boiler, it is recommended to use a ceramic exhaust system resistant to condensate, thermally insulated, with ventilation and condensate discharge.*

***The boiler room should comply with the requirements of PN-87 B-02411 on solid fuel central heating boilers.***

***The boiler room should be protected against the ingress of ground water and should be equipped with adequate ventilation to ensure free inflow of combustion air, including:***

- *ventilation duct (a hole in the window or wall without shutters) with a cross-section not less than 200 cm<sup>2</sup>,*
- *ventilation duct placed, if possible, near the chimney with an inlet hole (without shutters) under the ceiling with a cross-section not less than 140 x 140 mm.*

## 5.6.2. Inlet air connection

**DANGER: Lethal danger caused by a deficiency of oxygen in the boiler installation room!**

- **Ensure the supply of a sufficient amount of air through the openings leading to the outside.**

**DANGER: Risk of injuries/damage to the system due to shortage of combustion air!**  
**Insufficient amount of combustion air can lead to the formation of tar and low-temperature gases.**

- **Ensure the supply of a sufficient amount of air through the openings leading to the outside.**
- **Instruct the user that air inlet holes must always remain open.**

## 5.7. Hydraulic connections

Hydraulic system must be done by a plumber with appropriate permissions, in accordance with appropriate standards and hydraulic expertise. Each hydraulic system should be made on the basis of a proper design and accepted by an authorized person.

**NOTE: Damage to the installation due to leaking connection!**

- **Mount connection tubes to the boiler ports without tension.**

***INFO: In order to ensure fuel-efficient operation, we recommend installing a buffer tray.***

When using a buffer tray (buffer), combustion can take place at the optimum point of operation, both in terms of energy use and emissions. Heat that cannot be used for heating at the time of production is stored in the buffer. When the fuel inside the boiler is used, the heat stored in the buffer will be put into heating circuit.

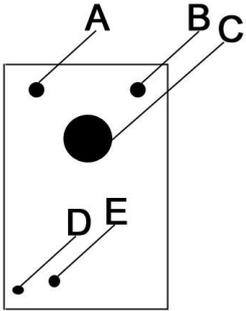
Both with and without buffer, the boiler works fully automatically. The buffer improves the efficiency of the entire system.

### 5.7.1. Connecting the boiler to the central heating system

After placing the boiler and connecting it to the chimney, perform the following installation works:

- connect the boiler to the central heating system by screwing the pipes (supply pipe and return pipe) to appropriate connection stubs 1 ½",
- screw in the drain plug delivered with the boiler,
- use appropriate seals to ensure the tightness of connections (tow, seal tape etc.),
- Before connecting the boiler to an old central heating system, rinse it to remove sludge from radiators and pipes.
- At the supply connection, connect the sensor and the thermal protection of hot water outflow (additional equipment)

***INFO: The thermal outflow protection (accessory) should be installed between the cooling water inflow A or B and the heat exchanger inlet (cooling pipe coil).***



A and B. Heating circuit supply connections (optional). Hot water outlet.

C. Exhaust output.

D. Drain hole.

E. Return water connection. Cold/cooling water inflow.

**DANGER: Injury and/or damage to the system due to overheating!**

- **The boiler can operate only with an active thermal outflow protection and/or safety heat exchanger.**
- **Always ensure that cooling water is supplied to the thermal outflow protection and safety heat exchanger to maintain the required water pressure.**
- **Inform the user about the operation of the thermal outflow protection and safety heat exchanger.**

**DANGER: Danger to health due to contamination of usable water!**

- **Ensure compliance with national regulations and standards on the prevention of usable water contamination (e.g. water from heating systems).**
- **Ensure compliance with EN 1717.**
- Put a filter in the cooling water inlet, in front of the thermostatic valve.
- Do not place mountings allowing for the total or partial closure of the flow or devices and mountings reducing the internal cross-section on safety pipes, expansion pipe, overflow pipe and venting pipe.

***INFO: The minimum capacity of the expansion vessel is calculated according to the formula [1] - PN-91/B-02413 p. 2.5.1.***

***INFO: Equipment and placement of the expansion vessel is determined by PN-91/B-02413 p. 2.5.2.÷2.5.4.***

Expansion vessel, safety pipes, expansion pipe, signal pipe and overflow pipe must be at a place where the air temperature is not lower than 0 °C.

