

Please read carefully prior
to installing and servicing.

SAVE THESE INSTRUCTIONS

Operating Manual

Pellet heating with auger
delivery or vacuum suction
system for the end-user
PELLEMATIC® SmartXS

FA – V2.09

Pelletronic TOUCH

USA



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Subject to modifications

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Note that warranty and replacement part information is included at the end of this manual. For warranty questions, refresher training, or replacement part inquiries (for all replacement parts including those pertaining to emissions control such as gaskets or other), please send an email to info@maineenergysystems.com including the system's address in the subject line. MESys provides replacement parts for installation by certified technicians.

1 Dear Customer

Maine Energy Systems specializes in wood pellet heating.

Our company enjoys an exclusive license from ÖkoFEN to manufacture products here in North America. We represent expertise, innovation and quality.

We are delighted that you have decided to purchase our product.

- This instruction manual is intended to help you operate the product safely, properly and economically.
- Please read this instruction manual completely and take note of the safety warnings.
- Keep all documentation supplied with this unit in a safe place for future reference.
- Installation and first startup must be carried out by a qualified installer certified by Maine Energy Systems.
- The installation must comply with the requirements of the Authority having jurisdiction over the installation.
- Please contact your authorized dealer if you have any questions.



We place great importance on the development of new products. Our R&D department continues to question accepted solutions and works continually on new improvements. That is how we maintain our technological lead. We have already received several awards for our products in Austria and abroad. Our products fulfil European and USA requirements regarding quality, efficiency and emissions.



2 Use only for the purpose intended

The pellet boiler 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 pellet boiler for any other purpose. Reasonable foreseeable inadvertent uses for the pellet boiler are not known.

The boiler fulfills the requirements of UL 2523-18 and CSA B366.1-11 (R2020).
This boiler is intended to be fueled by Pellet Fuels Institute (PFI) Certified Wood Pellets.

3 General information

As require by the United States Departmen of Environmental Protection the following information is given for the:

Smart XS wood pellet fired central heating boiler. Manufactured by Maine Energy Systems, of 8 Airport Road, Bethel, Maine, 04217

- The Smart XS has a thermal output levels from 6 kW or 20,500 btu/h to 18 kW or 61,400 btu/h and complies with EPA 2020 requirements.
- This wood heater has a manufacturer-set minimum low burn rate that must not be altered. It is against federal regulations to alter this setting or otherwise operate this wood heater in a manner inconsistent with operating instructions in this manual.
- Complete installation information is found in the Installation Manual.
- Although operational information is elsewhere in this manual, there are specific concerns for correct operation that can directly affect the emissions profile of this equipment. It is therefore necessary that we mention these important points.
- Fuel loading and selection. Yoour Smart XS is equipped with completely automatic fuel loading. Thus, other than selecting the correct fuel, there are no loading instructions as such. Fuel selection is straight forward.
Only PFI Premium 100% wood pellets should be used in your boiler.
- Amongst the materials that are specifically prohibited to be burned in your Smart XS are: trash, plastics, gasoline, rubber, naphtha, household garbage, material treated with petroleum products such as particleboard, railroad ties, and pressure treated wood.
Burning these materials may result in release of toxic fumes or render the boiler ineffective and cause smoke.
- Your Smart XS pellet fired boiler is completely automatic ignition as well as the loading as before mentioned.
There are therefore no starting procededures to be followed. The boiler correctly starts itself when required by building load.
- There are no user adjustments required for the air controls on your Smart XS.
- It is important to have your Smart XS boiler serviced by a trained professional who is aware of the importance to ensure that there are no inlet air restrictions in or around your boiler's combustion blower. And that the air passages within your boiler are free of debris, (creosote, ash, etc.)
The flue pipe and chimney are also clean and free of debris / restrictions.
And that the combustion chamber door seal is airtight when the door is closed and secured.
- Ash removal is also completely automatic on your Smart XS boiler. Ashes should be placed in a metal container with a tight-fitting lid.
The closed container of ashes should be placed on a noncombustible floor or on the ground, away from all ombustible materials, pending final disposal. The ashes should be retained in the closed container until all cinders have thoroughly cooled.
When cooled ashes can be disposed of on your lawn, garden or local transfer station.
- Your Smart XS is not a catalytic type burner.
- A person or persons responsible for the operation of a hydronic heater must comply with all applicable laws or other requirements, such as State laws or regulations as well as local ordinances.
- A person or persons operating a hydronic heater should be aware that they are responsible for operation in such a manner that does not create a public or private nuisance condition.
The Manufacturer's distance and stack height recommendations and the requirements in any applicable laws or other requirements may not aalways be adequate to prevent nuisance conditions due to terrain or other factors.
- Your Smart XS should be installed with a minimum stack height of 16 feet.
Providing correct draft as given in the Installation manual.
- Draft is the force which moves air from the appliance up through the chimney.

The amount of draft in your chimney depends on the length of the chimney, local geography, nearby obstructions and other factors.

Too much draft may cause excessive temperatures in the appliance and may damage the catalytic combustor.

Inadequate draft may cause backpuffing into the room and 'plugging' of the chimney. Inadequate draft will cause the appliance to leak smoke into the room through appliance and chimney connector joints and an uncontrollable burn or excessive temperature indicates excessive draft.

- The efficiency of your Smart XS in condensing mode, running at full power is >96%. This is the result of a laboratory test and was measured using the HHV of the fuel used.
- You should never operate a combustion appliance of any type in your home without there being a properly installed smoke and CO detector.
Your local fire department usually has good advice on placement of these detectors and how many your home may need for complete coverage.

4 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.



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.



5 Warnings and safety instructions

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

5.1 Basic safety instructions

- Never get yourself into danger; give your own safety top 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 commissioned by an installer that is trained and remains currently authorized by Maine Energy Systems.
- Never make any changes to the heating system or flue gas system. All maintenance, cleaning and changes should only be done by trained professionals.
- Never close or remove safety valves.

5.2 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, fuel storage ventilation fans or similar equipment must never be allowed to draw air from the boiler 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 boiler 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

Always disconnect / de-energize the power supply before working on the boiler.



DANGER

Risk of explosion

DO NOT BURN GARBAGE, GASOLINE, NAPHTHA, ENGINE OIL, OR OTHER INAPPROPRIATE MATERIALS. DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE.

Switch off the heating system before filling the storage room.



DANGER

Risk of fire

Do not store any flammable materials in the boiler room.
Do not hang out any washing in the boiler room.
Do not operate with fuel loading or ash removal doors open.



WARNING

Risk of burns

Do not touch the flue gas connector or flue gas pipe.
Do not reach into the ash chamber.
Do not clean the boiler until it has been allowed to cool down.



CAUTION

HOT SURFACES

Keep children away.
Do not touch during operation.
Do not operate if maximum draft as listed on boiler nameplate is exceeded.
Doing so can allow non-controlled combustion.



CAUTION

Risk of cut injuries due to sharp edges.

Use gloves for performing all work on the boiler.

NOTICE

Damage to property

The pellet boiler is suitable only for pellets which comply with PFI premium or EnPlus -A1 pellets specifications.
The use of any other fuel voids your warranty and can cause damage to the pellet boiler and chimney.

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, check the heating system and replace damaged parts.



WARNING

All cover plates, enclosures, and guards must be maintained in place at all times, except during maintenance and servicing.

5.3 What to do in an emergency



DANGER

Risk to life

Never get yourself into danger; give your own safety top priority.

What to do in the event of a fire

- Switch off the heating system.
- Call your local fire department and / or 911.
- 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 boiler room.

5.4 Installation with an existing boiler

MESys boilers are not to be connected to a chimney flue serving another appliance. However, when all State and local codes allow for the sharing of chimney flues, MESys boilers and another appliance burning pellets or a different fuel can be operated simultaneously while connected to a single existing chimney or flue gas system providing the following conditions are met:

- All state and local codes permit the specific installation.
- All appliances are installed in accordance with the manufacturer's installation specifications or if lacking manufacturers specifications, the appliance in question is installed in a manner commonly recognized as safe and correct for the application and circumstances.
- The chimney or flue gas system must be able to handle the combustion products of either appliance and both appliances when operated simultaneously.

NOTICE

Avoid clearance issues that can make servicing difficult:

Be sure to follow suggested clearances when installing this boiler with an existing boiler to be sure that service and cleaning can be performed adequately.



CAUTION

Avoid code violations:

When connecting to or with an existing boiler, contact the authority having jurisdiction to be sure the type of installation planned is allowed.

Document the type of boiler that the Pellematic is connected to or with.

Pellet boiler: Make and Model number:

Existing boiler: Make and Model number:



DANGER

Possible escape of flue gas:

Do not connect this unit to a chimney flue serving another appliance unless multiple appliances into a single flue is authorized by all authorities having jurisdiction.

Important: Federal, State/Provincial, and Local Regulations, Laws, and Codes must be followed; use of smoke detectors and carbon monoxide monitors are recommended in accordance with applicable statutes.

6 Prerequisites for installing a pellet boiler

The following must be fulfilled before the installation and operation of a fully automatic pellet boiler.

6.1 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.

6.2 Installation room

The installation room of the Pellematic Smart XS is not necessarily a boiler room. Observe the applicable national and regional regulations.

1. Safety warnings for the installation room

	DANGER
<p>Risk of fire Do not store flammable materials or liquids in the vicinity of the pellet boiler. Do not permit unauthorized persons to enter the boiler room - Keep children away. Do not operate with fuel loading or ash removal doors open.</p>	

2. Ventilation of the installation room

The installation room must have air inlet and outlet openings for ventilation, even if there is a direct connection to the burner for combustion air.

This is to keep the combustion zone at a neutral pressure.

3. Admission of combustion air, the pellet boiler requires combustion air. The combustion air can be supplied by:

- a. Relying upon the boiler room air as supplied by the air inlet and outlet openings for ventilation in the installation room.
- b. Independently of the room air via a separate air intake line with a direct connection to the outdoor atmosphere.
 The air intake line must not follow the sewage pipe. The diameter of the air intake line must be at least 4 inches. If the air line is greater than 12 feet in length, or if it has more than 270 degrees of turns, then it should be increased in size to 5 inch.

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 or 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. Be particularly cautious around swimming pools and chemicals.

Do not hang out washing in the boiler room.

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

4. System damage due to frost and humidity

The temperature in the installation room must not drop below 38°F and must not exceed +86°F. The relative humidity in the installation room must not exceed 70%.

5. Danger for animals

Prevent pets and other small animals getting into the installation room. Install grilles over all openings.

6. Flooding

In the event of a flooding risk, switch off the pellet boiler and disconnect it from the main power supply

before water enters the boiler room. All components that come into contact with water must be replaced before the pellet boiler is put into operation again.

6.3 Flue gas system

The flue gas system consists of the chimney and flue gas tube. The connection between pellet boiler and chimney is the flue gas tube. The chimney directs the flue gases produced from the pellet boiler into the atmosphere.

1. Design of the chimney

The dimensions and form of the chimney are critical to proper system function.

The chimney must ensure a sufficient negative draft in all operating states of the boiler for reliable discharge of the flue gases.

Low flue gas temperatures result in the formation of condensation.

Moisture-resistant chimneys of stainless steel or ceramics must therefore be used. Chimneys made from plastic are fundamentally not permitted for pellet heating systems.

An existing chimney that is not moisture resistant must be modified accordingly. The flue gas tube must be of stainless steel.

The joints must be oriented correctly and sealed to prevent the escape of condensation.

Installation without barometric control / draft controller is advised.

Chimney diameter	5 inch. And in accordance with chimney calculation method EN 13384-1
Chimney design	Moisture tollerant

Note:

Use a draft gauge to verify the indicated draft value. Drill a small hole in the connection pipe at about 2in/ 50mm from the boiler flue outlet and use this hole as your measuring point.

2. Connection pipe

NOTICE
The flue gas line has to include a cleaning port and a flue gas test port.

Note:

Keep accessibility and cleaning in mind when laying out and planning the flue pipe location and orientation.

Flue pipe connection at boiler (ID)	5.19 inches - (compatible with 5 inch)
Maximum length of flue pipe	13 feet or local regulations
Temperature rating	T-400
Tightness class	N1 or P1 as per chimney calculation yet generally condensate-proof - Use of seals recommended
Execution	stainless steel version, condensate-proof -(use of seals recommended), moisture- and corrosion-resistant

3. Flue gas temperature

Boiler-type	PESmart
Flue Gas Temperature FGT Power rating	113-176° F

The condensation temperature of flue gas of wooden pellets (max. 10% water-content) is on average 122° F.

4. Chimney draft effect

By reference of a chimney calculation according to EN 13 384-1, the diameter of the chimney has to be chosen and the system has to be checked for enough chimney draft. If the flue gas line conforms to the requirements above, the Pellematic Smart XS can also perform in over pressure up to +.02 inches WC, to overcome the resistance in the flue system.

It is imperative that all connections, from the boiler to atmosphere are completely tight to any leakage.

Cleaning

Clean the flue gas tube and chimney regularly. Solid fuel burning appliances need to be cleaned frequently because soot, creosote, and ash may accumulate.

The hotter the fire, the less creosote is deposited. Cleaning intervals can vary in warm periods due to this and become more frequent.

NOTICE

Oxidation of the chimney

Do not use metal brushes to clean stainless steel chimneys and flue gas tubes.

Observe the applicable national regulations.

5. Cleaning of the syphon / drain catch

Cleaning of the catch in the condensate drain pipe is the last work step. Cleaning of the syphon prevents clogging of the waste water pipe. Dismantle all the parts of the waste water line, clean and assemble again.

Information to help interpret the above information:

Temperature Class (T400) are rated for 500 degrees C or 932 degrees F.
Pressure Class (N1, N2, P1, P2, H1, H2)

The Pressure Class relates to the product's suitability and gas tightness when used on positive (P) or negative (N) draught applications and is further classified as to the degree of leakage allowed with either a 1 or 2, with 1 having the tightest leakage rate.

For most solid fuel applications where the chimney operates under negative draught conditions, an N1 designation would be common. The N1 designation requires the chimney to meet a leakage rate of less than 2.0 l.s-1.m-2 at a test pressure of 40Pa over the surface area of the chimney system.



DANGER

Risk of chimney fire

Creosote-formation and need for removal: Low flue gas temperature can cause creosote. Creosote can condense in a relatively cool chimney. As a result, creosote residue accumulates on the flue lining. If ignited, this creosote will create an extremely hot fire. The chimney and the chimney connector should be inspected at least twice monthly during the heating season to determine if a creosote buildup has occurred. If creosote has accumulated it should be removed to reduce the risk of a chimney fire.

6.4 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 location is determined by your local code requirement. It should remove all electrical power from the boiler.



Safety valve / Over Pressure Relief Valve

This valve opens when the pressure inside the heating system increases to max. 43.5 PSI. For North America, a 30 PSI Relief Valve is supplied with each boiler. This valve must not be locked out or plugged and must be within 3 feet of the boiler, with no valves between the relief valve and boiler.



Low Water Detection

The "Low Water Detection" device is connected to the Emergency Stop of the boiler. Should a low water condition be detected, the boiler stops firing immediately. This device must be of the manual reset variety.



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 230° F, then the heating system switches off.



Expansion tank

All heating systems must be equipped with an expansion tank. The overall size of the heating system volume will dictate the required expansion tank size.



NOTICE

Initial start-up

The initial start-up of each MESys boiler must be performed by an authorized installer.

7 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 ISO 17225-2.

Fuel Property	PFI Premium
Normative Information - Mandatory	
Bulk Density, lb./cubic foot	40.0 - 46.0
Diameter, inches	0.230 - 0.285
Diameter mm	5.84 - 7.25
Pellet Durability Index	≥ 96.5
Fines, % (at the mill gate)	≤ 0.50
Inorganic Ash, %	≤ 1.0
Length, % greater than 1.50 inches	≤ 1.0
Moisture, %	≤ 8.0
Chloride, ppm	≤ 300
Heating Value	NA
Informative Only - Not Mandatory	
Ash Fusion	NA

7.1 Specification for high quality pellets as per EN ISO 17225-2, class A1 and by PFI standards in North America

Calorific value	≥ 4,6 kWh/kg or ≥ 16,5 MJ/kg
Loose density	min. 600 kg/m ³
Water content	max. 10% Specification for high quality pellets as per EN ISO 17225-2, class A1
Ash content	max. 0.7%
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 ISO 17225-2 class A1 with a diameter of 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 that are DINplus or ENplus or PFI premium Certified.

7.2 Distance to flammable materials

Observe the country-specific regulations, Local Regulations or NFPA.

7.3 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.

7.4 Measures for the ventilation of storage rooms

To avoid any kind of danger through possible degassing of the pellets, make sure you obey the following guidelines:

- The storage room has to be insulated towards the living area.
- The storage room has to be ventilated to the outdoors.

For further information please consult your expert adviser.

8 Product description

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

8.1 Function description

The PELLEMATIC Smart XS heating system combines water heating and hot water storage.

Pellets are charged either manually or via the suction system from the storage location into the hopper, and from there via the backfire safety device to the drop stage.

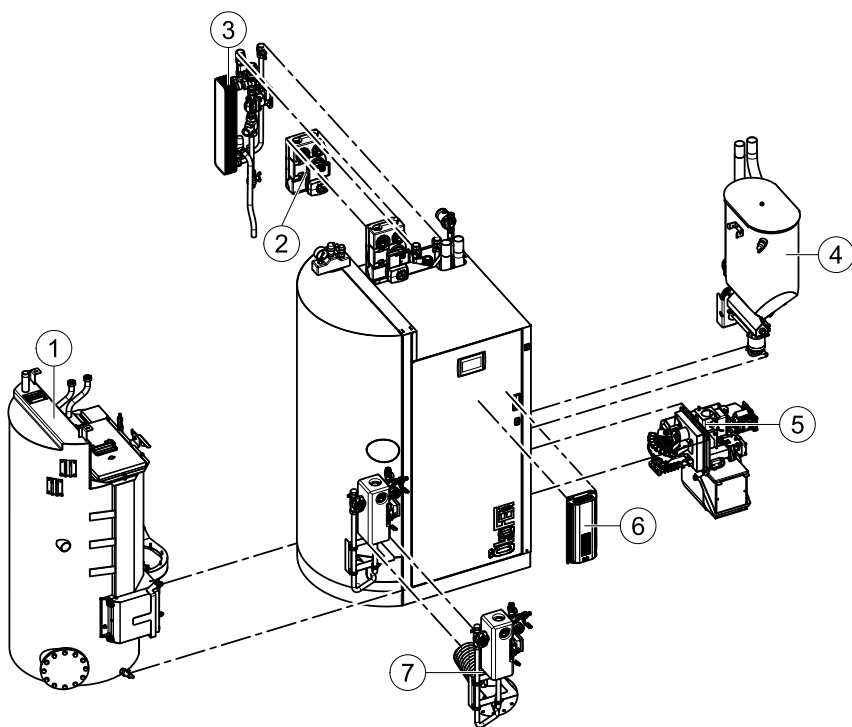
The burner auger transports the pellets to the burner plate where the heater rod heats them until they ignite. The ignition is monitored on the basis of the combustion chamber temperature and switches off once the pellets have ignited.

The fuel and combustion air volume are preset and the vacuum in the combustion chamber is controlled by means of the flue gas fan. After rising up in the flame tube, the combustion gases are passed down through the heat exchanger and via the flue gastube and the chimney into the atmosphere.

