Operating Manual



PELLEMATIC PE 8–32

CMP06 – _TO_ST6.39 Pelletronic TOUCH

ENGLISH



PE 149 EN_TO 1.0

Europe's specialist in pellet heating



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1 Dear Customer

ÖkoFEN is Europe's leading specialist in pellet heating.

Proficiency, innovation and quality combined. This is the tradition on which ÖkoFEN shapes the future. We are very pleased that you too have decided to purchase a product from ÖkoFEN.

- This instruction manual is intended to help you operate the product safely, properly and economically.
- Please read this instruction manual right through and take note of the safety warnings.
- Keep all documentation supplied with this unit in a safe place for future reference.

 Please pass on the documentation to the new user if you decide to part with the unit at a later date.
- Please contact your authorised dealer if you have any questions.

•	-		-

ÖkoFEN attaches great importance to the development of new products. Our R&D Department repeatedly challenges the effectiveness of tried-and-tested systems and works continuously on improvements. In this way, we secure our technological advantage. We have already received many national and international awards for our products. All our products comply with European standards in respect of quality, efficiency and emissions.







2 Use only for the purpose intended

The Pellematic pellet heating system is designed to heat water for central or other indirect heating systems and hot water supply for buildings. It is not permissible to use the Pellematic pellet heating system for any other purpose. Reasonable foreseeable inadvertent uses for the Pellematic heating system are not known.



The Pellematic complies with all relevant directives, guidelines, regulations and standards as part of the declaration of conformity that applies to this type of equipment.

EU guidelines	Designation
2006/42/EG	Guidelines for machines
2006/95/EG	Low voltage guidelines
2001/95/EG	Product safety guideline
2004/108/EG	Guideline for electromagnetic compatibility of components (EMVG)

The following harmonised standards have been applied:

Standards	Designation
EN 303-5	Boilers Part 5
EN 14961-2	Pellets for non-industrial use

The following Austrian standards, guidelines and specifications have been applied:

Standards	Designation
TRVB H 118	Technical directive on fire prevention



3 Types of safety warning sign

The warning signs use the following symbols and text.

Types of safety warning sign

- 1. Risk of injury
- 2. Consequences of risk
- 3. Avoiding risk



1. Risk of injury:

Danger - indicates a situation that could lead to death or life-threatening injury.



Warning - indicates a situation that could lead life-threatening or serious injury.



Caution - indicates a situation that could lead to injury.



Note - indicates a situation that could lead to property damage.

NOTICE

2. Consequences of risk

Effects and consequences resulting from incorrect operation.

3. Avoiding risk

Observing safety instructions ensures that the heating system is operated safely



4 Warnings and safety instructions

Observing safety instructions ensures that the heating system is operated safely.

4.1 Basic safety instructions

- · Never get yourself into danger; give own safety the utmost priority.
- · Keep children away from the central heating room and storage room.
- Observe all safety warnings on the boiler and in this user manual.
- Observe all instructions relating to maintenance, servicing and cleaning.
- The pellet heating system may only be installed and started up for the first time by an authorised plumber. Professional installation and start up is the prerequisite for safe and economical operation.
- · Never make any changes to the heating system or flue gas system.
- Never close or remove safety valves.

4.2 Warning signs



DANGER

Risk of poisoning

Make sure that the pellet boiler is supplied with sufficient combustion air.

The openings in the combustion air inlet must never be partially or completely closed.

Ventilation systems, central vacuum cleaning systems, extractor fans, air conditioning systems, flue gas blowers, dryers or similar equipment must never be allowed to draw air from the central heating room and cause a drop in pressure.

The boiler must be connected tight to the chimney using a flue gas tube.

Clean the chimney and the flue gas tube at regular intervals. The central heating room and pellet storage room must be sufficiently supplied with air and ventilated.

Before entering the storage room it must be ventilated with sufficient air and the heating system switched off.



DANGER

Risk of electric shock

Switch off the system before performing work on the boiler.



DANGER

Risk of explosion

Never burn petrol, diesel, engine oil or other explosive materials

Never use liquids or chemicals to ignite the pellets.

Switch off the heating system before filling the storage room.





DANGER

Risk of fire

Do not store any flammable materials in the central heating room

Do not hang out any washing in the central heating room. Always close the boiler door.



WARNING

Risk of burns

Do not touch the flue spigot or the flue gas tube.

Do not reach into the ash chamber.

Use gloves to empty the ash box.

Do not clean the boiler until it has been allowed to cool down.



CAUTION

Risk of cut injuries due to sharp edges.

Use gloves for performing all work on the boiler.

NOTICE

Damage to property

Heat the Pellematic pellet heating system using pellets that comply with EN 14961-2 class A1 and A2 only.

NOTICE

Damage to property

Do not use the heating system if it, or any of its components, come into contact with water.

If water damage occurs, have the heating system checked by an ÖkoFEN service technician and have any damaged parts replaced.

4.3 What to do in an emergency



DANGER

Risk to life

Never get yourself into danger; give own safety the utmost priority.

What to do in the event of a fire

- · Switch off the heating system.
- · Call the fire brigade
- Use approved fire extinguishers (fire protection class ABC).

What to do if you smell smoke

- · Switch off the heating system.
- · Close the doors leading to living areas.
- · Ventilate the central heating room.



