+OPERATING MANUAL

SINCE 1921
windhager
HEAT WITH VISION

BIOWIN LITE

200 kg

BioWIN lite with 200 kg integral fuel hopper

107 kg

BioWIN lite with 107 kg integral fuel hopper

PELLET BOILER

EN

08/2020 095223/03-v1.0.x

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The Clean Air Act 1993 and Smoke Control Areas

Under the Clean Air Act local authorities may declare the whole or part of the district of the authority to be a smoke control area. It is an offence to emit smoke from a chimney of a building, from a furnace or from any fixed boiler if located in a designated smoke control area. It is also an offence to acquire an unauthorised fuel for use within a smoke control area unless it is used in an exempt appliance (exempted from the controls which generally apply in the smoke control area).

The Secretary of State for Environment, Food and Rural Affairs has powers under the Act to authorise smokeless fuels or exempt appliances for use in smoke control areas in England. In Scotland and Wales this power rests with Ministers in the devolved administrations for those countries. Separate legislation, the Clean Air (Northern Ireland) Order 1981, applies in Northern Ireland. Therefore it is a requirement that fuels burnt or obtained for use in smoke control areas have been authorised in Regulations and that appliances used to burn solid fuel in those areas (other than authorised fuels) have been exempted by an Order made and signed by the Secretary of State or Minister in the devolved administrations.

Further information on the requirements of the Clean Air Act can be found here :
http://smokecontrol.defra.gov. uk/
Your local authority is responsible for implementing the Clean Air Act 1993 including designation and supervision of smoke control areas and you can contact them for details of Clean Air Act requirements.
The Windhager BioWIN lite pellet boilers BWL 102, 152, 212, 262 and BWL 102L, 152L, 212L, 262L have been recommended as suitable for use in smoke control areas when burning wood pellets.

1. Important information for system operators

Dear Heating System Owner,

We would like to congratulate you on your new environmentally friendly boiler system. With the purchase of this high-quality product by Windhager, you have selected a system that provides more comfort and optimised fuel consumption while utilising an environmentally friendly means of saving resources. Your boiler was manufactured under strict ISO 9001-certified standards, was subjected to extensive tests and all its components are recyclable.

On the following pages we have provided specific information and important tips regarding system operation, unit functions and cleaning. Familiarity with the information in this document will allow you to enjoy long-term operation of the boiler. We wish you all the best with your Windhager boiler.

1.1 General information

1.1.1 Manufacturer's obligations

Our products are manufactured in accordance with the essential requirements of the various applicable guidelines. They therefore carry the CE label and are supplied with all the required documentation.

Technical details subject to change.

We as the manufacturer cannot be held liable in the following cases:

- Incorrect use of the unit.
- Failure to perform proper full service on the unit.
- Incorrect installation of the unit.

1.1.2 Installer's obligations

The installer is the person responsible for installing the unit. The installer must comply with the following instructions:

- Read and follow all instructions supplied with the unit.
- Carry out installation in accordance with the applicable standards and specifications.
- Explain to the operator how the system works.
- Make the operator aware of his obligation to inspect and maintain the unit.
- Hand over all operating manuals to the operator.

1.1.3 Operator's obligations

To ensure that the unit operates at optimum performance, the operator must follow these instructions:

- Only adults who have received instruction from Windhager Customer Service or an approved technician with a valid WIN-5 certificate may operate the system.
- The operator must have read and understood the instructions contained in the documentation.
- Installation and initial start-up must be performed by appropriately qualified technicians.
- Make sure the installer explains how the system works.
- Perform all the necessary checks and full service.
- Keep the instructions in good condition and store them near the boiler.

This unit is not intended for use by persons (including children) who have physical or mental disabilities or sensory impairment or who have no experience or knowledge of the correct use of the unit, unless supervised or trained by a person responsible for their safety. Children should be supervised to ensure they do not play with the unit.

1.1.4 Spare parts

For spare parts, please contact the Customer Service partner or send an email to info@windhager.co.uk or phone Windhager UK Ltd - 01225 892 211.

1.1.5 Data plate

The data plate bears important specifications relating to the unit, such as its type, factory number and year of manufacture. If you need a spare part or have to contact a heating technician or Windhager Customer Service due to a malfunction, please first make a note of this data from the data plate. The data plate is located on the front of the equipment, behind the cladding door below the control panel – Fig. 2.

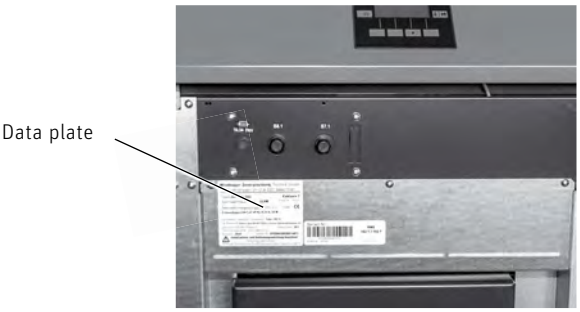


Fig. 2 Data plate

1.2 Safety precautions

The boiler together with its accessories complies with the latest state of the art as well as the relevant safety regulations, and is operated with electric current (230 V AC). Improper installation or repair can pose the danger of life-threatening electric shock. Installation may be performed only by appropriately qualified technicians.

Properly installed, operated and maintained this boiler will not emit fumes into the dwelling. Occasional fumes from de ashing and re fuelling may occur. However, persistent fume emission is potentially dangerous and must not be tolerated. If fume emission does persist, then the following immediate action should be taken:

a) Open doors and windows to ventilate room
b) Let the fire out or eject and safely dispose of fuel from the appliance
c) Check for flue or chimney blockage and clean if required
d) **Do not attempt to relight the fire until the cause of the fume emission has been identified and corrected. If necessary seek expert advice.**

The most common cause of fume emission is flueway or chimney blockage. For your own safety these must be kept clean at all times. The boiler must also be annually serviced.

General

Before lighting the boiler check with the installer that the installation work and commissioning checks described above have been carried out correctly and that the chimney has been swept clean, is sound and free from any obstructions. As part of the boilers' commissioning and handover the installer should have shown you how to operate the boiler correctly.

Do not light the boiler if there is a possibility that any part of the heating system may be frozen.

Boiler Access

Access to the boiler should be restricted for children, aged and/or infirm persons by way of a lockable door to the room in which the boiler is installed.

Chimney cleaning

The chimney should be swept at least once a year. It is important that the flue connection and chimney are swept prior to lighting up after a prolonged shutdown period.

In situations where it is not possible to sweep through the boiler the installer will have provided alternative means, such as a soot door. After sweeping the chimney the boiler flue outlet and the flue pipe connecting the boiler to the chimney must be cleaned with a flue brush.

Periods of Prolonged Non-Use

If the boiler is to be left unused for a prolonged period of time then it should be given a thorough clean to remove ash and unburned fuel residues. Empty the hopper of unburned fuel. To enable a good flow of air through the appliance to reduce condensation and to avoid door seals becoming stuck and subsequently damaged, leave the filling hatch and combustion chamber doors slightly ajar. These actions will reduce the possibility of unnecessary damage and corrosion.

Extractor fan

There must not be an extractor fan fitted in the same room as the boiler as this can cause the boiler to emit smoke and fumes into the room.

Aerosol sprays

Do not use an aerosol spray on or near the boiler when it is alight.

Use of operating tools

Always use the operating tools provided when handling parts likely to be hot when the boiler is in use.

Chimney Fires

If the chimney is thoroughly and regularly swept, chimney fires should not occur. However, if a chimney fire does occur turn off the boiler immediately and isolate the mains electricity supply, and tightly close the doors of the boiler. This

should cause the chimney fire to go out. If the chimney fire does not go out when the above action is taken then the fire brigade should be called immediately. Do not relight the boiler until the chimney and flueways have been cleaned and examined by a professional.

Permanent air vent

The boiler requires a permanent and adequate air supply in order for it to operate safely and efficiently.
In accordance with current Building Regulations the installer may have fitted a permanent air supply vent into the room in which the boiler is installed to provide combustion air. This air vent should not under any circumstances be shut off or sealed.

HETAS Ltd Approval

This appliance has obtained HETAS Ltd approval for burning compressed wood pellets as specified in the main instruction manual. Approval does not cover the use of other fuels either alone or mixed with the recommended fuel, nor does it cover instructions for the use of other fuels.

1.2.1 Caution symbols

Please take note of the following safety information levels in this manual.

DANGER Ignoring the warnings identified by this symbol can lead to **serious injuries or death**.

WARNING Ignoring the warnings identified by this symbol can lead to **injury**.

CAUTION Ignoring the warnings identified by this symbol can lead to **malfunction of or damage to the boiler or heating system**.

Note.

The blocks of text identified by this symbol provide **information and tips** for operation.

1.2.2 General safety information

DANGER

When performing cleaning or repair work, disconnect the main power plug.

Turning off the ON/OFF button on the InfoWIN^{PLUS} does not mean the boiler and its accessories are completely without power. Therefore, you must de-energise the boiler (e.g. by unplugging the main power plug) when carrying out cleaning or repair work.

DANGER

Attention. Risk of crushing from rotating auger.

If you have to touch these parts, always de-energise the boiler.

WARNING

Warning of hot surface: risk of burns.

Before touching these surfaces, you must turn off the boiler and let it cool.

1.3 Sources of danger

1.3.1 Power failure (or if the induced draught fan is not running)

WARNING

Warning, risk of explosive combustion.

Do not open the combustion chamber door, there is an increased risk of explosive combustion when opening the combustion chamber door. A self-test is performed following a power failure during combustion and then operation is continued automatically.

1.3.2 Burner bowl

WARNING

Warning, risk of explosive combustion.

Never fill the burner bowl with pellets by hand. Excessive combustion material in the burner bowl means that the pellets will not be ignited optimally. Too much low-temperature carburisation gas will be generated and this can lead to explosive combustion.

1.3.3 Entering the pellet storage room, storage container

All energy sources are subject to safety regulations which must be observed when working with fuels, heating systems and storage rooms. This also applies to the storage of pellets.

After the storage room is filled, odourless carbon monoxide (CO) may be produced and there may be insufficient oxygen. For this reason, do not enter the pellet storage room for 6 weeks after it has been filled. Only trained persons may enter the storage room for the purpose of measuring gas levels.

Please also follow the instructions on the sticker:

- No access to unauthorised persons, keep children away from the pellet store.
- Ensure sufficient ventilation before entering. Keep the door open while inside.
- Only enter the storage room under the supervision of a second person standing outside.
- No smoking, flames or other sources of ignition are permitted.
- Risk of injury from moving parts.
- Pellet boilers must be turned off at least 15 minutes before the storage room is filled.
- Fill only in accordance with the instructions of the boiler and pellet suppliers.
- Protect pellets from damp.

If you feel unwell, leave the storage room immediately and seek medical advice.

DANGER

Attention, risk of suffocation.

Do not attempt to enter an unaired storage room (particularly buried tanks).

1.3.4 Combustion air

Never seal openings that have been provided for ventilation.

1.4 Fuel

To ensure that your new heating system provides long-term reliable service, the following must be observed:

Quality of pellets must be in accordance with EN ISO 17225-2 A1:

The quality of the pellets is an important factor in achieving optimum operation of the heating system.
When buying pellets, make sure that they meet the quality standards of EN ISO 17225-2 A1. Only source pellets from manufacturers with EN-Plus certification (or DIN-Plus or UZ38), as they are required to perform ongoing internal quality control.

Diameter: 6 mm; length: 10 – 40 mm; max. 1% up to 45 mm

Make your pellet supplier aware of these quality requirements before ordering and seek confirmation upon delivery.

Consequences of quality fluctuations:

Pellets are 100 % unprocessed wood, so minor fluctuations in fuel quality are normal and reflect the natural origins of the material. These quality fluctuations affect the level of contamination, the ash content and therefore the cleaning intervals.

A reduction in cleaning intervals due to fluctuations in pellet quality cannot be remedied as part of a repair under warranty.

1.5 Start-up and full service

Have Windhager Customer Service or an approved technician with a valid WIN-5 certificate put you boiler into service. In this way, all functions of the new unit will be thoroughly checked; you will also benefit from the detailed information provided by the qualified technician. Installation by a qualified technician, as well as the required full service undertaken by Windhager Customer Service or an approved technician with a valid WIN-5 certificate will guarantee the optimal use and service life of your boiler system. This is the only way to assure the benefits of this technologically advanced boiler and guarantee safe, environmentally friendly and energy-saving system operation.

The following preconditions must be met before you order the initial start-up:

1.) Boiler installed correctly.
2.) System fully wired up electrically.
3.) System flushed, filled and vented – heat load must be available.
4.) Sufficient quantity of fuel available commissioning.
5.) The customer must be present during start-up.

The initial start-up cannot be carried out if any of these points are neglected. The customer may be charged for any unnecessary costs arising as a result.

Commissioning and operation by Windhager Customer Service or an approved technician with a valid WIN-5 certificate are part of the warranty conditions.

Note.

During the first few weeks after start-up, condensation can occur in the combustion chamber, ash pan and on the heating surfaces. This has no effect on the function and service life of the boiler.

1.6 Functional test

EN 12828 requires that the function of the system and related safety equipment be checked and certified yearly by a qualified technician (Windhager or Windhager trained technician).

At two-year intervals, in accordance with BS 7593:2006, the system water condition must be checked by a heating engineer (see installation instructions – System water) to prevent corrosion and sediment accumulation in the heating system and boiler.

In the event of repair work requiring a change of water in the heating system, the system water is to be checked within 4 to 6 weeks after such work.
Corrosion and sediment resulting from improper system water are not covered by the guarantee and warranty.

2. Operation

2.1 Opening the cladding door

WARNING

Warning of hot surface: risk of burns.