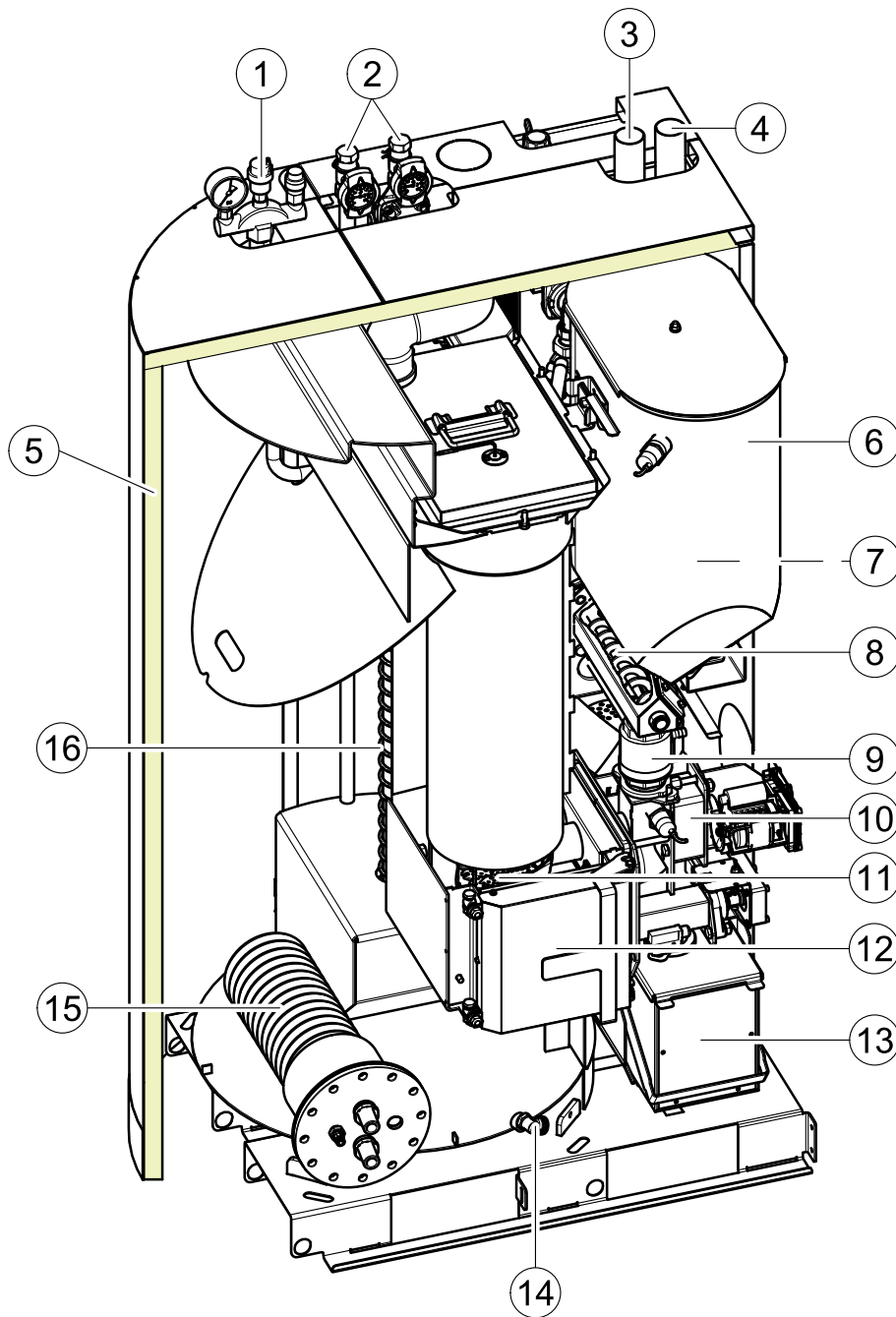
The heat exchanger is cleaned automatically with the cyclically activated cleaning spring in the heat exchanger. The ash collects underneath the burner plate and is transported by the ash auger into the ash bin.

The combustion chamber and heat exchanger are insulated on the outside. The Pellematic Smart XS has approximately 4 inches of insulation inside the cladding.

The main components of the PELLEMATIC Smart XS



1	Combination tank with modular interior fittings, heat exchanger and mounting of the hydraulic connections	5	Burner with burner plate, electric ignition and ash bin
2	Pump group - Not currently used in North America	6	Boiler controller / FA
3	Fresh hot water module	7	Solar heat exchanger / (Optional)
4	Hopper with vacuum turbine and connection for the pellet hoses, backfire safety device		



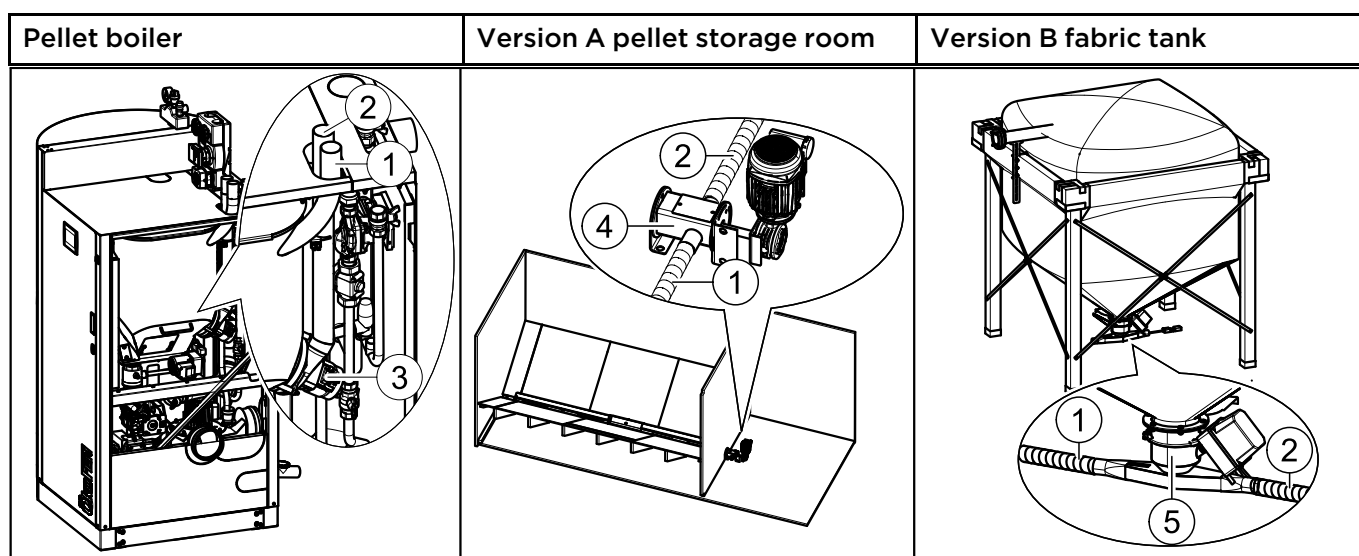
1	Air Out & possible location for Pressure Relief Valve	7	Vacuum turbine	13	Ash bin
2	Supply and Return	8	Delivery auger	14	Drain valve
3	Air hose	9	Flame return gate	15	Optional Solar Coil
4	Pellet hose (suction system)	10	Burner	16	Cleaning system
5	Heat insulation	11	Burner plate		
6	Storage tank	12	Combustion chamber door		

8.2 Pellet suction system

The pellet suction system consists of the pellet hose, air hose and a suction turbine. The suction vacuum turbine in the hopper conveys pellets in the pellet line from the storage room or fabric tank to the hopper.

Key components of pellet suction system

1	Pellet- Suction hose	Line from the storage room auger or fabric tank to the hopper.
2	Pellet- Return air hose	Line from the suction fan to the storage room auger or fabric tank.
3	Suction fan / Vac turbine	Located beside the hopper behind the Pellet boiler burner housing.
4	T-piece at end of storage system auger	Located at front end of the storage room auger, outside the storage room.
5	Suction Metering Switch	Located underneath the fabric tank.



8.2.1 Assembly of the vacuum system

The pellet hose and the air hose are flexible spiral hoses made out of plastic. A copper braid embedded in the hose dissipates static charge when properly grounded.

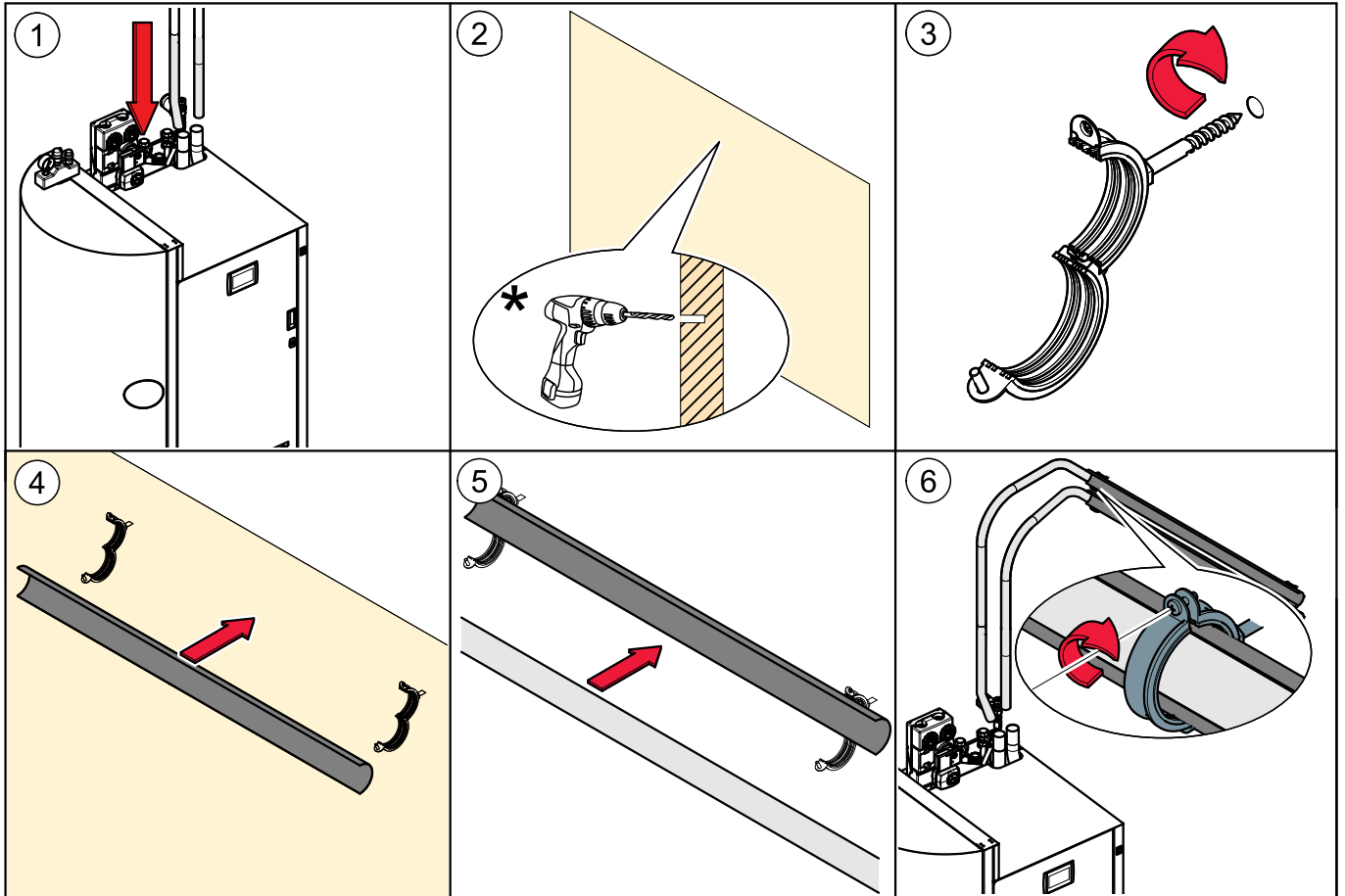
Assembly guidelines

- **Bending radius:** The hose should be as short as possible and with as few curves as possible. Bending radius may never be smaller than 12 inches.
- **Vertical Lift:** Max difference in height = 10 feet. A difference in height of up to 10 feet can be overcome at one time. Larger differences in height must be interrupted with a minimum 4 foot flat section of hose for the pellets.
- **Impact protection / Velocity Control:** The spiral hose can be run no more than 13 feet in a straight line. Small bends particularly in front of curves reduce the abrasion of the spiral hose by controlling pellet velocity.
- **Installation in the soil and openings:** When burying hose in the ground, it must be inside a protective pipe such as electrical conduit that is 4 inch in diameter. This pipe must be sealed and may not make any arc more than 15°.
- **Hose to be Air Tight:** For trouble free operation, the vacuum system must be 100% air tight at all connections! All connection points must be secured with a hose clamp.
- **Grounding:** The hoses are provided with a copper braid which helps the hose dissipate static charge. In order to ensure this function, copper braid must be connected to a known ground point at each end.

- **Fire protection:** At each wall penetration of the pellet hose, be sure to comply with local building code regulations.
- **Crossing:** Please make sure that you cross the hoses as few times as possible.
- **Length of the pellet hose:** The maximum length for pellets hose and air hose are each 66 feet.

Assembly

Use securing clips and carrying bowls.

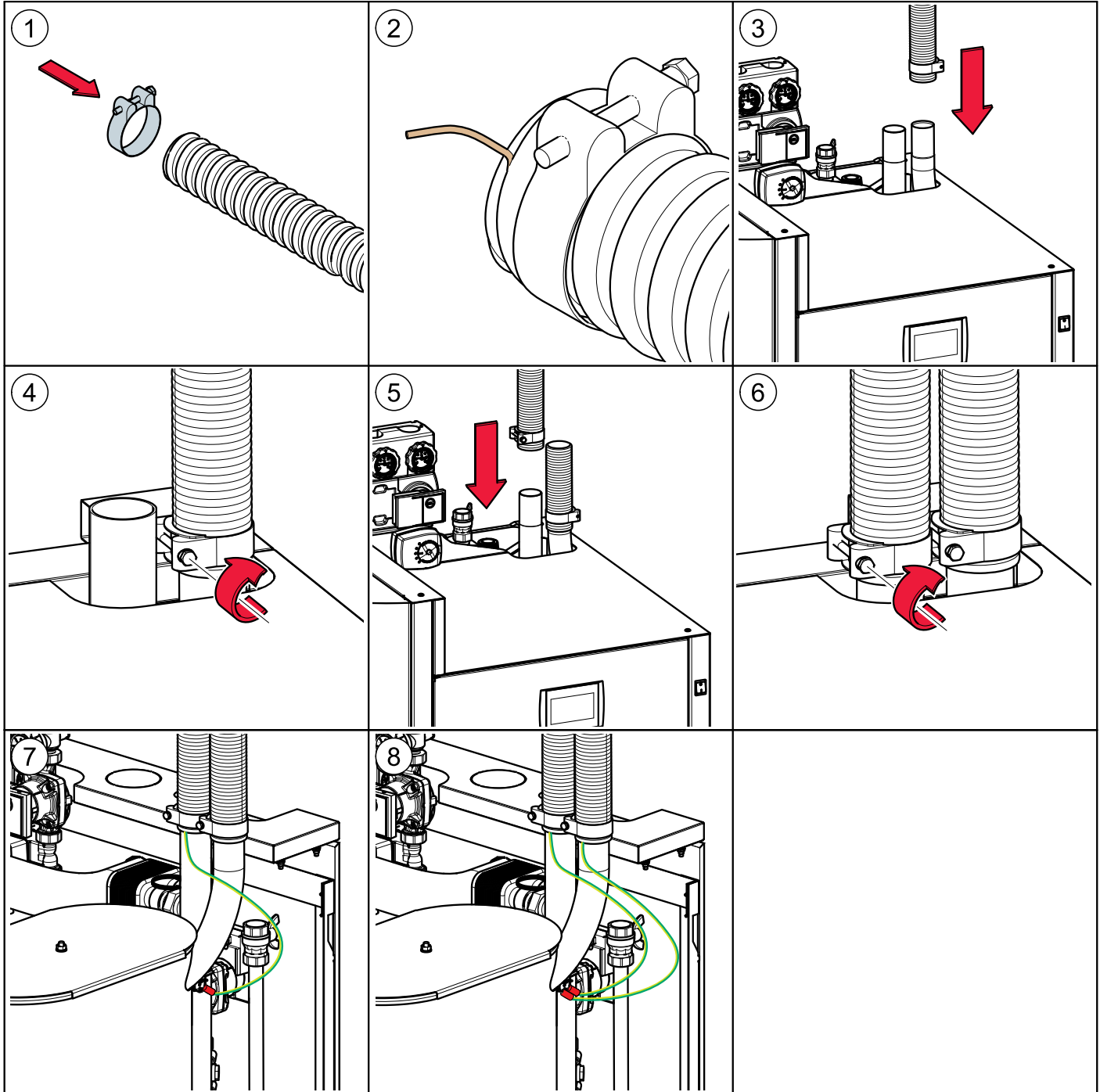


**Pay attention to the defined distances!

	1	Hose	
	2	Clip	
	3	Carrying bowl	

Note:
Impact protection by swirling of the pellets.

Connection of the pellet and air hose to the suction turbine



8.3 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 use of an MESys boiler with a storage or conveyor system from another manufacturer is not permissible and will result in voiding your warranty along with undependable operation.

8.3.1 Pellet storage room

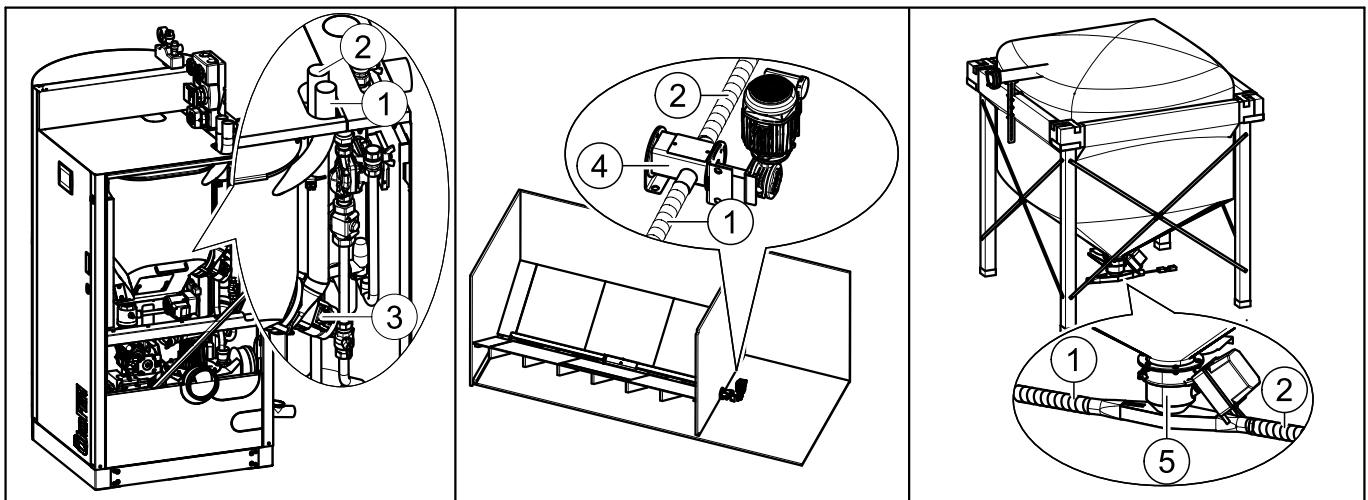
The auger extraction system is part of the MESys pellet heating system. The sloping base is to be provided by the customer. Information and important notes on setting up storage rooms can be found in the MESys planning documents and at www.oekofen.com.

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.

8.3.2 Flexilo fabric tank

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

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



NOTICE

DAMAGE TO PROPERTY

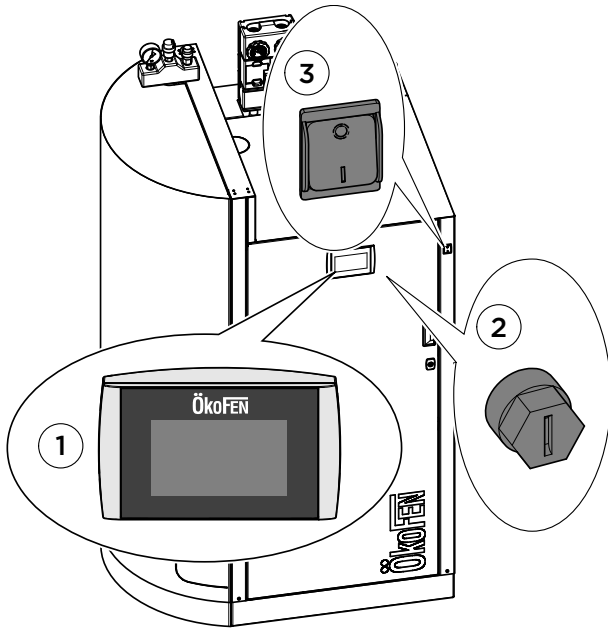
Fans should not be used to ventilate the storage room or boiler room. The use of passive ventilation is required, or the use of a sophisticated system that balances outside and inside pressure in the boiler

9 Operating the Pellematic Smart

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.