5 Prerequisites for installing a pellet boiler

You must fulfil the following conditions before operating a fully automatic pellet boiler.

5.1 Guidelines and standards for installing a pellet boiler

Overview of standards and guidelines applying to the installation of a pellet boiler.

Check whether you need to obtain planning permission or approval from the authorities for installing a new heating system or changing your existing system. Legislation in your country must be observed.

Flue gas system	EN 13384-1	Legislation in your country must be observed.
Building and fire prevention regulations		Legislation in your country must be observed.
Type of installation	FC 42x	Fireplace with a flue gas fan for connection to an air exhaust system. The combustion air line from air shaft and the connecting piece to the chimney are part of the fireplace.
	FC 52x	Fireplace with a flue gas for connection to a chimney. The combustion air line from outside and the connecting piece to the chimney are part of the fireplace.

5.2 Central heating room

The pellet boiler is installed in the central heating room.

1. Safety instructions for the heating room



Risk of fire

Do not store flammable materials or liquids in the vicinity of the pellet boiler.

Do not permit unauthorised persons to enter the central heating room - children are to be kept out. Always close the boiler door.

2. Air supply and ventilation of central heating room

The central heating room must be fitted with air supply and ventilation openings (at least 200cm²). Legislation in your country must be observed.

3. Combustion air supply

The pellet boiler needs a supply of combustion air. The supply of combustion air can

- a. take place using the air supply and ventilation openings in the central heating room.
- b. **or** through a special air supply line directly from outside, where the diameter of the air supply line must be at least 100 mm for type PE 08 PE(S) 32. Ambient air independent operation of PES 36-56 types is also available.

Never operate the pellet boiler if the air intake openings are partially or completely closed.

Contaminated combustion air can cause damage to the pellet boiler. Never store of use cleaning detergents containing chlorine, nitrobenzene or halogen in the room where the heating system is installed, if combustion air is drawn directly from the room.

Do not hang out washing in the central heating room.

Prevent dust from collecting at the combustion air intake to the pellet boiler.



4. Damage due to frost and humid air

The central heating room must be frost-proof to ensure trouble-free operation of the heating system. The temperature of the central heating room must not fall below –3°C and must not exceed +30°C. The air humidity in the central heating room must not exceed 70%.

5. Danger for animals

Make sure that household pets and other small animals cannot enter the central heating room. Fit mesh over any openings.

6. Flooding

If there is a risk of flooding, switch off the pellet boiler in good time and disconnect from the power supply before water enters the central heating room. You must have all components that come into contact with water replaced, before you start up the pellet boiler again.

5.3 Flue gas system

The flue gas system consists of a chimney and a flue gas tube. The flue gas tube connects the pellet heating system to the chimney. The chimney leads the flue gas from the pellet heating system out into the open.

1. Design of the chimney

The dimensions and design of the chimney is ver important. The chimney must be able to ensure sufficient draft to safely draw away the flue gas regardless of the status of the boiler. Low flue gas temperatures can cause sooting and moisture damage on chimneys that are not insulated. For this reason **moisture-resistant chimneys** (stainless steel or ceramic) should be used. Chimneys made of plastic are not permitted. An existing chimney that is not damp-resistant needs to be rennovated before use.

Boiler size		PE 8	PE(S) 12	PE(S) 15	PE(S) 20	PE(S) 25	PE(S) 32	PES 36	PES 48	PES 56
Flue gas tube diameter (at boiler)	mm	130	130	130	130	150	150	180	180	180
Chimney diameter	as per chimney calculation, EN 13384–1									
Chimney design	damp-resistant									

2. Flue gas temperature

The flue gas temperatures are the same for all boiler types:

Boiler type	PE(S) 8, 12, 15, 20, 25, 32, 36, 48, 56
Flue gas temperature rating	160°C
Flue gas temperature partial load	100°C

The dewpoint of flue gas with wood pellets (max. 10% water content) is approx. 50°C.

It is possible to increase the flue gas temperature to prevent condensation inside the chimney and avoid damage due to damp. Only authorised specialist personnel may increase the flue gas temperature.

Note

The increase in flue gas temperature results in reduced efficiency and thus increases fuel consumption.

3. Chimney draft

The diameter of the chimney must be selected based on a chimney calculation according to EN 13 384–1. The suction effect of the chimney draft must extend as far as the pellet boiler. The maximum flow rate that can be drawn through the chimney limits the maximum performance of the pellet boiler. The boiler performance must be reduced if the chimney does not possess the necessary cross-section. This may only be performend by authorised personnel.





NOTICE

Too strong a chimney draft increases heat loss while idling and reduces the efficiency of the heating system.

We recommend installing a chimney draft regulator. Chimney draft regulators are installed directly into the flue gas tube or chimney.

Legislation in your country must be observed.

4. Cleaning

Clean the flue gas tube and chimney regularly.

NOTICE

Oxidation of chimney

Do not use metal brushes to clean chimneys made of stainless steel.

Legislation in your country must be observed.

5.4 Safety systems

The following safety measures are the prerequisite for safe operation of your system.

Emergency stop switch

Every heating system must be able to be switched off with an Emergency Stop switch. The Emergency Stop switch must be inside the central heating room.



