Eco Engineering

Operating Manual

Easypell
16 - 32 kW

ENGLISH

200013EN

www.easypell.com

Eco Engineering

Title:	Operating Manual Easypell 16 - 32 kW
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Approved:	Christian Wohlinger

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www.easypell.com

Contents

1 Dear Customer

- This manual is intended to help you operate the product safely, properly and economically.
- Please read this manual right through and take note of the safety warnings.
- Keep all documentation supplied with this unit in a safe place for future reference. Please pass on the documentation to the new user if you decide to part with the unit at a later date.
- Please contact your authorised dealer if you have any questions.

2 Intended use

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

CE

EASYPELL PELLETZENTRALHEIZUNG	CONFORMITY EXPLANATION	PE/PR/013.E

EC – CONFORMITY EXPLANATION

in accordance with machine guideline 2006/42/EG, Annex II A

The manufacturer declared that the new machine part / machine component due to their design and construction, as well as in our marketed version agreed in the valid version with the regulations of the machine safety regulation – MSR, Federal law gazette L.No. MSV2010, BGBl Nr.282/2008, and thus the machine guideline 89/392/EEC converted by it, last changed through 2006/42/EC.

Manufacturer, company

Eco Engineering 2050 GmbH
Gewerbepark 1
A-4133 Niederkappel

Easypell 16, 20, 25 and 32kW

With the interpretation and the building of the machine the following standards wereused:

Relevant Provisions:

2006/42EC	Machine guideline in applicable constitution
2014/35EC	Low voltage directive
2014/30/EC	EMC - directive electromagnetic compatibility

Applied european / national standards and guidelines:

EN ISO 12100 :2010	Security of machines
EN 303-5	Definitions of performance of heat exchangers
EN 61000-6-2 and EN61000-6-3	Electromagnetic compatibility
ÖNORM M7550, B8130 and B8131, as well as the technical guidelines and the Construction Products Directive	- TRVB H 118 - Preventing fire protection - 89/106/EEL

In accordance with the listed directives, this product is designated with CE

The manufacturer also declares compliance with the seasonal energy efficiency requirements and emissions according to the Ecodesign Regulation in force. (Regulation (EU) 2015/1189, of the Commission, of April 28, 2015, by which develops Directive 2009/125/EC)

Niederkappel, February 10th, 2022
date, sign. :

Ing. Herbert Ortner
Managing director

3 Types of safety warning sign

The warning signs use the following symbols and texts.

Types of safety warning sign

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

⚠DANGER

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

► Observe the instructions for eliminating this hazard!

⚠WARNING

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

⚠CAUTION

Caution - indicates a situation that could lead to injury.

NOTICE

► indicates a situation that could lead to property damage.

4 Warnings and safety instructions

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

4.1 Basic safety instructions

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

4.2 Warning signs

⚠DANGER

Risk of poisoning

Make sure that the pellet boiler is supplied with sufficient combustion air. The openings in the combustion air inlet must never bepartially or completely closed. Ventilation systems, central vacuum cleaning systems,extractor fans, air conditioning systems, flue gas blowers, dryers or similar equipment must never be allowed to draw air from the central heating room and cause a drop in pressure. The boiler must be connected tight to the chimney using a flue gas tube. Clean the chimney and the flue gas tube at regular intervals. The central heating room and pellet storage room must be sufficiently supplied with air and ventilated. Before entering the storage room it must be ventilated with sufficient air and the heating system switched off.

⚠DANGER

Risk of electric shock

Switch off the system before performing work on the boiler.

⚠DANGER

Risk of explosion

Never burn petrol, diesel, engine oil or other explosive materials. Never use liquids or chemicals to ignite the pellets.

⚠DANGER

Risk of fire

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

⚠WARNING

Risk of burns

Do not touch the flue spigot or the flue gas tube. Do not reach into the ash chamber. Use gloves to empty the ash box. Do not clean the boiler until it has been allowed to cool down.

⚠CAUTION

Risk of cut injuries due to sharp edges.

Use gloves for performing all work on the boiler.

NOTICE

Damage to property

Heat the pellet heating system using pellets that comply with EN ISO 17225–2 class A1 only.

NOTICE

Damage to property

Do not use the heating system if it, or any of its components, come into contact with water. If water damage occurs, have the heating system checked by an service technician and have any damaged parts replaced.

4.3 What to do in an emergency

What to do in the event of a fire

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

What to do if you smell smoke

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

NOTICE

EMERGENCY STOP SWITCH

In both cases, the emergency stop switch must be operated outside the boiler room.

5 Prerequisites for installing a pellet boiler

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

5.1 Central heating room

The pellet boiler is installed in the central heating room.

1. Safety instructions for the heating room

   ⚠DANGER

   Risk of fire

   Do not store flammable materials or liquids in the vicinity of the pellet boiler. Do not permit unauthorised persons to enter the central heating room - children are to be kept out. Always close the boiler door.

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

3. Combustion air supply
   The pellet boiler needs a supply of combustion air.

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

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

   Do not hang out washing in the central heating room.

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

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

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

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

7. Cleaning
   Clean the flue gas tube and chimney regularly.

NOTICE

Oxidation of chimney

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

► Legislation in your country must be observed.

5.2 Safety systems

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

Emergency stop switch

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

Safety valve

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

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

Safety temperature sensor

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

Expansion tank

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

NOTICE

Starting up

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

5.3 Operation of a pellet boiler with an existing boiler

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

6 Fuel

Wood pellets are natural wood (dried sawdust or waste from machining) that has been formed into pellets under high pressure. They have a very low moisture content and very high calorific value.

Manufacture of wood pellets is regulated by European standard EN ISO 17225–2.

6.1 Specification for high quality pellets as per EN ISO 17225–2, class A1

Calorific value	≥ 4,6 kWh/kg or ≥ 16,5 MJ/kg
Loose density	min. 600 kg/m³
Water content	max. 10 %
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 6mm.

Using non-pelletised fuels or pellets that are not manufactured fromnatural woodwill lead to the warranty becoming void andwill cause damage to the pellet boiler and the chimney.

Use only quality pellets from Austrian standard approved, DINplus or ENplus approved manufacturers.

Check the level of the pellet container regularly, at least every 2 days, and fill it. Please observe the safe and proper closing of the container after filling.

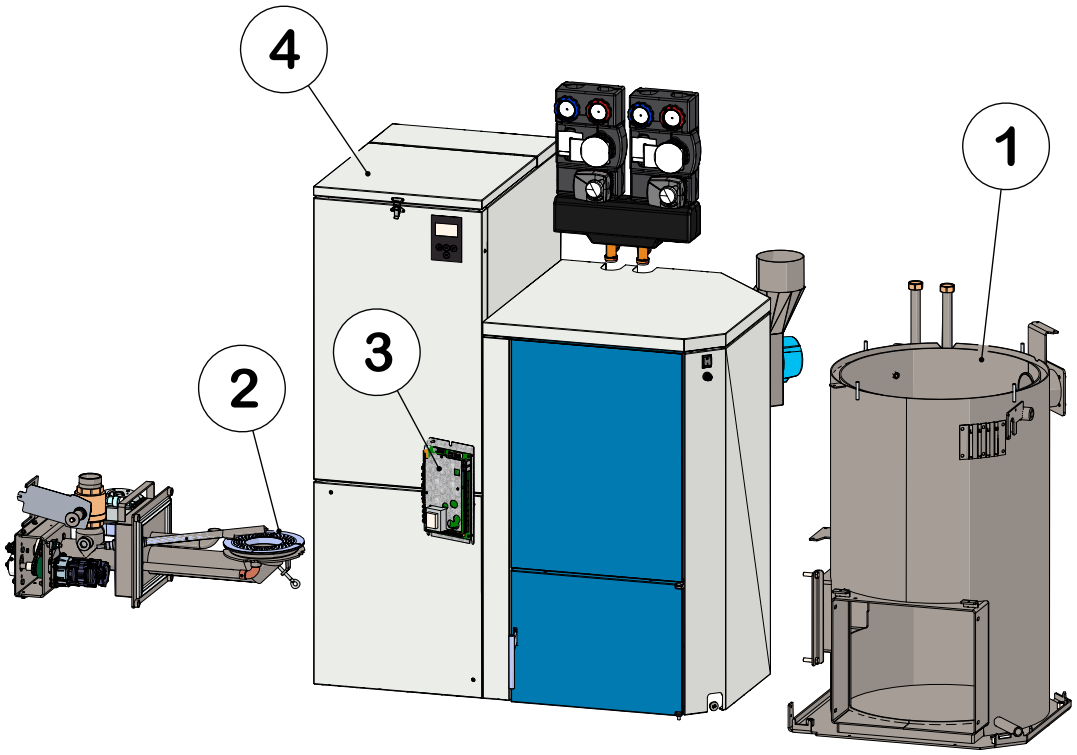
7 The Easypell

Easypell types and power ratings

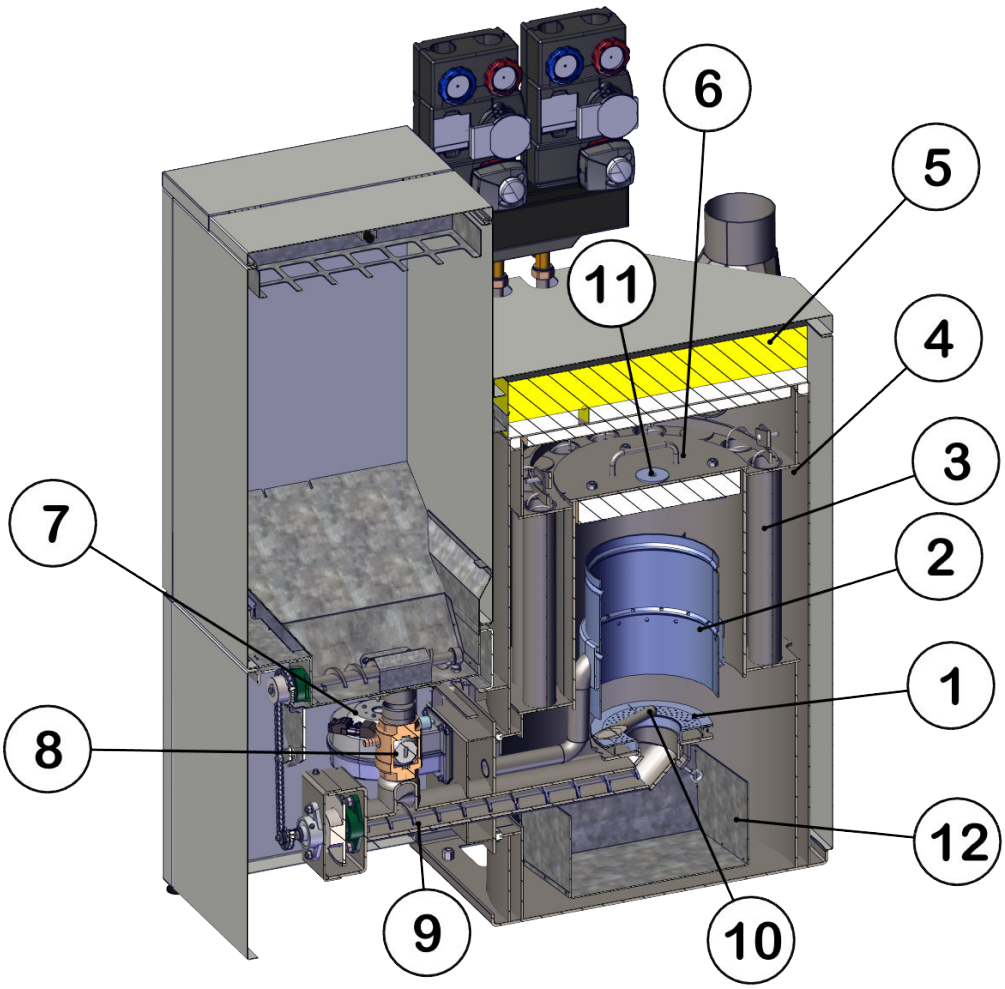
Eco Engineering offers the Easypell with the following power ratings: 16, 20, 25 and 32kW.

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

Key components of the Easypell



1	Boiler (heat exchanger)	3	Boiler controller
2	Burner	4	Pellet hopper



1	Burner plate	7	Suction fan
2	Flame tube	8	Anti-blowback system
3	Heat exchanger	9	Burner auger
4	Boiler water	10	Electronic ignition
5	Boiler insulation	11	Combustion chamber sensor
6	Combustion chamber cover	12	Ash box

8 Maintenance and servicing

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

8.1 Maintenance

Maintenance, boiler cleaning and cleaning of flue gas connection are necessary at least once a year. Pelletswhich produces tendentially more slagging (ash melting point <1300 ° C) and pellets with higher bulk density(> 650kg) leads to additional cleaning of the burner plate at regular intervals.

8.1.1 Emptying of the ash box

⚠WARNING

Ashes should be placed in a metal / steel container with a tight fitting lid. The closed container of ashes should be placed on a noncombustible floor or ground, well away from all combustible materials, pending final disposal. If 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.

►

⚠CAUTION

Risk of burns

Use gloves.
Do not touch the boiler vessel.

⚠DANGER

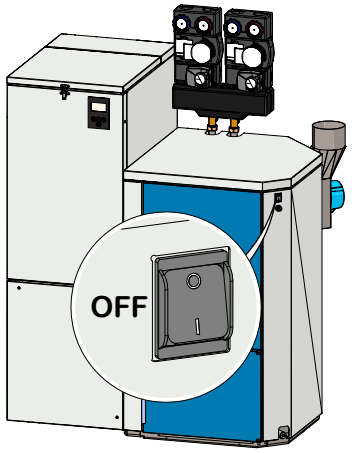
Risk of fire

Do not empty ash into a flammable container.
Do not empty ash onto flammable floors or materials.