Before opening the cladding door of the boiler, ensure that it is turned off via the **ON/OFF button** (see Fig. 3) and allowed to cool down (display is blank).

Pressing one of the six buttons firstly turns just the lighting and display on. The boiler is only turned off when the button is pressed for the second time.

- Raise cover and remove; locate Allen key – Fig. 4.
- Insert the Allen key, turn a quarter turn to the left and open the cladding door –Fig. 5,Fig. 6.

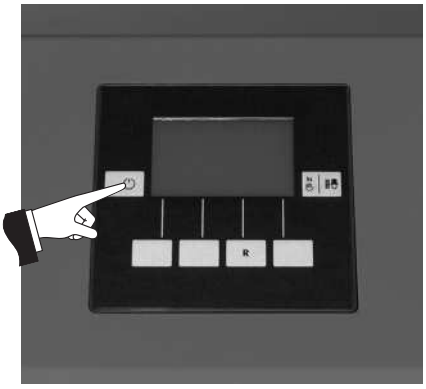


Fig. 3 Turn off BioWIN lite

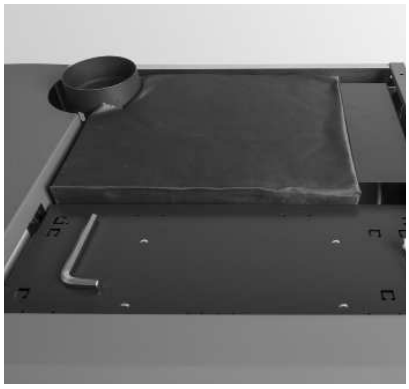


Fig. 4 Allen key underneath cover

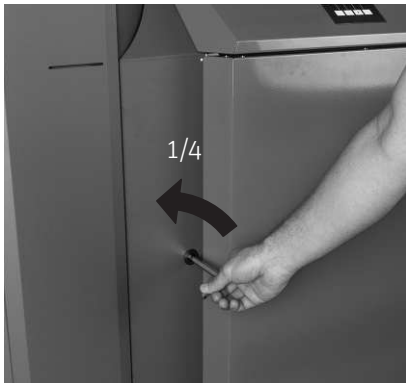


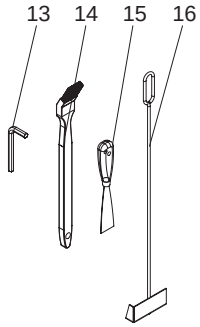
Fig. 5 Open the cladding door with the Allen key

Fig. 6 Cladding door open

2.2 Functional description, functional elements and operating controls

The BioWIN lite pellet boiler and the MES^{PLUS} control system combine to form a perfect unit. The BioWIN lite automatically fires when the control system signals a heating requirement. Following "purging" (safety function), ignition starts and the pellet metering auger turns on. The burner bowl is automatically filled with pellets. When flame formation has been detected (by the thermocontrol sensor), the boiler enters flame stabilisation mode and then control mode (modulation mode) which maintains the specified boiler temperature setpoint. The boiler enters burnout mode if the output drops below the minimum nominal thermal output or no heating requirement is signalled by the control system. The induced draught fan continues to run until the burner bowl has cooled down.

The integral fuel hopper is loaded by hand. A motor moves the heating surface cleaning system vertically and the heating surfaces remain clean. The cleaning residues from the heating surfaces drop into the rear ash chamber. The combustion residues from the burner bowl drop into the ash pan. In the event of a cleaning request, the ash has to be removed manually.



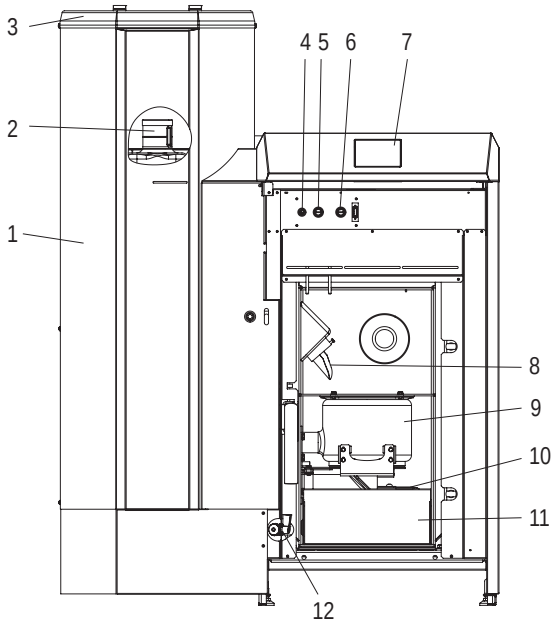


Fig. 7 BioWIN lite 107 kg integral fuel hopper without cladding door or combustion chamber door

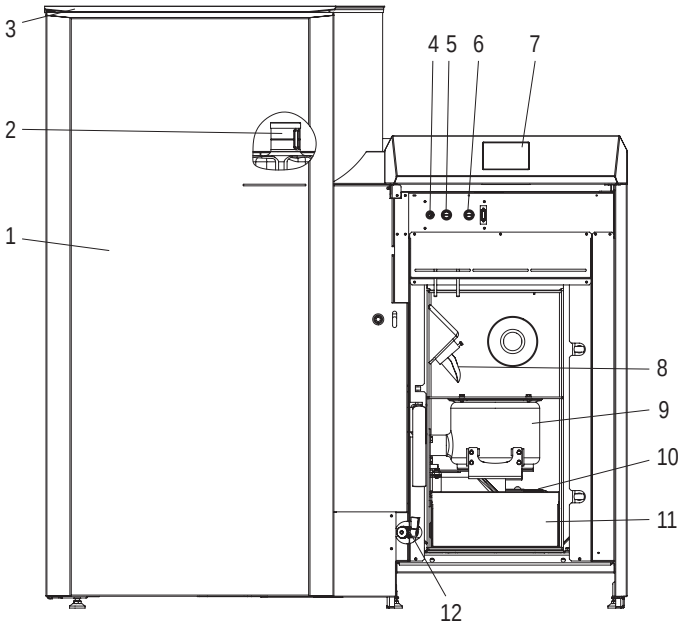


Fig. 8 BioWIN lite L 200 kg integral fuel hopper without cladding door or combustion chamber door

1 ..... Pellet integral fuel hopper
2 ..... Water tank for burn-back safeguard (behind the integral fuel hopper)
3 ..... Filling cover for pellet integral fuel hopper
4 ..... T 6.3 A device fuse
5 ..... Safety thermostat auger tube
6 ..... Safety thermostat boiler temperature
7 ..... InfoWIN^{PLUS} display and operating unit
8 ..... Down chute
9 ..... Burner bowl
10 ..... Cover for the coasting-surface ash chamber
11 ..... Ash pan[1]
12 ..... Drain cock[2]
13 ..... Cleaning brush[1]
14 ..... Spatula[1]
15 ..... Allen key
16 ..... Scraper[1]

[1] Optional accessory, cleaning kit BWL 001
[2] Optional accessory, Drain cock BWL 002

2.3 Check before turning on

a) System pressure (heating water pressure):
The system must be filled and vented. With the system cold, pressure should be at least 1.0 bar (maximum 1.8 bar). If you have any questions, your installer will gladly answer them.

b) Ventilation:
Please make sure the boiler room is well ventilated. The air supply must be free of dust.

c) Flue:
Please have the chimney sweeper check the flue, and, if necessary, clean it.

d) Water tank:
Check level in water tank for burn-back safeguard – see section 3.8.

2.4 Filling the integral fuel hopper

Open the integral fuel hopper cover and fill the hopper up to max. 1 cm below the top.
Close the cover.

Operation with external combustion air feed

The cover on the integral fuel hopper is monitored by a safety switch. The boiler cannot be operated when the lid is open. If the lid is opened during operation, after 4 mins the boiler switches to burnout.

2.5 InfoWIN^{PLUS}

The InfoWIN^{PLUS} is a central operating and display unit for boilers and for modules of the MES^{PLUS} system control (see separate instructions).

The InfoWIN^{PLUS} unit consists of a large text display, an ON/OFF button with an LED signal lamp indicating operation (green), a button for the chimney sweeper function and four individual menu buttons. The function of each menu button is displayed on the menu line.

Backlit display

Colours of backlit display:

- White: normal operation
- Pink: information and error messages
- Red: alarm message

During normal operations the backlit display is turned off automatically after 10 minutes if no button is pressed during this period.

Display

If the boiler is in stand-by mode or solid fuel/buffer mode for longer than one hour, the display is turned off completely and only the green LED is lit. The display is turned on again when a button is pressed or if another operating mode is activated.

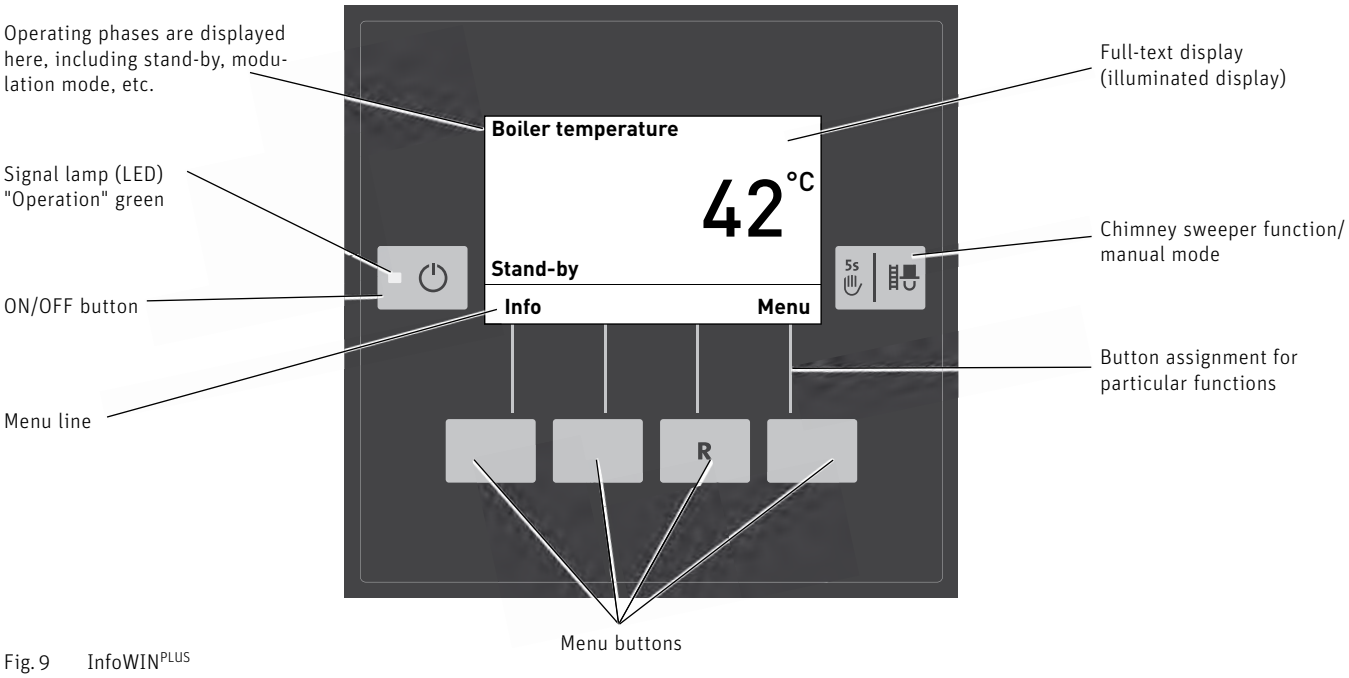


Fig. 9 InfoWIN^{PLUS}

The various operating modes are displayed on InfoWIN^{PLUS} together with the corresponding operating phases.

The following types of **operating mode** exist:

- OFF
- ON (with self-test, lighting ON, lighting OFF)
- Pellet feed
- Solid fuel/ buffer mode
- Manual mode
- Chimney sweeper function
- Shut-down procedure

➔

Corresponding **operating phases**:

- Stand-by, display OFF
- Purging
- Ignition phase
- Flame stabilisation
- Modulation mode
- Burnout
- Burner OFF
- Turn off heat generator

2.6 Operating modes

2.6.1 OFF mode

The boiler is turned off when in OFF mode. The display and all buttons, with the exception of the **ON/OFF** button, do not function. The LED on the InfoWIN^{PLUS} does not light up – Fig. 10.

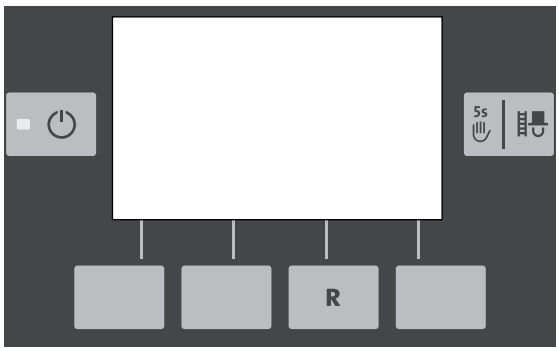


Fig. 10

2.6.2 ON mode, lighting ON, self-test, lighting OFF

Press the **ON/OFF** button, lighting and display are turned on and the self-test starts automatically – Fig. 11.

Self-test:

Sensors, switches and motors are checked during the self-test.

After a successful self-test, the display shows an operating phase and the boiler water temperature (standard display). The LED control lamp lights green and the desired functions can be selected using the buttons – Fig. 12.

If the self-test was unsuccessful, an IN, FE or AL message is displayed (see section 4).