Safety valve

The hydraulic system must be equipped with a safety valve. This valve opens when the pressure inside the heating system increases to max. 3 bar. The safety valve must:



- -be installed at the highest point of the boiler,
- -must not be locked,
- -and must be within 1 metre of the boiler.

Safety temperature sensor

The pellet boiler is equipped with a safety temperature sensor. This is located on the pellet boiler. If the boiler temperature exceeds 95°C then the heating system switches off.



Expansion tank

All heating systems must be equipped with a pressurised expansion tank. The plumber or heating system installer must dimension the expansion tanks according to the dimensions of the hydraulic system.



NOTICE

Starting up

Starting up for the first time has to be performed only by an authorized service technician.

5.5 Operation of a pellet boiler with an existing boiler

There are different regulations in the different European countries. Please mind the prescription of your country.



6 Fuel

Wood pellets are natural wood (dried sawdust or waste from machining) that has been formed into pellets under high pressure. They have a very low moisture content and very high calorific value. The manufacture of wood pellets is regulated by European standard EN 14961–2.

6.1 Specification for high quality pellets as per EN 14961-2, class A1

Calorific value	4,6 — 5,3 kWh/kg 16,5 — 19 MJ/kg
Loose density	min. 600 kg/m³
Water content	max. 10%
Ash content	max. 0.7%
Ash melting point	at least 1200°C
Length	max. 40 mm
Diameter	6 mm
Fine material	max. 1%
Contents	100% natural wood

NOTICE

The heating system is suitable only for pellets of natural wood that comply with standard EN 14961–2 class A1 with a diameter of max. 6 mm. Using non-pelletised fuels or pellets that are not manufactured from natural wood will lead to the warranty becoming void and will cause damage to the pellet boiler and the chimney. Use only quality pellets from Austrian standard approved, DINplus or ENplus approved manufacturers. For more information on fuels, please visit our website at: www.oekofen.com

6.2 Storing the pellets

- 1. Pellets are to be stored in a place where they are kept dry all year.
- 2. Install a back-ventilated partition to prevent pellets from contacting damp walls, or use a fabric tank.
- 3. Refer to our planning hints for pellet storage rooms and warning signs.
- 4. Legislation in your country must be observed regarding building specifications for storage rooms.
- 5. ÖkoFEN also offers FleXILO fabric tanks for storing pellets.



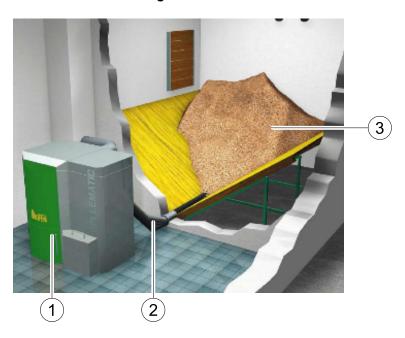
7 Product description

The description of the product is intended to provide an overview of the components that make up an ÖkoFEN pellet heating system, the parts of the pellet boiler and advice on where you can find more information.

The ÖkoFEN pellet heating system consists of 3 components

1	Pellematic pellet boiler			
2	Conveyor system			
3	Storage system – storage room or fabric tank			

Pellet boiler with storage room



Pellet boiler with textile tank





7.1 The Pellematic

The Pellematic is equipped with an automatic cleaning system, an ash box with ash compression system and an integrated return water temperature control. The installed programmable logic controller system enables fully automatic operation and highest efficiency. ÖkoFEN also offers an optional automatic de-ashing system for the highest level of cleanliness and comfort.

Pellematic types and power ratings

ÖkoFEN offers the Pellematic with the following power ratings:

Auger systems:: 8, 12, 15, 20, 25 and 32 kW;

All power rating types are available with an integrated ash box or with an external ash box with automatic de-ashing system.