***INFO: If the expansion vessel is at a place where the air temperature drops below 0°C, use circulation pipes and safety pipes connecting the expansion vessel with the boiler, as well as thermal insulation according to PN-91/B-02413 p. 2.11. Thermal insulation of safety devices is to protect them against freezing only during short interruptions of heating.***

NOTE! – The lack of thermal insulation and placing the expansion vessel not in accordance with PN-91/B-02413 identified during warranty claims for leaks during temperature drops below 0°C can be grounds for not accepting the complaint and refusing to repair or replace the boiler.

## 5.8. Filling the heating system and checking for leaks

### **CAUTION: Health hazard due to contamination of usable water!**

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- **Strictly adhere to national regulations and standards on the prevention of usable water contamination.**
- **Ensure compliance with EN 1717.**

### **NOTE: Damage to the system due to frost!**

**If the heating system along with pipelines is not installed in a manner that protects against freezing:**

- **Fill up the heating system with anti-corrosion and anti-freeze agent characterized by low freezing temperature.**

### **NOTE: Damage to the system due to improper water quality!**

**Depending on the quality of water, the heating system may be damaged due to corrosion or limescale.**

- **Adhere to the requirements relating to the quality of water used for filling.**

In the case of open heating systems, act in accordance with local provisions.

### **NOTE: Damage to the system due to too frequent addition of water!**

**Frequent addition of water may cause, depending on the water quality damage of the system due to corrosion or limescale.**

- **Ensure proper ventilation of the heating system.**
- **Check the heating system for leaks.**
- **Check the expansion vessel for proper operation.**

The hand of the manometer must be above the red hand. The red hand must be set to the required operating pressure.

- Check the operating pressure in the heating system.

If the manometer hand is below the red hand, it means that the operating pressure is too low.

- Fill up water. In the case of open systems, the maximum water level in the expansion vessel is 25 mm above the bottom of the boiler.
- Fill up heating water or drain through the filling-drain valve until obtaining the desired operating pressure.
- When filling up, vent the heating system.
- Check the operating pressure again.

Water can be supplied from the water supply system through the drain plug, using a flexible hose that should be disconnected from the boiler after filling up the installation and closing the drain plug.

NOTE! Installed system should comply with the requirements of the Polish Standard PN-91/B-02413 on securing water heading devices in open systems – requirement.

Information about the most important conditions covered by PN-91/B-02413.

It is forbidden to take water from heating systems for other purposes and the operating pressure cannot be higher than permissible pressure for devices and components used. Max. operating pressure of Pellet Comfort boilers is 1.5 bar.

Protection of an open water heating system should consist of basic and complementary safety devices and hardware in accordance with PN-91/B-02413 p. 2.2-2.4.

## **6. STARTING UP**

Connection and commissioning of the boiler must be performed by an authorized installer having appropriate permissions.

During installation, comply with all local laws and standards in force in the EU concerning installation and use of the device. The device must be placed on a flat and paved surface and must be levelled in accordance with regulations. Keep safe distance from flammable materials and walls in accordance with regulations. Connect the device to the system in accordance with applicable provisions (open system or installation of a safety valve). Central heating and hot usable water system must be equipped with pumps. The exhaust pipe connected to the chimney should be as short as possible, with appropriate diameter (in accordance with applicable standards) and inclined upward. The pipe diameter must be adapted to the outlet pipe of the boiler. Each device must be connected to a separate chimney duct. The chimney duct must be in compliance with applicable standards and regulations. The power supply system must be grounded.

Before operation (after the device is connected to the chimney duct), a chimney sweep acceptance must be performed. For safety reasons (risk of explosion), chimney sweep inspections should be done at least once every 3 months (unless local regulations provide otherwise). Chimney sweep acceptance and further inspections should be recorded at the end of this document. Chimney cleaning (inspection) must be confirmed with an appropriate chimney sweep protocol. The chimney must have a Pa draft, at least such as indicated in the technical specification and this document.

The device installation must provide access to cleaning the device, connector and chimney. Check the permeability of the supply and exhaust ventilation and combustion air duct grilles.