9.1 Description of the control panel

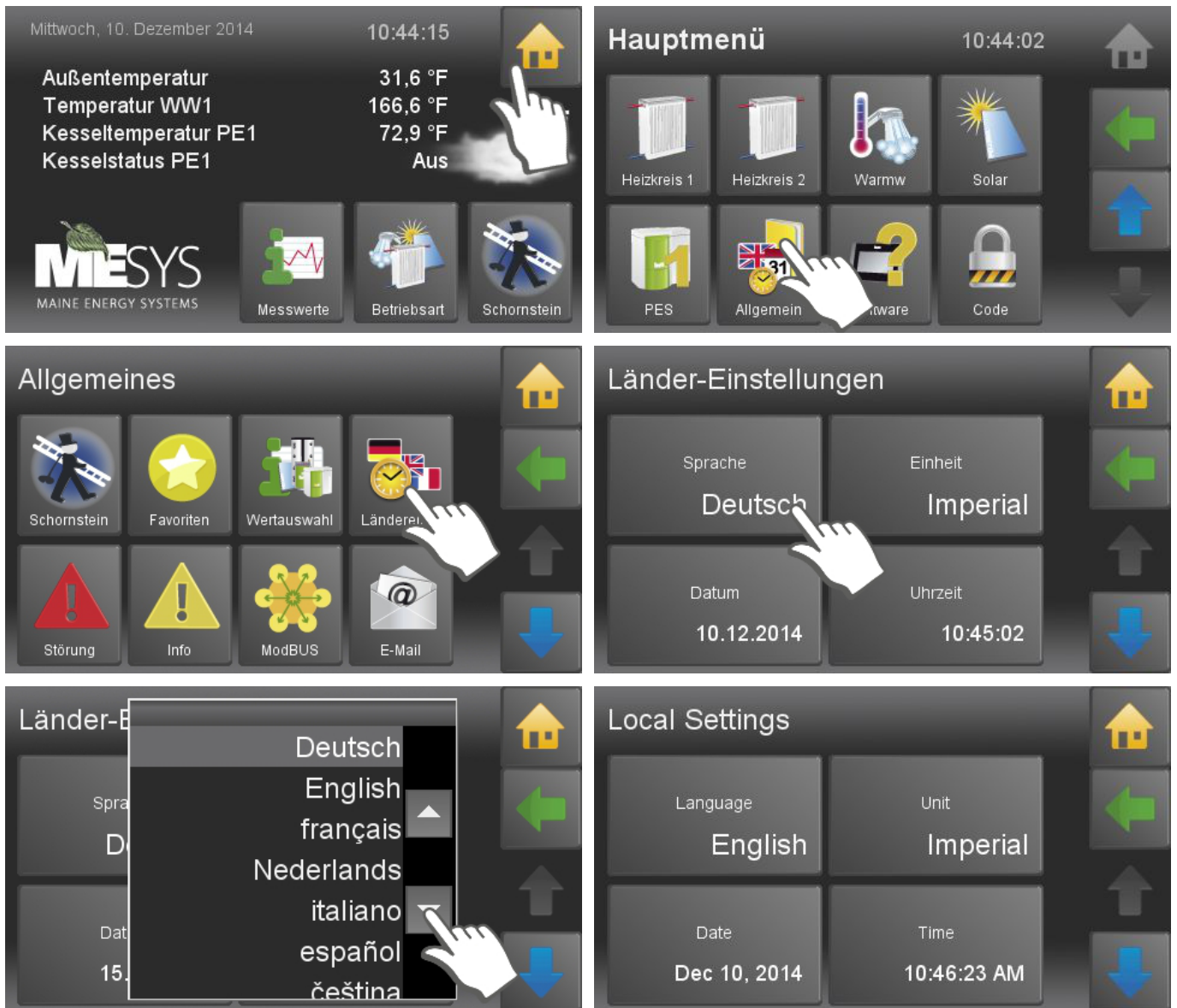
The control panel is located in the boiler front cover.



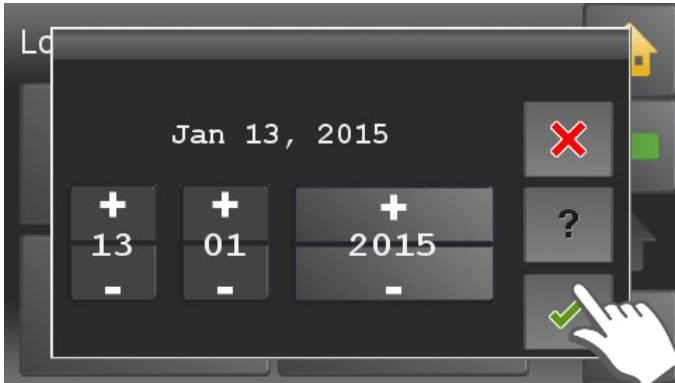
1	User control unit	Operates the boiler controller and the heating controller.
2	Main switch	Switches off the heating system (both poles) including the power supply to the control panel.
3	Safety temperature sensor	Switches the heating system off if the boiler temperature reaches 230° F.

9.2 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

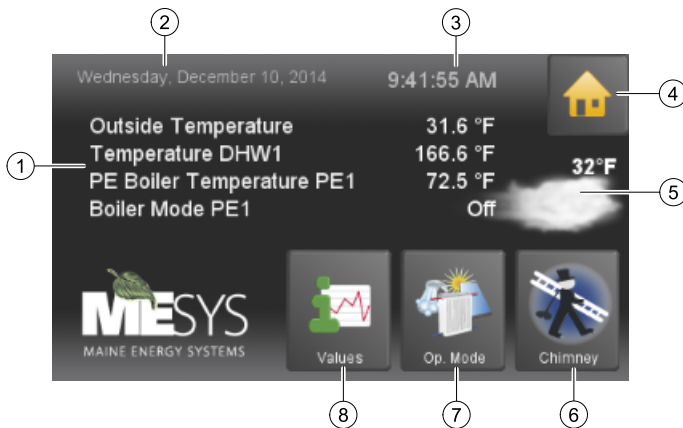


10 Operating Device with Touch screen

The Touch operating device is mounted on the control board of Pellematic. The 4.7" color display is surrounded by a foil design with logo. With finger pressure you make settings on the Touch operating device.

10.1 Opening window

The touch panel is dark during in standby mode. As soon as you touch the surface of the touch, light turns on and displays the opening window.



- 1 Measuring values (adjustable)
- 2 Date
- 3 Hour
- 4 The icon house takes to the main menu
- 5 Weather
- Note:**
If there is a malfunction, the corresponding fault message is displayed at this point instead of the weather icon
- 6 Favorite 1 (adjustable)
- 7 Favorite 2 (adjustable)
- 8 Favorite 3 (adjustable)

10.2 User controls and their function

1. Navigation-icons

Icon-view

If you touch an icon, the icon turns green. The green shows that you are currently on this icon. You get to the enabled menu item .

The yellow house enters you directly to the main menu.



The horizontal arrow leads you one step back.



With the blue down arrow you get to additional lines of information on this item. (Down - scroll down).

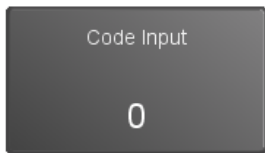


With the blue up arrow you get to additional lines of information on this item. (Top of page - scroll up)



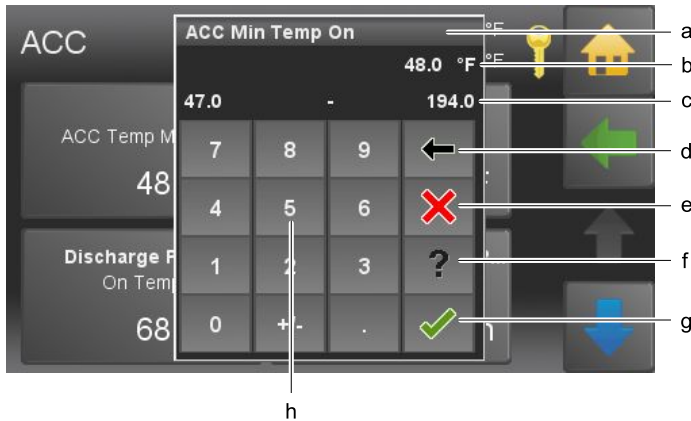
You get to the respective menu item.





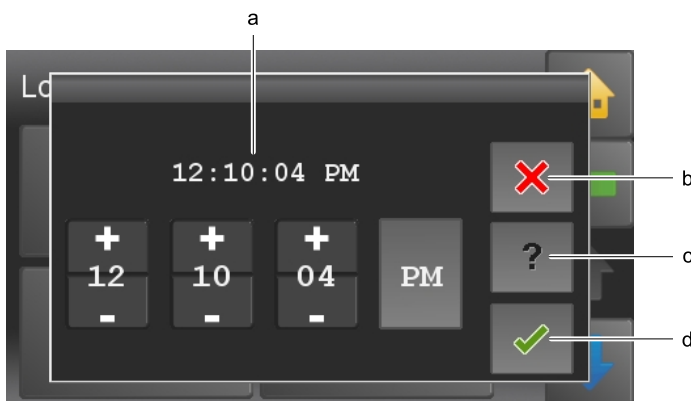
You get to the settings of the parameter. You come either to a numeric keypad, a time / date block or the text selection.

2. Numeric keyboard



- a. Name of parameter
- b. Value of parameter with unit
- c. Min/max value - Values outside this range are not accepted.
- d. Delete input of numbers - per contact you delete one place.
- e. Cancel - You return to the menu item. Input of a new value was not accepted. The original value is.
- f. Help function - inactive
- g. Confirm
- h. Numeric keyboard - used to enter values within the min - max range.

3. Time and date block



- a. Adjustable time or date
- b. Cancel
- c. Help function - inactive
- d. Confirm



With the Plus Minus block you change numbers.

4. Text selection



- a. Name of parameter
- b. Status texts
The number of status texts depends of the parameter.

Choose a status text. The setup menu closes automatically and the chosen status text is displayed in the menu.

Note:

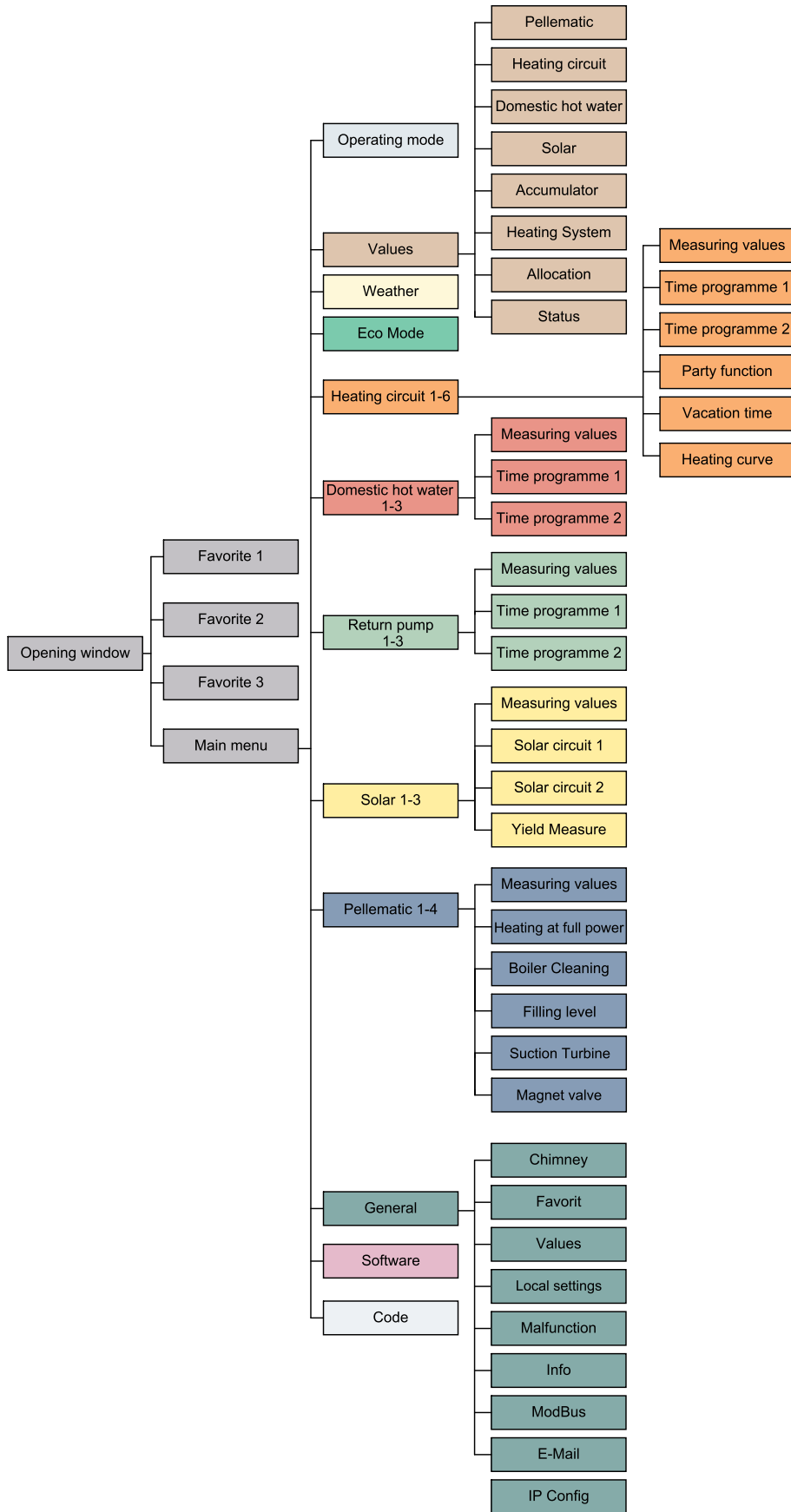
Although a scroll down menu is open, the navigation icons, menu items and parameters behind are active and by touching them it takes you directly there.

10.3 Main Menu

In the Main menu you see all submenus. By finger pressure on an icon you reach the respective submenu.



Menu navigation of Pelletronic Touch

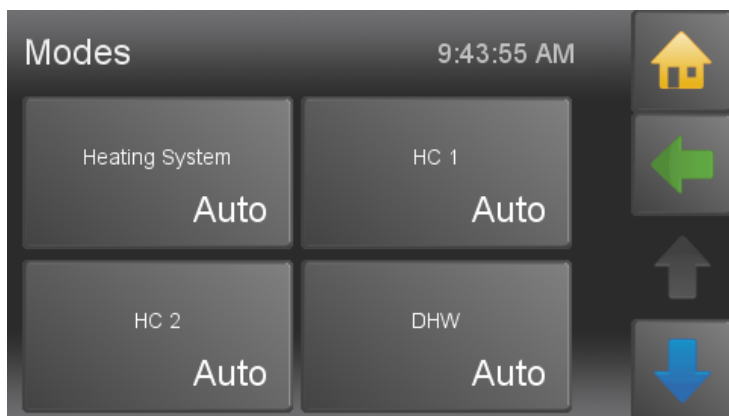


11 Mode

In the menu item Mode you can see the mode of your heating system and the mode of the heating circuits, domestic hot water and solar.



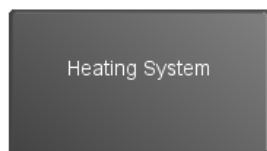
The menu item **Mode** is in the Main menu.



Overview of the operating modes

- Heating Plant
- Heating system 1-6 .
- Domestic hot water 1-3
- Solar 1-3

Choose the operating modes and make settings.



Off The adjusted operating mode of the heating circuits and DHW is inactive.
The frost protection function is active.

Auto The adjusted operating mode of the heating circuits and DHW is active.
The frost protection function is active.

DHW The adjusted operating mode of the DHW is active.
The adjusted operating mode of the heating circuits is active.
The frost protection function is active.

The operating mode heating circuits, domestic hot water and solar are described in the respective chapters.

12 Measuring Values

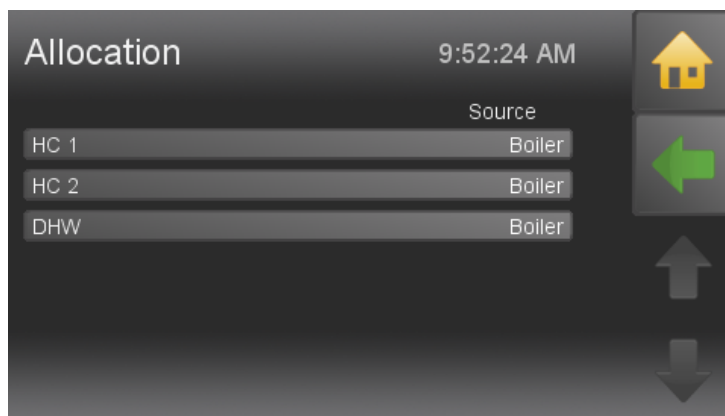
In the menu item of Measuring Values you see all actual and set values of your heating system.



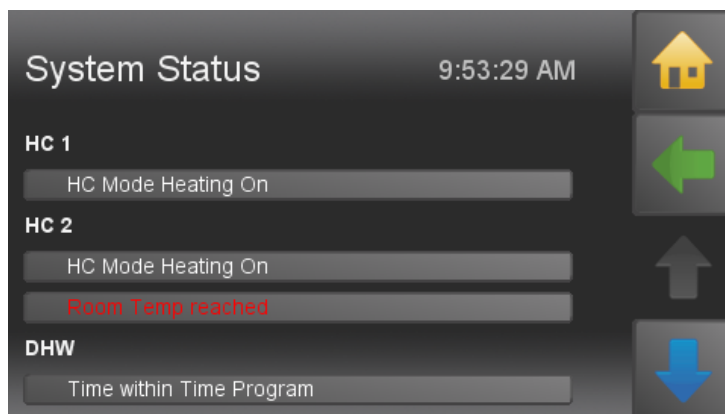
The menu item **Measuring Values** is in the Main menu.



- Pellematic
- Heating circuit
- Domestic hot water
- Solar
- Accumulator
- Return pump
- Heating Plant

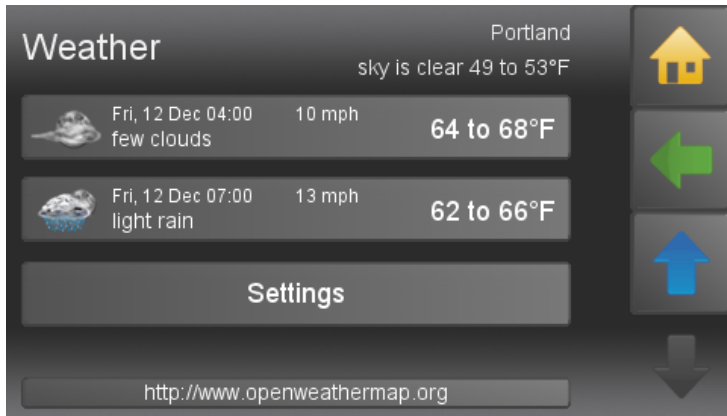



In the menu item **Allocation** you see which heating circuits are allocated to the boiler or to the accumulators.



In the menu item **Status** you always have an overview about the whole heating system.

13 Weather



Choose **Settings** (), to enter your location.



Enter location and country. If the specified location is not found, enter a larger, nearby place.

Search with the following details:

- Postal code, location, country
- Postal code, country
- Location, country

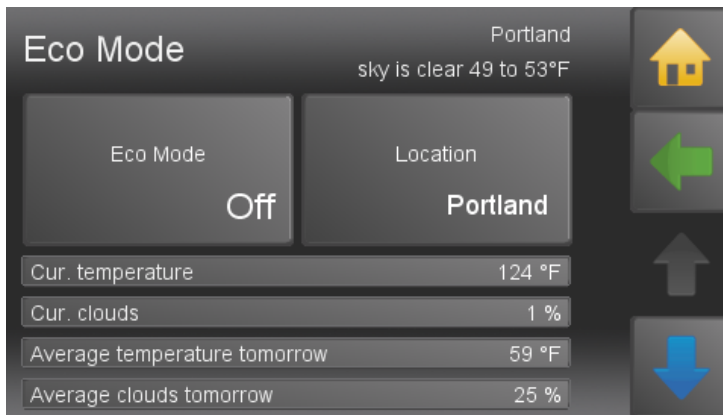


Afterwards, weather data for the next 3 days are downloaded. An icon for the current weather is displayed on the opening window.