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

Check the level of the ash box and empty it at regularl intervals (at least every 2 weeks).

1



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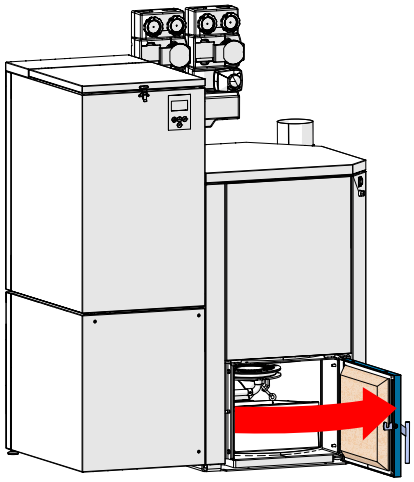

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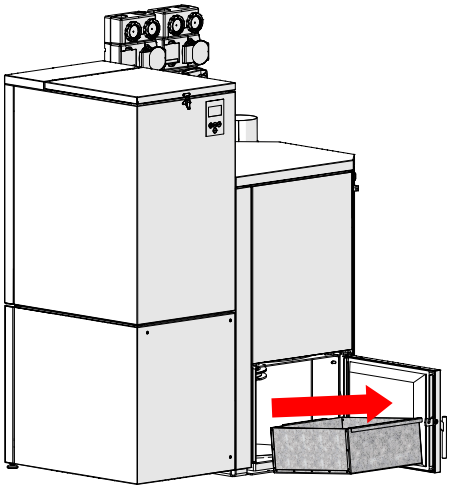

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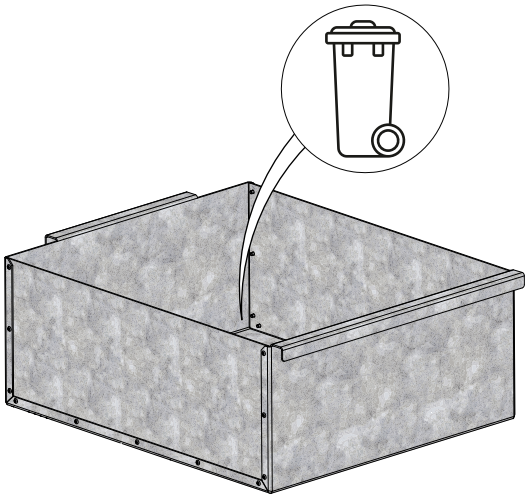

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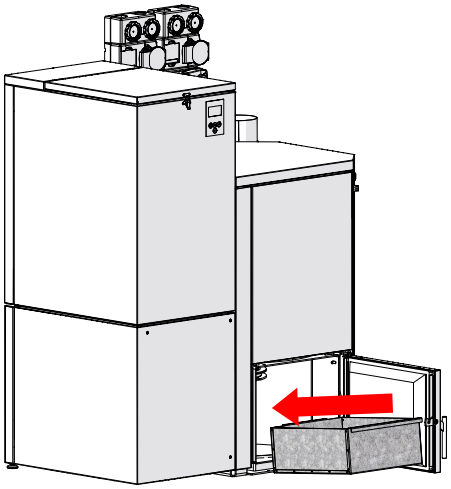

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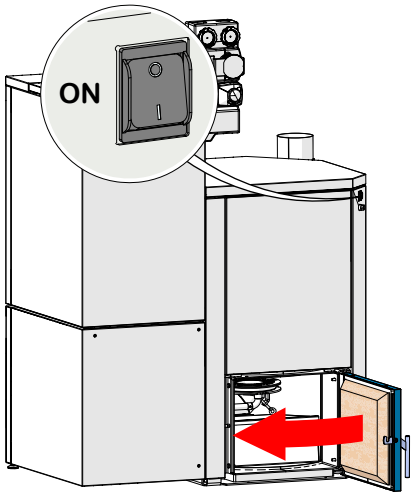
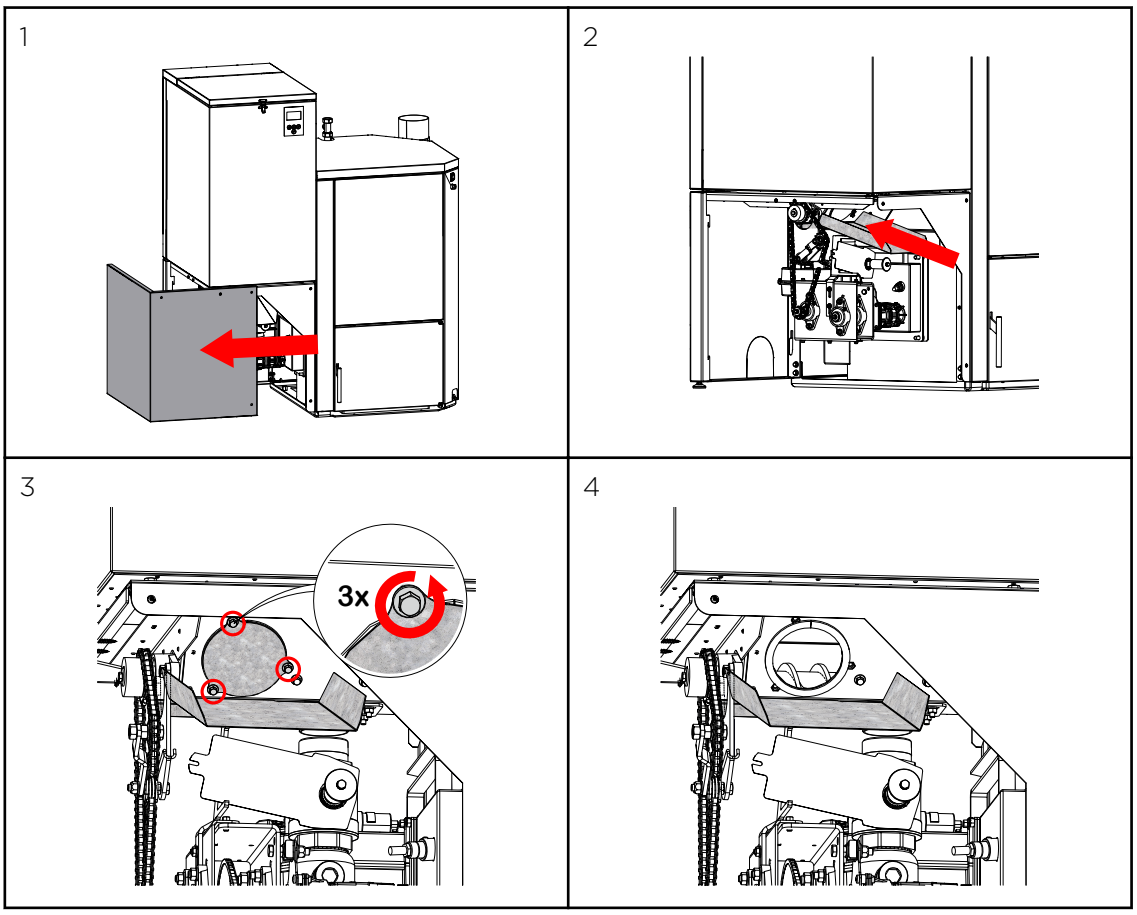


8.1.2 Discharging the hopper



8.2 Cleaning the boiler every year

Boiler cleaning and inspection must be carried out once every 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

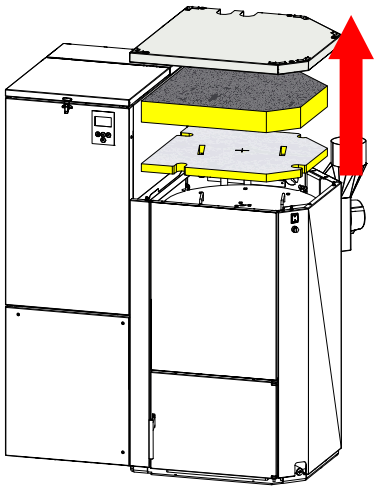
Risk of cut injuries due to sharp edges

Use gloves.

Check first of all, if all seals are in a good condition and the doors closes tightly.

Procedure for cleaning the boiler

1



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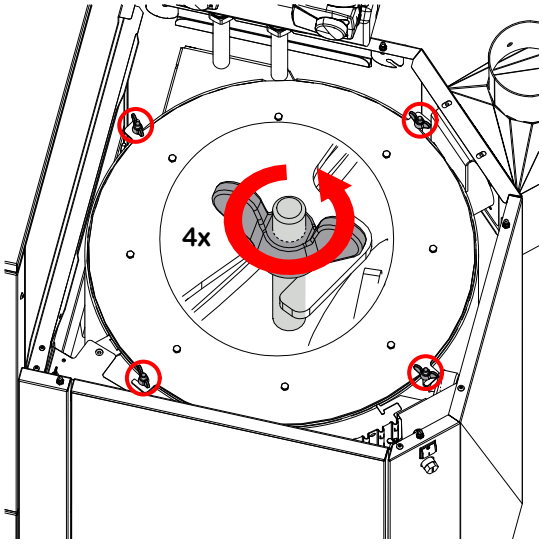

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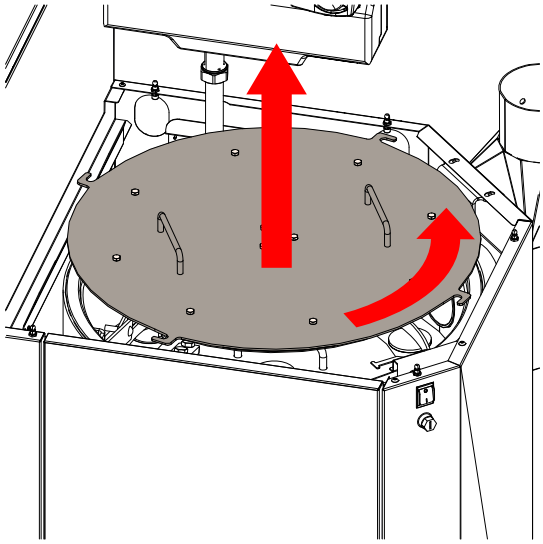

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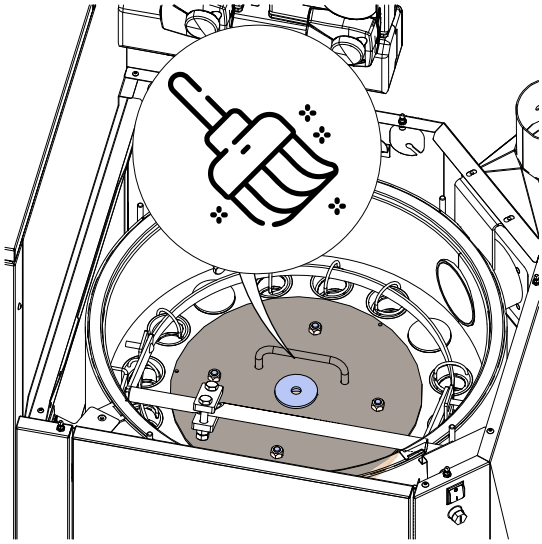

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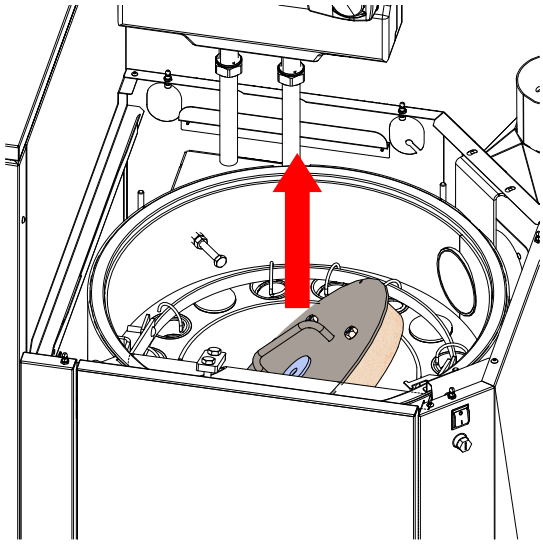

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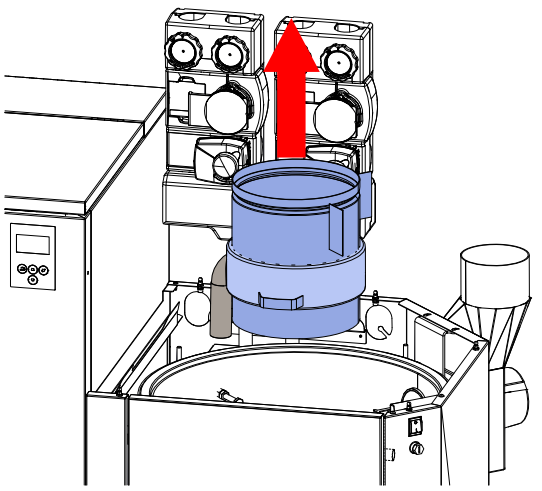
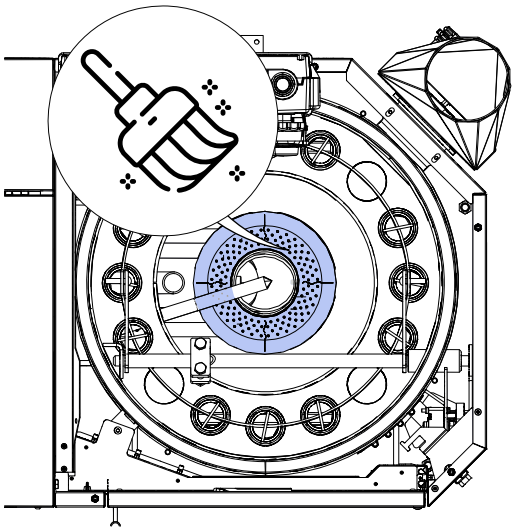


NOTICE

Reduction in boiler performance and damage to pellet boiler due to blockages in the air inlet

Clean the air intakes, the burner plate and the flame tube.

