The Paradigma
Pelletti wood pellet boiler

Pelletti Maxi

Operating instructions

Instructions for the operator

V 1.0

Nature's way of heating **PARA DIGMA**

Quick guide
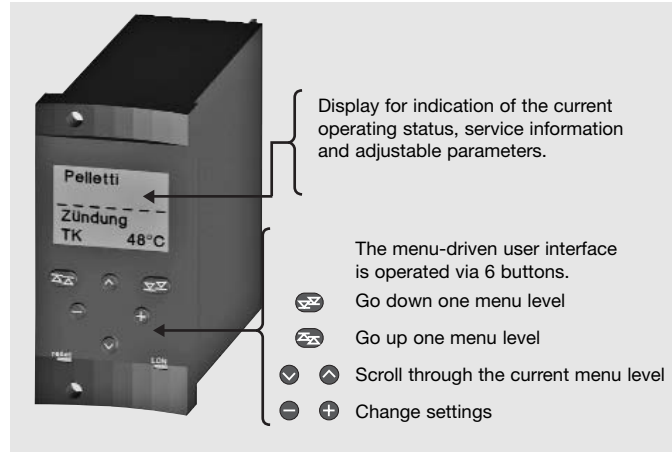
Operating the pellet boiler

Dear customer,

The purpose of this quick guide is to provide you with the most essential information on operating the pellet boiler.
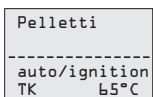A detailed description of all functions can be found in the separate operating instructions.

Your pellet boiler has been optimally configured for efficient low-emission operation by your heating engineer. The boiler operates automatically and requires very little intervention on the part of the operator.

We recommend taking out a service contract with your local heating engineer, and arranging an annual service check for your heating system.

Display for indication of the current operating status, service information and adjustable parameters.

The menu-driven user interface is operated via 6 buttons.

Go down one menu level

Go up one menu level

Scroll through the current menu level

Change settings

Messages in the display

Display messages
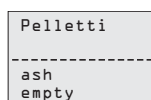
```
Pelletti
------------
auto/ignition
TK      65°C
```

Automatically alternating display of the current or set operating mode
– here **auto**(matic), and of the current or set operating status
– here **ignition**.

```
Pelletti
---------
alarm
```
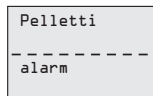
Display of a fault
– here **alarm**.
Read-out of the detailed fault description in the fault code submenu.

Comfort ash extraction (optional)*

```
Pelletti
------------
ash
empty
```

Message **ash empty**.
The external ash container is almost full. Ash extraction is still in operation.
The fault can be unlocked in the fault code submenu.

```
Pelletti
----
ash
full
```

Message **ash full**.
The external ash container is completely full. Ash extraction is deactivated (fault). The fault can be unlocked in the fault code submenu.

## Activating and deactivating the pellet burner

Pressing the red OFF button completely prevents the pellet boiler from being activated for heating or drinking water heating. In the display, this is indicated by the message "blocked".
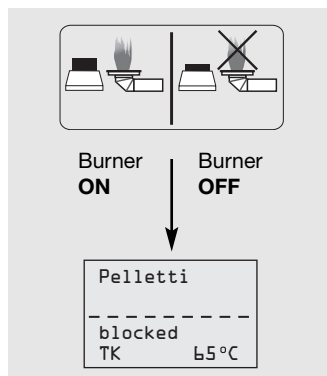
### During feeding of wood pellets
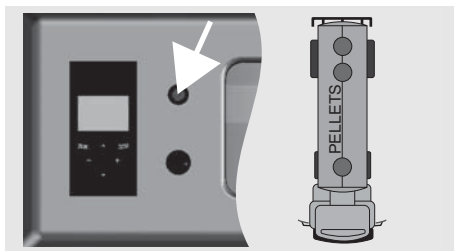
**Function:**
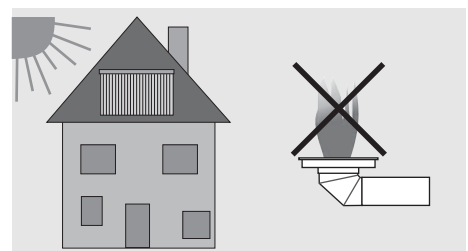Disabling of the pellet burner during feeding of wood pellets

**STOP**

**Danger!**
**The burner (heat requirement) must be deactivated when pellets are being fed (risk of burn back).**

Burner **ON**     Burner **OFF**

```
Pelletti
------------
blocked
TK      65°C
```

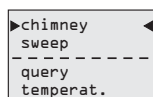### Solar operation only (summer mode)

Function:
Disabling of the pellet burner when heat is only to be provided by the solar energy system.
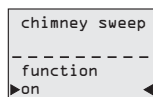
!

Attention! This function deactivates the pellet boiler's pellet burner (risk of frost). Losses in convenience of heating and drinking water heating are possible.

* provided with Pelletti Maxi as standard

Service for the chimney sweep

```
►chimney    ◄
 sweep
- - - - - - -
 query
 temperat.
```

Open the **chimney sweep** submenu.

```
chimney sweep
- - - - - - -
 function
►on         ◄
```

Set to **"on"** with the ⊕ button.
When the chimney sweep function is activated, the boiler runs for 1 hour with a target value of 85 °C.
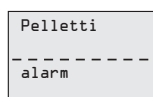The boiler and heating circuit pumps are activated to dissipate the heat when the boiler temperature reaches 85 °C.

```
chimney sweep
- - - - - - -
 function
►off        ◄
```
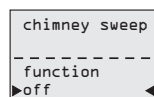
Set to **"off"** with the ⊖ button.
The chimney sweep function is shut off automatically after 1 hour.

Course of action in the event of a fault

```
Pelletti
- - - - - - -
 alarm
```

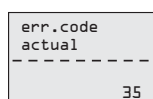**Faults** are indicated by the alarm message in the display.

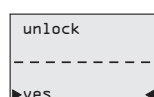In order to resume boiler operation, you must unlock the boiler.

```
control
program
- - - - - - -
►error code ◄
```

View the **fault code** of a fault that has occurred.

```
err.code
actual
- - - - - - -
         35
```
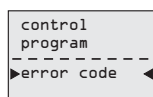
The **current fault code** is displayed.
If a fault is currently pending, it is shown here.

```
unlock
- - - - - - -
►yes        ◄
```

Unlocking the pellet boiler
The current fault code is deleted from the display, but is stored in the boiler controller's error memory.

Depending on the type of fault which has occurred, the boiler switches to the Burn out operating status after unlocking. The boiler then returns to normal operation.

If the pellet boiler cannot be unlocked, or if the fault occurs repeatedly, please contact your installation engineer at the earliest opportunity.
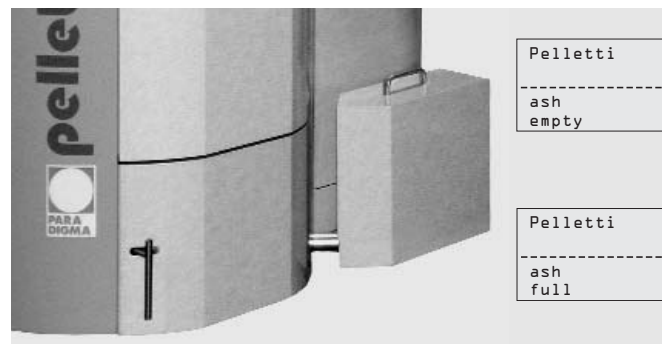
Emptying the ash container

With good pellet quality, very little ash accumulates during the heating season.
Nevertheless, we ask that you check and empty the ash drawer or ash container regularly.

Pelletti with ash drawer

Pelletti with comfort ash extraction


```
Pelletti
- - - - - - -
 ash
 empty
```

```
Pelletti
- - - - - - -
 ash
 full
```

Danger!
Danger of burns. Wear protective gloves. Do not place hot ash in flammable containers. Allow ash to cool sufficiently, or store it temporarily in a fire-proof container.

Information!

The ash from the ash container has already cooled down completely, and can be disposed of directly.

Disposal in the normal domestic waste or compost, for example.

Contents

Table of contents

Contact

In the event of faults, or for enquiries, maintenance and repairs, please consult your Paradigma heating engineers.

Paradigma heating engineers:

1. About this document

1.1 Purpose of this document

This document tells you about the Pelletti wood pellet boiler. It contains information concerning:

• safety

• wood pellet systems

• assembly and installation instructions

• commissioning

• legal guarantee

1.2 Target group for this document

These operating instructions are intended for the operator of the wood pellet boiler.

1.3 Symbols used in this document

Danger!
Potential hazard to people.

Notice!
Potential damage to property.

Information!
This symbol indicates information to which particular attention is to be given.

Reference!
This symbol indicates a reference to further documentation.

1.4 Applicability

These assembly and installation instructions apply for the Paradigma Pelletti Maxi wood pellet boiler as of 04/08.

2. For your safety

Danger!
Please pay attention to the safety instructions to prevent danger to persons and damage to equipment. Carefully read through these operating instructions.

2.1 Intended use

The Pelletti wood pellet boiler may only be used to burn wood pellets and for use in water heating systems.

The Pelletti wood pellet boiler and its components are only intended for use in combination with wood pellet removal systems by Paradigma.

The Pelletti wood pellet boiler may only be used in conjunction with third-party components after consultation with Paradigma.

Any other use of the pellet boiler is considered improper use. In the event of any such improper use and/or if modifications are made to the product, including during assembly and installation, all guarantees are voided.