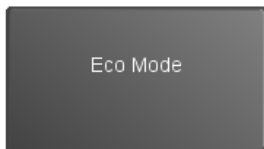
Note:

This feature requires an internet connection.

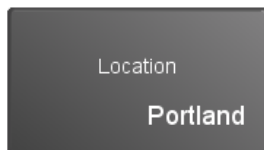
14 Eco Mode



With the Eco Mode, the influence of weather forecasts can be defined.



- Off:** Eco mode inactive.
- Comfort:** Set temperature minus 0.9 °F
- Minimum:** Set temperature minus 1.8 °F
- Ecologically:** Set temperature minus 2.7 °F



Enter location and country. If the specified location is not found, enter a larger, nearby place.

Search with the following details:

- Postal code, location, country
- Postal code, country
- Location, country

Afterwards, weather data for the next 3 days are downloaded. An icon for the current weather is displayed on the opening window.

Note:

This feature requires an internet connection.

Cur. temperature

Current temperature according to forecast.

Cur. clouds

Current clouds in % according to forecast.

Average temperature today / tomorrow

Calculated temperature for the forecast period

Average clouds today / tomorrow

Calculated clouds for the forecast period

Sunrise / sunset

Time at sunrise or sunset

Starttime/ Endtime

In this time frame, the Eco Mode affects the heating settings.

Last update

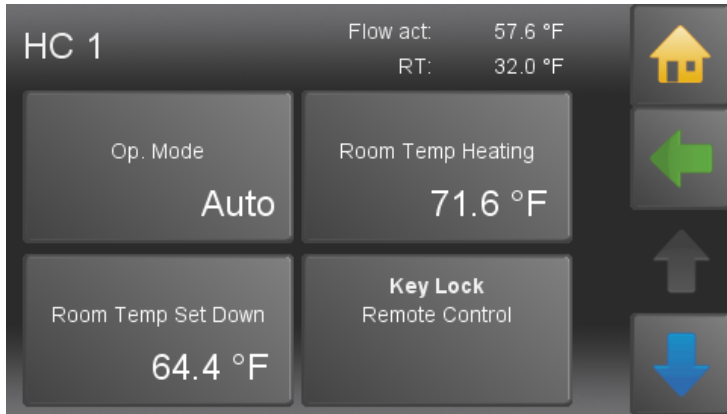
Time of last update of the forecast.

15 Heating Circuit

Heating Circuit encloses all for heating relevant parameters and settings. It can occur up to 6 menu items **Heating Circuit**.

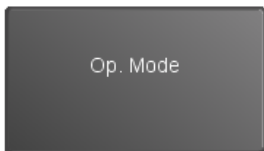


Heating Circuit is in the Main menu



Heating circuits settings has following menu items:

- Mode
- Room Temp Heating
- Room Temp Set back
- Time Allocation
- Values
- Time 1
- Time 2
- Party
- Vacation
- Heatingcurve



Off

Only the frost protection function is active.

Auto

The Furnace starts in the heating times according to the Set room temperature.

Heating

The Furnace heats constantly according to the Set room temperature.

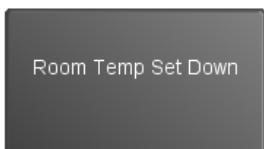
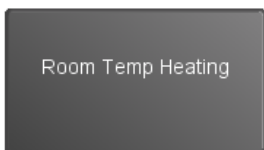
Set back

The Furnace heats constantly according to the Set back room temperature.

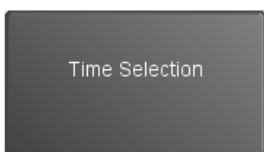
The operating mode of the heating circuits can only be changed if the plant operating mode is set to AUTO.

The adjusted heating limits and maximum flow temperatures are used in all operating modes.

Choose your room temperature (Temperature within the heating times).



Choose Room Temp Set back (= Minimum temperature beyond the heating times).



Activate **Time 1** (= Time programme 1) and **Time 2**.

15.1 Measuring values Heating circuit



Measuring values HC is in the Main menu.

Values		9:58:36 AM	
HC		Act	Set
Outside Temperature	-0.3 °C		
Boiler Temperature	24.7 °C	8.0 °C	
Burner Contact	Off		
Existing Boiler	60.5 °C		
Switching Valve	On		
HC1 Flow Temperature	14.3 °C	28.9 °C	
HC1 Pump	On		

You see all to the Heating circuit corresponding measuring values:

- Actual value
- Set value
- Inputs (sensors)
- Outputs (pumps, mixer and motors)

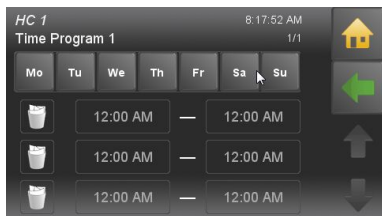
Outside Temperature	actual Outside Temperature
Boiler Temp	actual Boiler Temperature
Booster	Status (Booster On/Off)
Flow Temp	display of the flow temperature
Room Temp	display of the room temperature
Pump	Status (Pump On/Off)
Mixer	Status (Mixer On/Off)

15.2 Time programme Heating circuit

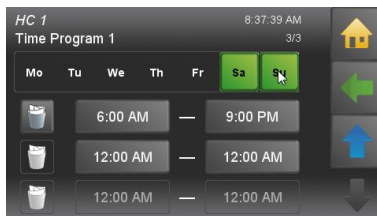
In the heating circuit time programme you fix the heating times.



Time 1 (=Time programme 1) and **Time 2** are in the menu Heating circuit.

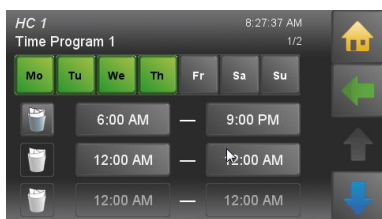


1 Select Time programme 1



6 Mo-Fr were assigned heating times

With you get to the remaining days Sa-Su.



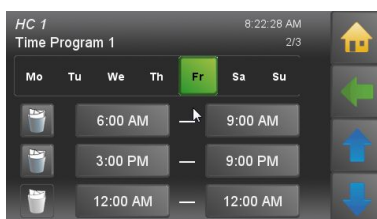
2 Select the heating days. The activated days are deposited in green.



7 Sa-Su were assigned to heating times.



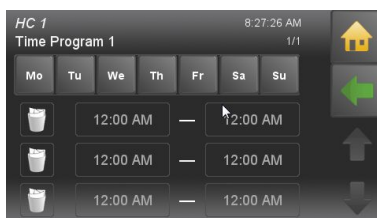
3 Enter the heating times for these heating days (Mo-Th).



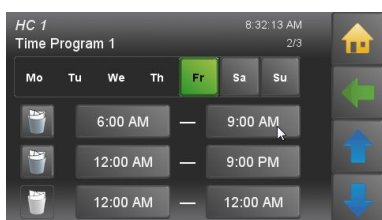
8 With and you switch between the heating blocks. You can deactivate heating days in the heating block and activate in another.



4 The heating times for Mo-Th are assigned. With you assign to days heating times further.



9 With you set all the heating times in the line and below to 0.



5 Friday was activated. Heating times were assigned.



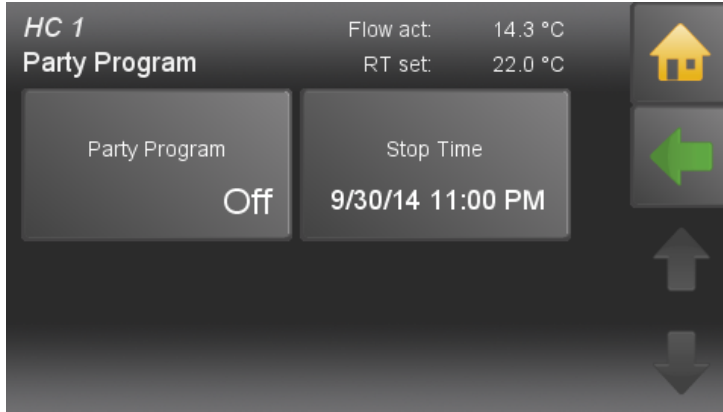
10 Go back with . Choose Time 2. For every heating circuit there are 2 time programmes. You can programm 2 time programmes. In the menu item **Time Allocation** you can activate time 1 or time 2.

15.3 Party

The party function extends the heating time once, without changing the heating times.



Party is in the Main menu.



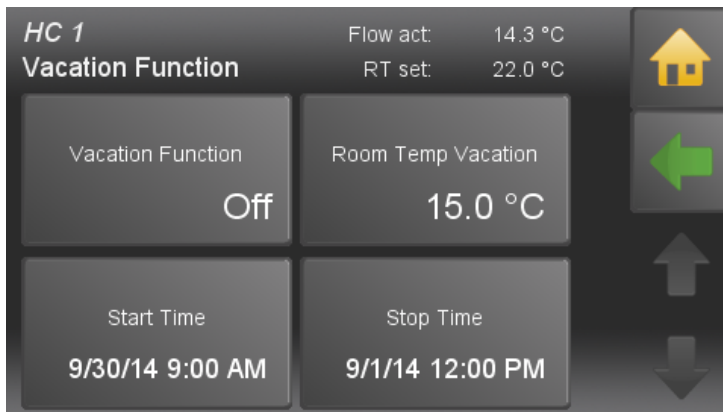
The party function is basically inactive. Enter the time until the room temperature heating should be heated. Activate the Party function. The heating time is extended up to the indicated time. Then the party function deactivates itself automatically.

15.4 Vacation

The holiday programme cancels the heating times and heats for the entered period on the set temperature level.



Vacation is in the Main menu.



Enter the room temperature on which in your absence the building should be heated. Enter the departure (start time) and return (finish date) and activate the vacation programme.

Note:

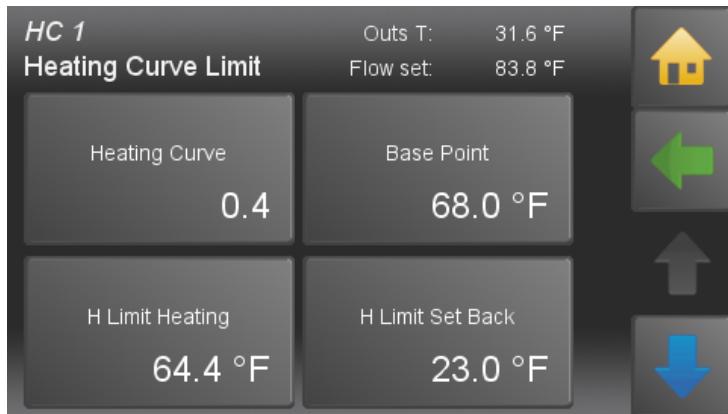
To return in an already tempered building, you must enter the day before the return as the finish date.

15.5 Heating curve and Heating limits

By starting up the first time, the authorised technical adviser adjusts the heating curve, the base point and the heating limits on the building situation and the hydraulics. If the Set room temperature is not reached or exceeded, adjust the heat curve with the flow temperatures according to outside temperatures.



Heating curve is in the menu **Heating circuit**.



Heating curve 0.0 - 4,0

The heating curve describes the combination between outdoor temperature and the associated flow temperature for a heating circuit.

Base point adjustable from 68 - 113°F

With the change of the base point, you provide a parallel shift of the heating curve.

H limit heating

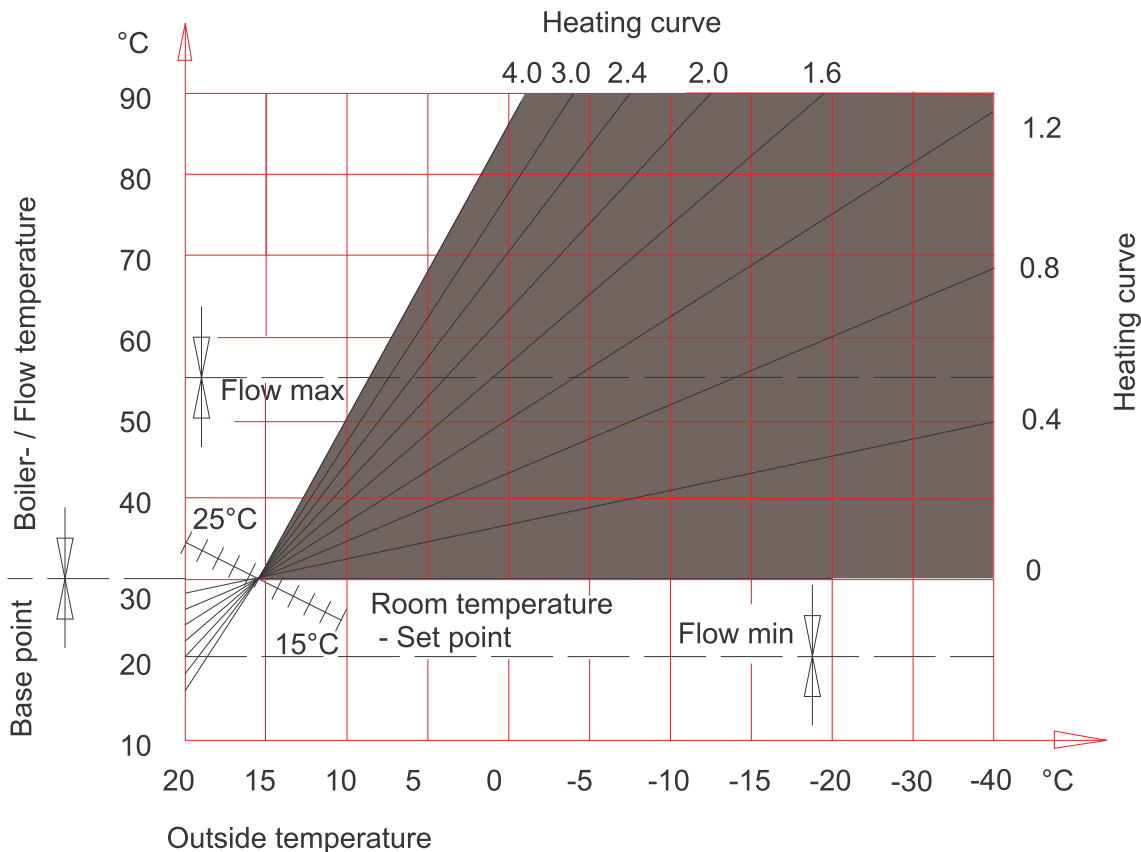
If the average outside temperature is higher than the set temperature, the heating circuit switches off in the heating mode.

H limit set temperature

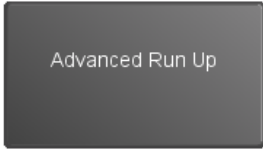
If the average outside temperature is higher than the set temperature, the heating circuit switches off in the Set back mode.

Adjustment of heating curve and the base point to the building

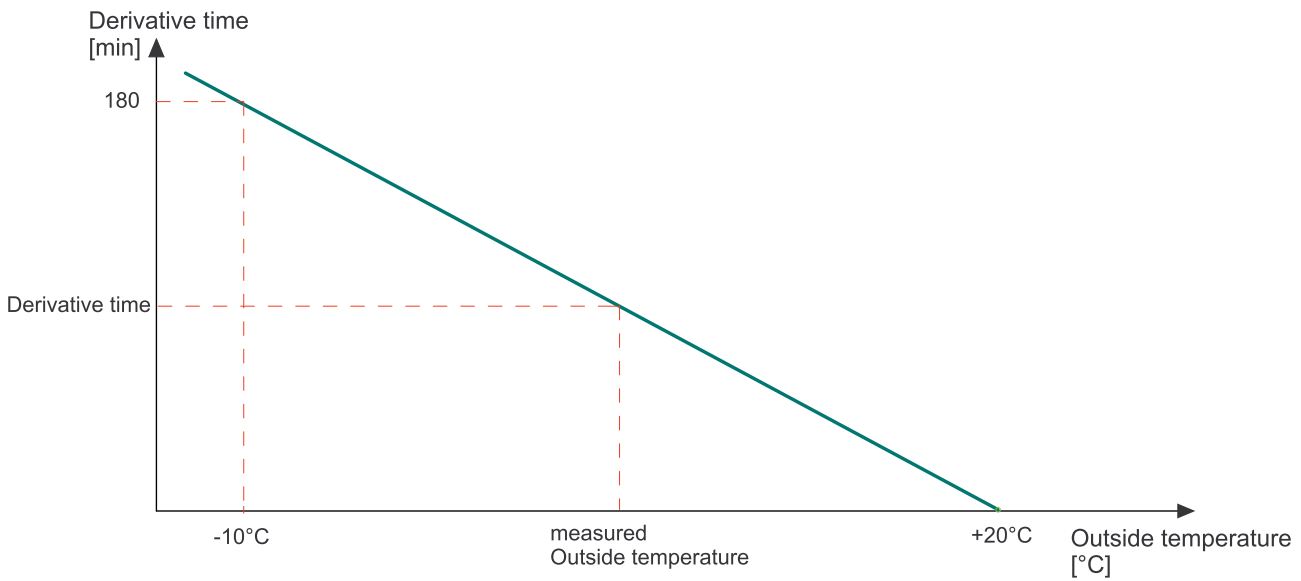
Because of the building's thermal inertia, it is recommended to perform no more than one adjustment step per day.



Daytime outside temp	Room temperature	
	too warm	too cold
+5 to +15°C	Decrease heating curving value by 0,2	Increase heating curving value by 0.2
	Decrease base point value by 5°	Increase base point value by 5°
-20 to +5°C	Decrease heating curve value by 0.2	Increase heating curve value by 0.2



The advanced run up indicates how long the system has to heat before the start of the heating time, to reach the adjusted **roomtemp heating**.



Room thermostat influence

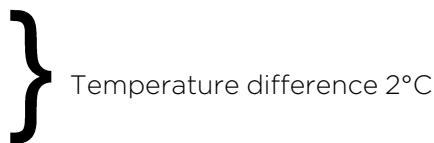
If the measured room temperature deviates from the set room temperature, the heating controller corrects the flow temperature with the Room thermostat influence. The Room thermostat influence indicates how much the flow temperature is raised or lowered so that the Set room temperature is reached.

Example:

Room temperature desired value = 20°C

Room temperature actual value = 18°C

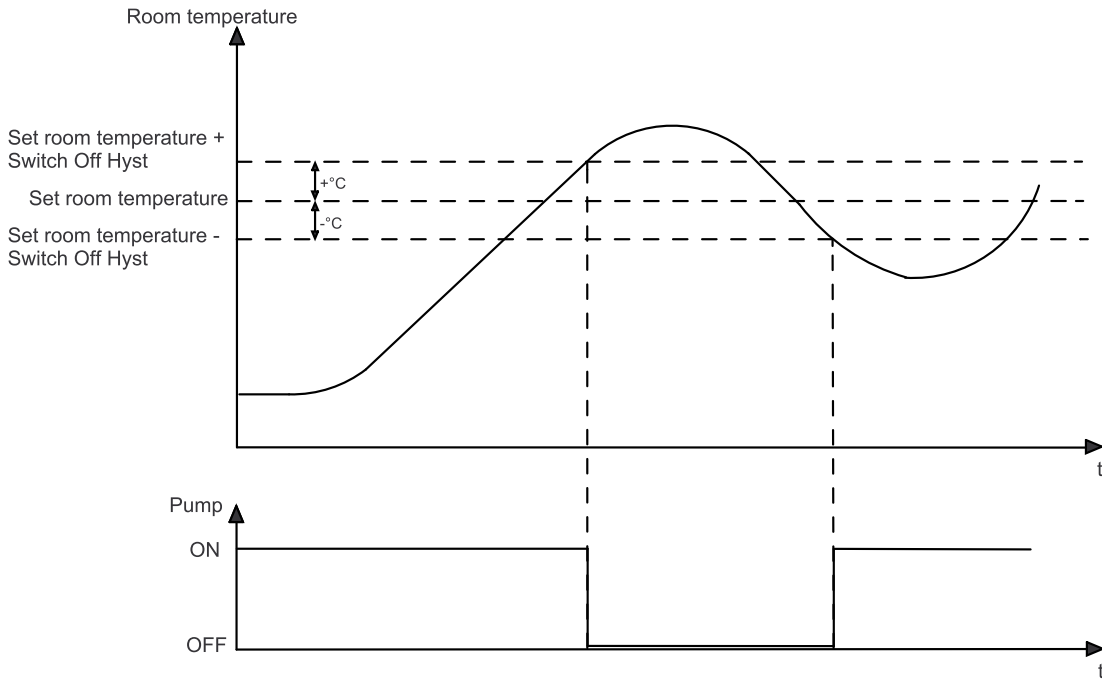
Room sensor influence = 3



Room sensor influence	*	Temperature difference	=	Advanced run up rise/reduction
3	*	2	=	6°C

Room temperature hysteresis

The Room temperature hysteresis prevents the cycling (On Off On Off...) of the heating circuit pump: If the Set room temperature + room temperature hysteresis is reached, the associated pump stops. If the Set room temperature is - 1°C, the pump switches on again.