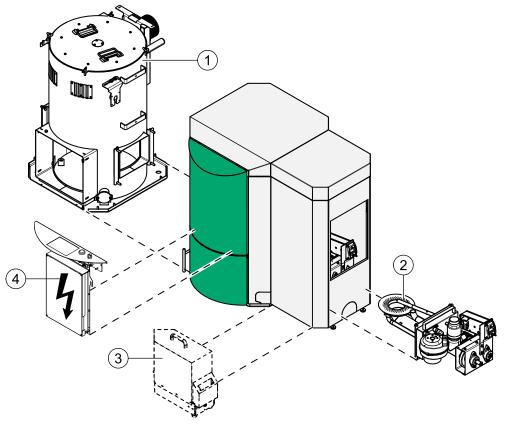




Note

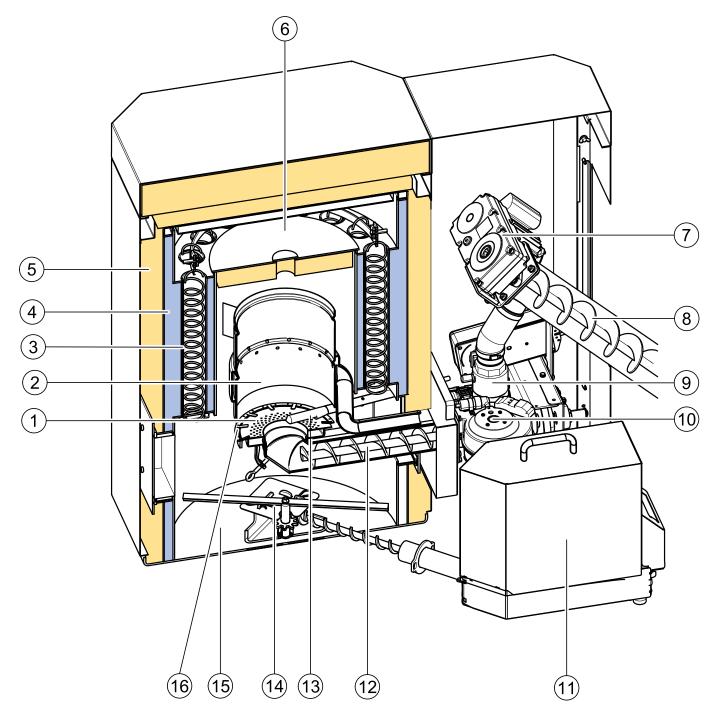
Refer to the data plate for the power rating of your Pellematic. The data plate is located on the rear side of the Pellematic. Here you will find the type designation, manufacturer's serial number and year of build.

Key components of the Pellematic



1	Boiler (heat exchanger)	3	External ash box (optional)
2	Burner	4	Boiler controller





1	Burner plate	9	Anti-blowback system
2	Flame tube	10	Burner fan
3	Heat exchanger	11	External ash box (optional)
4	Boiler water	12	Burner auger
5	Boiler insulation	13	Electronic ignition
6	Combustion chamber cover	14	De-ashing system (optional)
7	Motor fuel transport system	15	Ash chamber
8	Auger	16	Burner plate cleaning system

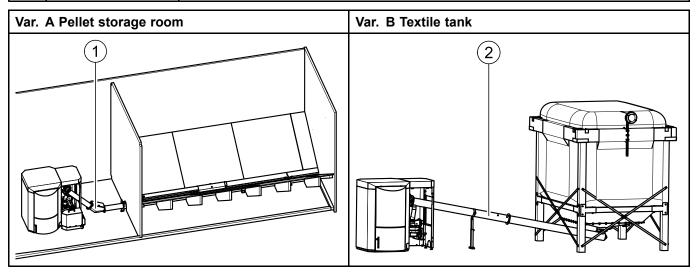


7.2 Auger delivery system

The auger system consists of: Delivery system motor, dropshaft, up leading auger with joint or extraction auger with extraction unit. The delivery system motor powers the auger system and transports pellets from the tank room or textile tank to the burner plate.

Key components of the auger systerm

1	Up leading auger	Delivery auger with motor unit and joint (Connection of delivery auger and pellet boiler)
2	Extraction auger	Delivery auger with auger, Emergency gate, supporting leg and handcuffs; (Connection of textile tank and pellet boiler)



7.3 Storage systems

There are two methods for storing pellets: in a storage room with an auger feed system (version A) or in a FleXILO fabric tank (version B). FleXILO fabric tanks can be located inside the central heating room, storage room or protected from wet and sun outside.

NOTICE

Damage to property and loss of warranty

The combination of an ÖkoFEN pellet boiler with a storage and conveyor system from another manufacturer is not permissible.

7.3.1 Pellet storage room

The auger extraction system is part of the ÖkoFEN pellet heating system. The sloping base is to be provided by the customer. Information and important notes on setting up storage rooms can be found in the ÖkoFEN planning documents and at www.oekofen.com. Information on installing the auger extraction system is included in the auger system installation manual. Refer to the instructions on how to make a sloping base.

7.3.2 FleXILO fabric tank

The whole fabric tank system is included in the scope of supply. ÖkoFEN offers various sizes and types. The fabric tank supplied may vary from the example shown above.

Please refer to the installation instructions supplied for the fabric tank. Note also the instructions on setting up and filling.



8 Operating the Pellematic

The pellet heating system is an automatic heating system. All pellet feed system and combustion system sequences are regulated automatically using an electronic boiler controller and heating controller.

8.1 Operating the heating system

NOTICE

Damage caused do to incorrect operation or incorrect settings.

Only trained operators may use the heating system. Make sure no unauthorised persons enter the central heating room. Keep children away from the central heating room and storage room.



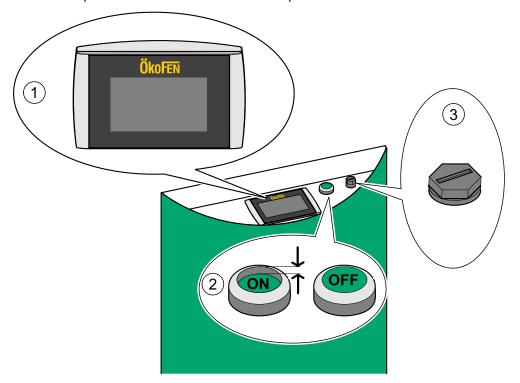
DANGER

Fire risk

Keep the ash removal door closed while the boiler is in operation.

8.2 Description of the control panel

The control panel is located underneath the flap above the door of the boiler.