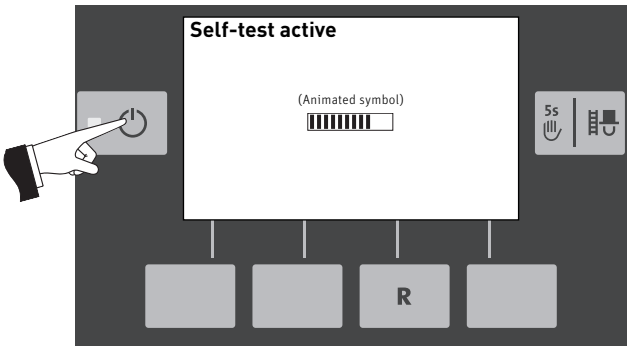


Fig. 11 Self-test

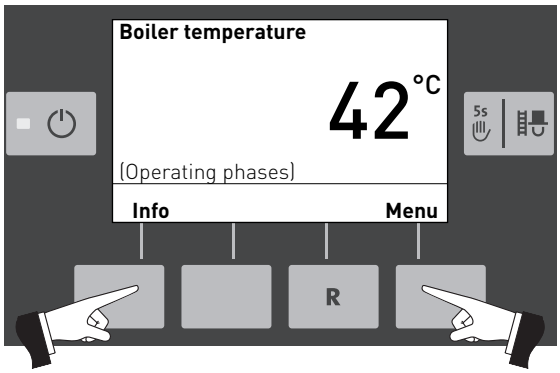


Fig. 12 Standard display

Lighting ON/OFF

The display lighting turns off automatically after 10 min. (Fig. 13). Pressing one of the six buttons turns the lighting on again for 10 min.

InfoWIN^{PLUS} identifies and saves the various operating modes and states. Once the system is turned on, other operating modes may also be displayed instead of the standard display, such as manual mode or solid fuel/buffer mode; malfunctions are also displayed. These operating modes and states are described later in this manual.

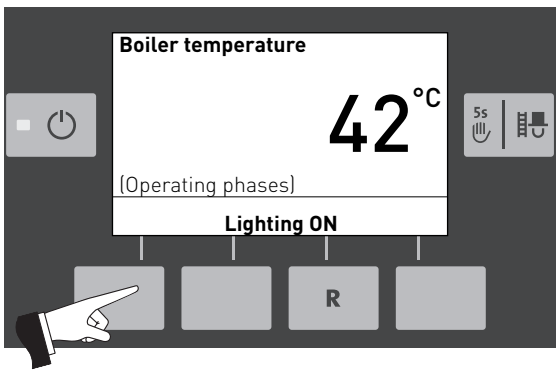


Fig. 13 Display lighting ON

2.6.3 Solid fuel/buffer mode

If the BioWIN lite pellet boiler is combined with a solid fuel boiler or a buffer, the WVF+ or B-PLM+ module automatically switches over between pellet and solid fuel/ buffer mode.

Combustion of the BioWIN lite is stopped when the WVF+ or B-PLM+ module sends the request to switch over to solid fuel/buffer mode – Fig. 14.

Following this, the system switches over to solid fuel/buffer mode and the BioWIN lite burner is locked – Fig. 15.

If the pellet boiler is turned off using the ON/OFF button on the InfoWIN^{PLUS}, an automatic switchover to solid fuel/buffer mode is performed in conjunction with a WVF+ module. Once the InfoWIN^{PLUS} unit is turned on, the pellet boiler may be locked out for a maximum of 15 minutes due to switch-over delays. This is displayed by the InfoWIN^{PLUS} – Fig. 15.

The display fully turns off after one hour in solid fuel/ buffer mode; only the green LED is lit up. The display is turned back on by pressing a button or when there is a heating requirement.

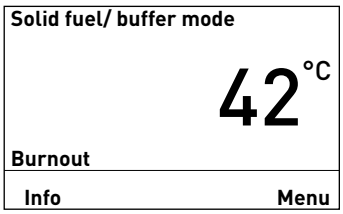


Fig. 14

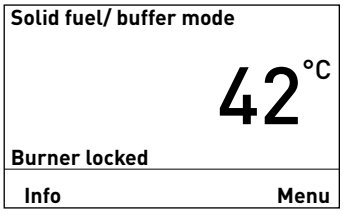


Fig. 15

2.6.4 Manual mode

Note.

Manual mode cannot be started in "solid fuel/buffer mode". Manual mode must not be started if an installed solid fuel boiler is operating (heated up). Manual mode may be started if there is no solid fuel boiler installed or if this is not operating and only the buffer is active. In this case, first set the operating mode switch on the WVF+ to relay test 2 or on the B-PLM+ module to relay test 1 (see WVF+ or B-PLM+ module operating manual).

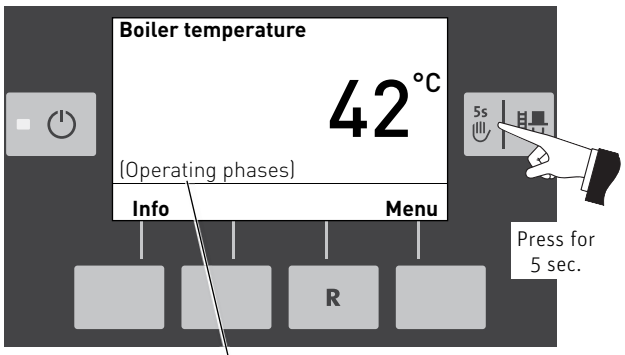


Fig. 16

The various operating phases are displayed here, including Modulation mode, Burner OFF, etc.

Pressing one of the six buttons turns the lighting and display on. Manual mode starts if the **manual/chimney sweeper** button is pressed for more than 5 sec. – Fig. 16. The boiler temperature is controlled in relation to the setpoint for manual mode (standard temperature 60 °C). The control system is not affected by this (see section 2.10). The lighting is turned off after the lighting timer has counted down (10 min.); the function and display remain unchanged.

The function is ended by pressing the **Cancel** button – Fig. 17. The boiler returns to automatic operation.

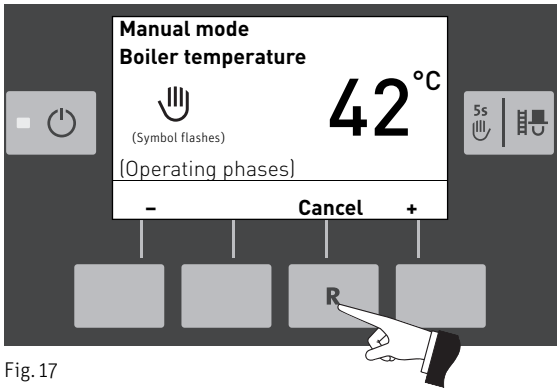


Fig. 17

Setpoint adjustment for manual mode

By pressing the **–** or **+** button, the display switches to the set temperature adjustment mode – Fig. 18. Using the **–** or **+** button can change the setpoint in 1 K steps. The setpoint changed in this operating mode is not permanently saved. The original set temperature is restored when you quit manual mode.

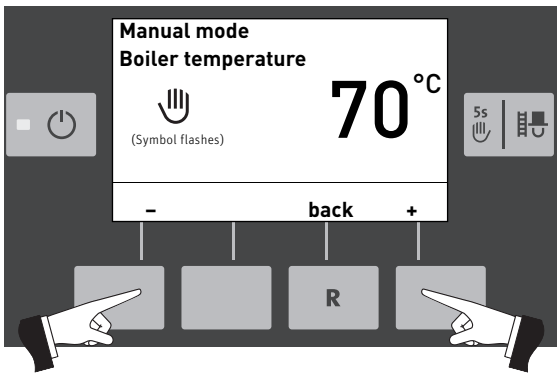


Fig. 18

By pressing the **back** button (Fig. 19) or after waiting 10 minutes, the screen returns to its previous display.

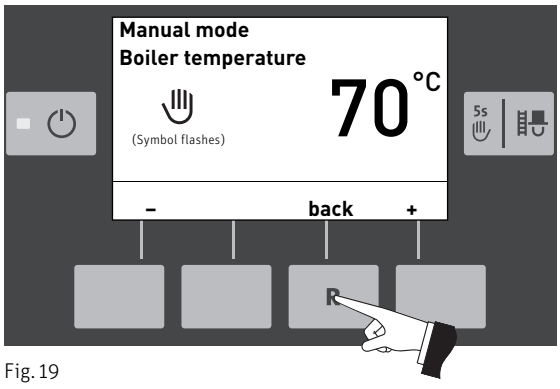


Fig. 19

2.6.5 Chimney sweeper function

This function aids the performance of legally required emissions testing.

Note.

The chimney sweeper function cannot be started in "solid fuel/buffer mode". The chimney sweeper function must not be started if an installed solid fuel boiler is operating (heated up). The chimney sweeper function may be started if there is no solid fuel boiler installed or if this is not operating and only the buffer is active. In this case, first set the operating mode switch on the WVF+ module to relay test 2 or on the B-PLM+ module to relay test 1 (see WVF+ or B-PLM+ module operating manual).

Note.

If the pellet boiler is in operation in combination with a solid fuel boiler, the filling door of the solid fuel boiler must not be opened, because the pellet boiler will enter burnout.

- A short press of the **manual/chimney sweeper** button turns on the lighting and display – Fig. 20.
- Pressing the button again starts the chimney sweeper function – Fig. 20.
- Pressing the corresponding button enables the boiler to be operated with 30% or 100% output – Fig. 21.
- The boiler is prepared for the measurement – Fig. 22. The boiler temperature is increased to approx. 60 °C for 120 minutes.
- Do not start the measurement until “Perform measurement” is displayed – Fig. 23.

The lighting is turned off after the lighting timer has counted down (10 min.); the function and display remain unchanged. When the button is first pressed, only the lighting is turned on.

When the **manual/chimney sweeper** button is pressed again, the operating time is reset to 120 minutes. **Note.** If the boiler is operated at 30%, the power will switch to 100% when the operating time is extended.

The chimney sweeper function ends:

- When the **Cancel** button is pressed – Fig. 23.
- Automatically after about 120 minutes.

2.6.6 Shut-down procedure

The boiler is turned off – Fig. 24.

The various operating phases are displayed here, including Modulation mode, Burner OFF, etc.

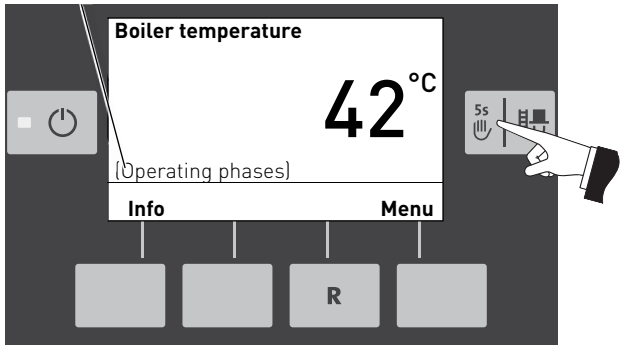


Fig. 20

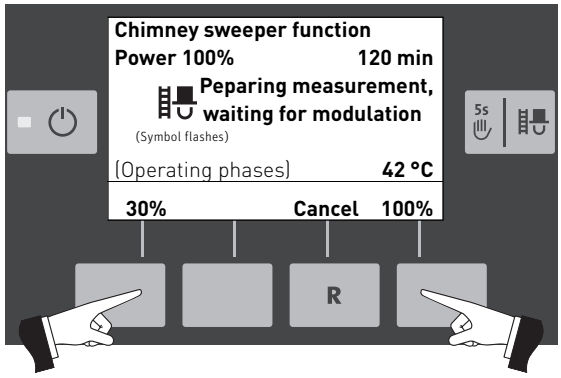


Fig. 21

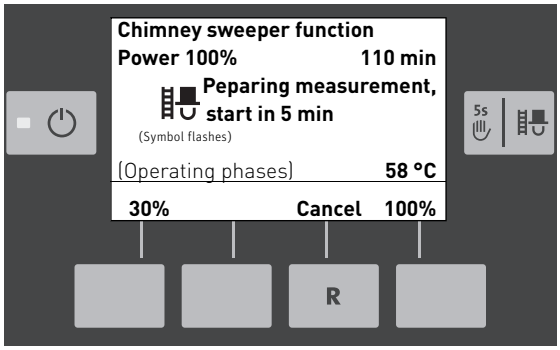


Fig. 22

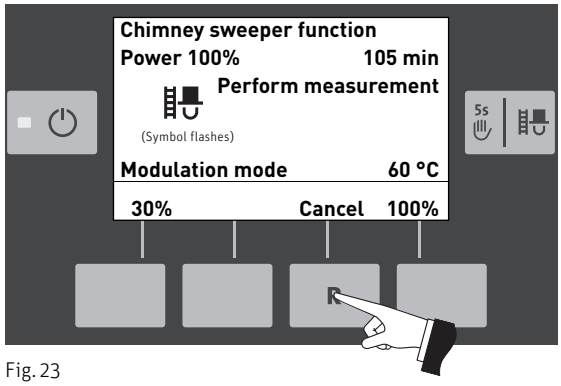


Fig. 23

The green LED flashes.

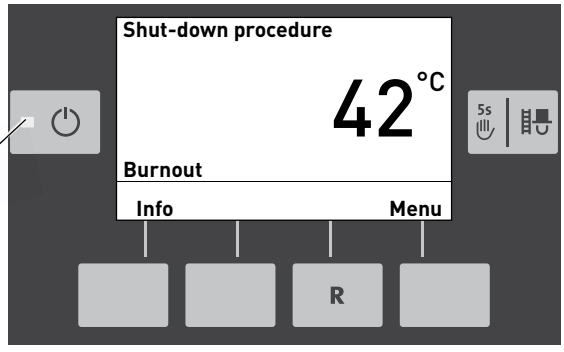


Fig. 24

2.7 Operating phases

2.7.1 Stand-by

During this operating phase, the control system does not transmit requests for heat. The burner is turned off and the boiler temperature setpoint is 0 °C.