As the manufacturer, we hereby state that the design and construction of the product named above and in the version we distribute complies with the fundamental safety requirements and the currently valid national regulations.

We do not claim that the drawings shown are complete. We reserve the right to make alterations at any time in the interests of technical improvement.

What to do if there is a smell of flue gas

Danger!
Flue gases can lead to life-threatening poisoning.
• **Shut down the heating system**
• **Ventilate the installation location**
• **Close doors in living areas**

2.2 General safety information

Notice!

- **The pellet boiler must be initially set up and the boiler control unit must be adjusted for the pellet removal system (system data setting) by an installation engineer.**

- **Following initial setup, the installation engineer should instruct the system operator in how to operate the pellet boiler (see THUK1973 operating instructions, section 5.).**

- **Except in cases of imminent danger, only the installation engineer should shut down the pellet boiler.**
  Also except in cases of imminent danger, the pellet boiler may not be disconnected from the AC power supply unless for feeding, maintenance or repair purposes.

- **Ensure that ambient temperatures are between 0 °C and 40 °C. Adverse ambient conditions may result in damage to the device.**

2.3 EU directives: conformity declaration

Paradigma hereby states that this product complies with the fundamental directives for distribution in the EU.

The conformity declaration for the device can be requested from Paradigma.

2.4 Device identification

The device is uniquely identified by the type plate on the front of the boiler. The type plate contains essential technical specifications and a unique series number (Fig. 2.1).

2.5 Test marks

FRANCISCO JOSEPHINUM WIESELBURG
DIN EN 303-5. Boilers for solid fuels, manually and automatically charged furnaces, rated heat output up to 300 kW.

Deutsches Institut für Bautechnik (German Institute for Construction Technology) General construction approval Approval number:
Z-43.11-178
Object of approval:
Pelletti-series pellet burner which operates on outside air

Production is supervised by:
TÜV Industrie Service GmbH
TÜV SÜD Gruppe

CE marked in accordance with EN 50165 NEMKO

Paradigma
Deutschland GmbH
Ettlinger Straße 30
Tel. 0049 7202 922-0
www.paradigma.de

D-76307 Karlsbad
Fax. 0049 7202 922-100
info@paradrimga.de

CE 0036

Model:	Pelletti Maxi	Nominal heat output: 56 kW
Type:	$FC_{43x}FC_{53x}$	Serial number: 05-18...0156
Fuel:	Holzpellets HP5	Water capacity: 135 l
Perm. operating temperature:	90°C	Year of construction: 2008
Perm. operating overpressure:	4,0 bar	

Electric supply:
Screw conveyor system:
Suction system:
230 V, 50 Hz (IP 20)
max. 7,5 A; 1,7 kW
max. 15 A; 3,4 kW

No. of general construction approval Z-43.11-178

FC_{43x} Furnace to be connected to an air/flue gas system.

FC_{53x} Furnace to be connected to a chimney. Combustion air supply from outdoors.

Series number

Fig. 2.1

3. Guarantee conditions

If the unit was installed correctly by an authorised company and used correctly and in accordance with our general terms of trade, we accept the standard legal guarantee periods for the product described herein, excluding wearing parts. See the price list valid on the date of purchase for commercial guarantee periods above and beyond standard legal periods.

The manufacturer does not accept liability for damage due to:

- inappropriate or incorrect use
- incorrect assembly or setup by the purchaser or third parties
- Failure to observe the relevant standards and regulations for installation and operation of heating systems
- natural wear
- incorrect or negligent handling
- unsuitable fuels (e.g. pellet quality)
- chemical, electrochemical, or electrical effects which are not caused by us
- failure to observe the operating instructions
- unprofessional modifications or repairs by the purchaser or third parties
- effects of third party components
- damage or faults caused by system components which are not part of the Paradigma delivery package (third party system components)
- aggressive vapours or halogens in the ambient or combustion air
- oxygen corrosion
- continued use in spite of the occurrence of a fault

Wear periods of wearing parts

Wear of so-called wearing parts is not a material defect unless it involves excessive wear as a result of a fault inherent in the respective wearing part. Customers are only entitled to claim damages for these spare and wearing parts during the corresponding wear periods, and no later than after two years.

Wear periods of wearing parts:

Fire plate	2 years
Flame pipe	2 years
Heating cartridge	2 years

The guarantee period starts when the components are installed, but 3 months after delivery of the goods at the latest.

4. Unit description

4.1 Pelletti wood pellet boiler

A high-tech boiler of the latest generation – Made in Germany. With the Pelletti wood pellet boiler, Paradigma has developed a boiler which is fully compliant with current standards and with cutting-edge technology that will remain viable way into the future. It already meets the planned limit values of the second phase of the first German Federal Emissions Control Act, which comes into force in 2015.

The combustion technology is controlled by a microprocessor. Heat exchangers with vertical flue gas pipes and turbulators ensure optimal heat transfer from the heating gases to the boiler water. The heat exchanger is cleaned automatically, guaranteeing a constantly high boiler efficiency throughout the year.

For greater operating comfort and simple ash disposal the Pelletti Maxi is fitted with a comfort ash extraction as standard. The external ash drawer can be easily removed and the ash conveniently disposed of (Fig. 4.1 and 4.3).

Special product features

- Automatic output adjustment from 30% – 100%
- Automatic fuel supply via the boiler-integrated suction system
- Primary and secondary combustion air supply for low-emission operation
- Three-pass boiler construction for an energy-efficient operation with high efficiency rates
- Automatic heat exchanger cleaning for constant high boiler efficiency
- Operating module with illuminated clear text display
- Automatic ash extraction with a large external ash container; comfortable "Full" signal via the control panel and the SystaComfort heating controller (optional)

Fig. 4.1
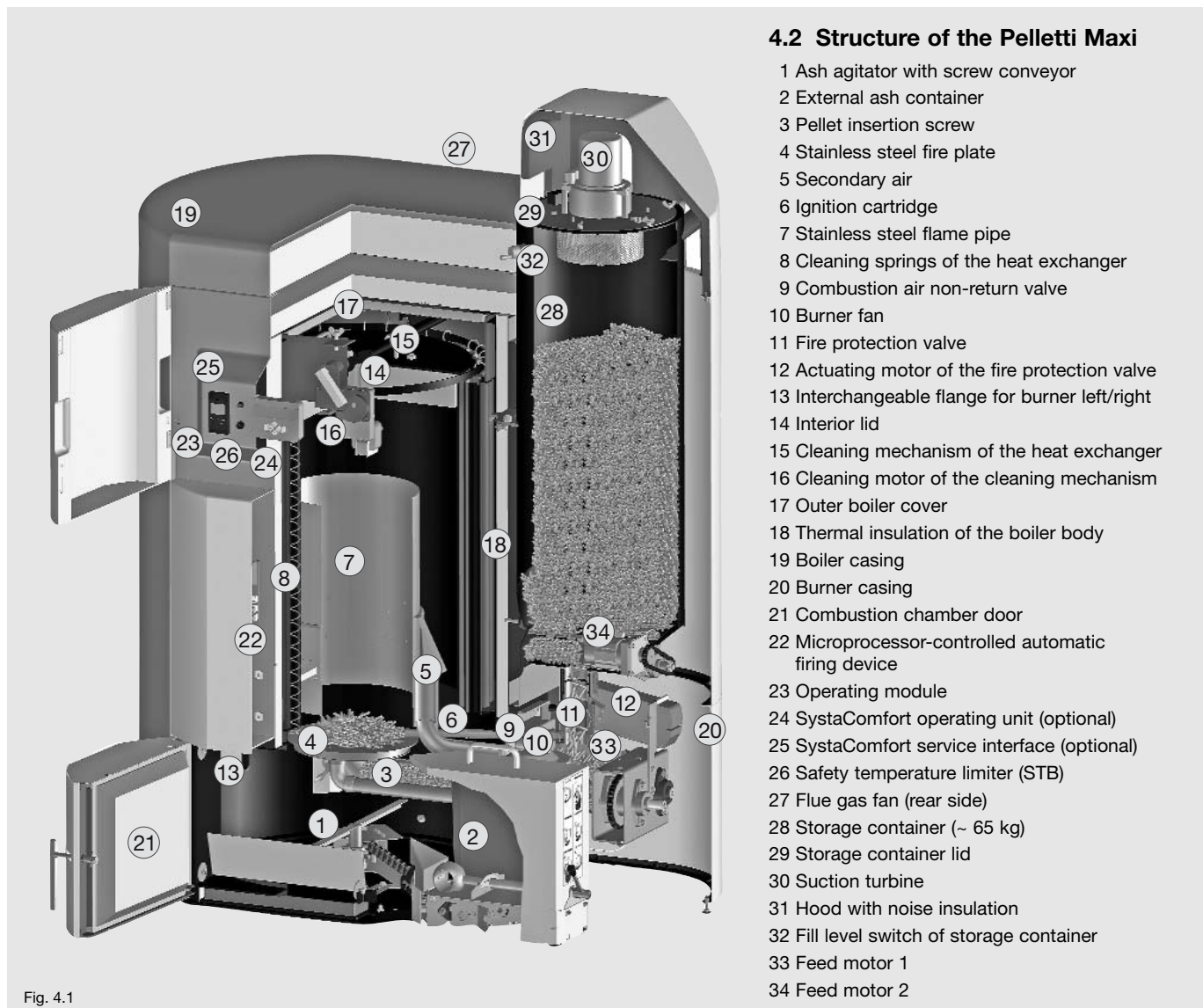
4.2 Structure of the Pelletti Maxi

1 Ash agitator with screw conveyor
2 External ash container
3 Pellet insertion screw
4 Stainless steel fire plate
5 Secondary air
6 Ignition cartridge
7 Stainless steel flame pipe
8 Cleaning springs of the heat exchanger
9 Combustion air non-return valve
10 Burner fan
11 Fire protection valve
12 Actuating motor of the fire protection valve
13 Interchangeable flange for burner left/right
14 Interior lid
15 Cleaning mechanism of the heat exchanger
16 Cleaning motor of the cleaning mechanism
17 Outer boiler cover
18 Thermal insulation of the boiler body
19 Boiler casing
20 Burner casing
21 Combustion chamber door
22 Microprocessor-controlled automatic firing device
23 Operating module
24 SystaComfort operating unit (optional)
25 SystaComfort service interface (optional)
26 Safety temperature limiter (STB)
27 Flue gas fan (rear side)
28 Storage container (~ 65 kg)
29 Storage container lid
30 Suction turbine
31 Hood with noise insulation
32 Fill level switch of storage container
33 Feed motor 1
34 Feed motor 2

4.3 Basic functions

👉 **Information!**

The following descriptions outline the most important basic functions. The boiler control unit differentiates between several different operating conditions and controls the boiler automatically with low-emission and energy-efficient operation.