The device can be operated only if the whole system and boiler are in perfect condition (without traces of damage). In case of irregularities, turn off the device until their elimination.

### **6.1 Before commissioning**

#### **DANGER: Risk of injuries when opening and caused by the open boiler door!**

- **During the boiler operation, do not open the door of the combustion chamber.**

#### **DANGER: Risk of injuries due to high temperatures!**

- **During boiler operation, do not touch the exhaust manifold and the upper part of the boiler.**

#### **WARNING: Damage to the system due to improper operation!**

##### **Operation without enough water leads to the destruction of the boiler.**

- **The boiler should always operate with a sufficient amount of water.**
- Put a filter in the cooling water inlet, before the thermostatic valve.

- Do not place mountings allowing for the total or partial closure of the flow or devices and mountings reducing the internal cross-section on safety pipes, expansion pipe, overflow pipe and venting pipe.

**INFO: The minimum capacity of the expansion vessel is calculated according to the formula [1] - PN-91/B-02413 p. 2.5.1.**

**INFO: Equipment and placement of the expansion vessel is determined by PN-91/B-02413 p. 2.5.2.÷2.5.4.**

Expansion vessel, safety pipes, expansion pipe, signal pipe and overflow pipe must at a place where the air temperature is not lower than 0 ° C.

**INFO: If the expansion vessel is at a place where the air temperature drops below 0°C , use circulation pipes and safety pipes connecting the expansion vessel with the boiler, as well as thermal insulation according to PN-91/B-02413 p. 2.11. Thermal insulation of safety devices is to protect them against freezing only during short interruptions of heating.**

NOTE! – The lack of thermal insulation and placing the expansion vessel not in accordance with PN-91/B-02413 identified during warranty claims for leaks during temperature drops below 0°C can be grounds for not accepting the complaint and refusing to repair or replace the boiler.

Before operation, pay attention to the following instructions on personal safety:

- Using the boiler with open doors is prohibited.
- Using ignition accelerators in the boiler is prohibited.

Before start-up, check the correctness of connection and the operation of the following devices and systems:

- Tightness of the heating system (exhaust side and water side)
- Connection of the exhaust system and flue duct
- Correct position of chamotte fittings the combustion chamber

## 6.2 Initial commissioning

**DANGER: Lethal danger cause by chimney**

**fire!**

- **Before the first start-up, have a supervisory body control the exhaust system.**
- **Provide the user with the control report.**
- **Check the tightness of the exhaust pipe.**
- **No not make any structural modifications in the boiler.**

**WARNING: Damage to the system or risk of injuries due to improper start-up!**

**Improper position of lack of chamotte fittings inside the boiler can lead to damage or destruction of the boiler.**

- **Installation and modification of the boiler can be made only by an authorized installation company.**
- **Before the first start-up, check the position of chamotte fittings inside the boiler.**
- 

**WARNING: Damage to the system due to improper operation!**

- **Explain the installation and operation of the boiler to the customer or user.**

**WARNING: Damage to the system due to non-compliance with the minimum return temperature!**

- **During the first start-up, set the minimum return temperature and check it at the boiler return.**

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- During the first start-up, check whether the heating system is filled with water and vented.
- During the first start-up, check whether the occurring water pressure is sufficient for thermal outflow protection (recommended accessory).
- Check the thermal outflow protection (recommended accessory).
- Set the return temperature raising system to 65 °C.
- **Refer to the instruction manual of the controller to learn about the ignition and control of the boiler.**

## **7. OPERATION**

### **7.1. Turning on the device**

In order to exclude any possible factory defects and defects related to improper connection, the first two or three runs should be made by an installer in the presence of the user.

After correct installation performed solely by an authorized installer, the boiler can be turned on. In order to do that, use the temperature controller as described in this document. Full description of the temperature controller is contained in the temperature controller manual RK- 2006 LPG or RK -2006 SPGM (separate attachment).