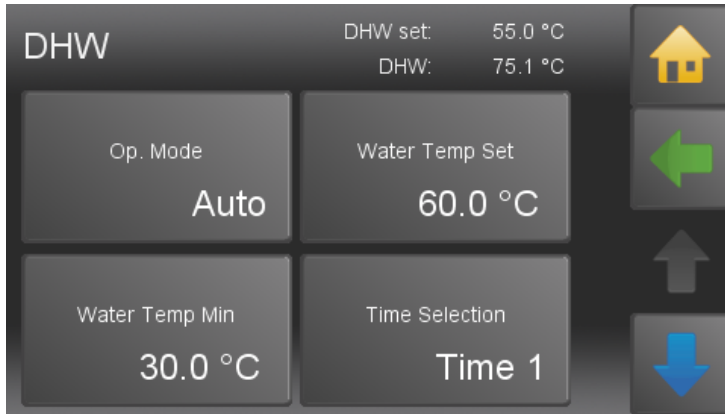


16 Domestic hot water

The menu Item **Domestic hot water** contains up to 3 submenu items. Domestic hot water includes all, for the preparation of hot water, relevant parameters and settings.

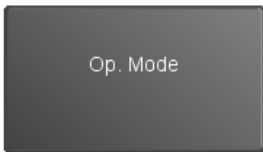


Domestic hot water is in the main menu.



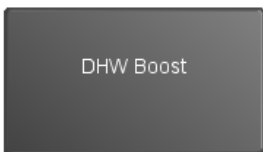
DHW settings has following menu items:

- Mode
- DHW Boost
- Water Temp Set
- Water Temp Min
- Eco Mode
- Time programme
- Display name
- Values
- Solar Heating
- Time 1
- Time 2

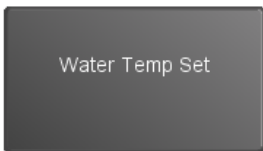


- OFF** Set water temperature is reduced to 8° for frost protection.
- Auto** The installation heats the water within the time programme to the **desired hot water temperature**. Outside the time programme the installation heats to **Watertemp min**
- On** The system heats up the domestic hot water continuously on the Water temp set.

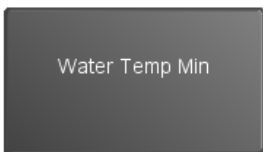
You can change the mode domestic hot water only when the **Operation mode** is on **AUTO**.



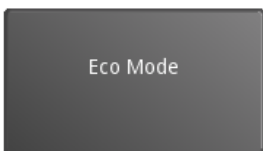
Heats the hot water once on the Water temp set.



Set the water temperature.



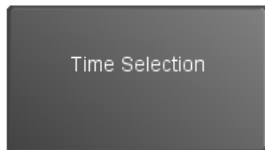
Set the minimum water temperature. The water temperature never falls below this value, unless the domestic hot water mode is on **OFF**.



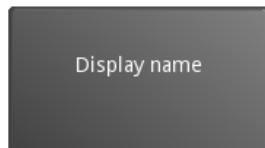
Via the eco mode you can define the influence of the weather forecast. By setting down the DHW temperature, a boiler start for DHW preparation should be prevented.

- Off** Eco mode inactive.

- Comfort** The set hot water temperature is reduced by 9° F.
Minimum The set hot water temperature is reduced by 18° F.
Ecological The set hot water temperature is reduced by 27° F.



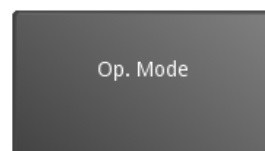
Activate **Time 1** (= Time programme 1) and **Time 2**.



Adapt the display name of the respective menu.

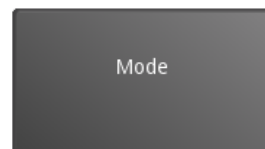


You are able to see a list of all measuring values that are involved in the menu domestic hot water.

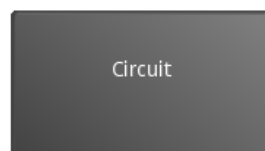


- Off:** Solar Heating is deactivated.
Ecological: Solar Heating is activated (at fair weather forecast).
On: Solar Heating is activated.

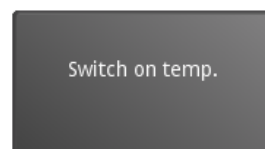
Time Program: If the accumulator temperature is above the switch on temperature during the set heating times, the heating circuit is heated until the switch off temperature is reached.



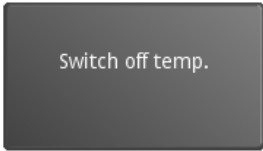
- Heating program only active when solar pump is active.
- Note:**
Solar-pump: If the mode solar pump is activated, the associated solar circuit can be selected.
 While the solar pump is active and the accumulator reaches the switch on temperature, the heating function is carried out until the switch off temperature is reached.



The values are calculated from hot water temperature plus hysteresis.



The minimal values are calculated from DHW temperature plus hysteresis.
 The values from the ACC Sensor Above are used.



The minimal values are calculated from DHW temperature plus hysteresis. The values from the ACC Sensor Above are used.

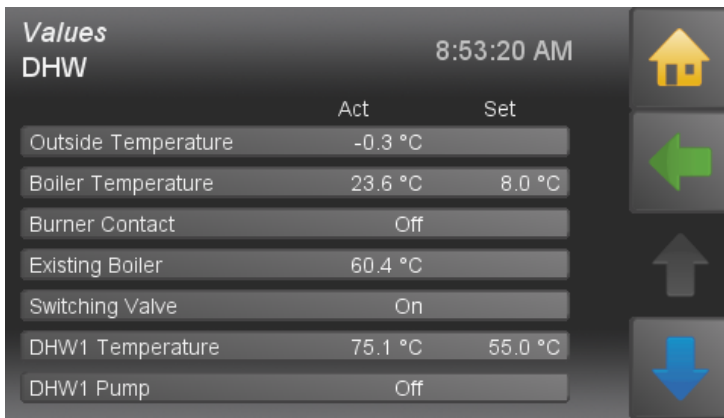


In the DHW time programme you set the times of the hot-water processing. The DHW time programme works the same way like the heating circuit time programme.

16.1 Measuring values Domestic hot water



Measuring values DHW is in the Main menu.



You see all the Heating circuit corresponding measuring values:

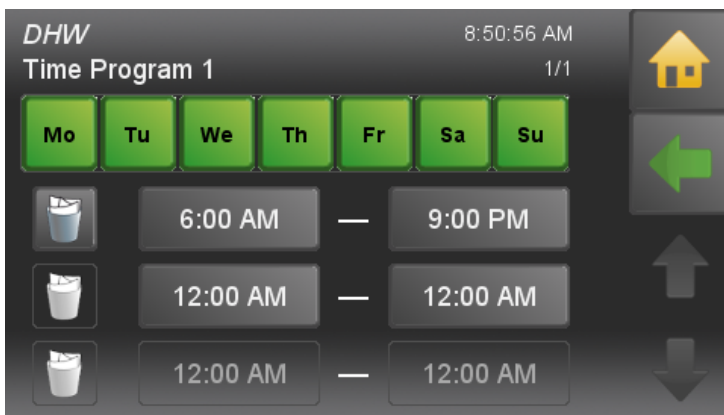
- Actual value
- Set value
- Inputs (sensors)
- Outputs (pumps, mixer and motors)

16.2 Time programme DHW

In the DHW time programme you set the times for the hot-water processing.



Time 1 (=Time programme 1) and Time 2 are in the menu Domestic hot water.

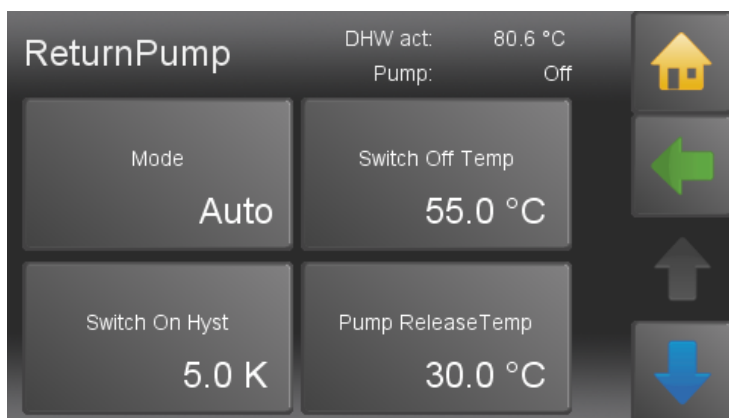


The domestic hot water time programme works the same way like the heating circuit time programme.

17 DHW Return pump



DHW Return pump is in the Main Menu.

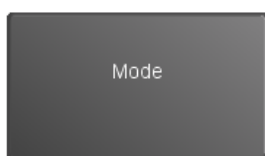


The Return pump enables the immediate DHW tap of the water taps. DHW Return pump has following menu items:

- Mode
- Switch off temperature
- Switch on hysteresis
- ReleaseTemp
- Time allocation
- Display name
- Values
- Time 1
- Time 2

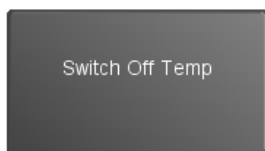
Note:

A **Return Pump** and a **booster** rule out each other.

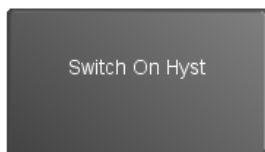


Off DHW Return pump inactive

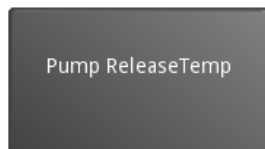
Auto Temperature regulation within the time programme



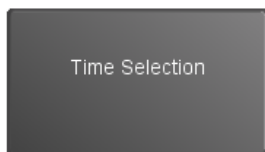
If the return temperature sensor of the DHW Return pump reaches the **Switch off temperature**, the pump switches off.



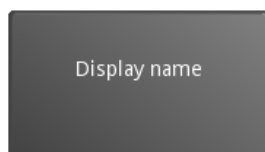
If the return temperature falls below the switch off temperature – the DHW Return pump switches on again!



The DHW temperature must be higher than the **pump release temperature**, otherwise the circulation pump will not run.



Choose the time programme 1 or 2.



Adapt the display name of the respective menu.



You see all the DHW pump corresponding measuring values.



Set the run times of the Return pump. The return pump – time programme works the same way like the heating circuit time programme.

17.1 Measuring values DHW Return pump



Measuring values DHW Return pump is in menu DHW Return pump.

Values		12:13:54 PM	
ReturnPump			
	Act	Set	
Outside Temperature	-0.2 °C		
Boiler Temperature	24.1 °C	8.0 °C	
Burner Contact	Off		
Existing Boiler	60.5 °C		
Switching Valve	On		
DHW1 Temperature	75.1 °C	55.0 °C	
DHW1 Pump	Off		

You see all the Heating circuit corresponding measuring values:

- Actual value
- Set value
- Inputs (sensors)
- Outputs (pumps, mixer und motors)

17.2 Time programme DHW return pump

In the Time Programme DHW Return Pump you set the times for the hot water in the water purchasers.



Time 1 (=Time programme 1) and **Time 2** are in the menu **DHW return pump**.

ReturnPump		11:36:05 AM					
Time Program 1							
	Mo	Tu	We	Th	Fr	Sa	Su
	6:00 AM	—	9:00 PM				
	12:00 AM	—	12:00 AM				
	12:00 AM	—	12:00 AM				

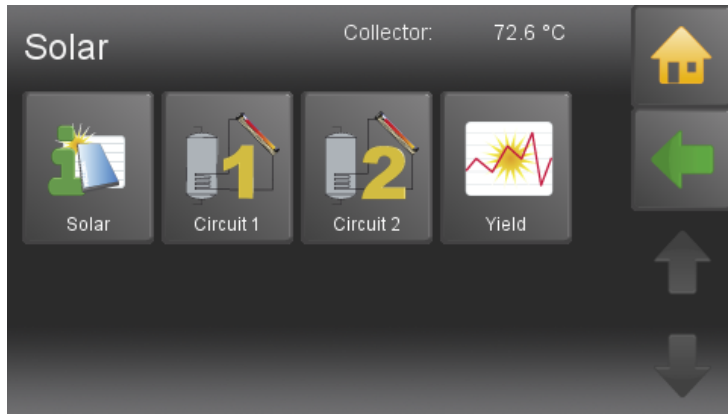
The DHW return pump time programme works the same way like the heating circuit time programme.

18 Solar

Solar includes all relevant parameters and settings for the solar thermal system. You can control up to 6 solar circuits.



Solar is in the Main menu.



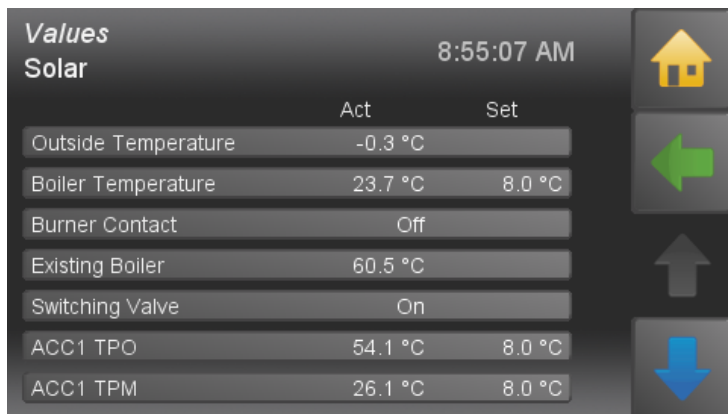
Solar has following menu items:

- Measuring values Solar
- Solar circuit 1-2
- Solar energy- yield

18.1 Measuring values Solar



Measuring values Solar is in the menu Solar.



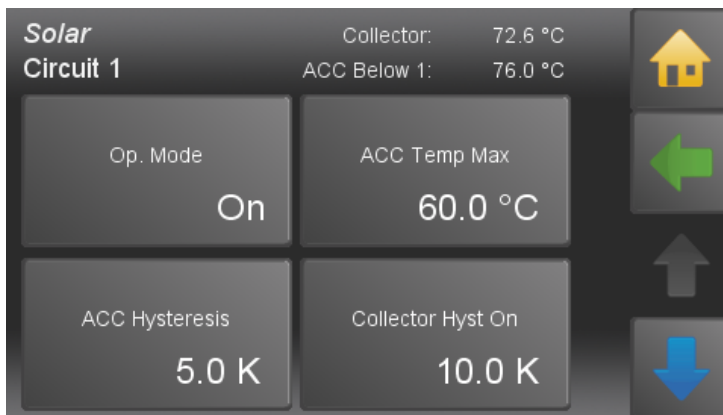
It displays all measuring values of Solar:

- Actual values
- Set values
- Inputs (sensors)
- Outputs (pumps, mixer and motors)

18.2 Solar circuit

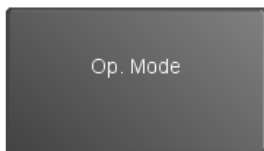


Solar circuit 1 – 6 are in menu Solar.



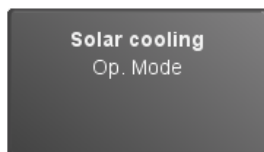
Solar circuit has following menu items:

- Operation Mode
- Solar cooling – Operation Mode
- Solar cooling – Start time
- ACC Temp Max
- ACC Hysteresis
- Collector Hyst On
- Collector Hyst Off
- Scavenging



Off: No charge

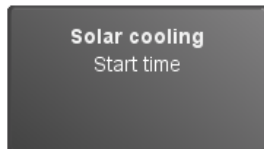
On: Charge as long as **Collector temperature + hysteresis** is lower than the temperature of the **Adj ACC sensor below** or the **ACC temp max**



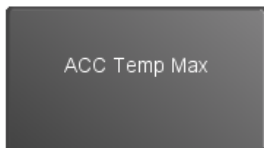
Off No solar cooling

Ecolog. Solar cooling is activated if fine weather is forecast

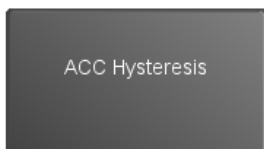
On 1x per day



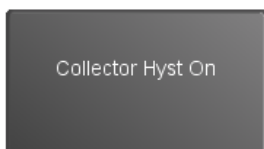
Setting the start time for solar cooling.



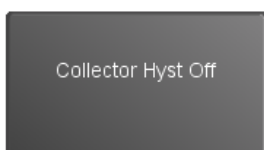
If the temperature in the ACC is higher than the ACC temp Max, the solar pump switches off. The limit sensor measures the temperature in the ACC.



The solar circuit pump is switched off due to the ACC temp Max is reached. The temperature must fall under ACC temp Max minus hysteresis, then the solar circuit pump switches on again. The hysteresis prevents a solar pump cycling (On Off On Off).



If the temperature difference between the collector sensor and TPU, ACC lower sensor is higher than the Coll Hyst A, the solar pump switches On.



If the temperature difference between the collector sensor and TPU, ACC lower sensor is lower than the Coll Hyst A, the solar pump switches Off.

Scavening Mode	Off	No scavening
	On	Scavening On

18.3 Yield - Solar Energy

This function measures the yield of the solar thermal system and displays current energy and logs previous days.

For the function solar energy it is necessary to install:

- Pulse volume meter (must be connected to **24 VOLT** and **Z_IN**)
- Flow temperature sensor
- Return temperature sensor



Yield - Solar Energy is in the menu Solar.

Solar		Collector:	72.7 °C
Yield Measure			
Current			0.0 kW
Yield - Day			0.0 kWh
Yield - Day Before			0.0 kWh
Yield Since	12/31/11		0.0 kWh
Flow Rate			0.00 l/min
Flow Temperature			70.3 °C
Return Temperature			52.2 °C

Yield measuring of solar energy has following menu items:

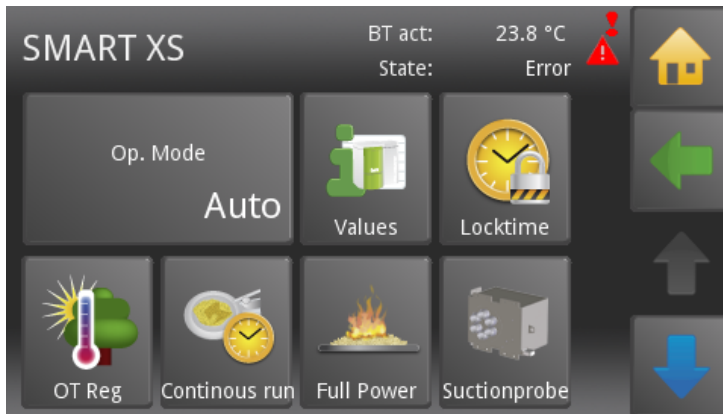
- Actual
Display of the current solar energy, refreshes every 60 sec.
- Yield - Day
Display of todays solar energy since 00:00.
- Yield - Day before
Display of yesterdays solar energy.
- Yield since
Display of the solar energy since the last set date.
- Flow rate
Display of the current flow rate, refreshes every 60 sec.
- Flow temperature
Display of the current flow temperature
- Return temperature
Display of the current return temperature

19 Pellematic

Pellematic includes all the relevant parameters and settings for the control of the pellet boiler.



Pellematic is in the Main menu.