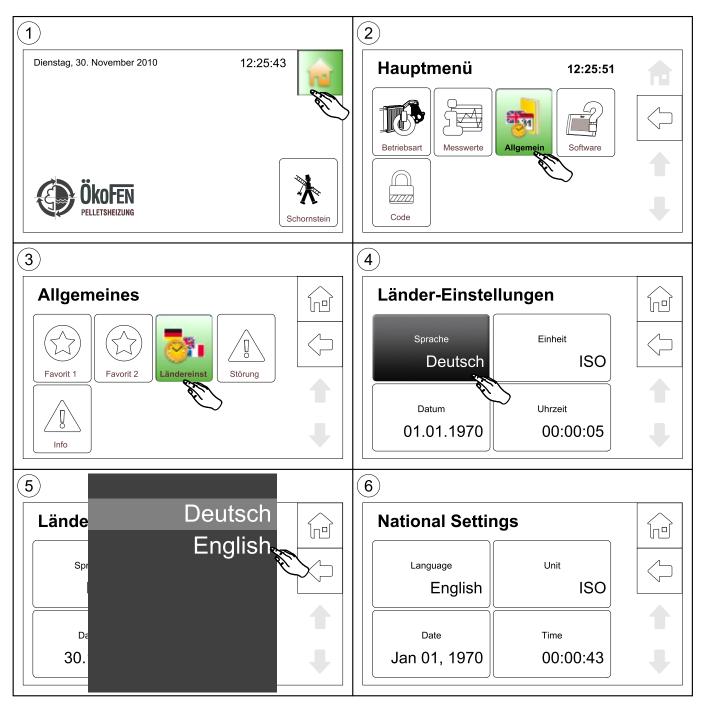


1	User control unit	Operates the boiler controller and the heating controller.
2	Main switch	Switches off the heating system (both poles) including the power supply to the control panel.
3	Safety temperature sensor	Switches the heating system off if the boiler temperature reaches 95°C. The heating controller remains active.



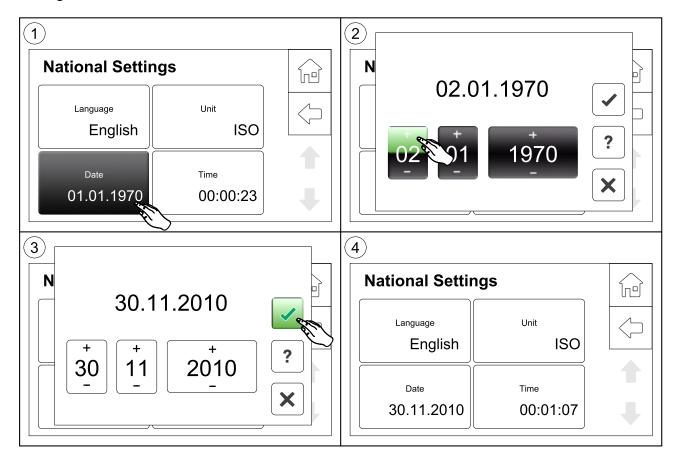
8.3 Setting language, date and time at Pelletronic Touch

Setting the language (The factory setting for the language is German)

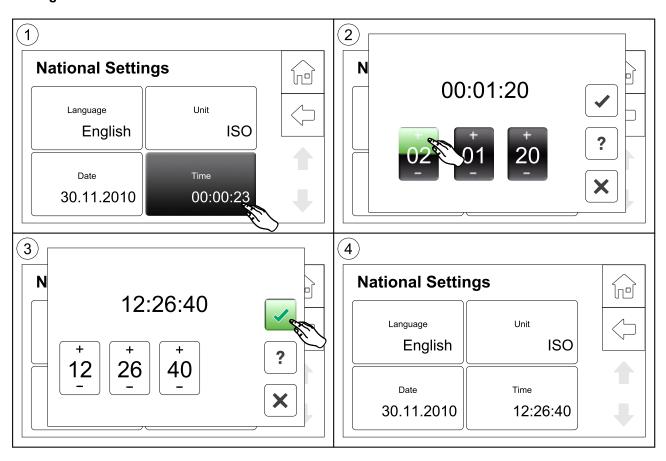




Setting the date



Setting the time

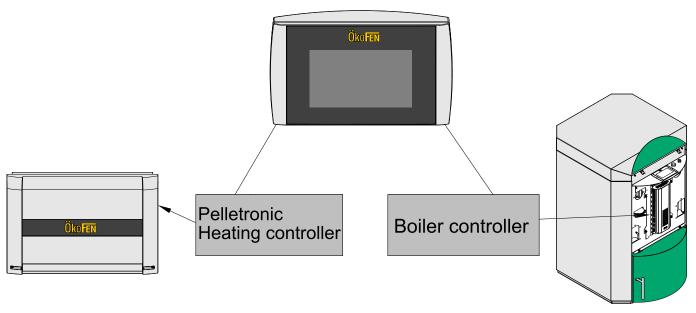


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8.4 Menu configuration

The control unit is used to operate the boiler controller and the heating controller