**Exercise caution during the first start-up. Pay attention to:**

- Check whether the device is connected to power.
- If the burner works in “maximum power” mode and the temperature on the display does not rise for a few minutes, press STOP on the controller – the message “PUTTING OUT” (or “AFTERBURNING”, depending on the version) will appear. If the controller does not respond, disconnect the device from power. In both cases, contact the service technician.
- If the burner works in “maximum power” mode and the temperature on the display rises, the central heating or hot usable water pump (depending on the operation mode) should start when the displayed temperature is not higher than 42°C.

**If, for some reason, none of the pumps is turned on in the cases described below, immediately put down the boiler by pressing STOP and contact your installer. If the device does not respond to pressing STOP, unplug it. This is the final solution, as oxides can accumulate in the burning chamber. After such a sudden unplugging from the mains, do not turn on the device again and contact the service technician.**

**DANGER!!! Mortal danger. IF YOU WANT TO TURN OFF THE DEVICE – USE THE STOP BUTTON ON THE CONTROL PANEL. DO NOT UNPLUG IT BECAUSE OF THE RISK OF EXPLOSION.**

The pump should automatically turn off several minutes after the burner goes into “PUTTING OUT” mode (or “AFTER BURNING”, depending on the version of the device). A drop in the environment temperature below the set temperature switches on the burner. If the boiler water exceeds 90 °C, the burner is immediately turned off and goes into “PUTTING OUT” mode (or “AFTER BURNING”, depending on the device version).

## 7.2. Safe turning off

**DANGER!!! Mortal danger. IF YOU WANT TO TURN OFF THE DEVICE – USE THE STOP BUTTON ON THE CONTROL PANEL. DO NOT UNPLUG IT BECAUSE OF THE RISK OF EXPLOSION.**

## 7.3. Fuel

In Pellet Comfort boilers, burning only high-quality pellet with the diameter from 6 to 8 mm, made of sawdust of deciduous or coniferous trees, without dust, classified as C1 in accordance with standard 303-05:2012, as DIN PLUS or A1 in accordance with ISO 17225-2:2014. Do not burn waste, industrial pellet, pellet of vegetable origin or pits.

Diameter	Ø 6 – 8 mm
Length	< 40 mm
Calorific value	≥ 16,5 MJ/kg
Humidity	≤ 10%
Ash content	≤ 0.7%

## 7.4. Suggested settings

It is suggested to set the threshold temperature in the range from 55°C to 75°C. Set it with the knob and confirm by pressing. Information on the temperature controller are contained in a separate manual (MANUAL – Temperature controller of a solid fuel boiler with fuel feeder). Turn on the device by pressing START button. Turn off the device by pressing STOP button.

## 7.5. Messages on the controller

Pressing START button – the main switch on the control panel – turns on the burner. In the first stage, lamps and the fan turn on (in order to ventilate the combustion chamber). After the chamber is ready, the starting dose of fuel (pellet) is feeder and the lighter is turned on. The feeder needs from 90 to 120 seconds to ignite the fuel.

After “identifying the flame” (when the set lightness threshold is detected by the photocell), the lighter is switched off and the ORTE burner goes into automatic mode. This is signalled by the message MAXIMUM POWER on the controller display.

When the lightness in the combustion chamber drops to the lower value, the lighter is turned on to re-ignite the fuel.

The state of device can be evaluated based on the displayed message.

Message displayed on RK-2006LPG or RK-2006 SPGM	Explanatory notes
TEMPERATURE 67°C STOP	The controller is switched off To resume, press START
TEMPERATURE 67°C INFLAMING	Inflaming takes place
TEMPERATURE 67°C STANDBY	STANDBY message means that the required temperature has been reached
TEMPERATURE 67°C PUTTING OUT	The fireplace is being put out
TEMPERATURE 67°C MAXIMUM POWER	The burner is working at maximum power in automatic mode (has not reached the desired temperature)
TEMPERATURE 67°C MINIMUM POWER	The burner is working at minimum power in automatic mode (has reached the desired temperature)

## 7.6. Burner trouble

In case of any irregularities, try to recognize the fault by using the table below or contact the service technician.