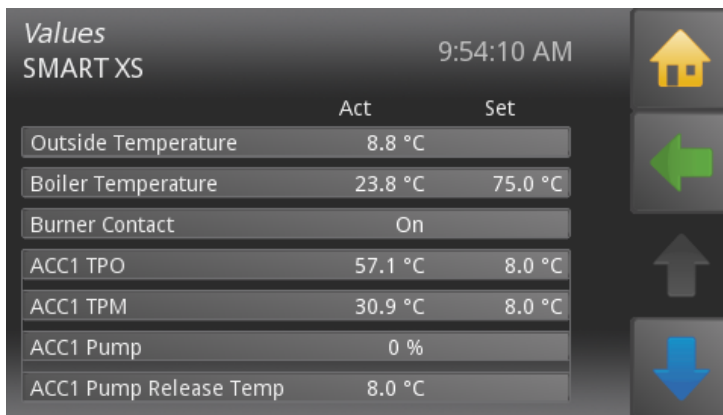
Pellematic has following items:

- Operating Mode
- Measuring values Pellematic
- Permanent operation
- Locktime
- Continous run
- Full power
- Suctionprobe
- Filling level
- Suction turbine

19.1 Measuring values



Measuring values is in the menu Smart XS.



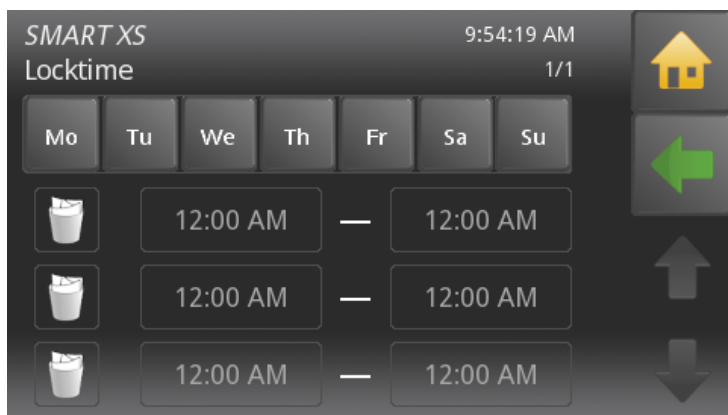
It displays all measuring values:

- Actual values
- Set values
- Inputs (sensors)
- Outputs (pumps, mixer and motors)

19.2 Locktime



Locktime is in the menu Smart XS.



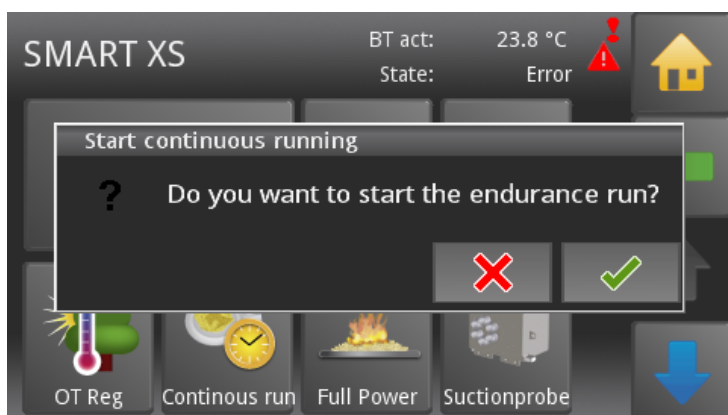
A period in which the boiler stands still can be defined.

Locktime works the same way like the heating circuit time programme.

19.3 Continuous running



Continuous running is in the menu Smart XS.



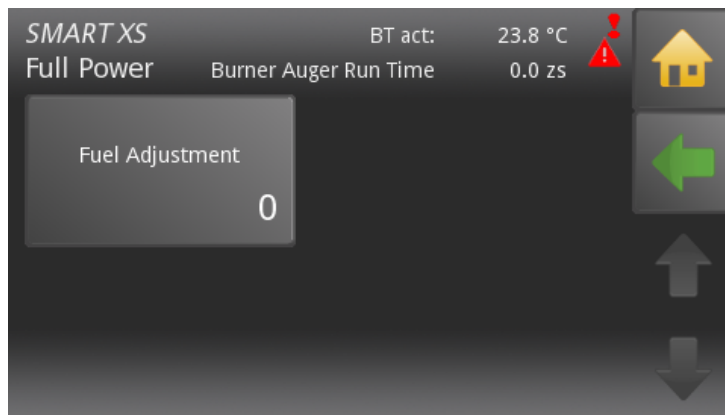
The burner motor runs in permanent operation and transports pellets to the burner plate.

If you confirm the query, you activate the function **continuous running**.

19.4 Full Power



Full Power is in the menu Smart XS



In the menu item Full Power can you adjust the fuel feed.

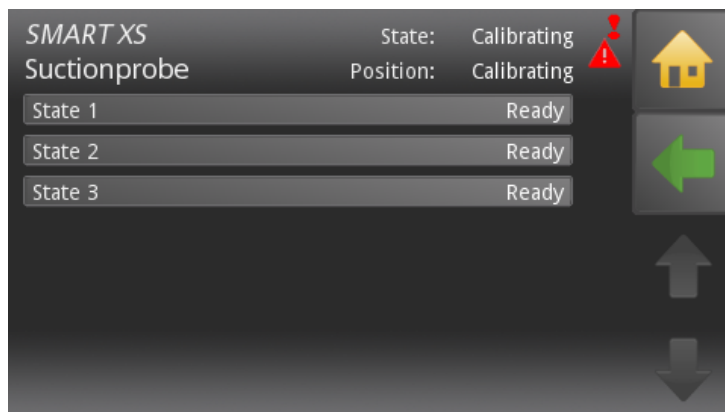
Fuel Adjustment:

The burner auger run time is calculated automatically by the PLC depending on the rated power and the boiler setpoint temperature. The burner motor is controlled accordingly. You can reduce or increase the value calculated by the PLC 10 steps up or down.

19.5 Suctionprobe



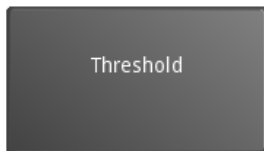
Suctionprobe is in the menu Smart XS.



19.6 Level detection system



Weight system is in the menu SMART XS. (Menu is only displayed when the function Network is activated in the menu General.)



The threshold value, **Minimum weight** for a warning message, is adjustable. The warning message appears on the operating device and will be terminated when filling level rises above the adjusted Minimum weight.

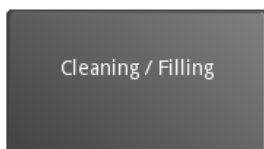
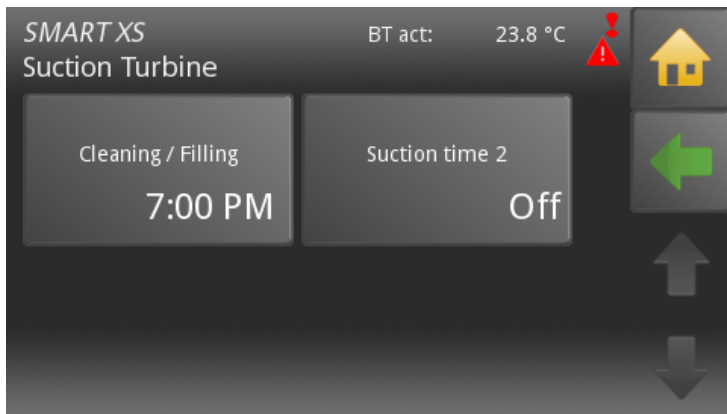
Note:

Only displayed if mode is set on **Textile tank**

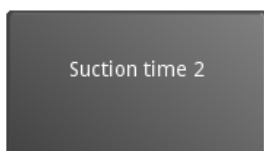
19.7 Suction turbine



Suction turbine is in the menu Smart XS.



Set a Time (full hours), at which the hopper gets refilled, regardless how full it is at this time.
At the same time the purification of the boiler will take place.

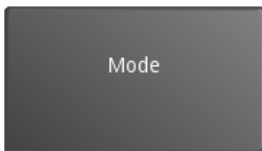
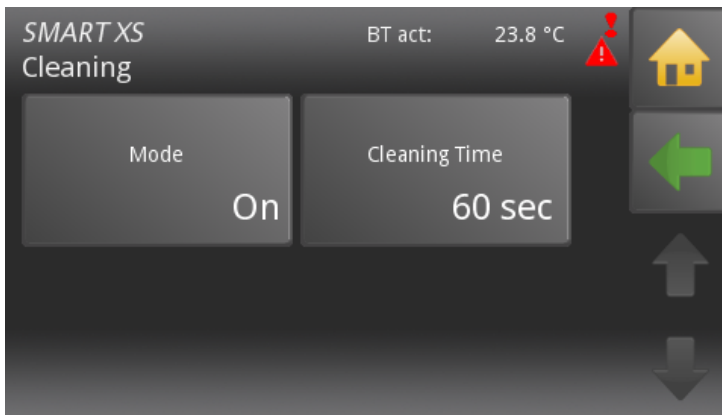


On When this menu point is activated, a field appears for specifying the 2nd daily suction time.
Off No 2nd suction time

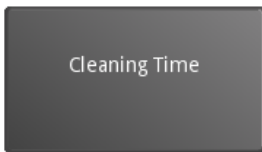
19.8 Cleaning



Cleaning is in the menu Smart XS.



Here you activate the function Cleaning (On / Off).



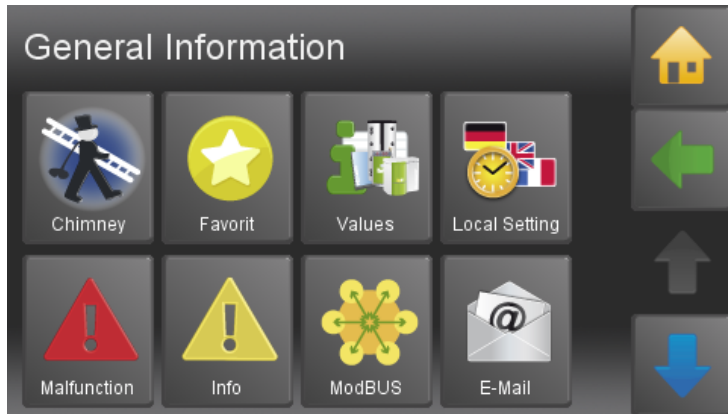
Duration of boiler cleaning in seconds.

20 General

General includes the complete heating control related settings and individual operating options for the customer.



General is in the Main menu.



The menu **General** includes:

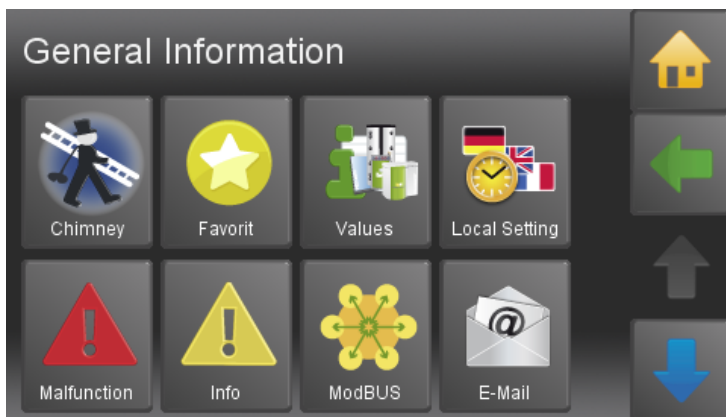
- Chimney
- Favorit
- Values
- Local setting
- Datalog
- Malfunction
- Info
- Save
- Load
- ModBUS
- E-Mail
- IP Config
- Settings

20.1 Chimney

The function chimney is only for chimney droughts and authorized service technicians. It is used for the measurement of exhaust gas.



The menu item **Chimney** is situated in the menu General.



Please choose the function **Chimney**.

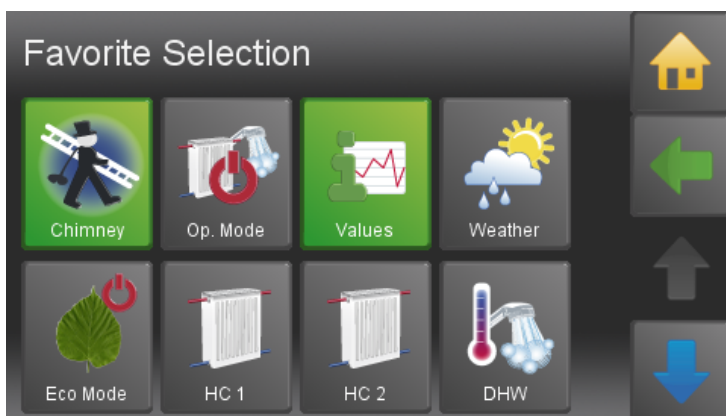


- The Furnace temperature is set to 140 °F for a total runtime of 30 minutes.
- You also can see actual Furnace temperature and the rest of the time limit.
- After the expiry of the time limit the function chimney ends.time of expiry the operation Chimney sweeper ends.
- The button Cancel ends the function Chimney.

20.2 Favorite



Favorite is in the menu General.



With this function you can display most commonly used menus in the start menu. This enables you a direct access. Select the menu item that should be displayed as a favorite 1 in the Start menu.

The selected item is green and the icon is displayed in the Start menu and is active.

20.3 Local Settings

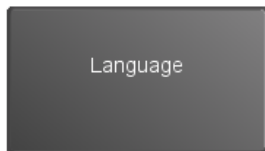


Local Settings is in the menu General.

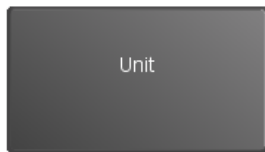


Local Settings has following menu items:

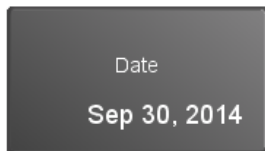
- Language
- Unit
- Date
- Time



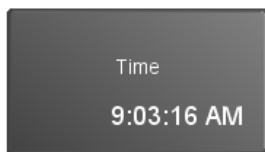
Choose between the languages German, English UK, English U.S. French, Spanish, Italian, Dutch, Danish and Russian.



You can choose between isometric and imperialist number system.



Set the current date.

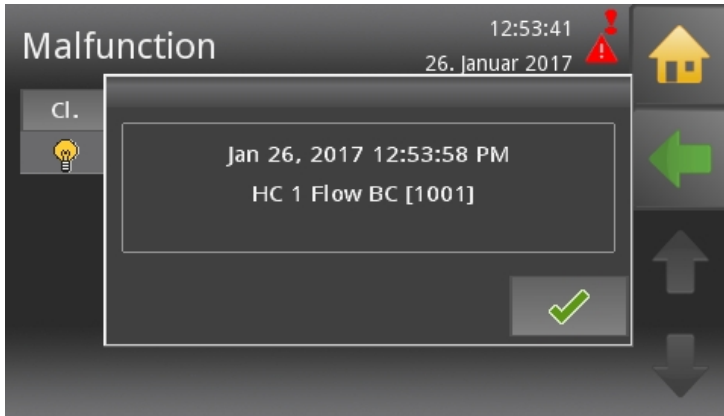


Set the current time.

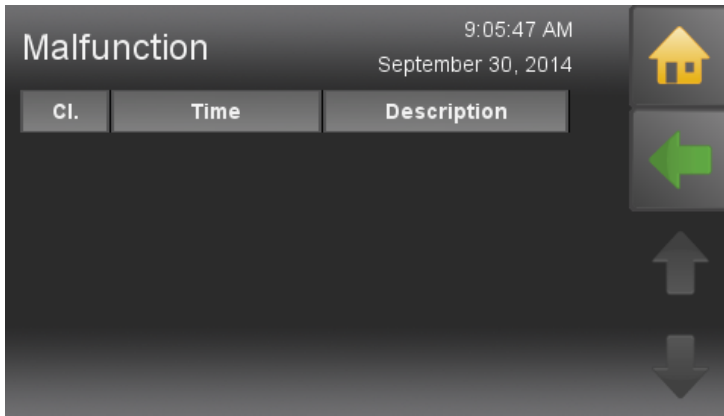
20.4 Malfunction



Malfunction is in the menu General.



Fault messages can be overlaid on all menu items and appear immediately if a fault occurs. Every fault message appears with the date, time and name on the display. It remains until it is acknowledged.



The menu remains the fault incident reports, as long as they are corrected up.

20.5 Information



Information is in the menu General.

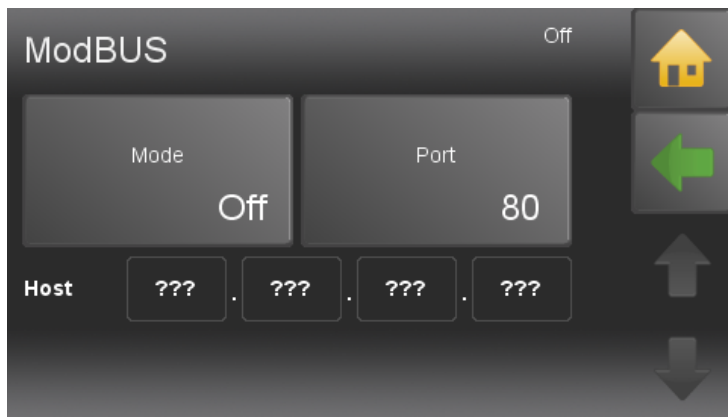


In the menu item information are all faults listed chronologically.

The fault texts have 3 status

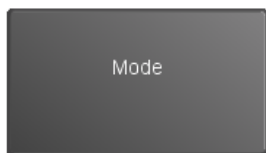
- C.....COME – when the fault occurs
- Q.....QUIT – when the fault has been rectified
- G.....GONE – when the fault has been reset by pressing ENTER

20.6 ModBUS

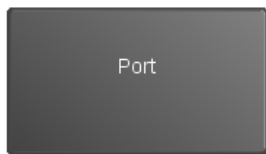


Note:

The Modbus registers may be set not less than two hours in cyclic operation, otherwise the life span of the operating device can decrease.

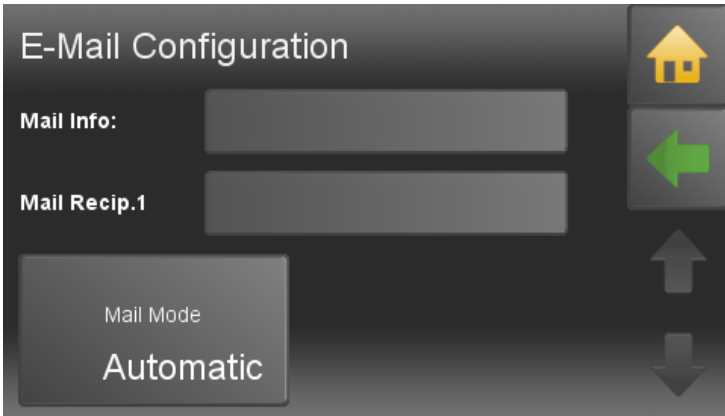


Off
TCP Server



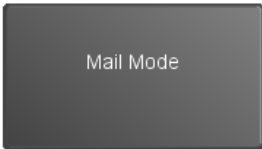
Defaultport for ModBUS is 502.

20.7 E-Mail

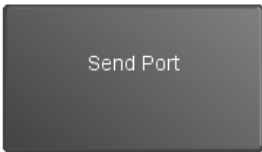


Delivery of disturbance-emails is done through an Maine Energy system server.

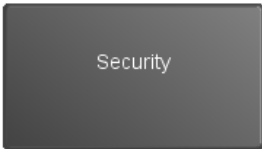
Only the recipient address needs to be configured.



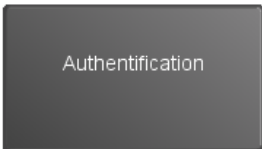
To ensure maximal flexibility, E-mail settings can set individually.



Port used for sending email (depends on provider).

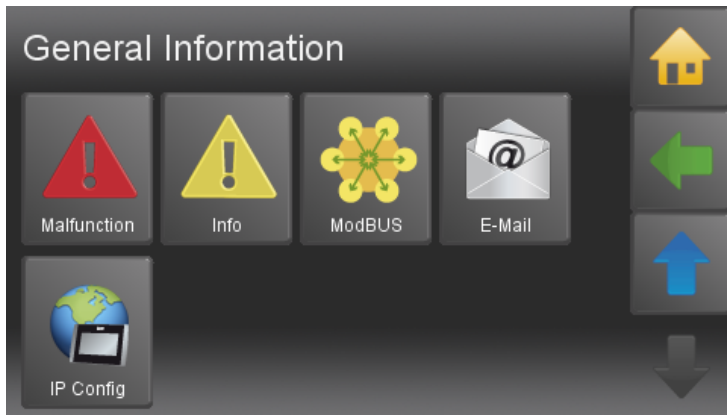


Select encryption mode (specified by provider).