4.3.1 Ignition

The ignition process is started when there is a heat requirement (from heating controller, manual operation or chimney sweep function) and the current boiler temperature is significantly lower than the boiler target temperature.

The burner fan ⑩ and the flue gas fan ㉗ are switched on and the fire protection valve AK opens slowly.

Once the fire protection valve ⑪ is completely open, the feed motor ㉝ is switched on together with the ignition cartridge 6 and the insertion screw ③ feeds pellets to the fire plate for a few minutes ④.

The fire protection valve ⑪ is closed again and the ignition process is monitored electronically. After a few minutes, a pilot flame ignites on the fire plate ④, the flue gas temperature rises, signalising the boiler control unit that ignition has taken place (Fig. 4.2).
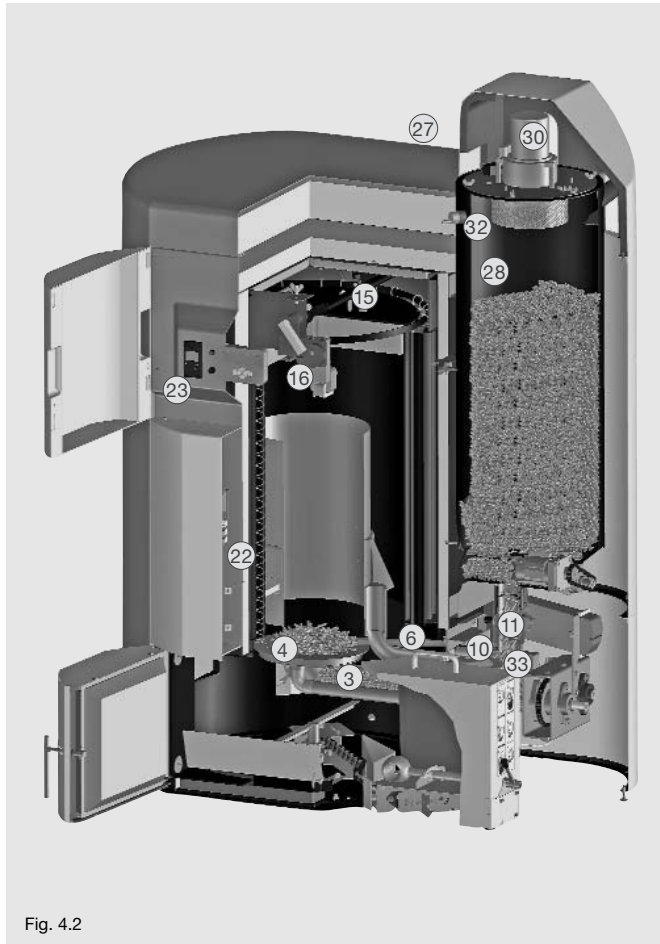

Fig. 4.2

4.3.2 Soft start

The fire protection valve ⑪ opens again and the insertion screw ③ feeds pellets to the fire plate ④ for a few minutes at a slowly increasing rate.

The boiler then switches its operation mode to regulating mode (Fig. 4.2).

4.3.3 Regulating mode

In regulating mode, the boiler output is electronically regulated between 30% and 100% to reach or maintain the boiler target temperature.

The fuel quantity and the amount of combustion air required for low-emission combustion are adjusted dynamically.

The boiler target temperature can be set manually in "manual operation", or in "automatic operation" the target temperature is calculated by the heating controller and transmitted to the firing control box ㉒ (Fig. 4.2).

4.3.4 Burnout

If the heat requirement ceases or a different operating status (e.g. a fault) requires a switch-off, a controlled switch-off of the boiler takes place.

The feed motor ㉝ is switched off and the fire protection valve ⑪ is closed, thereby ending the fuel supply. The burner fan ⑩ and the flue gas fan ㉗ continue running for a few minutes until the remaining fuel on the fire plate ④ has been burned, thus establishing a safe operating status (Fig. 4.2).

4.3.5 Fuel supply

To ensure the fuel supply to the pellet boiler, pellets are fed to the storage container ㉘ at defined times or under certain operating conditions.

These operating conditions could be:

• automatic: once the bulk of the pellets in the storage container have been used up
• automatic: at the start of the night-time blocking time
• manual: for maintenance or test purposes
• automatic: when the mains power supply is switched back on after a power failure

The fire protection valve ⑫ is closed. When the fire protection valve ⑪ is completely closed, the suction turbine ㉚ and the connected wood pellet removal system (e.g. Solar Pellet Mole) are switched on. The storage container ㉘ is fed with pellets until the fill level switch ㉜ has been reached.

The suction turbine ㉚ and the wood pellets removal system are switched off. In the event of fault (e.g. insufficient fuel), a fault message is displayed on the operating module after further filling attempts (Fig. 4.2).

4.3.6 Self-cleaning of heat exchanger

After the minimum run-time has elapsed or while in certain operating conditions, an automatic self-cleaning of the heat exchanger takes place.

The cleaning motor ⑯ switches on and the cleaning mechanism ⑮ runs for a few minutes (Fig. 4.2).

4.3.7 Comfort ash extraction

For greater operating comfort and simple ash disposal, Pelletti Maxi Maxi is fitted with a comfort ash extraction as standard. The external ash drawer can be easily removed and the ash conveniently disposed of.

After the defined minimum run-time has elapsed or while in certain operating conditions, the ash agitator ① with the extraction screw is switched on and transports the ash to the external ash container ②.

There the ash is further compressed, until the container is completely filled. The boiler control unit (or SystaComfort heating controller (optional) informs you when the ash container ② has to be emptied.

But even then there is no need to rush. The large Pelletti ash pit continues to collect the accumulating ash over several weeks, even with a completely filled ash container ② (Fig. 4.3).
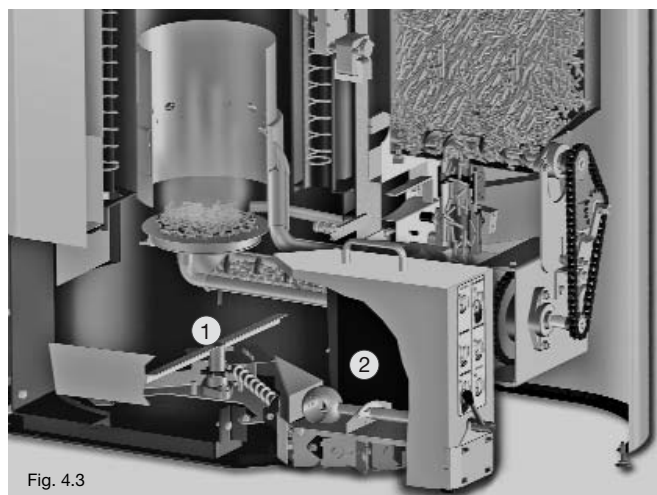

Fig. 4.3

5. Wood pellet systems

5.1 System illustration Pelletti Maxi with Solar Pellet Mole

1 Pelletti Maxi
2 Storage container
3 Pellet line and return air line
4 Suction turbine
5 Solar Pellet Mole

6 Pellet line suspended from tackle
7 Wall feed-through/adapter plate
8 Protection matting
9 Filling nozzle
10 Hatch or door
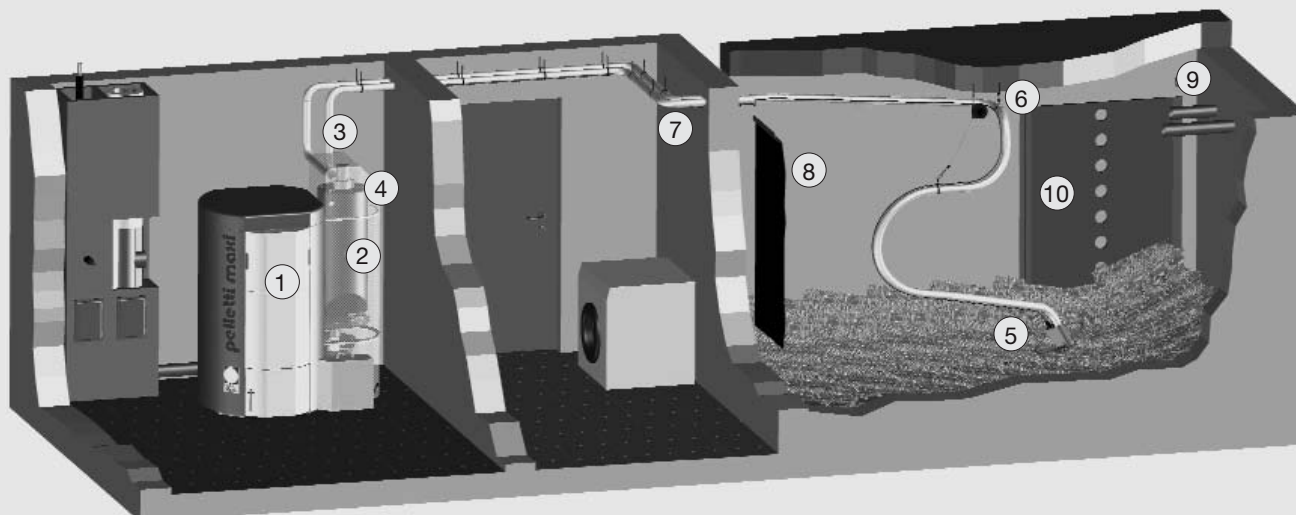
Fig. 5.1