Note

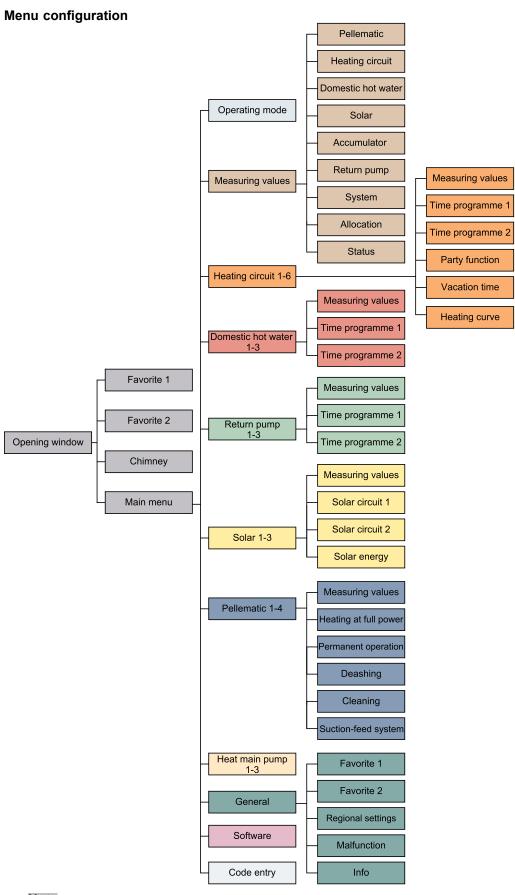
The heating controller menu levels are only enabled if a Pelletronic heating controller is installed.

NOTICE

Damage to property and loss of warranty

Do not change any of the factory settings or settings in the protected parameter level





Note

The heating controller functions are described in the **Pelletronic Plus** instruction manual.



8.5 Emptying the ash pan



CAUTION

Risk of burns

Use gloves.

Do not touch the boiler vessel.



DANGER

Risk of fire

Do not empty ash into a flammable container.

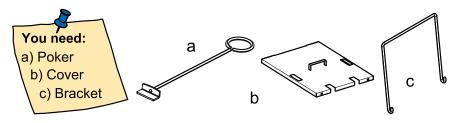
Do not empty ash onto flammable floors or materials.

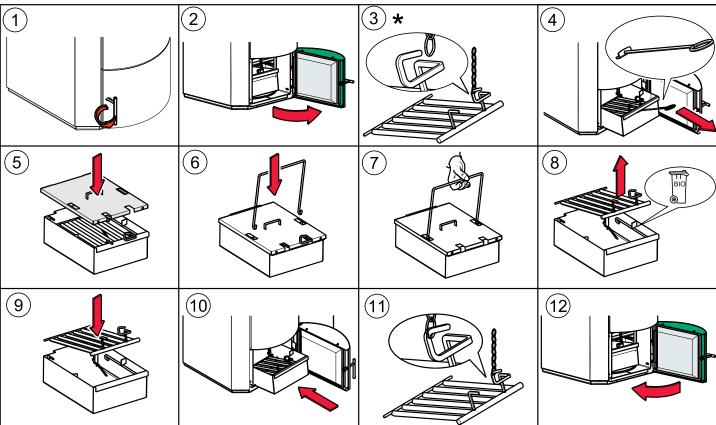
Do not dispose of ash until it has completely cooled down.

Emptying the ash box

Note

Check the level of the ash box and empty it at regularl intervals (at least every 2 weeks). No warning is displayed indicating that the ash box needs to be emptied when it is full (unlike the external ash box)





^{*} No riddle grate for systems with burner plate cleaning system.

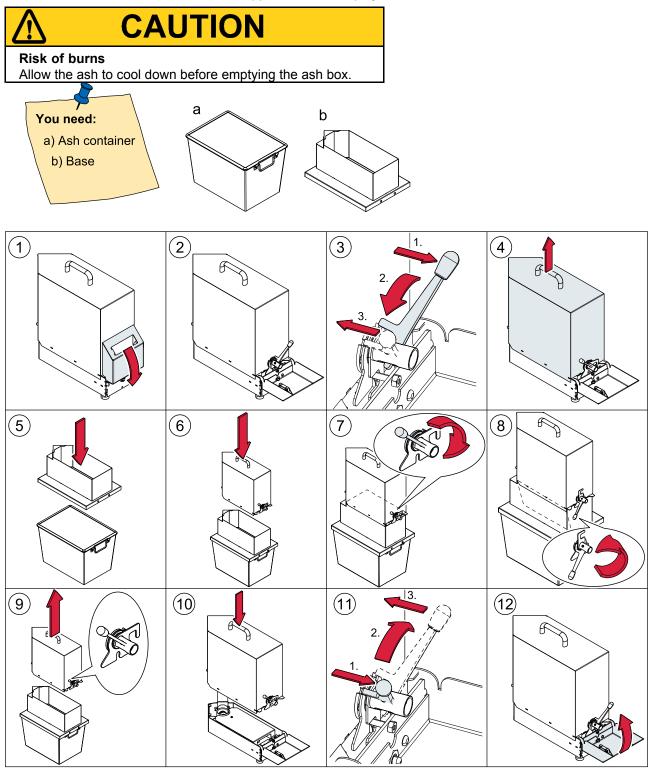


8.6 Emptying the ash box

Only on heating systems with external ash box. ÖkoFEN also offers an optional automatic external ash box. This compresses the ash and reduces the frequency at which it needs to be emptied. It enables the ash to be disposed off without creating dust. Installation is performed by the service technician when the heating system is installed. An external ash box can also be retrofitted.