No.	Fault	Presumed cause	Solution
1.	the burner does not ignite	no fuel in the tray – NO FUEL message appears	- add fuel (pellet) delete the message on the display by pressing STOP - restart by pressing START
		damaged burner	contact the service
		slag in the fireplace	- thoroughly clean the fireplace - clear air holes
		the burner, stoker and feeder do not work	replace the fuse located near the controller (fuse 5A – 5x20)
2.	the fan does not turn on when putting out the burner	damaged fuse	contact the service
			change fuse
3.	feeder ignition alarm – AUGER IGNITION TEMPERATURE	excessive temperature rise of the burner housing caused by the burner ignition in the stoker tee or the backfill pipe	- when the controller finishes putting out (the fan will turn off and the stoker will turn on to remove the remaining fuel), wait until the burner housing temperature drops delete the message on the display by pressing STOP - restart by pressing START
4.	boiler overheating alarm – BOILER OVERHEATING message appears	water temperature exceeded in the boiler (temperature set by the technician)	- wait until the temperature in the boiler drops below the alarm level delete the message on the display by pressing STOP - restart by pressing START
5.	damaged temperature sensors	damaged sensor circuit or the temperature outside the measurement range -9°C - 109°C	- press STOP - if the message is not removed after pressing STOP, contact the service technician
		damaged circuit of the burner temperature sensor (feeder)	contact the service
		damaged circuit of the central usable water heating system sensor turns on the usable water heating system adjustment	
		damaged burner temperature sensor	
6.	the burner produces smoke soot is produced	- too much fuel (pellet) is feed in relation to air - dirty burner fireplace - slag in the fireplace	- thoroughly clean the fireplace - clear air holes - adjust the burner - fuel and air for max. and min. power
7.	slag is too often produced in the fireplace - the burner does not clean itself	improper fuel	change pellet

## 7.7. Replacement of spare parts in the burner

**REMEMBER!!! IF YOU WANT TO TURN OFF THE DEVICE – USE THE STOP BUTTON ON THE CONTROL PANEL. DO NOT UNPLUG IT BECAUSE OF THE RISK OF EXPLOSION.**

**DANGER: Before cleaning the device, make sure that it is unplugged and that it has been turned off for at least 3 hours.**

### 7.7.1. Replacement of the lighter

Turn of the burner by pressing STOP. After the fan turns off (after 10-30 minutes, depending on the settings), unplug the device, unscrew the powder coated cover (cap), unscrew the burner cover (part with motoreducer). Below the tee, there is a metal pipe with three glass pipes inside – this is the lighter. Unplug the lighter from the connection block and make sure that it is not hot (touching the hot burner may cause injuries). Firmly grasp the lighter and remove it from the slot. Insert a functioning lighter. Make sure that it is pressed against the fireplace plate. Otherwise, there may be issues with burning. If the lighter is not firmly pressed, it does not heat pellet sufficiently and does not initiate ignition. The used part should be return to a collection point or sent back to the manufacturer.

### 7.7.2. Replacement of the photoelement

Turn of the burner by pressing STOP. After the fan turns off (after 10-30 minutes, depending on the settings), unplug the device and unscrew the powder coated cover (cap). In the burner cover (silver part with motoreducer installed in the central part), on the right side, there is a rubber cover. Remove it and unplug the cable going from the connection block. The cable entering the rubber cover has a photoelement at the end. Remove the damaged part from the rubber cover and mount a new photoelement. The used part should be return to a collection point or sent back to the manufacturer.

## **8. MAINTENANCE**

Why regular maintenance is important?

Due to the following reasons, you should regularly perform maintenance of the heating system:

- in order to maintain high efficiency of the system and ensure economic fuel use,
- in order to ensure operational safety,
- in order to ensure that the combustion process is friendly for the environment.

The Pellet Comfort device requires the removal of ash. The amount of ash depends on the quality of pellet, time of operation and the size of the burner. In order to facilitate the removal of ash, you may use the rake (added to the boiler). Once a month, it is recommended to unscrew the burner and remove ash from the burner and the combustion chamber.