Wood pellet systems

5.2 System illustration Pelletti Maxi with fabric silo Pelleton Mole

1 Pelletti Maxi
2 Storage container
3 Pellet line and return air line
4 Suction turbine
5 Solar Pellet Mole
6 Pellet line suspended from tackle

7 Fabric silo feed-through
8 Pelleton fabric silo
9 Integrated protection matting
10 Filling nozzle
11 Access hatch
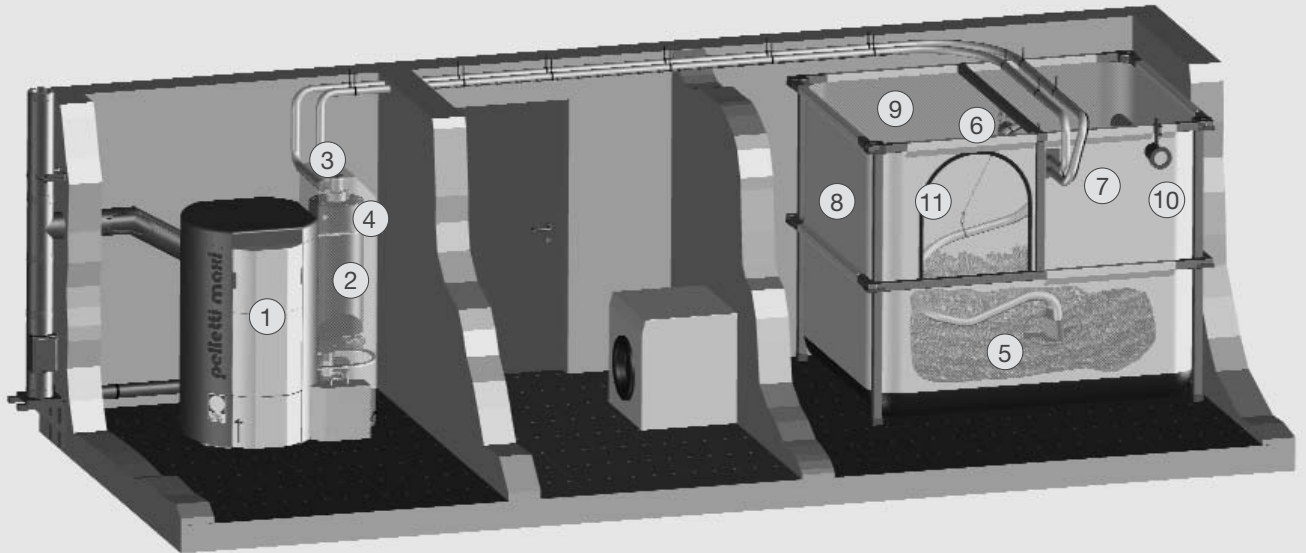
Fig. 5.2

5.3 System illustration Pelletti Maxi with earth storage and Solar Pellet Mole

1 Pelletti Maxi
2 Storage container with suction turbine
3 Pellet line and return air line

4 Solar Pellet Mole
5 Pellet earth storage (provided by the customer)
6 Filling nozzle in dome

Fig. 5.3

Wood pellet systems

5.4 System illustration Pelletti Maxi with screw conveyor – suction system

1 Pelletti Maxi
2 Storage container
3 Pellet line and return air line
4 Suction turbine
5 Room extraction motor
6 Wall feed-through/noise insulation

7 Screw conveyor
8 Protection matting
9 Filling nozzle
10 Door or hatch
11 Inclined bases
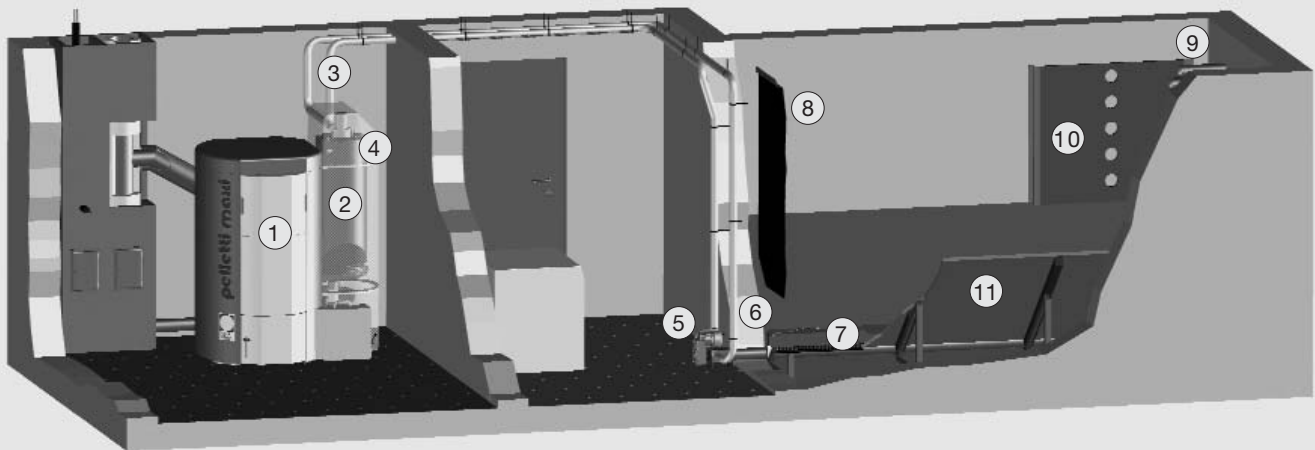
Fig. 5.4

5.5 System illustration Pelletti Maxi with fabric silo Pelleton

1 Pelletti Maxi
2 Storage container
3 Pellet line and return air line
4 Suction turbine

5 Suction distributor
6 Removal unit with slide plate
7 Pelleton fabric silo
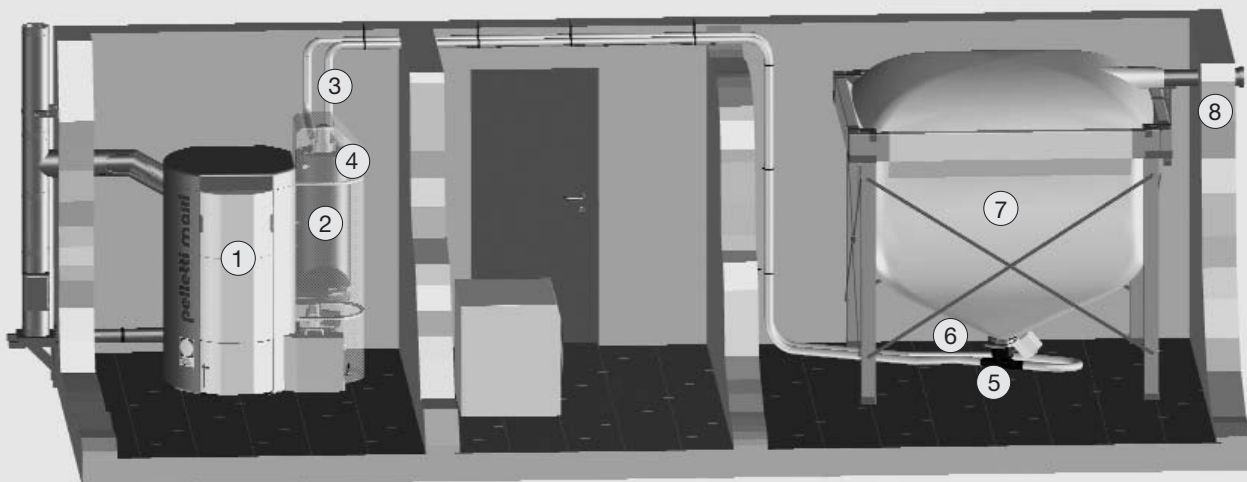8 Filling nozzle

Fig. 5.5

Wood pellet systems

5.6 Your fuel – wood pellets

Information!

The fuel quality is the key factor in the functionality of your pellet heating system. Only quality pellets which comply with DIN*plus* or ÖNorm M 7135, and have a diameter of 6 mm may be used as fuel.

**Wood pellets for use in small combustion systems.**

5.7 Emptying the ash container

With good pellet quality, very little ash accumulates during the heating season. Nevertheless, we ask that you check and empty the ash container regularly.