The display fully turns off after one hour in stand-by mode; only the green LED is lit up. The display is turned back on by pressing a button or when there is a heating requirement.

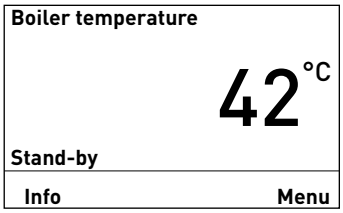


Fig. 25

2.7.2 Purging

The induced draught fan runs, the combustion chamber of the boiler is flushed through with fresh air. This phase can last several minutes before the burner fires.

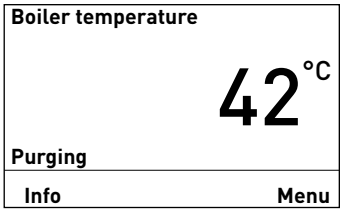


Fig. 26

2.7.3 Ignition phase

The induced draught fan runs, pellets are transported into the burner bowl and are ignited. When flame formation is detected, the system switches over to flame stabilisation.

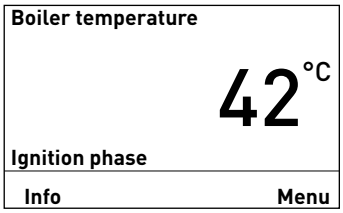


Fig. 27

2.7.4 Flame stabilisation

Following the ignition procedure, even combustion is established and then the system switches over to modulation mode.

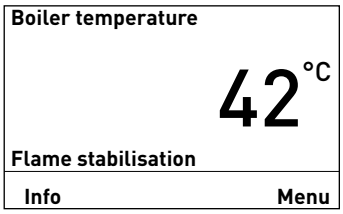


Fig. 28

2.7.5 Modulation mode

The burner is in modulation mode. The output can be infinitely varied between 30% and 100%.

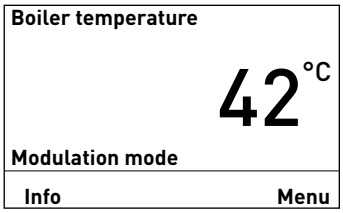


Fig. 29

2.7.6 Burnout

Combustion is stopped. Pellet transport into the burner bowl is stopped, the induced draught fan continues to run until all the remaining pellets have been burned and the burner bowl has cooled down.

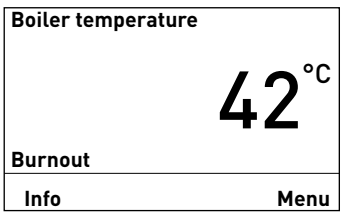


Fig. 30

2.7.7 Burner OFF

There is a heating requirement from the control system, but the boiler temperature (actual value) is higher than the boiler temperature setpoint. This means combustion is stopped and the burner is turned off.

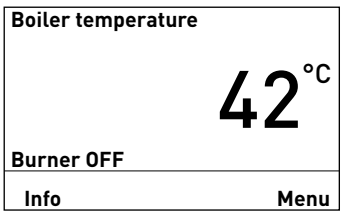


Fig. 31

2.8 Info texts

Pressing the **Info** button or going to Menu ➔ Information level calls up the most important boiler information – Fig. 32.

The **arrow** buttons are used to select and display sub-menu items – Fig. 33. Pushing the **Back** button (Fig. 34) or waiting 10 minutes returns to the standard display.

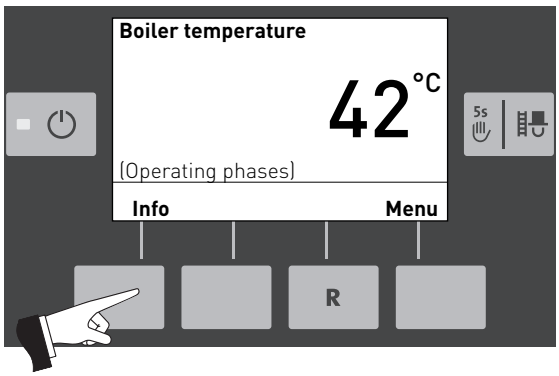


Fig. 32

The following **information texts** exist:

- Operating time until
  Cleaning [h]
  Main cleaning [h]
  Full service [h]
- Fuel
  Level hopper [%]
  Pellet consumption [t]
- Boiler values
  Flue gas temperature [°C]
  Boiler temp. setpoint [°C]
  Current boiler output [%]
  Operating hours [h]
  Burner starts
- Version
  Display module
  Software
  Hardware
  Boiler model
  Boiler no. (heat generator number)

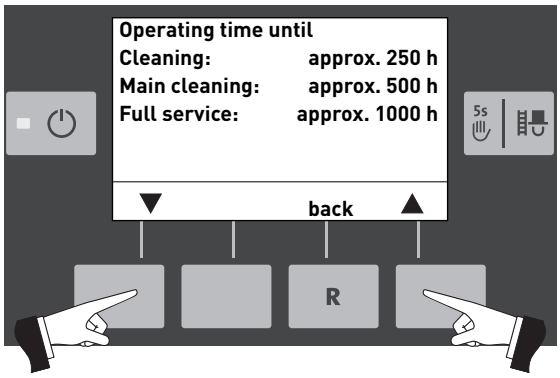


Fig. 33

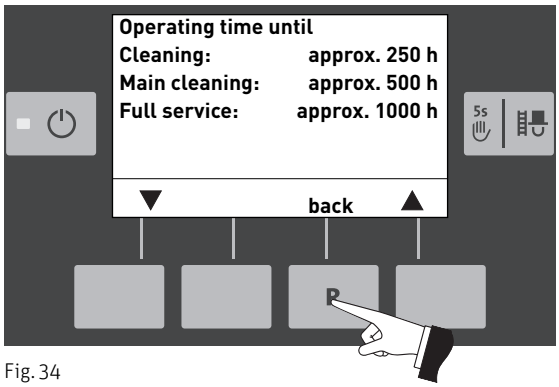


Fig. 34

2.8.1 Operating time until cleaning, main cleaning and full service

Display of the operating time in hours remaining until the next cleaning, main cleaning and full service processes.

Note.

The operating time remaining until the next boiler cleaning depends on the operating method and is constantly recalculated. Therefore, there may be deviations from the normal operating hours.

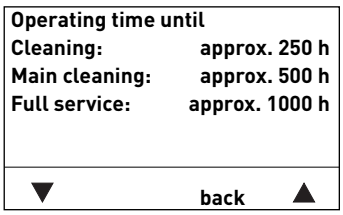


Fig. 35

2.8.2 Fuel

Level hopper
The current fill level is displayed in %.

Note.

The “Level hopper" is a calculated value and can differ from the actual value by ±15%.

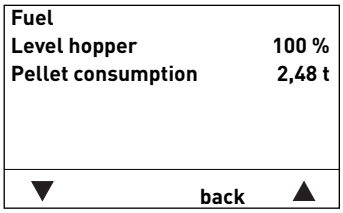


Fig. 36

Pellet consumption
The amount of pellets used since filling and the total amount of used pellets is shown in tonnes.

Note!

The “Pellet consumption” is a calculated value and can differ from the actual value by ±15 %.

2.8.3 Boiler values

Flue gas temperature
The current flue gas temperature is displayed.

CAUTION

Information!

The flue gas temperature is measured directly on the flue outlet. It may therefore deviate from a standard measurement.

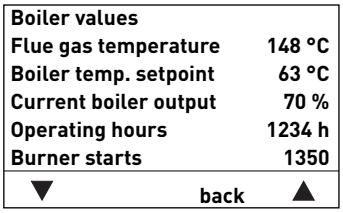


Fig. 37

Boiler temp. setpoint
The display indicates the boiler temperature setpoint as calculated by the control system. This setpoint is used to control the burner.

Current boiler output
The current boiler output is displayed in %. The boiler output (modulation mode) can be set from 30 % to 100 %.

Operating hours
The total number of burner operating hours is displayed.

Burner starts
The number of burner starts of the boiler is displayed.

2.8.4 Version

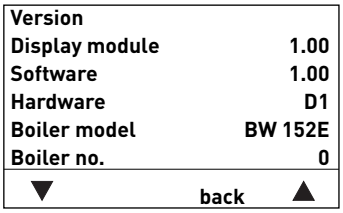


Fig. 38

Display module
The current software version of the display module (InfoWIN^{PLUS}) is displayed.

Software
The current software version of the firing automates (main PCB) is displayed.

Hardware
The current hardware version of the firing automate (main PCB) is displayed.

Boiler model
The boiler model is displayed.

Boiler no. (Heat generator nummer)
Shows the set heat generator number.

Single boiler = 0 Cascade = 1 – 4

2.9 Menu guide

Pressing the **Menu** button changes the menu display to the Operator level, Service level, Information level or to MES Module[1] – Fig. 39.

Use the **Arrow** buttons to select the menu items or sub-items (Fig. 40); some choices have to be confirmed by pressing the **choose** button – Fig. 41.

In some sub-menus you can change a value with the **–** or **+** buttons. Changes must be confirmed either via the **save** button or **Yes** button.

The menu item or sub-menu item is exited by pressing the **Back** button (Fig. 42) or after a delay of 10 minutes.

WARNING

Only trained service technicians may perform system modifications at the Service level.

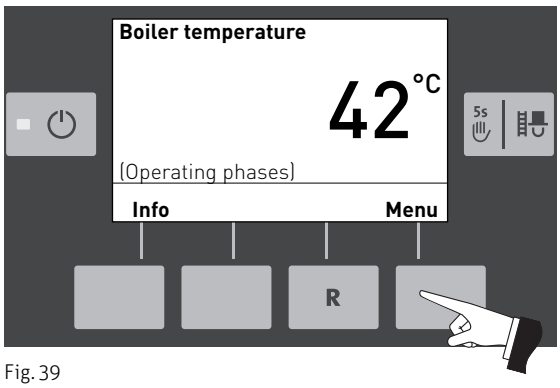


Fig. 39

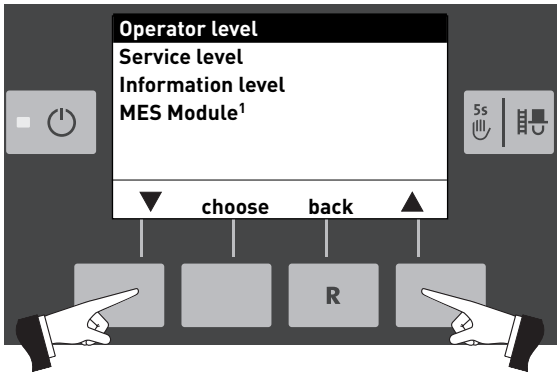


Fig. 40

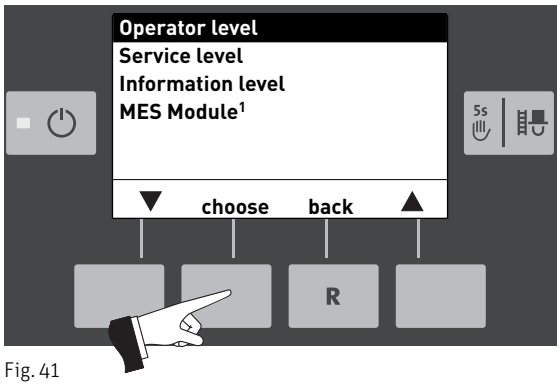


Fig. 41

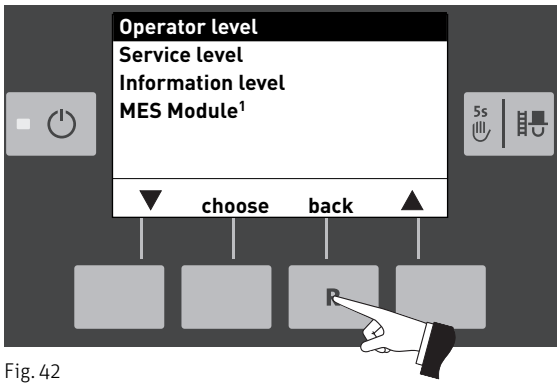
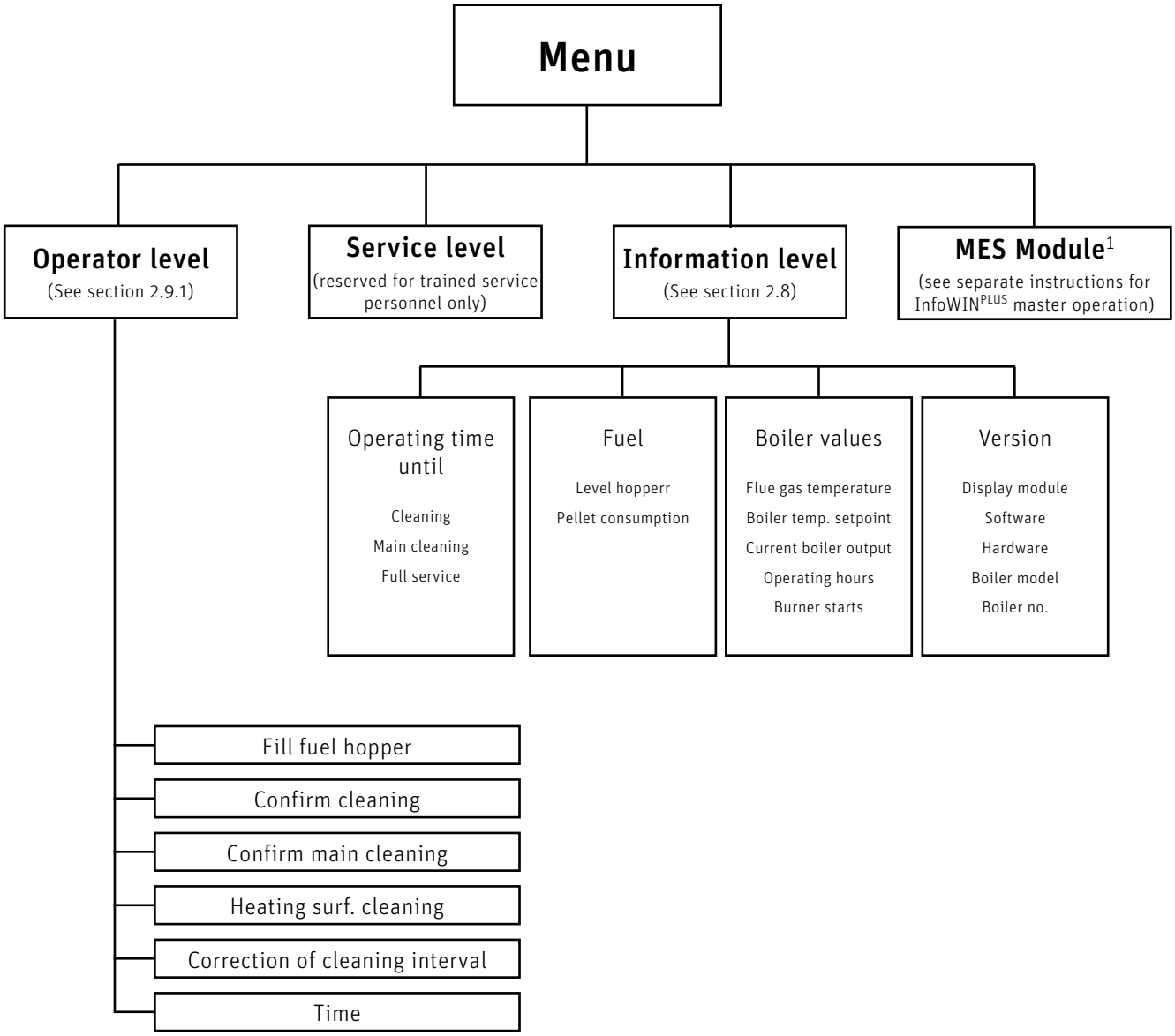