7



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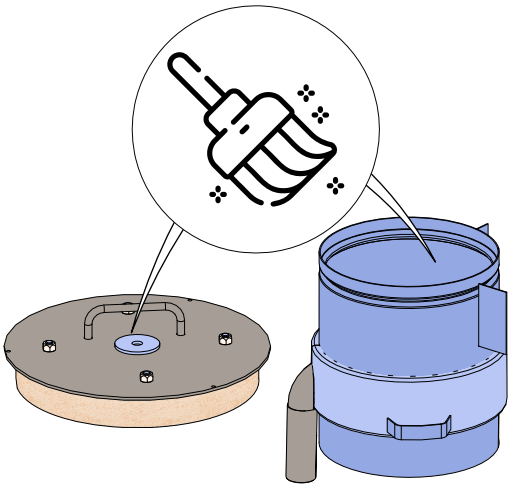

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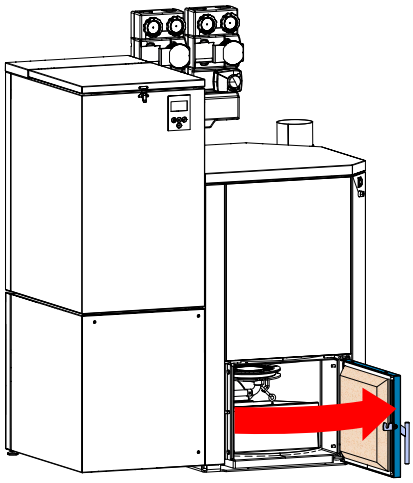

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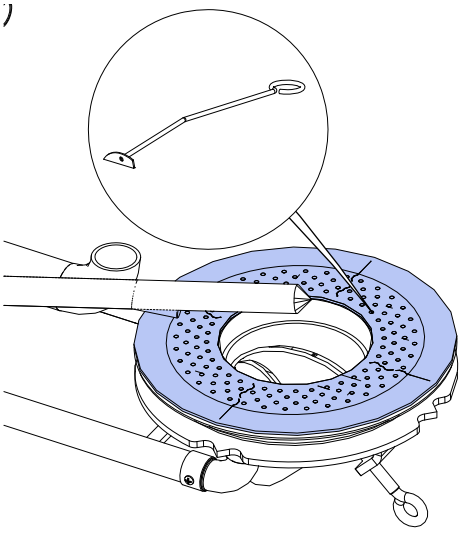

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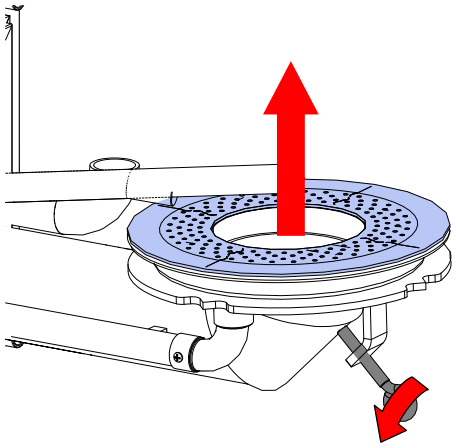

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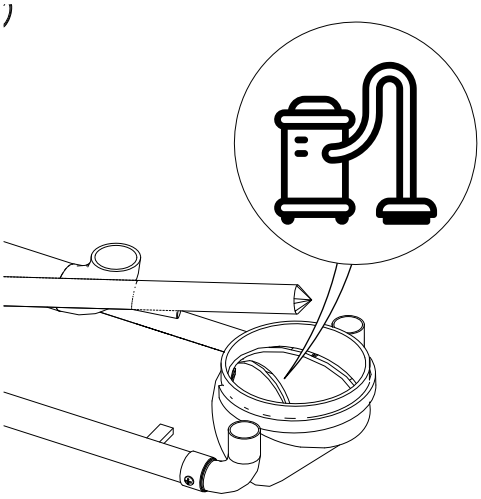

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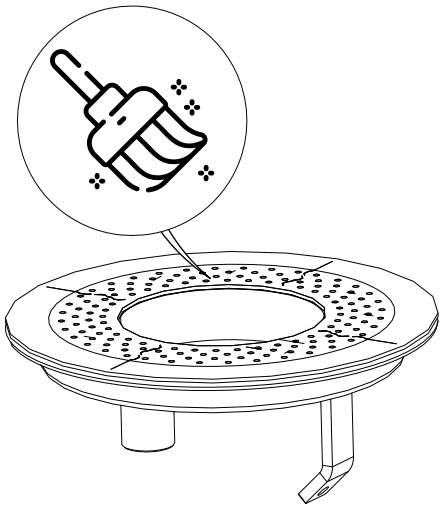
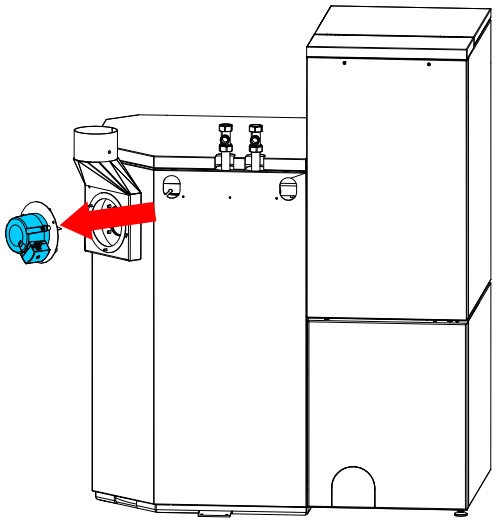
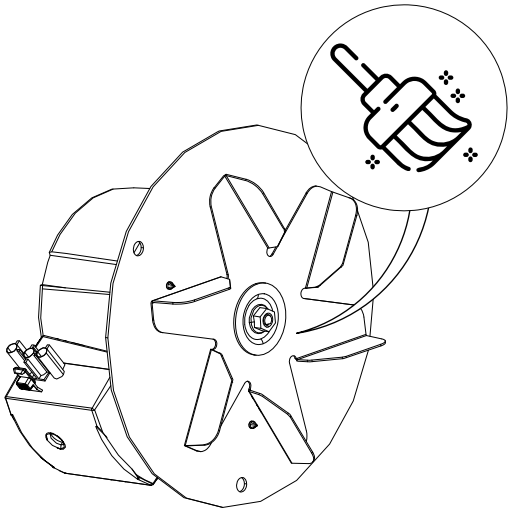


Cleaning the Induced draft blower:





9 Operating the heating system

NOTICE

Damage caused do to incorrect operation or incorrect settings.

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

⚠DANGER

Fire risk

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

NOTICE

Standby boiler controller

Don't turn the main switch off outside the heating period, just deactivate the heating demand.

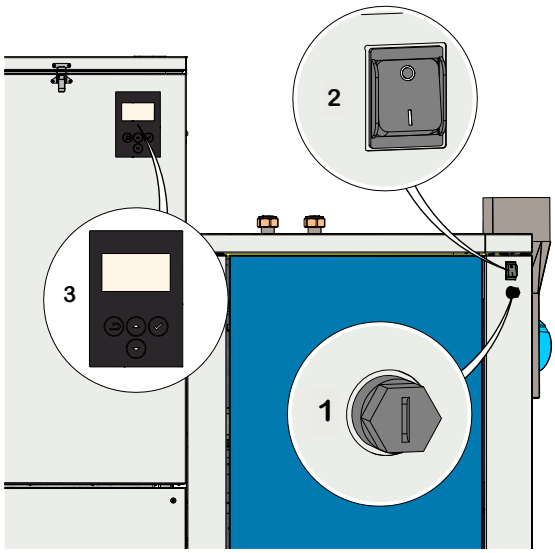
⚠DANGER

Risk of electric shock

When working on electronic components, make sure that they are de-energized.

9.1 Description of the control panel

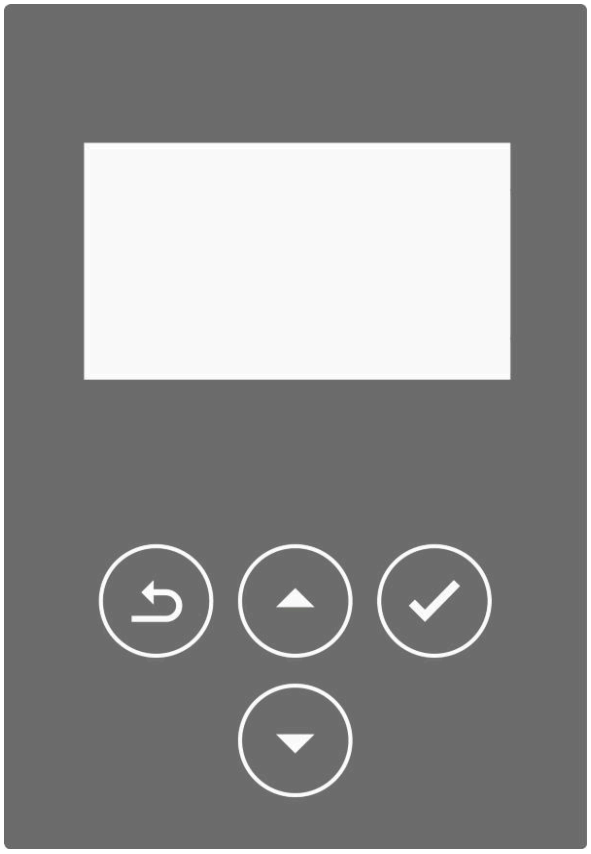
The control panel is located in the boiler front cover.



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

10 User controls and their function

Navigation-icons



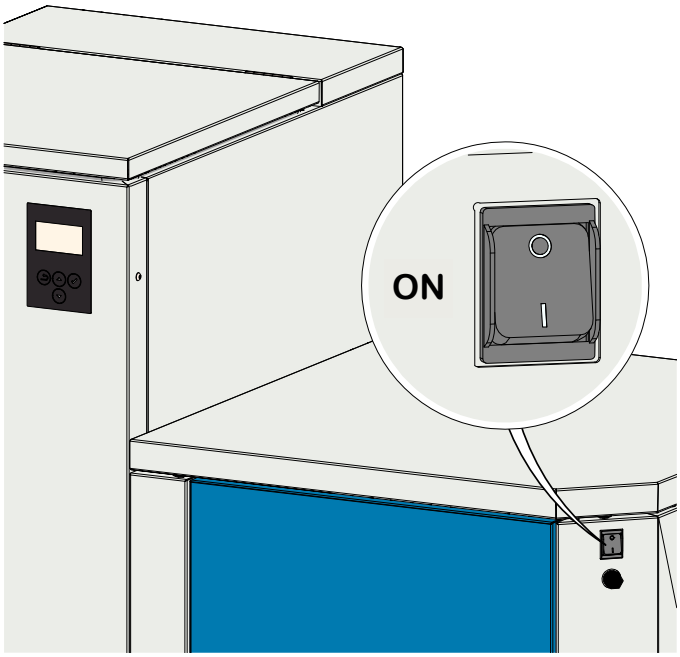
Icon view	Description
	Use the up arrow to return to the previous menu screen.
	Use the down arrow to arrive at the next menu screen.
	When this symbol is displayed, the set value can be changed. When this function is selected, the value can be changed by pressing the arrow keys.
	When this function is selected, you leave the menu without saving the changed value.

Icons System status

Icon view	Description
	Run down time
	Negative draft input open
	Accumulator
	Sensor break accumulator sensor
	Boiler
	DHW
	Sensor break DHW sensor
	Boiler cleaning Note: This message appears when the container cover has been open for longer than 20 seconds.
	Warning
	Heating full power
	Safety temperature sensor has released
	Container cover is open
	OFF
	Ignition
	Sensor break boiler sensor
	Sensor break combustion chamber sensor
	Flame return gate open fault
	Time programme aktive

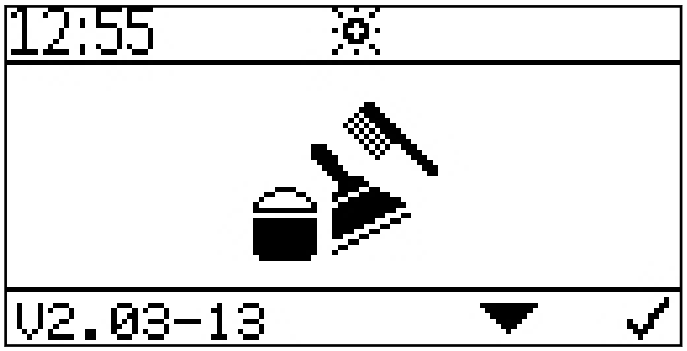
Icon view	Description
	Burner contact closed
	Pump active
	Temperarure too low
	Outertemperature control

10.1 Version A

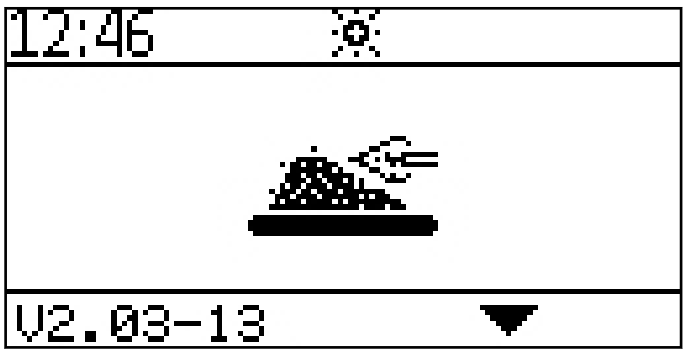


After switching on, the boiler starts (after approx. 10 seconds).