If the ash container is approaching its maximum fill volume, this is shown on the operating module display or on the control panel of the SystaComfort heating controller (optional), with the message – **Empty ash**.

```
Pelletti
--------------
ash
empty
```
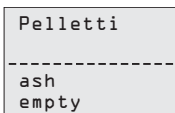
Please **empty the ash container** if this message is displayed.

```
Pelletti
--------------
ash
full
```
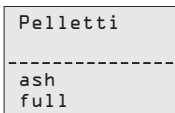
Please **empty the ash container** if this message is displayed. The ash container is completely full and the automatic ash extraction is switched off.

```
Pelletti
- - - - - - - - -
alarm
```
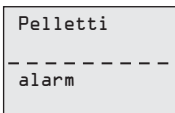
The additional message – **Alarm** now appears on the display of the operating module or on the control panel of the SystaComfort heating controller (optional).

```
control
program
- - - - - - - -
►error code ◄
```
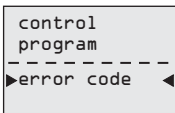
If this message is displayed,

• after emptying the ash container,

```
err.code
actual
- - - - - - - -
          35
```

• the pellet boiler must be **unlocked in the fault code submenu**, so that the automatic ash extraction is ready to operate again.
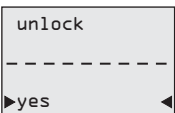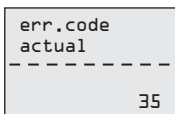
```
unlock
- - - - - - - -
►yes ◄
```

Unlocking the pellet boiler
The current fault code is deleted from the display, but is stored in the boiler controller's error memory.

Depending on the type of fault which has occurred, the boiler switches to the Burn out operating status after unlocking. The boiler then returns to normal operation.

Information!

The system makes noises temporarily during automatic cleaning of the heat exchanger and operation of the automatic ash extractor.
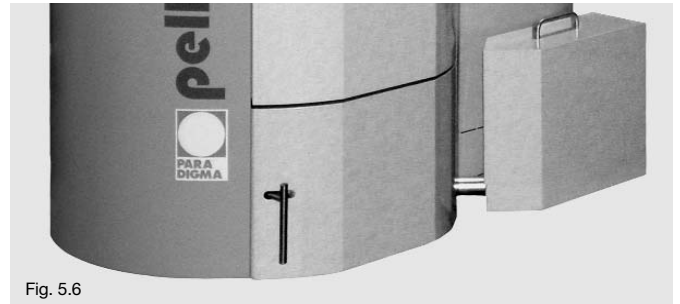
Fig. 5.6

Information!

The ash from the ash container has already cooled down completely, and can be disposed of directly. Disposal in the normal domestic waste or compost, for example.
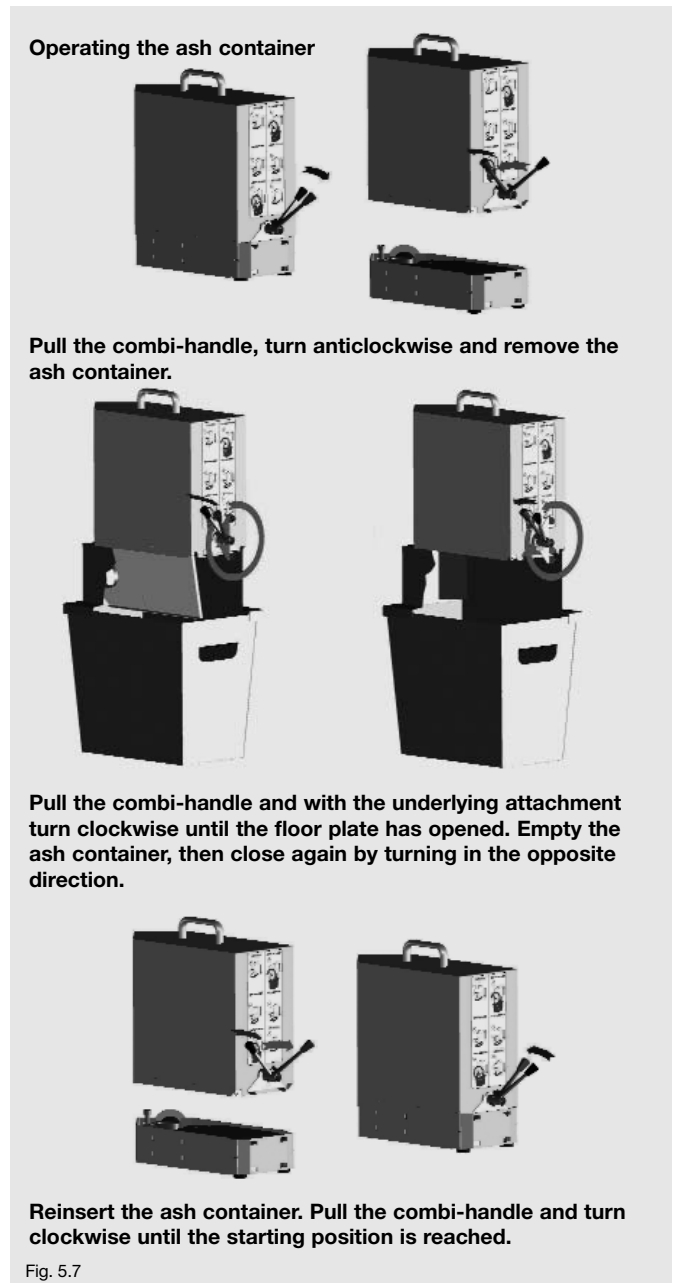
Operating the ash container

Pull the combi-handle, turn anticlockwise and remove the ash container.

Pull the combi-handle and with the underlying attachment turn clockwise until the floor plate has opened. Empty the ash container, then close again by turning in the opposite direction.

Reinsert the ash container. Pull the combi-handle and turn clockwise until the starting position is reached.
Fig. 5.7

5.8 Initial setup by installation engineer

The pellet boiler must be initially set up and the boiler control unit must be adjusted for the pellet removal system (system data setting) by an installation engineer. In order to ensure smooth handling of any claims resulting from liability for defects, always keep a record of work carried out in separate setup and maintenance logs, in conjunction with the installation engineer.

5.9 Instructions from installation engineer

Ensure that the installation engineer instructs you in how to operate the pellet boiler and that you have received the appropriate instructions and documents accompanying the product.

Notice!

The following points in particular should be explained to you:

- **switching the burner on and off when the wood pellets are being supplied**

- **emptying the ash container regularly**

- **in the event of a fault, an installation engineer should be called in immediately**

5.10 Normal operation

After the pellet boiler has been set up correctly by the installation engineer, the operator does not have to intervene – with the exception of emptying the ash container regularly. The system works automatically.

Information!

The Pelletti automatically switches to daylight saving time and back.

5.11 Operation when away for extended periods

During holidays or other lengthy periods of absence, the pellet boiler can be left in automatic mode. No additional measures need to be taken.

Information!

If you are away for an extended period, ensure that someone familiar with the procedure can empty the ash container when this is required.

5.12 What to do during a power cut

No special measures are required if there is a power cut. The pellet boiler automatically returns to normal operation after a power cut.

The operating module is equipped with a power reserve for operation during power cuts. However, if the power cut lasts longer than 24 hours, you must check the time and date.

5.13 What to do if a fault occurs

Faults are indicated by the alarm message in the display of the operating module.

Please contact your installation engineer at the earliest opportunity.

5.14 Shutting down the pellet boiler

The pellet boiler should only ever be shut down by the installation engineer.

6. The operating module

The Pelletti operating module allows all relevant operating data for the pellet boiler to be viewed and changed if necessary (Fig. 10.1).

- It allows the chimney sweep to start the device easily to perform the legally required emission measurement.
- The heating engineer uses the operating module to diagnose the system and make important configuration settings to guarantee environmentally friendly and thus low-emission operation.
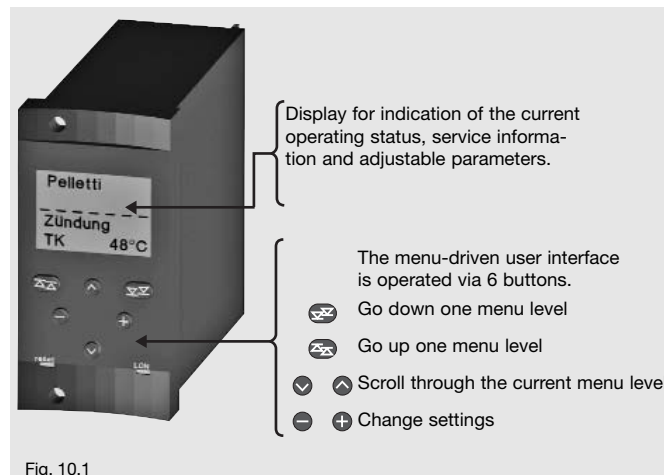- Any error detected at the pellet boiler is shown in the display.

Display for indication of the current operating status, service information and adjustable parameters.

The menu-driven user interface is operated via 6 buttons.

Go down one menu level

Go up one menu level

Scroll through the current menu level
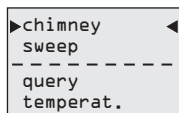
Change settings

Fig. 10.1

Information!
All important basic settings have already been set in the factory. The following provides detailed information on optimisation, control, maintenance and servicing of the system.

6.1 Menu structure

```
Pelletti
_____
auto
TK      65°C
```
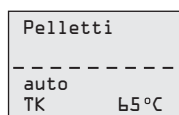
Use the button to change from the default display to the main menu.

```
▶chimney  ◀
 sweep
_____
 query
 temperat.
```
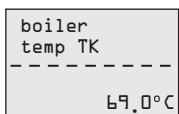
In the main menu use the buttons ⌄ or ⌄ to scroll to the desired submenu.

Select a submenu using the button.