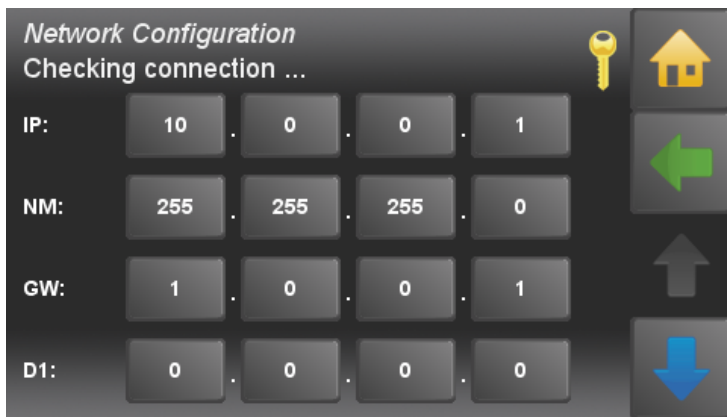


Authentication as specified by provider.

20.8 IP Config



Please choose the submenu item **IP Config** in the menu General.



Insert the **IP (Address)**, **NM (Netmask)** and **GW (Gateway)**, D1 (in most cases similar to GW) and **D2 (optional)**.

IP: IP address in the local network

NM: Networkmask is required in the local network.

GW: The gateway enables the touch operating device the access to the internet.

D1, D2: Server, which provide routing information



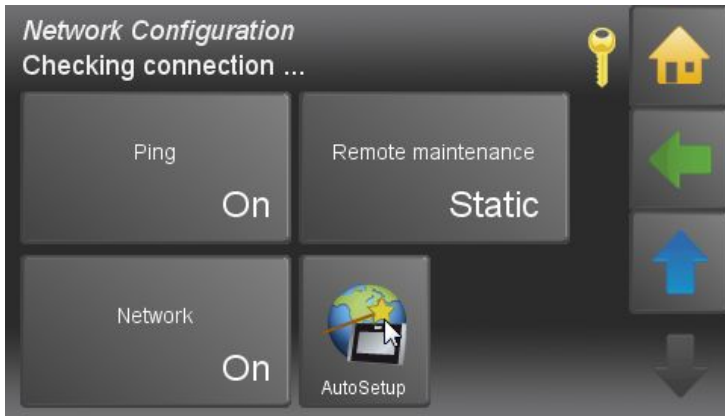
Set **DHCP On** or **Off** depending on your network.

Enter the **Port** (Default **80**).

Web: IP address in local network

Web User: Networkmask is required in local network

Web Password: The gateway enables the touch operating device the access to the internet.



Activate optionally the **Ping** function.

NOTICE

To prevent the modem from switching into standby mode, a ping command is executed every 10 minutes.

You get the data from your network technician.

Configuration

This menu item is only active when a compatible USB wireless adapter is connected. (not every wireless stick works with the Touch operating device)
By default, this item is hidden and located in LAN mode.
If the wireless mode is enabled, a password box appears.

DHCP

Dynamic address assignment on the local network (should be disabled if possible).

WiFi

If a WLAN stick is recognized and supported, an Additional LAN & WLAN button appears.

Password

Password of router.

Port
0

Address extension with which the touch remote control is accessible.
In principle, you can make your own choice, certain ports are associated with special services, e.g. 25 Mail, 80 Web and so on.

Ping

The ping prevents the internet connection from being closed by the router. Therefore a query to the Maine Energy Systems server is started at certain time intervals.
So the router detects that the connection is still active.

Remote maintenance

Automatic This will attempt to automatically set up the router using the UPNP protocol port forwarding.
If this service is disabled on the router or doesn't work properly, it is canceled accompanied by an appropriate error message.
As this function is time-consuming (may take a few minutes), it is running in the background. Whatever the UPNP
If available, the Touch operating device registers on the Maine Energy Systems remote control server with its current external IP Address.
In case of change of address by the external provider, this is detected and sent to the server Maine Energy Systems.

Manual In this mode, the port forwarding must be set manually. (for lack of UPNP)

The port of the touch panel must correspond to the external shared port.

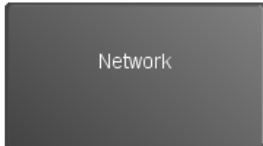
The touch then registers with the external IP address and port on Ök-oFEN remote maintenance server.

In case of change of address by the external provider, this is detected and sent to the Maine Energy Systems server.

Static

In this mode, no connection data is transferred to the Maine Energy Systems server and the online service of Maine Energy Systems can not be used.

But the remote control of the Touch operating device remains active and can be used as before via port forwarding, DynDns, fixed external IP, LAN and so on.



All functions for the network/internet can be disabled here.

Remote maintenance access



This function determines the network settings automatically.

For this the DHCP mode is activated and the required settings are set automatically.

Afterwards DHCP is deactivated.

Because of this, the IP address of the control unit can change.

The settings are set as follows:

- DHCP Off
- Ping On
- Port 8080
- Remote maintenance: Automatic

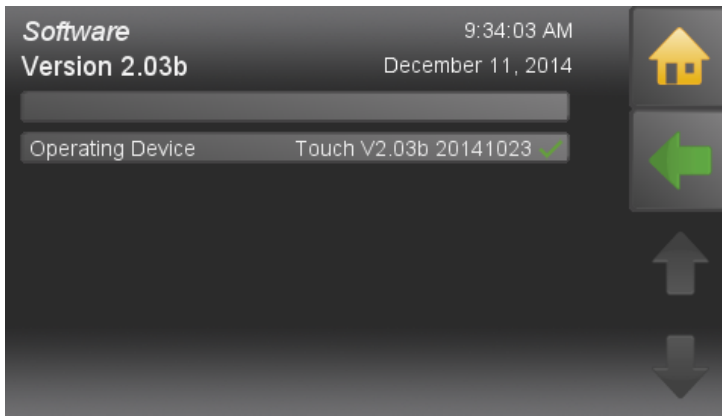


Back to the menu **General**.

21 Software



Software is in the Main menu.



Software shows you the name of the current software.

22 Maintenance and servicing

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

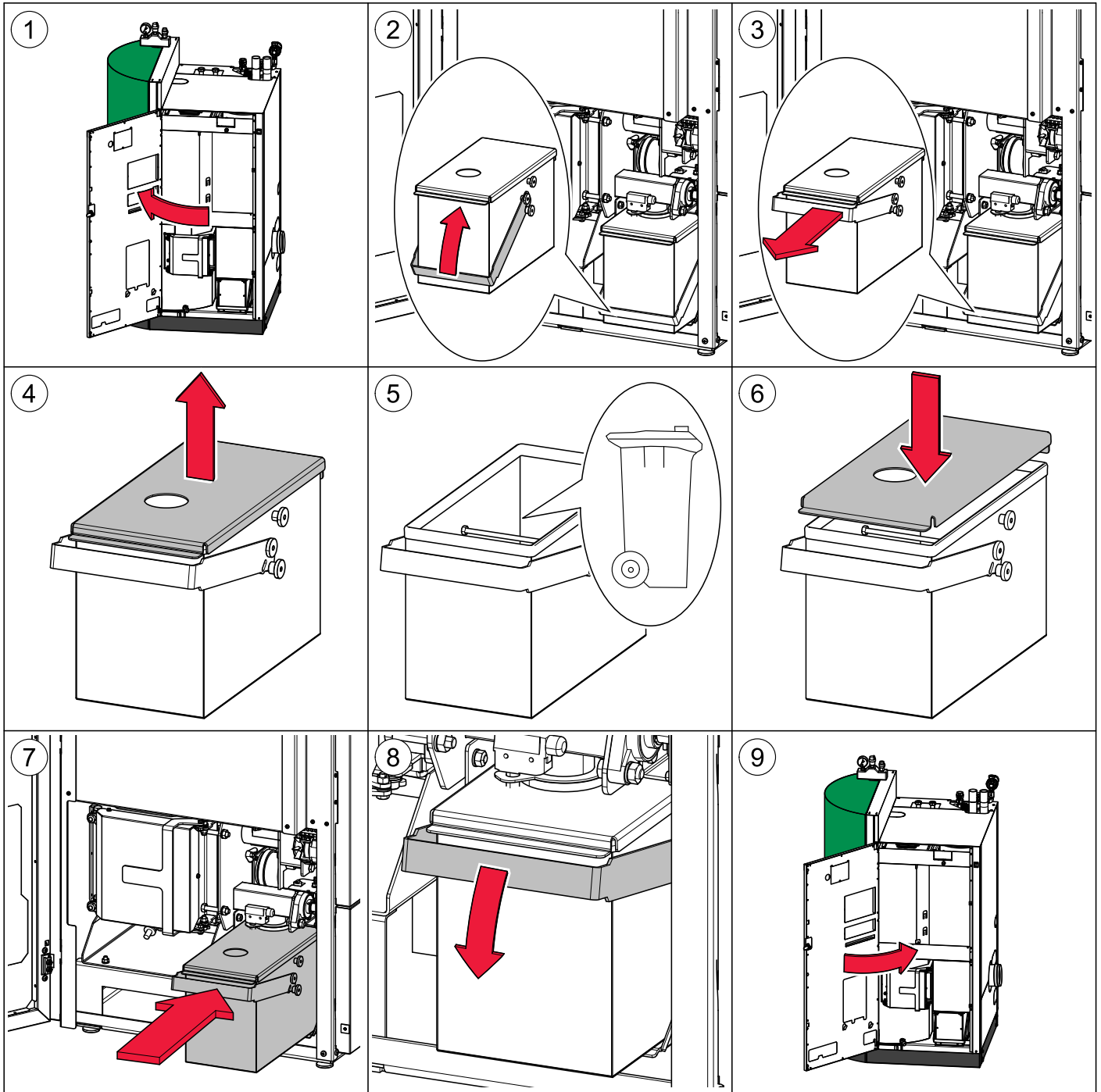
NOTICE

This wood heating appliance needs periodic inspection and repair for proper operation. It is against federal law to operate this wood heating appliance in a manner inconsistent with operating instructions in the manual.

NOTICE

Ashes should be placed in a metal container with a tight-fitting lid. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled.

22.1 Emptying of the ash box



Note:

Acknowledge the error message "Ashbox".

22.2 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.

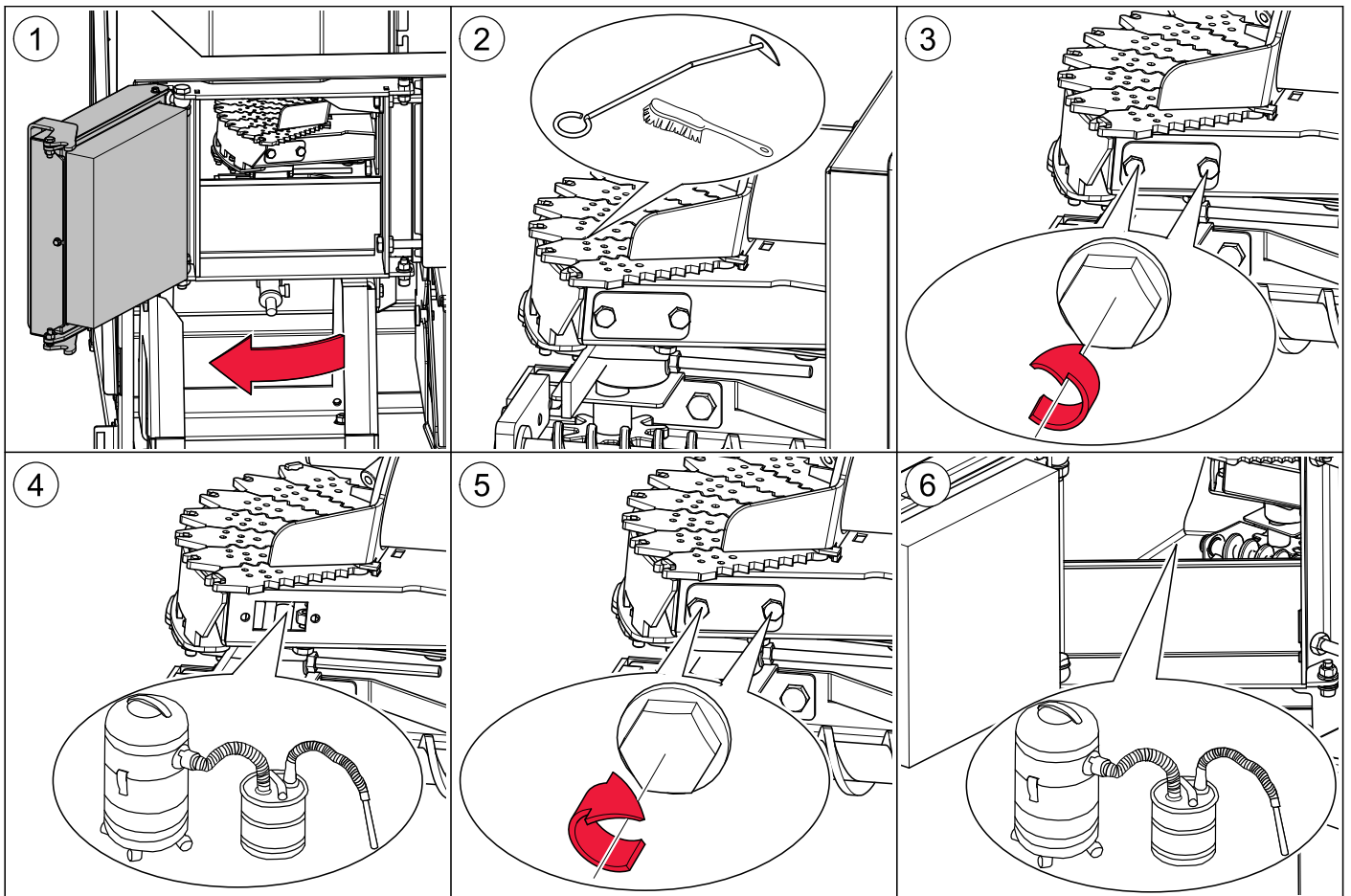
NOTICE

Damage to property

Parts of stainless steel should only be cleaned with stainless steel brushes.

Emptying of the ash box:

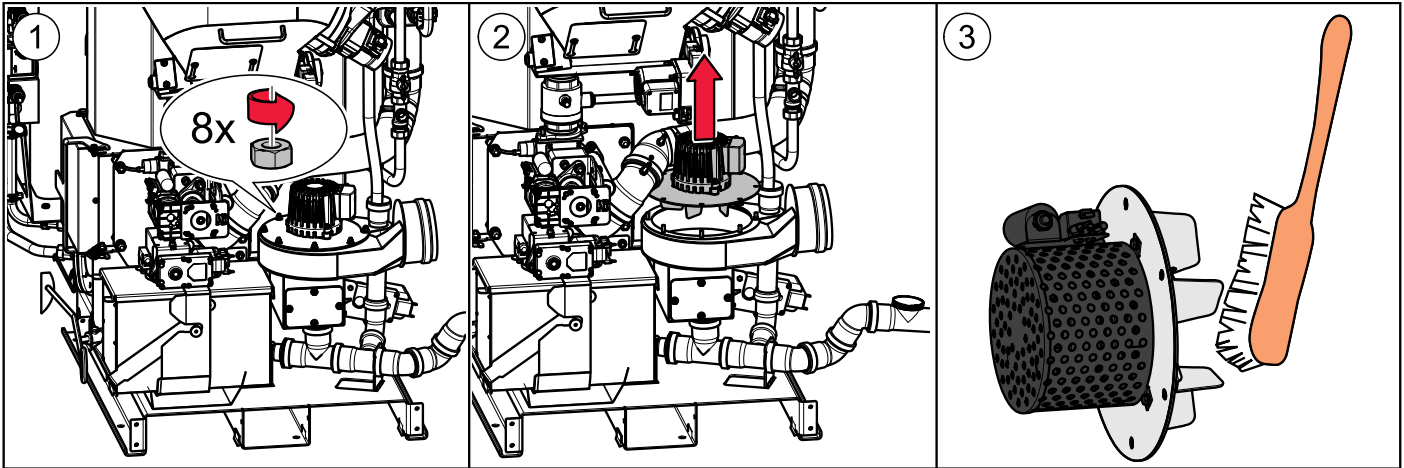
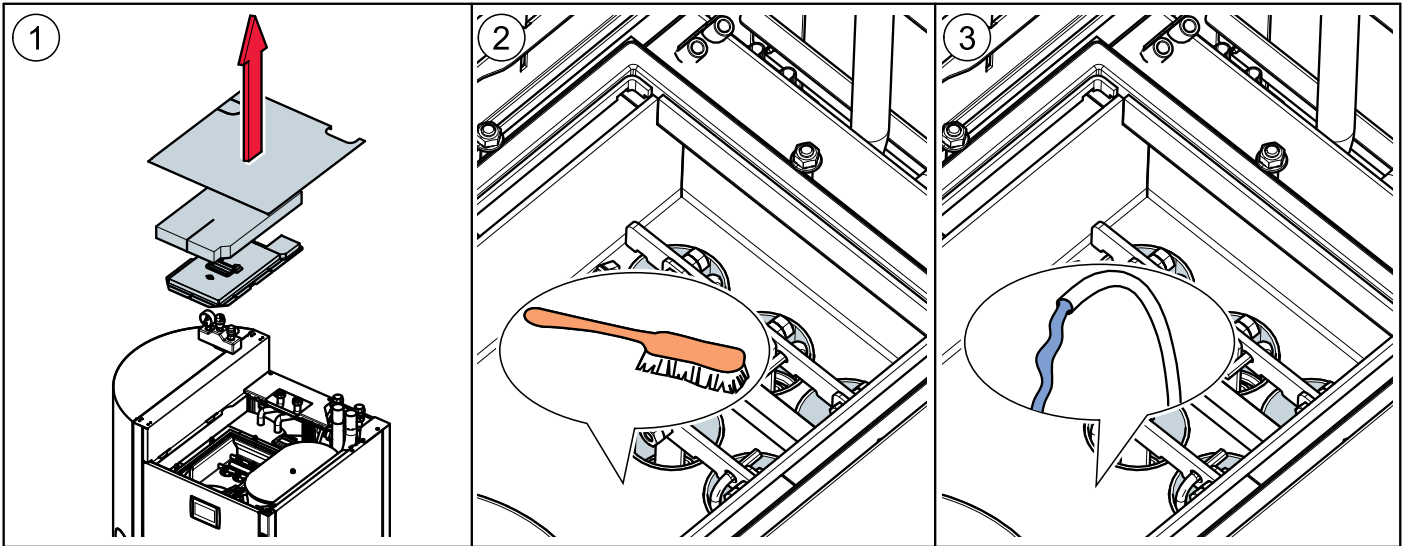
(also possible during operation)

**Note:**

Acknowledge the error message "Ashbox".