### 8.1. Cleaning the boiler

**REMEMBER!!! IF YOU WANT TO TURN OFF THE DEVICE – USE THE STOP BUTTON ON THE CONTROL PANEL. DO NOT UNPLUG IT BECAUSE OF THE RISK OF EXPLOSION.**

**DANGER: Before cleaning the device, make sure that it is unplugged and that it has been turned off for at least 3 hours.**

- Remove the feeder pipe from the burner fireplace (bent tube with the thermal sensor)
- Open the doors where the burner is
- Carefully remove ash from the burner tube and from the burning chamber (you can use a fireplace vacuum cleaner)
- After removing ash, make sure that the doors are tightly closed and secured (lock on the round handle must be in the horizontal position)
- Plug the feeder pipe to the fireplace (make sure that it is pushed to the burner cover)

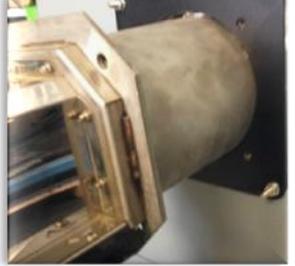
Then:

- Open and clear covers on the boiler and the cover placed on the top of the boiler,
- Using a fireplace vacuum cleaner, clean ash on the walls of the boiler and above the burner pipe.

### 8.2. Cleaning the burner

**INFO: The burner can be cleaned only by opening the doors, without unscrewing it.**

1	Before cleaning the burner, turn off the device (press STOP on the controller) and wait at least 2 hours. Then unplug the device. <b><u>In order to reach the burner, unscrew the exchanger cover, below the controller.</u></b>	
2	Remove the feeder pipe from the burner fireplace.	
3	Remove the burner cover.	

4	Unplug the cables and block from the port.	
5	Unscrew the screws (burner 24-45 kW: 2 screws $\varnothing$ 8, burners 80-250 kW: 4 screws $\varnothing$ 10).	
6	Remove the burner and place in on the table or other convenient place.	
7	Remove the grill and clean it from ash. Clean also the place inside the pipe, below the grill.	
8	Replace the grill, taking care that it is placed below the fixed part.	
9	Check whether the grille tip is in the right place.	
10	Replace and connect the burner in reverse order.	

### 8.3. Cleaning the heating system

**NOTE: Improper operation causes damage to the environment!**

**Insufficient cleaning causes increased fuel consumption and can cause environmental pollution.**

- We recommend an annual inspection of the boiler performed by an installation company, as well as checking the technical specification of the boiler, e.g. exhaust gas temperature.
- Check and clean the exhaust pipe.

## 9. SHUT-DOWN

**NOTE: Damage to the system due to frost!**

If the heating system is out of operation, there is risk of freezing.

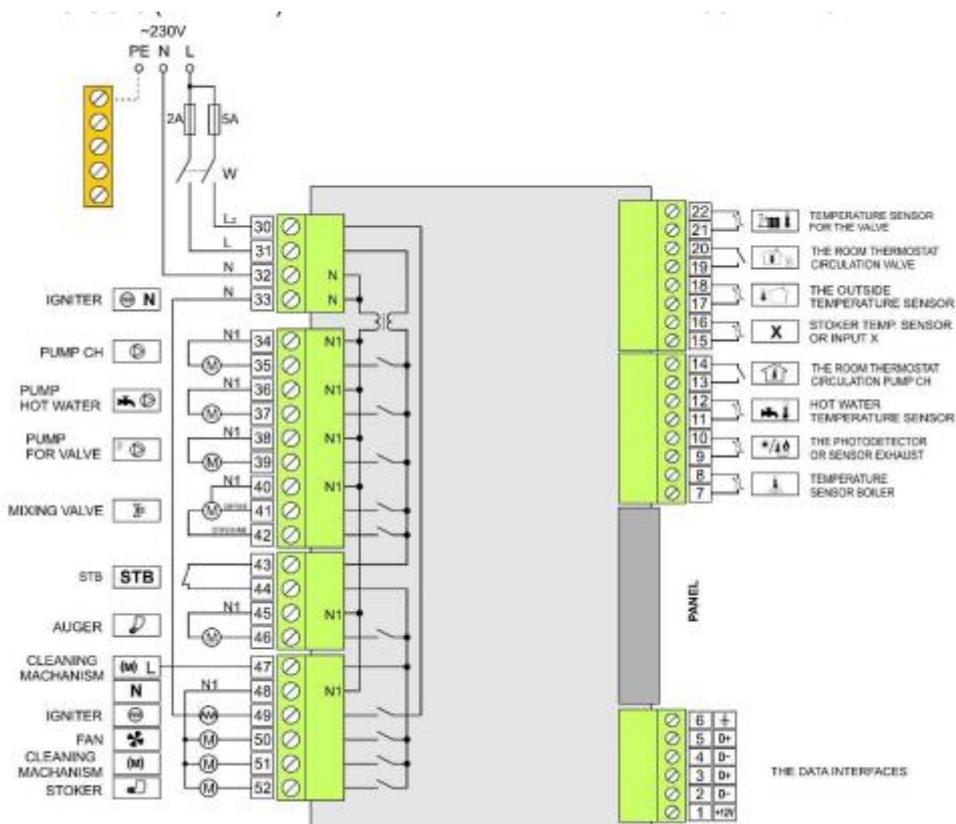
- Drain water from the heating system at the lowest point to protect it from freezing.