Press the button to return to the default display.

```
boiler
temp TK
_____
        69.0°C
```

Press the ⌄ or ⌄ buttons to select items (settings) in the submenu.

You can change settings using the ⊕ or ⊝ buttons.
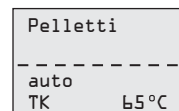
Press the button to return to the main menu.

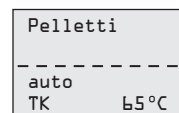The default display is shown again if no buttons are pressed for 30 minutes.

Information!
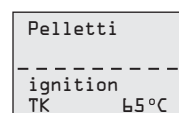**Values which can be set are marked with an arrow in the display > ———— < .**

6.2 Default display

```
Pelletti
_____
auto
TK      65°C
```

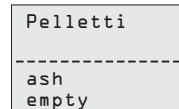Display of the module type – here **Pelletti**.

```
Pelletti
_____
auto
TK      65°C
```

Automatically alternating display of the current or set operating mode – here **auto**(matic), and of the current or set operating status.

```
Pelletti
_____
ignition
TK      65°C
```

Automatically alternating display of the current or set operating mode and of the current or set operating status – here **ignition.**
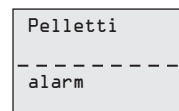
```
Pelletti
_____
alarm
```

Display of a fault – here **alarm**.
Read-out of the detailed fault description in the fault code submenu.

```
Pelletti
_____
ash
empty
```

Message **ash empty**. The external ash container is almost full. Ash extraction is still in operation. The fault can be unlocked in the fault code submenu.

```
Pelletti
_____
ash
full
```
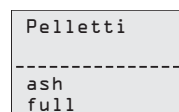
Message **ash full**. The external ash container is full. Ash extraction is deactivated (fault). The fault can be unlocked in the fault code submenu.

Menu system overview

6.3 Overview of main menu

The main menu is described briefly below. An overview of all menus and settings is provided in section 6.12.
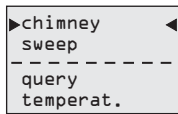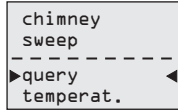
```
►chimney    ◄
 sweep
 _ _ _ _ _ _ _
 query
 temperat.
```
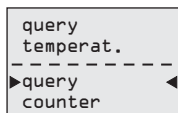⌄

Chimney sweep function

Activating the chimney sweep function.

```
 chimney
 sweep
 _ _ _ _ _ _ _
►query      ◄
 temperat.
```
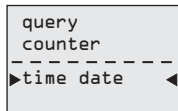⌄

Query temperatures

Display of the measured temperatures from the connected temperature sensors and the current operating status.

```
 query
 temperat.
 _ _ _ _ _ _ _
►query      ◄
 counter
```
⌄

Query counter

Displays the Pellet feed and pause times, blower speed, operating hours and number of burner starts.

```
 query
 counter
 _ _ _ _ _ _ _
►time date  ◄
```
⌄

Date and time

Setting the date and time. These values are preserved even after the power supply is switched off. The time is switched to daylight savings time automatically in conjunction with the SystaComfort heating controller (optional).

```
 time date
 _ _ _ _ _ _ _
►system data ◄
```
⌄

System data

Entry of system-specific settings such as enabling periods of the suction turbine, automatic ash extraction, boiler target temperature or manual forced filling.

```
 system data
 _ _ _ _ _ _ _
►service    ◄
 access
```
⌄
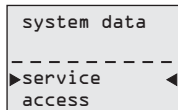
Service access

Setting level for the engineer. System-specific basic settings. Access to settings/ functioning of the complete system, combustion quality setting.

⚠ **Notice!**

The service access is only intended for service technicians.
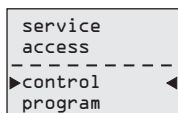
```
 service
 access
 _ _ _ _ _ _ _
►control    ◄
 program
```
⌄

Control program

Setting the desired operating mode of the pellet boiler (auto, test, manual and off).

```
 control
 program
 _ _ _ _ _ _ _
►error code ◄
```
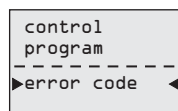
Fault code

View the fault code of a fault that has occurred.

6.4 Chimney sweep function

```
►chimney    ◄
 sweep
 _ _ _ _ _ _ _
 query
 temperat.
```

Open the **chimney sweep** submenu.

```
 chimney sweep
 _ _ _ _ _ _ _
 function
►on         ◄
```
⊕
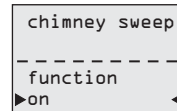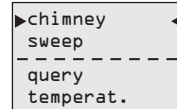
Set to **"on"** with the F button. When the chimney sweep function is activated, the boiler is run at 100 % for 45 minutes until the temperature reaches 85 °C. The boiler and heating circuit pumps are activated to dissipate the heat when the boiler temperature reaches 85 °C.

```
 chimney sweep
 _ _ _ _ _ _ _
 function
►off        ◄
```
⊖
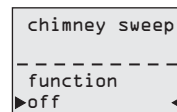
Set to **"off"** with the E button. The chimney sweep function is shut off automatically after 45 minutes.

Menu system overview

6.5 Query temperatures

```
►chimney      ◄
 sweep
 ─ ─ ─ ─ ─ ─ ─
 query
 temperat.
```

Query temperatures

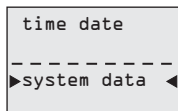Display of the measured temperatures from the connected temperature sensors and the current operating status.

```
 boiler
 temp TK
 ─ ─ ─ ─ ─ ─ ─
          69.0°C
```

Current **boiler temperature** (TK).

```
 return
 temp TKR
 ─ ─ ─ ─ ─ ─ ─
          42.4°C
```

Current **return temperature** (TKR). "---" is displayed if no sensor is connected.

```
 flue gas
 temp TRG
 ─ ─ ─ ─ ─ ─ ─
          155°C
```

Current **flue gas temperature** (TRG).

```
 operati.
 mode
 ─ ─ ─ ─ ─ ─ ─
 stand-by
```

Current **operating status**.

You can select from the following messages (operating statuses):

```
 operati.
 mode
 ─ ─ ─ ─ ─ ─ ─
 stand-by
```

Standby – No heat requirement.

```
 operati.
 mode
 ─ ─ ─ ─ ─ ─ ─
 ignition
```

Ignition – There is a heat requirement and the current boiler temperature is significantly lower than the boiler target temperature. The ignition process is started.

```
 operati.
 mode
 ─ ─ ─ ─ ─ ─ ─
 softstar
```

Soft start – Ignition has occurred. The amount of fuel is increased gradually.

```
 operati.
 mode
 ─ ─ ─ ─ ─ ─ ─
 regulat.
```

Regulating mode – The boiler runs at 100% until the current boiler target temperature is reached. When the required boiler target temperature is reached, the output is automatically controlled (30% - 100%) to maintain the required boiler target temperature.

```
 operati.
 mode
 ─ ─ ─ ─ ─ ─ ─
 burn out
```

Burnout – No heat requirement or the maximum boiler temperature is reached.

```
 operati.
 mode
 ─ ─ ─ ─ ─ ─ ─
 suffic.
```

Sufficient – The current boiler temperature is greater than the required boiler target temperature. The boiler still provides sufficient heat, the pellet boiler is off.

```
 Operati.
 mode
 ─ ─ ─ ─ ─ ─ ─
 blocked
```

Blocked – Heat requirement blocked externally (e.g. blocked by on/off switch, house connection box when pellets are being delivered or another heat generator, etc.).

```
 operati.
 mode
 ─ ─ ─ ─ ─ ─ ─
 error
```

Error – The boiler is deactivated. A fault has occurred. The type of boiler fault can be viewed in the error code submenu.

```
 boiler temp.
 ─ ─ ─ ─ ─ ─ ─
 setvalue
          44.9°C
```

Showing the **boiler target temperature**. Only displayed if there is a heat requirement. 0.0 °C is displayed if there is no requirement.

☞ Information!

The pellet boiler maintains a base temperature of at least 65°C in regulating mode. The actual boiler temperature may be greater than the boiler target temperature shown here. The lowest boiler target temperature which can be selected in manual mode or by an external requirement is 65 °C.

6.6 Query counter
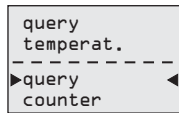
```
query
temperat.
- - - - - - - -
▶query          ◄
 counter
```

Query counter

Displays the Pellet feed and pause times, blower speed, operating hours and number of burner starts.

```
insert
duration
- - - - - - - -
        8.0sec
```
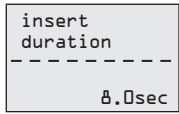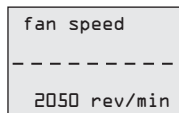
Showing the current **insert duration**. The feed time specifies how many seconds pellets are fed. This display varies in accordance with the current boiler power.

```
stop duration
- - - - - - - -
        9.0sec
```
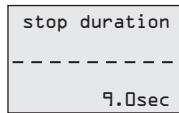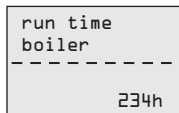
Displays the current **stop duration**. This pause time specifies the period between feeds. This display varies in accordance with the current boiler power.
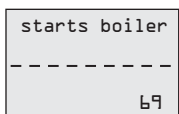
```
fan speed
- - - - - - - -
  2050 rev/min
```

Displays the current **fan speed** of the burner fan (revolutions per minute).

```
run time
boiler
- - - - - - - -
          234h
```

Displays the **operating hours**. The boiler runtime since the last counter clearance is displayed.

```
starts boiler
- - - - - - - -
            69
```

Displays the number of **boiler starts** (ignitions) since the last counter clearance.

```
clear counter
- - - - - - - -
▶no             ◄
```
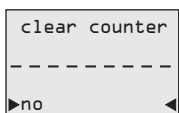
Display/query **clear counter**. If yes, please press the button ⊕ to confirm. Run time and number of startup processes (ignitions) are deleted.

```
run time
fill lev
- - - - - - - -
        112min
```
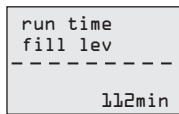
Displays the remaining **run time** (feed time) of the feed motor until the next refill.