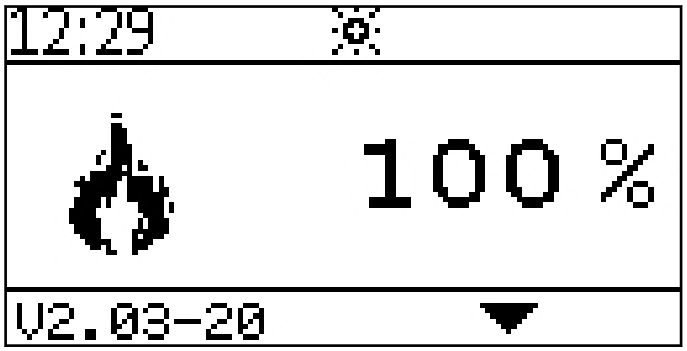
The fire protection device is opened.



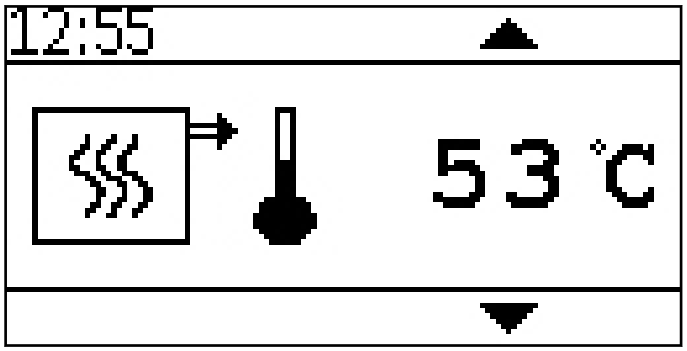
This symbol appears on the display while the fire protection device is being opened (approx. 2 minutes).



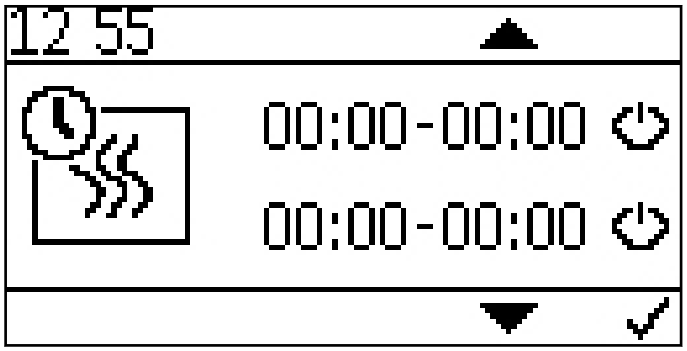
After the fire protection device has been opened, the ignition process starts and the symbol for ignition is displayed.



On completion of the ignition process (can last up to 15 minutes), the symbol for heating at full power appears. The boiler is now heating at full power.



Display of the current boiler temperature

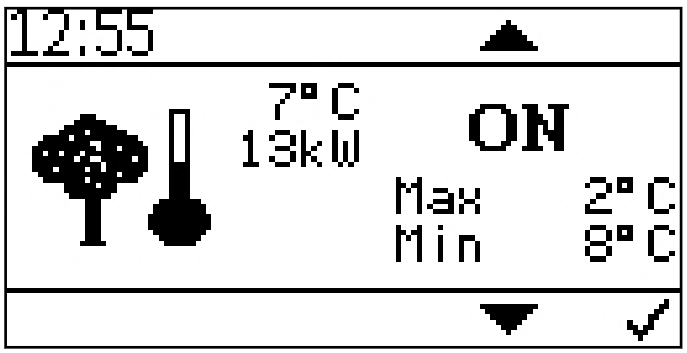


Adjusting the time programme of the boiler.

By pressing the start and stoptime appear.

Activate the times with

During the activated time, the boiler always runs up to the switch-off temperature without considering the Z26 contact. Outside the time, contact Z26 activates the boiler.

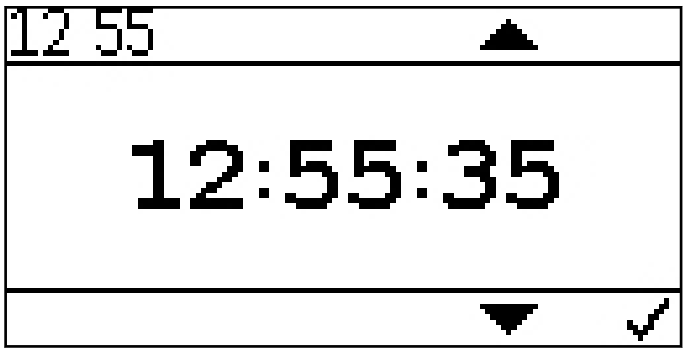


Setting Outertemperature control.

Here you can set the temperature values for the maximum and minimum boiler rating.

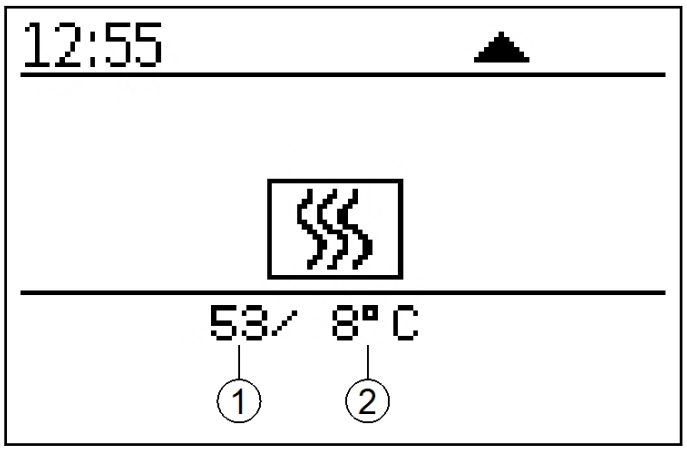
Adjustment range max. rated power -10° C bis +6° C

Adjustment range min. power +7° C bis +25° C



Setting current time.
Press ▲ and ▼ to set the current time.

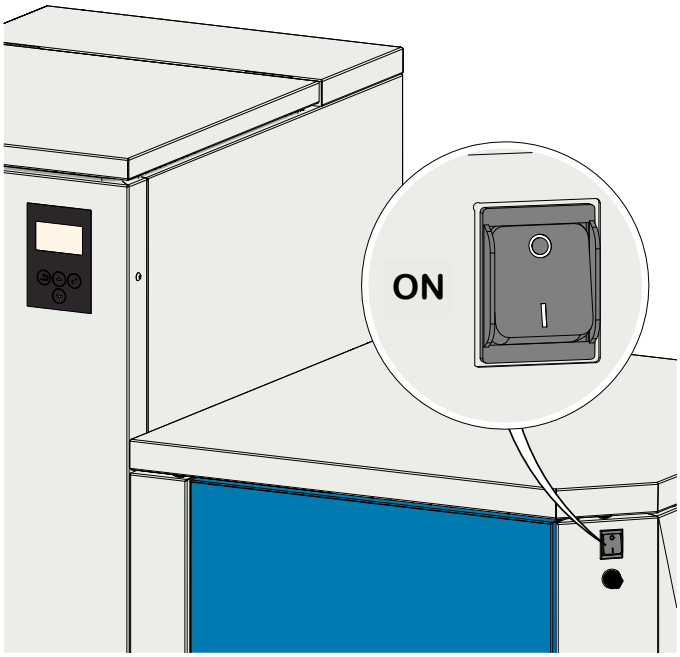
Confirm with ✓



Display of current boiler status.

1. Current boiler temperature
2. Boiler set temperature

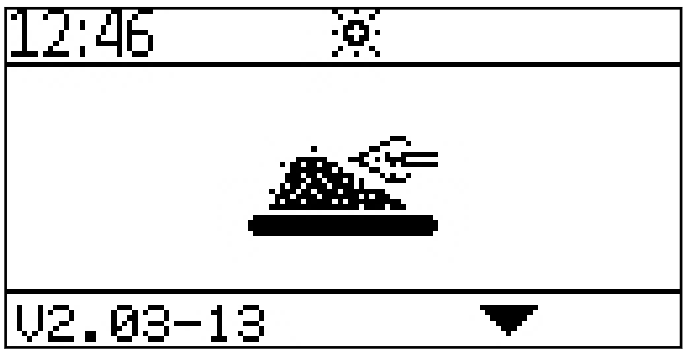
10.2 Version B



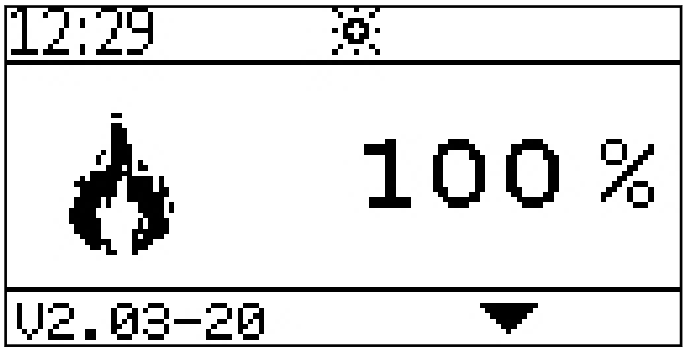
After switching on, the boiler starts (after approx. 10 seconds).

The fire protection device is opened.

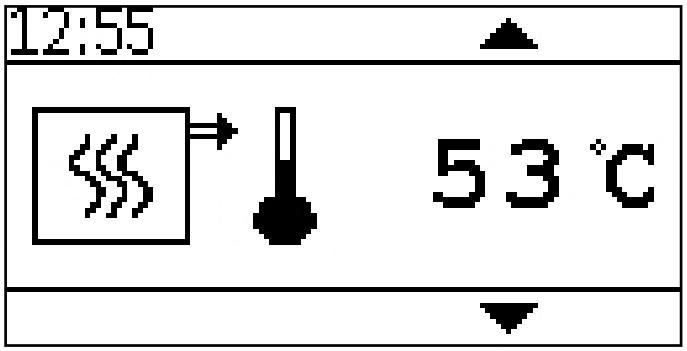
This symbol appears on the display while the fire protection device is being opened (approx. 2 minutes).



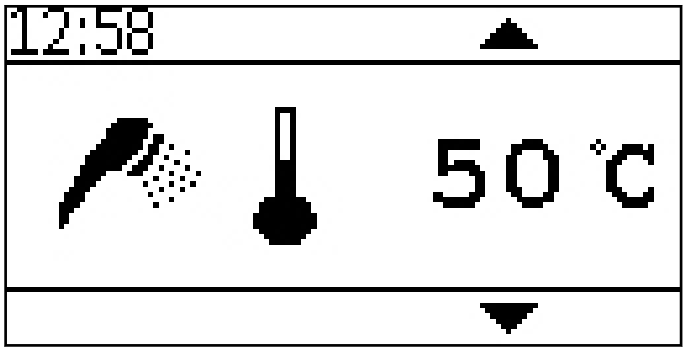
After the fire protection device has been opened, the ignition process starts and the symbol for ignition is displayed.



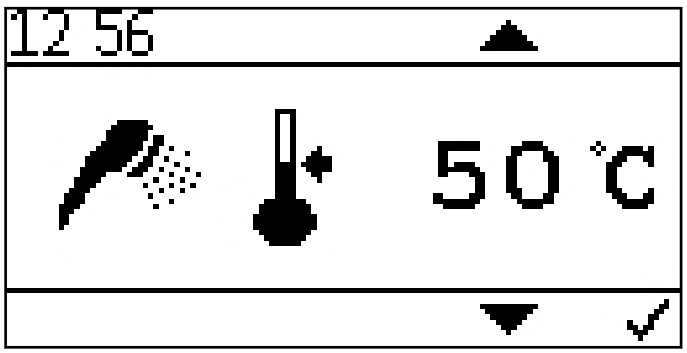
On completion of the ignition process (can last up to 15 minutes), the symbol for heating at full power appears. The boiler is now heating at full power.



Display of the current boiler temperature

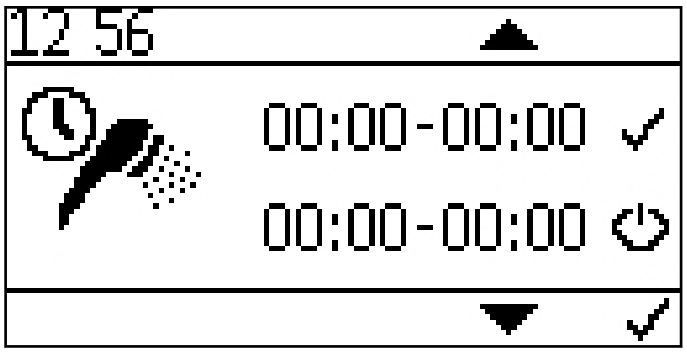


Display of the current DHW temperature.



Setting the DHW set temperature.

The DHW set temperature can be set in the range of 30° C to 75° C.