Note

When the ashbox is full then Ash!!! appears on the display with the alarm text Ash box full



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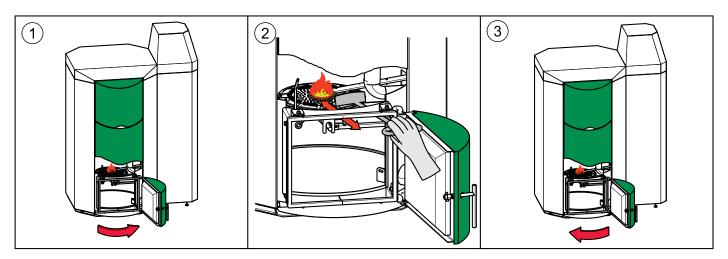


9 Maintenance and servicing

Regular checks of the pellet heating system are a prerequisite for reliable, efficient and environment-friendly operation.

9.1 Maintenance

The maintenance, boiler cleaning and cleaning of flue gas connection it is necessary at least once a year. For PE(S) 36-56 it is necessary in any case at least every 2000 operating hours. Pellets which produces tendentially more slagging (ash melting point <1300 $^{\circ}$ C) and pellets with higher bulk density (> 650kg) leads to additional cleaning of the burner plate at regular intervals.



9.2 Cleaning the boiler every year

NOTICE

The pellet boiler is equipped with an automatic cleaning system that cleans the heat exchanger every day. In addition, you need to clean the boiler manually once a year before the start of the heating season.



WARNING

Risk of burns

Do not clean the boiler until it has been allowed to cool down.

Switch off the heating system at least 6 hours before opening the boiler.

Switch off the main switch before starting any maintenance work on the system.

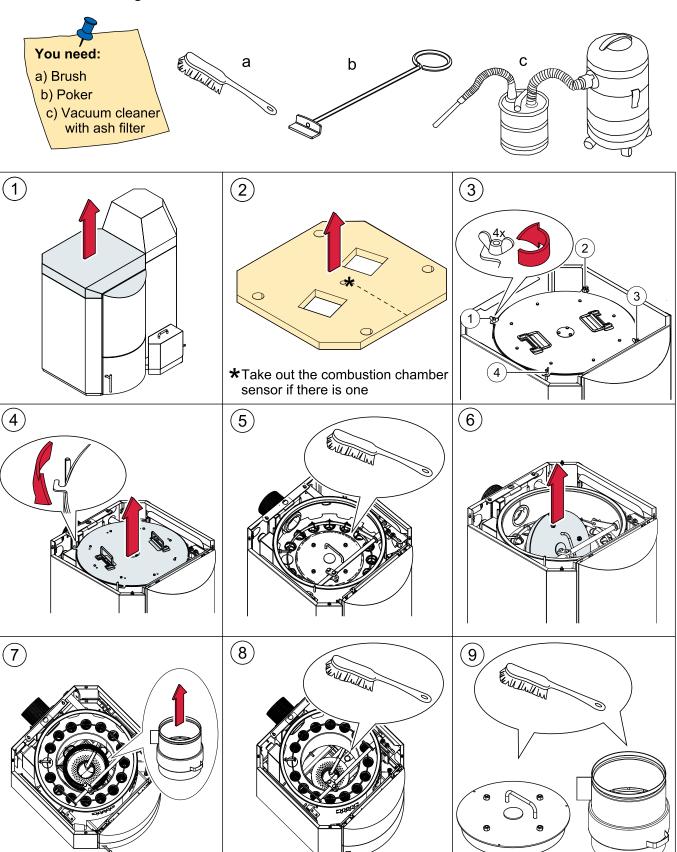


CAUTION

Risk of cut injuries due to sharp edges Use gloves.