6.7 Setting the time and date

```
query
counter
- - - - - - - -
▶time date      ◄
```
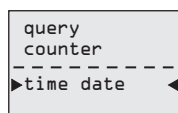
Setting the date and time.
These settings are preserved even after the power supply is switched off for approx. one day.
The time is switched to daylight savings time automatically in conjunction with the SystaComfort heating controller (optional).

```
time
- - - - - - - -
▶       12:00 ◄
```
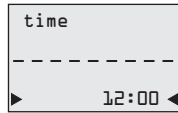
Press the ⊕ or ⊖ buttons in order to set the **time**.
Confirm with ⊘ button.

```
date
- - - - - - - -
▶   01.04.08 ◄
```
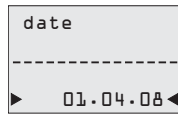
Press the ⊕ or ⊖ buttons in order to set the **date**.
Confirm with ⊠ button.
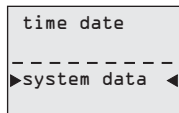
6.8 Sytem data

```
 time date
- - - - - - - -
▶system data ◀
```

Entry of system-specific settings such as enabling periods of the suction turbine, automatic ash extraction, boiler target temperature or manual forced filling.

```
 cleaning
 enable
-------------
▶       06:00◀
```

Start of the time frame during which automatic cleaning of the heat exchanger and automatic ash extraction are allowed.

```
 cleaning
 blocking
-------------
▶       22:00◀
```

End of the time frame during which automatic cleaning of the heat exchanger and automatic ash extraction are allowed.

```
 cleaning
 run time
- - - - - - - -
▶        3min◀
```

Setting for the **runtime of the cleaning motor** at the start of automatic heat exchanger cleaning.

Standard: 3 minutes	Setting range: 2 to 15 minutes

```
 ash dis.
 run time
-------------
▶       10min◀
```

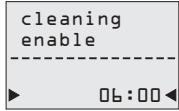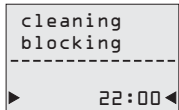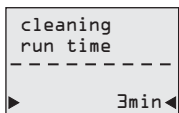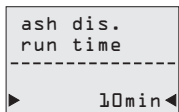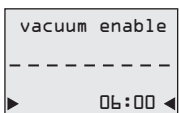Setting for the **runtime of the automatic ash extraction** at start-up.

Standard: 10 minutes	Setting range: 5 to 30 minutes

```
 vacuum enable
- - - - - - - - -
▶       06:00 ◀
```

Start of the time frame during which automatic refilling of the storage container is allowed.

```
 vacuum
 blocking
- - - - - - - - -
▶       22:00 ◀
```

End of the time frame during which automatic refilling of the storage container is allowed.

```
 boiler temp.
- - - - - - - - -
 setvalue
        65.0°C
```
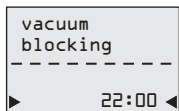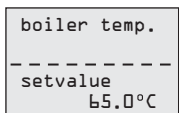
Setting the **boiler target temperature**. This temperature is preset as a target value for the boiler only in manual operating mode or if an external controller is used.

If there is a heat requirement via the LON bus, the target value is calculated by the Paradigma heating controller and saved directly as the target temperature.

Standard: 65 °C	Setting range: 65 to 85 °C

```
 forced fill
 lev
- - - - - - - -
▶no            ◀
```
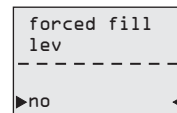
Manual forced filling of the storage container.

Press ⊕ to switch on, press ⊖ to interrupt.

The storage container fills with pellets to the level of the fill level switch.

This function is only available when there is no heat requirement. If necessary, block the pellet boiler with the on/off switch, then carry out the forced filling.

☞ **Information!**

The system makes noises temporarily during heat exchanger cleaning, ash extraction and filling of the storage container.

Automatic cleaning of the heat exchanger starts:
- **when a minimum 300-minute runtime of the pellet boiler has been reached**
- **during the set time frame**

Automatic ash extraction starts:
- **at the same time as the cleaning of the heat exchanger**
- **at the same time as the filling of the storage container**

6.9 Service access

```
system data
- - - - - - - -
▶service    ◀
access
```
▩

Setting level for the engineer. System-specific basic settings.

Access to settings/ functioning of the complete system, combustion quality setting.

> ⚠ **Notice!**
> **These boiler parameters and settings may only be changed by a qualified engineer.**

6.10 Control program

```
service
access
- - - - - - - -
▶control    ◀
program
```
▩

Setting the desired operating mode of the pellet boiler (auto, test, manual and off).

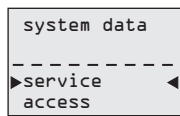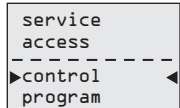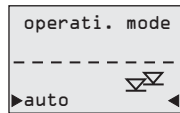## Operating mode auto:

```
operati. mode
- - - - - - - -
          ▽▽
▶auto       ◀
```
⊖ ⊕
⊙

• If using the SystaComfort heating controller (optional), the pellet boiler is weather-controlled according to the heating controller settings. The current boiler target temperature for the heating circuits or water heating is calculated by the heating controller and transmitted as the target value to the pellet boiler.

• If using an external controller from another manufacturer, in the case of heat requirement the pellet boiler is regulated exclusively to the boiler target temperature set in the system data (see section 6.8) and tries to maintain this temperature by adjusting its output (30 - 100%).

Standard: auto	Setting range: auto, test, manual, off

```
operati. mode
- - - - - - - -
          ▽▽
▶test       ◀
```
⊖ ⊕
⊙
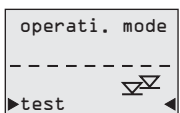
Operating mode test: In this operating mode all normal pellet boiler control functions are deactivated. To facilitate maintenance and servicing, it is possible to activate electrical outputs manually.

> ⚠ **Notice!**
> **Only qualified engineers may check electrical outputs.**

```
operati. mode
- - - - - - - -
          ▽▽
▶manual     ◀
```
⊖ ⊕
⊙
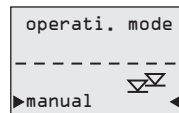
Operating mode manual: The pellet boiler is regulated exclusively to the boiler target temperature set in the system data (see section 6.8) and tries to maintain this temperature by adjusting its output (30 - 100%). Weather-dependent control of the pellet boiler does not occur in this operating mode.

```
operati. mode
- - - - - - - -
          ▽▽
▶off        ◀
```
⊖ ⊕
⊙
▩
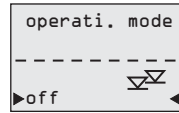
Operating mode off: All normal pellet boiler control functions are deactivated. This operating mode can be selected during the summer months, for example, when water is to be heated solely via a solar system. In this operating mode, frost protection is not guaranteed and therefore corresponds to operating the on/off switch.

```
operati. mode
- - - - - - - -
▶chim.sw     ◀
```
⊖ ⊕
▩
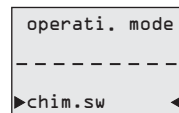
Operating mode chimney sweep
Only displayed when the chimney sweep function has already been activated.

Menu system overview

6.11 Fault code
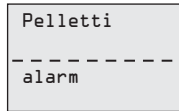
```
Pelletti
_ _ _ _ _ _ _ _
alarm
```

Display of a fault – here alarm.

Read-out of the detailed fault description in the fault code submenu.

```
control
program
_ _ _ _ _ _ _ _
▶error code  ◀
```

View the fault code of a fault that has occurred.

```
err.code
actual
_ _ _ _ _ _ _ _
           35
```
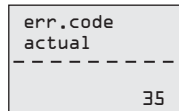
The **current fault code** is displayed. This display is only active in the event of a fault.

If a fault currently exists, it is shown here.

> **Notice!**
> **Prior to re-commissioning (unlock), the fault must be rectified by an authorised service technician.**

```
unlock
_ _ _ _ _ _ _ _
▶no         ◀
```
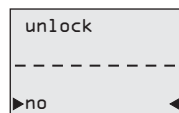
Unlocking the pellet boiler
The current fault code is deleted from the previous display.

Depending on the type of fault which has occurred, the boiler switches to the burnout operating status after unlocking. The boiler then returns to normal operation.

```
error boiler
_ _ _ _ _ _ _ _
▶          1◀
```

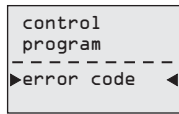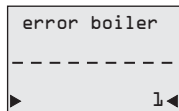Display and **toggle between saved faults** (stores the 10 most recent faults as a maximum).