Fig. 42

[1] Only displayed when an MES[PLUS] control is present and this has been adjusted by a trained service technician in the basic settings.

Menu structure:



[1] only displayed when an MES[PLUS] control is present and this has been adjusted by a trained service technician in the basic settings.

2.9.1 Operator level

On the Operator level, use the **Arrow** buttons to select the required sub-menu ; the **choose** button confirms the choice.

Adjusting the:

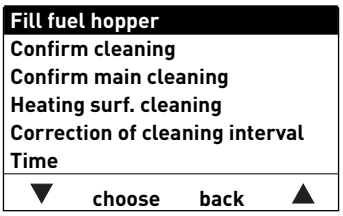


Fig. 43

2.9.1.1 Fill fuel hopper

After filling the integral fuel hopper, the filling must be confirmed to ensure the operating time for the fuel consumption restarts and the fill level of the integral fuel hopper is reset to 100 %.

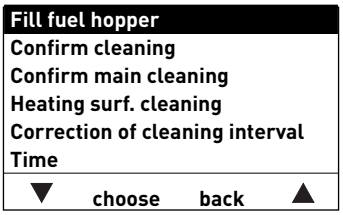


Fig. 44

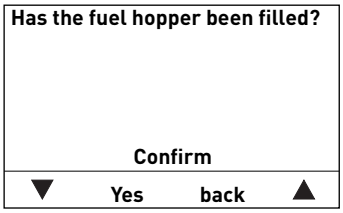


Fig. 45

2.9.1.2 Confirm cleaning or confirm main cleaning – Reset cleaning request

After boiler cleaning has been performed (section 3.4–3.9), boiler cleaning must be confirmed so that the operating time until the next boiler cleaning is restarted.

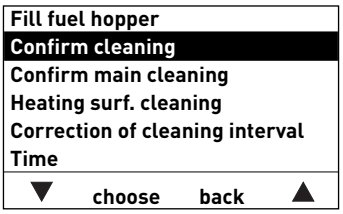


Fig. 46

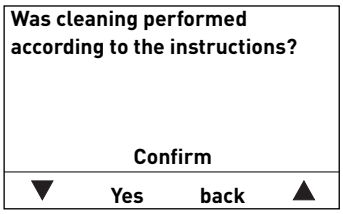


Fig. 47

WARNING **Without cleaning** boiler cleaning must **not** be reset.

2.9.1.3 Heating surf. cleaning

If one of the menu items is “Heating surf. cleaning”, an off period can be set for cleaning the heating surfaces if the noise during cleaning can be heard or is annoyed in the living area. The off period is started with “Initiate off period” and ended with “Duration”.

Tip!

If 0 hrs is set for “Duration”, the off period is switched off.

Factory setting:
Initiate off period 20:00 h
Duration 0 h (Setting range 0 – 10 h)

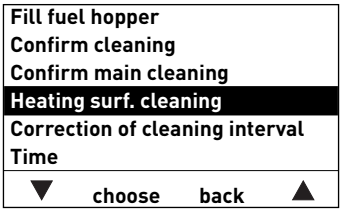


Fig. 48

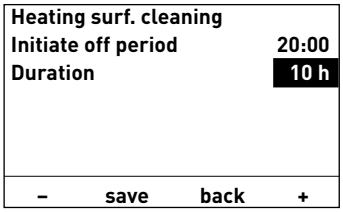


Fig. 49

2.9.1.4 Correction of cleaning interval

The cleaning interval is basically dependent on the ash content of the fuel and the ash removal profile. This adjuster can be used to extend or shorten the cleaning interval by ±50%.
The standard setting is a cleaning interval determined by testing.

Factory setting: 0%
Setting range: ±50%

WARNING If too long a cleaning interval is selected, the boiler can become excessively contaminated and the ash container may overfill.

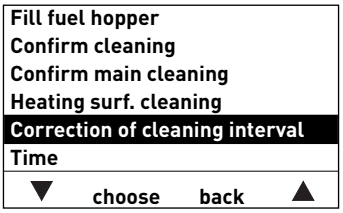


Fig. 50

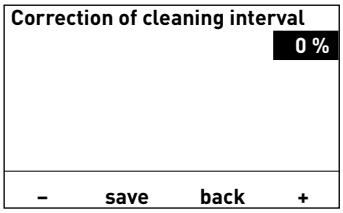


Fig. 51

2.9.1.5 Time

This time is used for the time control of the pellet feed and for automatic heating surface cleaning.

If the pellet boiler is operated with an MES^{PLUS} control, the time is automatically adopted from the module and the time set here is overwritten.

If the pellet boiler is operated with REG standard control, the time must be set here too.

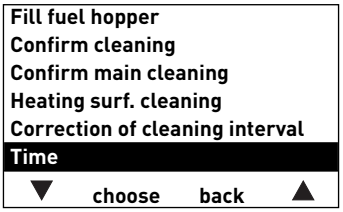


Fig. 52

Fig. 53

2.9.2 Service level

System parameters, start-up, actuator test and settings can be displayed, performed and/or modified in the Service level.

WARNING Changes on the Service level may be performed only by trained service personnel (directions for setting, see the BioWIN lite installation instructions).

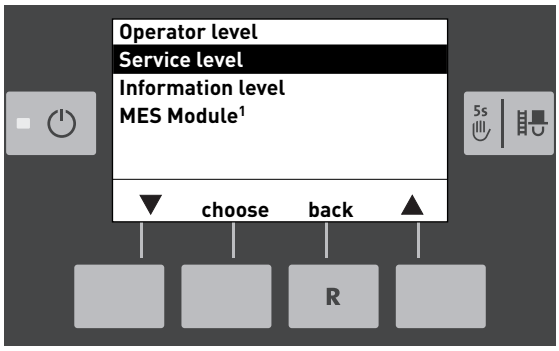


Fig. 54

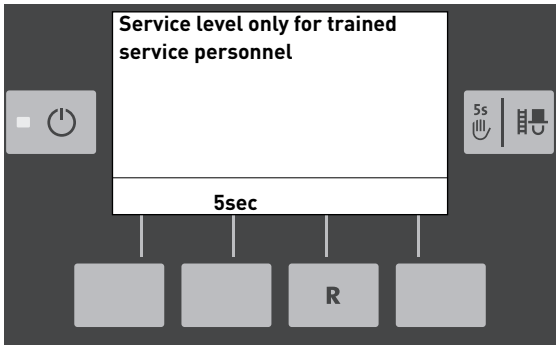


Fig. 55

The menu item or sub-menu item is exited by pressing the **Back** button (Fig. 56) or after a delay of 10 minutes.

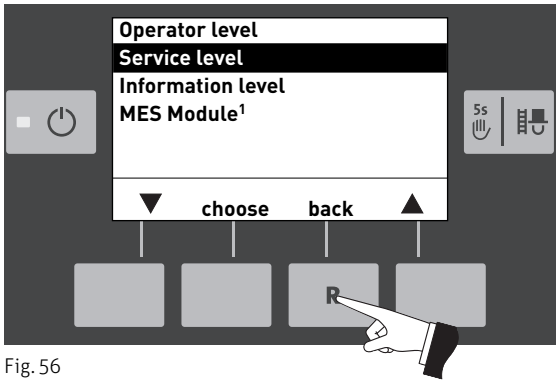


Fig. 56

[1] Only displayed when an MES[PLUS] control is present and this has been adjusted by a trained service technician in the basic settings.

2.10 Heating system operation

The boiler should not be turned off with the ON/OFF button ⏻ on the InfoWIN^{PLUS} or disconnected from the power supply via the main power plug. The heating system should be shut down by turning it off at the control system.

WARNING The frost protection function is **not active** when the boiler is turned off (ON/OFF button ⏻).

CAUTION The seize protection for heating surface cleaning and for the ash conveyor (switched on briefly every day at 12:00) is **not active** when the boiler is switched off (ON/OFF button ⏻).

Note.

How to operate the **MES^{PLUS} control system**is described in a **separate operating manual**.

2.10.1 Turning the boiler on, setting the MES^{PLUS} control system to automatic operation

1. Press the ON/OFF button ⏻ on the InfoWIN^{PLUS} panel, the lighting and display are switched on, the signal lamp lights up green and a self-test is performed (see also section 2.6.2). After a successful self-test and if a setpoint is transferred by the control system, the boiler automatically starts operation.
2. Set the operating mode switch(es) on the MES^{PLUS} control module(s) to "Automatic operation"🕒. The system is operated (temperatures and operating times set) using the user module (installed in the living area) – please refer to the separate instructions.

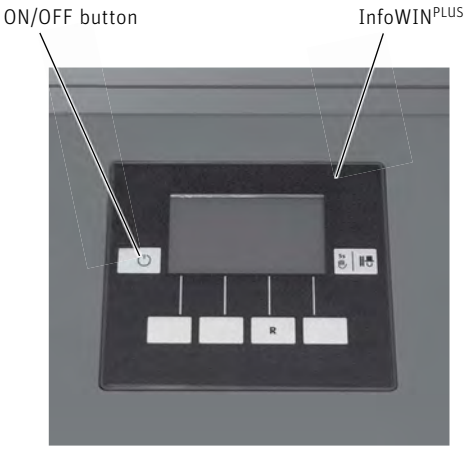


Fig. 57 BioWIN lite boiler with InfoWIN^{PLUS}

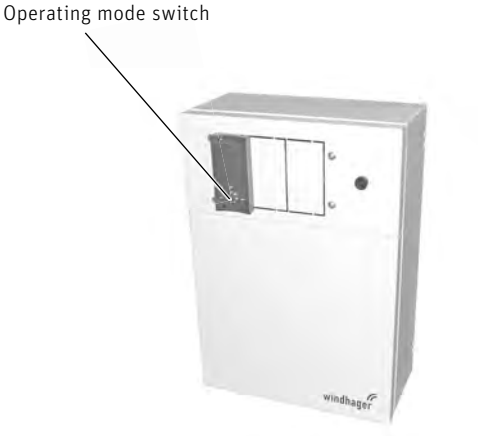


Fig. 58 Wall-mounted casing with MES^{PLUS} control system

2.10.2 Turning off the heating system

Set the operating mode to "Stand-by" ⏻ using the user module (installed in the living area).

2.10.3 Summer mode, hot water only

Set the operating mode to "DHW operation" 🚰 using the user module (installed in the living area).

2.10.4 Emergency operation

In the event that the control system fails, selecting "Manual mode" ✋ using the MES^{PLUS} control module and InfoWIN^{PLUS} 5s ✋ | 🔧 (see section 2.6.4) will activate emergency operation to maintain heat and hot water.

3. Care, cleaning and full service

3.1 Overview of intervals between cleaning (full service)

The BioWIN lite is equipped with a cleaning and ash removal interval display. The "Cleaning" and "Main cleaning" cleaning request is displayed on the InfoWIN^{PLUS} and must be reset after cleaning/ash removal has finished – see section 3.1.1.

A clean boiler saves fuel and protects the environment. Therefore always clean your boiler as required when the cleaning and ash removal request is displayed.

The cleaning and ash removal intervals may be reduced or extended depending on the pellets used (e.g. ash proportion), the power consumed by the heating system (frequently turning on and off) and the boiler size of the BioWIN lite (10 to 26 kW).

Full service is required in addition to cleaning. This is also shown in the display as "Full service" and is carried out by Windhager Customer Service or a heating technician.

Note.

Note for cascade systems (system with 2 or 3 BioWINs): When cleaning, only the boiler that is actually going to be cleaned need be shut down, the other boiler(s) may continue to operate.