In order to shut-down the boiler, completely burn all fuel.

**REMEMBER!!! IF YOU WANT TO TURN OFF THE DEVICE – USE THE STOP BUTTON ON THE CONTROL PANEL. DO NOT UNPLUG IT BECAUSE OF THE RISK OF EXPLOSION.**

After pressing STOP button, wait 3 hours. Then, you can unplug the device.

## 10. WIRING DIAGRAM



## **11. WARRANTY TERMS AND CONDITIONS**

1. The manufacturer grants a warranty on the proper operation of the Pellet Comfort boiler for 24 months from the date of sale.
2. Defects revealed during the 24 months from the date of purchase will be removed at the expense of the Manufacturer within 21 working days from the date of a written complaint sent to the Manufacturer.
3. The method, scope and conditions of repair are determined by the Manufacturer.
4. Each defect must be reported immediately after discovery and in writing, using the attached complaint protocol. This complaint protocol is also available at [www.nagrzewnicenapellet.pl](http://www.nagrzewnicenapellet.pl).
5. Documents authorizing the customer for free warranty repair are: filled Warranty Card (Installation protocol) and the document confirming the purchase.
6. In case of the lack of required signatures, stamps and dates, the Warranty card (installation protocol) is invalid.
7. A filled Installation Protocol must be sent (scan, xerox) to the Manufacturer within 14 days from the start-up of the machine. OTHERWISE, THE WARRANTY IS INVALID.
8. The installer (installation company) is responsible for the first commissioning and setting the parameters.
9. The warranty does not apply in the case of:
  - installation, commissioning and operation not in compliance with the manual (Technical and maintenance documentation)
  - damages not resulting from the fault of the Manufacturer
  - modifications and changes to the structure of the device
  - too small cross-section of the chimney and to low chimney draft
  - repairs during the warranty period made by unauthorized persons
  - damages due to incorrect electrical installation
  - damages due to improper transport to the boiler room
  - improper setting of the ORTE burner
  - burning fuel of inadequate quality (causing the production of slug and pitch deposits that are hard to remove)
  - damages due to using fuel of inadequate quality or inadequate fuel
  - no possibility of making repairs due to reasons beyond the control of the Manufacturer (e.g. no fuel, no access to the burner, no chimney draft etc.)
10. The warranty does not cover:
  - adjustment of the device parameters
  - cleaning and maintenance
11. The costs of service in order to repair complaints due to the reasons mentioned in points 9 and 10 are covered by the customer
12. Complaints can be submitted by post or e-mail to the following address: ORTE POLSKA SP. Z O.O., ul. Groblowa 1. 05-800 Pruszków, e-mail: [biuro@orte.pl](mailto:biuro@orte.pl)