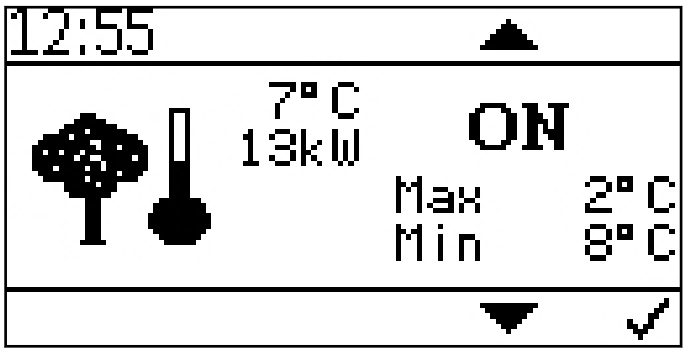


Setting the time programm of the DHW.

By pressing the start and stoptime appear.

Activate the times with

During the activated time, the boiler regulates to the values indicated by the hot water sensor.
The hot water control is not activated outside the set times!

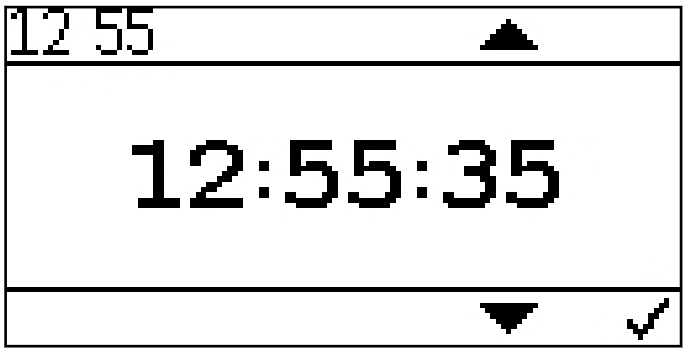


Setting Outertemperature control.

Here you can set the temperature values for the maximum and minimum boiler rating.

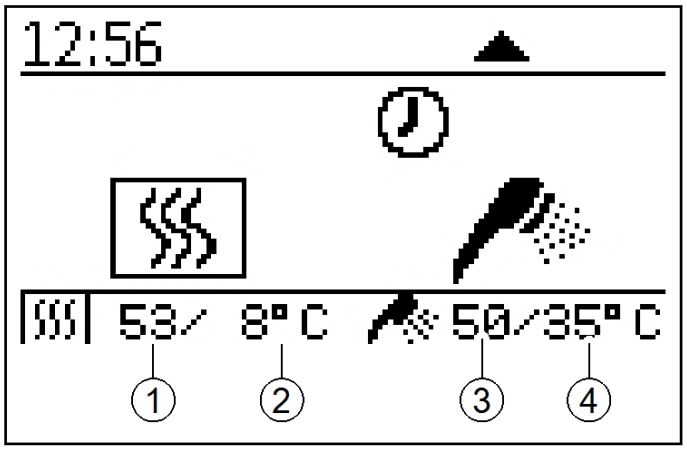
Adjustment range max. rated power -10° C bis +6° C

Adjustment range min. power +7° C bis +25° C



Setting current time.
Press and to set the current time.

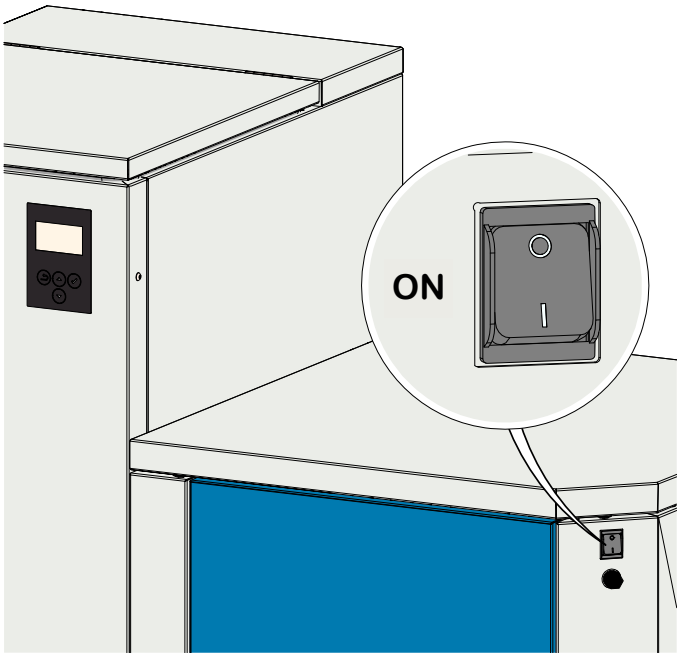
Confirm with



Display of current boiler status.

1. Current boiler temperature
2. Boiler set temperature
3. Current DHW temperature
4. DHW set temperature

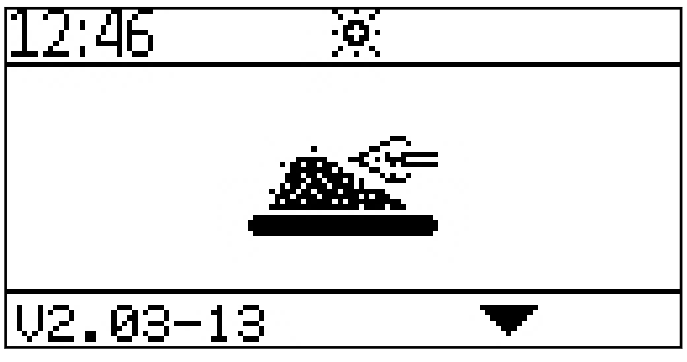
10.3 Version C



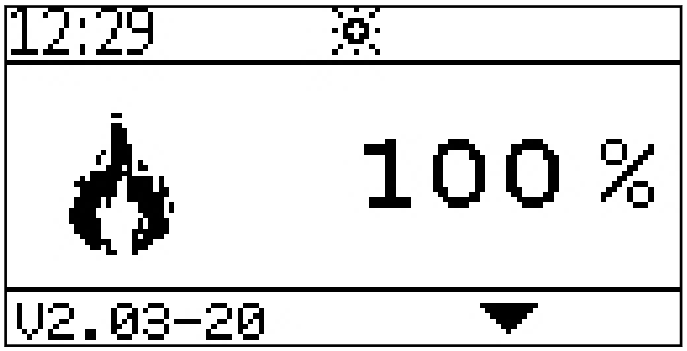
After switching on, the boiler starts (after approx. 10 seconds).

The fire protection device is opened.

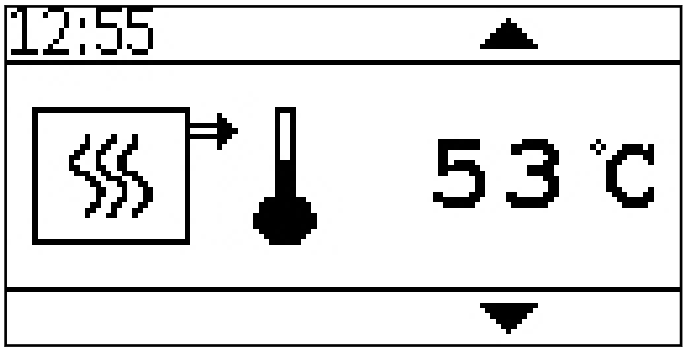
This symbol appears on the display while the fire protection device is being opened (approx. 2 minutes).



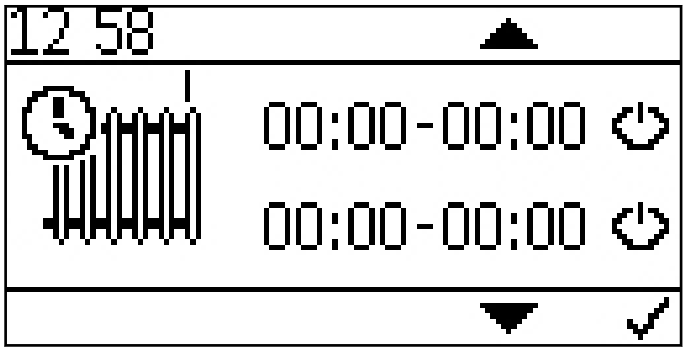
After the fire protection device has been opened, the ignition process starts and the symbol for ignition is displayed.



On completion of the ignition process (can last up to 15 minutes), the symbol for heating at full power appears. The boiler is now heating at full power.



Display of the current boiler temperature

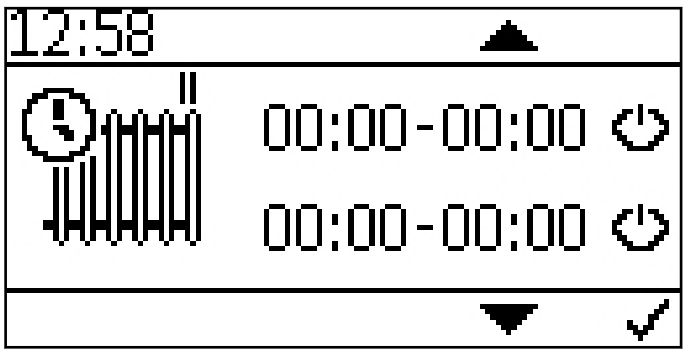


Setting the time programm of heating circuit 1.

By pressing the start and stoptime appear.

Activate the times with

During the activated time, the boiler always runs up to the switch-off temperature without considering the Z26 contact. Outside the time, contact Z26 activates the boiler.

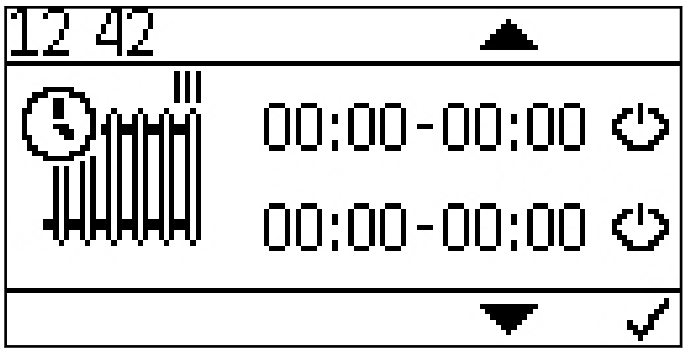


Setting the time programm of heating circuit 2.

By pressing the start and stoptime appear.

Activate the times with

During the activated time, the boiler always runs up to the switch-off temperature without considering the Z27 contact. Outside the time, contact Z27 activates the boiler.

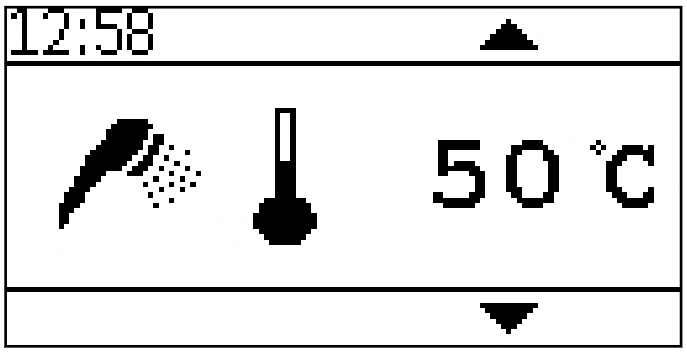


Setting the time programm of heating circuit 3.

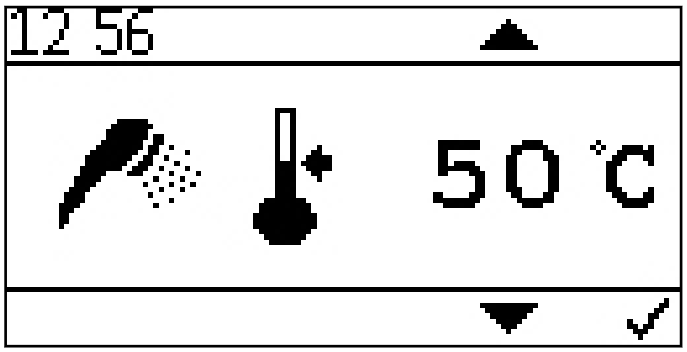
By pressing the start and stoptime appear.

Activate the times with

During the activated time, the boiler always runs up to the switch-off temperature without considering the Z28 contact. Outside the time, contact Z28 activates the boiler.

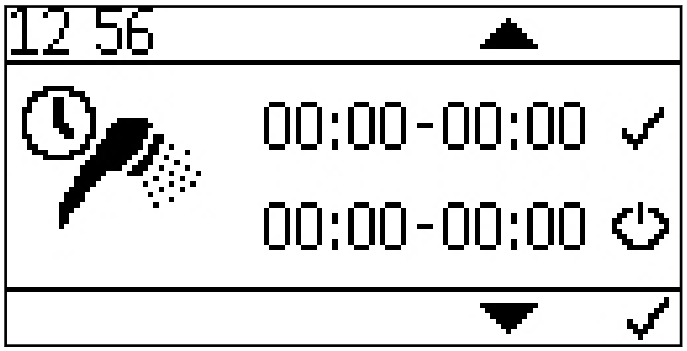


Display of the current DHW temperature.



Setting the DHW set temperature.

The DHW set temperature can be set in the range of 30° C to 75° C.

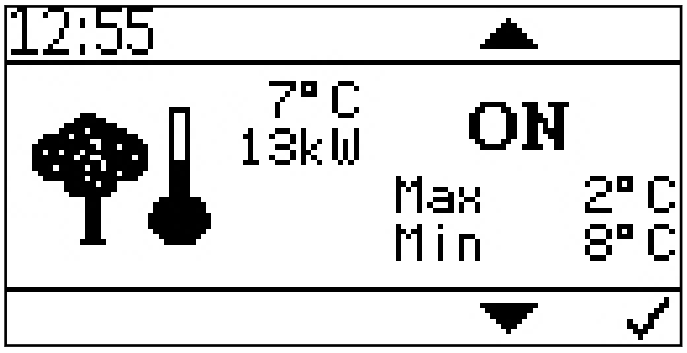


Setting the time programm of the DHW.