	BioWIN lite	
	Display	**What needs to be done?**
Cleaning	"Cleaning" IN 520 or "Emergency operation. Cleaning" FE 320	Remove ash: empty the ash pan and remove ash from below the heat exchanger. (See section 3.4) Clean the thermocontrol sensor. (See section 3.5.1) Confirm cleaning (See section 3.1.1)
Main cleaning	"Main cleaning" IN 521 or "Emergency operation. Main cleaning" FE 321	Remove ash: empty the ash pan and remove ash from below the heat exchanger. (See section 3.4) Clean combustion chamber and Burner bowl (See section 3.5) Clean top heat exchangers and blower wheel (See section 3.6) Vacuum out exhaust pipe to flue (See section 3.7) Check water tank level (See section 3.8) Confirm main cleaning (See section 3.1.1)
Full service	"Full service" IN 524 / FE 324	Windhager Customer Service or an approved technician with a valid WIN-3 certificate. This is a prerequisite for the warranty conditions - see Section 3.9

3.1.1 Confirming cleaning or main cleaning – Resetting the cleaning request

CAUTION Boiler cleaning must **not** be confirmed **if cleaning has not been carried out.**

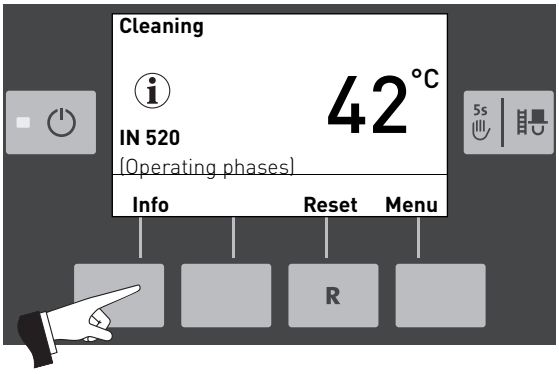


Fig. 59

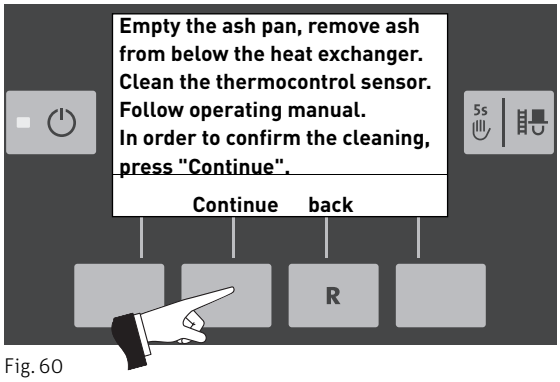


Fig. 60

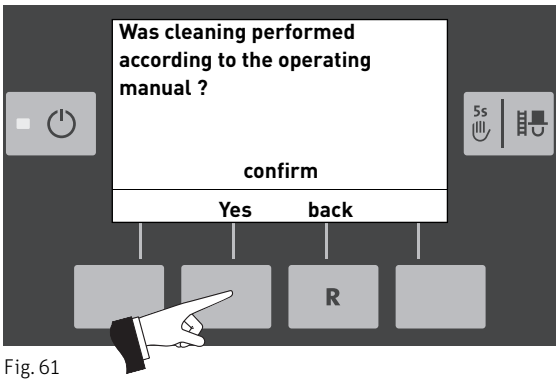
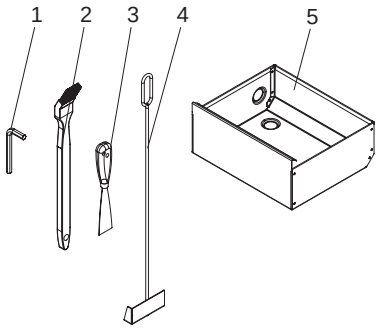


Fig. 61

3.2 Cleaning and operating implements



Supplied as standard:
1..... Allen key

Optional accessory, cleaning kit BWL 001:
2..... Cleaning brush
3..... Spatula
4 ..... Scraper
5..... Ash pan

Fig. 62 Cleaning and operating implements

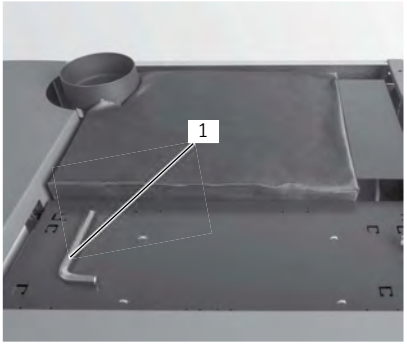


Fig. 63 Allen key underneath cover

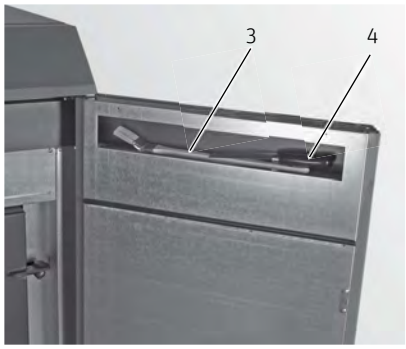


Fig. 64 Cleaning brush and spatula on inside of cladding door (optional)

3.3 Care of cladding and keyboard foil

Clean the boiler cladding and keyboard foil with a damp cloth as needed. In the event of heavy soiling, use soapy water or diluted suds (do not use caustic chemicals or sharp cleaning instruments).

3.4 Remove ash: empty the ash pan and remove ash from below the heat exchanger

Attention. Risk of fire.

DANGER

Do not open the combustion chamber door during operation. Always turn the boiler off first with the ON/OFF button and wait until burnout mode has finished.

Risk of fire if ash has not cooled. Store ash in lockable and non-combustible container on non-combustible base for at least 48 hours.

Note.

Small amounts of ash can be used in the garden as fertiliser. Larger amounts of ash should be disposed of together with other residual waste (please observe the applicable regulations).

- Turn off the boiler with the ON/OFF button on the InfoWIN^{PLUS} (Fig. 65) and wait until burnout mode has finished (approx. 20 minutes).
- Open the cladding door and combustion chamber door – Fig. 66 – see also Section 2.1.
- Remove ash pan[1] and place it in front of the boiler – Fig. 67.
- Use the Allen key to turn down the handle on the heat exchanger cover in a clockwise direction and remove the cover – Fig. 68.
- Use scraper[1] to remove ash from underneath the heat exchanger into ash pan[1] – Fig. 69.

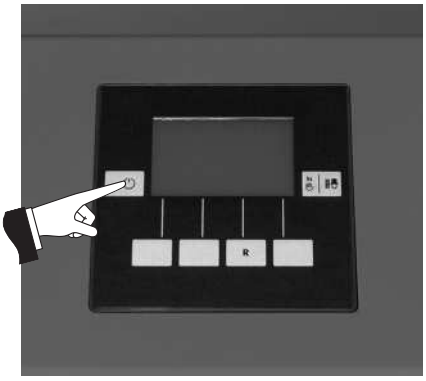


Fig. 65 Turn off BioWIN lite

Fig. 66 Open the cladding door and combustion chamber door

Fig. 67 Remove ash pan[1] and place it in front of the boiler

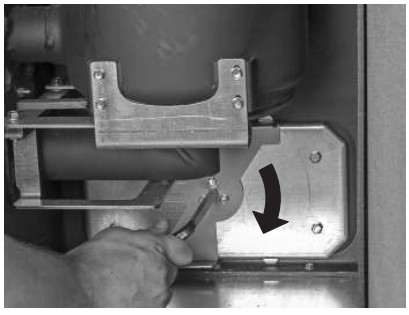


Fig. 68 Turn handle and remove cover

[1] Optional accessory, cleaning kit BWL 001

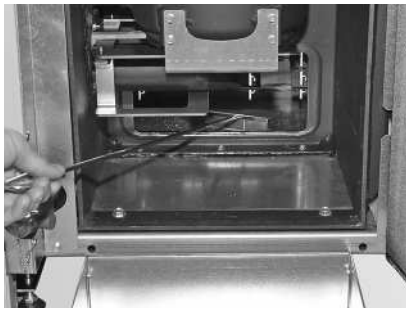


Fig. 69 Remove ash from below heat exchanger into ash pan[1]

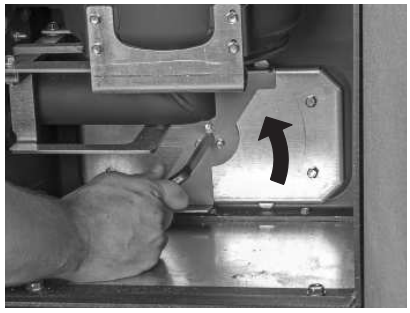


Fig. 70 Rotate handle in an anti-clockwise direction

Assembly:

- Clean away all ash, the heat exchanger cover should fit/seal tightly.
- Position the heat exchanger cover and turn the handle as far as it will go in a clockwise direction – Fig. 70.
- Push ash pan[1] into place.
- Close the combustion chamber door and the cladding door and switch the BioWIN lite back on with the ON/OFF button.
- Confirm the cleaning request once "Cleaning" is complete – see section 3.1.1.

3.5 Cleaning the combustion chamber and Burner bowl

DANGER

Attention, risk of burn-back.

Do not open the combustion chamber door during operation. Always turn the boiler off first with the ON/OFF button and wait until burnout mode has finished.

It is essential to let the boiler cool down before cleaning the combustion chamber. Before cleaning with a vacuum cleaner, check that there are no longer any embers in the combustion residue.

- Turn off the boiler with the ON/OFF button on the InfoWIN^{PLUS} (Fig. 65) and wait until burnout mode has finished (approx. 20 minutes).
- Open the cladding door and combustion chamber door – Fig. 66 – see also Section 2.1.

[1] Optional accessory, cleaning kit BWL 001

3.5.1 Cleaning the thermocontrol sensor and down chute

- If necessary, remove fly ash from the thermocontrol sensor with a cleaning brush. The thermocontrol sensor is located in the combustion chamber – Fig. 71.
- If necessary, use a screwdriver to clean the inside of the down chute – Fig. 72.
- Remove combustion residue from the combustion chamber with a vacuum cleaner – Fig. 73.

Fig. 71 Clean the thermocontrol sensor

Fig. 72 Clean the down chute

Fig. 73 Remove combustion residue from the combustion chamber

3.5.2 Cleaning the Burner bowl

- Lift the bottom and top part of the cone out of the burner bowl – Fig. 74, Fig. 75.
- Remove all traces of sediment accumulation from the cones with a brush or scrape off with the spatula – Fig. 76, Fig. 77.

Fig. 74 Lift out top part of cone

Fig. 75 Lift out bottom part of cone

Fig. 76 Clean cone

Fig. 77 Clean cone

CAUTION When cleaning the boiler, always first remove all the ash from the combustion chamber. Do not remove the primary air pin for cleaning until afterwards.

- Vacuum out the burner bowl (Fig. 78), remove the primary air pin and carefully clean the holes with a small screwdriver or drill bit if necessary (holes must be clear) – Fig. 79, Fig. 80.
- All secondary air holes in the burner bowl must be kept clear – Fig. 81.

Fig. 78 Vacuum out the Burner bowl

Fig. 79 Take out the primary air pin

Fig. 80 Clean the primary air pin carefully

Fig. 81 Clean the secondary air holes in the Burner bowl

- Remove combustion residue from the burner bowl with a vacuum cleaner. Vacuum the ash out of the primary air tube (in the middle of the Burner bowl) – Fig. 82.

CAUTION Before inserting the primary air pin, once again vacuum out the primary air tube in the middle of the Burner bowl. Make sure there is no debris in the tube (to avoid damage to the ignition element.).

Fig. 82 Vacuum out the primary air tube in the centre of the Burner bowl

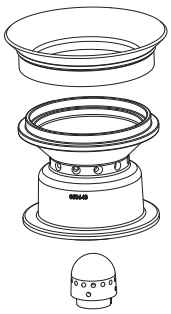


Fig. 83 Top and bottom part of cone, primary air pin

Assembly:

- Reassemble the burner by working through these steps in reverse order (Fig. 83).
- Confirm the cleaning request once "Cleaning" is complete – see section 3.1.1.

3.6 Cleaning the top heat exchangers and induced draught fan wheel

– Turn off the BioWIN lite with the ON/OFF button on the InfoWIN^{PLUS} (Fig. 84) and wait until the display goes blank (approx. 20 minutes).

DANGER

When performing cleaning work, disconnect the main power plug.

Turning off the ON/OFF button on the InfoWIN^{PLUS} does not mean the boiler and its accessories are completely without power. Therefore, you must de-energise the boiler by unplugging the device power plug when carrying out cleaning work – Fig. 87.

WARNING

Warning of hot surface: risk of burns.

Before touching the screw connections and heat exchanger cover, you must turn off the boiler and let it cool.

– Lift off the top cover – Fig. 85.
– Take the insulation off the heat exchanger cover – Fig. 86.
– Connect the device power plug – Fig. 87.
– Unscrew the screw connection on the cover and lift the cover out – Fig. 88, Fig. 89.