**HYDRAULIC SYSTEM ACCEPTANCE AND BOILER COMMISSIONING PROTOCOL**

Activities during the start-up	Measured values	Remarks
Fill the heating system and check the tightness of connections. Enter operating pressure and water quality values to the manual. <ul style="list-style-type: none"> <li>• Heating system filling pressure</li> </ul>		
Creation of operating pressure <ul style="list-style-type: none"> <li>• Heating system venting</li> <li>• Checking the safety valve</li> <li>• Setting the initial pressure of the expansion vessel</li> </ul>		
Check the correctness of installation and the tightness of exhaust connection. Fresh air hole exists and is not closed.		
Has the tightness of the boiler door been checked?		
Safety heat exchanger and thermal outflow protection are connected without a shut-off device?		
Has the operation of the thermal outflow protection been checked? <ul style="list-style-type: none"> <li>• flow pressure</li> <li>• flow</li> </ul>		
Fireplace regulator set to		
Has a return temperature raising system been installed?		
Set the minimum return temperature and check at the boiler return.		
Check the exhaust system, measure exhaust gases and record. <ul style="list-style-type: none"> <li>• Temperature of exhaust gases</li> <li>• Chimney draft</li> </ul>		
Inform the user and provide the technical documentation		
Confirmation of the proper execution of start-up		Company stamp, signature, date

**USER**

<p>Full name or company name: . .....</p> <p>Address: .....</p> <p>Phone number: .....</p> <p>** ) The User confirms:                      - he has been instructed in terms of operation and maintenance                      - he received the Technical and maintenance documentation along with the filled warranty card,                      - during the start-up, there have been no material defects or distortions</p>	<p>Date Legible signature of the User **)</p>
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**CHIMNEY SWEEP ACCEPTANCE**

<p>Company name: . .....</p> <p>Address: .....</p> <p>Phone number: .....</p> <p>PERFORMED SERVICE:.....</p>	<p>Date.....</p> <p>Legible signature.....</p> <p>Authorization No.....</p> <p>Stamp</p>
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**INSTALLATION BY AN ELECTRICIAN**

<p>Company name: . .....</p> <p>Address: .....</p> <p>Phone number: .....</p> <p>PERFORMED SERVICE:.....</p>	<p>Date.....</p> <p>Legible signature.....</p> <p>Authorization No.....</p> <p>Stamp</p>
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**PERFORMED SERVICE**

Maintenance depending on inspections and needs	Date	Date	Date
Checking the general state of the heating system			
Checking and controlling the heating system			
Checking parts with flowing water: <ul style="list-style-type: none"> <li>• tightness during operation</li> <li>• leak tests</li> <li>• visible signs of corrosion</li> <li>• signs of wear</li> </ul>			
Checking heating surfaces and exhaust manifold for dirt, cleaning if necessary. Checking the tightness of the batch doors and combustion chamber doors			
Checking combustion air supply: <ul style="list-style-type: none"> <li>• Does the combustion air hole exist and is it open?</li> </ul>			
Has the thermal outflow protection been checked? <ul style="list-style-type: none"> <li>• Flow pressure</li> <li>• Flow</li> </ul>			
Checking operating pressure <ul style="list-style-type: none"> <li>• Vent the heating system</li> <li>• Check the safety valve</li> <li>• Set the initial pressure of the expansion vessel (technical documentation of the expansion vessel: option)</li> </ul>			
Checking the exhaust system <ul style="list-style-type: none"> <li>• Connection pipe is cleaned</li> <li>• Additional air device is clean and set according to the boiler output</li> <li>• Temperature of exhaust gases</li> <li>• Chimney draft</li> </ul>			
Checking minimum return temperature <ul style="list-style-type: none"> <li>• Set to the correct value</li> <li>• Return temperature at the boiler return</li> </ul>			
Final inspection of maintenance activities, document measurement and test results			
Confirmation of professional inspection	Stamp of _____ the company/signature	Stamp of _____ the company/signature	Stamp of _____ the company/signature



**CHIMNEY SWEEP INSPECTIONS**

Date.....	Date.....	Date.....
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When you run out of place, contact us at [biuro@orte.pl](mailto:biuro@orte.pl)

### **13. EC DECLARATION OF CONFORMITY**



#### **EC DECLARATION OF CONFORMITY**

**ORTE POLSKA SP. Z O.O, ul Słoneczna 1, 96-321 Oddział** confirms that heating boilers Pellet Comfort are in accordance with appropriate directives and standards (and updates).

**Directives:**

2006/95/EC  
2004/108/EC  
89/106/EC  
2006/42/EC

**Applied standards:**

EN 303-5:2012  
ISO 12100 :2012  
IEC 60617  
IEC 61082  
IEC 61346

The CE mark has been granted in 2015 Authorized person signature:  
Pruszków, 30/10/2015