By pressing the start and stoptime appear.

Activate the times with

During the activated time, the boiler regulates to the values indicated by the hot water sensor.
The hot water control is not activated outside the set times!

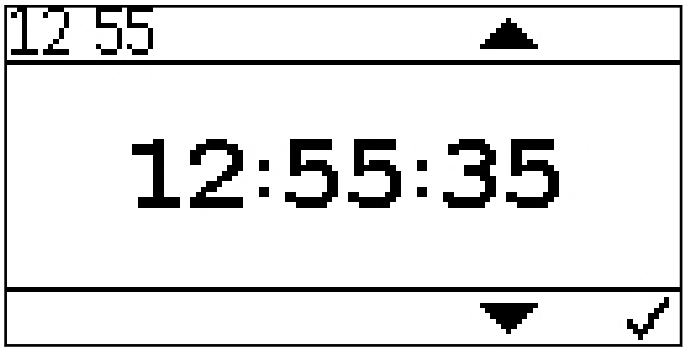


Setting Outertemperature control.

Here you can set the temperature values for the maximum and minimum boiler rating.

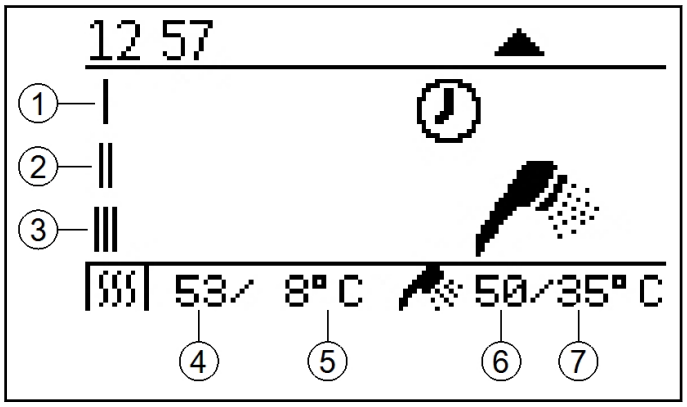
Adjustment range max. rated power -10° C bis +6° C

Adjustment range min. power +7° C bis +25° C



Setting current time.
Press and to set the current time.

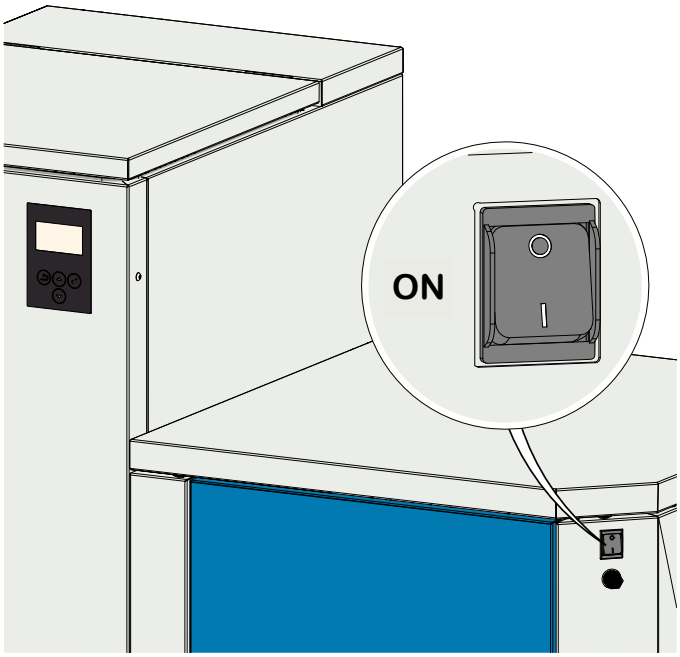
Confirm with



Display of current boiler status.

1. Heating circuit 1
2. Heating circuit 2
3. Heating circuit 3
4. Current boiler temperature
5. Boiler set temperature
6. Current DHW temperature
7. DHW set temperature

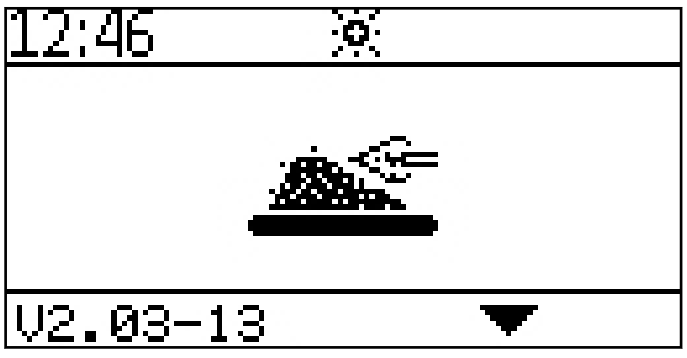
10.4 Version D



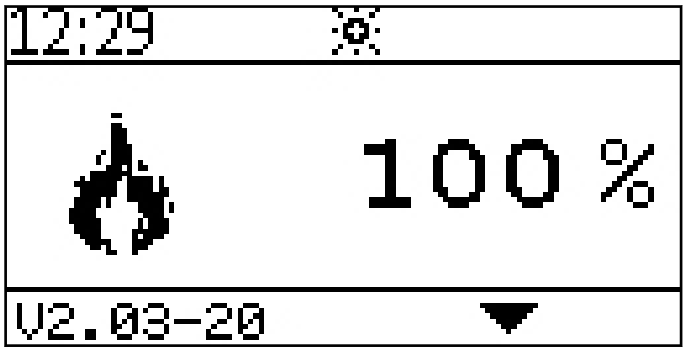
After switching on, the boiler starts (after approx. 10 seconds).

The fire protection device is opened.

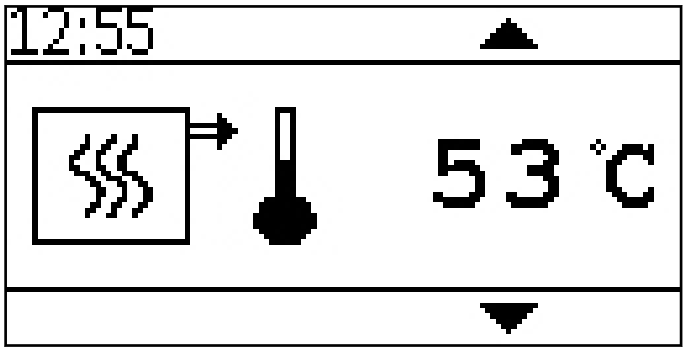
This symbol appears on the display while the fire protection device is being opened (approx. 2 minutes).



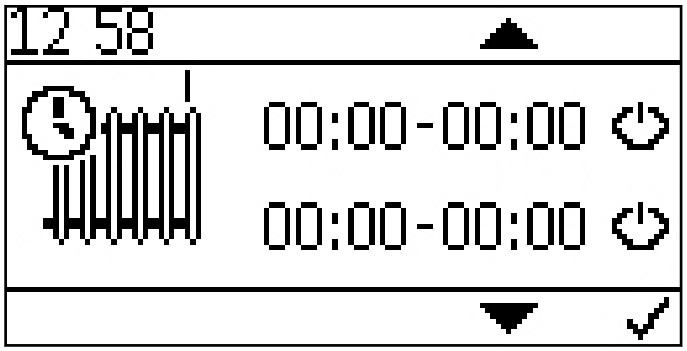
After the fire protection device has been opened, the ignition process starts and the symbol for ignition is displayed.



On completion of the ignition process (can last up to 15 minutes), the symbol for heating at full power appears. The boiler is now heating at full power.



Display of the current boiler temperature

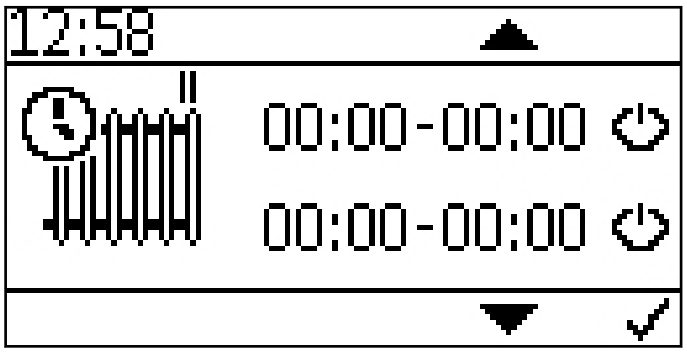


Adjusting the time programme of the heating circuit 1.

With the start and stoptime appear.

Activate the times with

During the activated time, the boiler always runs up to the switch-off temperature without considering the Z27 contact. Outside the time, contact Z27 activates the boiler.

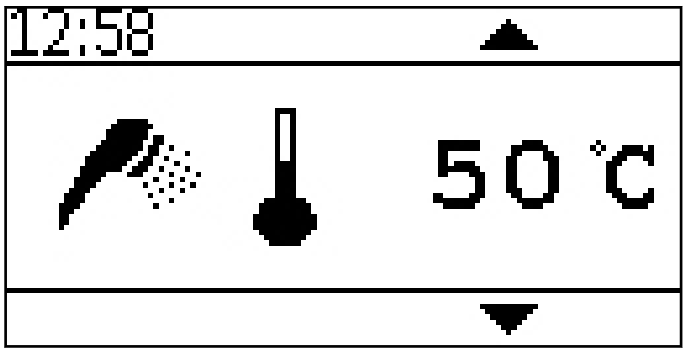


Adjusting the time programme of the heating circuit 2.

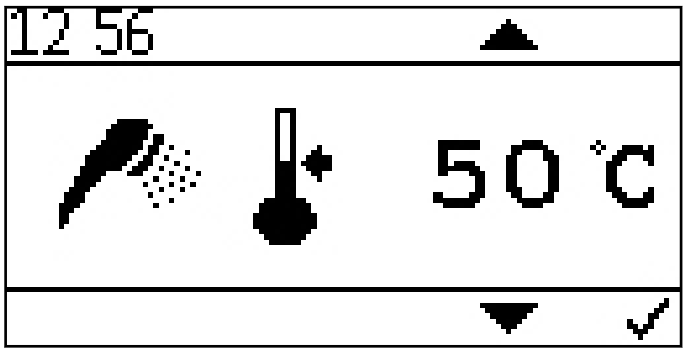
Mit the start and stoptime appear.

Activate the times with

During the activated time, the boiler always runs up to the switch-off temperature without considering the Z28 contact. Outside the time, contact Z28 activates the boiler.

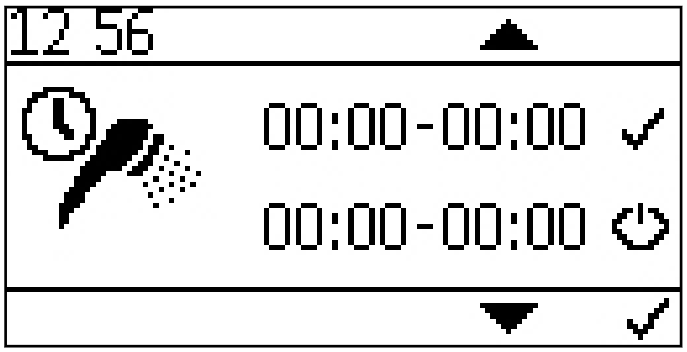


Display of the current DHW temperature.



Setting the DHW set temperature.

The DHW set temperature can be set in the range of 30° C to 75° C.

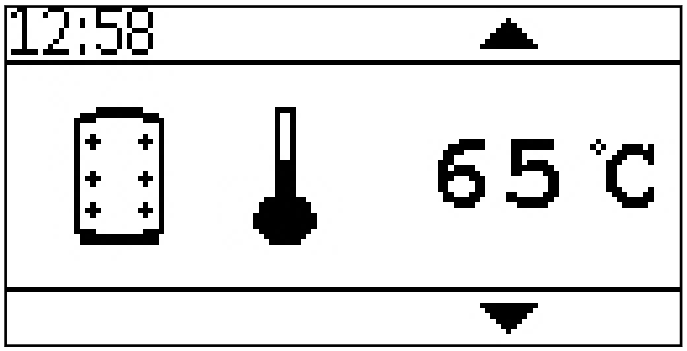


Setting the time programm of the DHW.

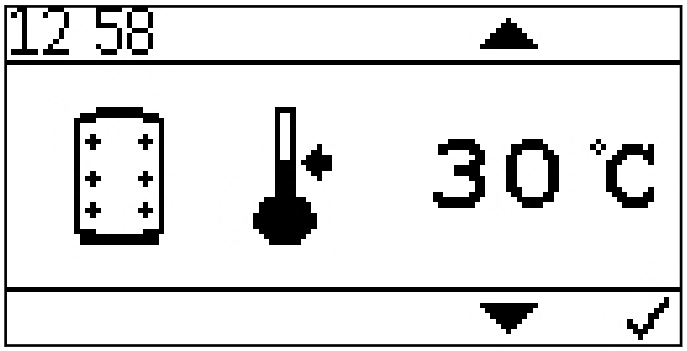
By pressing the start and stoptime appear.

Activate the times with

During the activated time, the boiler regulates to the values indicated by the hot water sensor.
The hot water control is not activated outside the set times!