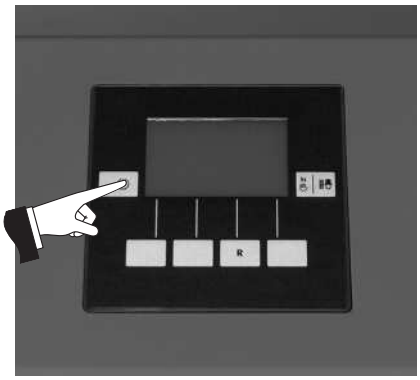


Fig. 84 Turn off BioWIN lite

Fig. 85 Lift off the top cover

Fig. 86 Remove the insulation

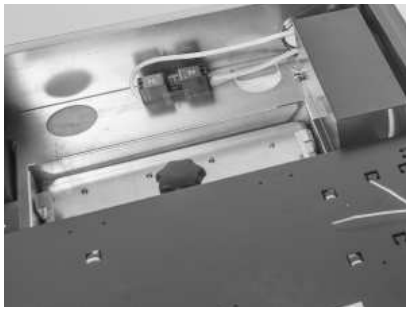


Fig. 87 Disconnect the device power plug

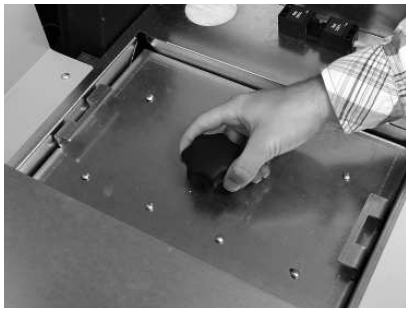


Fig. 88 Unscrew the screw connection

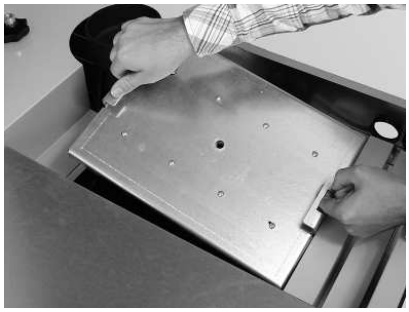


Fig. 89 Lift off the cover

- Clean the induced draught fan wheel with a brush – Fig. 90
- Clean the top of the heat exchangers with a spatula and brush – Fig. 91.
- Vacuum out the ash from the heat exchangers – Fig. 92.

Fig. 90 Clean and vacuum the induced draught fan wheel

Fig. 91 Clean the heat exchangers

Fig. 92 Vacuum out the ash

Assembly:

By working through these steps in reverse order.

3.7 Exhaust pipe to flue

Clean/vacuum out the exhaust pipe (pipe connecting the pellet boiler and flue) around the cleaning aperture – Fig. 93.

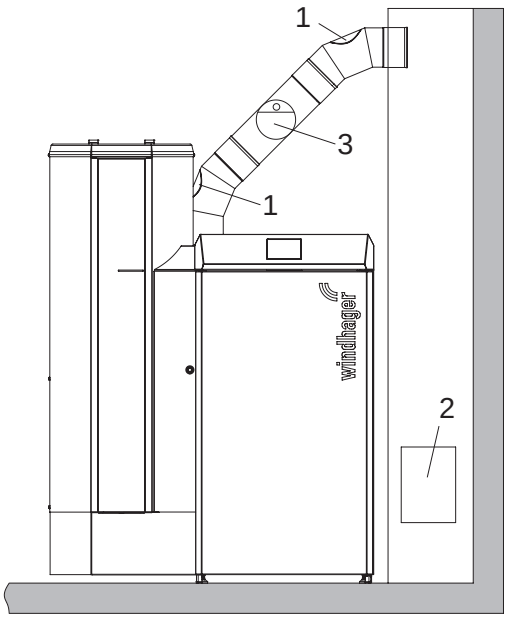


Fig. 93 Cleaning apertures in exhaust pipe – view from front, (drawing does not show exhaust pipe insulation)

1..... Cleaning aperture in exhaust pipe (provided by customer)
2..... Cleaning aperture in flue
3..... Energy-saving intake regulator/explosion flap

3.8 Water tank level

Check the level in the water tank (approx. 8 litres) every service and full service and re-fill with water if necessary. The water level must not fall below the min. mark.

– Remove the plug from the water tank and top up – Fig. 94.

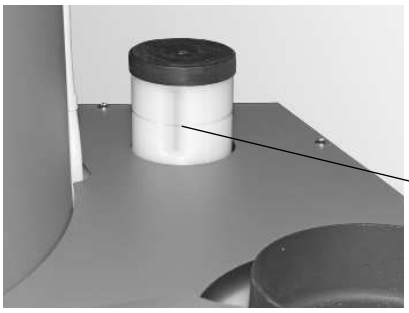


Fig. 94 Fill the water tank

– Confirm the cleaning request once "Main cleaning" is complete – see section 3.1.1.

3.9 Full service

In addition to cleaning your pellet boiler, full service is also required. This is also shown in the display as "Full service" (Fig. 95) and is carried out by Windhager Customer Service or an approved technician with a valid WIN-3 certificate. It is a prerequisite for the warranty conditions. Full service must be arranged following a request on the InfoWIN^{PLUS} (IN 524 or FE 324).

Please contact Windhager Customer Service to book a service.
service@windhager.co.uk
01225 892 211

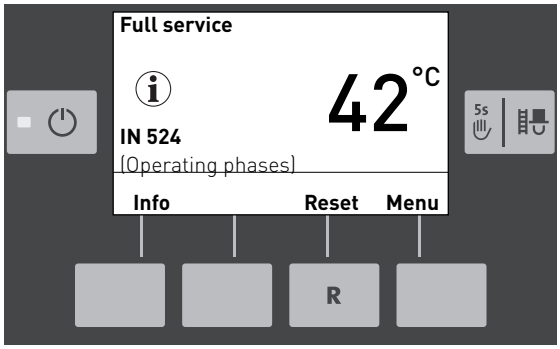


Fig. 95

4. Troubleshooting

The pellet boiler is self-monitored during operation. All deviations from normal operation are displayed on the InfoWINPLUS by information, fault, or alarm messages. If one of these messages appears, the LED turns red; an information, fault, or alarm symbol and an information code is displayed along with a brief description – Fig. 96.

Pressing the Info button (Fig. 96) displays the related information text (Fig. 97). To exit the information text menu, press the back button (Fig. 97) or wait 10 minutes and the information, fault, or alarm message is displayed again – Fig. 96.

With some messages, it is necessary to press the Reset button after rectifying the cause of the information, fault, or alarm message. In these cases, "Reset" is displayed in the menu line – Fig. 96.

If "Reset" is not displayed in the menu line, the boiler starts operating again automatically after the cause of the information, fault, or alarm message has been rectified.

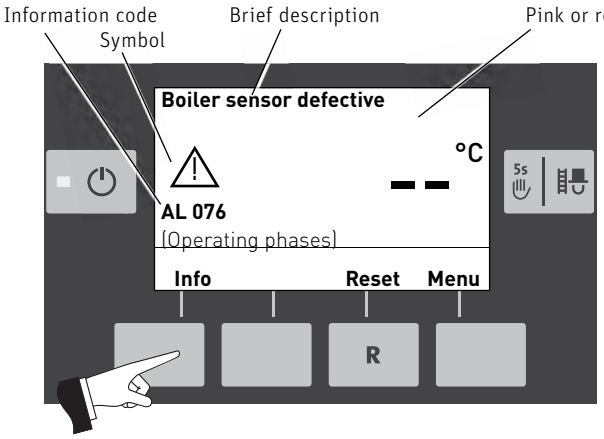


Fig. 96

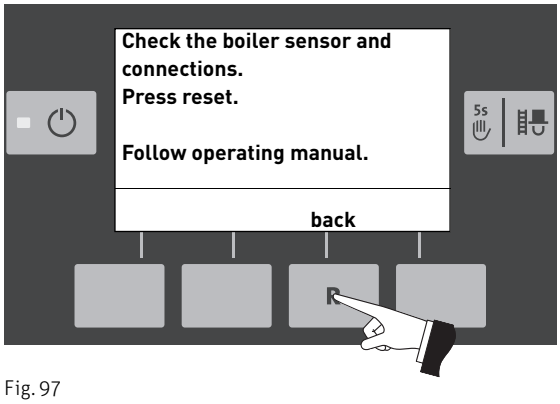


Fig. 97

If you wish to call Windhager customer service or your customer service partner due to a malfunction, please first make note of the following data from the data plate:

- Model
- Factory number
- Year of manufacture
- Fault or alarm message

The data plate is located on the front of the control panel under the cladding cover – Fig. 98.

Fig. 98 Data plate

4.1 General failures InfoWIN^{PLUS}

Code	Display on InfoWIN^{PLUS}	Cause/remedy
–	**No display, LED not lit up** Boiler is off, cannot be turned on with the ON/OFF button.	a) No electricity, check the cable to the device and the building fuse. b) No electricity, device fuse blown – check and replace if necessary - see Fig. 100. c) Mains power plug loose or poorly or not connected together during installation – check and connect firmly if necessary – Fig. 99. d) Inform Windhager Customer Service or a heating technician.
–	**Display is normal, keys do not work**	Keys of InfoWIN^{PLUS} are not calibrated. Disconnect the device from the power supply and reconnect it, but do not touch or cover the InfoWIN^{PLUS} keys. The capacitive keys are recalibrated. This process is completed when the version number appears on the display. If the malfunction occurs after a short period, or recurs at regular intervals, contact Windhager Customer Service or your heating technician.

4.2 Information messages

Code	Display on InfoWIN^{PLUS}	Cause/remedy
IN 408	**Heating surface monitoring defective**	"Reset" or delete message and check whether there are any other messages. If the malfunction occurs after a short period, or recurs at regular intervals, contact Windhager Customer Service or your heating technician.
IN 520	**Cleaning** Empty the ash pan, remove ash from heat exchanger base. Clean thermocontrol sensor. Push "next" to confirm cleaning has been completed.	Please note that the pellet boiler must be cleaned within the next 100 hours of operation (see section 3.4 and 3.5.1). Once the cleaning has been completed it must be confirmed (see section 2.9.1.1).
IN 521	**Main cleaning** Perform main cleaning according to operation manual. Push "next" to confirm main cleaning has been completed.	Please note that the main cleaning of the pellet boiler must be completed within the next 100 hours of operation (see section 3.4–3.8). Once the main cleaning process has been completed it must be confirmed (see section 2.9.1.1).
IN 524	**Full service** Correct servicing is a prerequisite for warranty. Arrange service appointment. Press Reset.	The full service interval for the pellet boiler depends on the operating hours and pellet consumption. Please note that full service must be performed by Windhager customer service or a customer services partner within the next 3 months (see section 3.1).
IN 581	**Refill pellets** Boiler pellet hopper is almost empty. Refill pellets.	Boiler continues to heat until the remaining fuel quantity has been consumed. Load fuel into the fuel container (see section 2.4).
IN 582	**Boiler pellet hopper empty** Boiler pellet hopper is empty. Top up pellets. Burner is locked.	Load fuel into the fuel container (see section 2.4).

4.3 Fault messages

Code	Display on InfoWIN^{PLUS}	Cause/remedy
FE 206	**Monitoring of auger conveyor defective**	"Reset" or delete message and check whether there are any other messages. If the malfunction occurs after a short period, or recurs at regular intervals, contact Windhager Customer Service or your heating technician.
FE 208	**Heating surfaces mechanism defective** Verify heating surface mechanism	Clean the coasting surfaces – see pellet boiler operating manual. "Reset" or delete message and check whether there are any other messages. If the malfunction occurs after a short period, or recurs at regular intervals, contact Windhager Customer Service or your heating technician.
FE 241	**Cover pellet supply container open** Close cover pellet supply container	The boiler pellet hopper lid is open. Close the lid. a) The lid to the boiler pellet hopper is open; close the lid. b) The pellets are on the sealing surface of the lid - they have to be removed and then the lid closed properly c) Limit switch on the boiler pellet hopper is defective, inform Windhager Customer Service or a heating technician
FE 281	**Flue gas temperature sensor defective** Check the flue gas temperature sensor and connections.	It is not possible to display the flue gas temperature. No effect on operation. Replace the flue gas temperature sensor, inform Windhager Customer Service or a heating technician.
FE 320	**Emergency operation. Cleaning** Empty the ash pan, remove ash from heat exchanger base. Clean thermocontrol sensor. Push "next" to confirm cleaning.	The boiler is in cyclic operation, i.e. has idle times.[1] The pellet boiler must be cleaned (see section 3.4 and 3.5.1). Once the cleaning has been completed, it must be confirmed, (see section 2.9.1.1).
FE 321	**Emergency operation. Main cleaning** Perform main cleaning according to operation manual. Push "next" to confirm main cleaning has been completed.	The boiler is in cyclic operation, i.e. has idle times.[1] The main cleaning of the pellet boiler must be completed (see section 3.4–3.8). Once the main cleaning process has been completed, it must be confirmed (see section 2.9.1.1).
FE 324	**Full service** Correct servicing is a prerequisite for warranty. Arrange service appointement. Press Reset.	The full service interval for the pellet boiler depends on the operating hours and pellet consumption. Please note that full service must be performed by Windhager customer service or a customer services partner (see section 3.1).
FE 330	**Combustion chamber temperature too low** Perform main cleaning according to operation manual. Press reset.	The combustion chamber temperature is too low in modulation mode. a) The main cleaning of the pellet boiler has to be completed (see section 3.4–3.8). Once the main cleaning process has been completed it must be confirmed (see section 3.1.1). b) Inform Windhager customer service or a heating technician.
FE 345	**Combustion chamber door open** Burner locked. Do not open door unless burner is turned off.	The boiler switches to burnout mode. Close the cladding door. Door may only be opened if the burner is switched off. **Failure to observe this point may result in components in the combustion chamber be damaged due to peaks in temperature.**

[1] This emergency operation (where the boiler only runs for 1 hour out of 4 despite heating requirements and the required room temperature is no longer reached) can be switched off by Windhager Customer Service or a heating technician. Any resulting damage to the unit is excluded from the manufacturer's warranty.