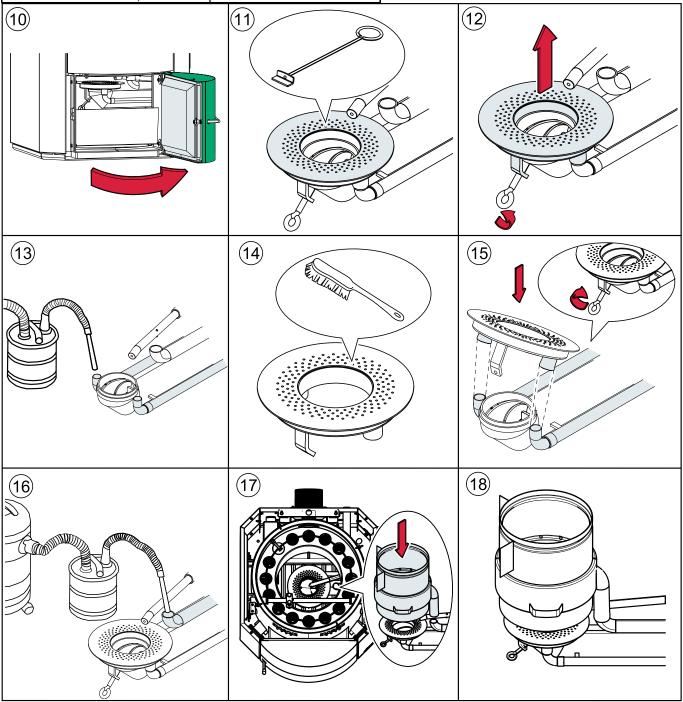
Procedure for cleaning the boiler





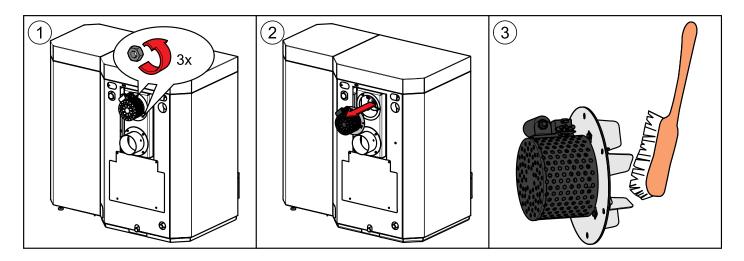
NOTICE

Reduction in boiler performance and damage to pellet boiler due to blockages in the air inlet Clean the air intakes, the burner plate and the flame tube.





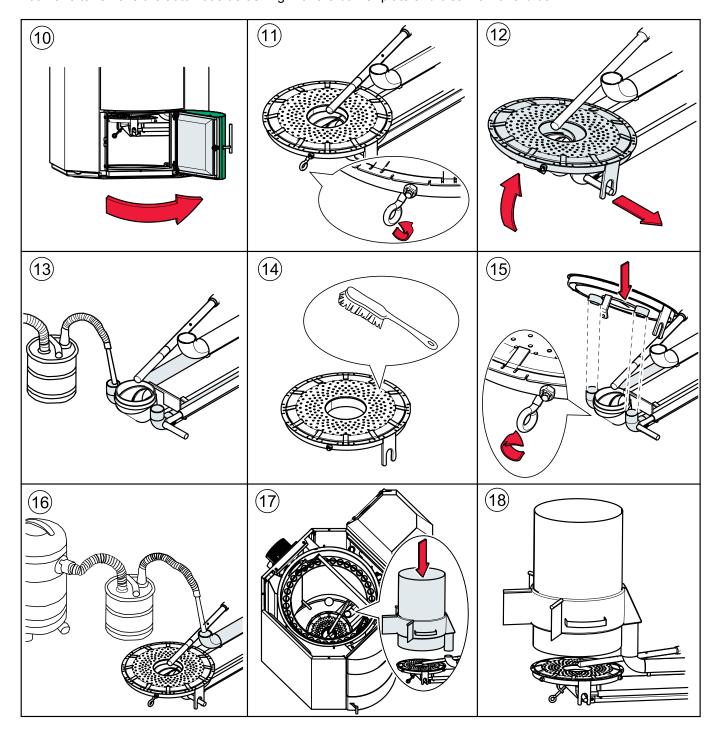
Cleaning the Induced draft blower:





9.3 Automatic de-ashing for 12- 32 kW optional

You have to remove the automatic de-ashing with the burner plate and clean it with a brush.





9.4 Maintenance intervals

In some European countries there are legal obligations applying to maintenance intervals and emission measuring. Contact your authorised dealer.

ÖkoFEN recommends taking out a maintenance contract with your service technician.

9.5 Repairs



Only authorised specialists may carry our repair work on this system. Use original ÖkoFEN spare parts only. Not using original ÖkoFEN spare parts will cause the warranty to become void.

9.6 Checking the central heating room and storage room

Checking the pellet heating system regularly prevents malfunctions and unexpected failure of the heating system.

Central heating room

Make sure that no flammable materials are stored in the central heating room.

Make sure that no washing is hanging in the central heating room.

Check the display on the control panel for malfunctionmessages.

Check the flue gas tube and chimney.

Storage room



DANGER

Risk of suffocation

Ventilate the pellet storage room sufficiently before entering. Switch off the heating system before entering.

Check the level of pellets in the pellet storage room or fabric tank and order more pellets in good time.



10 Malfunctions

This section describes malfunctions, alarm texts and status texts displayed at the pellet boiler

NOTICE

Risk of damage to property

Only authorised specialists may rectify malfunctions.

Differentiation is as follows:

- 1. Malfunctions without alarm text displayed
- 2. Malfunctions with alarm text displayed
- 3. Status text displayed

Note

A detailed description of alarm texts is provided in the instruction manual for electricians and plumbers

1. Malfunctions without alarm text displayed

No text is shown on the display

Cause:	Power supply has been interrupted due to general power failure
	Fault protection switch (FI) or line protection switch tripped
	Main switch or Emergency Stop switch switched off
How to rectify the fault:	Switch on fault protection switch or line protection switch
	Switch on main switch or Emergency Stop switch

The heat system starts up automatically once the power supply has been restored.

Note

Call an authorised service technician if none of the causes described above apply

2. Malfunctions with alarm text displayed

If a malfunction occurs at the heating system it switches off automatically and the relevant alarm text is shown on the display. A detailed description of alarm texts is provided in the Pellematic installation instructions.

Call an authorised service technician to rectify the fault

3. Status text displayed

The display indicates: "Ash!!!" (only on pellet boilers with an external ash box)

The ash box is full. If you do not empty the ash box, the system wil still complete 3 de-ashing sequences. After that the heating system switches off.

The display then shows the alarm text: "Ash box full". Empty the ash box. After you have emptied the ash box, the alarm text is reset automatically and the heat system starts up automatically.





Manufacturer:

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