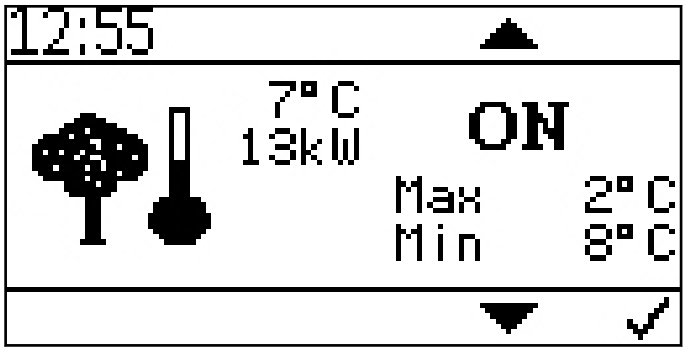


Display current accumulator temperature.



Setting the accumulator set temperature.

The accumulator set temperature can be set in the range of 30° C to 75° C.

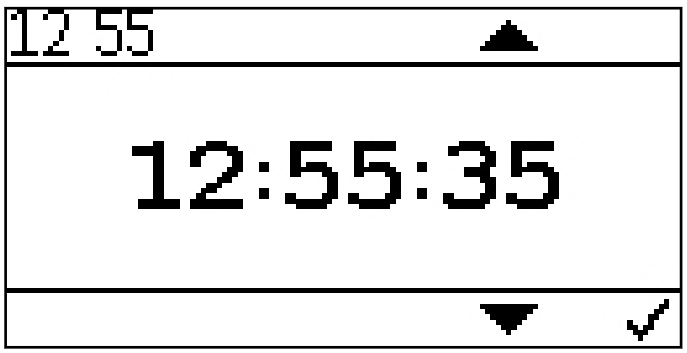


Setting Outertemperature control.

Here you can set the temperature values for the maximum and minimum boiler rating.

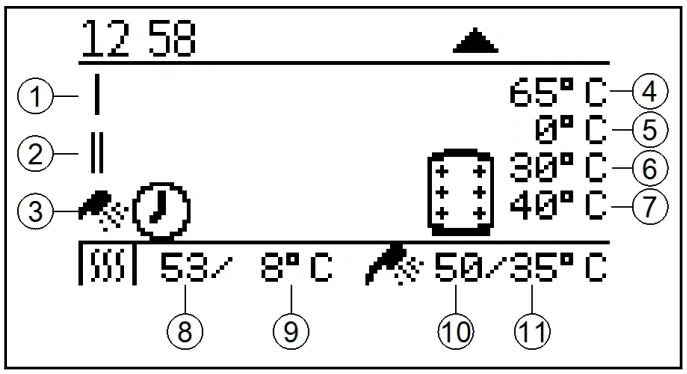
Adjustment range max. rated power -10° C bis +6° C

Adjustment range min. power +7° C bis +25° C



Setting current time.
Press ▲ and ▼ to set the current time.

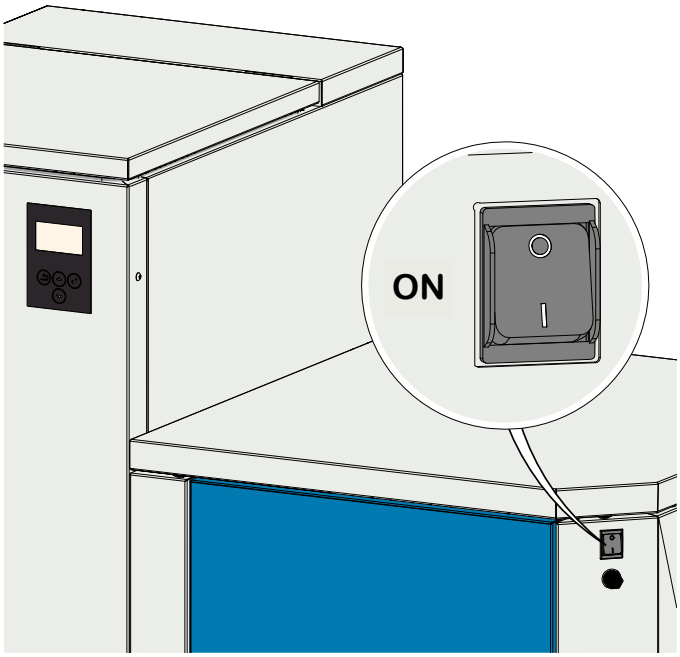
Confirm with ✓



Display of current boiler status.

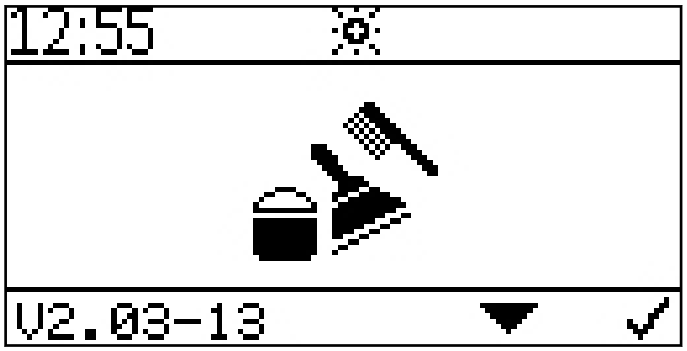
1. Heating circuit 1
2. Heating circuit 2
3. DHW
4. Current accumulator temperature
5. currently demanded accumulator set temperature from the boiler (depending on current demand)
6. Accumulator set temperature
7. Heating circuit-Pump on temperature
8. Current boiler temperature
9. Boiler set temperature
10. Current DHW temperature
11. DHW set temperature

10.5 Version E

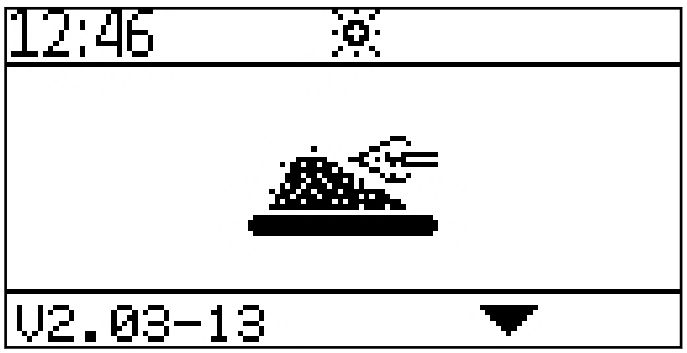


After switching on, the boiler starts (after approx. 10 seconds).

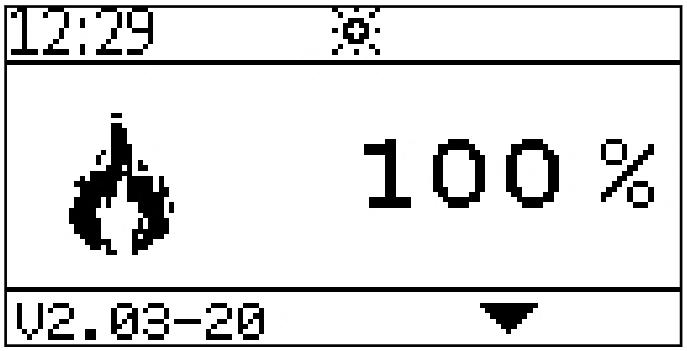
The fire protection device is opened.



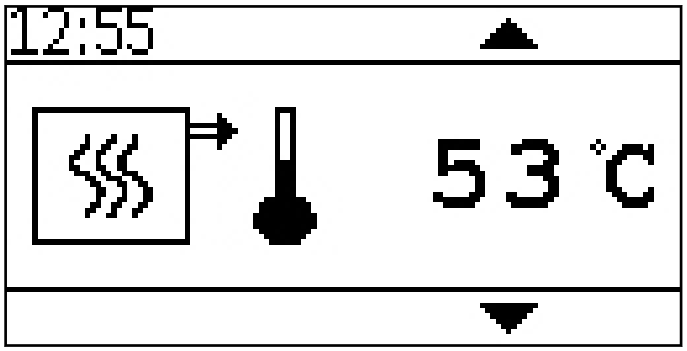
This symbol appears on the display while the fire protection device is being opened (approx. 2 minutes).



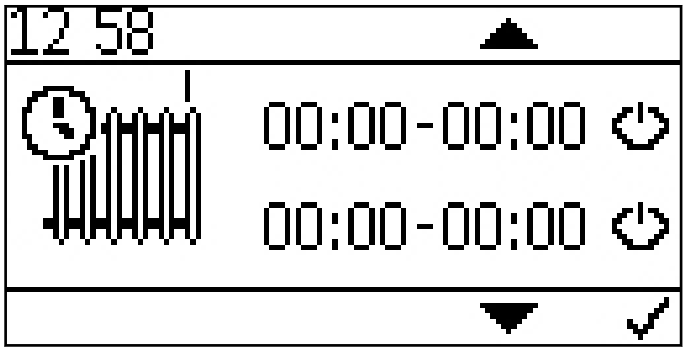
After the fire protection device has been opened, the ignition process starts and the symbol for ignition is displayed.



On completion of the ignition process (can last up to 15 minutes), the symbol for heating at full power appears. The boiler is now heating at full power.



Display of the current boiler temperature

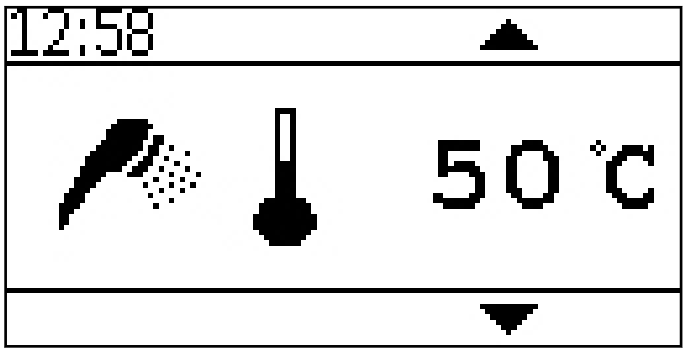


Adjusting the time programme of the heating circuit 1.

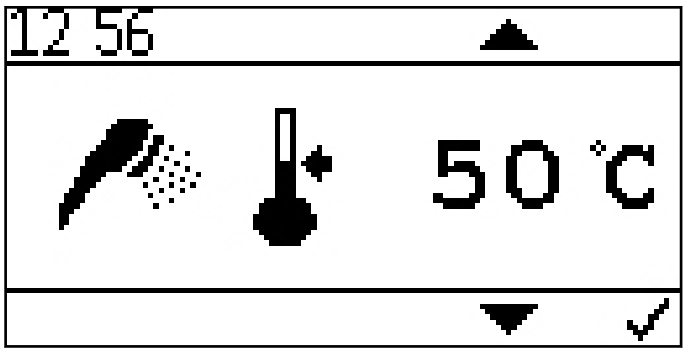
By pressing the start and stoptime appear.

Activate the times with

During the activated time, the boiler always runs up to the switch-off temperature without considering the Z27 contact. Outside the time, contact Z27 activates the boiler.

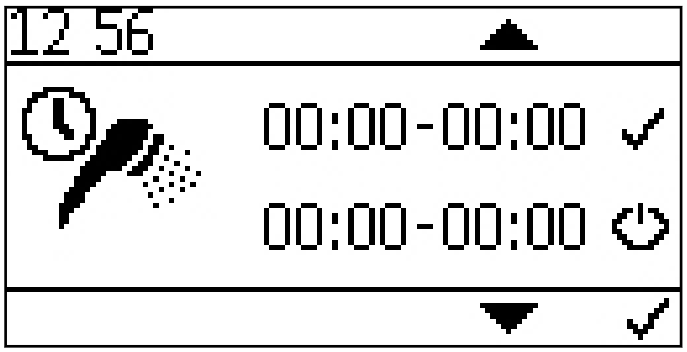


Display of the current DHW temperature.



Setting the DHW set temperature.

The DHW set temperature can be set in the range of 30° C to 75° C.

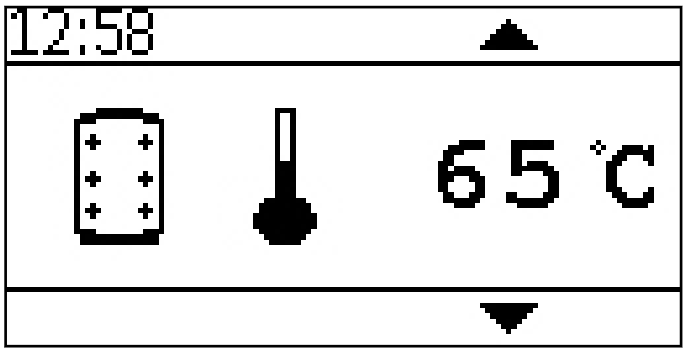


Setting the time programm of the DHW.

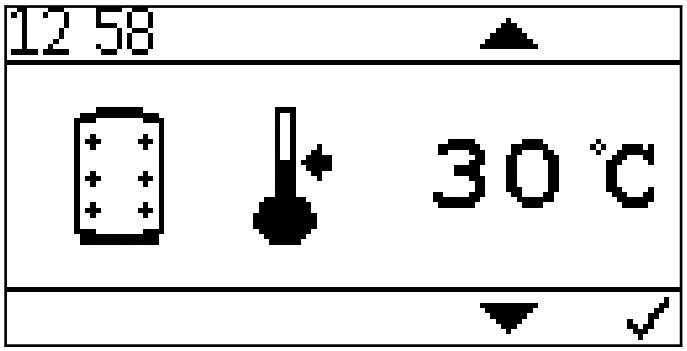
By pressing the start and stoptime appear.

Activate the times with

During the activated time, the boiler regulates to the values indicated by the hot water sensor.
The hot water control is not activated outside the set times!