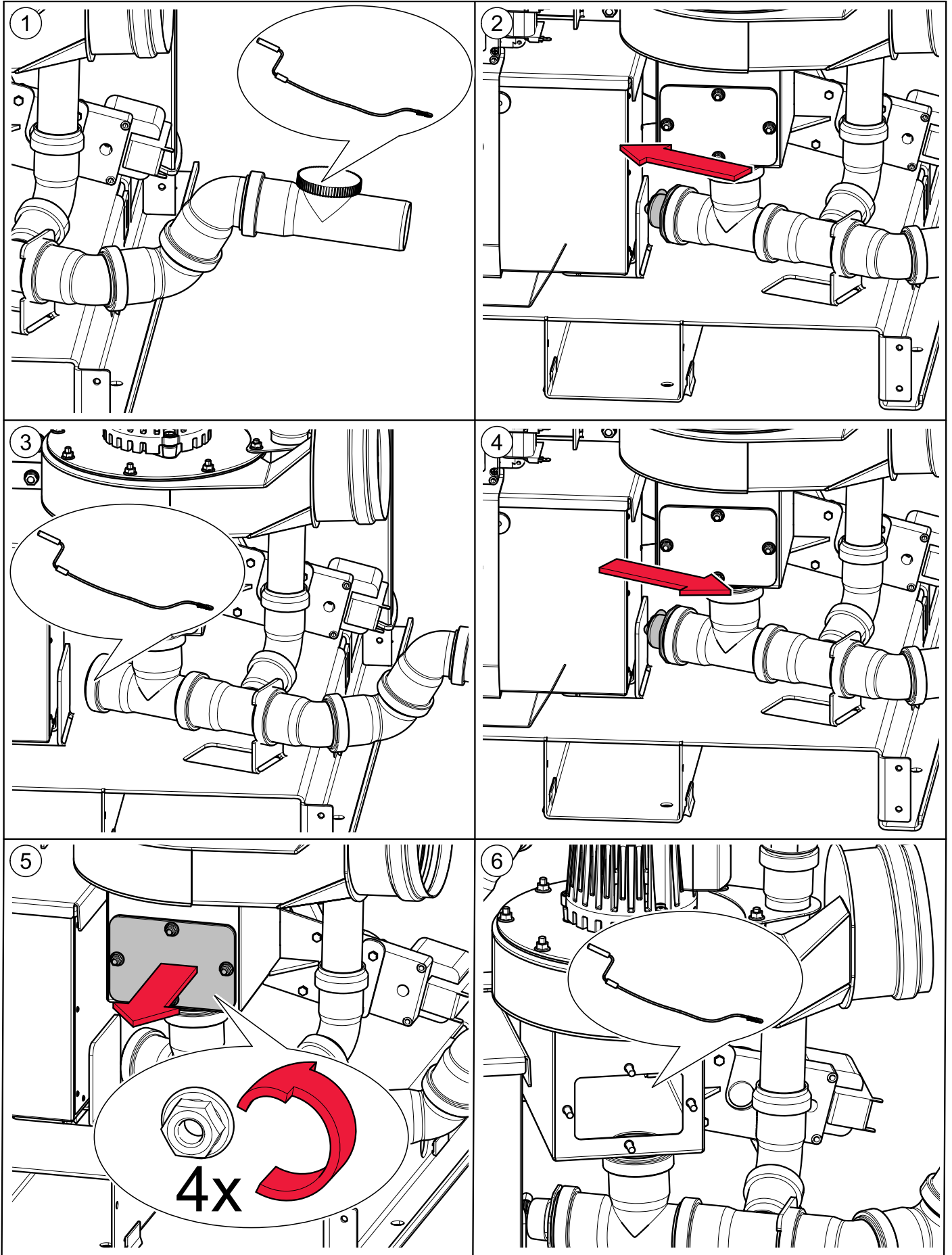
Cleaning the boiler:

(the boiler must be switched off before)

**Cleaning the heat exchanger:**

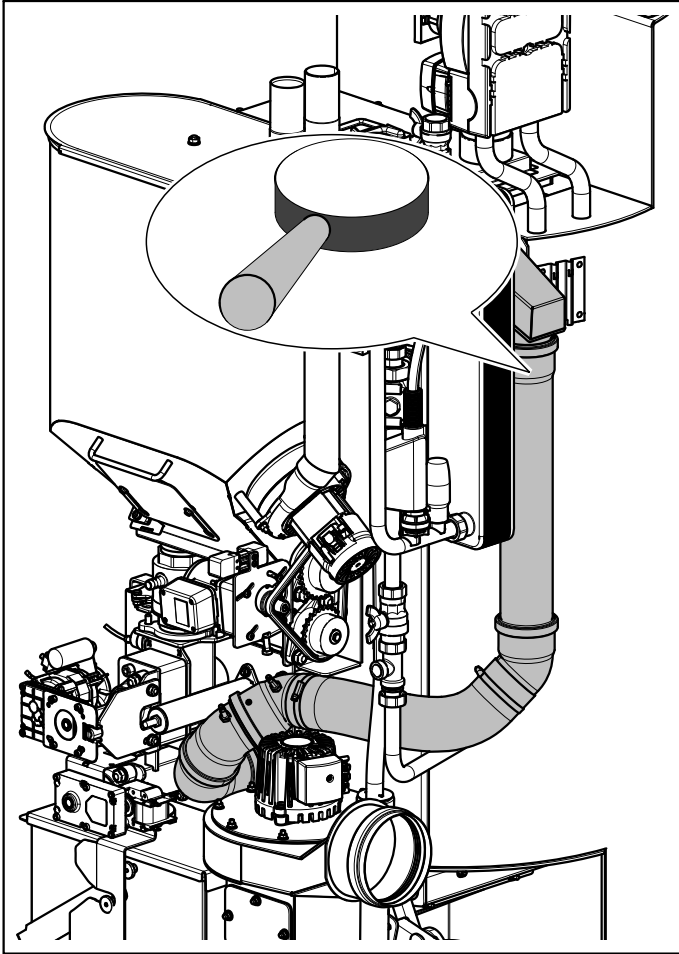
Cleaning the waste water pipe:

(the boiler must be switched off before)



Cleaning the intake hose:

(the boiler must be switched off before)



Check the air intake line for free passage.

22.3 Maintenance intervals

We recommend taking out a maintenance contract with your service technician.

22.4 Repairs



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

22.5 Checking the boiler room and storage room

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

Boiler room

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

Make sure that no washing is hanging in the boiler room.


Check the display on the control panel for malfunction messages.

Check the flue gas tube and chimney. Clean it regularly.

Maintenance clearances as given in Installation Manual must be observed at all times.

Do not store fuel or any other materials within these clearances.

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 textile tank and order more pellets in good time.

22.6 Disposal information

- Ensure environmentally sound disposal in accordance with the waste management act.
- Recyclable materials can be recycled in a separate and cleaned state.

23 Pellet boiler cautionary markings

**IN THE CASE OF A
"RUN-AWAY" FIRE:**

- NEVER PUT YOUR SELF AT RISK OF FATAL INJURY. YOUR SAFETY MUST ALWAYS TAKE HIGHEST PRIORITY!
- SWITCH OFF THE HEATING SYSTEM
- EXIT THE BUILDING AND CALL YOUR SERVICE CONTRACTOR AND LOCAL FIRE DEPARTMENT

CAUTION

IN THE CASE OF A CONNECTING BOILER CONTACT A SERVICE TECHNICIAN FOR COMPLIANCE INFORMATION BEFORE CONNECTING! MAY BE CONNECTED TO AN EXISTING BOILER SYSTEM

THE FOLLOWING UNIT IS APPROVED FOR CONNECTING WITH THE AUTOPELLET SYSTEM:

MODEL NUMBER CONNECTED UNIT: _____

ITEM NUMBER CONNECTED UNIT: _____

WARNING

RISK OF FIRE!

- DO NOT OPERATE WHILE FLUE DRAFT EXCEEDS -.11 INCHES WC!
- DO NOT OPERATE WITH DOORS OPEN!
- DO NOT STORE FUEL OR OTHER COMBUSTIBLE MATERIAL WITHIN MARKED INSTALLATION CLEARANCES!
- INSPECT AND CLEAN FLUE AND CHIMNEY REGULARLY!
- DO NOT USE CHEMICALS TO START UNIT FIRING
- DO NOT BURN GARBAGE, GASOLINE, FUEL OILS OR OTHER FLAMMABLE LIQUIDS OR MATERIALS

CAUTION

THE HEAT EXCHANGER, FLUE PIPE AND CHIMNEY MUST BE CLEANED REGULARLY TO REMOVE ACCUMULATED CREOSOTE AND ASH, ENSURE THAT THE HEAT EXCHANGER, FLUE PIPE, AND CHIMNEY ARE CLEANED AT THE END OF THE HEATING SEASON TO MINIMIZE CORROSION DURING THE SUMMER MONTHS, THE APPLIANCE FLUE PIPE AND CHIMNEY MUST BE IN GOOD CONDITION. THESE INSTRUCTIONS ALSO APPLY TO A DRAFT INDUCER IF USED.

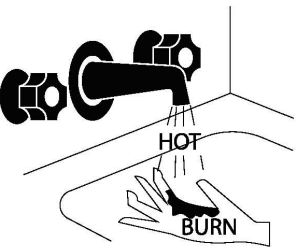
LOSS OF ELECTRICAL POWER

NO DANGER
PELLET BOILER COOLS DOWN
AUTOMATICALLY

DANGER

KEEP VIEWING AND ASH
REMOVAL DOORS TIGHTLY
CLOSED DURING OPERATION!

DANGER



Water temperature over 125°F can cause severe burns instantly or death from scalds.

Children, disabled and elderly are at highest risk of being scalded.

Review this instruction manual before setting temperature at water hooter.

Feel water before bathing or showering.

Temperature limiting valves are available.

*	Min. clearance of flue gas connection from wall or part of building	5 inches
a	Min. clearance rear of boiler from wall or part of building	18 inches
b	Min. clearance of side of boiler from wall or part of building	1 inch
c	Min. clearance of front of boiler from wall or part of building	25 inches
d	Min. clearance of side of burner from wall or part of building	22 inches
e	Minimum ceiling height	73 inches

The DHW portion of this boiler shall not be connected to any heating system or component(s) previously used with a non-potable water heating appliance. Furthermore, Toxic chemicals such as used for boiler treatment shall not be introduced into the potable water heating section of this boiler.

**DANGER**

MOVING PARTS CAUSE INJURY!
DO NOT OPERATE WITH
REMOVED COVERINGS!

**CAUTION**


DO NOT ALTER THIS
EQUIPMENT IN ANY WAY
LOSS OF WARRANTY

**CAUTION**

INSTALL AND USE ONLY IN
ACCORDANCE WITH INSTAL-
LATION-AND OPERATING INST-
RUCTIONS! REFER TO OWNERS
MANUAL

**CAUTION**

DO NOT CONNECT THIS UNIT
TO A CHIMNEY FUEL SERVING
ANOTHER APPLIANCE.
SEE LOCAL RESTRICTIONS!

		<h1>MESys</h1> <p>Maine Energy Systems, LLC 8 Airport Road, Bethel, Maine 04217 Voice: 207-824-6749 Fax: 207-824-4816</p>	
Type: Pellematic Smart XS		S/N: XS00001	Catalog No.: 80769
Date of manuf.: 08/2018		Rated heat power: 61,400 btu/hr	
Tested to: UL2523-2013 CSA B366.1-2011			
Manufactured by: MESys LLC, Bethel, Maine		Fuel: WOOD PELLETS	
U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with the 2020 particulate emissions standard using wood pellets.			
Test methods: ASTM 2515-11 and ASTM 2618-013			
This appliance needs periodic inspection and repair for proper operation. Consult owner's manual for further information. It is against federal regulations to operate this appliance in a manner inconsistent with operating instructions in the owners manual.			
Non-condensing mode: Particulate emissions, 0.04lb./million btu - 0.57grams/hr. CO emissions, 0.04grams/minute. Annual efficiency (HHV) 87%			
Condensing mode: Particulate emissions, 0.05lb./million btu - 0.62grams/hr. CO emissions, 0.03grams/minnute. Annual efficiency (HHV) 94.5%			
Water Capacity: 88.5 gallons		Operating Temp: 194F MAX	
Operating Pressure: 3BAR / 43.4PSI / 1204inches WC			
Chimney: Factory built stainless steel approved for moisture and positive pressure.			
MAX DRAFT: 0.11 inches WC - MIN DRAFT: 0.0 inches WC - Diameter: 5 inches			
Electrical Rating: 220V, 60Hz, 15Amp, 1760 Watts			
Flooring: Combustible floors can be used with a non-combustible shield. Minimum clearances are 25in/635mm in the front and 8in / 203mm on each side.			
Parts: Fan, Flue Gas: 80463		Controller Display / Screen: E1330	
Motor Ash Box: E1204		Motor Flame Return Protection: E1413A	
Motor Cleaning Device: E1204-1		Motor Hopper: E1384	
Suction Turbine: E1192		Motor Burner Screw: E1515	
Low Water Cut-off: Safgard 550SV		Control Board: E1412	
Pressure Relief Valve: Watts Co335M1			

RESIDENTIAL LIMITED WARRANTY

What this Warranty Covers & Who it Applies to: The limited warranty provided by **Maine Energy Systems LLC** (“MESys”) applies only to MESys brand boilers, furnaces, wood pellet burners and accessories (“Product”) sold to you, the first user and purchaser provided that the Product was purchased: (1) for your normal, household (non-commercial) use, and has only been used for normal household purposes; (2) new at retail (not a display, “as is”, or previously returned model) and not for resale, or commercial use; and (3) within the United States. Products installed in a building other than a one or two family residential dwelling are not covered, under this Warranty unless individual Boilers are installed for each dwelling unit. Please return your registration card; while not necessary to establish warranty coverage, it allows MESys to be able to notify you in the unlikely event of a safety issue.

How Long this Limited Warranty Lasts: This Limited Warranty has three time frames, depending on the particular Product component involved.

(1) MESys warrants that the burner, ignition, electric and electronic parts, flame tube and burner plate, chains, bearings, chain pinions, and all other moving components of the Product are free from defects in materials and workmanship for a period of *two (2) years from the date of initial operation or 6,000 operating hours, whichever comes first*, provided they are installed and properly maintained by a qualified heating contractor and the other conditions of this warranty are met, and

(2) *In addition*, all other parts including the boiler vessel, or heat exchanger in furnaces, are warranted to be free from defects in materials and workmanship for a period of *five (5) years from the date of initial operation or 15,000 operating hours, whichever comes first* provided it is installed and properly maintained by a qualified heating contractor and the other conditions of this warranty are met; and

(3) *In addition* thereafter, MESys warrants that the boiler vessel is free from defects in materials and workmanship on a prorated basis follows, provided it is installed and properly maintained by a qualified heating contractor and the other conditions of this warranty are met:

For the next five (5) years (years 6 through 10) or a maximum of 30,000 operating hours, whichever comes first, the boiler vessel is warranted for 75% of the then retail parts cost; and thereafter

For the next ten (10) years (years 11 through 20) or a maximum of 60,000 operating hours, whichever comes first, the boiler vessel is warranted for 50% of the then retail parts cost.

For the next ten (10) years (years 21 through 30) or a maximum of 90,000 operating hours, whichever comes first, the boiler vessel is warranted for 25% of the then retail parts cost, which may be used to replace the boiler vessel, or used as a credit toward a new boiler system, at MESys’ discretion.

Labor is not covered under this limited warranty. During the pro-rated warranty period, the customer is responsible for payment of the remaining portion of the then retail cost.

The warranty period begins to run upon the date of initial operation, and shall not be extended for any reason whatsoever. This limited warranty does not cover labor and shipping costs, non-MESYS components, serviceable items or normal maintenance, nor the other items and events excluded below.

Terms of Limited Warranty: MESys will provide replacement parts for any component that proves to be defective in materials or workmanship (excludes labor charges) within the periods set forth above, or replace it with the most comparable model available from MESys at the time of the replacement, provided that the purchaser pays for the other portion of the prorated charge set forth above if applicable. The proportionate charge is based on the current list price of the boiler vessel involved in the warranty claim (or the nearest comparable MESys model). The foregoing timelines begin to run upon the date of initial operation, and shall not be stalled, tolled, extended, or suspended, for any reason whatsoever.

Repair/Replace as Your Exclusive Remedy: During this limited warranty period, MESys or one of its authorized service providers will provide replacement parts for your Product or replace it with the most comparable model then available from MESys at the time of the replacement (subject to certain limitations stated herein,) if your Product proves to have been manufactured with a defect in materials or workmanship. All removed parts and components shall become the property of MESys at its sole option. All replaced and/or repaired parts shall assume the status of the original part for purposes of this

warranty and this warranty shall not be extended by the replacement of such parts. MESys's sole obligation hereunder is to provide replacements for defective Product to a MESys-authorized service provider during normal business hours. For safety and property damage concerns, MESys highly recommends that you do not attempt to repair the Product yourself, or use an un-authorized servicer; MESys will have no responsibility or liability for repairs or work performed by a non-authorized servicer. If you choose to have someone other than an authorized service provider work on your Product, THIS WARRANTY WILL AUTOMATICALLY BECOME NULL AND VOID. Authorized service providers are those persons or companies that have been specially trained for customer service and technical ability (note that they are independent entities and are *not* agents, partners, affiliates or representatives of MESys).

Warranty Exclusions: The warranty coverage described herein excludes all defects or damage that are not the direct fault of MESys, including without limitation, any one or more of the following: (a) use of the Product in anything other than its normal, customary and intended manner (including without limitation, any form of commercial use or use that is not for personal, family or household purposes); (b) any party's willful misconduct, negligence, misuse, abuse, accidents, improper operation, failure to maintain, improper or negligent installation, tampering, failure to follow operating instructions, mishandling, unauthorized service (including self-performed "fixing" or exploration of the appliance's internal workings); (c) adjustment, alteration or modification of any kind; (d) a failure to comply with applicable state, local, city, or county electrical, plumbing and/or building codes, regulations and laws, including failure to install the product in strict conformity with local fire and building codes and regulations; (e) ordinary wear and tear; (f) any external, elemental and/or environmental forces and factors, including without limitation, lightning strikes, voltage spikes, flues that do not meet specified standards, fire, floods, rain, windstorm, floods, fires, mud slides, freezing, excessive moisture or extended exposure to humidity, power surges, building structural failures and acts of God; (g) any damage or failure resulting from contaminated air, including but not limited to sheetrock particles or other dirt or dust, introduced into the Boiler; (h) damage or failure resulting from hard water scale build-up on the heat exchanger waterways; (i) use with insufficient water or operation with water or fuel additives that cause deposits or corrosion; and (j) use with oxygen permeable tubing or other components. In no event shall MESys have any liability or responsibility whatsoever for damage to surrounding property and other structures or objects around the Product. Also excluded from this warranty are scratches, nicks, minor dents, and cosmetic damages on external surfaces and exposed parts; Products on which the serial numbers have been altered, defaced, or removed; service visits to teach you how to use the Product, or visits where there is nothing wrong with the Product; correction of installation problems (you are solely responsible for any structure and setting for the Product, including all chimneys, flues, electrical, plumbing or other connecting facilities, for proper foundation/flooring, and for any alterations); and resetting of breakers or fuses.

TO THE EXTENT ALLOWED BY LAW, THIS WARRANTY SETS OUT YOUR EXCLUSIVE REMEDIES WITH RESPECT TO PRODUCT, WHETHER THE CLAIM ARISES IN CONTRACT OR TORT (INCLUDING STRICT LIABILITY, OR NEGLIGENCE) OR OTHERWISE. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED. ANY WARRANTY IMPLIED BY LAW, WHETHER FOR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE, SHALL BE EFFECTIVE ONLY FOR THE PERIOD THAT THIS EXPRESS LIMITED WARRANTY IS EFFECTIVE OR THE IMPLIED WARRANTY PERIOD, WHICHEVER IS LESS. IN NO EVENT WILL MESYS BE LIABLE FOR CONSEQUENTIAL, SPECIAL, INCIDENTAL, INDIRECT, "BUSINESS LOSS", AND/OR PUNITIVE DAMAGES, LOSSES, OR EXPENSES, INCLUDING WITHOUT LIMITATION TIME AWAY FROM WORK, HOTELS AND/OR RESTAURANT MEALS, EXPENSES IN EXCESS OF DIRECT DAMAGES DEFINITELY CAUSED EXCLUSIVELY BY MESYS, OR OTHERWISE ARISING. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, AND SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE.

The customer is responsible for the costs of:

- Components which have been replaced but found not to have been defective;
- Faulty installation;
- Normal maintenance; and
- Equipment used contrary to the installation manual.

The required information that must be furnished to MESYS for a claim under this Limited Warranty includes:

- Model number and serial number of the Product;
- Date the Product was installed and placed in operation, the location, the name of the installer;
- Date the Product component failure was reported; and

- Description of condition that prompted the report.

No attempt to alter, modify or amend this warranty shall be effective unless authorized in writing by an officer of MESYS.

To Obtain Warranty Service, Please Contact

Maine Energy Systems, LLC ("MESys")

8 Airport Road, P.O. Box 547, Bethel, Maine 04217

Tel: 207.824. 6749 Fax: 207.824.4816

info@maineenergysystems.com

Limited Warranty Boiler Resid 1-31-2013 REV
6/13/2013 3:46 PM

Author & Manufacturer

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Maine 04217

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www.maineenergysystems.com

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