Display examples

```
err.code
boiler
_ _ _ _ _ _ _ _
           18
```

The current **fault code** is displayed.

```
time error
_ _ _ _ _ _ _ _
        13:23
```
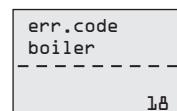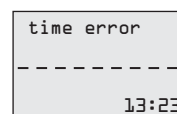
The time when the fault occurred is shown.

```
date error
_ _ _ _ _ _ _ _
     01.04.08
```
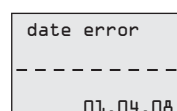
The date when the fault occurred is shown.

```
mode error
_ _ _ _ _ _ _ _
ignition
```
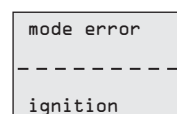
The operating status in which the fault occurred is shown.

```
TK error
_ _ _ _ _ _ _ _
       34.5°C
```
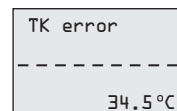
The boiler temperature when the fault occurred is shown.

```
TRG error
_ _ _ _ _ _ _ _
        174°C
```
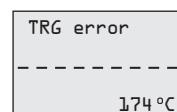
The flue gas temperature when the fault occurred is shown.

```
clear
register
_ _ _ _ _ _ _ _
▶no         ◀
```
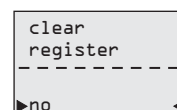
Clearing the fault memory. All saved faults and the corresponding information are cleared from the memory.

> **Notice!**
> **Saved errors may only be deleted by qualified engineers.**

Menu system overview

6.12 Overview of display messages

Default display

```
Pelletti
- - - - - - - -
auto
TK      65°C
```

```
Pelletti
- - - - - - - -
alarm
```

```
Pelletti
- - - - - - - - -
ash
empty
```

```
Pelletti
- - - - - - - - -
ash
full
```

Main menu

```
▶chimney      ◀
 sweep
- - - - - - - -
 query
 temperat.
```

```
▶chimney      ◀
 sweep
- - - - - - - -
 query
 temperat.
```

```
 query
 temperat.
- - - - - - - -
▶query        ◀
 counter
```

```
 query
 counter
- - - - - - - -
▶time date    ◀
```

```
 time date
- - - - - - - - -
▶system data  ◀
```

Submenu

```
chimney sweep
- - - - - - - -
function
▶off
```

```
chimney sweep
- - - - - - - -
function
▶on
```

```
boiler
temp TK
- - - - - - - -
         69.0°C
```

```
return
temp TKR
- - - - - - - -
         42.4°C
```

```
flue gas
temp TRG
- - - - - - - -
           155°C
```

```
operati.
mode
- - - - - - - -
stand-by
```

```
boiler temp.
- - - - - - - -
setvalue
         65.0°C
```

```
insert
duration
- - - - - - - -
          8.0sec
```

```
stop duration
- - - - - - - -
          9.0sec
```

```
fan speed
- - - - - - - -
   2050 rev/min
```

```
run time
boiler
- - - - - - - -
            234h
```

```
starts boiler
- - - - - - - -
              69
```

```
clear counter
- - - - - - - -
▶no           ◀
```

```
run time
fill lev
- - - - - - - -
          112min
```

```
time
- - - - - - - -
▶      12:00   ◀
```

```
date
- - - - - - - - -
▶    01.04.08  ◀
```

```
cleaning
enable
- - - - - - - -
▶        06:00 ◀
```

```
cleaning
blocking
- - - - - - - -
▶        22:00 ◀
```

```
cleaning
run time
- - - - - - - -
▶          3min ◀
```

```
ash dis.
run time
- - - - - - - - -
▶        10min  ◀
```

```
vacuum enable
- - - - - - - -
▶       06:00  ◀
```

```
vacuum
blocking
- - - - - - - -
▶        22:00 ◀
```

```
boiler temp.
- - - - - - - -
setvalue
         65.0°C
```

```
forced fill
lev
- - - - - - - -
▶no            ◀
```

☞ **Information!**

Values which can be set are marked with an arrow in the display ▶ — — — — ◀.

Can be changed by using the ⊕ or ⊖ buttons.

Menu system overview

Main menu

```
system data
_ _ _ _ _ _ _ _ _
▶service      ◀
access
```

See section 6.9

```
service
access
_ _ _ _ _ _ _ _ _
▶control      ◀
program
```

```
control
program
_ _ _ _ _ _ _ _ _
▶error code   ◀
```

Submenu

```
operati. mode
_ _ _ _ _ _ _ _
▶auto         ◀
```

```
operati. mode
_ _ _ _ _ _ _ _
▶test         ◀
```

```
operati. mode
_ _ _ _ _ _ _ _
▶manual       ◀
```

```
operati. mode
_ _ _ _ _ _ _ _
▶off          ◀
```

```
operati. mode
_ _ _ _ _ _ _ _
▶chim.sw      ◀
```

```
operati. mode
_ _ _ _ _ _ _ _
▶test         ◀
```

See section 6.9

Display example 1.

```
err.code
boiler
_ _ _ _ _ _ _ _
          ...
```

```
unlock
_ _ _ _ _ _ _ _
▶no           ◀
```

Display example 2.

```
err.code
boiler
_ _ _ _ _ _ _ _
           18
```

```
unlock
_ _ _ _ _ _ _ _
▶no           ◀
```

```
error boiler
_ _ _ _ _ _ _ _
▶          1◀
```

```
error boiler
_ _ _ _ _ _ _ _
▶          2◀
```

```
err.code
boiler
_ _ _ _ _ _ _ _
           18
```

```
time error
_ _ _ _ _ _ _ _
        13:23
```

```
date error
_ _ _ _ _ _ _ _
     01.04.08
```

```
mode error
_ _ _ _ _ _ _ _
ignition
```

```
TK error
_ _ _ _ _ _ _ _
       34.5°C
```

```
TRG error
_ _ _ _ _ _ _ _
       174°C
```

```
clear
register
_ _ _ _ _ _ _ _
▶no           ◀
```

Display example 1.

Display when no faults are pending.

Display example 2.

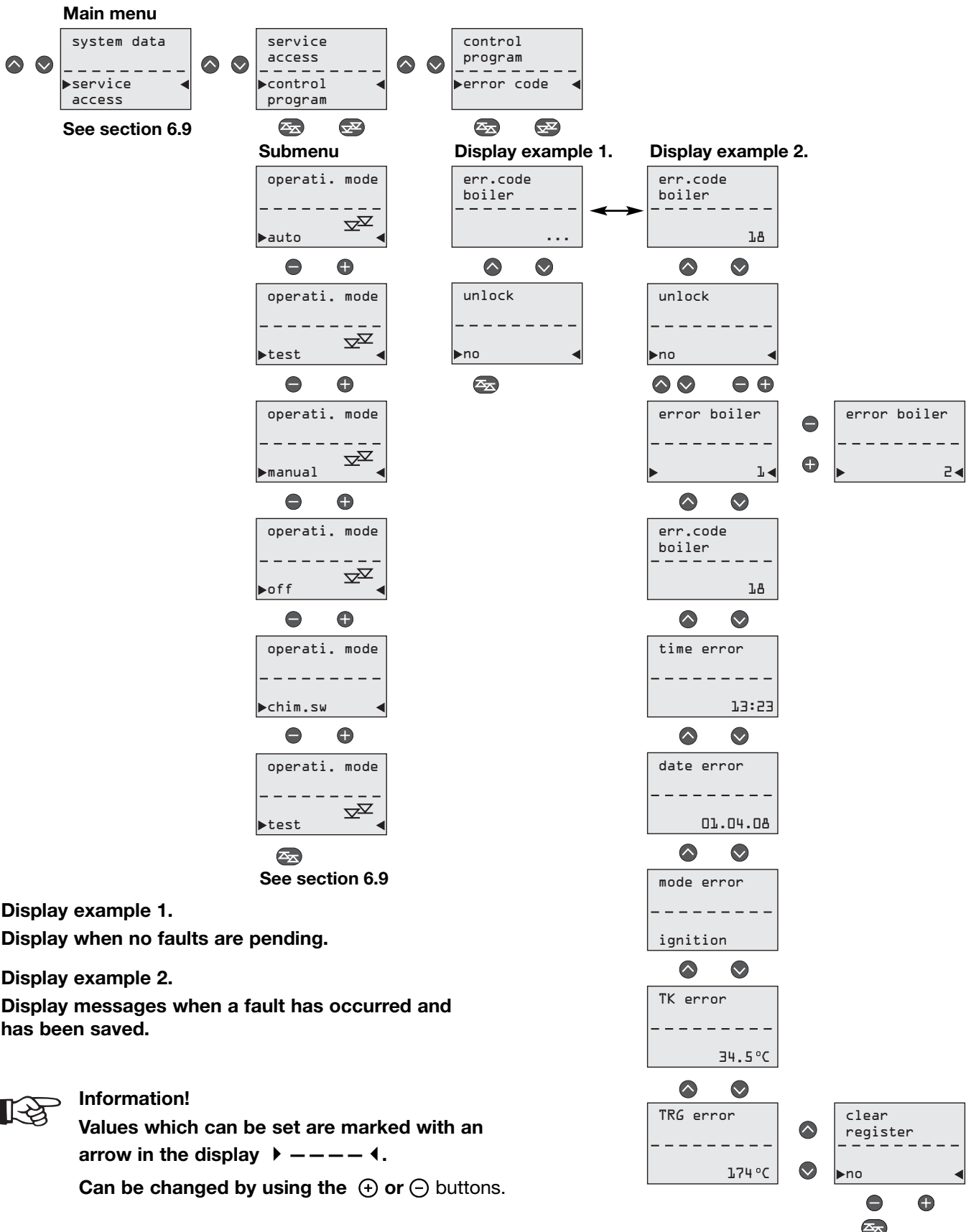**Display messages when a fault has occurred and has been saved.**

☞ **Information!**

Values which can be set are marked with an arrow in the display ▶ — — — — ◀.

Can be changed by using the ⊕ or ⊖ buttons.

PARA
DIGMA