4.4 Alarm messages

Code	Display on InfoWIN PLUS	Cause/remedy
AL 005	**Ash removal / Grate shaking defective** Ash removal / Grate shaking defective or sticking. Clean Burner bowl. Press reset.	Ash removal motor no longer moves or no longer reaches the end position, boiler switches to burnout mode. a) Burner is dirty; clean burner bowl as described in section 3.5. Press the Reset button. If the alarm message remains in place, inform Windhager customer service or a heating technician. b) Ash removal motor defective, inform Windhager customer service or a heating technician. c) Limit switch defective, inform Windhager customer service or a heating technician.
AL 006	**Auger conveyor motor defective** Press reset.	Boiler enters burnout mode, induced draught fan is stopped immediately. a) Press the Reset button. If the malfunction recurs immediately after a short period, or recurs at regular intervals, contact Windhager customer service or your heating technician. b) Renew the auger conveyor motor, inform Windhager customer service or a heating technician.
AL 007	**Fuel conveyor blocked**	Fuel conveyor blocked or no longer moves. The boiler switches to burnout mode. a) "Reset" or delete message and check whether there are any other messages. If the fault recurs immediately after a short period, or recurs at regular intervals, contact Windhager Customer Service or your heating technician. b) Replace auger conveyor motor, inform Windhager Customer Service or a heating technician.
AL 017	**Induced draught fan defective** Clean blower wheel. Press reset.	The blower wheel is stuck and not moving. a) The blower wheel is dirty - clean (see section 3.6). Press the Reset button. b) Blower plug is loose or not snapped in, connect plug firmly. c) Renew the induced draught fan motor; inform Windhager customer service or a heating technician.
AL 018	**Induced draught fan unstable** Clean blower wheel . Press reset.	The actual speed is different from the set speed. The boiler switches to burnout mode. a) The blower wheel is dirty, clean (see section 3.6). Press the Reset button. b) Blower plug is loose, connect plug firmly (see assembly instructions). c) Renew the induced draught fan motor, inform Windhager customer service or a heating technician.
AL 027	**Ignition element defective** Ignition element defective	a) "Reset" or delete message and check whether there are any other messages. If the fault recurs immediately after a short period, or recurs at regular intervals, contact Windhager Customer Service or your heating technician. b) Replace ignition element, inform Windhager Customer Service or a heating technician.
AL 062	**Air intake flap defective** Air intake flap defective or not opening. Check flap. Press reset.	External air choke (optional) does not open. a) Check the air choke, press the Reset button. b) Inform Windhager customer service or a heating technician.
AL 071	**Safety/emergency switch open** Check switch position of safety / emergency switches.	Boiler enters burnout mode, however the blower does not run. Switch on emergency heating/OFF switch. The third party safety device has been deactivated.
AL 073	**Internal power supply defective**	a) Device fuse blown – check and replace if necessary - see Fig. 100. b) "Reset" or delete message and check whether there are any other messages. If the fault recurs immediately after a short period, or recurs at regular intervals, contact Windhager Customer Service or your heating technician.
AL 076	**Boiler sensor defective** Check the boiler sensor and connections. Press reset.	The boiler switches to burnout mode. a) Press the Reset button. If the malfunction recurs immediately after a short period, or recurs at regular intervals, contact Windhager customer service or your heating technician. b) Renew the boiler sensor, inform Windhager customer service or a heating technician.

4. Troubleshooting

Code	Display on InfoWIN^{PLUS}	Cause/remedy
AL 078	**Thermocontrol sensor defective** Check the thermocontrol sensor and connections. Press reset.	The boiler switches to burnout mode a) Thermocontrol sensor is too cold (< 0 °C). Warm up sensor. b) Press the Reset button. If the malfunction recurs immediately after a short period, or recurs at regular intervals, contact Windhager customer service or your heating technician. c) Renew the thermocontrol sensor, inform Windhager customer service or a heating technician.
AL 129	**Maximum burnout time exceeded** Perform main cleaning according to operation manual. Press reset.	The maximum burnout time has elapsed. a) The main cleaning of the pellet boiler must be completed (see section 3.4–3.8). Once the main cleaning process has been completed it must be confirmed (see section 2.9.1.1). b) Inform Windhager customer service or a heating technician.
AL 133	**Safety temperature shut-down** Check the system and filling pressure. Press release button B7.1 on control panel.	Boiler temperature is above 100 °C, boiler enters burnout mode, Induced draught fan is turned off immediately. a) Check the water level or pressure in the heating system – re-fill, bleed the air. b) Air in the heating system – bleed air. c) The heat pump or boiler feed pump is sticking or is defective – start pump manually or have it repaired. Once the boiler water temperature falls below 90 °C, remove the cover, press the Release button of the safety thermostat B7.1 firmly – Fig. 100. If the malfunction occurs after a short period, or recurs at regular intervals, contact Windhager customer service or your heating technician.
AL 135	**Excess temperature on auger tube** Press release button B8.1 on control panel.	Boiler enters burnout mode and transports pellets into combustion chamber. a) Check level in water tank (see section 3.8), if there is no water in the tank (burnback safeguard triggered) inform Windhager customer service. b) Check the burner, remove all pellets from the Burner bowl. c) Open combustion chamber door, remove the cover from the safety thermostat auger tube, and firmly press the Release button B8.1 (see Fig. 100). If the ignition does not function the first time (AL 171), press the Reset button (pellets in the auger conveyor will have been damaged due to the higher temperature).

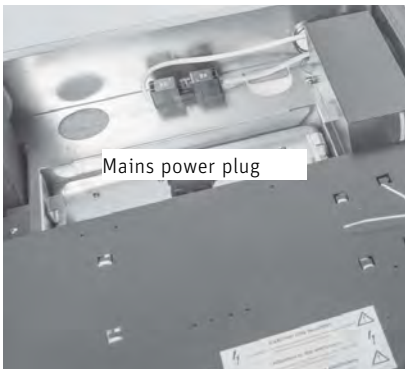


Fig. 99 Device power plug at top, underneath cover

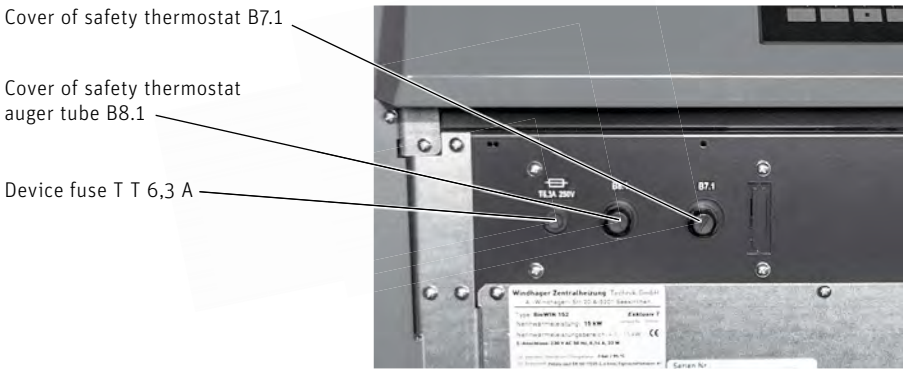


Fig. 100 BioWIN lite Cladding door open

4. Troubleshooting

Code	Display on InfoWIN^{PLUS}	Cause/remedy
AL 156	**No neg. pressure in combustion chamber** No neg. pressure in comb. chamber or sensor defective. Press reset.	The boiler switches to burnout mode. The main cleaning of the pellet boiler must be completed (see section 3.4–3.8). Once the main cleaning process has been completed it must be confirmed (see section 2.9.1.1). a) Cover (heat exchanger) not shut properly, check whether firmly closed (see section 3.4), press the Reset button. b) he primary air tube is covered with ash, vacuum out the primary air tube (see section 3.5.2) c) Combustion chamber and ash door leaking, check the seal, renew the seal if necessary, press the Reset button. d) Exhaust pipe or flue is blocked, clear it and press the Reset button. e) Combustion chamber pressure switch is defective, inform Windhager customer service or a heating technician.
AL 171	**Maximum heating time exceeded** Clean Burner bowl. Press reset.	No flame formation when heating up. Heating-up procedure is cancelled. a) The main cleaning of the pellet boiler has to be completed (see section 3.4–3.8). Once the main cleaning process has been completed it must be confirmed (see section 2.9.1.1). b) An excessive amount of dust in the pellets is emptying the auger. Completely empty the boiler pellet hopper and remove the dust. The alarm message AL 171 may occur on up to 2 occasions until the boiler starts operating again. Acknowledge with the Reset button. c) Auger conveyor jammed due to a foreign body, clean the boiler pellet hopper and remove the foreign body through the opening above the auger, refill the boiler pellet hopper. The alarm message AL 171 may occur on up to 2 occasions until the boiler starts operating again. Acknowledge with the Reset button. d) Ignition defective, inform Windhager customer service or a heating technician.
AL 187	**No communication with automatic firing device** Check linkage of automatic firing device and connections. Press reset.	The boiler switches to burnout mode. a) Check the connection cable or InfoWIN^{PLUS} plug connection to the main PCB, inform Windhager customer service or a heating technician. b) Press the Reset key for at least 5 seconds until the display turns off. c) Connect the main PCB, inform Windhager customer service or a heating technician.

5. Technical data

Technical data for calculating the flue gas system acc. to EN 13384-1 see installation instructions.

BioWIN lite pellet boiler	Unit		BWL 102 BWL 102 L	BWL 152 BWL 152 L	BWL 212 BWL 212 L	BWL 262 BWL 262 L
Boiler class according to EN 303-5			5			
Mode of operation of the boiler			Negative pressure boiler; non-condensing; induced draught fan			
Fuel type		Permissible	Pellets according to EN ISO 17225-2 A1, Ø 6 mm, lengh 10 – 40 mm			
Fuel water content	%	Permissible	≤10			
Nominal thermal output	kW		10.5	15	21	25.9
Nominal thermal output range	kW	70/50 °C	3.0 – 10.5	4.3 – 15.0	6.0 – 21.0	7.6 – 25.9
Feed pressure at the flue gas connection (negative pressure)	Pa	Partial load Nominal load	-20 to 0 -20 to -5		-20 to 0 -20 to -5	
Boiler water volume	l		39		47	
Water-side resistance	mbar	ΔT = 20 °K ΔT = 10 °K	1.0 3.6	2.1 7.6	3.9 14.3	5.8 21.5
Boiler temperature control range	°C		60 – 75 (85) [1]			
Return temperature	°C	min.	20 [2]			
Electrical fuse, supply cable	A		13 (slow-blow)			
Medium sound pressure level $L_{p,A}$ at distance of 1 m	dB	Nominal load of boiler	45.3	45.7	46.1	46.5
Content of pellet fuel hopper	kg	BWL 102–262 BWL 102–262 L	107 200			
Total net weight	kg	BWL 102–262 BWL 102–262 L	247 300		269 322	
Dimensions W x D x H	mm	BWL 102–262 BWL 102–262 L	1075 x 710 x 1453 1422 x 710 x 1470		1075 x 780 x 1453 1422 x 780 x 1470	
For further dimensions and weights, see installation instructions						
Values from type test; testing office TÜV SÜD Munich report no.: C6–C8 1358-00/19 from 02.05.2019						
Combustion efficiency η_F ($100-q_A-q_U-q_F$)	%	Partial load/nominal load	97.8 / 96.6	97.6 / 96.3	97.4 / 95.7	97.3 / 95.7
Boiler efficiency η_W	%	Nominal load	93.2	93.3	93.6	93.3
Flue gas temperature	°C	Partial load/nominal load	52 / 82	55 / 89	60 / 101	62 / 102
Seasonal space heating emissions	mg/m$_N^3$ (10 % O_2)	CO	131	116	193	90
		NO_X	169	169	169	158
		OGC	3	3	1	1
		Particulate matter	18	18	18	17
Electrical power consumption of pellet boiler:						
Maximum for igniting	W		1054			
Ignition process	Wh		128			
Auxiliary energy Q_{min}/Q_N	W	Partial load/nominal load	18 / 34	20 / 39	23 / 47	26 / 53
Idle operation (standby)	W		9			

[1] Only with buffer operation
[2] In heating-up mode min. return temperature of 15 °C (setback mode/heating mode)

6. Product fiche

Product fiche to VO (EU) 2015/1187 and 2015/1189

Model identifier [1]	Energy efficiency class	Rated heat output	Energy efficiency index	Seasonal space heating energy efficiency	Boiler efficiency NCV [2]		Boiler efficiency GCV [3]		Seasonal space heating emissions			
					Partial load	Nominal load	Partial load	Nominal load	CO	NO_X	OGC	Particulate matter
		kW		%	%	%	%	%	mg/m_N^3 (10 % O_2)			
BW 102	A+	10	115	78	89,2	90,2	82,5	83,4	<500	<200	<20	<40
BW 152	A+	15	116	79	90,1	90,3	83,3	83,5	<500	<200	<20	<40
BW 212	A+	21	118	80	91,5	90,6	84,6	83,8	<500	<200	<20	<40
BW 262	A+	26	117	80	90,6	90,3	83,8	83,5	<500	<200	<20	<40

[1] Complete model names according to the comfort variants are not considered. Example: E – Exklusiv, SL – 200 kg hopper
[2] Net Calorific Value
[3] Gross Calorific Value

7. EC declaration of conformity

for the BioWIN 2 pellet boiler series
(Machinery Directive 2006/42/EC, Appendix II A)

Manufacturer: Windhager Zentralheizung Technik GmbH
Anton-Windhager-Strasse 20
A-5201 Seekirchen

Name and address of the person authorised to compile the technical documentation:

Ing. Martin Klinger
Anton-Windhager-Strasse 20
A-5201 Seekirchen

Subject of the declaration: BioWIN 2 pellet boiler series

The units conform to the relevant requirements of the Machinery Directive (2006/42/EC), EMC Directive (2014/30/EC) and the VO (EU) 2015/1189.

In addition, we declare that we have applied the following technical standards:

EN 303-5:	2012-10	EN 60335-1:	2012-10
EN 61000-6-2:	2005	EN 61000-6-3:	2007 + A1: 2011

Seekirchen, 10 / 6 / 2020
Windhager Zentralheizung Technik GmbH

Roman Seitweger, Executive Board

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HEAT WITH VISION