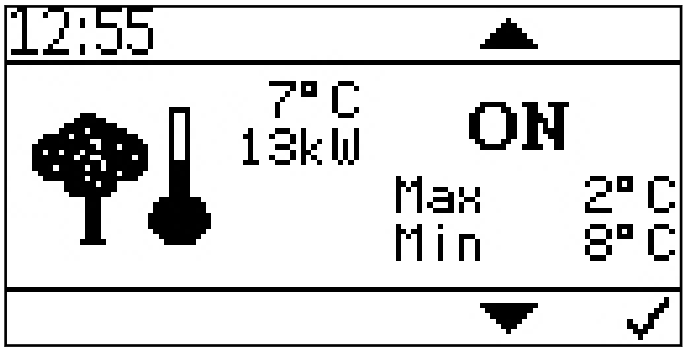


Display current accumulator temperature.



Setting the accumulator set temperature.

The accumulator set temperature can be set in the range of 30° C to 75° C.

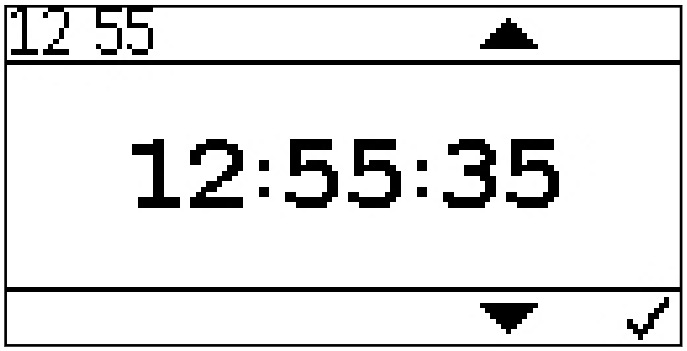


Setting Outertemperature control.

Here you can set the temperature values for the maximum and minimum boiler rating.

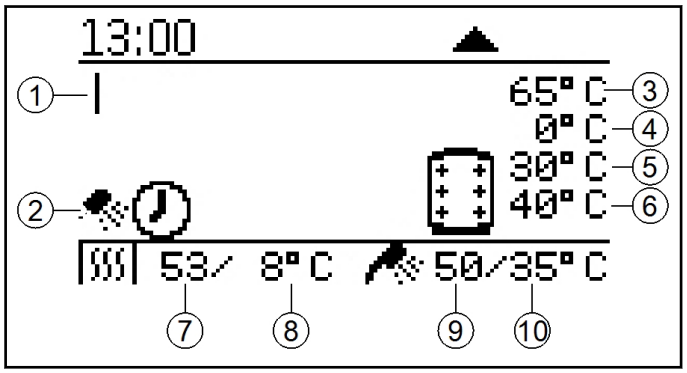
Adjustment range max. rated power -10° C bis +6° C

Adjustment range min. power +7° C bis +25° C



Setting current time.
Press ▲ and ▼ to set the current time.

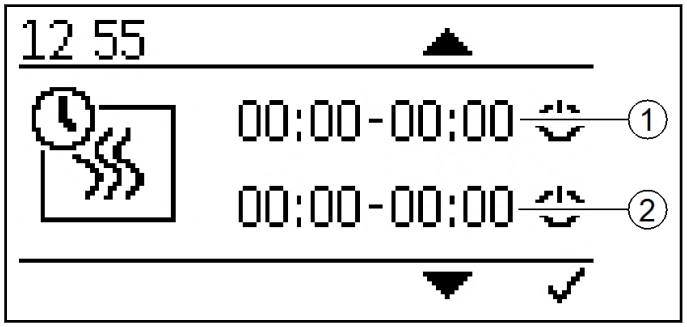
Confirm with ✓



Display of current boiler status.

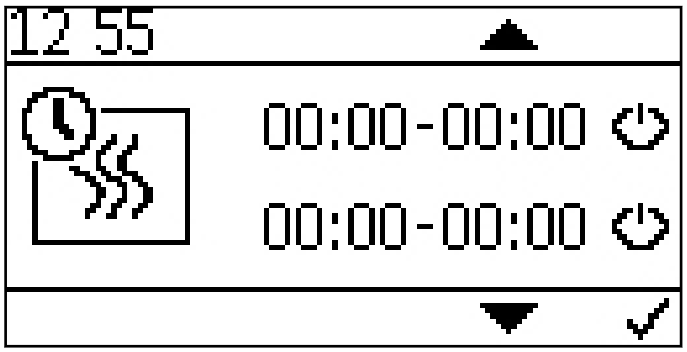
1. Heating circuit 1
2. DHW
3. Current accumulator temperature
4. currently demanded accumulator set temperature from the boiler (depending on current demand)
5. Accumulator set temperature
6. Heating circuit-Pump on temperature
7. Current boiler temperature
8. Boiler set temperature
9. Current DHW temperature
10. DHW set temperature

10.6 Setting the time program



- Heating period 1
- Heating period 2

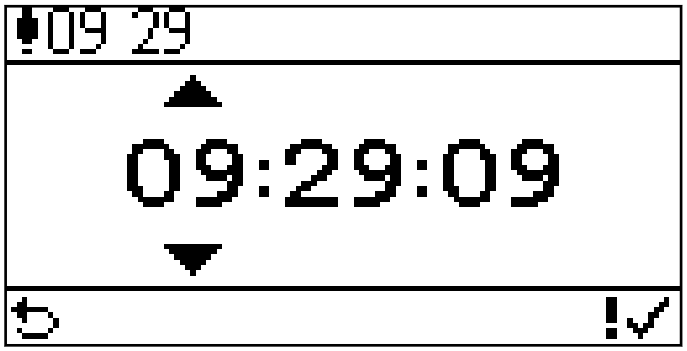
Press the confirm button to request a change, then use the arrow key to select the desired value and select it with the confirmation button.



The value can be raised or lowered by pressing the keys

Confirm with

10.7 Setting the time



The current time is displayed.

The setting of the time is analog to the setting of the time programes!

11 Malfunctions

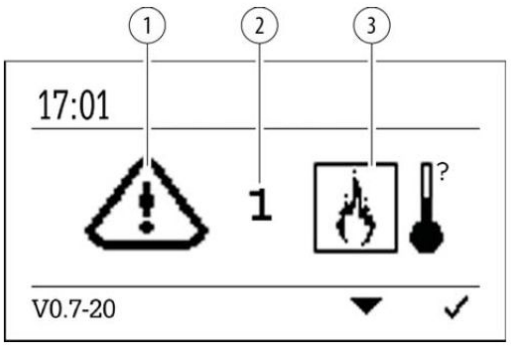
11.1 Malfunctions - what to do

Follow the sequence described for handling malfunctions.

- The heating system switches off automatically if a malfunction occurs.
- The control unit display shows a malfunction alarm text.
- You have to rectify the cause of the malfunction.
- You can start up the installation again after the cause has been solved.

11.2 Malfunction report

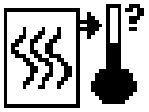
The fault text displayed on the screen provides information on the type and status of the malfunction as well as help for troubleshooting.

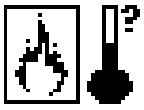


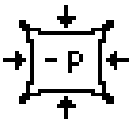
1. Warning symbol
2. Error code
3. Error symbol

The system restarts automatically when the cause has been eliminated.

Overview of malfunction alarm texts:

Display:			
Error code:	0		
Description:	Boiler sensor fracture, measuring circuit from boiler sensor is open		
Cause and Remedy:	sensor not connected	▶	connect sensor at input
	sensor defect	▶	measure sensor (approx. 2kΩ at 25°C) replace if required
	sensor cable defect	▶	replace sensor
	sensor temperature too high	▶	sensor temperature above measuring range (110°C)
Description:	Boiler sensor short circuit, measuring circuit from boiler sensor is shorted out		
Cause and Remedy:	sensor defect	▶	measure sensor (approx. 2kΩ at 25°C) replace if required
	sensor cable defect	▶	replace sensor
	sensor temperature too low	▶	sensor temperature below measuring range (– 10° C)

Display:			
Error code:	1, 2, 3		
Description:	Combustion chamber sensor fracture, measuring circuit from combustion chamber sensor is open		
Cause and Remedy:	sensor not connected	▶	connect sensor at input
	sensor defect	▶	measure sensor (ca. 5mV bei 125°C) replace if required
	sensor cable defect	▶	replace sensor
	sensor temperature too high	▶	sensor temperature above measuring range (1100° C)

Display:			
Error code:	4		
Description:	Negative draft input open, measuring circuit from negative draft measurement open		
Cause and Remedy:	signal incorrect	►	check polarity and signal (0-10V)
	signal cable defect	►	replace sensor
	signal too low	►	signal below 0V
	combustion chamber leak	►	check closure of boiler door
Error code:	5		
Description:	Negative draft input short-circuit, measuring circuit from negative draft measurement is shorted out		
Cause and Remedy:	signal incorrect	►	check polarity and signal (0-10V)
	signal cable defect	►	replace sensor
	signal too high	►	signal above 10V
Error code:	6		
Description:	Negative draft pressure in boiler is not achieved		
Cause and Remedy:	negative draft tube disconnected	►	connect up negative draft tube
	negative draft does not change	►	Check negative draft tube for leaks. Check flue gas tube for blockage.
	Negative draft pressure too low	►	Close boiler door, check tube to negative draft sensor, check whether boiler flue gas outlet is clear, check whether condensation heat exchanger is clear. Make sure flue gas fan is running.

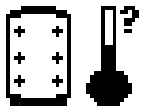
Display:			
Error code:	7		
Description:	Safety temperature limiter has tripped		
Cause and Remedy:	safety temperature limiter unplugged	▶	connect up safety temperature limiter and check cable connections
	safety temperature limiter has tripped	▶	check boiler controller
	safety temperature limiter defect	▶	allow boiler to cool and reset alarm

Display:			
Error code:	8, 9		
Description:	Combustion chamber minimum temperature not reached during ignition phase		
Cause and Remedy:	no pellets available	▶	fill up with pellets
	ignition electrode defect	▶	check ignition electrode (approx. 200Ω) replace if requiered
	ignition nozzle blocked	▶	clean burner plate and ignition tube
	Auger system defective	▶	Check chain drive Check burner motor
	Pellet feed blocked	▶	Check augers and remove fines
	Combustion chamber sensor short-circuit	▶	measure sensor (approx. 5mV bei 125°C) replace if required

Display:			
Error code:	10		
Description:	Flame return gate open fault.		
Cause and Remedy:	flame return gate unplugged	▶	Connect up flame return gate and check cable connections
	Flame return gate does not reach OPEN limit switch	▶	check ball valve to see if it is jammed
	no signal although open	▶	check cables and flame return gate
Error code:	11		
Description:	Flame return gate closed fault.		
Cause and Remedy:	flame return gate unplugged	▶	Connect up flame return gate and check cable connections
	Flame return gate does not reach CLOSE limit switch	▶	check whether ball valve is jammed, check ball valve throughway to see if foreign objects are preventing it from closing
	no signal although closed	▶	check cables and flame return gate
Error code:	12		
Description:	Both flame return gate limit switches are closed at the same time		
Cause and Remedy:	both limit switches activated	▶	check flame return gate, check cables, check connectors

Display:			
Error code:	14		
Description:	Container cover open		
Cause and Remedy:	Cover open	►	close cover
	End-switch defect	►	replace end-switch

Display:			
Error code:	15		
Description:	DHW sensor fracture, measuring circuit from DHW sensor is open		
Cause and Remedy:	sensor not connected	►	connect sensor at input
	sensor defect	►	measure sensor (approx. 2kΩ at 25°C) replace if required
	sensor cable defect	►	replace sensor
	sensor temperature too high	►	sensor temperature above measuring range (110°C)
Description:	DHW sensor short circuit, measuring circuit from boiler sensor is shorted out		
Cause and Remedy:	sensor defect	►	measure sensor (approx. 2kΩ at 25°C) replace if nrequired
	sensor cable defect	►	replace sensor
	sensor temperature too low	►	sensor temperature below measuring range (– 10° C)

Display:			
Error code:	16		
Description:	Sensor break accumulator sensor, measuring circuit of acculmulator sensor is open		
Cause and Remedy:	sensor not connected	►	connect sensor at input
	sensor defect	►	measure sensor (approx. 2kΩ at 25°C) if required
	sensor cable defect	►	replace sensor
	sensor temperature too high	►	sensor temperature above measuring range (110°C)
Description:	Accumulator sensor short circuit, measuring circuit from acculmulator sensor is shorted out		
Cause and Remedy:	sensor defect	►	measure sensor (approx. 2kΩ at 25°C) replace if requiered
	sensor cable defect	►	replace sensor
	sensor temperature too low	►	sensor temperature below measuring range (– 10° C)

11.3 Maintenance intervals

Eco Engineering recommends regular/annual maintenance by an authorized partner. The volume of maintenance beyond the cleaning of the boiler also contains for example a check of equipment, components and safety systems, if necessary the adaption of adjustments, trial operation and production of a maintenance report.

In some European countries there are legal obligations applying to maintenance intervals and emission measuring. Contact your authorised dealer. Eco Engineering recommends taking out a maintenance contract with your service technician.

11.4 Repairs

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

11.5 Checking the central heating room

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

Central heating room:

- Make sure that no flammable materials are stored in the central heating room.
- Make sure that no washing is hanging in the central heating room.
- Check the display at the control panel for malfunction messages.
- Check the flue gas tube and chimney. Let them clean regularly (at least once per year).

Eco
Engineering